57912

LANL ER PROJECT
SITE-SPECIFIC HEALTH AND SAFETY PLAN (SSHASP)

Project Title: Construction of the Surface Water Run-on Diversion Channel and Related Features

TA: 49

This plan addresses the health and safety (HS) criteria to be followed during investigation, remediation or decommissioning activities associated with the Environmental Restoration (ER) Project at the Los Alamos National Laboratory (LANL)

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LIST OF ACRONYMS and ABBREVIATIONS

ACGIH ..... American Conference of Governmental Industrial Hygienists
ALARA ..... As Low As Reasonably Achievable
AL ..... Action Level
ANSI ..... American National Standard Institute
AR ..... Administrative Requirement
CFR ..... Code of Federal Regulations
CP ..... Competent Person
CPR ..... Cardiopulmonary Resuscitation
dBA ..... Decibels (A-Weighted Scale)
DOE ..... U.S. Department of Energy
DOT ..... U.S. Department of Transportation
EPA ..... U.S. Environmental Protection Agency
ER ..... Environmental Restoration
ESH ..... Environmental, Safety and Health
ESH-1 ..... Health Physics Operations Group
ESH-2 ..... Occupational Medicine Group
ESH-5 ..... Industrial Hygiene and Safety Group
ESH-12 ..... Policy and Program Analysis Group
^{o}F ..... Degrees Fahrenheit
GET ..... General Employee Training
HASP ..... Health and Safety Plan
HAZWOPER ..... Hazardous Waste Operations
HS ..... Health and Safety

LIST OF ACRONYMS and ABBREVIATIONS (Cont'd)

LAMC	Los Alamos Medical Center
LANL	Los Alamos National Laboratory
LP	Laboratory Procedure
MSDS	Material Safety Data Sheet
MUTCD	Manual on Uniform Traffic Control Devices for Streets and Highways
NRR	Noise Reduction Rating
OSHA	Occupational Safety and Health Administration
PPE	Personal Protective Equipment
PRS	Potential Release Site
ROPS	Roll Over Protective Structure
SLM	Sound Level Meter
SOP	Standard Operating Procedure
SSHASP	Site-Specific Health and Safety Plan
SSO	Site Safety Officer
SUP	Supervisor
SWP	Special Work Permit
TA	Technical Area
TLD	Thermoluminescent Dosimeter
TLV	Threshold Limit Value
TWA	8-Hour Time-Weighted Average

1.0 INTRODUCTION

This Site-Specific Health and Safety Plan (SSHASP) has been developed for the activities associated with the Construction of the Surface Water Run-on Diversion Channel and Related Features at TA-49. The provisions specified in this SSHASP shall comply with applicable federal and state occupational health and safety (HS) requirements, including those of the U.S. Department of Energy (DOE). The DOE requires LANL to comply with the federal Occupational Safety and Health Administration (OSHA) requirements, although operations at LANL are not subject to the jurisdiction of OSHA. On March 24, 1995, the ER Project developed a Project Health and Safety Plan, herein referred to as HASP, which establishes HS information and requirements applicable to ER field operations project wide. In addition to the HASP, this SSHASP establishes site-specific HS information and requirements applicable to the scope of work described in Section 2.

ER participants are responsible for conducting work in accordance with applicable regulations. The term "ER participants" refers to anyone performing ER work, including LANL, subcontractors to LANL and their lower-tier contractors, consultants, and agents. In some cases in this document, LANL has chosen to invoke OSHA and LANL requirements which ordinarily may not apply to ER field operations (e.g., OSHA's general industry standards in Part 1910 of Title 29 of the Code of Federal Regulations [29 CFR 1910]). These choices were made on a case-by-case basis to maintain consistency with LANL's ALARA policy and to clarify LANL's expectations with regard to interpretable requirements of the multiple agencies governing ER work. Where there is concern that implementation of work orders or HS requirements would conflict with contract terms, or could unreasonably compromise the safety or health of an individual or the environment, such concerns should be brought to the attention of the Contract Administrator and the Field Unit HS Representative immediately. Failure to comply with terms of HS plans may constitute cause to stop activity or for issuance of a stop work order as specified in Section 3.4.2 of the HASP without cost or penalty to LANL.

This SSHASP shall be reviewed and approved in accordance with Section 1.2 of the HASP. Once this SSHASP has been approved, revisions will be tracked using a SSHASP modification form (Appendix B of the HASP) per Section 1.3 of the HASP. Modifications to this SSHASP may require a change to the terms or scope of a subcontract. Completion of a SSHASP modification form is not the means for modifying the scope or terms of the project contract. To modify a contract, the Subcontractor shall notify the Contract Administrator and Field Unit HS Representative under the changes clause and shall not proceed with the change until a change order has been mutually agreed between the parties, or unless unilateral direction is given by the Contract Administrator.

2.0 BACKGROUND INFORMATION

Between 1959 and 1961, TA-49 was used for underground experiments related to the safety of nuclear weapons. Since these experiments ceased in August of 1961, TA-49 has been periodically used for a variety of other uses that have not resulted in significant additional contamination. Portions of TA-49 are currently being used for microwave research, LANL hazardous devices team activities and other low impact uses.

Project Title:	Construction of the Surface Water Run-on Diversion Channel and Related Features
TA:	49
Objective:	To prevent run-on of surface water to MDA-AB.
Classification of Work:	Construction, (Non-HAZWOPER)

TABLE 2-1
SITE DESCRIPTION

This table identifies the characteristics at TA-49 that may impact the construction of the surface water run-on Diversion channel and related features.

DESCRIPTOR	CHARACTERISTICS
Adjacent Facilities/Structures/Utilities/Topography	
Roads/ Highways	TA-49 is located near the southern boundary of the laboratory. The main road off of State Route 4 into TA-49 also serves as the sites fire break. Some construction activities (i.e., site set up, fence removal, channel construction, and culvert removal) may impede traffic to and from the site. Since this is road is the main access to the site, such activities shall be conducted in a fashion that least impacts traffic flow on this road.
Buildings	There are four structures to the east of the area where the construction activities will occur. These structures are not currently occupied and should not be impacted by the construction activities.
Below Ground Utilities	All below ground utilities (i.e., electric, cable, gas, phone, water, sewer, etc.) will be identified, prior to start of work, in the LANL excavation permit.
Above Ground Electric	There are above ground electric lines at the site. These lines are expected to be relocated, by another subcontractor, to an area where our activities should not impact them.
Topography	TA-49 is located on Frijoles Mesa in the southwest corner of LANL. The mesa is relatively flat and is bordered by two steep-walled canyons, Ancho and Water canyons, that flow to the southeast.
Pathways of Uncontrolled Release Dispersion	
Land	If hazardous substances were inadvertently released to the ground, the most likely directions of dispersion would be to the southeast and north.
Air	Prevailing daytime surface winds at LANL are out of the south, southeast.
Water	There are no flowing waterways in the vicinity of MDA AB. However, heavy precipitation or runoff could disperse contaminants to the southeast and north.
Emergency Accessibility	
Land, Air	The site is accessible by land and air.
Water	The site is not accessible by water.
Previous Substances Used, Disposed, Detected or Suspected at TA-49	
Uranium Plutonium Metals	Although unlikely to occur, there is a possibility that radioactive and metal contamination may be encountered during these construction activities.

TABLE 2-2
SCOPE OF WORK

This table describes the tasks involved with the Construction of the Surface Water Run-on Diversion Channel and Related Features.

Task ID	Task Description	Duration
Task 1 **Site Set Up**	Establishing lay down areas for equipment, supplies, and support facilities. This task may involve the use of heavy equipment such as tracked excavators, front end loaders, dump trucks, back hoes, and/or other similar heavy equipment to clear and grub vegetation and to level areas to store project related items. This task will also involve surveys of lines and grades for construction, and rad.	**June 1998 through July 1998**
Task 2 **Fence Removal and Replacement**	Approximately 100 LF of chain link fencing will be removed to allow access to the Run-on diversion channel construction area. To accomplish this task, the subcontractor will remove the chain link fence in manageable lengths using heavy equipment such as tracked excavators, front end loaders, back hoes, and/or other similar heavy equipment. The poles holding up the fencing will be removed as necessary. Access to the construction area will be controlled by establishing a construction zone as specified in section 5 of this SSHASP. A more substantial barrier will be provided if required by TA-49 personnel.	

