

Identifier: EP-WES-SOP-4006

Revision: 0



Effective Date: February 1, 2008

## Waste and Environmental Services

### Standard Operating Procedure

# for REVIEW OF PROJECTS FOR IMPACTS TO POTENTIAL RELEASE SITES (PRS)

#### APPROVAL SIGNATURES:

Subject Matter Expert:	Organization	Signature	Date
Melanee Shurter	WES-RS	Signature on File	2/11/08
Quality Assurance Specialist:	Organization	Signature	Date
Laura Ortega	QA-IQ	Signature on File	2/11/08
Responsible Line Manager:	Organization	Signature	Date
P. Dwain Farley	WES-RS	Signature on File	2/11/08

**CONTROLLED DOCUMENT**

Users are responsible for ensuring they work to the latest approved revision.  
Printed or electronically transmitted copies are uncontrolled.

## 1.0 PURPOSE AND SCOPE

The purpose of this procedure is to ensure personnel working within a potential release site (PRS) are aware of the potential hazards associated with the site and the limitations and restrictions on the work that can be performed at the site. This procedure describes the responsibilities and process for determining whether a PRS could potentially be impacted by planned activities described in Excavation/Soil Disturbance Permits (EX-ID) requests, Job Hazard Analysis (JHA) requests, permits and requirements identification (PR-ID) postings, siting notifications, GIS screening tool maps, and other project information. The PRS review described in this procedure is conducted by Los Alamos National Laboratory (LANL or Laboratory) Environmental Programs (EP) Directorate Waste and Environmental Services (WES) Division Remedy Services Group subject matter experts (SMEs) identified by the project leader for PRS Coordination. Results of the review are provided as formal comments and indicate whether or not a PRS will be impacted and inform the requestor of potential contaminant concentrations (if known) at the PRS to ensure worker and environmental protection, compliance with applicable requirements and regulations, and coordination with EP investigation and remediation activities.

## 2.0 BACKGROUND AND PRECAUTIONS

### 2.1 Background

The process in this document supports Laboratory Procedure P941, *Site Planning*, Laboratory Institutional Policy and Implementation Procedure (IPP) 400.0, *Environmental Protection*, Laboratory Implementation Procedure (IMP) 401.2, *Procedure to Identify, Communicate, and Implement Environmental Requirements*, and Institutional Support Document (ISD) 101-17, *Excavation/Soil Disturbance Permit Process*.

EP-WES personnel and/or subcontractors will use this procedure when:

- reviewing a planned project or activity to determine if a PRS could be impacted. Planned projects and activities requiring review are described in EX-IDs, PR-IDs, siting requests, JHA requests, GIS screening tool maps, or direct requests from Laboratory personnel;
- documenting EP SME review comments and requirements, site visits, photos, analytical data (where available), other issues which include follow-up and closeout of any open actions (i.e., resolution of open PR-ID requirements) and correspondence with the EX-ID and/or PR-ID requestor and/or project manager;
- archiving the documentation generated from EX-ID and/or PR-ID activities within a PRS in the PRS Master File, PRS database, and/or EP Records Processing Facility (RPF) system files.

An EP SME conducting a PRS review is any person assigned by the PRS Coordination project leader to review a request for a proposed activity to be implemented within the boundary of the Laboratory or within a PRS located on property previously owned and operated by the Laboratory.

EP SMEs review every PR-ID, EX-ID, and siting notification for potential impacts to PRSs regardless of the size of the planned project or activity. An overview of the PRS project review process is provided in Attachment 1 to this procedure.

### 2.2 Precautions

The PRS Coordination project leader is ultimately responsible for the quality and timeliness of PRS project reviews and comments; however, the project leader may assign responsibility to the SME conducting the PRS project review.

**CONTROLLED DOCUMENT**

Users are responsible for ensuring they work to the latest approved revision.  
Printed or electronically transmitted copies are uncontrolled.

The SME implementing this procedure will determine which of the following requirements are applicable when the planned project activities will occur within the boundary of a PRS or in close proximity to a PRS and will include the requirements in review comments.

