ATTACHMENT 10

CONTINGENCY PLAN

WORLD RESOURCES COMPANY–ARIZONA FACILITY CONTINGENCY PLAN

TABLE OF CONTENTS

1. Introduction 3
1.1 Implementation 3
1.2 Amendment of the Contingency Plan 3
1.3 General Information 3
1.3.1 Facility Operations 4
1.3.2 Emergency Notifications 4
Table 1-1 WRC Emergency Coordinators: Internal 4
Table 1-2 WRC Emergency RESPONSE AGENCIES: External 5
Figure F-L01: Location Map 6
1.4 Organizational Structure and Implementation of Plan 7
1.4.1 Scope/Responsibilities 7
2. Emergency Coordination 7
2.1 Policy and Procedure 7
2.2 EC Duties and Responsibilities 7
2.2.1 Internal Reporting Chain 9
2.3 Arrangements with Emergency Response Personnel 9
2.3.1 Arrangements with Emergency Response Contractors 9
2.3.2 Arrangements with Local Response Agencies and Hospital 10
Figure F-R01: Route to Local Hospital 11
2.4 Procedures in Event of an Emergency 12
2.5 Pollution Incident History 13
2.5.1 Procedure 13
2.5.2 Responsibility 13
3. Emergency Equipment 13
3.1 Equipment List 13
3.1.1 Equipment List 13
Table 1-3 Communications and Alarm Systems (Internal and External) 14
3.1.2 Inspection of Emergency Equipment 14
Table 1-4 Fire Extinguishing Systems 14
3.1.3 Personal Protective Equipment 14
3.1.4 Other Safety/Emergency Equipment 16
Table 1-5 Other Safety/Emergency Equipment 16
4. Release Prevention 16
4.1 Prevention of Hazardous Waste Spills and Leaks 16
4.1.1 Policy 16
4.1.2 Procedures 16
5. Emergency Response 17
5.1 Emergency Response Procedures 17
5.1.1 Response to Unplanned Sudden or Non-Sudden Hazardous Waste Spills or Releases 17
5.1.2 Response to Unplanned Sudden or Non-Sudden General Chemical Spills or Releases 17

©1997 by WORLD RESOURCES COMPANY. All rights reserved.

Table 1-6 Emergency Releases of Any Chemicals Used by WRC 18
Table 1-7 Releases 19-20
5.1.3 Response to Fire or Explosion 20
5.1.4 Emergency Shutoff Procedures for Thermal Concentrating Unit (TCU) 20
5.1.5 Response to Unplanned Sudden or Non-Sudden Wastewater Spills or Releases 21
5.1.6 Post-Incident Cleanup 21
5.1.7 Chain-of-Command 21
5.2 Decontamination Procedures and Equipment 21
5.2.1 Purpose 21
5.2.2 Objectives of the Procedures 21
5.2.3 Prevention of Contamination of Personnel 22
5.2.4 Testing for Effectiveness of Decontamination 22
5.2.5 Decontamination Equipment 23
Table 1-8 Decontamination Equipment 23
5.3 External Factors 24
5.3.1 Purpose 24
5.3.2 Scope 24
5.3.3 Policy and Procedures 24
6. Evacuation Plan 24
6.1 General 24
6.2 Evacuation Drill Procedures 24
6.3 Emergency Evacuation Procedures 25

Tabbed Following Page 25:

Tab 1: Site Plans
SP-C01 Chemical Locations
SP-E01 Evacuation Routes
SP-E02 Evacuation Plan
SP-F01 Fire Control Equipment
SP-S01 Site Plan
SP-S02 Safety & Emergency Equipment
SP-S03 Spill Control
SP-S04 Sign Locations

Tab 2: Attachments
Attachment A
Pollution Incident Record
Attachment B
Personal Protective Equipment (PPE)
Attachment C
Summary of Hazardous Constituents and Potential Hazards of WRC's RCRA Hazardous Wastes Handled at Arizona Facility

©1997 by WORLD RESOURCES COMPANY. All rights reserved.

CONTINGENCY PLAN

1. Introduction

This Contingency Plan, adopted in accordance with A.A.C. Sections R18-8-260 & -264 (incorporating by reference, with modifications, 40 CFR Part 264, Subpart D), is designed to minimize hazards to human health or the environment from fires, explosions, or any unplanned sudden or non-sudden release of hazardous waste or hazardous waste constituents to air, soil, or surface water. The provisions of this Contingency Plan will be activated immediately whenever there is a fire, explosion, or release of hazardous waste or hazardous waste constituents which could threaten human health or the environment. This Contingency Plan also provides for the safety and welfare of facility personnel, visitors, and the local community.

1.1 Implementation

This plan, or necessary portions thereof, will also be activated if the following criteria are met:

1. A fire that could threaten human health or the environment, or if imminent danger exists that could ignite hazardous waste at the facility (i.e., a fire that cannot be extinguished by the use of one portable fire extinguisher or the TCU deluge system); or
2. Any explosion at the facility will necessitate the implementation of the Contingency Plan; or
3. A spill of a hazardous substance that cannot be contained on site or that poses a threat to off-site features.

1.2 Amendment of the Contingency Plan

The Contingency Plan will be reviewed and amended, if necessary, whenever:

1. the facility permit is revised;
2. the plan fails in an emergency;
3. the facility changes its design, construction, operation, maintenance, or other circumstances in a way that materially increases the potential for fires, explosions, or releases of hazardous waste or hazardous waste constituents, or changes the response necessary in an emergency;
4. the list of emergency coordinators changes; and/or
5. the list of emergency equipment changes.

1.3 General Information

Company Name:	World Resources Company (WRC)
Facility Location:	8113 West Sherman Street, Tolleson, AZ 85353-4025 (Figure F-L01)
Telephone Number:	(602) 233-9166
Fax Number:	(623) 936-9164
EPA I.D. Number:	AZD980735500
Corporate Address:	1600 Anderson Road, McLean, Virginia 22102-1696

[Copies of the Contingency Plan are located in the Conference Room of the facility's Administration/Laboratory Building and in the unlocked safe located in the Manifest Clerk's office. For these locations, See Site Plan SP-S01.]

Description of Wastes Handled:

The facility handles RCRA listed hazardous wastes F006 and F019; RCRA characteristic hazardous wastes D004, D005, D006, D007, D008, D009, D010, and D011; and non-RCRA wastes. All wastes have pH greater than 2 and less than 12.5; pass the paint filter test for free liquids; and have particle size from less than

©1997 by WORLD RESOURCES COMPANY. All rights reserved.

10 mesh up to solid filter cake (wet clay-like material). The health hazards associated with the RCRA hazardous wastes are listed in Attachment C.

1.3.1 Facility Operations

The facility is designed to receive, store and recycle selected wastewater treatment sludges from electroplating operations and other recyclable materials amenable to the processing operation. These mostly metal hydroxide and oxide filtercake precipitates (sludges) are manifested or otherwise billed for delivery to the facility in bulk form or in DOT-approved non-bulk containers (e.g., boxes, polyethylene tubs, polypropylene IBCs, etc.). The treatment process includes the following:

1. **Delivery of Recyclable Materials and Inspection.** The delivery of each incoming shipment of a recyclable material for processing will be scheduled for receipt of that specified shipment and for it to be immediately entered, in its entirety, into the HWMU. Before acceptance of the recyclable material, a specific sequence of activities is completed. A review of the transportation documents, including the Uniform Hazardous Waste Manifest, Land Disposal Restriction Notice (LDRN), Safety Data Sheet (SDS), or Guide 171 of the Emergency Response Guidebook is conducted to ensure that the shipment is designated to WRC and acceptable. An extensive pre-acceptance testing program is implemented to evaluate whether received materials can be safely managed and are compatible with other previously accepted recyclable materials.

   The production of non-ferrous metal concentrates from the various recyclable materials received is governed by the metal and mineral constituents contained in the incoming recyclable material.
2. **Evaporation/Concentration.** During hotter weather, WRC may process recyclable materials using the passive solar drying process. It is evenly distributed and blended in the HWMU to create extensive evaporative surface area. This passive solar effect, in combination with the low relative humidity, allows concentration of the metal content in the recyclable materials by 70%. WRC also uses a gas-fired mechanical drying method which heats the material to dry the material. Additionally, the physical characteristics of the recyclable materials change from a wet, cohesive, non-free-flowing mass to a dry granular, free-flowing form that lends itself to compounding.

1.3.2 Emergency Notifications

Table 1-1. WRC Emergency Coordinators: *Internal*

	POSITIONS	CONTACT NUMBERS	
PRIMARY	Richard Bellamy	OFFICE:	(602) 233-9166 x2207
		MOBILE:	(602) 769-1847
ALTERNATE	Jerry Bellamy	OFFICE:	(602) 233-9166 x2208
		MOBILE:	(602) 510-6873
ALTERNATE	Ray Corcoran	OFFICE:	(602) 233-9166 x2102
		MOBILE:	(602) 820-3441

The WRC facility is located in Tolleson, Arizona, approximately 1 mile from the Tolleson Police Department and approximately 2 miles from the Tolleson Fire Department (i.e., primary law enforcement and fire emergency authorities, to respond first and assume lead authority).

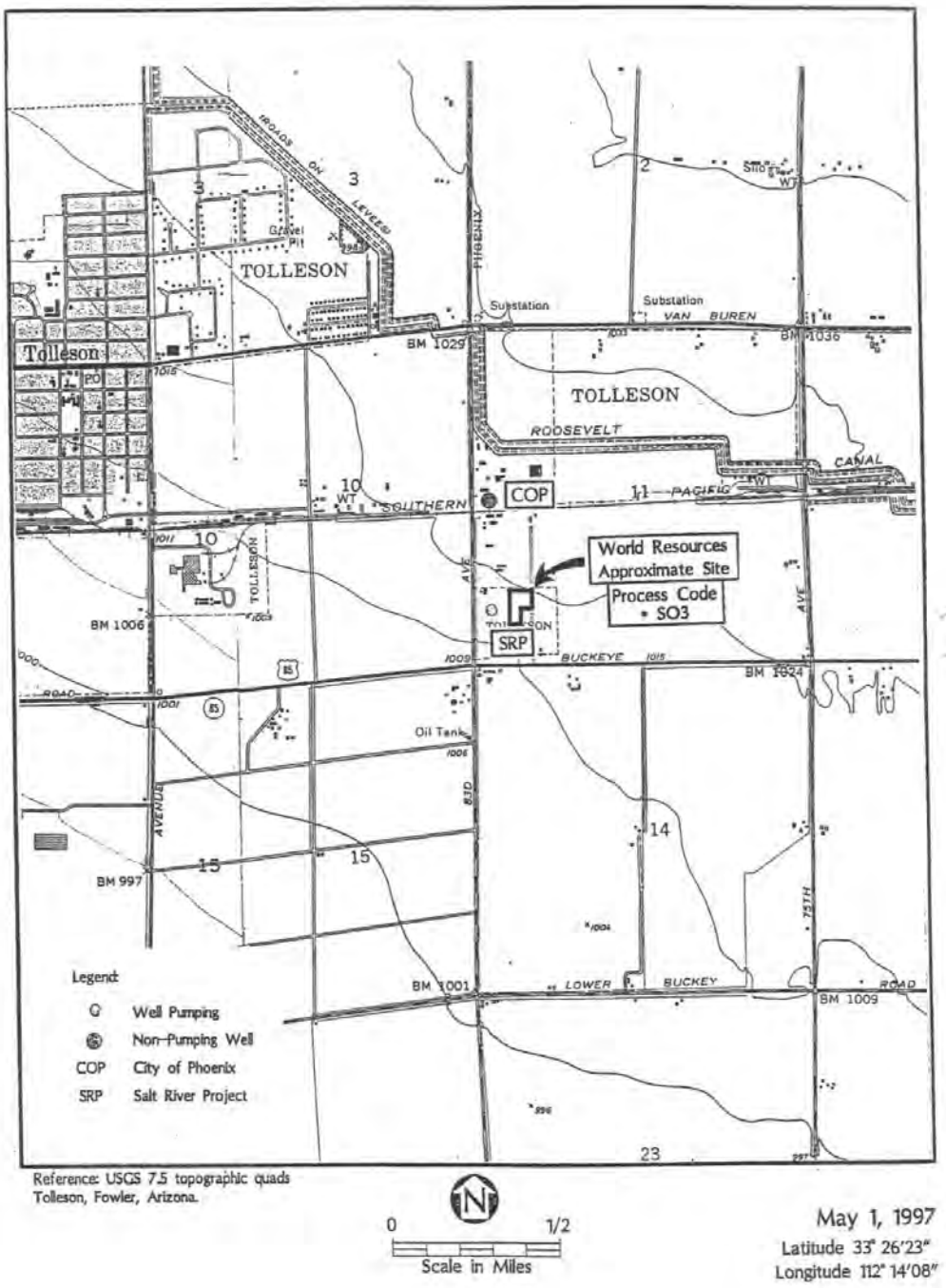
©1997 by WORLD RESOURCES COMPANY. All rights reserved.