TABLE 2-2 (Cont'd) SCOPE OF WORK		
Task ID	**Task Description**	**Est. Dates/ Duration**
Task 3 **Culvert Removal and Reinstallation**	The existing culvert, that runs under the road to the north of the proposed location of the run-on diversion channel, will be removed and replaced at the required grade. To accomplish this task, the subcontractor will utilize heavy equipment such as tracked excavators, back hoes, and/or other similar heavy equipment to remove the culvert and take it off-site for disposal. A new culvert will be installed before the excavation is backfilled. If workers are required to enter excavations that are greater than 4 feet deep, a competent person shall ensure that adequate safe precautions are implemented as required in Table 4-3 of this SSHASP. It is anticipated that entries will be handled as a non-permit-required confined space with the concurrence of the ESH-5 Representative and the SSO. No entry will be allowed if a hazardous atmosphere or other hazardous conditions are present.	**June 1998 through July 1998**
Task 4 **Construct Surface Water Run-on Diversion Channel**	The surface water run-on diversion channel will be constructed, at the location shown on the grading plan presented in Appendix A of this SSHASP, to prevent run-on of surface water to MDA-AB. The depth of the channel is approximately 2 feet deep. To accomplish this task, the subcontractor will utilize heavy equipment, such as a back hoe, or other similar heavy equipment to excavate the channel.	
Task 5 **Construct Surface Water Sedimentation Control Structures**	Silt fences shall be installed at specified locations using wooden or metal stakes to hold up the silt fencing. To accomplish this task, the subcontractor will utilize hammers to drive the stakes and a staple gun, nails, or wire to secure the silt fencing to the stakes.	
Task 6 **Dust Suppression**	Use of water spraying will be employed to reduce the level of airborne dusts if visible dusts are observed during these tasks. This may involve the use of a water truck with adequate capacity to sufficiently wet down the work area. Adequate nozzle for misting will be required.	
Task 7 **Equipment Maintenance**	This task may involve the use of fuels, compressed/flammable gases, hydraulic fluids, etc., as needed to maintain and/or repair equipment. In general, the subcontractor will be asked to perform all maintenance/repair tasks off-site when possible. However, when such task must be performed on-site, all required special work permits will be obtained prior to starting the activity. In addition, MSDSs for all chemicals brought on-site will be provided to the SSO, for review, prior to their use. Outside storage of flammable materials shall be in accordance with 29 CFR 1926.152 (c). Flammable liquids in excess of 25 gallons, in a building or structure, shall be stored in an approved metal storage cabinet.	
Task 8 **Site Restoration**	The lay down areas described in task 1 shall be restored to previous conditions. The fence removed in task 2 will be repaired to its previous condition. Excavations will be back filled to the appropriate grade and slope. To accomplish this task, the subcontractor will utilize heavy equipment such as, front end loaders, dump trucks, back hoes, or other similar heavy equipment.	
Task 9 **Incident Response**	Response to an incident (i.e., rendering first-aid/CPR, hazardous substance release, fire, and spill containment) tasks will be performed as necessary and in accordance with Sections 7, 9 and 10 of the HASP this SSHASP, and site Spill Prevention, Control, & Countermeasures Plan (SPCC).	

3.0 ORGANIZATION, RESPONSIBILITIES and AUTHORITY

Definition of HS roles, responsibilities, authorities, and lines of communication for key personnel identified below are defined in Section 3 of the HASP.

TABLE 3
KEY PERSONNEL HAVING HS RESPONSIBILITY

Title	Name	Organization	Phone/Pager
Facility Contacts			
Facility Manager	**Leo Maes**	LANL	667-9462
Field Project Management			
Focus Area Leader	**Alan Pratt**	LANL	667-4308
Field Team			
Field Team Leader (FTL)	**John DeJoia**	MK/PMC	662-1359
Site Safety Officer (SSO)	**Ray Wright**	MK/PMC	662-1325
Health Physics Technician (HPT)	**Ray Wright**	MK/PMC	662-1325
Subcontractor Owner	**Sam Gardner**	SG Western	662-3852
Support Personnel			
Focus Area Health and Safety Rep.	**Trung Nguyen**	LANL	667-7905/104-6650
ESH-1 Rep.	**Clarita Trujillo**	LANL	667-3999
Alternate Personnel			
RCT	**John Hayes**	MK/PMC	662-7300
SSO/RSP	**Clint Daymon**	MK/PMC	662-1326
SSO/RSP	**Ken H. McFadden**	MK/PMC	662-1302
SSO	**Hoss Patillo**	MK/PMC	662-1336

4.0 HAZARD ANALYSIS

Provided in this section are the task-specific hazard analysis information and requirements in accordance with Section 4 of the HASP.

TABLE 4-1
PROJECT PERSONNEL BY TASK

This table identifies the personnel by role, who are expected to perform the task(s) indicated. The task(s) are as follows: Task 1 Site Set up; Task 2 Fence Removal and Replacement; Task 3 Culvert Removal and Reinstallation; Task 4 Construct Surface Water Run-on Diversion Channel; Task 5 Construct Surface Water Sedimentation Control Structures; Task 6 Dust Suppression; Task 7 Equipment Maintenance; Task 8 - Site Restoration; Task 9 Incident Response. Refer to Table 2-2 of this SSHASP for task(s) descriptions.

	TASK(s)													
PERSONNEL ROLE	1	2	3	4	5	6	7	8	9					
FTL	X	X	X	X	X	X	X	X	X					
SSO	X	X	X	X	X	X	X	X	X					
RSP or HPT	X		X	X					X					
Subcontractor Supervisor	X	X	X	X	X	X	X	X						
Laborer(s)	X	X	X	X	X	X	X	X						
Surveyor	X													
Heavy Equipment Operator(s)	X	X	X	X	X	X	X	X						
TECP			X	For excavations 4 ft or greater in depth.										

4.2 HAZARDOUS SUBSTANCES OF OCCUPATIONAL HEALTH CONCERN

Not all chemical products used to accomplish a task or contaminants at a particular site may pose an occupational health threat. The hazardous substances of occupational health concern are identified in this section by task and by class of substance, in accordance with Section 4.1 of the HASP. Results of a health hazard assessment of each chemical product and site contaminant identified in Table 2-1 and associated rationales are provided in Appendix B. Substances that have a hazard assessment resulting in either "possibly could occur", "probably will occur", or "likely to occur" and which are expected to result in injury or illness having a hazard severity of "minor", "major", or "catastrophic" are considered to pose an occupational health threat to personnel who may be exposed to these substances, and are included in Table 4-2. The key to the hazard assessment ratings is provided in Appendix C of the ER HASP. For each class of substances included in Table 4-2, the most hazardous substance is identified in Table 4-3 together with corresponding administrative and engineering controls.

TABLE 4-2
HAZARDOUS SUBSTANCES OF OCCUPATIONAL HEALTH CONCERN

This table identifies those hazardous chemical products and groups of site contaminants that are considered to pose an occupational health threat to personnel who may be exposed to these products and contaminants while performing the indicated tasks. The hazardous substances identified in this table were included based on the results of the health hazard assessment found in Appendix B. The task(s) are as follows: Task 1 Site Set up; Task 2 Fence Removal and Replacement; Task 3 Culvert Removal and Reinstallation; Task 4 Construct Surface Water Run-on Diversion Channel; Task 5 Construct Surface Water Sedimentation Control Structures; Task 6 Dust Suppression; Task 7 Equipment Maintenance; Task 8 - Site Restoration; Task 9 Incident Response. Refer to Table 2-2 of this SSHASP for task(s) descriptions.
(MI = Minor , N = Negligible)

Hazardous Chemical Products to be Used During Field Operations

The chemical products listed below are likely to be used for the tasks indicated, on site or at satellite locations where field support operations occur. MSDSs for each product shall be kept readily available to users of these products, and shall be shared with other employer's employees on site who may be affected by the hazardous products in accordance with 29 CFR 1926.65(b)(1)(iv) and (v) and 1926.65(i) and Section 4.2.2.3 of the HASP. It is LANL's policy that whenever feasible a less toxic product should be substituted for a more toxic product, especially for products having a carcinogen constituent.

