



Rocky Mountain
Remediation Services, L.L.C.
... protecting the environment

PROCEDURE

Equipment Decontamination at Decontamination Facilities

RMRS/OPS-PRO.070

Revision 0

Date Effective: May 3rd, 1999

Approved by:


J. R. Cirillo, Facility Manager

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1.0 PURPOSE

This document provides instructions to decontaminate equipment at Rocky Flats Environmental Technology Site (RFETS) decontamination facilities.

2.0 SCOPE

This procedure applies to Water Operations employees and subcontractors who decontaminate equipment at RFETS decontamination facilities that are under the supervision of the Water Operations Department.

This document addresses the decontamination of equipment at the decontamination facilities.

This document supersedes 5-21000-OPS-FO.04, *Decontamination of Equipment at Decontamination Facilities*.

3.0 OVERVIEW

Effective decontamination procedures are required to minimize the potential for cross-contamination, off-site contamination migration and personnel exposure from improperly decontaminated equipment. Equipment, environmental materials containers and environmental liquids may become contaminated when used in a work area characterized as potentially contaminated. Each work area will be characterized by RFETS prior to starting any activity.

A main decontamination facility (MDF) and a protected area decontamination facility (PADF) exist on the Site. Each decontamination facility has two functional areas, which include the equipment



decontamination pad and the environmental liquid management area. Locations of the decontamination facilities are shown in Appendix 1 and facility layouts are shown in Appendix 2.

Additional guidance for decontamination procedures can be found in the following:

- 4-S01-ENV-OPS-FO.03, *Field Decontamination Operations*;
- 4-K55-ENV-OPS-FO.10, *Receiving, Marking and Labeling Environmental Materials Containers*;
- 4-K56-ENV-OPS-FO.08, *Monitoring and Containerizing Drilling Fluid and Cuttings*;
- 5-21000-OPS-FO.06, *Handling of Personal Protective Equipment*;
- OPS-PRO.008, *Main Decontamination Facility Normal Operations*;
- OPS-PRO.013, *Equipment Operation at Decontamination Facilities*;
- RMRS/OPS-PRO.112, *Handling of Decontamination Water and Wash Water*; and
- RMRS/OPS-PRO-141, *Protected Area Decontamination Facility Operations*.

3.1 Decontamination Pad Equipment

The decontamination pad equipment includes a curtain system, a sump for collection of environmental liquids and sediments and a pumping system for moving of liquids from the sump to the environmental liquids management area.

The decontamination facility has a concrete pad used for cleaning equipment. The entrance and exit are sloped and curbed to contain and collect environmental liquids, solids and sludge generated during cleaning operations. The approaches to the pad are sloped to allow equipment to be driven onto and off of the facility. A sump is located on the pad to collect waste materials.

Decontamination facility operations typically use electric or gas-powered pumps and high pressure steam cleaners for day-to-day activities. Operation of this equipment is discussed in OPS-PRO.013, *Equipment Operation at Decontamination Facilities*.

4.0 DEFINITIONS

Decontamination Facility. A fixed facility that generally includes a paved and bermed area equipped with sumps, pumps and pressurized sprays used to decontaminate large items that cannot be conveniently decontaminated in an uncontrolled environment.

Potentially contaminated. Areas characterized as potentially contaminated or areas where field monitoring detected readings are above background levels. Background levels are set forth in 4-U50-REP-1006, *Radiological Characterization of Bulk or Volume Solid Materials*.

Subcontractor. The RMRS designated subcontractor responsible for the day-to-day operation of the decontamination facilities.

Sump. The initial collection area for sediments and decontamination liquids generated a decontamination facility.

User. RFETS employees or subcontractors who use the decontamination facilities to decontaminate equipment.

5.0 RESPONSIBILITIES

5.1 Planning and Coordination

Responsible Manager/Designee

- [1] Ensure that all personnel performing this evolution are trained in the use of this procedure, have proper training as specified in Section 5.2 of this procedure and have the appropriate health and safety training as specified in the Decontamination Facilities Health and Safety Plan, RF/ER-96-0049.