Table 1-2. WRC Emergency RESPONSE AGENCIES: *External* (Organizations and agencies available to assist in the event of an emergency.)					
TYPE	AREA	AGENCY	CONTACT	CONTACT NUMBERS	ADDRESS
POLICE	Tolleson	✓ Tolleson Police Department	Chief of Police	Initial Contact: 911 WORK: (623) 936-7186 WORK FAX: (623) 936-8202	8350 West Van Buren Street Tolleson, AZ 85353
SHERIFF	West Phoenix	✓ Maricopa County Sheriff Department	Unit Commander Anti-Terrorism Unit	Initial Contact: 911 WORK: (602) 256-1000	550 West Jackson Street Phoenix, Arizona 85003
D.P.S.	Phoenix	✓ Arizona Department of Public Safety	Duty Officer	Initial Contact: 911 WORK: (602) 223-2000 WORK FAX: (602) 223-2910	2102 West Encanto Avenue Phoenix, AZ 85005
FIRE	Tolleson	✓ Tolleson Fire Dept	Chief	WORK: (623) 936-8500 WORK FAX: (602) 244-9681	203 North 92nd Avenue Tolleson, Arizona 85353
MEDICAL	Tolleson	Paramedics at Tolleson Fire Department	Deputy Chief	WORK: (623) 936-8500 WORK FAX: (602) 244-9681	203 North 92nd Avenue Tolleson, Arizona 85353
MEDICAL	West Phoenix	✓ Banner Estrella Medical Center	Emergency Room	WORK: (623) 327-4004 WORK FAX: (623) 327-5496	9201 West Thomas Road Phoenix, AZ 85037
MEDICAL	Phoenix	American Red Cross	Duty Officer	WORK: (602) 336-6660	6135 N. Black Canyon Hwy Phoenix, AZ 85015-1892
ENVIRONMENTAL PROTECTION	Phoenix and Statewide	✓ Arizona Department of Environmental Quality	Emergency Response Unit	EMERGENCY Numbers: (602) 771-2330 (800) 234-5677	1110 West Washington St. Phoenix, AZ 85007 Michael W. Malone Emergency Response Sup. Mail Code: L120A-3
SAFETY	Phoenix and Statewide	OSHA	Duty Officer	WORK: (602) 542-5795	800 West Washington Street Phoenix, AZ 85007
ENVIRONMENTAL PROTECTION	Phoenix	✓ Safety Kleen	General Manager	WORK: (480) 940-7202 WORK FAX: (480) 940-7376	6625 West Frye Road Chandler, AZ 85226
ENVIRONMENTAL PROTECTION	National	INFOTRAC		WORK: (800) 535-5053	200 N. Palmetto Street Leesburg, FL 34748
GENERAL EMERGENCY	Phoenix	US EPA Region IX Emergency Response		24-hour EMERGENCY Number: (415) 947-4400	75 Hawthorne Street San Francisco, CA 94105
GENERAL EMERGENCY	Phoenix and Statewide	✓ Arizona Emergency Response Commission	Executive Director	WORK: (602) 231-6346 WORK FAX: (602) 392-7519	5636 East McDowell Road Phoenix, AZ 85008-3495
GENERAL EMERGENCY	National	National Response Center	Duty Officer	WORK: (800) 424-8802	US Coast Guard Hdqtrs 2100 2nd Street S.W. Washington DC, 20593-0001
GENERAL EMERGENCY	Metropolitan Phoenix	✓ Maricopa County Department of Emergency Mgmt	Duty Officer	WORK: (602) 273-1411 FAX: (602) 275-1638	2035 North 52nd Street Phoenix, AZ 85008-3403
GENERAL EMERGENCY	Phoenix	City of Phoenix Water Services Dept.; Pollution Control Division	Duty Officer	WORK: (602) 262/1859 FAX: (602) 534/7151	2474 S. 22nd Avenue Phoenix, AZ 85009

✓Provided an updated copy of the Contingency Plan, or a portion thereof, when a modification is made to the plan pursuant to 40 CFR § 264.54.

©1997 by WORLD RESOURCES COMPANY. All rights reserved.

Figure F-L01: Location Map



8113 W. Sherman St.

Tolleson, AZ 85353

Nearest Intersection: 83rd Ave. & Buckeye Rd.

©1997 by WORLD RESOURCES COMPANY. All rights reserved.

1.4 Organizational Structure and Implementation of Plan

1.4.1 Scope/Responsibilities

1. Contingency Plan Staff. The following Contingency Plan staff are responsible for developing and implementing the Contingency Plan:
   - General Manager;
   - Operations Manager;
   - Maintenance Manager;
   - Manager of EH&S Affairs;
   - Laboratory Manager.
2. The Maintenance Manager is responsible for maintaining the Contingency Plan.
3. Duties and responsibilities of the Contingency Plan staff include:
   - identification of potential new hazard sources and providing risk reduction recommendations; and
   - reviewing and updating the Contingency Plan every 12 months based upon:
     - evaluation of the Contingency Plan;
     - changes in procedures;
     - evaluation of hazards;
     - new construction or process changes; and
     - new local, state or federal regulations.
4. A Managers' Staff meeting is normally held at least twice per month to discuss the operating issues of the facility. At this time, if a matter relating to the Contingency Plan requires attention, it is discussed by the Contingency Plan staff and actions are assigned.

2. Emergency Coordination

2.1 Policy and Procedure

It is necessary to have certain personnel designated to ensure the proper coordination of efforts in an emergency. These personnel are trained to be familiar with all aspects of the Contingency Plan as well as site operations and activities, facility layout, the location and characteristics of material, the location of stored chemicals and the location and use of emergency equipment.

Until the arrival on site of the primary or alternate EC, the senior person on duty will assume the responsibilities of the EC. The primary or alternate ECs must be able to reach the facility in a short period of time.

If the General Manager is not on site, he/she should be contacted when any unusual situation occurs, regardless of who else is at the facility.

2.2 EC Duties and Responsibilities

If the EC determines that there is an imminent or actual emergency situation, the EC (or the designee when the EC is on call) must immediately:

- Activate the appropriate internal alarm or communication systems to notify all facility personnel; and
- Notify the State and local agencies with designated emergency response roles, if necessary.

Whenever there is a release, fire, or explosion, the EC must immediately identify the character, exact source, amount, and areal extent of any released materials. The initial identification method may consist of physical (color, odor, appearance) and visual (location, source) descriptions of the material released, or involved in a fire or explosion. The EC, or designee, may inquire of individuals that were handling the specific waste at the time of the incident or who may have been working in the area at the time. Other means may be available for

©1997 by WORLD RESOURCES COMPANY. All rights reserved.

identification including the location on the HWMU, the company generating the waste, the manifest or shipping paperwork, and or the various analyses of the waste. If, for some reason, the released material cannot be readily identified, samples will be taken for chemical analysis.

Concurrently, the EC must assess possible hazards to human health or the environment that may result from the release, fire, or explosion. This assessment must consider both direct and indirect effects of the release, fire, or explosion such as effects of gases that are generated and the effects of surface water run-off from firefighting activities.

If the EC determines the release, fire, or explosion could threaten human or the environment, outside of the facility, the EC must report as follows:

- If the assessment indicates evacuation of the local areas may be required the EC will immediately notify the appropriate local authorities, and be available to help appropriate officials to determine whether local areas should be evacuated; and
- The EC, or designee, shall immediately notify ADEQ at (602) 771-2330 or (800) 234-5677, extension 771-2330, and notify either the government official designated as the on-scene coordinator for the geographical area, the Maricopa County Local Emergency Planning Committee at (602) 273-1411, USEPA (415) 947-4400, and the National Response Center at (800) 424-8802 for reporting a CERCLA regulated substance. The report shall include the following:
  - i) Name and telephone number of the reporter;
  - ii) Name and address of the facility;
  - iii) Time and type of incident (for example, release, fire);
  - iv) Name and quantity of material(s) involved, to the extent known;
  - v) The extent of injuries, if any; and
  - vi) The possible hazards to human health, or the environment, outside of the facility.

During an emergency, the EC must take all reasonable measures necessary to ensure that fires, explosions, and releases do not occur, recur, or spread to other hazardous waste at the facility. These measures must include (where applicable) stopping operations, collecting and containing released materials or wastes, and removing or isolating containers.

If the facility stops operations in response to a fire, explosion, or release, the EC must monitor for leaks, pressure buildup, gas generation, or ruptures in valves, pipes, or other equipment, whenever this is appropriate.

Immediately after an emergency, the EC must provide for the treating, storing, or disposal of recovered waste, contaminated soil or surface water, or any other material that results from a release, fire or explosion at the facility.

The EC must ensure that in the affected area(s) of the facility, no material or waste incompatible with the released material is treated, stored, or disposed of until cleanup procedures are completed; and, all emergency equipment listed in this Contingency Plan is cleaned and fit for its intended use before operations are resumed.

WRC must document in the operating record the time, date, and details of any incident that requires the implementation of this Contingency Plan. Within 15 days of the incident, WRC will submit a written report on the incident to the ADEQ Director or the ADEQ Director's authorized representative. The report will include:

- Name, address, and telephone number of the owner or operator;
- Name, address, and telephone number of the facility;
- Date, time, and type of incident (e.g., release, fire, explosion);
- Name and quantity of material(s) involved;
- The extent of injuries, if any;

©1997 by WORLD RESOURCES COMPANY. All rights reserved.

- An assessment of actual or potential hazards to human health or the environment, where this is applicable; and
- Estimated quantity and disposition of recovered material that resulted from the incident.

2.2.1 Internal Reporting Chain

The WRC internal information reporting chain during an emergency is as follows:

- the person who discovers/observes the incident;
- the senior person on duty;
- the EC;
- the Manager of EH&S Affairs; then
- the General Manager.

Note 1: *Even if it is not a threat and does not require implementation of this Contingency Plan, all minor spills must be reported to the EC.*

2.3 Arrangements with Emergency Response Personnel

The original copy of this Contingency Plan is kept and maintained by the Maintenance Manager. Five additional copies are distributed within WRC (one to the Corporate office, Virginia, and four within the Arizona facility: one to each of the Alternate Emergency Coordinators, one in the Conference Room of the Administration/Laboratory Building, and one in the unlocked safe in the Manifest Clerk's office).

In addition, nine copies of this Contingency Plan have been delivered to, and arrangements attempted to be made with, the following agencies and organizations:

- Tolleson Police Department;
- Maricopa County Sheriff Department;
- Arizona Department of Public Safety;
- Tolleson Fire Department;
- Banner Estrella Medical Center;
- Arizona Department of Environmental Quality;
- Safety-Kleen;
- Maricopa County Local Emergency Planning Committee; and
- Arizona Emergency Response Commission.

2.3.1 Arrangements with Emergency Response Contractors

The following emergency response contractors are available to provide trained and equipped assistance in the event that there is an emergency which requires outside support.

1. Safety-Kleen (See Table 1-2)
2. INFOTRAC (See Table 1-2)
3. Information to be provided to Emergency Response Contractors
    - what has happened;
    - where;
    - when;
    - chemical(s) involved;
    - type and condition of containers;
    - shipper and shipping point;

©1997 by WORLD RESOURCES COMPANY. All rights reserved.

- carrier;
- consignee and destination;
- nature and extent of injuries to people;
- nature and extent of property damage;
- prevailing weather;
- composition of surrounding area;
- who caller is and where he/she is located; and
- how and where telephone contact can be reestablished with caller or another responsible party at the scene.

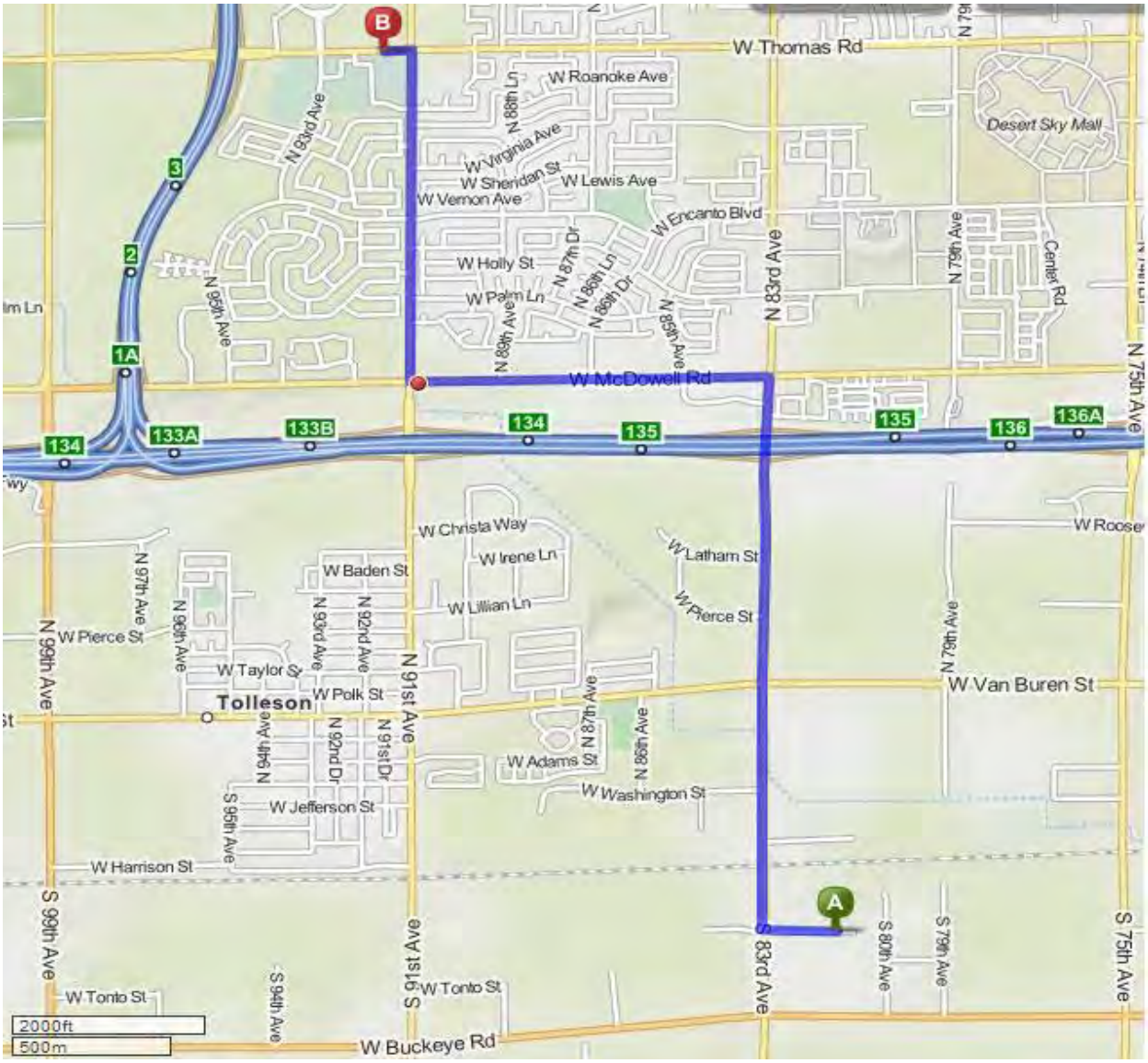
2.3.2 Arrangements with Local Emergency Response Agencies and Hospital

In the event of an emergency, including a life safety or personnel rescue operation, notifying the proper personnel promptly can minimize damage or injury. Plans and arrangements should be made to ensure minimum response time for support to arrive at the facility or to transport personnel in need to hospitals and/or other locations required. Calls to "911" are directed to the Phoenix Fire department who will route the nearest available hazmat, emergency rescue and/or fire department unit(s) to respond.

See Figure F-R01 "Route to Local Hospital", showing the route to the local hospital, Banner Estrella Medical Center.

©1997 by WORLD RESOURCES COMPANY. All rights reserved.

Figure F-R01: Route to Local Hospital



From (A) WRC (8113 W. Sherman St, Tolleson, AZ) to

(B) Local Hospital (9201 W. Thomas Rd, Phoenix, AZ)

1. Head west on **W. Sherman St** toward **S 83rd Ave**
2. Turn right onto **S 83rd Ave**
3. Turn left onto **W McDowell Rd**
4. Turn right onto **N 91st Ave**
5. Turn left onto **W Thomas Rd**
6. Make a U-turn at **93rd Ave**, turn right into **9201 W Thomas Rd**

©1997 by WORLD RESOURCES COMPANY. All rights reserved.