Product/Contaminant	TASK(s) 1	2	3	4	5	6	7	8	9					
HAZARDOUS SUBSTANCE														
Compressed Gas														
Acetylene (cutting)	N	N	N	N	N	N	S	N	N					
Oxygen (cutting)	N	N	N	N	N	N	S	N	N					
Fuels/Lubricants														
Diesel	N	N	N	N	N	N	MI	N	N					
Gasoline	N	N	N	N	N	N	MI	N	N					
Oil/Hydraulic Fluid	N	N	N	N	N	N	N	N	N					
SITE CONTAMINANTS														
Uranium, Plutonium	N	N	MI	MI	N	N	N	N	N					
Metals (See Appendix B for specific types)	N	N	N	N	N	N	N	N	N					

4.3 HAZARD ASSESSMENT AND ADMINISTRATIVE AND ENGINEERING CONTROLS

Hazards included in this section are those that could pose an occupational health threat to workers performing the associated task(s). The hazard assessments and rationales are indicated below with the corresponding administrative and engineering controls for protection from and mitigation of the hazards.

TABLE 4-3
HAZARD ASSESSMENT and ADMINISTRATIVE and ENGINEERING (A&E) CONTROLS

This table identifies those hazardous substances (chemical products, groups of site contaminants), and safety, biological and physical hazards that are considered to pose an occupational health threat to personnel who may be exposed to these products, contaminants and hazards while performing the indicated tasks. The hazardous substances identified in this table were included based on the results of the health hazard assessment found in Appendix B. The task(s) are as follows: Task 1 Site Set up; Task 2 Fence Removal and Replacement; Task 3 Culvert Removal and Reinstallation; Task 4 Construct Surface Water Run-on Diversion Channel; Task 5 Construct Surface Water Sedimentation Control Structures; Task 6 Dust Suppression; Task 7 Equipment Maintenance; Task 8 - Site Restoration; Task 9 Incident Response. Refer to Table 2-2 of this SSHASP for task(s) descriptions.

Hazard	Task(s)	Hazard Assessment/Rationale	Administrative & Engineering (A&E) Controls (Prevention/Mitigation Measures)
HAZARDOUS SUBSTANCES			
Chemical Products			
Compressed Gases: Exposure to Acetylene Oxygen gases Fire/Explosion/ Burn hazards From flammable gases	7	**Negligible to Serious/** Exposures to compressed gases is possible although unlikely Fire could result in reversible or irreversible injury or even death	Compliance with 29 CFR 1926 Subpart F. Emergency equipment specified in Section 9 shall be maintained on site ready for use and readily accessible. Compliance with 29 CFR 1926 Subpart J, Special Work Permit, and LANL AR 8-4 during all cutting and welding operations. In addition, the type of material that is cut/welded and the duration of cutting/welding shall be taken into account to determine the hazard potential from exposure to cutting/welding fumes.
Site Contaminants			
Airborne Dusts (Rad)	3,4	**Negligible to Minor/** Exposures to airborne dusts containing radiological contamination is possible although unlikely	Dust suppression will be performed to keep visible dust down to a minimum using a water spraying/-misting. An RSP and/or HPT will perform periodic radiological frisking of equipment and materials as directed by ESH-1. Radiological releases will be performed as required by ESH-1.
SAFETY HAZARDS			
Slips, Trips and Falls			
Slips, trips, falls from uneven terrain	ALL	**Minor/** Hazard severity is minor and although unlikely to occur, possibly could occur	Use good housekeeping on-site and minimize threat of slick surfaces. If necessary, tripping hazards will be marked to make them more visible.
Falls from heights 6 feet or higher	7	**Minor to Moderate/** Hazard severity could be moderate and although unlikely to occur, possibly could occur	Compliance with 29 CFR 1926 Subpart M, and as necessary, use of PPE specified in Section 7 for fall protection if there is a need to work on top of equipment or near the steep-walled canyons surrounding TA-49, or near excavations greater than 6' in depth.
Hand tools	5,7	**Negligible to Minor/** Injury possible but unlikely to be life threatening	Tools shall be inspected for proper working condition prior to use. All defective tools will be removed from the site or tagged "Do Not Use". All electrical tools shall have the grounding plug intact unless the tool is double insulated.

TABLE 4-3 (Cont'd)
HAZARD ASSESSMENT and ADMINISTRATIVE and ENGINEERING (A&E) CONTROLS

Task 1 Site Set up; Task 2 Fence Removal and Replacement; Task 3 Culvert Removal and Reinstallation; Task 4 Construct Surface Water Run-on Diversion Channel; Task 5 Construct Surface Water Sedimentation Control Structures; Task 6 Dust Suppression; Task 7 Equipment Maintenance; Task 8 - Site Restoration; Task 9 Incident Response.

SAFETY HAZARDS (Cont'd)

Excavation/Trenching

Cave-Ins/ Personnel Engulfment	3	**Negligible to Serious/** For excavations <4 ft. deep - threat of reversible injury possible but unlikely in the event of collapse of excavation walls For excavations > 4 ft. deep- threat of irreversible injury or death is possible in the unlikely event of personnel entrapment or collapse of excavation walls	See below

- PERMIT REQUIRED for excavating/trenching > 1 foot; A&E controls shall be implemented in accordance with the contractor's Trenching and Excavation program and with the applicable LANL excavation permit (per LANL AR 1-12) and as specified below; contact Field Unit HS Representative to initiate permit process.
- Compliance with 29 CFR 1926 Subpart P.
- No personnel will be allowed to enter trenches or excavations if depths exceed 4 ft unless appropriate engineering controls have been implemented in accordance with 29 CFR 1926.651 and entry has been cleared by the competent person.
- If entry into the excavation deeper than 5 feet is required, the excavation will be sloped or benched appropriate to the soil type. The entry will be considered as a non-permit confined space entry at the discretion of the SSO.
- Personnel will be kept 5' from the edges of excavations that are ≥ 6' in depth by a rope barrier or other means.
- Inspections by a competent person shall be made prior to start of work, as needed throughout shift and after every rain storm or other hazard increasing occurrence (29 CFR 1926.651)
- Appropriate engineering controls shall be implemented in accordance with 29 CFR 1926.651 whenever the stability of a structure adjoining an excavation may be endangered.
- Excavated materials (spoils) shall be kept at least 2 ft. away from edges of excavations.
- Trench/excavation ≥ 4 ft. deep shall have a stairway, ladder, ramp, or other safe means of egress located so as to require no more than 25 ft. of lateral travel by personnel working in trench/excavation (e.g., 1 ladder for >25' and <50' long trench) (29 CFR 1926.651).
- Any excavation that is 4 feet or more in depth that must be open for any period of time shall be barricaded in accordance with 29 CFR 1926.202.
- In the event personnel are required to enter for emergency purposes, appropriate engineering controls shall be implemented.

Underground utilities - elec./fire/ explosion hazards	1,2,3,4	**Minor to Serious/** Hazard severity could be catastrophic and although unlikely to occur, possibly could occur	See below

- Estimated locations of utilities (i.e., sewer, telephone, gas, electric, water lines, etc.) shall be determined prior to excavating. Notify utility owners of intended work and request they demarcate on ground surface location(s) of underground utilities; have a field team member accompany utility owner rep. to identify intended excavation location(s) and to find out specifics of utility location(s).
- If utility owner cannot establish exact location of utility installation(s), excavating may proceed with caution and provided detection equipment or other acceptable means to locate utility installation(s) are used.
- As excavating operations approach estimated location of underground utility, exact location of the installation shall be determined by safe and acceptable means (i.e., using hand-held excavating equipment).
- While excavation is open, underground installations shall be protected, supported or removed as necessary to safeguard site personnel.