2.2.1 Work activities within a PRS should be conducted in accordance with the Quality Assurance Plan (QAP) for the Environmental Programs Directorate. The QAP can be found at the following URL address: <http://int.lanl.gov/orgs/adeq/qa.shtml?0>

2.2.2 Any Laboratory employee or subcontractor conducting work within the boundary of a PRS must be made aware of the potential contaminants present in soils and other materials (concrete, asphalt, tuff, drain lines, etc.) at the site and the potential hazards associated with those contaminants.

Laboratory subcontractors should refer to Appendix A of the EP-WES Health and Safety Requirements Manual to determine applicable worker training requirements, equipment decontamination requirements, etc. The manual can be found at the following URL address: <http://int.lanl.gov/orgs/wes/safety.shtml?3>

2.2.3 Soil and/or fill excavated from a PRS must be managed to ensure that it remains within the boundary of the PRS and returned to the precise point and depth of excavation upon completion of the project. Management within the boundaries of the PRS includes implementing measures to ensure the soil or other material is not dispersed off the site by wind, stormwater runoff, and vehicle or pedestrian traffic. Any soil or other material including concrete and asphalt removed from a PRS boundary must be managed, characterized, and disposed of in accordance with the LANL waste management LIRs and implementation management plans (IMPs), including approved waste profile forms, and waste accumulation areas. In the event excavated soil, sediment, tuff, and other material including asphalt, concrete, and drain pipes from a PRS will be shipped off-site for waste disposal the material must be containerized and managed within the boundary of the PRS before shipment.

2.2.4 Wastewater of any type cannot be discharged to the environment without an Environmental Protection Agency (EPA) - and New Mexico Environment Department (NMED)-approved notice of intent (NOI) to discharge. To prevent the release or transport of a pollutant or contaminant from a PRS, wastewater and groundwater discharges of any type are not permitted within a PRS. Questions regarding NOIs should be directed to the ENV-RCRA Water Quality and RCRA Group.

2.2.5 To prevent the release or transport of a pollutant or contaminant from a PRS, stormwater discharges to or from a PRS are not permitted. In addition, stormwater-retention ponds cannot be located within the boundary of a PRS nor can a retention pond be constructed of fill material from a PRS. Stormwater runoff must be diverted away from PRSs. Best management practices (BMPs) for storm water pollution prevention (SWPP) and/or soil erosion control must be in place for all projects before the start of any soil disturbing activities within a PRS to minimize potential contaminant migration. Please refer to the most current documentation for erosion control requirements, *Storm/Surface Water Pollution Prevention Best Management Practices Guidance* document, and the *Laboratory Engineering Standards Manual ISD 341-2*. Questions may be directed to the ENV-RCRA Water Quality and RCRA Group.

2.2.6 Activities that disturb a PRS may require additional site stabilization and storm water run-off monitoring under the Laboratory's SWMU/AOC work requirements; PRSs with an erosion matrix score of greater than 40 have potential to impact surface water quality. Questions on the Federal Facility Compliance Agreement SWPP Plan work requirements may be directed to Melanee Shurter (Office: 667-7369, Cell: 231-0520, Email: [mshurter@lanl.gov](mailto:mshurter@lanl.gov)) or Steve Veenis (Office: 667-0013, Cell: 699-1764, Email: [veenis@lanl.gov](mailto:veenis@lanl.gov)).

2.2.7 Work conducted at a PRS with radioactive contamination must be performed in accordance with LANL ISD 121-1 *Radiation Protection*. Work conducted at PRSs classified at Hazard Category 2 and Hazard Category 3 nuclear facilities must be performed in accordance with the safety basis for the facility.

### 3.0 EQUIPMENT AND TOOLS

Detailed descriptions of PRSs, including sampling data summaries for a majority of the PRSs, can be found at <http://erinternal.lanl.gov/PRS/PRSMain.asp>, the web address for the PRS database. The GIS screening tool maps found at [http://env-arcims-prod/website/IWM\\_ProximityAnalysis/viewer.htm](http://env-arcims-prod/website/IWM_ProximityAnalysis/viewer.htm) can be used to identify planned work locations and corresponding locations of PRSs, infrastructure, etc. E-mail notifications are used during the initial screening and review process by the EP-WES PRS Coordination Project Leader and designees for screening reviews and documenting site visits for the EX-ID, PR-ID, JHA and siting request systems. The EX-ID, PR-ID, and JHA systems can be accessed through the LANL intranet from the ES&H home page.