Subcontractor

- [1] Ensure that decontamination facility operations are planned and performed in accordance with the Decontamination Facilities Health and Safety Plan.
- [2] Establish a priority of use for the decontamination facility.
- [3] Ensure that planned decontamination activities are scheduled and discussed in the Plan-of-the-Day (POD) meeting.

User

- [1] Coordinate with the Subcontractor, as needed, for items not scheduled during the POD meeting.
- [2] Ensure that a radiological survey on equipment has been completed in accordance with the Radiological Safety Practices (RSP) Manual.¹
- [3] Complete appropriate RSP form (or equivalent) and submit to the Health and Safety Specialist (HSS) for review.

Health and Safety Specialist

- [1] Ensure that the information on RSP Form 7.02 (or equivalent) is below release limits or establishes the area as an area controlled for radiological purposes prior to commencing decontamination.²

5.2 Training

All personnel performing this evolution must have the following training:

- Building Indoctrination 966A (if working at PADF) or Building Indoctrination 903A&B (if working at MDF);
- Decontamination Pad Equipment Operations Qualification Document;
- OSHA 40 HAZWOPER and current refresher;
- Pressure Safety Awareness;
- General Employee Radiological Training;
- Hazard Communications;
- Hazard Communications Checklist; and
- Other RFETS training, as required.

¹ Radiological surveys may be waived at the discretion of the Responsible Manager/Designee based on process knowledge.

² Items not successfully decontaminated to release levels will be dispositioned appropriately at the discretion of the Responsible Manager/Designee.

5.3 Materials and Equipment

Subcontractor

Ensure that the following equipment is available for use, as necessary:

- A calibrated organic vapor detector (OVD);
- Calibrated radiological instruments to screen equipment and environmental materials containers;
- One or more portable tanks for containing clean water;
- Tanks for the collection and holding of environmental liquids and sediments;
- Hoses to convey environmental liquids to and from sumps, pumps, and tanks;
- A high pressure steam cleaner with pressure wash and rinse systems;
- A forklift (drum grabber) designed to carry 55-gallon drums;
- Long and short handled stiff bristle brushes;
- Wire brushes;
- Wash and rinse buckets;
- Paper towels.

User

Provide the following equipment and supplies for use:

- Two-way radio;
- PPE as required by the Decontamination Facilities Health and Safety Plan;
- Wash and rinse buckets necessary to clean small items; and
- Brushes.

6.0 INSTRUCTIONS

All decontamination operations at the decontamination facilities are conducted in accordance with this procedure, OPS-PRO.008, *Main Decontamination Facility Normal Operations* and RMRS/OPS-PRO-141, *Protected Area Decontamination Facility Operations*.

Decontamination facility users are generally responsible for the decontamination of their equipment, however, if the user does not have adequate training, the facility subcontractor may provide decontamination services at the discretion of the Responsible Manager/Designee.

WARNING

DO NOT decontaminate equipment from elevated heights without fall protection equipment and approval from the Responsible Manager/Designee and the Health and Safety Specialist/Designee.

Subcontractor/User

- [1] Initiate Equipment Decontamination Checklist (Appendix 3).
- [2] Don the required PPE as outlined in the Decontamination Facilities Health and Safety Plan.
- [3] Observe health and safety requirements posted at the decontamination facility and presented in the Decontamination Facilities Health and Safety Plan.

WARNING

Failure to cease all decontamination operations during a wind alarm, in accordance with 5-21000-OPS-FO.01, *Air Monitoring and Dust Control*, could result in the release of contaminants to the surrounding areas.

- [4] Check wind speed and direction and record results on the Equipment Decontamination Checklist (Appendix 3).
- [5] Prepare the pad for decontamination, including rolling out track pads if equipment to be decontaminated has metal tracks.

- [6] Enclose pad by unrolling curtains after equipment or item to be decontaminated is placed on the pad.
- [7] Secure the curtains by alternating top and bottom clips in front of, and behind, each pole.
- [8] Hang rope across both ends of pad to prevent egress onto the pad.

NOTE 1 *The buddy system must be used while decontamination activities are conducted.*

NOTE 2 *One person will remain outside the pad while the other person decontaminates the equipment.*

WARNING

Directing the high-pressure wand at any body part could result in injury.