TABLE 4-3 (Cont'd)
HAZARD ASSESSMENT and ADMINISTRATIVE and ENGINEERING (A&E) CONTROLS

Task 1 Site Set up; Task 2 Fence Removal and Replacement; Task 3 Culvert Removal and Reinstallation; Task 4 Construct Surface Water Run-on Diversion Channel; Task 5 Construct Surface Water Sedimentation Control Structures; Task 6 Dust Suppression; Task 7 Equipment Maintenance; Task 8 - Site Restoration; Task 9 Incident Response.

Hazard	Task(s)	Hazard Assessment/Rationale	Administrative & Engineering (A&E) Controls (Prevention/Mitigation Measures)
SAFETY HAZARDS (Cont'd)			
Motorized Vehicles/Heavy Equipment Operation			
GENERAL CONTROLS All motorized vehicles, and heavy equipment will be operated in accordance in compliance with Subparts O and M of 29 CFR 1926, DOE Construction Guidelines (ID-10447), and LANL procedures. All equipment will be operated by qualified operators. Equipment will be inspected before each use by the operator, and written documentation of the inspection will be provided to the SSO for record keeping. All deficiencies will be noted and repairs made as necessary. Any piece of equipment or vehicle that cannot be operated safely will be taken out of service until repairs are made. Seat belts shall be worn by all persons riding in vehicles. Where appropriate, seat belts will be worn by operators in heavy equipment. Refueling of equipment shall performed when the piece of equipment is turned off and cooled down. In addition, refueling shall occur at a safe distance from other operations and the fuel tank and equipment shall be bonded during refueling operations.			
Loading/ Off loading Equipment/ Materials	ALL	**Minor to Serious/** Hazard severity could be catastrophic and although unlikely to occur, possibly could occur	Equipment brought to the site on lowboys shall be loaded and off loaded in accordance with manufacturer's recommendations. Materials shall be off loaded at the site with the appropriate piece of equipment and lifting devices. If slings are used, they shall be tagged with a lifting capacity rating. Slings will be inspected before each use per 29 CFR 1926.250 and 251. Damaged slings will be taken out of service.
Limited visibility/ mobility	ALL	**Minor to Serious/** Hazard severity could be catastrophic and although unlikely to occur, possibly could occur	Equipment operators will have spotters and agreed-upon hand signals for communication. If work is done in low-light conditions, sufficient illumination shall be provided at the discretion of the SSO. Equipment will be inspected prior to use, and daily by the operator.
Pinch points in rotating parts	ALL	**Moderate/** Hazard severity could be irreversible and although unlikely to occur, possibly could occur	Heavy equipment shall be inspected for engineering controls in compliance with applicable sections of Subpart O of 29 CFR 1926. Appropriate guarding will be in place prior to use.
Vehicle operation/ vehicular traffic control	ALL	**Minor to Serious/** Hazard severity could be catastrophic and although unlikely to occur, possibly could occur	Field team personnel exposed to vehicular traffic shall be provided with, and shall wear, warning vests or other suitable garments marked with or made of reflective or high-visibility material (IAW 29 CFR 1926 Subpart P).
BIOLOGICAL HAZARDS			
Refer to Table 1 of the HASP for information concerning various general hazards, hazard assessment/rationales and controls associated with occupational exposure to toxic and/or hazardous biological agents (i.e., insects, snakes, ticks, and spiders)			
PHYSICAL HEALTH HAZARDS			
Temperature Extremes			
Heat Stress	ALL	**Minor to Serious/** This project will be conducted in the summer months, so heat stress may be a concern. However, a life threatening condition is unlikely since the type and amount of physical labor on this project is minimal	Inform personnel of signs and symptoms of heat stress (Table 1 of HASP). SSO shall implement exposure monitoring according to Table 6-1 requirements. If needed, appropriate work regime will be implemented to allow for work breaks so personnel may cool down, and take in fluids as necessary. Refer to HASP Table 1 and the MK/PMC HASP.

TABLE 4-3 (Cont'd)
HAZARD ASSESSMENT and ADMINISTRATIVE and ENGINEERING (A&E) CONTROLS

Task 1 Site Set up; Task 2 Fence Removal and Replacement; Task 3 Culvert Removal and Reinstallation; Task 4 Construct Surface Water Run-on Diversion Channel; Task 5 Construct Surface Water Sedimentation Control Structures; Task 6 Dust Suppression; Task 7 Equipment Maintenance; Task 8 - Site Restoration; Task 9 Incident Response.

Hazard	Task(s)	Hazard Assessment/ Rationale	Administrative & Engineering (A&E) Controls (Prevention/Mitigation Measures)
PHYSICAL HEALTH HAZARDS (Cont'd)			
Noise			
Excessive Noise	ALL	**Minor to Serious/** Possibly or probably could occur resulting in irreversible injury	Whenever voice(s) must be raised to communicate between two or more persons located ≤ 3 feet of each other, the noise level is likely exceeding the PEL; designate areas requiring hearing protection; conduct noise monitoring per Section 6 of this SSHASP and 29 CFR 1910.95. Also refer to Section 4.2.2.7 of HASP for additional requirements.
Refer to Table 1 of the HASP for additional physical health hazards that apply to this job (i.e., lightning strikes, altitude sickness, and sunburn)			

5.0 SITE CONTROLS

In accordance with Section 5 of the HASP, the required site control measures are specified below for each task or group of tasks having different requirements. Any exceptions or deviations from requirements of the HASP are noted below.

TABLE 5
SITE CONTROL MEASURES

This table identifies the control measures to be implemented during the tasks specified. The task(s) are as follows: Task 1 Site Set up; Task 2 Fence Removal and Replacement; Task 3 Culvert Removal and Reinstallation; Task 4 Construct Surface Water Run-on Diversion Channel; Task 5 Construct Surface Water Sedimentation Control Structures; Task 6 Dust Suppression; Task 7 Equipment Maintenance; Task 8 - Site Restoration; Task 9 Incident Response. Refer to Table 2-2 of this SSHASP for task(s) descriptions.

CONTROL MEASURES	TASK(S) 1	2	3	4	5	6	7	8	9
EZ	Not applicable								
CRZ	Not applicable								
An EZ and CRZ are not required since these tasks are considered non-HAZWOPER.									
Construction Zone	X	X	X	X		X		X	
Not applicable					X		X		X
The construction zone shall be established to prevent unauthorized entry. Flagging, rope, existing fence, or other suitable material will be used to demarcate the zone.									
Decon Pad/Facility	Not applicable								
It is not anticipated that equipment or personnel decontamination will be necessary since no contamination is expected to be encountered. However, If the periodic frisking or radiological releases, if required by ESH-1, detect rad contamination above release levels, decontamination shall be initiated at the direction of ESH-1.									
Lay Down Areas	X								
Several lay down areas may be established near MDA AB. Those areas established for equipment and material storage will not be demarcated.									
Hand/Face Wash	Not applicable								
Toilet Facility	A porta-john will be on site.								
Wind Direction Indicator(s)	Tape, flagging, or other suitable material shall be located on site where readily visible to field team members.								

6.0 EXPOSURE MONITORING AND CORRESPONDING ACTIONS

In accordance with Section 6 of the HASP, personnel exposure monitoring requirements, action levels, and the corresponding actions to be taken are specified in the tables in this section (Tables 6-1, 6-2, and 6-3) for each task or group of tasks having different requirements.

6.1 DIRECT-READING INSTRUMENTS

Requirements for exposure monitoring using direct-reading instruments and the corresponding action levels and response actions are specified in Table 6-1 for each task or group of tasks having different requirements, action levels or responses. These requirements, levels, and actions are set in accordance with Section 6 of the HASP. Any exceptions or deviations from requirements of the HASP are noted where applicable.

