

2019

SWMPP Appendices 2019

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¹ Appendices marked as “” currently contain materials. Appendices not marked as “” do not currently contain materials. Documentation will be added to the SWMP Plan as elements are developed in accordance with Permit requirements and schedules.

Appendix A: MS4 Permit NMR04A000

No.	Description
A-1	MS4 Permit NMR04A000 Issued December 22, 2014; Modified February 10, 2016

Appendix A-1



Region 6
1445 Ross Avenue
Dallas, Texas 75202-2733

NPDES General Permit No. NMR04A000

AUTHORIZATION TO DISCHARGE UNDER THE NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM

In compliance with the provisions of the Clean Water Act, as amended, (33 U.S.C. 1251 et. seq; the "Act"), except as provided in Part I.A.5 of this permit, operators of municipal separate storm sewer systems located in the area specified in Part I.A.1 are authorized to discharge pollutants to waters of the United States in accordance with the conditions and requirements set forth herein.

Only operators of municipal separate storm sewer systems in the general permit area who submit a Notice of Intent and a storm water management program document in accordance with Part I.A.6 of this permit are authorized to discharge storm water under this general permit.

This is a renewal NPDES permit issued for these portions of the small municipal separate storm sewer systems covered under the NPDES permit No NMR040000 and NMR04000I and the large municipal separate storm sewer systems covered under the NPDES permit No NMS000101.

This permit is issued on and shall become effective on the date of publication in the Federal Register.

This permit and the authorization to discharge shall expire at, midnight, December 19, 2019.

Signed by

Prepared by

William K. Honker, P.E.
Director
Water Quality Protection Division

Nelly Smith
Environmental Engineer
NPDES Permits and TMDLs Branch

MIDDLE RIO GRANDE WATERSHED BASED MUNICIPAL SEPARATE STORM SEWER
SYSTEM PERMIT

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PART I. INDIVIDUAL PERMIT CONDITIONS

A. DISCHARGES AUTHORIZED UNDER THIS PERMIT

1. **Permit Area.** This permit is available for MS4 operators within the Middle Rio Grande Sub-Watersheds described in Appendix A. This permit may authorize stormwater discharges to waters of the United States from MS4s within the Middle Rio Grande Watershed provided the MS4:
 - a. Is located fully or partially within the corporate boundary of the City of Albuquerque;
 - b. Is located fully or partially within the Albuquerque urbanized area as determined by the 2000 and 2010 Decennial Census. Maps of Census 2010 urbanized areas are available at: <http://water.epa.gov/polwaste/npdes/stormwater/Urbanized-Area-Maps-for-NPDES-MS4-Phase-II-Stormwater-Permits.cfm>;
 - c. Is designated as a regulated MS4 pursuant to 40 CFR 122.32; or
 - d. This permit may also authorize an operator of a MS4 covered by this permit for discharges from areas of a regulated small MS4 located outside an Urbanized Areas or areas designated by the Director provided the permittee complies with all permit conditions in all areas covered under the permit.
2. **Potentially Eligible MS4s.** MS4s located within the following jurisdictions and other areas, including any designated by the Director, are potentially eligible for authorization under this permit:
 - City of Albuquerque
 - AMAFCA (Albuquerque Metropolitan Arroyo Flood Control Authority)
 - UNM (University of New Mexico)
 - NMDOT (New Mexico Department of Transportation District 3)
 - Bernalillo County
 - Sandoval County
 - Village of Corrales
 - City of Rio Rancho
 - Los Ranchos de Albuquerque
 - KAFB (Kirtland Air Force Base)
 - Town of Bernalillo
 - EXPO (State Fairgrounds/Expo NM)
 - SSCAFCA (Southern Sandoval County Arroyo Flood Control Authority)
 - ESCAFCA (Eastern Sandoval County Arroyo Flood Control Authority)
 - Sandia Laboratories, Department of Energy (DOE)
 - Pueblo of Sandia
 - Pueblo of Isleta
 - Pueblo of Santa Ana
3. **Eligibility.** To be eligible for this permit, the operator of the MS4 must provide:
 - a. **Public Participation:** Prior submitting the Notice of Intent (NOI), the operator of the MS4 must follow the local notice and comment to procedures at Part I.D.5.h.(i).
 - b. **National Historic Preservation Act (NHPA) Eligibility Provisions**

In order to be eligible for coverage under this permit, the applicant must be in compliance with the National Historic Preservation Act. Discharges may be authorized under this permit only if:

- (i) Criterion A: storm water discharges, allowable non-storm water discharges, and discharge-related activities do not affect a property that is listed or is eligible for listing on the National Register of Historic Places as maintained by the Secretary of the Interior; or
- (ii) Criterion B: the applicant has obtained and is in compliance with a written agreement with the State Historic Preservation Officer (SHPO) or Tribal Historic Preservation Officer (THPO) (or equivalent tribal authority) that outlines all measures the MS4 operator will undertake to mitigate or prevent adverse effect to the historic property.