2.4 Procedures in the Event of an Emergency

1. Contact the EC, activate alarm system or internal voice communications, depending on what the emergency warrants.
2. If required, the EC or Manager of EH&S Affairs will notify ADEQ, USEPA, and/or NRC.
   - Contact all other appropriate agencies that USEPA or ADEQ requests.
3. EC will identify the character, exact source, and amount and extent of any released materials.
4. If the incident could in any way harm human health or the environment outside the facility, the EC must:
   - If evacuation is needed for any local area notify Tolleson Police and Tolleson Fire Departments; and
   - notify NRC, providing the following information:
     - location;
     - time and type of incident;
     - extent of injuries and possible hazards to human health or the environment outside the facility; and
     - ensure that measures are taken which ensure that fires, explosions and releases do not reoccur or spread to any wastes or chemicals at the facility.
   - ADEQ will be immediately contacted for all incidents requiring implementation of the Contingency Plan (that require an ADEQ emergency response unit request).
5. After an emergency, the EC must ensure that, in the affected area(s) of the facility:
   - no waste that may be incompatible with the released material is treated, stored, or disposed of until cleanup procedures are completed; and
   - all emergency equipment listed in the Contingency Plan is cleaned and fit for its intended use, or replaced, before operations are resumed.
6. The owner or operator must notify the ADEQ Director, and appropriate State and local authorities, that the facility is in compliance before operations are resumed in the affected area(s) of the facility.

Responsibilities

The responsibilities of the various emergency responders who might be called upon to respond to an emergency at the facility are shown in Table 1-2, Emergency Response Agencies.

1. **Fire Department:** The fire department is the lead agency responding to an emergency. The fire department is responsible for bringing a fire under control or containment of a hazardous material spill, providing assistance to anyone in need at the site, and the establishment and management of an on-scene command post. At the scene of the hazardous materials incident, the ranking fire department official present will work closely with the facility senior personnel. Site personnel will serve as the on-scene coordinator until the arrival of the fire official.
2. **Sheriff/Police Department:** The Sheriff/Police Department is responsible for securing the immediate area at the scene of the incident, rerouting traffic, controlling access to the area to emergency personnel only, and assisting on-site personnel in the evacuation of the area residents, workers, or other personnel.
3. **Maricopa County Department of Emergency Management:** The Maricopa County Department of Emergency Management is responsible for area residents if an evacuation is ordered. The Director or his appointed representative will represent the Maricopa County Department of Emergency Management at the Emergency Operations Center.
4. **Hospital and Red Cross:** The hospital and Red Cross are responsible for the provision of shelter and comfort for those area residents who must be evacuated. The Red Cross will work directly with the Maricopa County Department of Emergency Management in addressing the needs of those residents evacuated from the incident.

©1997 by WORLD RESOURCES COMPANY. All rights reserved.

5. **Emergency Medical Services:** The Emergency Medical Services (EMS) is responsible for providing medical attention to those persons involved in the incident as well as any Fire or Sheriff's Department personnel injured responding to the incident. A representative of the EMS will be present at the Emergency Operations Center.
6. **The On-Scene Command Post:** The first fire department officer to arrive at the scene of an incident will assume the responsibilities of the on-scene coordinator and will direct the efforts of all personnel responding to the incident. The on-scene coordinator will immediately establish the on-scene command post at a location far enough removed from the incident site to minimize risks. Other considerations are access to the site and the space requirements of those persons and their equipment responding to the incident. The on-scene command post serves as a focal point of the response to the incident and all personnel should be aware of its location. It also serves as a communications center at the incident site coordinating communications between on-site personnel and the responder's emergency operations center. The location of the on-scene command post may be changed because of shifting winds or the threat of an explosion and its new position must be known by all on-scene personnel as well as the responder's emergency operations center.

2.5 Pollution Incident History

An important criterion in determining the proper operation of the facility and the effectiveness of the Contingency Plan is to provide a history of pollution incidents. A review of this history can serve as an important basis for eliminating any future reoccurrence.

2.5.1 Procedure

The Pollution Incident Record (PIR - *See* Attachment A) will be completed for each pollution incident. The PIR must include a map indicating the location of the incident and any sample results.

2.5.2 Responsibility

The senior person on duty at the time of the incident is responsible for providing all information available for the PIR to the EC on duty. The on duty EC is responsible for completing the PIR and for completing all action required to ensure the follow-up reports are filed, if required, and to ensure action is taken to prevent an occurrence of another like incident.

3. Emergency Equipment

3.1 Equipment List

1. List and location of emergency equipment (Site Plan SP-S02), signs (Site Plan SP-S04), fire-control equipment (Site Plan SP-F01). Phones are available throughout the facility and can be used to dial 911 in an emergency.
2. Use of emergency equipment.

3.1.1 Equipment List

The emergency equipment available at the facility follows.

©1997 by WORLD RESOURCES COMPANY. All rights reserved.

Table 1-3. Communications and Alarm Systems (Internal and External)		
Equipment	Capability	Location
1. SITE ALARMS and FIRE PULLS: wall-mounted devices that employees can activate, which in turn activates the audible alarm that may send a signal to alarm company to contact the fire department.	capable of being heard above ambient noise	Entrance to Maintenance Building and Administration/Laboratory Building. Entrance A of the HWMU, wash station, Dryer area and east and west ends of the WWTU.
2. INTERCOM SYSTEM: two-way communication system with microphone and loudspeaker.	provides instant communication throughout the facility site	Administration/Laboratory Building and Maintenance Building, Employee Building, and Manifest Clerk's Office.
3. TWO-WAY RADIOS: compact, portable, battery-operated radios that may be used for communication between employees.	provide instant communication throughout the facility site between employees who utilize them	Administration/Laboratory Building, certain personnel working within the HWMU, Employee Building, and the Maintenance Building.
4. TELEPHONES: stationary instrument for facilitating voice communication over distance.	provide instant communication among WRC employees and emergency services	All offices, Maintenance Building, Laboratory, Lobby area, Employee Building, and Manifest Clerk's Office.
5. CELLULAR TELEPHONES: portable instrument for facilitating voice communication over distance.	provide instant communication between WRC employees and emergency services	File Room in Administration/Laboratory Building, Thermal Concentrating Unit (TCU) Control Room, certain personnel working within the HWMU
6. SMOKE ALARMS: devices that mount onto a surface and sound a loud audible noise when activated by smoke.	their loud, audible noise alerts all personnel within facility buildings to the presence of smoke caused by fire or explosion	Administration/Laboratory Building, Maintenance Building, Locker Station, and Employee Building.

3.1.2 Inspection of Emergency Equipment

Each of the emergency equipment items is to be inspected weekly and this record of inspection is to be maintained in the Site Inspection Log located in the file room drawer of the Administration/Laboratory Building.

Table 1-4. Fire Extinguishing Systems		
Equipment	Capability	Location
1. FIRE EXTINGUISHERS rated "ABC" for all fires: a portable apparatus for extinguishing small fires by ejecting fire-extinguishing chemicals. Annually, an outside contractor performs full maintenance service on all extinguishers.	The 2½-, 5-, 10-, and 20-pound capacity of dry chemical foam for Class A, B, and C fires. Class A – cloth, wood, and paper fires; Class B – fires caused by solvents and oils; and Class C – electrical fires.	Maintenance Building, HWMU, Administration/Laboratory Building, Locker Station, WWTU, Employee Building, Laboratory Check-In Station, CBS Check-In Station, and all company vehicles.
2. FIRE BLANKETS: easy-access large, cloth blanket that is mounted on a wall to be used to wrap an employee in to protect against flames or can be used to retain body heat in case of shock; may also be used as a stretcher.	62 inches by 90 inches in size	Laboratory (2).
3. WATER SUPPLY AND/OR HOSES: water supply at the site, and hoses used to deliver water to assist in emergencies that would require the use of water.	Fire hydrants are located north of the facility, on Sherman Street. The Tolleson Fire Department will use these fire hydrants to respond to fire emergencies.	Administration/Laboratory Building exterior, HWMU, and Maintenance Building, CBS Check-In Station, Employee Building, and WWTU. Lab water supply.

3.1.3 Personal Protective Equipment

In addition to emergency equipment, WRC also issues personal protective equipment (PPE) to each applicable employee. For employees that work in the HWMU this equipment typically includes uniforms, steel-toed boots, gloves appropriate for the job, safety glasses, and hardhats, if required. This equipment may also be used in an emergency not considered a threat to human health

©1997 by WORLD RESOURCES COMPANY. All rights reserved.

and safety, such as a release of greater than ten pounds of recyclable materials. In the event of an emergency that is considered a threat to human health and safety, WRC's procedure is immediate evacuation of the facility and to call the emergency response authorities.

The entire PPE policy and job hazard analysis with regard to PPE is a separate policy discussed in the Safety & Health Manual. Listed herein is the personal protective equipment to be used in an emergency that is not considered a threat to human health and safety.

PPE (respiratory, chemical, and thermal) is divided into two categories based on the degree of protection afforded. An asterisk (*) indicates "optional" as applicable. ***Note:*** Combinations of PPE other than those described below for Levels C and D protection may be more appropriate.

Level C Protection should be used when:

- the atmospheric contaminants, liquid splashes, or other direct contact will not adversely affect or be absorbed through any exposed skin;
- the types of air contaminants have been identified, concentrations measured, and an air-purifying respirator is available that can remove the contaminants; and
- all criteria for the use of air-purifying respirators are met (Atmospheric concentration of chemicals must not exceed Immediately Dangerous to Life and Health (IDLH) levels. The atmosphere must contain at least 19.5% oxygen.).

Level C Equipment includes:

- full-face or half-mask, National Institute of Occupational Safety and Health (NIOSH) approved air-purifying respirators;
- disposable chemical-resistant Tyvek® coveralls;
- gloves, outer and inner, chemical-resistant;
- boots, outer (chemical-resistant, composite/steel toe);
- boot covers, outer, chemical-resistant (disposable);
- hard hat;
- face shield;
- coveralls or approved employees uniforms; and
- * hearing protection.

Level D Protection should be used when:

- work functions preclude splashes, immersion, or the potential for unexpected inhalation of or contact with hazardous levels of any chemicals; and
- the atmosphere contains no known hazard.

Level D Equipment includes:

- coveralls, or approved employees uniforms;
- boots/shoes (chemical-resistant, composite/ steel toe);
- * boots, outer, chemical-resistant (disposable);
- safety glasses or chemical-splash goggles;
- hard hat;
- * face shield
- * hearing protection; and
- * gloves.

Attachment C provides a summary of potential health hazards associated with each of the waste codes associated with recyclable materials that are accepted by WRC (i.e., F006, F019, and D004 through D011).

©1997 by WORLD RESOURCES COMPANY. All rights reserved.

3.1.4 Other Safety/Emergency Equipment

Table 1-5. Other Safety/Emergency Equipment

Equipment	Capability	Location
1. EYE WASHES: upright devices that are capable of immediate delivery of water if necessary to flush out an employee's eyes by depressing a lever.	Capable of delivering not less than 0.4 gal/minute	Laboratory, WWTU, TCU, behind Maintenance building
2. SHOWERS/SAFETY SHOWERS: upright devices that deliver water for immediate drenching of employee in case of accidental splashes of chemicals.	20 gal. water/min. (safety shower); 2.5 gal./min. (employees shower)	Laboratory, Employee Building Shower Room, WWTU, Behind Maint. Bldg., TCU
3. FIRST-AID KITS: light-weight, weatherproof containers that hold individually wrapped medical supplies that may be used for emergencies. The kit for the office area is one that is sufficient for a low risk environment. The most fully equipped kit is located in the Maintenance Building which is designed for industrial environments where there is more risk. First aid kits are stocked by vendor.	Each kit provides first aid supplies	Administration/Laboratory Building, Maintenance Building, WWTU, HWMU baler area
4. DIESEL FUEL TANK EMERGENCY SHUTOFF: The diesel fuel tank emergency shutoff switch is a clearly marked manual switch that stops the pump from working in case of an emergency.	Capable of turning off the diesel fuel tank immediately	At the diesel fuel dispenser
5. EMERGENCY LIGHTS: Portable luminescent light; provides illumination in the event of interruption of normal lighting.	Capable of providing lighting	Maintenance Building
6. SPARK-PROOF TOOLS: A tool that is used to accomplish a task that does not emit a luminous electrical discharge of very short duration between two conductors separated by a gas.	Spark-proof tools are used to open the drums of any ignitable supplies received. The facility receives no ignitable hazardous wastes and static ground lines are not required.	Administration/Laboratory Building, Maintenance Building

4. Release Prevention

4.1 Prevention of Hazardous Waste Spills and Leaks

WRC strives to prevent environmental contamination by eliminating the occurrence of contamination to soil or groundwater by maintaining "best management practices" and incorporating appropriate pollution control equipment and devices.

4.1.1 Policy

Operating and recycling process activities require the handling and movement of large quantities of waste. This waste is received as a filter cake (i.e., solid, non-free-flowing) and not in liquid form. The potential to spill must be recognized and appropriate precautions taken. It is WRC's policy to employ proper personnel, techniques and equipment to maintain facility operations with minimum risk for spills, leaks or other release. This policy includes training of personnel as appropriate for their specific job function.

4.1.2 Procedures

1. Areas that have been identified as having the potential for spills and/or leaks are identified on Site Plan SP-S03, Spill Control, by showing the locations of spill control equipment.

©1997 by WORLD RESOURCES COMPANY. All rights reserved.

2. Spill and Leak Prevention and Response:
   - receiving and initial processing operations are conducted completely within the confines of the HWMU;
   - processing and material handling equipment at the facility are designed and operated so as to prevent spills;
   - a sealed berm surrounding the HWMU prevents the migration of spills and/or leaks to areas outside the HWMU; and
   - in the event of a spill and/or leak outside the containment of the HWMU, it would be mitigated with use of the designated spill control equipment.
3. The HWMU is designed to prevent the migration of fluids to the vadose zone.

5. Emergency Response

5.1 Emergency Response Procedures

WRC management practices, pollution control devices, and the HWMU structures prevent the unplanned sudden or non-sudden release of hazardous waste, hazardous waste constituents, or general chemicals to the air, soil, and groundwater. There is no surface water at the facility.

WRC's response to an unplanned sudden or non-sudden release after appropriate remediation, is to review and modify its Contingency Plan, management practices or, the HWMU procedures to ensure that future unplanned sudden or non-sudden releases do not occur.

5.1.1 Response to Unplanned Sudden or Non-Sudden Hazardous Waste Spills or Releases

Purpose. To set forth WRC procedures for responding to unplanned sudden or non-sudden spills or releases of hazardous waste (i.e., USEPA classifications F006, F019, D004 through D011) outside of the HWMU.

Policy. Recyclable materials are only unloaded, processed, and loaded within the HWMU.