TABLE 6-1
DIRECT-READING INSTRUMENT REQUIREMENTS

The task(s) are as follows: Task 1 Site Set up; Task 2 Fence Removal and Replacement; Task 3 Culvert Removal and Reinstallation; Task 4 Construct Surface Water Run-on Diversion Channel; Task 5 Construct Surface Water Sedimentation Control Structures; Task 6 Dust Suppression; Task 7 Equipment Maintenance; Task 8 - Site Restoration; Task 9 Incident Response. Refer to Table 2-2 of this SSHASP for task(s) descriptions.

Haz.Cond. /Subst.	Task	Instrument/ Procedure	Local & Freq. of Monitoring	Action Level(s)/Rationale	Response Action(s)
HEALTH PHYSICS					
Gross α, β and γ contam.	All	ESP-1 with HP-260 probe or equivalent Ludlum 139 with air proportional probe or equivalent Eberline RO-2/ LANL RadCon Manual and training and associated ESH-1 procedures and ER addendum's	Personnel: Prior to exiting the EZ/CRZ Equipment/Samples: Prior to decon	Background (BKG)	RSP or HPT performs surveys. Intermittent ESH-1 coverage. α swipes counted using field α screening instrument; direct frisk for β/γ. Workplace (RBA) will be released daily by smears counted on a Berthold or equivalent
				>BKG but α < 500 cpm/ probe area β/γ < 5000 cpm/ probe area Tritium < 10,000 dpm/100 cm2 contamination < 20 uCi/m3 soil gas levels. BZ levels at BKG. Any smearable contamination on equipment and any detectable contamination on personnel above MDA/ Standard level set by ESH-1	Notify ESH-1 of elevated readings. RSP performs surveys. Increased ESH-1 coverage. α swipes counted using Ludlum 2000 tray counter or equivalent; direct frisk for β/γ
				α > 500 cpm/ probe area β/γ > 5000 cpm/ probe area Dose rate >5 mR/hr	Work may only proceed according to approved RWP and with full-time on-site ESH-1 technician or equivalent

TABLE 6-1 (Cont'd) DIRECT-READING INSTRUMENT REQUIREMENTS					
The task(s) are as follows: Task 1 Site Set up; Task 2 Fence Removal and Replacement; Task 3 Culvert Removal and Reinstallation; Task 4 Construct Surface Water Run-on Diversion Channel; Task 5 Construct Surface Water Sedimentation Control Structures; Task 6 Dust Suppression; Task 7 Equipment Maintenance; Task 8 - Site Restoration; Task 9 Incident Response. Refer to Table 2-2 of this SSHASP for task(s) descriptions.					
Haz.Cond. /Subst.	**Task**	**Instrument/ Procedure**	**Local & Freq. of Monitoring**	**Action Level(s)/Rationale**	**Response Action(s)**
PHYSICAL HEALTH HAZARDS					
Heat Stress	ALL	Thermometer/ ER Project H&S Activities Manual	Refer to Table 1 of the HASP and/or the MK /PMC HASP		
Noise	ALL	Noise level meter/ ER Project H&S Activities Manual and/or the MK/PMC HASP	Monitor hearing zone of affected workers when voice must be raised to talk between two persons located ≥ 3 feet apart	85 dBA/ OSHA 29 CFR 1910.95	≥ Action Level: Implement appropriate engineering control(s) per Table 4-3; if unable to lower noise levels below AL, demarcate/post zones of excessive noise and limit access only to employees having sufficient hearing protection training, medical surveillance, and hearing protection per this SSHASP

6.2 PERSONAL DOSIMETRY

Requirements for personal dosimetry and the corresponding action levels and response actions are specified in Table 6-2 for each task or group of tasks having different requirements, action levels or responses. These requirements, levels, and actions are set in accordance with Section 6 of the HASP and with the chemical-specific standards listed in Table 2 of the HASP. Any exceptions or deviations from requirements of the HASP are noted where applicable.

TABLE 6-2 PERSONAL DOSIMETRY REQUIREMENTS				
The task(s) are as follows: Task 1 Site Set up; Task 2 Fence Removal and Replacement; Task 3 Culvert Removal and Reinstallation; Task 4 Construct Surface Water Run-on Diversion Channel; Task 5 Construct Surface Water Sedimentation Control Structures; Task 6 Dust Suppression; Task 7 Equipment Maintenance; Task 8 - Site Restoration; Task 9 Incident Response. Refer to Table 2-2 of this SSHASP for task(s) descriptions.				
Hazardous Cond.	**Task(s)**	**Instrument/Procedure**	**Action Level(s)/Rationale**	**Response Action(s)**
HEALTH PHYSICS				
External sources of Rad	All	Monthly TLD badge	Potential to exceed 100 m REM/year dose limit/10 CFR 835	Follow response actions specified on the RWP.
PHYSICAL HEALTH HAZARDS				
Noise	All	Personal noise dosimeter(s)/ER Project H&S Activities Manual, MK/PMC HASP	Refer to Table 6-1	

6.3 AREA SAMPLING

Requirements for area sampling and the corresponding action levels and response actions are specified in Table 6-3 for each task or group of tasks having different requirements, action levels or responses. These requirements, levels, and actions are set in accordance with the contractor's IH Monitoring Program, and Section 6 of the HASP. Environmental sampling requirements, if any, to evaluate spread of contamination to off-site locations should be provided in a site-specific document separate from this SSHASP.

TABLE 6-3 AREA SAMPLING REQUIREMENTS
Area monitoring will not be required.

7.0 PERSONAL PROTECTIVE EQUIPMENT (PPE)

In accordance with Section 7 of the HASP, PPE requirements are specified below for each task or group of tasks having different requirements. Only personnel who are trained and qualified to use the equipment in accordance with Section 7 and 10 of the HASP and Section 10 of the SSHASP are allowed to use the equipment specified. Any exceptions or deviations from requirements of these sections are noted below.

TABLE 7
PERSONAL PROTECTIVE EQUIPMENT (PPE)

This table identifies the PPE to be used for each task or group of tasks having different requirements. The task(s) are as follows: Task 1 Site Set up; Task 2 Fence Removal and Replacement; Task 3 Culvert Removal and Reinstallation; Task 4 Construct Surface Water Run-on Diversion Channel; Task 5 Construct Surface Water Sedimentation Control Structures; Task 6 Dust Suppression; Task 7 Equipment Maintenance; Task 8 - Site Restoration; Task 9 Incident Response. Refer to Table 2-2 of this SSHASP for task(s) descriptions.

PPE REQUIREMENTS	TASK(s)													
	1	2	3	4	5	6	7	8	9					
HEAD	(per 29 CFR 1910.135, ANSI Z89.1-1986, or Z89.2 for electrical shock protection)													
Hard Hat	X	X	X	X	X	X	X	X	X					
EYES	(per 29 CFR 1926.103, ANSI Z87.1-1989)													
Safety Glasses (with side shields)	X	X	X	X	X	X	X	X	X					
Face Shield	Not Required													
BODY	At a minimum, long pants and shirts with at least 4" sleeves will be required.													
Orange Vests	Shall be worn by all ground personnel working near heavy equipment or vehicle traffic.													
HANDS	(per 29 CFR 1910.137 and 138, ASTM D 120-87)													
Outer (Cotton or leather)					X									
FEET	(per 29 CFR 1910.136, ANSI Z41-1991)													
Safety Toe Work Boots	X	X	X	X	X	X	X	X	X					
EARS	(per 29 CFR 1910.95, ANSI Z87.1-1989, 29 CFR 1926.101)													
Note: Hearing protection will be worn in accordance with Table 4-3 of this SSHASP. Hearing protection devices will be inspected by the SSO prior to on-site use. Hearing protection will be required when working near any piece of heavy equipment until a negative determination is made.														
WELDING/CUTTING	Leather or Flame-Proof gloves, long sleeve shirt and welding goggles type 7,8, or 9 as specified in 29 CFR 1926.102 (a)(5) with a minimum lense shade of 3 as specified in 29 CFR 1926.102 (b)(1) shall be worn during all welding/cutting operations.													
FALL PROTECTION	Full body harness/life line (per 29 CFR 1926 Subpart E) shall be worn when ever an individual is exposed to a fall hazard 6' or greater in height.													