### 4.0 PROCESS

#### PROCESS DESCRIPTION FOR PRS PROJECT REVIEWS

##### 4.1 General

1. Process-specific training is required for submittal of PRS Project Review comments for EX-IDs, PR-IDs, JHAs and siting requests in accordance with the implementing procedures for each process.

---

2. Submit review comments on a PR-ID within ten (10) working days, and within 2 to 15 days to an EX-ID request depending on the priority of the project. If the review cannot be completed by the due date, or if further action is needed by the SME Reviewer, enter a comment indicating the review status before the posted due date and contact the requestor.  
  
[NOTE: PR-IDs are open for comment after the due date until the PR-ID is closed, revised, cancelled, or completed.]

---

3. [NOTE: If PRS project review activities require more than 4 hours of SME review time, the customer is expected to provide a cost code for further review, site visits, consultation, and coordination.]

---

4. If the work described in an EX-ID/PR-ID/JHA involves EP-authorized PRS characterization and/or remediation activities, all EP requirements for working in a PRS will automatically be met as the work is planned through the Integrated Fieldwork Planning and Authorization process and within the SSHASP and waste management documentation.

##### 4.1.1 EX-ID Reviews

**CONTROLLED DOCUMENT**

Users are responsible for ensuring they work to the latest approved revision.  
Printed or electronically transmitted copies are uncontrolled.

SME  
Reviewer

1. Review the EX-ID and any associated documents or reports which may be attached or linked to the EX-ID in the EX-ID system.
2. Review the EX-ID title and project description/scope of work to ascertain whether the excavation, fill, or other soil disturbance being performed is for (a) work associated with the characterization, or (b) remediation of a PRS with EP as the requester or providing oversight to a subcontractor.
3. For all other work that does not fall into the category of EP-authorized work, review the Scope of Project, Purpose of Project, Work Requirements, and Area to be Disturbed sections of the EX-ID.
4. Determine the excavation, fill, or other soil disturbance area is within or in close proximity to a PRS boundary or footprint by referring to PRS maps, GIS maps and referencing the PRS database.  
  
[NOTE: If the excavation/disturbance area is within a PRS boundary or footprint, any soil disturbance or disturbance of an existing structure that is a PRS may have regulatory compliance issues.]
5. Review any associated PR-ID(s) and EX-ID(s) for potential differing information and/or previous relevant review comments.

#### 4.1.2 PR-ID Reviews

SME  
Reviewer

1. Review the PR-ID and any associated documents or reports which may be attached or linked to the PR-ID in the PR-ID system.
2. Read the posted comments of other SME reviewers, when available to determine scope of work details, other environmental concerns, and regulatory requirements.
3. For all other work that does not fall into the category of EP-authorized work, review the responses to the following Primary and Secondary Gateway questions in Section 0 of the PR-ID which could indicate a potential impact to a PRS and provide details on the scope of planned project activities:
  - Creating new facilities versus modifying existing facilities;
  - Soil disturbance;
  - Tanks;
  - Radiological areas;
  - Changing existing building footprints; and
  - Repairs or modifications of equipment affecting waste water, storm drains, or exhaust systems (i.e., heating, ventilation, and air conditioning (HVAC) or hoods).

**CONTROLLED DOCUMENT**

Users are responsible for ensuring they work to the latest approved revision.  
Printed or electronically transmitted copies are uncontrolled.