Procedures. If a spill or leak of hazardous waste were to occur in an area outside of the HWMU, the hazardous waste would be recovered using appropriate spill control equipment and placed back into the HWMU. Additionally, the affected area would be both wet- and dry-vacuumed as necessary. The equipment that came in contact with the spilled material would then be cleaned (if required - i.e., rental equipment) by following standard WRC decontamination procedures (*See* Section 5.2 "Decontamination Procedures and Equipment"). Final reporting requirements will be determined by the Manager of EH&S Affairs.

5.1.2 Response to Unplanned Sudden or Non-Sudden General Chemical Spills or Releases

Purpose. To set forth WRC procedures for responding to unplanned sudden or non-sudden spills or releases of acids, bases, solvents, and general cleaning chemicals used at WRC or in the Laboratory.

Policy. It is WRC's policy that all employees working with chemicals at WRC's facility must be familiar with the cleanup procedures set forth below in response to chemical spills.

Procedures. The different classes of chemicals used at WRC are listed below along with the spill control measures for each. Final reporting requirements will be determined by the Manager of EH&S Affairs.

1. Report all spills immediately to the Emergency Coordinator (EC), and follow the Contingency Plan if greater than 10 gallons and/or 10 lbs.
2. Take preventive action immediately upon observing any unsafe or unauthorized use of chemicals.
3. Take injury-mitigating action immediately upon observing any injury occurring from chemical usage.

©1997 by WORLD RESOURCES COMPANY. All rights reserved.

4. Evaluate any misuse of chemicals for the purpose of preventing a reoccurrence and document evaluation.

Table 1-6. Emergency Releases of Any Chemicals Used by WRC
An "emergency release" is one that involves the unplanned sudden or non-sudden release of any quantity of chemical that has the potential to cause injuries. This type of release requires the Contingency Plan be activated and would require the response of an emergency response team and/or the local fire department.
The following procedure should be followed by WRC personnel.
1. Notify the EC, who will designate specific Contingency Plan actions.
2. Evacuate the immediate area of all personnel and visitors, and institute an evacuation of the facility if required.
3. Dial 911 and report the spill. Advise them of the exact location and nature of the problem.
4. Confine the release, if possible.
5. Send one employee to meet the emergency response team and/or fire department and lead them to the incident area.
6. Advise the emergency response team and/or fire department if all personnel are accounted for.
7. Provide assistance to the emergency response team and/or fire department as requested.
8. Follow the designated Contingency Plan actions.

©1997 by WORLD RESOURCES COMPANY. All rights reserved.

Table 1-7. Releases
Releases are unplanned sudden or non-sudden small releases of chemicals such as cleaning solvents that do not require evacuation other than of the immediate release area. These releases will be cleaned up by WRC personnel who have received proper training and have the proper safety equipment. There are many different chemicals in the Laboratory and in the Maintenance Building. While there are basically only a few different methods to use in the cleanup of chemicals, it is always best to consult the appropriate MSDS for each individual spill.
Releases of General Chemicals
General chemicals are those chemicals that are not acids, bases, or organic solvents. These chemicals would be classified as metal salts in the laboratory area or as cleaning agents.
1. Notify the EC, isolate the area by evacuating all personnel and visitors.
2. Protect and inform the personnel in and near the release area.
3. Review Chemical Safety documents (i.e. MSDS, Manufacturer documents).
4. Put on PPE (i.e., gloves appropriate for the chemical, uniform, and safety glasses).
5. Use a spill control pillow or absorbent to wipe up the spill. There are pillows and absorbents located in the Maintenance Building, HWMU and Laboratory.
6. Dispose of the spill control pillow or absorbent accordingly by first informing the primary EC. The EC will then determine the appropriate method of disposal and, if required, will contact a local chemical disposal company to pick up the items.
7. Wipe up with paper towels and rinse off into the laboratory sink spills that are an innocuous substance and very small and self-contained.
8. Decontaminate gloves by washing them with soap and water.
9. Decontaminate hands by thoroughly washing with soap and water.
Releases of Solvents Used in the Laboratory or Cleaning Chemicals
1. Notify the EC, isolate the area by evacuating all personnel and visitors.
2. Protect and inform the personnel in and near the release area that a spill has occurred.
3. Review Chemical Safety documents (i.e. MSDS, Manufacturer documents).
4. Ventilate the area as much as possible by opening windows and doors and using natural ventilation to disperse vapors.
5. Put on PPE (gloves appropriate for solvents, uniform, safety glasses, and respirator with Organic Vapor cartridges).
6. Use of spill control pillows or absorbent to contain and absorb the spill. There are pillows and absorbent located in the Maintenance Building, HWMU and Laboratory.
7. Dispose of the spill control pillow or absorbent accordingly by first informing the primary EC. The EC will then determine the appropriate method of disposal and, if required, will contact a local chemical disposal company to pick up the items.
8. Dispose of gloves with the used absorbent.
9. Decontaminate hands by thorough washing with soap and water.
10. Continue to ventilate the area until no appreciable odor or hazard remains.
Releases of Acids
There normally are four acids used in the laboratory: glacial acetic, hydrochloric, nitric, and sulfuric. Since these acids all require different spill cleanup techniques, it is best to consult the particular MSDS contained in WRC's MSDS manuals if there is a spill. The following steps can be followed with all acids.
1. Notify the EC, isolate the area by evacuating all personnel and visitors.
2. Contact and inform the personnel in and near the release area.
3. Review Chemical Safety documents (i.e. MSDS, Manufacturer documents).
4. Ventilate the area as much as possible by opening windows and doors and using a fan to direct fumes out toward an open window or door if possible.
5. Put on PPE (gloves appropriate for the type of acid, uniform, safety glasses, and respirator with HEPA cartridge).
6. Keep combustibles away from spilled material.
7. Consult individual MSDS. For glacial acetic acid, use absorbent pillows to clean up spills. For nitric, hydrochloric, and hydrofluoric acids, flush and dilute with water. Do not flush sulfuric acid spills directly with water. Dike sulfuric acid spills with sandbags or similar items. Neutralize such spills by adding lime or sodium bicarbonate.
8. Dispose of the spill control pillow or absorbent by first informing the primary EC. The EC will then determine the appropriate method of disposal and, if required, will contact a local chemical disposal company to pick up the items.
9. Decontaminate gloves by washing them with soap and water.

©1997 by WORLD RESOURCES COMPANY. All rights reserved.

Table 1-7. Releases
10. Decontaminate hands by thorough washing with soap and water.
11. Continue to ventilate the area until no appreciable odor or hazard remains.
Releases of Bases
1. Notify the EC, isolate the area by evacuating all personnel and visitors.
2. Protect and inform the personnel in and near the release area.
3. Review Chemical Safety documents (i.e. MSDS, Manufacturer documents).
4. Ventilate the area as much as possible by opening windows and doors and using a fan to direct fumes out toward an open window or door if possible.
5. Keep away from combustible materials and other heat sources.
6. Put on PPE (personal protective equipment—i.e., gloves appropriate for the type of base, uniform, safety glasses, and (if required) respirator with HEPA cartridge).
7. Use a spill control pillow or absorbent to wipe up the spill. There are pillows and absorbents located in the Maintenance Building and Laboratory.
8. Dispose of the spill control pillow or absorbent by first informing the primary EC. The EC will then determine the appropriate method of disposal and, if required, will contact a local chemical disposal company to pick up the items.
9. Decontaminate gloves by washing them with soap and water.
10. Decontaminate hands by thorough washing with soap and water.
11. Continue to ventilate the area until no appreciable odor or hazard remains.

5.1.3 Response to Fire or Explosion

Purpose. To minimize the risk of fire or explosion to all WRC employees, the general public, property, and environment.

Policy. All facility personnel and approved contractors must be familiar with procedures that should be implemented to minimize any risk during an emergency.

Procedures. If a fire or explosion occurs, the following instructions are to be implemented by the person who discovers the incident:

- activate the facility alarm;
- notify the EC;
- dial 911 and report the situation;
- evacuate (*See* Section 6 of this Contingency Plan); and
- use a portable fire extinguisher to contain the fire it if can be done safely.

The Emergency Coordinator would follow the reporting requirements listed in Section 2 of this Contingency Plan as necessary.

Note: Fire engine and hydrant run-off will be handled as hazardous waste if it comes in contact with a waste.

5.1.4 Emergency Shutoff Procedures for Thermal Concentrating Unit (TCU)

Purpose. To set forth procedures for emergency shutoff of the TCU in the event of a fire or other emergency.

Policy. During an emergency, the TCU must be shut down safely.

Procedures:

- The emergency shutoffs for the TCU are located on the electrical control board (inside the Electrical Control Room) and by the Granulator Discharge Bin (*See* Site Plan SP-S02, Safety & Emergency Equipment). These shutoffs will interrupt power to the TCU and all related equipment. Additionally, circuit breakers located at the main electrical service will accomplish the same shutdown.

©1997 by WORLD RESOURCES COMPANY. All rights reserved.

- A main gas shut off gate valve for shutting of natural gas supply to the TCU is located at the natural gas supply meter location identified on Site Plan SP-S02.
- The TCU baghouse is equipped with a manual water deluge valve located and identified at the base of the baghouse to suppress a baghouse fire if engaged by pulling firmly.

5.1.5 Response to Unplanned Sudden or Non-Sudden Wastewater Spills or Releases

Purpose. To set forth WRC procedures for responding to unplanned sudden or non-sudden spills or releases of wastewater outside the Hazardous Waste Management Unit (HWMU).

Policy. Wastewater from the accumulation of rainwater in the HWMU is only processed and pretreated within the wastewater treatment unit.

Procedures. If a spill or release of wastewater were to occur in an area outside the HWMU, the wastewater would be contained with a spill control pillow or absorbent to wipe up the spill. Additionally, the affected area would be both wet- and dry-vacuumed if appropriate. Final reporting requirements will be determined by the Manager of EH&S Affairs.

5.1.6 Post-Incident Cleanup

After a release, fire, explosion or spill has been effectively mitigated, the affected areas should be cordoned off (using rope, ribbon, barrier), appropriate signs should be placed in prominent locations to keep unauthorized persons out, signs should be placed in obvious locations, and the area shall be repaired and cleaned-up (containerized, decontaminated, sampled, disposed) and inspected as required.

- **Containerization:** Immediately after an emergency, the EC will make arrangements for the proper handling, treatment, and disposal of all recovered waste, contaminated soil, and other contaminated materials. Cleanup operations will be conducted by placing all containment/cleanup materials, recovered spilled liquid wastes, and contaminated soil in DOT-approved containers. Some items, such as absorbent rags or brooms may have to be cut up. Immediately, each such container will be sealed, labeled, and placed in the area in which the emergency occurred for contractor removal and disposal.
- **Post-Incident Inspection and Cleanup of Area and Equipment:** After an incident, the EC must note in the Operating Record the time, date, and details of the incident that required the implementation of the Contingency Plan. All emergency equipment listed in the Contingency Plan is cleaned and fit for its intended use before operations are resumed. Those items not fit for use will be replaced. Cleanups are completed only when the workers have been decontaminated.
- **Post-Incident Reporting:** After cleanup, the appropriate authorities will be notified in accordance with 40 CFR § 264.56(i), before operations may resume.

5.1.7 Chain-of-Command

Purpose. To provide an internal list of key employees to be contacted in the event of an emergency or spill.

Corporate Policy and Procedure. In the event of an emergency or spill the senior person on duty will ensure that the designated on-duty EC is contacted.

5.2 Decontamination Procedures and Equipment

5.2.1 Purpose

To set forth the Company's procedures relating to decontamination requirements.

5.2.2 Objectives of the Procedures

- Safeguard employees' and others' health and safety.
- Minimize the transfer of any potentially hazardous substances into clean areas.
- Prevent the mixing of incompatible materials.

©1997 by WORLD RESOURCES COMPANY. All rights reserved.

- Protect the community by preventing the inadvertent transportation of hazardous materials from the facilities.
- Ensure that any hazardous waste that is spilled outside of the HWMU is properly mitigated.

5.2.3 Prevention of Contamination of Personnel

The Company's principal goal is to prevent contamination of personnel. The following procedures are followed to accomplish this goal:

- PPE is provided and cleaned/decontaminated as needed. This equipment includes company provided uniforms, Tyvek® coveralls, safety shoes and boots, gloves, safety glasses and respirators.
- A high efficiency particulate air (HEPA) vacuum is provided for removal of recyclable material from employee uniforms.
- The Company provides eye wash and safety showers for employees' personal decontamination.
- The method of decontamination for a fire, explosion or a release, is a soap and water wash/shower for the employee.

5.2.4 Testing for Effectiveness of Decontamination

- For soil, building-grade material, and concrete outside the HWMU: WRC will use soil or chip sampling compared to Soil Remediation Levels (SRLs).
- For stainless-steel non-porous equipment: WRC will use equipment rinsate or wipe samples compared to non-detect using a minimum rinsate or wipe for the largest area cleaned.

The sampling and analytical methods for hazardous wastes contamination will be the same as the remediation sampling protocol detailed in the WRC Waste Analysis Plan.

PPE, decontamination equipment and site equipment will be washed with the appropriate decontamination liquid that will be managed in WRC's Wastewater Treatment Unit.

©1997 by WORLD RESOURCES COMPANY. All rights reserved.