8.0 DECONTAMINATION

In accordance with Section 8 of the HASP, personnel and/or equipment decontamination requirements are specified below for each task or group of tasks having different requirements. Any exceptions or deviations from Section 8 of the HASP are noted below.

TABLE 8 PERSONNEL AND EQUIPMENT DECONTAMINATION
It is not anticipated that equipment or personnel decontamination will be necessary since no contamination is expected to be encountered. However, If the periodic frisking or radiological releases, as required by ESH-1, detect rad contamination above release levels, decontmaination shall be initiated at the direction of ESH-1.

9.0 EMERGENCY/INCIDENT ACTION PLAN

Incident/emergency action requirements, equipment, and supplies are specified in Table 9. Response to an incident or emergency shall occur according to Section 9 of the HASP and any additional TA-49 requirements.

In the event of an incident or emergency, the FTL or SSO will function as the site emergency/incident coordinator, as necessary, and will arrange for immediate notification of LANL Emergency Response (EM&R) personnel to take control of the site and/or arrange for immediate notification of appropriate authorities. Other key on-site incident/emergency response personnel are identified below. Only personnel who are trained and certified in accordance with Sections 7, 9, and 10 of the HASP and SSHASP are allowed to respond and use the equipment specified. A site-specific muster area shall be determined by the SSO each day prior to the start of field operations and shall be communicated to individuals on-site during the HS Tailgate Meeting and as other individuals arrive at the site. Accident and Injury Reporting will be in accordance with Section 9 of the HASP and Section 15 of the ER Project Manual for Site Health & Safety Activities.

TABLE 9 INCIDENT/EMERGENCY ACTION REQUIREMENTS
This table identifies the first-aid/CPR providers, incident responders, and the equipment available on-site to respond to on-site incidents/emergencies for each task or group of tasks. The task(s) are as follows: Task 1 Site Set up; Task 2 Fence Removal and Replacement; Task 3 Culvert Removal and Reinstallation; Task 4 Construct Surface Water Run-on Diversion Channel; Task 5 Construct Surface Water Sedimentation Control Structures; Task 6 Dust Suppression; Task 7 Equipment Maintenance; Task 8 - Site Restoration; Task 9 Incident Response. Refer to Table 2-2 of this SSHASP for task(s) descriptions.
Incident Responders: LANL EM&R First-Aid/CPR Provider(s): Ken McFadden/Ray Wright Emergency Equipment On-Site: Fire extinguisher(s); First Aid Kit; Bloodborne Pathogens Kit; Eye Wash Station; Communication devices (i.e., cell phones, radios, air horn, etc.,) as available.
The first aid equipment shall be kept in a weatherproof container and the contents shall be checked weekly and resupplied by the SSO or designee. Contents shall meet the minimum requirements for Industrial First Aid Kits per ANSI Z308.1 - 1978.
The eyewash shall be located within 10 seconds travel time and not more than 100 feet of travel distance of any source of chemical splash that may be corrosive or moderately to severely irritating to the eyes. They shall have the capacity to be able to provide continuous flushing for the duration of time necessary to sufficiently flush the most hazardous substance for which the device is being specified. The eyewash shall be inspected monthly by the SSO or designee and shall be flushed in accordance with the maufacturers recommendations.
At least one 10 lb (minimum) ABC fire extinguisher shall be conspicuously located and readily accessible for each spark/flame producing operation (i.e. cutting/welding operation, heavy equipment refueling area, etc.). All extinguishers shall be periodically inspected and maintained in operating condition.
Equipment leaks shall be picked up ASAP using a shovel and disposed of as directed by the on site waste coordinator. Equipment should be parked on poly sheeting overnight to capture leaking material. Equipment shall be repaired as feasible to reduce leaks.

TABLE 9 (Cont'd) INCIDENT/EMERGENCY ACTION REQUIREMENTS
This table identifies the first-aid/CPR providers, incident responders, and the equipment available on-site to respond to on-site incidents/emergencies for each task or group of tasks. The task(s) are as follows: Task 1 Site Set up; Task 2 Fence Removal and Replacement; Task 3 Culvert Removal and Reinstallation; Task 4 Construct Surface Water Run-on Diversion Channel; Task 5 Construct Surface Water Sedimentation Control Structures; Task 6 Dust Suppression; Task 7 Equipment Maintenance; Task 8 - Site Restoration; Task 9 Incident Response. Refer to Table 2-2 of this SSHASP for task(s) descriptions.
Emergency escape routes will be discussed with the workers during the daily tailgate safety meetings. The route map to emergency services and the emergency phone list in Appendix D of this SSHASP shall be posted on site for easy reference. An air horn or a vehicle horn shall be used as the site emergency notification device. Two blasts of the horn will tell the crew to meet at the muster area. After the crew has assembled at the muster area, a head count (using daily tailgate forms, access control logs or TA-49 access log). After the crew has been accounted for, the shall either evacuate the area and report to the TA-49 access control building or wait at the site for further direction from TA-49 personnel or EM&R. Only the heavy equipment will be shutdown prior to evacuation.

10.0 TRAINING

Training requirements are specified below by job title for each task or group of tasks having different requirements. Personnel shall be trained in accordance with Section 10 of the HASP and as specified below. Any exceptions or deviations from requirements of the HASP are noted below. Personnel performing the roles indicated below shall have completed and have current documentation of the training specified. The SSO, or the FTL, shall verify that personnel have met the training requirements prior to authorizing individuals to enter controlled zones of the work site.

TABLE 10
TRAINING REQUIREMENTS

The task(s) are as follows: Task 1 Site Set up; Task 2 Fence Removal and Replacement; Task 3 Culvert Removal and Reinstallation; Task 4 Construct Surface Water Run-on Diversion Channel; Task 5 Construct Surface Water Sedimentation Control Structures; Task 6 Dust Suppression; Task 7 Equipment Maintenance; Task 8 - Site Restoration; Task 9 Incident Response. Refer to Table 2-2 of this SSHASP for task(s) descriptions.
FTL = Field Team Leader; SSO = Site Safety Officer; SUP = Subcontractor Supervisor; LAB = laborer; HEO = Heavy Equipment Operator; TECP = Trenching/Excavation Competent Person (for excavations 4 ft or greater in depth)
RSP = Radiological Screening Personnel; HPT = Health Protection Technician; SUR = Surveyor; R = Read training; C = Classroom training; F = Field training; AN = As needed per the HASP or applicable regulatory requirement depending upon the intended duties of the personnel role; ER = Employer required

Training Requirement	Personnel Role									
	FTL	SSO	SUP	LAB	HEO	TECP	RSP	HPT	SUR	
HASP	F	F	F	F	F	F	F	F	F	
SSHASP	F	F	F	F	F	F	F	F	F	
Pre- Job Start HS Briefing	F	F	F	F	F	F	F	F	F	
Daily HS Tailgate Mtgs.	F	F	F	F	F	F	F	F	F	
GET	C	C	C	C	C	C	C	C	C	
HAZCOM [29 CFR 1926.59(e)]	F	F	F	F	F	F	F	F	F	
LANL "Employee Safety Commitment"	R/C	R/C	R/C	R/C	R/C	R/C	R/C	R/C	R/C	
SSO		F/C								
RCT							F/C	F/C		
1st Aid, CPR, Bloodborne Pathogens	Classroom training for those listed as First-aid/CPR Providers in Section 9 of this SSHASP (only).									
PPE	F	F	F	F	F	F	F	F	F	
Rad Worker II	C	C	C	C	C	C	C	C		
Fire Extinguisher Use	AN	AN	AN	AN	AN	AN	AN	AN	AN	
Hearing Conservation	AN	AN	AN	AN	AN	AN	AN	AN	AN	