- [9] Decontaminate equipment.
 - [A] Start decontamination from the uppermost surface and work downwards.
 - [B] Clean engine compartment, as applicable.
 - [C] Clean tires and rims, as applicable.
 - [D] Clean undercarriage, as applicable.
 - [E] Clean floor mats and pedals, as applicable.
 - [F] Rinse equipment from uppermost surface downwards.
- [10] Decontaminate equipment from different work areas separately to prevent cross-contamination.
- [11] Request a post decontamination survey, if required.
- [12] Review the post decontamination results to determine release of equipment from pad.
- [13] Remove equipment from the pad, if decontamination objectives have been achieved. If decontamination objectives have not been achieved, repeat Step 9 until equipment is approved for release from pad.
- [14] Steam clean all surfaces within the curtained portion of the decontamination facility (including screens) after each decontamination activity.

- [15] Roll up and tie down curtains.
- [16] Exit the pad through the boot wash.
- [17] Remove PPE and dispose of in accordance with 5-21000-OPS-FO.06, *Handling Personal Protective Equipment*.
- [18] Complete the Equipment Decontamination Checklist, Appendix 3.
- [19] Document the following information in the Decontamination Facility Logbook:
- Name of person performing decontamination activity;
 - Company name;
 - Location (shall include OU and IHSS where equipment was used);
 - Gallons of water used (decon, purge, etc.);
 - Date and time equipment was decontaminated; and
 - Level of PPE used during decontamination activity.

7.0 POST-PERFORMANCE ACTIVITY

Responsible Manager/Designee

Complete a Post-Job Review Checklist, as necessary, in accordance with the Integrated Work Control Program Manual.

Ensure that the Decontamination Facility Logbook, the RSP Form (or equivalent) and the Equipment Decontamination Checklist are forwarded to the RMRS Records Center for disposition in accordance with RMRS/RM-06.02, *Records Identification, Generation and Transmittal* and RMRS/RM-06.03, *Records Receipt, Processing, Retrieval and Disposition*.

8.0 RECORDS

The following documents generated during the performance of the tasks defined in this document must be copied and distributed as follows:

<u>Document</u>	<u>Record Type</u>	<u>Protection/Storage Methods</u>	<u>Processing Instructions</u>
Decontamination Facility Logbook	QA	RM shall implement a reasonable level of protection to prevent loss and/or degradation while in process. Documents shall be protected utilizing standard office equipment and methods while in process.	RM transmits to RMRS Document Control
RSP Form (or equivalent)	QA		
Equipment Decontamination Checklist	QA		

9.0 REFERENCES

Health and Safety Practices Manual

Integrated Work Control Program Manual

Radiological Safety Practices Manual

4-S01-ENV-OPS-FO.03, Field Decontamination Operations.

4-E12-ENV-OPS-FO.06, Handling of Personal Protective Equipment.

4-K56-ENV-OPS-FO.08, Monitoring and Containerizing Drilling Fluid and Cuttings.

4-K55-ENV-OPS-FO.10, Receiving, Marking and Labeling Environmental Materials Containers.

4-U50-REP-1006, Radiological Characterization of Bulk or Volume Solid Materials

5-21000-OPS-FO.01, Air Monitoring and Particulate Control.

OPS-PRO.008, Main Decontamination Facility Normal Operations.

OPS-PRO.013, Equipment Operation at Decontamination Facilities and Surrounding Areas

RF/ER-96-0049, Decontamination Facilities Health and Safety Plan.

RMRS/OPS-PRO.112, Handling of Decontamination Water and Wash Water.

RMRS/OPS-PRO-141, Protected Area Decontamination Facility Operations.