5.2.5 Decontamination Equipment

Table 1-8. Decontamination Equipment

Equipment	Capability	Location
1. AIR COMPRESSOR: a machine that contains air under pressure greater than that of the atmosphere.	maximum of 125 pounds per square inch (psi) with 5 to 80 gallons storage capacity	MB and WWTU
2. BUCKETS FOR FRONT-END LOADERS: receptacles attached to the front-end loader that can be used for removing material from areas and transporting it to other areas.	1 1/4 cubic yard bucket 1 3/4 cubic yard bucket	HWMU
3. JACKS: portable mechanical devices that are used to lift or support heavy objects.	various capacities (1-10 tons)	MB
4. TOOL BOXES: a chest for instruments used or worked by hand.	26 inches wide by 12 inches deep by 50 inches tall	MB
5. SHOVELS: broad scoop hand-held device used to lift material.	6 to 16 inch head width	MB and A/LB
6. UNIVERSAL CHEMICAL ABSORBENT: substance that is contained in a cloth and used to take up a liquid and hold it in by absorption, thus being able to hold many times its weight in liquid; used for all spills.	pillows: 1 foot by 1 foot *MB socks: 4 feet long *MB granules: 20-50-lb. Bags *MB pillows: 7" X 15" *Lab pads: 11" X 13" *Lab	WWTU, MB and A/LB
7. HIGH-PRESSURE WASHER UNIT: a gas-powered device that delivers water at high pressure for the removal of waste from surfaces.	2.8 gallons of water per minute at 1,500 to 2,000 psi.	HWMU
8. MOBILE SWEEPER(S): mechanical piece of equipment that is used to lift dust off of flat, ground-level surfaces. Used to clear parking lot areas of fugitive dust.	48-62 inches wide, 15-30 cubic feet hopper	HWMU
9. MOBILE SCRUBBER: mechanical piece of equipment that is used to lift dust off of flat, ground-level surface by utilizing water. Used after dry sweeping to further clean parking lot areas.	will clean a 40-inch-wide path	parking lot area
10. BOOTIES: paper, rubber, or plastic coverings for boots or shoes; used to prevent recyclable material from contacting shoes or boots.	one pair protects one person's shoes or boots from contact with recyclable material	MB, Locker Station and Laboratory
11. HEPA VACUUM: a high-efficiency particulate air vacuum which is a portable device that is used to lift dry particles of hazardous dust off of surfaces.	99.97% efficiency at 0.3 microns – able to lift dry material	MB, Locker Station and Laboratory
12. BROOMS / BRUSHES: a bundle of firm, stiff fibers bound together to create an implement for sweeping.	various sizes from 12-inch to 30-inch heads	MB and HWMU
13. PLASTIC (POLYETHYLENE) SHEETING: broad pieces of plastic that are placed around material to aid in collection of the material.	approximately 12 feet by 9 feet with a thickness of 8 millimeters	MB
14. PAPER TOWELS: absorbent, disposable paper used to assist in cleaning up spills of innocuous materials.	multiple folds and rolled	EB, Locker Station and A/LB
15. CLOTHS: absorbent material used to assist in cleaning up spills of material.	variable sizes (12x12 to 18x24)	MB and A/LB
16. DUMPSTER: large receptacle used to hold debris of non-hazardous material that can be disposed of by garbage disposal company.	Not less than 8 cubic yards	parking lot area
17. WASH SOLUTIONS: homogenous water and soap mixtures that are used to decontaminate.	capable of cleaning skin and clothing of material	A/LB, EB and Locker Station
18. LARGE WASH CONTAINER: receptacle that holds water used to clean bulk, IBC, and liners of hazardous waste to ensure that they are "RCRA clean."	1 cubic yard	HWMU
19. COVERALLS (Tyvek®): disposable coverall that is dust-resistant.	protects one worker's skin from contacting material, yet allows a full range of motion	EB
20. EMERGENCY LIGHT: portable luminescent light.	capable of providing lighting	MB
21. SAND BAGS: bags filled with sand used to build a temporary containment area.	capable of providing temporary containment of released laboratory or cleaning chemicals.	Storage area behind HWMU
22. FAN: A device for producing a current of air that consists of a series of vanes radiating from a hub rotated on its axle by a motor.	capable of ventilating an area to direct laboratory or cleaning chemical fumes toward an open window or door.	MB and A/LB
23. LIME: A caustic highly infusible solid that consists mainly of calcium carbonate with magnesia used to neutralize acidic liquids and solids.	capable of neutralizing released liquid or solid acids.	WWTU

A/LB = Administration/Laboratory Building, EB = Employee Building, HWMU = Hazardous Waste Management Unit, MB = Maintenance Building, WWTU = Wastewater Treatment Unit

If emergency equipment is used in responding to the implementation of this Contingency Plan, the EC will ensure all emergency equipment is cleaned and fit for its intended use before operations are resumed.

©1997 by WORLD RESOURCES COMPANY. All rights reserved.

5.3 External Factors

5.3.1 Purpose

To minimize the possibility of negative effects to public health, safety, and the environment resulting from external factors such as power outages, floods, etc.

5.3.2 Scope

The policies and procedures noted below apply to all WRC personnel in the Tolleson, Arizona facility.

5.3.3 Policy and Procedures

- Power outages, floods, etc. could result in an interruption to the normal operation of the facility.
- Power outages during operating periods could stop operations; however, there would be no threat to the environment or human health because of the cessation of power.
- During non-duty hours, all equipment is secured and the facility is locked.
- The facility is non-union so there is little threat of a strike occurring.
- Whenever a storm event is anticipated through weather forecasts, material on the HWMU will be covered to minimize the potential of run-off and contamination of the storm water.

6. Evacuation Plan

6.1 General

A condition at the site could occur which may require the evacuation of the facility. Therefore, evacuation drills are conducted in order to ensure the facility is prepared to respond to emergencies. Evacuation drills help WRC employees recognize their individual roles in maintaining order and learning their responsibility.

6.2 Evacuation Drill Procedures

1. Drills will only be conducted when at least two ECs are present on-site.
2. The evacuation signal will be given by the sound of the emergency alarm to initiate the drill. The alarm is a signal to evacuate the facility. The sound pattern employed will be a continuous blast which will remain on until the primary EC deems the evacuation drill or emergency evacuation complete.
3. Upon hearing the evacuation signal, personnel will immediately evacuate the facility. The primary assembly points are at the north entrances to the WRC property across from the facility (i.e., Sherman Street) (*See* Site Plans SP-E01, SP-E02 and SP-E03, Evacuation Routes).
4. After all personnel evacuate the site, a head count will be taken. The General Manager, Maintenance Manager, Operations Manager, and the Laboratory Manager (or their designees) will be responsible for accounting for their personnel in their respective departments. The wallet-size card given to managers with the names of all their personnel may assist in the head count.
5. An outside contractor on site at the time of the drill will be under the responsibility of the WRC manager who contracted them. Any transporters on site should be under the responsibility of the Manifest Clerk. The second EC will collect the Visitors' Log and will conduct visitor accountability utilizing the Visitors' Log.
6. If any personnel, contractors, truck drivers, or visitors are missing, the EC will be notified as to their identity.
7. Evacuation routes and signals are to be explained to each employee during the initial employment training. Refresher information will be presented at annual training meetings. Diagrams of the evacuation plan are posted throughout the facility.
8. An evacuation drill will be conducted at the facility at least every twelve months.

©1997 by WORLD RESOURCES COMPANY. All rights reserved.

9. Critiques to be held in Managers' Staff meetings, of evacuation drills and notes on response time and performance of all personnel will help management identify a problem before response time is critical. Changes to the Contingency Plan may be implemented as a result of these critiques.

6.2 Emergency Evacuation Procedures

1. If an emergency occurs that requires evacuation, such as a fire or explosion, the evacuation signal will be given by the sound of the emergency alarm. In the event of electrical failure, battery backup is automatically activated.
2. Upon hearing the evacuation signal, the TCU and operating mobile equipment will be shutdown and personnel will immediately evacuate to the primary assembly points (See Site Plan SP-E01, SP-E02 and SP-E03, Evacuation Routes).
3. The senior person on site will notify an EC if one is not on site.
4. The senior person or EC on-site will contact emergency services such as fire department, medical aid, etc.
5. The senior person or EC on-site will conduct a head count to include any contractors. Contractors are the responsibility of the assigned WRC manager, and specific information can be retrieved from the Visitors' Log.
6. If any personnel, contractors, truck drivers, or visitors are missing, the senior person or EC will be notified as to their identity and last location, if known. The EC in turn will inform the Emergency Responders.
7. If more than one EC are on site at the time of the evacuation, they will meet at the primary assembly points to determine the proper course of action and designate responsibilities for individual actions.
8. Once the fire department has arrived, the ECs will assist the on-scene coordinator as necessary.
9. Once the emergency has been resolved, a critique will be conducted in a Managers' Staff meeting with all involved parties. Improvements or changes to the Contingency Plan will be implemented as necessary.

©1997 by WORLD RESOURCES COMPANY. All rights reserved.

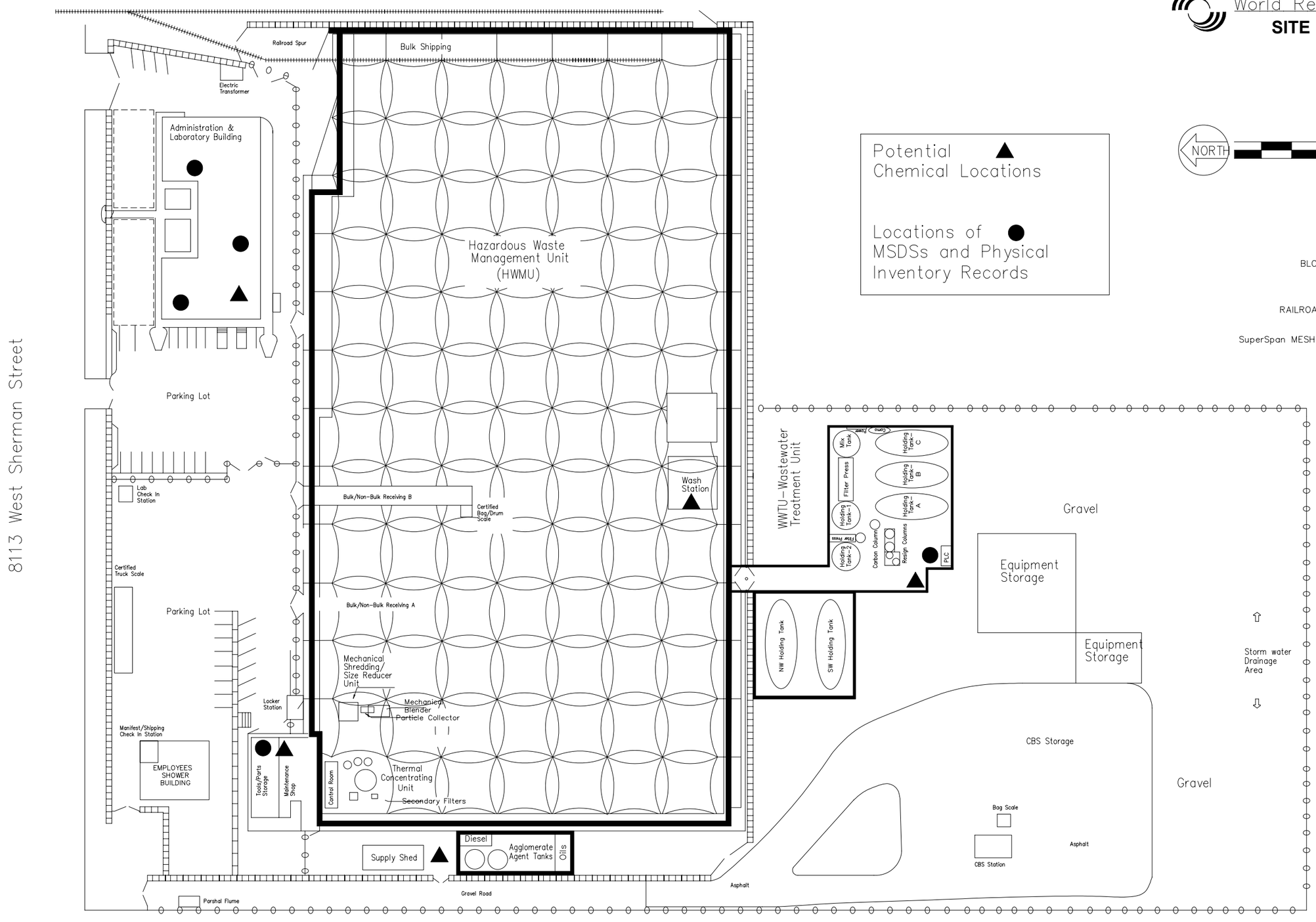
SITE PLANS

SP-C01	**Chemical Locations**
SP-E01	**Evacuation Routes**
SP-E02	**Evacuation Plan**
SP-E03	**Evacuation Routes – Employee Shower Building**
SP-F01	**Fire Control Equipment**
SP-S01	**Site Plan**
SP-S02	**Safety & Emergency Equipment**
SP-S03	**Spill Control**
SP-S04	**Sign Locations**

©1997 by WORLD RESOURCES COMPANY. All rights reserved.

World Resources Company

SITE PLAN SP-C01



Potential Chemical Locations ▲

Locations of MSDSs and Physical Inventory Records ●

NORTH

BERM

BLOCK WALL

FENCE

RAILROAD TRACK

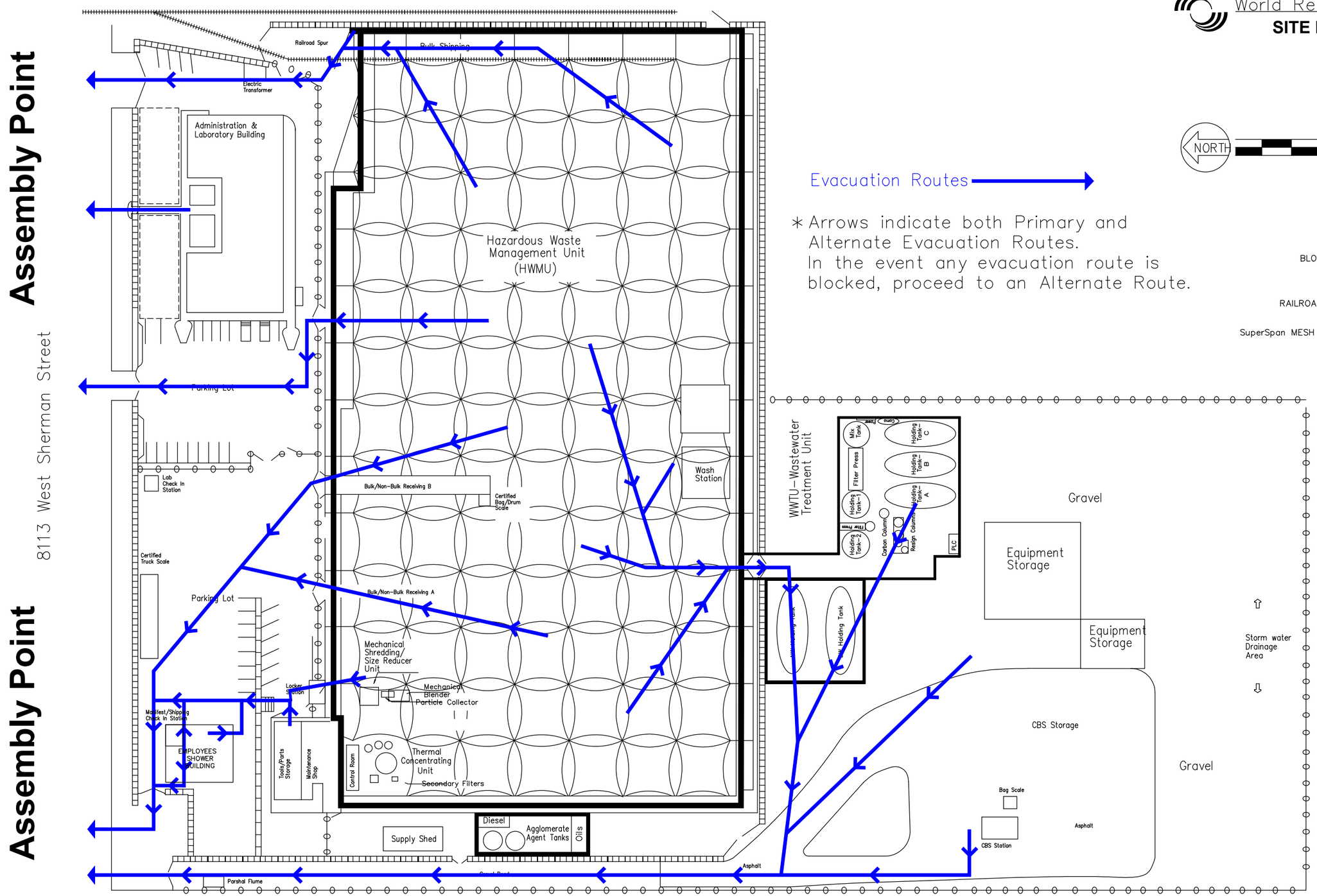
SuperSpan MESH CANOPY

Chemical Locations

Created: May 1, 1997;
Revision 6; Oct 23, 2014

World Resources Company

SITE PLAN SP-E01



Evacuation Routes →

* Arrows indicate both Primary and Alternate Evacuation Routes. In the event any evacuation route is blocked, proceed to an Alternate Route.