4. Examine the following sections in the PR-ID for additional information on the scope, location and schedule of the planned project activities:
  - Section 1.5, Funding Type and total Estimated Cost (indicates overall magnitude and scope);
  - Section 1.6, Project Location (i.e., TA, building(s)) and the location map provided (using the GIS tool);
  - Inside Work (e.g., a structure, drain, tank, or roof vent) could be a PRS or could have directly received contamination from a PRS;
  - Outside Work, See comments in Section 7.0 of the PR-ID;
  - Section 1.8, Project Description, including schedule;
  - Section 3.1, Construction (may indicate potential impact to a PRS);
  - Section 3.2, Facility: Shutdown, Decontamination, Decommission, and Demolition (may indicate potential impact to a PRS);
  - Section 3.4, New, modified, or relocated program, project, process (may indicate changes to existing building footprint and/or soil disturbance potentially impacting a PRS);
  - Section 7.0, Outside Work (may indicate whether grubbing or soil disturbance will occur; whether PRSs have been identified and/or will be disturbed; whether asphalt or concrete or soil is to be relocated off the site; whether the site was previously disturbed; size of soil area to be disturbed; whether work will occur near previously disturbed; size of soil area to be disturbed; whether work will occur near any drainage area, arroyo, or storm drain; whether the site will be revegetated; etc.);
  - Section 10.0, Water and Liquid Discharge (whether existing or new discharges, including stormwater to the environment that could impact a PRS are anticipated); and
  - Section 11.0, Waste Management (whether existing or new waste streams will be generated from a PRS; whether an approved disposal path exists; types of wastes anticipated by the requestor).
5. Clarify inconsistent statements or resolve them through review of other documents and data, other SME comments, and/or discussion with the requestor.

#### 4.2 PRS Review Assignment and Initial Project Screening

Project Leader

1. Project review requests are received by the PRS coordination project leader and/or a designee. This process is automated for PR-IDs.  
  
Coordinate customer requests and assign project review to the appropriate SME and other staff members to support the project review process through various Laboratory work systems and associated work processes.

SME  
Reviewer

1. Screen the project location described in the request to determine whether a PRS will or could be disturbed by planned project activities:
  - review the map linked to the EX-ID/PR-ID/siting request/JHA or provided by the requestor. [Request a faxed copy of the map from the requester if an electronic version is not available.] The maps generated by the EX-ID, automatically show if a PRS is located within or adjacent to the planned project area. The GIS screening tool maps found at [http://env-arcims-prod/website/IWM\\_ProximityAnalysis/viewer.htm](http://env-arcims-prod/website/IWM_ProximityAnalysis/viewer.htm) provides instructions on how to use the mapping system. SMEs reviewing PR-IDs and JHAs must be trained to each system procedure and their mapping systems.
  - compare planned project location to PRS locations in the EP PRS database, on EP PRS maps, recent EP aggregate area investigation work plans and reports, and other available EP PRS documentation.
  - review the EP PRS maps and verify that the proposed area maps correctly depict the PRSs in the area and determine if a PRS could or will be impacted by the planned work activities.
  - obtain site map from the KSL Infrastructure and Utilities Map Service if additional site information including the locations of buildings and utilities is necessary from ([http://frodo.jci.lanl.gov/website/Building\\_Locator/viewer.htm](http://frodo.jci.lanl.gov/website/Building_Locator/viewer.htm)).
2. If screening results indicate a PRS will or could be impacted, specific requirements will apply when working in the PRS boundary. Based on the proposed work, additional SME review activities may apply which include but are not limited to requirement determination, consultation, and coordination with EP aggregate area project leaders and the project manager/requestor may be required based on proposed work. If proposed work could impact a PRS in such a way that future Consent Order work could be altered or compromised, soil is planned to be removed from the site, or drainage to or from the site may be altered, further SME consultation and site visits will be required.
  - 2.1 Degree of PRS Impact: **MINOR**. If the planned work activities will involve routine facility maintenance and utility work within a PRS (i.e., pipe or conduit repair, sign installation/replacement, irrigation system maintenance, asphalt repair) a site visit and consultation with the customer are likely not necessary unless requested by the customer. Provide applicable requirements for working in a PRS and any available data for the PRS in review comments for the customer to read and follow.
  - 2.2 Degree of PRS Impact: **MAJOR**. If the planned work activities will involve the permanent removal of contaminated soil or other materials from a PRS, discharges of stormwater or wastewater to a PRS, construction of a building or roadway within a PRS, or modification of the site that could prohibit/alter future Consent Order work, SME review comments must include a requirement for consultation and a site visit by an EP SME along with applicable requirements for working in a PRS and any available data for the PRS.



3. If screening results clearly indicate that a PRS is not located within close proximity (100 feet) of the planned work location, the SME conducting the screening shall submit formal comments for the specific EX-ID/PR-ID/siting request/JHA/project planner request indicating that there will be no PRS impacts from planned project activities as long as the scope of work and project location do not change.