Appendix C of this permit provides procedures and references to assist with determining permit eligibility concerning this provision. You must document and incorporate the results of your eligibility determination in your SWMP.

The permittee shall also comply with the requirements in Part IV.U.

4. **Authorized Non-Stormwater Discharges.** The following non-stormwater discharges need not be prohibited unless determined by the permittees, U.S. Environmental Protection Agency (EPA), or New Mexico Environment Department (NMED) to be significant contributors of pollutants to the municipal separate storm sewer system (MS4). Any such discharge that is identified as significant contributor pollutants to the MS4, or as causing or contributing to a water quality standards violation, must be addressed as an illicit discharge under the illicit discharge and improper disposal practices established pursuant to Part I.D.5.e of this permit. For all of the discharges listed below, not treated as illicit discharges, the permittee must document the reason these discharges are not expected to be significant contributors of pollutants to the MS4. This documentation may be based on either the nature of the discharge or any pollution prevention/treatment requirements placed on such discharges by the permittee.

- potable water sources, including routine water line flushing;
- lawn, landscape, and other irrigation waters provided all pesticides, herbicides and fertilizers have been applied in accordance with approved manufacturing labeling and any applicable permits for discharges associated with pesticide, herbicide and fertilizer application;
- diverted stream flows;
- rising ground waters;
- uncontaminated groundwater infiltration (as defined at 40 CFR §35.2005 (20));
- uncontaminated pumped groundwater;
- foundation and footing drains;
- air conditioning or compressor condensate;
- springs;
- water from crawl space pumps;
- individual residential car washing;
- flows from riparian habitats and wetlands;
- dechlorinated swimming pool discharges;
- street wash waters that do not contain detergents and where no un-remediated spills or leaks of toxic or hazardous materials have occurred;
- discharges or flows from fire fighting activities (does not include discharges from fire fighting training activities); and,
- other similar occasional incidental non-stormwater discharges (e.g. non-commercial or charity car washes, etc.)

5. **Limitations of Coverage.** This permit does not authorize:

- a. **Non-Storm Water:** Discharges that are mixed with sources of non-storm water unless such non-storm water discharges are:
 - (i) In compliance with a separate NPDES permit; or
 - (ii) Exempt from permitting under the NPDES program; or

(iii) Determined not to be a substantial contributor of pollutants to waters of the United States. See Part I.A.4.

- b. Industrial Storm Water: Storm water discharges associated with industrial activity as defined in 40 CFR §122.26(b)(14)(i)-(ix) and (xi).
- c. Construction Storm Water: Storm water discharges associated with construction activity as defined in 40 CFR §122.26(b)(14)(x) or 40 CFR §122.26(b)(15).
- d. Currently Permitted Discharges: Storm water discharges currently covered under another NPDES permit.
- e. Discharges Compromising Water Quality: Discharges that EPA, prior to authorization under this permit, determines will cause, have the reasonable potential to cause, or contribute to an excursion above any applicable water quality standard. Where such a determination is made prior to authorization, EPA may notify you that an individual permit application is necessary in accordance with Part IV.M. However, EPA may authorize your coverage under this permit after you have included appropriate controls and implementation procedures in your SWMP designed to bring your discharge into compliance with water quality standards.
- f. Discharges Inconsistent with a TMDL: You are not eligible for coverage under this permit for discharges of pollutants of concern to waters for which there is an applicable total maximum daily load (TMDL) established or approved by EPA unless you incorporate into your SWMP measures or controls that are consistent with the assumptions and requirements of such TMDL. To be eligible for coverage under this general permit, you must incorporate documentation into your SWMP supporting a determination of permit eligibility with regard to waters that have an EPA-established or approved TMDL. If a wasteload allocation has been established that would apply to your discharge, you must comply with the requirements established in Part I.C.2.b.(i). Where an EPA-approved or established TMDL has not specified a wasteload allocation applicable to municipal storm water discharges, but has not specifically excluded these discharges, adherence to a SWMP that meets the requirements in Part I.C.2.b.(ii) of this general permit will be presumed to be consistent with the requirements of the TMDL. If the EPA-approved or established TMDL specifically precludes such discharges, the operator is not eligible for coverage under this general permit.

