Identifier: **SOP-5211** **(Supersedes SOP-02.01)**	Revision: **0**	
Effective Date: **October 14, 2008**	Next Review Date: July 23, 2013	

Waste & Environmental Services

Standard Operating Procedure

for **SURFACE WATER SITE ASSESSMENTS**

☐ **NUCLEAR ENVIRONMENTAL SITE APPROVED** *(if applicable)*

APPROVAL SIGNATURES:

Subject Matter Expert:	**Organization**	**Signature**	**Date**
Steve Veenis	ENV-RCRA	Signature on File	8/11/08
Quality Assurance Specialist:	**Organization**	**Signature**	**Date**
Lynn Wallace	QA-IQ	Signature on File	8/28/08
Responsible Line Manager:	**Organization**	**Signature**	**Date**
Dwain Farley	WES-RS	Signature on File	8/18/08

1.0 PURPOSE AND SCOPE

This procedure describes the process for investigating and determining whether a Los Alamos National Laboratory (LANL)-designated site has the potential to adversely affect surface water quality and to determine if the site is a point source discharge subject to regulation under the Clean Water Act. Designated sites include Solid Waste Management Units (SWMUs), Areas of Concern (AOCs), and Potential Release Sites (PRSs). The scope of this procedure addresses implementation and documentation of site-specific evaluations.

Definitions of designated sites and requirements for evaluating water quality are provided in the following:

- The Compliance Order of Consent, signed by NMED, DOE, and LANL in March 2005;
- Module VIII of LANL's Hazardous Solid Waste Amendment (HSWA) Permit;
- Federal Facility Compliance Agreement, Docket No. CWA-06-2005-1701, dated February 3, 2005
- Subsequent NPDES Individual Stormwater Permit No. NM0030759
- Sites identified as radioactive AOCs.

2.0 BACKGROUND AND PRECAUTIONS

2.1 Background

Certain sites may be subject to specific requirements of the Clean Water Act (CWA) National Pollutant Discharge Elimination System (NPDES) that regulate the discharge of storm water associated with industrial activity. Sites that may be regulated under the CWA are identified, in part, with information gathered during implementation of this procedure. Additionally, a surface water site assessment may be performed to assess the erosion potential of each site. This evaluation process identifies potential sources of pollution which may reasonably be expected to affect the quality of storm water discharges from the facility, and aids in the prioritization of water quality corrective actions and the Best Management Practices (BMPs) necessary to protect surface water quality at Los Alamos National Laboratory (LANL).

2.2 Precautions

This procedure is used with an approved Integrated Work Document (IWD) if needed and/or other safety documents as required.

3.0 PREREQUSITE TRAINING

Reference the latest LANL Water Stewardship Program training matrices for prerequisite training for field personnel.

4.0 EQUIPMENT

LANL Provides
- Copy of this procedure
- Copy of Integrated Work Document (IWD)
- Surface Water Site Assessment Form (Attachment 1)
- Maps
- Global Positioning System (GPS) unit

Subcontractor Provides
- Digital camera (w/ Photo Authorization Approval form)
- Cell Phone (Government cell phone only in cleared areas)
- Permanent marker
- Ball point pen
- White erasable board

5.0 STEP-BY-STEP PROCESS DESCRIPTION

5.1 Evaluation of a Site (SWMU, AOC, or PRS)

Project Leader	1.	Determine that one or more sites (i.e., SWMUs, AOCs, and PRSs) require initial evaluation or re-evaluation (e.g., due to changing conditions at the existing site, new data, etc.).
Field Personnel	2.	Initiate and complete the evaluation consisting of compiling existing SWMU/AOC/PRS site descriptions and site maps (refer to SWMU reports). • Use an indelible dark-ink pen on the assessment form. • To change an entry, draw a single line through the entry, add the correct information, and date and initial the change. • Use the SWMU/AOC/PRS identification number and site description assigned to the site. • A site may meet the "no exposure" criterion if the potential contamination is subsurface, if the site is covered by asphalt or concrete, or if the site is located in a building or covered by a roof. • The assessment finding for erosion potential is a professional decision made by the field technician based on the evidence found at the site. • Provide any additional notations and recommendations personnel believe to be pertinent to the site assessment at the end of the form. If more space is needed, attach another sheet of paper.
	3.	Take photographs of each site to document field characteristics. Include a white board in the photo with site number, PRS number, and date.
	4.	If photos were taken in a secure area, take the camera to a Derivative Classifier (DC) to review photos. Photos must be reviewed before the camera can leave the secure area.

5.2 Re-assessment

Project Leader	1.	Determine that modification or re-evaluation of the Surface Water Site Assessment for a designated site is required based on the following factors: • Corrective actions and/or restoration activities at the SWMU/AOC/PRS; • Request for document/proposal preparation regarding the site; • Site overlooked or previous assessment conducted at wrong SMWU/AOC/PRS; • Change in environmental conditions at the site; • Storm-water permit requirements; or • Verification of stability after closeout inspection.
Field Personnel	2.	Initiate and complete the evaluation consisting of compiling existing SWMU/AOC/PRS site descriptions and site maps (refer to SWMU reports).