NORTH

BERM

BLOCK WALL

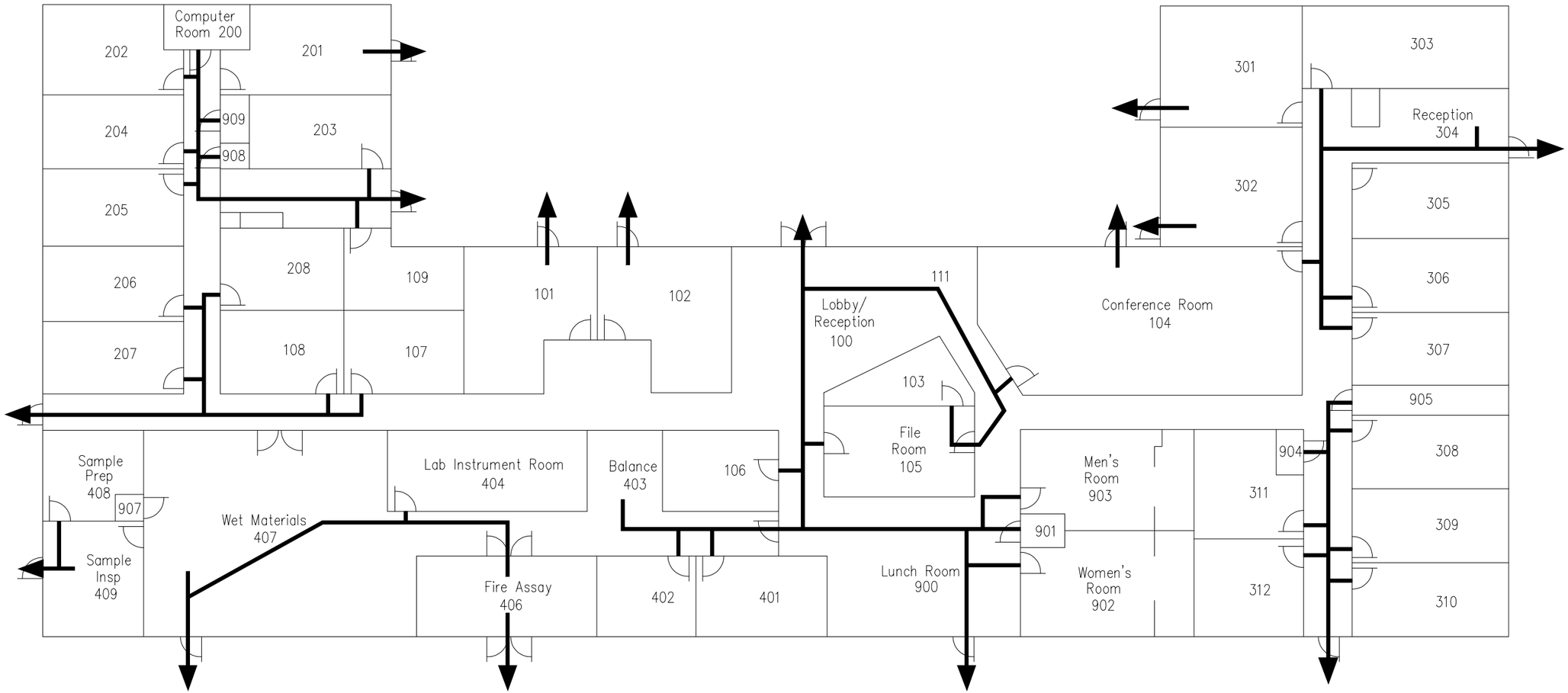
FENCE

RAILROAD TRACK

SuperSpan MESH CANOPY

Evacuation Routes

Created: May 1, 1997;
Revision 6; May 1, 2013

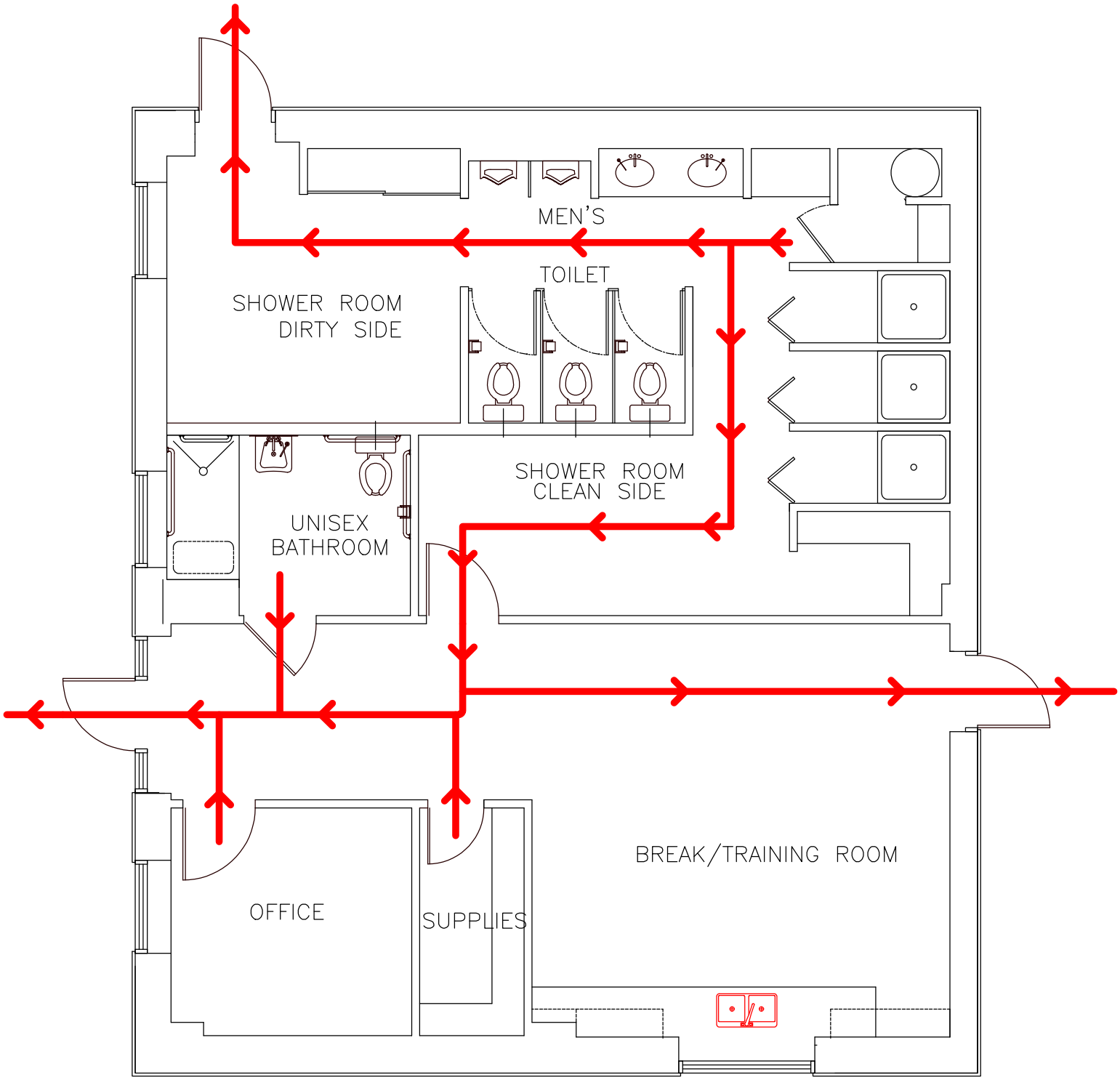


World Resources Company

EVACUATION PLAN

SITE PLAN SP-E02

Created: May 1, 1997; Rev Original



EMPLOYEES SHOWER BUILDING

EVACUATION ROUTES

SITE PLAN SP-E03
Created; May 1, 2013

World Resources Company

SITE PLAN SP-F01

FIRE HYDRANT LOCATION

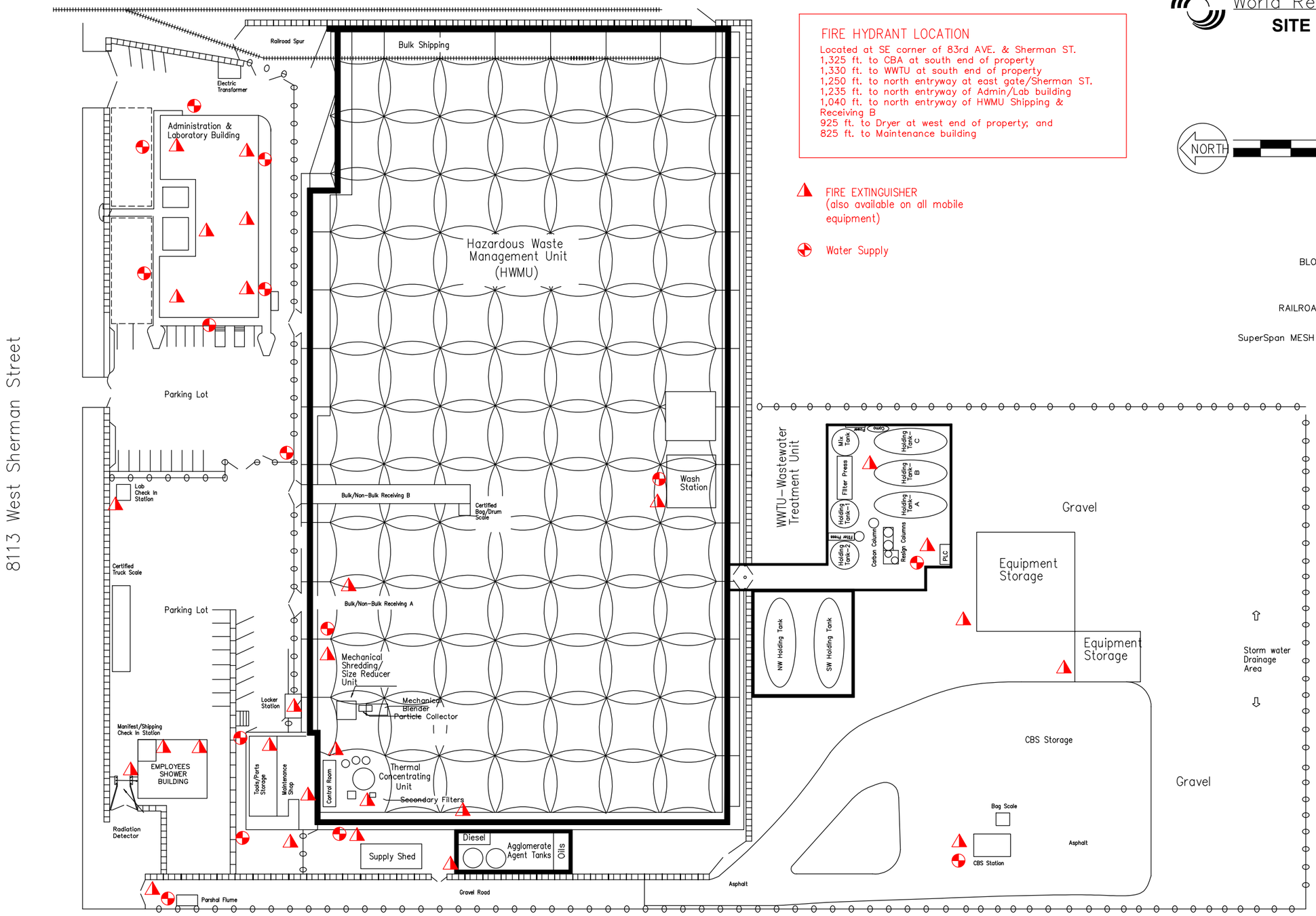
Located at SE corner of 83rd AVE. & Sherman ST.
1,325 ft. to CBA at south end of property
1,330 ft. to WWTU at south end of property
1,250 ft. to north entryway at east gate/Sherman ST.
1,235 ft. to north entryway of Admin/Lab building
1,040 ft. to north entryway of HWMU Shipping & Receiving B
925 ft. to Dryer at west end of property; and
825 ft. to Maintenance building

FIRE EXTINGUISHER (also available on all mobile equipment)