6. Authorization Under This General Permit

- a. Obtaining Permit Coverage.
 - (i) An MS4 operator seeking authorization to discharge under this general permit must submit electronically a complete notice of intent (NOI) to the e-mail address provided in Part I.B.3 (see suggested EPA R6 MS4 NOI format located in EPA website at <http://epa.gov/region6/water/npdes/sw/ms4/index.htm>), in accordance with the deadlines in Part I.B.1 of this permit. The NOI must include the information and attachments required by Parts I.B.2, Part I.A.3, Part I.D.5.h.(i), and I.A.5.f of this permit. By submitting a signed NOI, the applicant certifies that all eligibility criteria for permit coverage have been met. If EPA notifies a discharger (either directly, by public notice, or by making information available on the Internet) of other NOI options that become available at a later date, such as electronic submission of forms or information, the MS4 operator may take advantage of those options to satisfy the NOI submittal requirements.
 - (ii) If an operator changes or a new operator is added after an NOI has been submitted, the operator must submit a new or revised NOI to EPA.
 - (iii) An MS4 operator who submits a complete NOI and meets the eligibility requirements in Part I of this permit is authorized to discharge storm water from the MS4 under the terms and conditions of this general permit only upon written notification by the Director. After review of the NOI and any public comments on the NOI, EPA may condition permit coverage on correcting any deficiencies or on including a schedule to respond to any public comments. (See also Parts I.A.3 and Part I.D.5.h.(i).)

- (iv) If EPA notifies the MS4 operator of deficiencies or inadequacies in any portion of the NOI (including the SWMP), the MS4 operator must correct the deficient or inadequate portions and submit a written statement to EPA certifying that appropriate changes have been made. The certification must be submitted within the time-frame specified by EPA and must specify how the NOI has been amended to address the identified concerns.
- (v) The NOI must be signed and certified in accordance with Parts IV.H.1 and 4. Signature for the NOI, which effectively takes the place of an individual permit application, may not be delegated to a lower level under Part IV.H.2

b. Terminating Coverage.

- (i) A permittee may terminate coverage under this general permit by submitting a notice of termination (NOT). Authorization to discharge terminates at midnight on the day the NOT is post-marked for delivery to EPA.
- (ii) A permittee must submit an NOT to EPA within 30 days after the permittee:
 - (a) Ceases discharging storm water from the MS4,
 - (b) Ceases operations at the MS4, or
 - (c) Transfers ownership of or responsibility for the facility to another operator.
- (iii) The NOT will consist of a letter to EPA and must include the following information:
 - (a) Name, mailing address, and location of the MS4 for which the notification is submitted;
 - (b) The name, address and telephone number of the operator addressed by the NOT;
 - (c) The NPDES permit number for the MS4;
 - (d) An indication of whether another operator has assumed responsibility for the MS4, the discharger has ceased operations at the MS4, or the storm water discharges have been eliminated; and
 - (e) The following certification:

I certify under penalty of law that all storm water discharges from the identified MS4 that are authorized by an NPDES general permit have been eliminated, or that I am no longer the operator of the MS4, or that I have ceased operations at the MS4. I understand that by submitting this Notice of Termination I am no longer authorized to discharge storm water under this general permit, and that discharging pollutants in storm water to waters of the United States is unlawful under the Clean Water Act where the discharge is not authorized by an NPDES permit. I also understand that the submission of this Notice of Termination does not release an operator from liability for any violations of this permit or the Clean Water Act.

- (f) NOTs, signed in accordance with Part IV.H.1 of this permit, must be sent to the e-mail address in Part I.B.3. Electronic submittal of the NOT required in the permit using a compatible Integrated Compliance Information System (ICIS) format would be allowed if available.