5.3 Records		
Field Personnel	1.	Download any photo(s) within 2 days of taking them. Label photos with site number, date, and purpose and save photos to a Project designated file on a LANL server.
	2.	Submit field forms to the Storm Water Permit Compliance Records Manager per ENV-DO-110, Records Management for packaging.
SW Records Manager	3.	Identify records with the Environmental Programs records package ID number 1811. Submit copies of field documents to the Records Packaging Facility in batches for uploading into Dominos by the WES Records Processing staff.

6.0 RESULTING RECORDS

The following records are generated as a result of this procedure and are to be maintained in accordance with the applicable records management procedure:

- 5211-1 Surface Water Site Assessment Form
- Photos

7.0 ATTACHMENTS

Attachment 1: Form 5211-1 (7/2008) Surface Water Site Assessment Form (2 pages)

8.0 REVISION HISTORY

Revision No. *[Enter current revision number, beginning with Rev.0]*	Effective Date *[DCC inserts effective date for revision]*	Description of Changes *[List specific changes made since the previous revision]*	Type of Change *[Technical (T) or Editorial (E)]*
0	9/21/99	New procedure.	T
1	3/22/04	Minor changes, e.g., organizational and new template.	T
0	10/14/08	Major revision. Supersedes SOP-02.01, R1.	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.

SOP-5211, R0 Form 5211-1 (7/2008)
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SURFACE WATER SITE ASSESSMENT FORM

Site Number	Nearest Structure (TA-Bldg) (optional)
Site Found? ☐ Yes ☐ No	GPS Used to Locate Site? ☐ Yes ☐ No

Topography (Check all that apply)

☐ On Mesa Top ☐ On Bench in Canyon ☐ In Floodplain, not in Channel ☐ In Channel on Canyon Floor

Topography Explanation (optional):

Ground/Canopy Cover (Check all that apply)

☐ Sparse (<25%) ☐ Medium (25-75%) ☐ High (75-100%)

Ground/Canopy Explanation (leaves, needles, rocks, vegetation, trees, structures, asphalt, etc.):

Asphalt cover: Surface covers Site ☐ Site on top of surface ☐ Unknown ☐

Slope at Area Impacted (Check all that apply)

☐ Flat (<10%) ☐ Gradual (10-30%) ☐ Steep (>30%)

Slope Explanation (optional):

Potential Non-Storm Water Impacts ☐ Yes → Explain: ☐ No

☐ Fire hydrant/fire suppression system ☐ Landscape watering

☐ NPDES outfall ☐ Other (Describe):

Exposure. Is the site exposed to storm water? ☐ Yes ☐ No

Run-off. Is there visible evidence of run-off from Site? ☐ Yes ☐ No **(If no, skip to Run-on section)**

Is run-off through a conveyance? (Skip if no above) Conveyance Type (Skip if no at left.)

☐ Yes ☐ No ☐ Man made ☐ Natural

Explanation **(Required if run-off is yes):**

☐ Natural Erosion feature(s) (i.e. arroyo, gully, drainage channel) ☐ Sheet flow

☐ Pipe, culvert, drain, outfall, roof, ditch, other man-made conveyance ☐ Roadways (asphalt, dirt, etc.)

☐ Other (D&D activities, site storage, construction, etc.):

SURFACE WATER SITE ASSESSMENT FORM

Run-off continued

Where Does Evidence of Run-off Terminate? (Check only one. Skip If visible evidence of run-off is no)

☐ Main Canyon Drainage/ Receiving Stream (Describe) ☐ Mesa Top ☐ Meadow
☐ Significant Tributary to Canyon Drainage (Describe) ☐ Closed Retention Basin ☐ Canyon Bench / Slope
☐ Other (Describe):

Has Run-off Caused Visible Erosion? (Skip if no run-off)

☐ Yes → Explain: ☐ No

☐ Sheet ☐ Gully ☐ Rill ☐ Other (Describe):

Run-on. Is there visible evidence of run-on? ☐ Yes → Explain: ☐ No

☐ Structures (buildings, parking lots, culverts, roof drains, etc.)
☐ Natural Drainage
☐ Current Operations (construction, etc.)

Storm water collection/retention. Is there visible evidence storm water is collected and retained on Site?

☐ Yes → Explain: ☐ No

☐ Retention pond ☐ Depression (natural or man made)
☐ Pool or pond ☐ Bermed area(s)
☐ Other (Describe)

Assessment Finding. Based on the above criteria and the assessment of this Site, does soil erosion potential exist?

☐ Yes ☐ No

Photos taken? ☐ Yes ☐ No → Explain:

☐ Security issues ☐ Camera not working ☐ Camera not available

Assessment Author (name/signature/Z#/title)	Assessment Date (mm/dd/yyyy)

Was work conducted in an area requiring field form to be surveyed for radiation contamination? □Yes □No

Form Completion Review (Initials/Z#/Date)	LANL Review (Initials/Z#/Date)

Additional explanations, if needed (give section name):