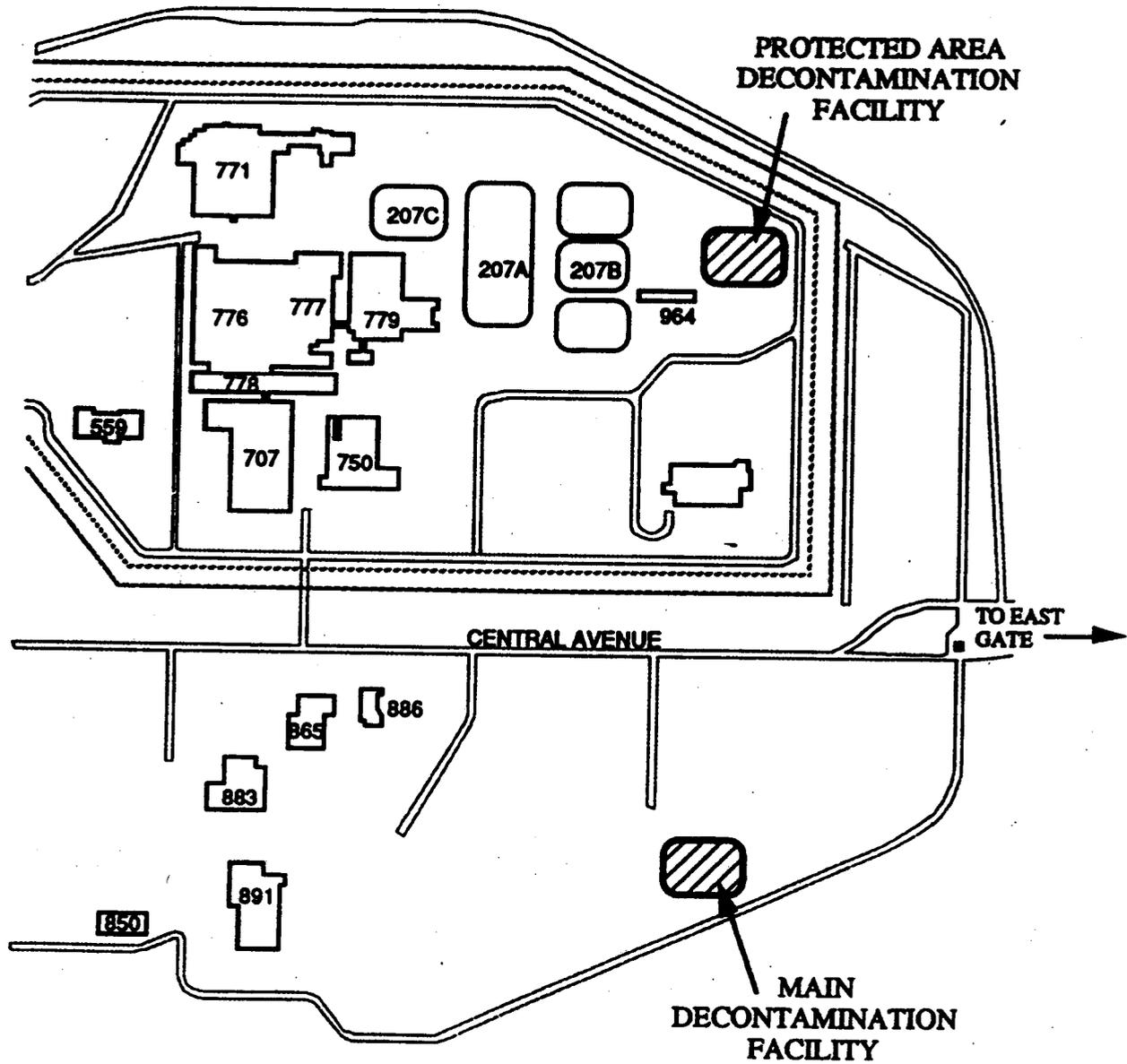
RMRS/QAPD-001, RMRS Quality Assurance Program Description.