#### 4.2.1 Process Steps if Project Screening Results Indicate Potential Impact to PRS

SME  
Reviewer

1. If the planned work will or could impact a PRS, then:
  - identify and communicate to the work planner the applicable requirements for working within a particular PRS;
  - determine if planned project activities can be implemented without negatively impacting the PRS and ensuring worker safety and environmental compliance;
  - determine if the potential exists for implementation of accelerated characterization activities at the site through collaborative efforts between the requesting group and EP;
  - communicate a need for identifying, funding, and coordinating schedules for work organization;
  - assemble and communicate historic operating information and analytical data (when available) for impacted PRS(s) for inclusion in the requesting group's site hazard screening of the planned project;
  - identify the need for permits or regulatory approvals within the purview of EP;
  - ensure all requirements pertaining to EP have been accurately and appropriately reviewed and addressed; and
  - coordinate and communicate with EP aggregate area project leaders.
2. Provide requirements for working within a PRS in accordance with the appropriate system procedures for EX-IDs, PR-IDs, siting request and JHAs or directly to the project planner who requested the information. [NOTE: A standard comment format for providing requirements for working in a PRS is shown as Attachment 2.]
3. Depending on the situation, perform the following steps:
  - work with the customer/requestor who proposed the activity to determine avoidance techniques;
  - recommend coordination activities with EP;
  - provide ongoing guidance as requested by the customer or by the EP aggregate area project leader
4. If requested by the requestor and a cost code is provided, participate on a project team that formulates a strategy to integrate planned project activities with planned EP activities.
5. Notify the EP aggregate area project leader of final decisions and recommendations presented to project planner, and final actions taken by the project planner (if known). Coordinate with appropriate EP aggregate area project leaders and the PRS coordination project leader for the affected aggregate areas to identify a feasible strategy that supports the EP baseline objectives if the proposed activity will impact a PRS.

**CONTROLLED DOCUMENT**

Users are responsible for ensuring they work to the latest approved revision.  
Printed or electronically transmitted copies are uncontrolled.



### 4.3 Performing a Site Visit

- SME Reviewer
1. Coordinate with the appropriate Facility Operations Director (FOD) and/or requestor to access the site and comply with access requirements before conducting a site visit.
  2. Perform visual inspection of the site with project requestor. Using EP PRS maps and planned project location maps and actual scope of planned activities, confirm whether or not PRS will be impacted.
  3. If PRS will be impacted, discuss impact mitigation strategies and potential work requirements with requestor.
  4. Document site visit attendees, PRS(s) of interest, site conditions, how/if project activities will impact PRS(s), agreements, etc. in accordance with EP-WES-SOP-5009, *Notebook Documentation for Environmental Restoration Technical Activities*.

### 4.4 Follow-up, Verification, and Closeout

- SME Reviewer
1. Request modification or delay of the requestor's planned project activities if agreement cannot be reached regarding the requirements for working within a PRS.  
  
[NOTE: The review of the EX-ID is closed when the SME reviewer submits comments to Industrial Hygiene and Safety Operations Support Group (HIS-OS). The review of the PR-ID is closed when the PR-ID tool indicates no additional actions are required by the customer or SME point of contact (POC).]
  2. Document field decisions and recommendations made to project planner/requestor as listed under 4.3.4 above and as brief summary in "Comments" section of "Permit Review Cumulative List of Monthly Reports" stored within the *Facility Integration* folder on the Pueblo server [[\\Er5\Pueblo\Facility\\_integration\EX-ID and PR-ID reviews\FY 08 Permit Review cumulative list of monthly reports](#)].
  3. Notify the aggregate area project leader and PRS coordination project leader if:
    - requested to participate on project team.
    - additional coordination/oversight of project activities to be conducted with a PRS is necessary.
    - planned project activities could impact future site characterization and/or remediation activities at the PRS.

### 4.5 Records

- SME Reviewer
1. SME comments on EX-IDs, PR-IDs, JHAs and siting requested are maintained electronically by the organization implementing each system. If a PRS may or will be impacted by activities described in an EX-ID or PR-ID, the PRS database is updated on a quarterly basis to indicate that the site may have been impacted by a project.