Water Supply

NORTH

BERM
BLOCK WALL
FENCE
RAILROAD TRACK
SuperSpan MESH CANOPY

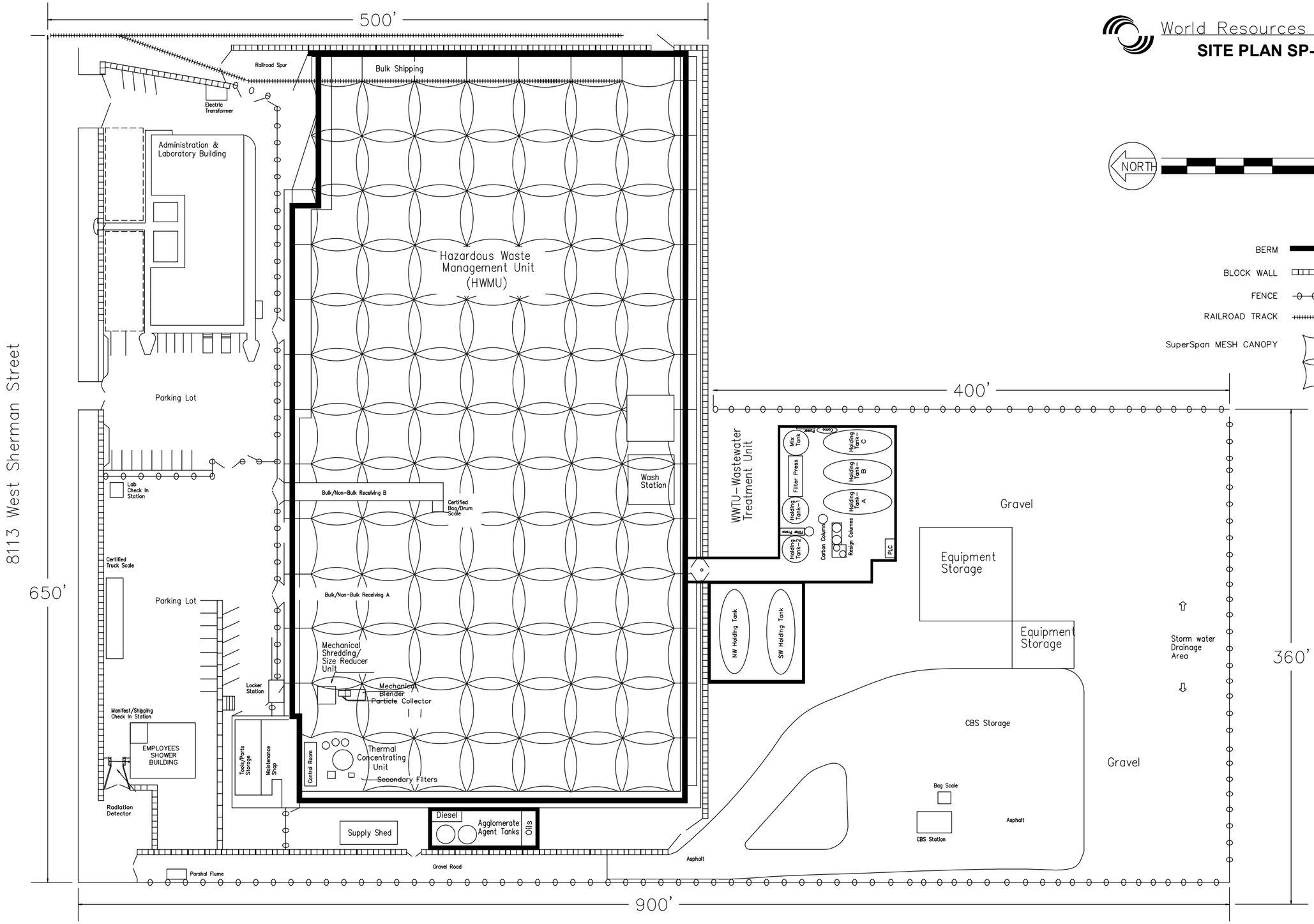


Fire Control Equipment

Created: May 1, 1997;
Revision 5; Nov 25, 2012

World Resources Company

SITE PLAN SP-S01

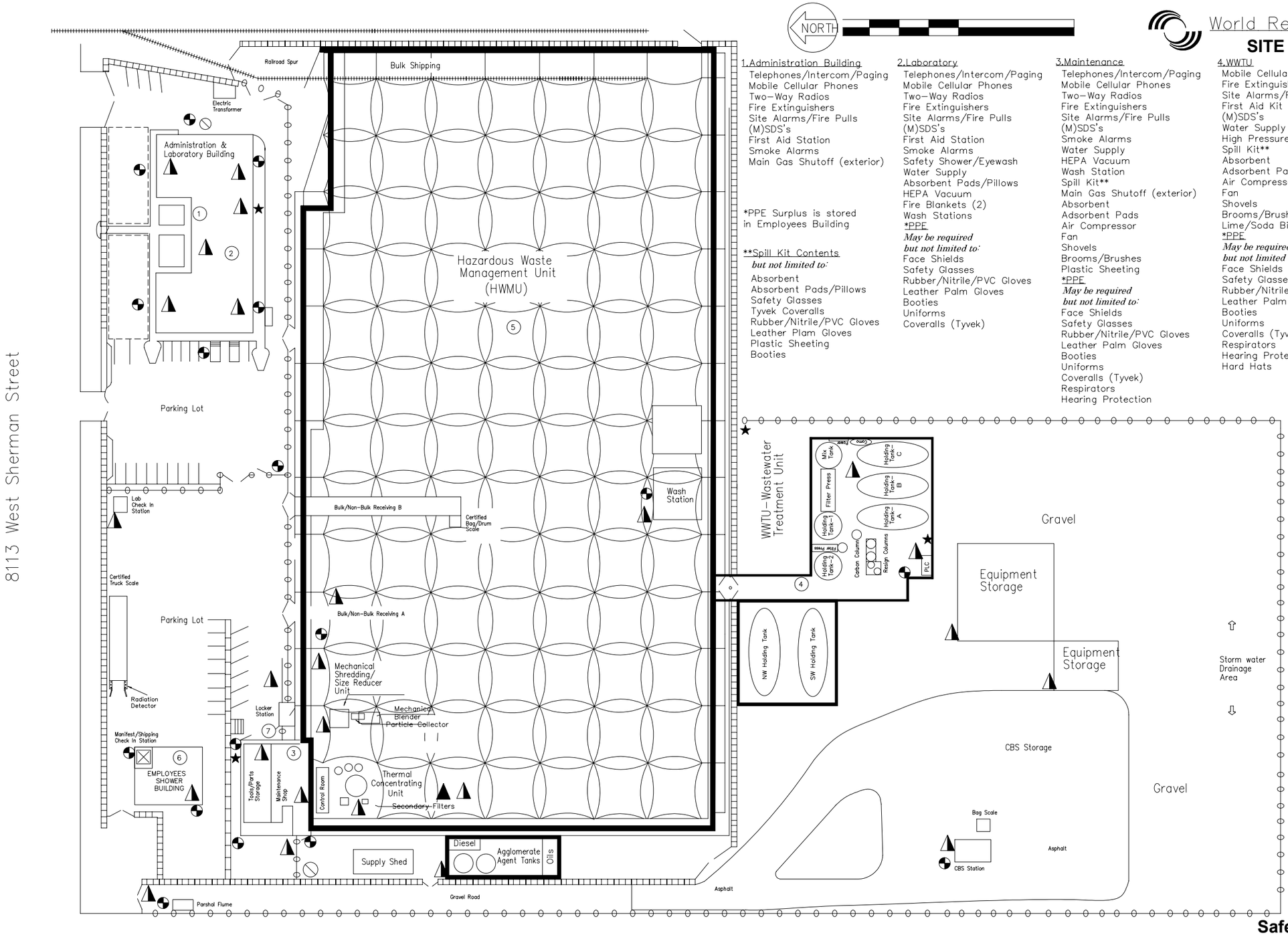


Site Plan

Created: May 1, 1997;
Revision 5; Nov 25, 2012

World Resources Company

SITE PLAN SP-S02



1.Administration Building
- Telephones/Intercom/Paging
- Mobile Cellular Phones
- Two-Way Radios
- Fire Extinguishers
- Site Alarms/Fire Pulls
- (M)SDS's
- First Aid Station
- Smoke Alarms
- Main Gas Shutoff (exterior)

*PPE Surplus is stored in Employees Building

**Spill Kit Contents
but not limited to:
- Absorbent
- Absorbent Pads/Pillows
- Safety Glasses
- Tyvek Coveralls
- Rubber/Nitrile/PVC Gloves
- Leather Plam Gloves
- Plastic Sheeting
- Booties

2.Laboratory
- Telephones/Intercom/Paging
- Mobile Cellular Phones
- Two-Way Radios
- Fire Extinguishers
- Site Alarms/Fire Pulls
- (M)SDS's
- First Aid Station
- Smoke Alarms
- Safety Shower/Eyewash
- Water Supply
- Absorbent Pads/Pillows
- HEPA Vacuum
- Fire Blankets (2)
- Wash Stations

*PPE
May be required but not limited to:
- Face Shields
- Safety Glasses
- Rubber/Nitrile/PVC Gloves
- Leather Palm Gloves
- Booties
- Uniforms
- Coveralls (Tyvek)

3.Maintenance
- Telephones/Intercom/Paging
- Mobile Cellular Phones
- Two-Way Radios
- Fire Extinguishers
- Site Alarms/Fire Pulls
- (M)SDS's
- Smoke Alarms
- Water Supply
- HEPA Vacuum
- Wash Station
- Spill Kit**
- Main Gas Shutoff (exterior)
- Absorbent
- Adsorbent Pads
- Air Compressor
- Fan
- Shovels
- Brooms/Brushes
- Plastic Sheeting

*PPE
May be required but not limited to:
- Face Shields
- Safety Glasses
- Rubber/Nitrile/PVC Gloves
- Leather Palm Gloves
- Booties
- Uniforms
- Coveralls (Tyvek)
- Respirators
- Hearing Protection

4.WWTU
- Mobile Cellular Phones
- Fire Extinguishers
- Site Alarms/Fire Pulls
- First Aid Kit
- (M)SDS's
- Water Supply
- High Pressure Washer
- Spill Kit**
- Absorbent
- Adsorbent Pads
- Air Compressor
- Fan
- Shovels
- Brooms/Brushes
- Lime/Soda Bicarbonate

*PPE
May be required but not limited to:
- Face Shields
- Safety Glasses
- Rubber/Nitrile/PVC Gloves
- Leather Palm Glovers
- Booties
- Uniforms
- Coveralls (Tyvek)
- Respirators
- Hearing Protection
- Hard Hats

5.HWMU
- Mobile Cellular Phones
- Two-Way Radios
- Fire Extinguishers
- Site Alarms/Fire Pulls
- First Aid Kit
- Water Supply
- High Pressure Washer
- Shovels
- Brooms/Brushes
- Large Wash Container
- Front-end Loader
- Mobile Sweeper
- Diesel Tank Emergency Shutoff
- Safety Shower/Eyewash (TCU)

*PPE
May be required but not limited to:
- Face Shields
- Safety Glasses
- Rubber/Nitrile/PVC Gloves
- Leather Palm Gloves
- Booties
- Uniforms
- Coveralls (Tyvek)
- Respirators
- Hearing Protection
- Hard Hats (TCU)

6.Employees Building
- Telephones/Intercom/Paging
- Mobile Cellular Phones
- Two-Way Radios
- First Aid Station
- Fire Extinguishers
- Smoke Alarms
- Water Supply
- Showers
- Wash Station

7.Locker Station
- Fire Extinguishers
- Smoke Alarms
- Wash Station
- Booties
- HEPA Vacuum

FIRE EXTINGUISER (also available on all mobile equipment)