RMRS/RM-06.02, Records Identification, Generation and Transmittal

RMRS/RM-06.03, Records Receipt, Processing, Retrieval and Disposition

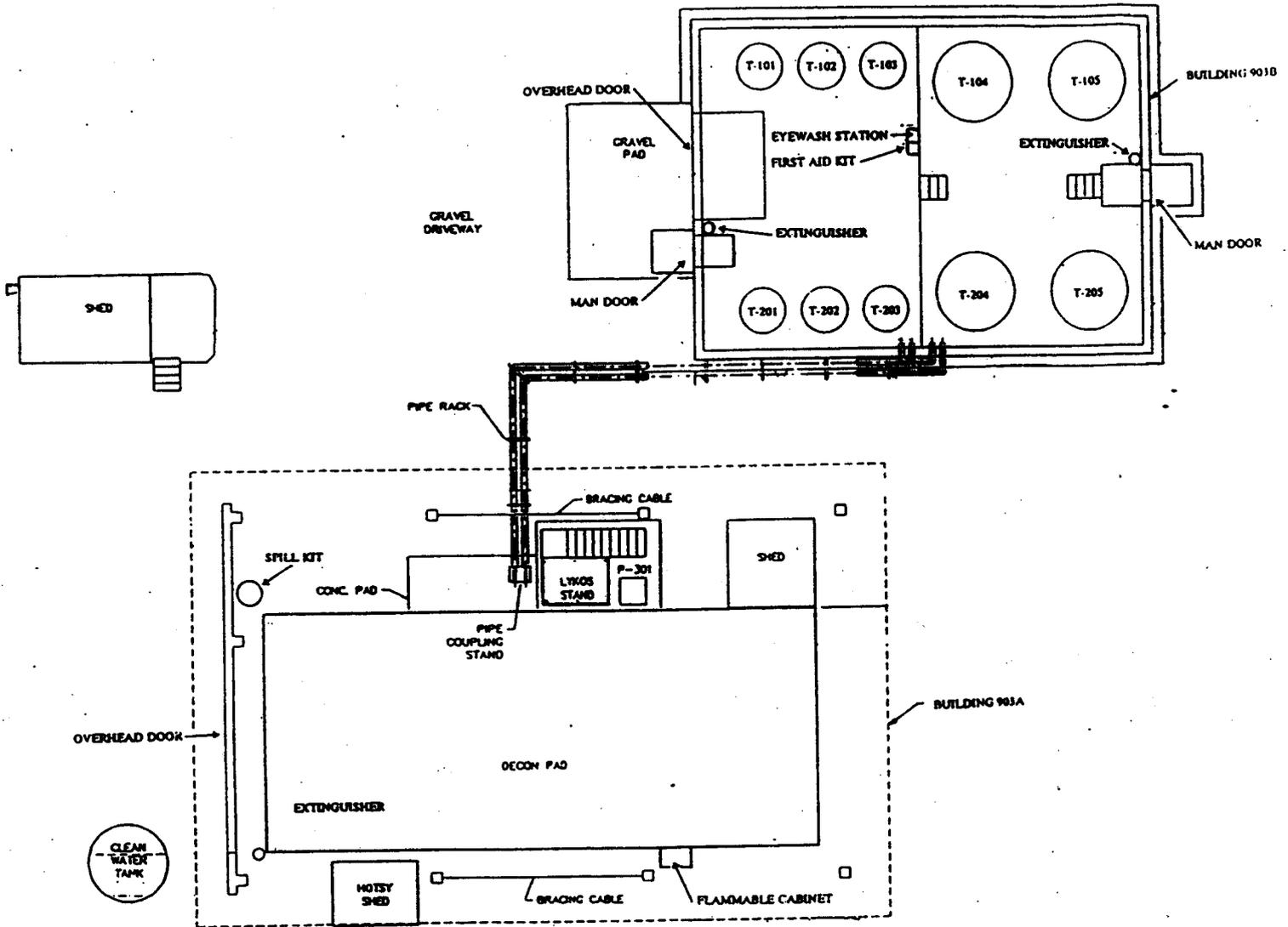
APPENDIX 1

DECONTAMINATION FACILITY LOCATIONS



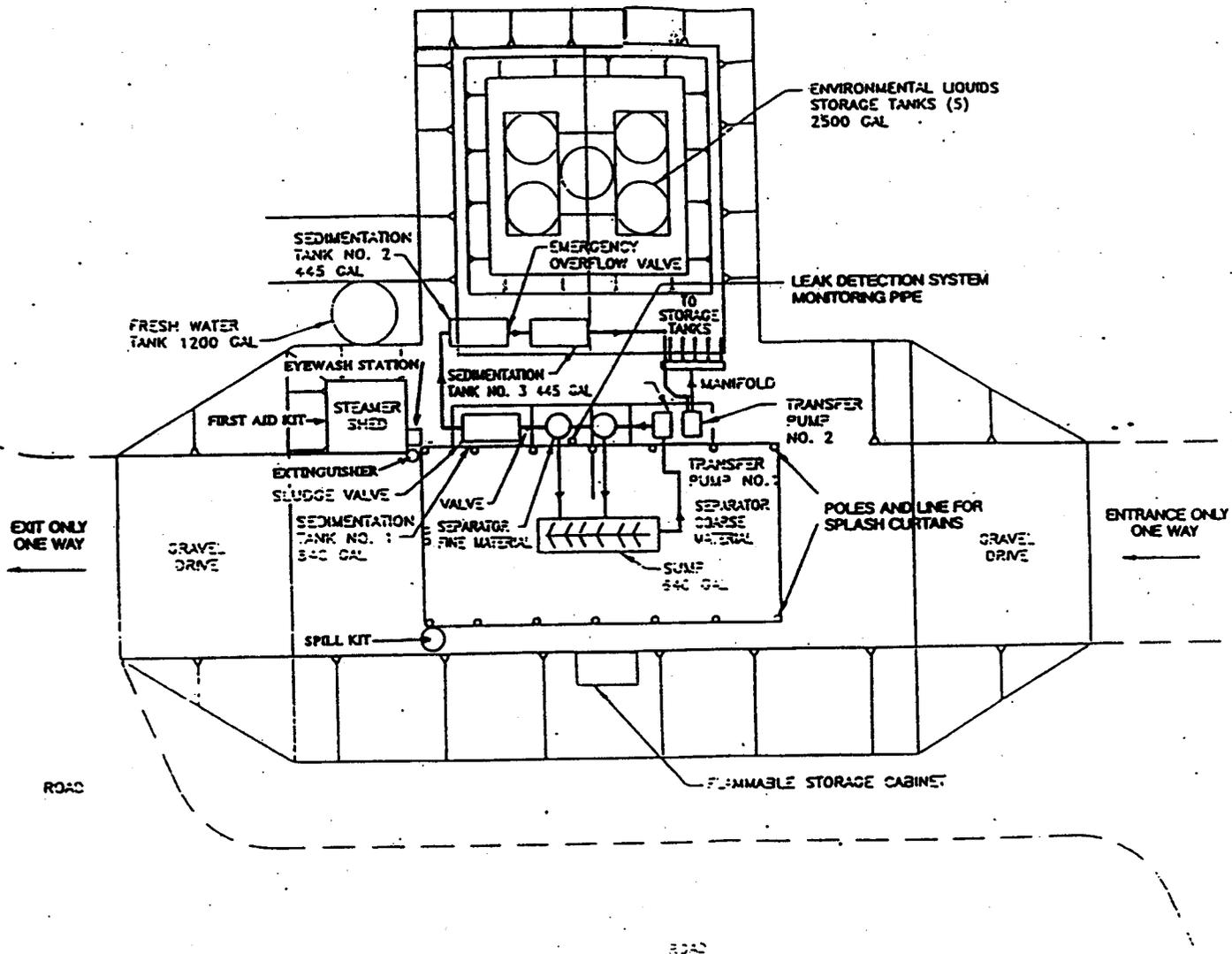
APPENDIX 2

MAIN DECONTAMINATION FACILITY LAYOUT



APPENDIX 2

PROTECTED AREA DECONTAMINATION FACILITY LAYOUT



APPENDIX 3

EQUIPMENT DECONTAMINATION CHECKLIST

General information completed by: _____ / _____
Name Date

Subcontractor's Name Date

Manufacturer, Model and Common Name: _____

Equipment Owner and Phone Number: _____

Name and Phone Number of Person Responsible for Equipment: _____

Serial Number/Vehicle Identification Number (VIN): _____

Delivered to Decontamination Facility by: _____

Results of monitoring from final contamination reduction in the field:

- VOCs greater than background levels
- Rads greater than background levels

Exposure History Completed by: _____ / _____
Name Date

Subcontractor's Name Date

Where was equipment used? _____

What was equipment used for? _____

Survey results **must** be attached to the last page of this form.