2. SME comments provided in response to specific work planner request when planned project activities will impact a PRS are maintained electronically on the EP Pueblo server in a folder titled "Facility Integration", subfolder "EX-ID and PR-ID Reviews", subfolder "EX and PR-ID Review Responses with PRS Impact" [[\\Er5\Pueblo\Facility\\_integration\EX-ID and PR\\_ID reviews\EX and PR-ID Review Responses with PRS Impact](#)] and forwarded to the appropriate aggregate area project leader and PRS Coordination project leader.

## 5.0 PROCESS FLOW CHART

See Attachment 1.

## 6.0 ATTACHMENTS

Attachment 1: 4006-1 PRS Project Review Process Overview (1 page)

Attachment 2: 4006-3 Example EP SME Comments when Project will Impact a PRS (3 pages)

## 7.0 REVISION HISTORY

Authors: Melanee Shurter, Paula Bertino, Phoebe Suina and Lynda Hartman

Revision No. <i>[Enter current revision number, beginning with Rev.0]</i>	Effective Date <i>[DCC inserts effective date for revision]</i>	Description of Changes <i>[List specific changes made since the previous revision]</i>	Type of Change <i>[Technical (T) or Editorial (E)]</i>
0	02/08	New Document; supersedes RRES-WQH-054.1 and ECR-06.02.	T

[Using a CRYPTOCard, click here to record "self-study" training to this procedure.](#)

If you do not possess a CRYPTOCard or encounter problems, contact the ERSS training specialist.

**CONTROLLED DOCUMENT**

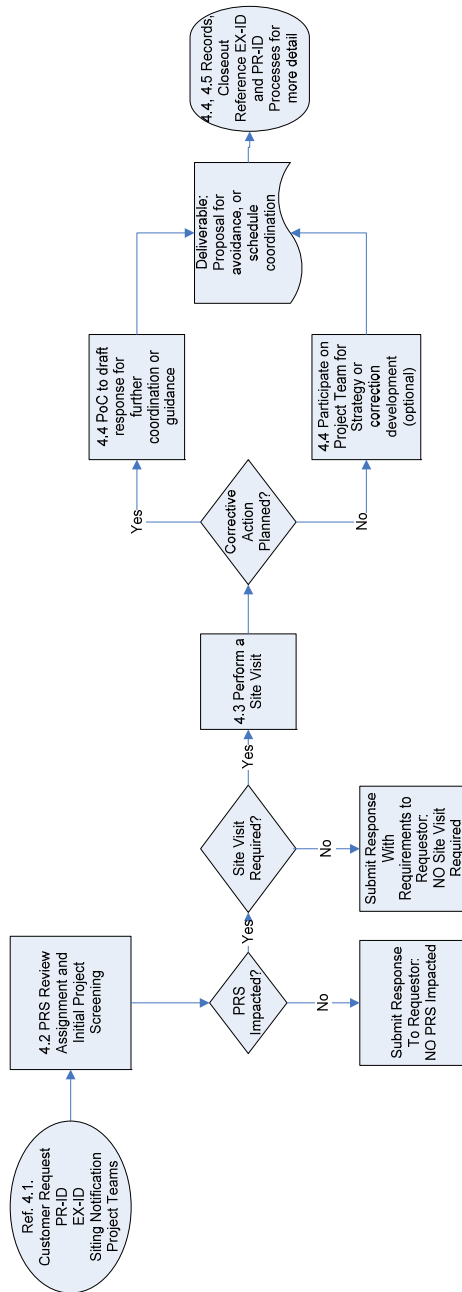
Users are responsible for ensuring they work to the latest approved revision.  
Printed or electronically transmitted copies are uncontrolled.

**ATTACHMENT 1: PRS PROJECT REVIEW PROCESS OVERVIEW**

4006-1

**Project Review Process Overview**

Records Use only



**CONTROLLED DOCUMENT**

Users are responsible for ensuring they work to the latest approved revision.  
Printed or electronically transmitted copies are uncontrolled.