WATER SUPPLY

MAIN GAS SHUT OFF

EMERGENCY CONTINGENCY PLAN FIRE SAFE

MAIN ELECTRICAL SERVICE BREAKER

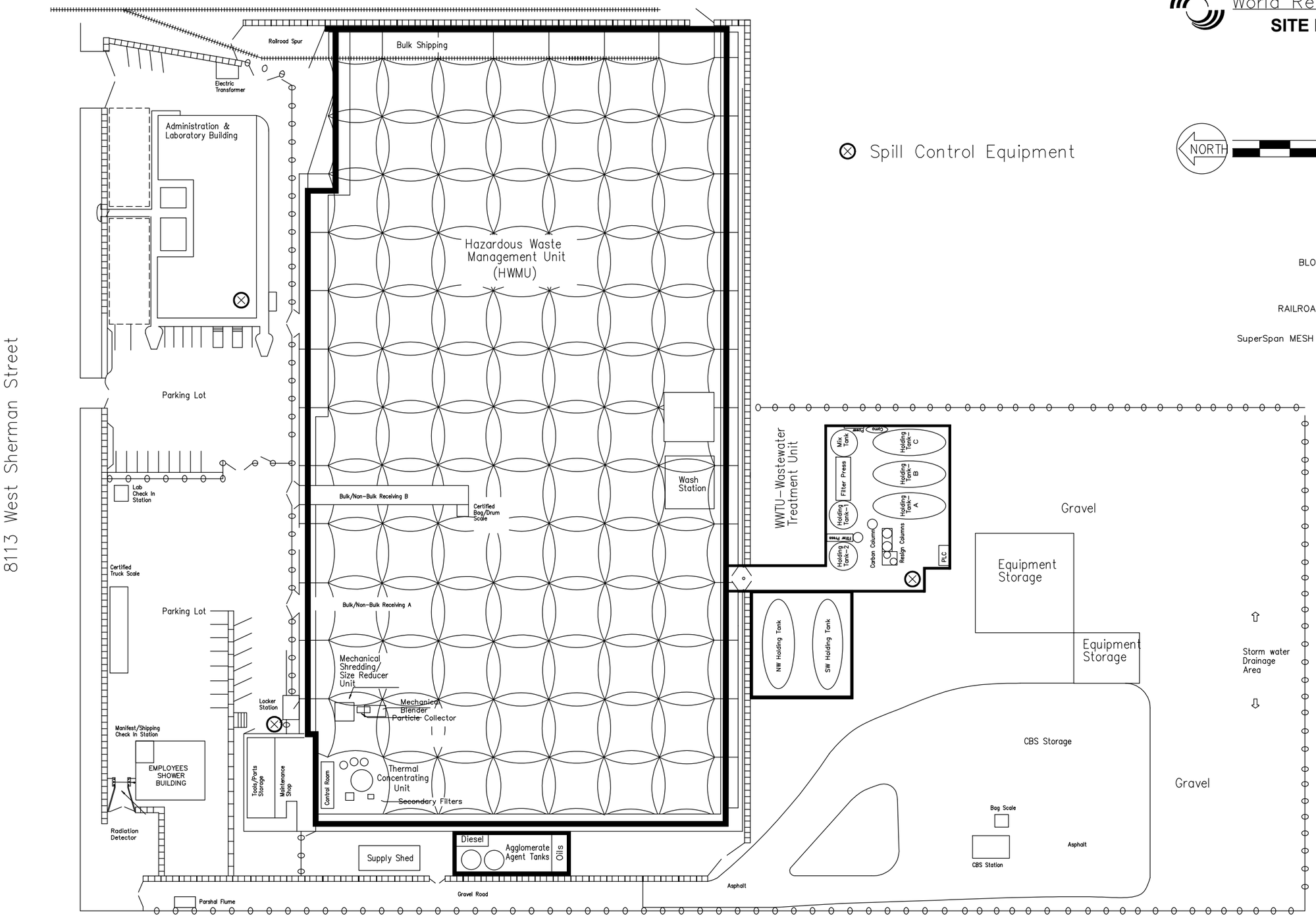
DIESEL FUEL TANK EMERGENCY SHUT OFF

Safety & Emergency Equipment

Created: May 1, 1997;
Revision 7; Oct 24, 2014

World Resources Company

SITE PLAN SP-S03

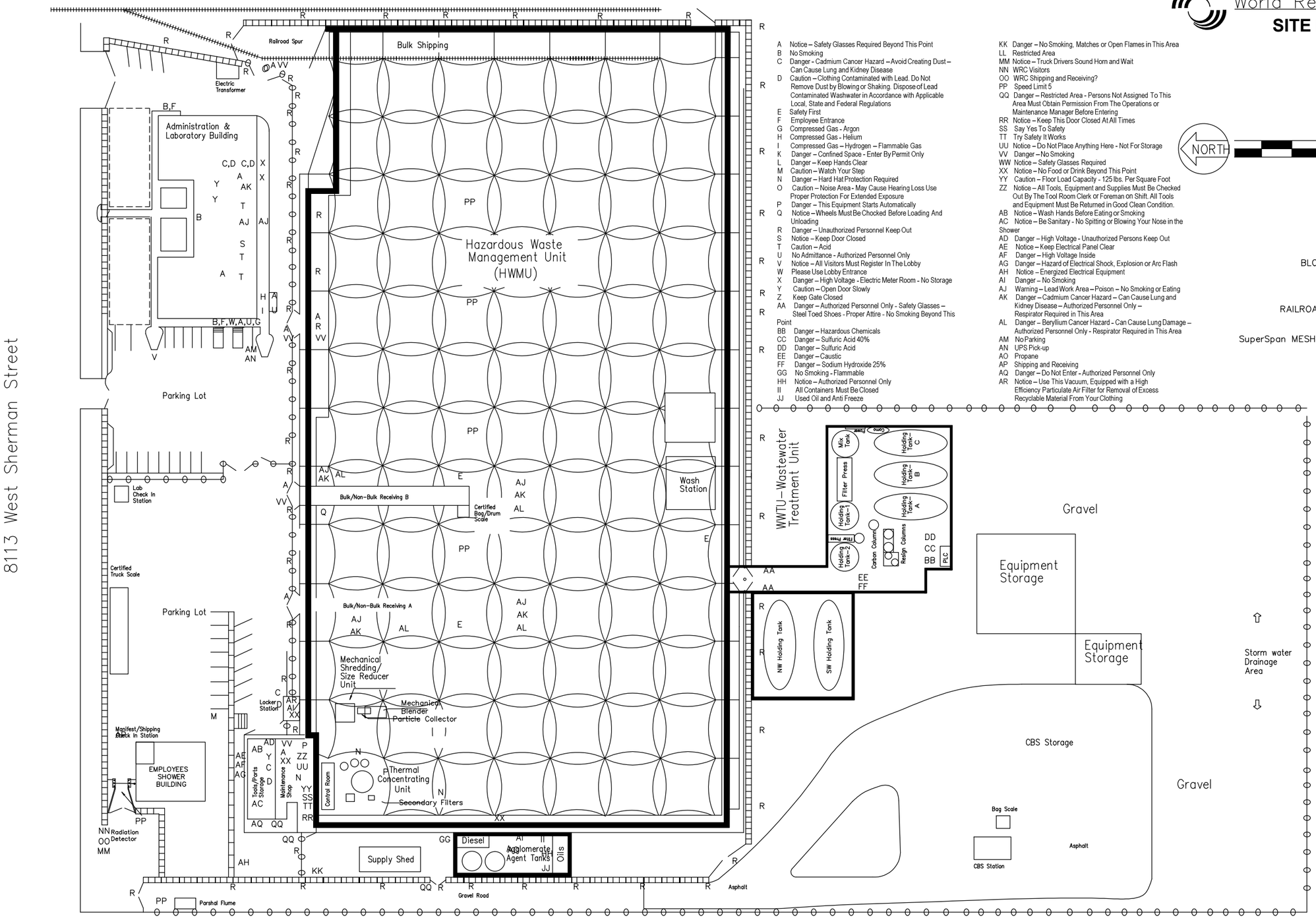


Spill Control

Created: May 1, 1997;
Revision 5; Nov 25, 2012

World Resources Company

SITE PLAN SP-S04



A Notice – Safety Glasses Required Beyond This Point
B No Smoking
C Danger - Cadmium Cancer Hazard – Avoid Creating Dust – Can Cause Lung and Kidney Disease
D Caution – Clothing Contaminated with Lead. Do Not Remove Dust by Blowing or Shaking. Dispose of Lead Contaminated Washwater in Accordance with Applicable Local, State and Federal Regulations
E Safety First
F Employee Entrance
G Compressed Gas - Argon
H Compressed Gas - Helium
I Compressed Gas – Hydrogen – Flammable Gas
K Danger – Confined Space - Enter By Permit Only
L Danger – Keep Hands Clear
M Caution – Watch Your Step
N Danger – Hard Hat Protection Required
O Caution – Noise Area - May Cause Hearing Loss Use Proper Protection For Extended Exposure
P Danger – This Equipment Starts Automatically
Q Notice – Wheels Must Be Chocked Before Loading And Unloading
R Danger – Unauthorized Personnel Keep Out
S Notice – Keep Door Closed
T Caution – Acid
U No Admittance - Authorized Personnel Only
V Notice – All Visitors Must Register In The Lobby
W Please Use Lobby Entrance
X Danger – High Voltage - Electric Meter Room - No Storage
Y Caution – Open Door Slowly
Z Keep Gate Closed
AA Danger – Authorized Personnel Only - Safety Glasses – Steel Toed Shoes - Proper Attire - No Smoking Beyond This Point
BB Danger – Hazardous Chemicals
CC Danger – Sulfuric Acid 40%
DD Danger – Sulfuric Acid
EE Danger – Caustic
FF Danger – Sodium Hydroxide 25%
GG No Smoking - Flammable
HH Notice – Authorized Personnel Only
II All Containers Must Be Closed
JJ Used Oil and Anti Freeze
KK Danger – No Smoking, Matches or Open Flames in This Area
LL Restricted Area
MM Notice – Truck Drivers Sound Horn and Wait
NN WRC Visitors
OO WRC Shipping and Receiving?
PP Speed Limit 5
QQ Danger – Restricted Area - Persons Not Assigned To This Area Must Obtain Permission From The Operations or Maintenance Manager Before Entering
RR Notice – Keep This Door Closed At All Times
SS Say Yes To Safety
TT Try Safety It Works
UU Notice – Do Not Place Anything Here - Not For Storage
VV Danger – No Smoking
WW Notice – Safety Glasses Required
XX Notice – No Food or Drink Beyond This Point
YY Caution – Floor Load Capacity - 125 lbs. Per Square Foot
ZZ Notice – All Tools, Equipment and Supplies Must Be Checked Out By The Tool Room Clerk or Foreman on Shift. All Tools and Equipment Must Be Returned in Good Clean Condition.
AB Notice – Wash Hands Before Eating or Smoking
AC Notice – Be Sanitary - No Spitting or Blowing Your Nose in the Shower
AD Danger – High Voltage - Unauthorized Persons Keep Out
AE Notice – Keep Electrical Panel Clear
AF Danger – High Voltage Inside
AG Danger – Hazard of Electrical Shock, Explosion or Arc Flash
AH Notice – Energized Electrical Equipment
AI Danger – No Smoking
AJ Warning – Lead Work Area – Poison – No Smoking or Eating
AK Danger – Cadmium Cancer Hazard – Can Cause Lung and Kidney Disease – Authorized Personnel Only – Respirator Required in This Area
AL Danger – Beryllium Cancer Hazard - Can Cause Lung Damage – Authorized Personnel Only - Respirator Required in This Area
AM No Parking
AN UPS Pick-up
AO Propane
AP Shipping and Receiving
AQ Danger – Do Not Enter - Authorized Personnel Only
AR Notice – Use This Vacuum, Equipped with a High Efficiency Particulate Air Filter for Removal of Excess Recyclable Material From Your Clothing

BERM
BLOCK WALL
FENCE
RAILROAD TRACK
SuperSpan MESH CANOPY

Site Plan

Created: May 1, 1997;
Revision 5; Dec 5, 2012

ATTACHMENT A

POLLUTION INCIDENT RECORD

Incident **DESCRIPTION:** _____

DATE of Incident:

Time of Incident: ☐ AM ☐ PM

Materials/Equipment Involved:

_____

_____

Remedial Action:

_____

_____

_____

Person(s)/Agency(ies) Notified:

_____

_____

_____

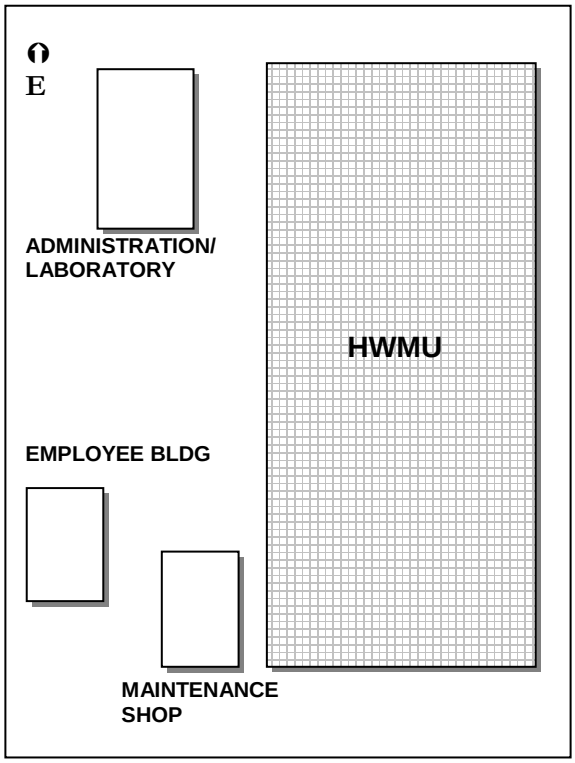
Action Taken to Eliminate Re-occurrence:

_____

_____

_____

MARK LOCATION DESCRIBED IN ABOVE BOX ON MAP



Describe Any Sampling Efforts or Results Associated With This Incident:

_____

_____

(NOTE: USE ADDITIONAL PAGES AS NECESSARY)

Approved:

_____

Print Name **Signature** **Date**

©1997 by WORLD RESOURCES COMPANY. All rights reserved.

ATTACHMENT B

PERSONAL PROTECTIVE EQUIPMENT (PPE)

WRC PPE, Capabilities, and Locations

A/LB = Administration/Laboratory Building,
MB = Maintenance Building
EB = Employee Building

EQUIPMENT	CAPABILITY	LOCATION
1. **HALF-MASK/FULL-FACE RESPIRATORS** with combination cartridges for 1) organic vapors, chlorines, sulfur dioxide, hydrogen chloride, ammonia, formaldehyde, hydrogen fluoride, and 2) high-efficiency particulate air (HEPA) for particulates. Sampling Technicians will use CBRN cartridges/canisters that provide protection from chemical, biological, radiological, nuclear and particulate contaminates.	see Respirator Policy in Safety and Health Manual	Individual lockers
2. **SAFETY GLASSES:** glasses with side shields and anti-scratch polycarbonate lenses which meet ANSI Z87.1989. They protect against debris, material and chemicals from entering the eyes. Tinted lenses are available for protection from sun glare. Goggles are also available for splash and impact protection.	One pair is capable of protecting one person's eyes.	A/LB and EB
3. **UNIFORMS:** long-sleeved shirts and long trousers are given to each Operations, Maintenance, and Laboratory employee.	One uniform is capable of protecting one employee's skin from direct contact with material.	A/LB, EB and individual lockers[1]
4. **RUBBER/NITRILE/PVC GLOVES** for material handling: nitrile gloves are provided for employees to protect against material and chemical contamination.	One pair is capable of protecting one employee's hands.	A/LB, EB, and issued to individual employees
5. **LEATHER GLOVES:** can be used for machinery operation to protect the handler from injury while providing increased gripping capability.	One pair is capable of protecting one employee's hands.	EB, A/LB, and issued to individual employees[2]
6. **HEARING PROTECTION:** both ear plugs and ear muffs are provided for the employee if desired or if necessary	One pair of plugs or muffs is capable of protecting one employee from excessive noise.	EB
7. **SAFETY SHOES/BOOTS:** Composite/steel-toed shoes/boots are provided for all Operations, Maintenance, and Laboratory personnel to protect toes from impact.	One pair is capable of protecting one employee's feet from impact injury; meets ANSI Standard Z41-1991.	issued to individual employees[3]
8. **HARD HATS:** high-density polyethylene (HDPE) hat that protects the employee's head from a blow or falling object.	One that is capable of protecting the employee's head from blows or falling objects; meets ANSI Standard Z89.1, 1986.	EB and issued to applicable employees

[1] Soiled uniforms are placed in designated bins located in the employee shower/bathrooms.

[2] Leather gloves will be stored in each employee's locker in the locker station.

[3] Employees decontaminate their safety shoes before exiting the locker station.

©1997 by WORLD RESOURCES COMPANY. All rights reserved.

ATTACHMENT C

Summary of Hazardous Constituents and Potential Hazards of RCRA Hazardous Wastes Handled at WRC's Arizona Facility*		
F006	Cadmium	pulmonary edema; dyspnea; cough; tight chest; substernal pain; headache; chills; muscle aches; nausea; vomiting; diarrhea; emphysema; anosmia; mild anemia; proteinuria
	Hexavalent Chromium	eye irritation; sensitization dermatitis
	Nickel	sensitization dermatitis; allergic asthma; pneumonia
	Cyanide (complexed)	eye and upper respiratory system irritation; lacrimation; cherry red lips; tachypnea; hyperemia; bradycardia; headache; vertigo; convulsions; dizziness; loss of appetite
F019	Hexavalent Chromium	eye irritation; sensitization dermatitis
	Cyanide (complexed)	eye and upper respiratory system irritation; lacrimation; cherry red lips; tachypnea; hyperemia; bradycardia; headache; vertigo; convulsions; dizziness; loss of appetite
D004	Arsenic	ulceration of nasal septum; dermatitis; gastrointestinal disturbances; peripheral neuropathy; respiratory irritation; hyper-pigmentation of skin
D005	Barium	irritation of eyes, skin, upper respiratory system; skin burns; gastroenteritis; muscle spasm; slow pulse; extrasystoles; hypokalemia
D006	Cadmium	pulmonary edema; dyspnea; cough; tight chest; substernal pain; headache; chills; muscle aches; nausea; vomiting; diarrhea; emphysema; anosmia; mild anemia; proteinuria
D007	Chromium	eye irritation; sensitization dermatitis
D008	Lead	weakness; lassitude; insomnia; facial pallor; pale eyes; anorexia; low weight; malnutrition; constipation; abdominal pain; colic; anemia
D009	Mercury	irritation of eyes, and skin; coughing; chest pain; dyspnea; bronchitis; pneumonitis; tremor; insomnia; irritation; indecision; headache; fatigue; weakness; stomatitis; salivation; gastrointestinal disturbance; anorexia; low weight.
D010	Selenium	irritation of eyes, skin, nose; throat; visual disturbance; headache; chills; fever; dyspnea; bronchitis; metallic taste; garlic breath; gastrointestinal disturbances; dermatitis; skin burns
D011	Silver	blue-gray eyes, nasal septum, throat and skin; irritation and ulceration of skin; gastrointestinal disturbances
**Derived from* NIOSH Pocket Guide.		

©1997 by WORLD RESOURCES COMPANY. All rights reserved.