TABLE 10 (Cont'd)
TRAINING REQUIREMENTS

The task(s) are as follows: Task 1 Site Set up; Task 2 Fence Removal and Replacement; Task 3 Culvert Removal and Reinstallation; Task 4 Construct Surface Water Run-on Diversion Channel; Task 5 Construct Surface Water Sedimentation Control Structures; Task 6 Dust Suppression; Task 7 Equipment Maintenance; Task 8 - Site Restoration; Task 9 Incident Response. Refer to Table 2-2 of this SSHASP for task(s) descriptions.
FTL = Field Team Leader; SSO = Site Safety Officer; SUP = Subcontractor Supervisor; LAB = laborer; HEO = Heavy Equipment Operator; TECP = Trenching/Excavation Competent Person (for excavations 4 ft or greater in depth) RSP = Radiological Screening Personnel; HPT = Health Protection Technician; SUR = Surveyor; R = Read training; C = Classroom training; F = Field training; AN = As needed per the HASP or applicable regulatory requirement depending upon the intended duties of the personnel role; ER = Employer required

Training Requirement	Personnel Role									
	FTL	SSO	SUP	LAB	HEO	TECP	RSP	HPT	SUR	
Sanitation	AN	R	R	AN	AN	AN	AN	AN	AN	
Materials Handling, Storage, Use, Disposal	AN	R	R	AN	R	AN	AN	AN	AN	
Tools - Hand and Power	AN	R	R	R	AN	AN	AN	AN	AN	
Excavation/Trenching	AN	R	AN	AN	AN	R	AN	AN	AN	
Electrical Safety Awareness / Safe Conduct of Electrical Work	AN	R	R	R	AN	AN	AN	AN	AN	
Lockout/Tagout	AN	R	R	R	R	AN	AN	AN	AN	
Motor Vehicles, Mechanized Equipment, and/or Material Handling Equipment	AN	R	R	R	R	AN	AN	AN	AN	
Rigging Safety	AN	R	R	AN	R	AN	AN	AN	AN	
Welding and Cutting	AN	R	AN	R	AN	AN	AN	AN	AN	
Signs, Signals, Barricades	AN	R	R	R	R	AN	AN	AN	AN	
Traffic Flagging and Safety	AN	R	R	R	R	AN	AN	AN	AN	

11.0 MEDICAL SURVEILLANCE

The medical surveillance requirements of this section have been established in accordance with the contractors medical surveillance program, and Section 11 of the HASP.

TABLE 11
MEDICAL SURVEILLANCE REQUIREMENTS

Provided in this section are the medical surveillance requirements, (if the exposure level is exceeded), for each task identified in Table 2-2. The task(s) are as follows: Task 1 Site Set up; Task 2 Fence Removal and Replacement; Task 3 Culvert Removal and Reinstallation; Task 4 Construct Surface Water Run-on Diversion Channel; Task 5 Construct Surface Water Sedimentation Control Structures; Task 6 Dust Suppression; Task 7 Equipment Maintenance; Task 8 - Site Restoration; Task 9 Incident Response. Refer to Table 2-2 of this SSHASP for task(s) descriptions.

Hazard	Task(s)	Exposure Level Triggering Medical Surveillance Requirement	Requirement
Bloodborne Pathogens (Or Potentially Infectious Materials)	9	Any occupational exposure	29 CFR 1910.1030(f)
Hearing Protection	All	$\geq$ 85 dBA	29 CFR 1910.95(g)

12.0 QUALITY CONTROL & QUALITY ASSURANCE (QC/QA)

TABLE 12
INSPECTION REQUIREMENTS

In accordance with Section 12 of the HASP, the PM shall see that the following inspections are conducted and documented, and that appropriate actions are taken and documented to rectify identified deficiencies, if any The task(s) are as follows: Task 1 Site Set up; Task 2 Fence Removal and Replacement; Task 3 Culvert Removal and Reinstallation; Task 4 Construct Surface Water Run-on Diversion Channel; Task 5 Construct Surface Water Sedimentation Control Structures; Task 6 Dust Suppression; Task 7 Equipment Maintenance; Task 8 - Site Restoration; Task 9 Incident Response. Refer to Table 2-2 of this SSHASP for task(s) descriptions.

Inspection	Inspector	Task(s)
Job Site, Material and Equipment [per 29 CFR 1926.20(b)(2)]	SUP/SSO	All
General Sanitation (i.e., potable and non-potable water, toilets, washing facilities, eating and drinking areas, vermin control, and/or change rooms; in accordance with 29 CFR 1926.51)	SUP/SSO	All
Materials handling, storage, use & disposal (per 29 CFR 1926.250 & 252)	SUP/SSO	All
Signs, Signals and Barricades (per 29 CFR 1926.200)	SUP/SSO	All
Motor vehicles and mechanized equip. (per 29 CFR 1926 Subpart O)	SSO, QP or CP as required	All
Material handling equipment equipped with rollover protective structures (ROPS) (per 29 CFR 1926 Subpart W)	QP or CPand User	when used
Excavations/Trenches (≥4ft in depth) [per 29 CFR 1926.651(k)]	TECP as required	3
PPE (per Section 7 and 29 CFR 1926.95)	User	when used
Fall Protection [per 29 CFR 1926.20(b)(2) and ANSI A10.14]	QP or CPand User	when used
Incident/emergency response equipment	SSO	9
Fire extinguishing equipment [per 29 CFR 1926.150(a) and (c)]	SUP/SSO	when used
Tools - hand and power (per 29 CFR 1926 Subpart I)	User and SSO	when used
Welding and cutting equipment (per 29 CFR 1926 Subpart J)	QP or CPand User	when used
Hearing Protection	SUP/SSO	when used
Rigging (per 29 CFR 1926.251)	QP or CPand User	when used
Eyewash station	SUP/SSO	when used
Electrical equipment [per 29 CFR 1926.403(b) and/.or 416(f)(8)]	QP or CP as required	when used
QP = Qualified Person; CP = Competent Person [per 29 CFR 1926.32(f) or (m)]		

13.0 RECORD KEEPING

In addition to record keeping requirements of Section 13 of the HASP, the HS records specified below shall be completed in accordance with Section 13 of the HASP and kept on site as indicated below.