**ATTACHMENT 2: EXAMPLE SME COMMENT RESPONSE FOR WORK IMPACTING A PRS**

**4006-3**

**SME Comments When PRS will be Impacted**

Records Use only



**Customer Action:** Yes

**Description of Action:**

1. Ensure site workers are aware of PRS (description provided below) within planned work location, and hazards are included in site hazard plan and health and safety plan (see EP requirements for working in a PRS below).
2. Conduct work in accordance with ISD 101-17.0, Chapter 3.1 and the EP QAP.
3. Work conducted at a PRS with radioactive contamination must be performed in accordance with LANL ISD 121-1 *Radiation Protection*. Work conducted at PRSs classified at Hazard Category 2 and Hazard Category 3 nuclear facilities must be performed in accordance with the safety basis for the facility.

Because of the proposed work for 07X-0678, gage station maintenance within TA-05 at Gage stations E201, 201.5, 202, 203, 204 in Mortandad Canyon (PRS C-00-008), the requester shall follow the requirements for working in a PRS.

A description of the PRSs, including PRS-specific EP requirement, the hazards present, and regulatory status of the PRS are provided below. The PRS has not been approved for no further action (NFA) by the NMED. If an NFA determination cannot be obtained from NMED or DOE for the PRS due to the work described in this EX-ID, the Facility Owner may have to assume long-term responsibilities for the PRS.

Melanee Shurter is the PRS Coordination Project Leader. She may be contacted at (505) 231-0520 (cell), (505) 667-7369 (office), or [mshurter@lanl.gov](mailto:mshurter@lanl.gov) to identify PRS impact prevention strategies and coordinate EP SME resources. This project is located in the Mortandad Watershed area and may require correspondence with the appropriate EP aggregate area project leader, which shall be coordinated through Melanee Shurter.

Any changes in the planned location or scope of work will require a modification to this EX-ID and another review by EP WES SMEs.

**General Requirements for Working in a PRS:**

Any Laboratory employee or subcontractor conducting work within the boundary of a PRS must be made aware of the potential contaminants present in soils and other materials (concrete, asphalt, tuff, drain lines, etc.) at the site and the potential hazards associated with those contaminants.

Laboratory subcontractors should refer to Appendix A of the EP-WES Health and Safety Requirements Manual to determine applicable worker training requirements, equipment decontamination requirements, etc. The manual can be found at the following URL address: <http://int.lanl.gov/orgs/wes/docs/safety/HSRM-0001-R2.pdf>.

**CONTROLLED DOCUMENT**

Users are responsible for ensuring they work to the latest approved revision.  
Printed or electronically transmitted copies are uncontrolled.

All soil/fill excavated from a PRS must be managed within the boundary of the PRS and returned to the precise point and depth of excavation upon completion of the project. Soil/fill and other material excavated and disturbed within a PRS must be managed to ensure that it remains within the PRS boundary. This includes implementing measures to ensure the soil or other material is not dispersed off the site by wind, stormwater runoff, vehicle or pedestrian traffic, etc. Any soil or other material including concrete and asphalt removed from a PRS boundary must be managed, characterized, and disposed of in accordance with all applicable Laboratory waste management LIRs and IMPs, including approved waste profile forms, waste accumulation areas, etc.

Wastewater of any type (including potable water) cannot be discharged to the environment without an EPA- and NMED-approved NOI to discharge. To prevent the release or transport of a pollutant or contaminant from a PRS, wastewater discharges of any type are not permitted within a PRS. Questions regarding NOIs should be directed to the ENV-RCRA Surface Water Compliance Group.

To prevent the release or transport of a pollutant or contaminant from a PRS, stormwater discharges to or from a PRS are not permitted. In addition, stormwater retention ponds cannot be located within the boundary of a PRS nor can a retention pond be constructed of fill material from a PRS. Best management practices (BMPs) for stormwater pollution prevention (SWPP) and/or soil erosion control must be in place for all projects before the start of any soil-disturbing activities within a PRS to minimize potential contaminant migration. Please refer to the ENV-RCRA Surface Water Compliance documentation for erosion control requirements. Storm/Surface Water Pollution Prevention Best Management Practices Guidance Document, and the Laboratory *Engineering Standards Manual ISD 341-2* Chapter 3, Section 5. Questions should be directed to the ENV-RCRA Surface Water Compliance Group.

This activity may require additional site stabilization and storm water run-off monitoring under the Laboratory's SWMU/AOC work requirements; this PRS has an erosion matrix score of greater than 40 for potential to impact surface water quality. For information regarding Federal Facility Compliance Agreement SWPP Plan work requirements contact Melanee Shurter or Steve Veenis (Office: 667-0013, Cell: 699-1764, Email: [veenis@lanl.gov](mailto:veenis@lanl.gov)).