B. NOTICE OF INTENT REQUIREMENTS

1. Deadlines for Notification.

- a. Designations: Small MS4s automatically designated under 40 CFR 122.32(a)(1), large MS4s located within the corporate boundary of the COA including the COA and former co-permittees under the NPDES permit No

NMS000101, and MS4s designated under 40 CFR 122.26(a)(1)(v), 40 CFR 122.26(a)(9)(i)(C) or (D), or 40 CFR 122.32(a)(2) are required to submit individual NOIs by the dates listed in Table 1. Any MS4 designated as needing a permit after issuance of this permit will be given an individualized deadline for NOI submittal by the Director at the time of designation.

In lieu of creating duplicate program elements for each individual permittee, implementation of the SWMP, as required in Part I.D, may be achieved through participation with other permittees, public agencies, or private entities in cooperative efforts to satisfy the requirements of Part D. For these programs with cooperative elements, the permittee may submit individual NOIs as established in Table 1. See also “Permittees with Cooperative Elements in their SWMP ” under Part.I.B.4 and “Shared Responsibilities and Cooperative Programs” under Part I.D.3.

Table 1 Deadlines to Submit NOI

Permittee Class Type	NOI Deadlines
Class A: MS4s within the Cooperate Boundary of the COA including former co-permittees under the NPDES permit No NMS000101	90 days from effective date of the permit or 180 days from effective date of the permit if participating in cooperative programs for one or more program elements.
Class B: MS4s designated under 40 CFR 122.32(a)(1). Based on 2000 Decennial Census Map	90 days from effective date of the permit or 180 days from effective date of the permit if participating in cooperative programs for one or more program elements.
Class C: MS4s designated under 40 CFR 122.26(a)(1)(v), 40 CFR 122.26(a)(9)(i)(C) or (D), or 40 CFR 122.32(a)(2) or MS4s newly designated under 122.32(a)(1) based on 2010 Decennial Census Map	180 days from effective date of the permit or notice of designation, unless the notice of designation grants a later date or; 180 days from effective date of the permit if participating in cooperative programs for one or more program elements.
Class D: MS4s within Indian Country Lands designed under 40 CFR 122.26(a)(1)(v), 122.26(a)(9)(i)(C) or (D), 122.32(a)(1), or 122.32(a)(2)	180 days from effective date of the permit or notice of designation, unless the notice of designation grants a later date or; 180 days from effective date of the permit if participating in cooperative programs for one or more program elements.

See Appendix A for list of potential permittees in the Middle Rio Grande Watershed

- b. New Operators. For new operators of all or a part of an already permitted MS4 (due to change on operator or expansion of the MS4) who will take over implementation of the existing SWMP covering those areas, the NOI must be submitted 30 days prior to taking over operational control of the MS4. Existing permittees who are expanding coverage of their MS4 area (e.g., city annexes part of unincorporated county MS4) are not required to submit a new NOI, but must comply with Part I.D.6.d.
- c. Submitting a Late NOI. MS4s not able to meet the NOI deadline in Table I and Part I.B.1.b due to delays in determining eligibility should notify EPA of the circumstance and progress to date at the address in Part I.B.3 and then proceed with a late NOI. MS4 operators are not prohibited from submitting an NOI after the dates provided in Table 1 and Part I.B.1.b. If a late NOI is submitted, the authorization is only for discharges that occur after permit coverage is effective. The permitting authority reserves the right to take appropriate enforcement actions for any unpermitted discharges.
- d. End of Administrative Continued Coverage under Previous Permit. Administrative continuance is triggered by a timely reapplication. Discharges submitting an NOI for coverage under this permit are considered to have met

the timely reapplication requirement if NOI is submitted by the deadlines included in Table 1 of Part I.B.1. For MS4s previously covered under either NMS000101 or NMR040000, continued coverage under those permits ends: a) the day after the applicable deadline for submittal of an NOI if a complete NOI has not been submitted or b) upon notice of authorization under this permit if a complete and timely NOI is submitted.