TABLE 13
RECORD KEEPING REQUIREMENTS

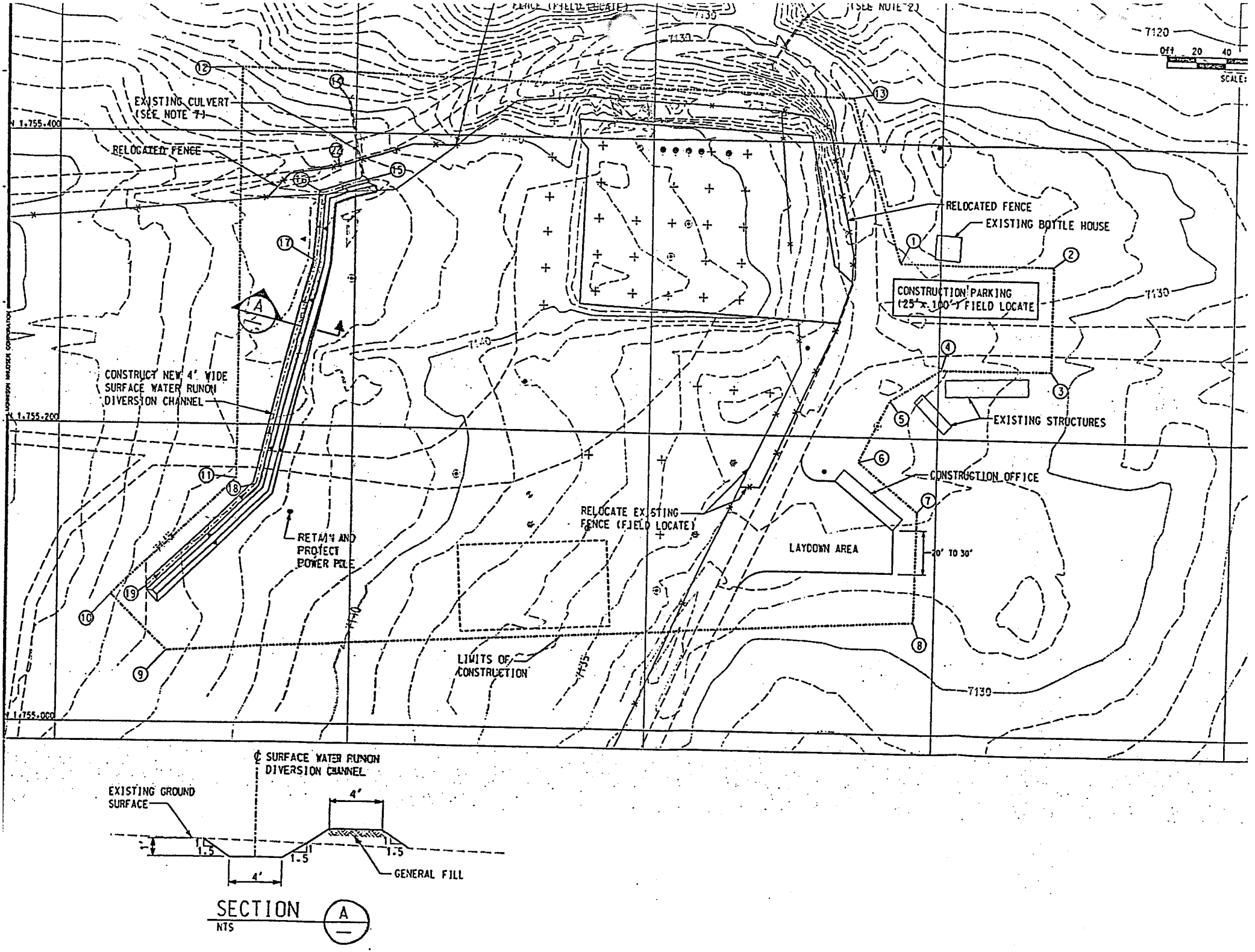
Record/Form	Requirement Reference	Keep On site
HASP	HASP Section 1	X
This SSHASP	HASP Section 1	X
Completed Modification Forms	HASP Section 1	X
SSOs Daily Logbook	HASP Section 13.1	X
Documentation of Training Requirements	HASP Section 10	
Documentation of Medical Surveillance	HASP Section 11	
HS Inspection Records	HASP Section 12.1	X

APPENDIX A

MAP OF SITE LOCATIONS,

AND

ADJACENT FACILITIES


EXISTING CULVERT (SEE NOTE 7)
RELOCATED FENCE
CONSTRUCT NEW 4' WIDE SURFACE WATER RUNON DIVERSION CHANNEL
RETAIN AND PROTECT POWER POLE
RELOCATE EXISTING FENCE (FIELD LOCATE)
LIMITS OF CONSTRUCTION
RELOCATED FENCE
EXISTING BOTTLE HOUSE
CONSTRUCTION PARKING (25' x 100') FIELD LOCATE
EXISTING STRUCTURES
CONSTRUCTION OFFICE
LAYDOWN AREA
20' TO 30'
7120
7130
7140
7135
N 1,755,400
N 1,755,200
N 1,755,000
SCALE:
℄ SURFACE WATER RUNON DIVERSION CHANNEL
EXISTING GROUND SURFACE
4'
1.5
1.5
1.5
4'
GENERAL FILL
SECTION A
NTS

APPENDIX B

HAZARDOUS SUBSTANCE - HAZARD ASSESSMENT

HAZARDOUS SUBSTANCE - HAZARD ASSESSMENT			
This table includes a health hazard assessment, and associated rationales, of each chemical product and site contaminant listed in Table 2-1. This hazard assessment was completed in accordance with Section 4.1 of the HASP. The task(s) are as follows: Task 1 Site Set up; Task 2 Fence Removal and Replacement; Task 3 Culvert Removal and Reinstallation; Task 4 Construct Surface Water Run-on Diversion Channel; Task 5 Construct Surface Water Sedimentation Control Structures; Task 6 Dust Suppression; Task 7 Equipment Maintenance; Task 8 - Site Restoration; Task 9 Incident Response. Refer to Table 2-2 of this SSHASP for task(s) descriptions.			
Substance	**Maximum Data**		**Hazard Assessment Rating/Rationale**
	Value	**Location**	
CHEMICAL SUBSTANCES, PRODUCTS USED ON SITE			
Compressed Gasses Acetylene, Oxygen, **Fuels and Lubricants** Diesel, Gasoline	NA	TA-49	**NEGLIGIBLE to MINOR** For Tasks 1-6, 8 and 9, exposure to these substances is not anticipated. For Task 7, exposure to these substances is unlikely however, a fire or sudden pressure release involving these substances could resulting in significant injuries resulting in irreversible harm.
Oil, Hydraulic Fluid	NA	TA-49	**NEGLIGIBLE** Only small quantities of these substances will be brought on-site and will be used in accordance with the site's Spill Prevention, Control, and Countermeasures (SPCC) Plan. No exposure to these substances is anticipated.
SITE CONTAMINANTS			
Radioisotopes U238 U239 Pu239	Rad data for the areas where these activities will be occurring is not available. However, there is no reason to believe at this time that rad levels would be higher than background levels.	TA-49	**NEGLIGIBLE to MINOR** For Tasks 1,2,4-9, exposure to radioisotopes above background levels is not anticipated. For Task 3, exposure to these substances is unlikely but could occur resulting in reversible harm.
Metals Al, Sb, As, Ba, Be, Cd, Cr, Co, Cu, Pb, Mn, Hg, Ni, Se, Ag, Tl	Metal data for the areas where these activities will be occurring is not available. However, there is no reason to believe at this time that Metal levels would be higher than published action levels.	TA-49	**NEGLIGIBLE** A Marlow equation was performed, at MDA-AB, using the sample results from soils collected at various depths. The result was negligible at MDA-AB where the metal concentrations would be expected to be higher than the areas where these activities will occur.

APPENDIX C

ON-SITE CHEMICAL, PHYSICAL, AND TOXICOLOGICAL REFERENCES

- The following reference materials will be maintained on-site as well as MSDS for all chemical products brought on-site. These materials will be made available, upon request, to those individuals that may be occupationally exposed to the potential contaminants of concern and/or chemical products during the course of their work.

- Most recent revision of the ACGIH Threshold Limit Values for Chemical Substances and Physical Agents and Biological Indices.
- Most recent revision of the NIOSH Pocket Guide to Chemical Hazards.

APPENDIX D

EMERGENCY CONTACTS
AND
ROUTE(S) TO MEDICAL SERVICES

EMERGENCY CONTACTS AND PHONE NUMBERS

(post on-site in Support Zone)

MEDICAL EMERGENCY/FIRE:

Los Alamos Fire Deptment:
LANL phone **911**
Cellular phone **667-7080**

HAZARDOUS RELEASE/SPILL:

LANL EM&R (FSS-20) **667-6211**
LANL Occupational Medicine Clinic (ESH-2) **667-0660**
Los Alamos Medical Center Hospital **662-4201**
Security OS/Pro Force **667-6534**
Los Alamos Police **662-8224**
Focus Area Health and Safety Rep. - (Trung Nguyen) **667-7905/104-6650**
ESH-1 Rep.- (Clarita Trujillo) **667-3999**
TA-49 Facility Manager: (Leo Maes) **667-9462**
LANL, Focus Area Leader: (Alan Pratt) **667-4308**
FTL: (John DeJoia) **662-7300**

MANAGEMENT CONTACTS:

Employer MK/PMC Contacts (Clark Judy) **662-7300**
Employer SG Western Contact: (Sam Gardner) **662-3852/470-1268**

EMERGENCY REPORTING INFORMATION:

When calling for emergency services, have the following information available to report:

- Site name/location/phone #
- Caller ID
- Nature of emergency
- Number of personnel involved
- Name and condition of affected employees
- Actions taken and assistance required

TA-49 Hospital Transportation Route