#### **EP Requirements for Working in a PRS:**

Either the PRS coordination project leader or an EP SME must be consulted throughout the project to:

1. avoid unnecessary impacts to PRSs;
1. participate in site visits to locate the PRSs in the field;
2. ensure that any soil or other material excavated or removed from any PRSs are managed and documented by the subcontractors in accordance with applicable Laboratory and Consent Order requirements; and
3. ensure that impacts to PRSs are adequately documented, record the final condition of any disturbed PRSs, and minimize schedule impacts.

Work activities within a PRS should be conducted in accordance with the Quality Assurance Plan (QAP) for the Environmental Programs Directorate. The QAP can be found at the following URL address:  
[http://int.lanl.gov/environment/all/docs/qa/ep\\_qa/EP-DIR-QAAS-0001.pdf](http://int.lanl.gov/environment/all/docs/qa/ep_qa/EP-DIR-QAAS-0001.pdf).

#### **Additional Radiological Requirements:**

Work conducted at a PRS classified as a radiological site must be performed in accordance with LANL ISD 121-1 *Radiation Protection*. Work conducted at PRSs classified as Hazard Category 2 NESs and Hazard Category 3 radiological sites must be performed in accordance with the safety basis for the facility. PRS C-00-008 is classified as a less than Nuclear Hazard Category 3 radiological site.

**CONTROLLED DOCUMENT**

Users are responsible for ensuring they work to the latest approved revision.  
Printed or electronically transmitted copies are uncontrolled.

**PRS Description:**

PRS C-00-008 consists of the Mortandad Canyon system. The primary contamination source in the Mortandad Canyon system has been the discharge of wastewaters from various Laboratory operations, which have occurred since at least 1951 and possibly as early as 1943. Beginning in 1963, wastewaters have been treated at the RLWTF and treated effluent discharged to an NPDES-permitted outfall. SWMUs located within Mortandad Canyon itself are the Mortandad Canyon sediment traps (PRS 00-001). The sediment traps consist of three basins excavated into the stream channel surrounded by U-shaped berms. The traps are located approximately 1.7 mi. downstream of the TA-50 RLWTF outfall and were constructed in 1976 to capture streamflow and prevent downstream migration of contaminated sediments.

Regular environmental monitoring has been conducted in Mortandad Canyon since approximately 1970 as part of the Laboratory's Environmental Surveillance Program. Past sediment sampling has detected elevated levels of americium-241, cesium-137, plutonium-238/-239/-240, and strontium-90, with the highest concentrations in or downstream of Effluent Canyon. Concentrations at the southeast Laboratory boundary are generally at or near background. Americium-241, plutonium-238, plutonium-239/-240, and tritium have been detected in surface water and alluvial groundwater.

Sampling results for EP include detected concentrations of inorganic chemicals, PAHs, PCBs, pesticides, radionuclides, SVOCs, and VOCs.

The following inorganic chemicals were detected above background values: aluminum, antimony, arsenic, barium, beryllium, boron, bromide, cadmium, calcium, chloride, chromium, cobalt, copper, cyanide (total), fluoride, iron, lead, magnesium, manganese, mercury, molybdenum, nickel, nitrate, oxalate, perchlorate, phosphorus, potassium, selenium, sodium, sulfate, thallium, titanium, uranium, vanadium, and zinc. Arsenic, iron, manganese, perchlorate were detected as greater than screening action levels (SALs).

Radionuclides detected greater than fallout values include americium-241, cesium-134, cesium-137, cobalt-60, plutonium-238/-239, ruthenium-106, sodium-22, strontium-90, thorium-230, tritium and uranium-234/-235/-238 with americium-241, cesium-137, cobalt-60, plutonium-239 and strontium-90 also greater than SALs.

Three SVOCs were detected greater than SALs: benzo(a)pyrene, nitroaniline[2-], and nitrosodimethylamine[N-].

EP sampling data where available can be found for specific PRSs in the EP Potential Release Site database at URL: <http://erinternal.lanl.gov/PRS/PRSMMAIN.asp>.