2. **Contents of Notice of Intent.** An MS4 operator eligible for coverage under this general permit must submit an NOI to discharge under this general permit. The NOI will consist of a letter to EPA containing the following information (see suggested EPA R6 MS4 NOI Format located in EPA website at <http://www.epa.gov/region6/water/npdes/sw/ms4/index.htm>) and must be signed in accordance with Part IV.H of this permit:
- a. The legal name of the MS4 operator and the name of the urbanized area and core municipality (or Indian reservation/pueblo) in which the operator's MS4 is located;
 - b. The full facility mailing address and telephone number;
 - c. The name and phone number of the person or persons responsible for overall coordination of the SWMP;
 - d. An attached location map showing the boundaries of the MS4 under the applicant's jurisdiction. The map must include streets or other demarcations so that the exact boundaries can be located;
 - e. The area of land served by the applicant's MS4 (in square miles);
 - f. The latitude and longitude of the approximate center of the MS4;
 - g. The name(s) of the waters of the United States that receive discharges from the system.
 - h. If the applicant is participating in a cooperative program element or is relying on another entity to satisfy one or more permit obligations (see Part I.D.3), identify the entity(ies) and the element(s) the entity(ies) will be implementing;
 - i. Information on each of the storm water minimum control measures in Part I.D.5 of this permit and how the SWMP will reduce pollutants in discharges to the Maximum Extent Practicable. For each minimum control measure, include the following:
 - (i) Description of the best management practices (BMPs) that will be implemented;
 - (ii) Measurable goals for each BMP; and
 - (iii) Time frames (i.e., month and year) for implementing each BMP;
 - j. Based on the requirements of Part I.A.3.b describe how the eligibility criteria for historic properties have been met;
 - k. Indicate whether or not the MS4 discharges to a receiving water for which EPA has approved or developed a TMDL. If so, describe how the eligibility requirements of Part I.A.5.f and Part I.C.2 have been met.

Note: If an individual permittee or a group of permittees seeks an alternative sub-measurable goal for TMDL controls under Part I.C.2.b.(i).(c).B, the permittee or a group of permittees must submit a preliminary proposal with the NOI. This proposal shall include, but is not limited to, the elements included in Appendix B under Section B.2.
 - l. Signature and certification by an appropriate official (see Part IV.H). The NOI must include the certification statement from Part IV.H.4.

3. **Where to Submit.** The MS4 operator must submit the signed NOI to EPA via e-mail at R6_MS4Permits@epa.gov (note: there is an underscore between R6 and MS4) and NMED to the address provided in Part III.D.4. See also Part III.D.4 to determine if a copy must be provided to a Tribal agency.

The following MS4 operators: AMAFCA, Sandoval County, Village of Corrales, City of Rio Rancho, Town of Bernalillo, SSCAFCA, and ESCAFCA must submit the signed NOI to the Pueblo of Sandia to the address provided in Part III.D.4.

Note: See suggested EPA R6 MS4 NOI Format located in EPA website at <http://www.epa.gov/region6/water/npdes/sw/ms4/index.htm>. A complete copy of the signed NOI should be maintained on site. Electronic submittal of the documents required in the permit using a compatible Integrated Compliance Information System (ICIS) format would be allowed if available.

4. **Permittees with Cooperative Elements in their SWMP.** Any MS4 that meets the requirements of Part I.A of this general permit may choose to partner with one or more other regulated MS4 to develop and implement a SWMP or SWMP element. The partnering MS4s must submit separate NOIs and have their own SWMP, which may incorporate jointly developed program elements. If responsibilities are being shared as provided in Part I.D.3 of this permit, the SWMP must describe which permittees are responsible for implementing which aspects of each of the minimum measures. All MS4 permittees are subject to the provisions in Part I.D.6.

Each individual MS4 in a joint agreement implementing a permit condition will be independently assessed for compliance with the terms of the joint agreement. Compliance with that individual MS4s obligations under the joint agreement will be deemed compliance with that permit condition. Should one or more individual MS4s fail to comply with the joint agreement, causing the joint agreement program to fail to meet the requirements of the permit, the obligation of all parties to the joint agreement is to develop within 30 days and implement within 90 days an alternative program to satisfy the terms of the permit.

C. SPECIAL CONDITIONS

1. **Compliance with Water Quality Standards.** Pursuant to Clean Water Act §402(p)(3)(B)(iii) and 40 CFR §122.44(d)(1), this permit includes provisions to ensure that discharges from the permittee's MS4 do not cause or contribute to exceedances of applicable surface water quality standards, in addition to requirements to control discharges to the maximum extent practicable (MEP) set forth in Part I.D. Permittees shall address stormwater management through development of the SWMP that shall include the following elements and specific requirements included in Part VI.
 - a. Permittee's discharges shall not cause or contribute to an exceedance of surface water quality standards (including numeric and narrative water quality criteria) applicable to the receiving waters. In determining whether the SWMP is effective in meeting this requirement or if enhancements to the plan are needed, the permittee shall consider available monitoring data, visual assessment, and site inspection reports.
 - b. Applicable surface water quality standards for discharges from the permittees' MS4 are those that are approved by EPA and any other subsequent modifications approved by EPA upon the effective date of this permit found at New Mexico Administrative Code §20.6.4. Discharges from various portions of the MS4 also flow downstream into waters with Pueblo of Isleta and Pueblo of Sandia Water Quality Standards;
 - c. The permittee shall notify EPA and the Pueblo of Isleta in writing as soon as practical but not later than thirty (30) calendar days following each Pueblo of Isleta water quality standard exceedance at an in-stream sampling location. In the event that EPA determines that a discharge from the MS4 causes or contributes to an exceedance of applicable surface water quality standards and notifies the permittee of such an exceedance, the permittee shall, within sixty (60) days of notification, submit to EPA, NMED, Pueblo of Isleta (upon request) and Pueblo of Sandia (upon request), a report that describes controls that are currently being implemented and additional controls that will be implemented to prevent pollutants sufficient to ensure that the discharge will no longer cause or contribute to an exceedance of applicable surface water quality standards. The permittee shall implement such additional controls upon notification by EPA and shall incorporate such measures into their SWMP as described in Part I.D of this permit. NMED or the affected Tribe may provide information

documenting exceedances of applicable water quality standards caused or contributed to by the discharges authorized by this permit to EPA Region 6 and request EPA take action under this paragraph.

- d. Phase I Dissolved Oxygen Program (Applicable only to the COA and AMAFCA as a continuation of program in 2012 NMS000101 individual permit): Within one year from effective date of the permit, the permittees shall revise the May 1, 2012 Strategy to continue taking measures to address concerns regarding discharges to the Rio Grande by implementing controls to eliminate conditions that cause or contribute to exceedances of applicable dissolved oxygen water quality standards in waters of the United States. The permittees shall:
- (i) Continue identifying structural elements, natural or man-made topographical and geographical formations, MS4 operations activities, or oxygen demanding pollutants contributing to reduced dissolved oxygen in the receiving waters of the Rio Grande. Both dry and wet weather discharges shall be addressed. Assessment may be made using available data or collecting additional data;
 - (ii) Continue implementing controls, and updating/revising as necessary, to eliminate structural elements or the discharge of pollutants at levels that cause or contribute to exceedances of applicable water quality standards for dissolved oxygen in waters of the United States;
 - (iii) To verify the remedial action in the North Diversion Channel Embayment, the COA and AMAFCA shall continue sampling for DO and temperature until the data indicate the discharge does not exceed applicable dissolved oxygen water quality standards in waters of the United States; and
 - (iv) Submit a revised strategy to FWS for consultation and EPA for approval from a year of effective date of the permit and progress reports with the subsequent Annual Reports. Progress reports to include:
 - (a) Summary of data.
 - (b) Activities undertaken to identify MS4 discharge contribution to exceedances of applicable dissolved oxygen water quality standards in waters of the United States. Including summary of findings of the assessment required in Part I.C.1.d.(i).
 - (c) Conclusions drawn, including support for any determinations.
 - (d) Activities undertaken to eliminate MS4 discharge contribution to exceedances of applicable dissolved oxygen water quality standards in waters of the United States.
 - (e) Account of stakeholder involvement.
- e. PCBs (Applicable only to the COA and AMAFCA as a continuation of program in 2012 NMS000101 individual permit and Bernalillo County): The permittee shall address concerns regarding PCBs in channel drainage areas specified in Part I.C.1.e.(vi) by developing or continue updating/revising and implementing a strategy to identify and eliminate controllable sources of PCBs that cause or contribute to exceedances of applicable water quality standards in waters of the United States. Bernalillo County shall submit the proposed PCB strategy to EPA within two (2) years from the effective date of the permit and submit a progress report with the third and with subsequent Annual Reports. COA and AMAFCA shall submit a progress report with the first and with the subsequent Annual Reports. The progress reports shall include:
- (i) Summary of data.
 - (ii) Findings regarding controllable sources of PCBs in the channel drainages area specified in Part I.C.1.e.(vi) that cause or contribute to exceedances of applicable water quality standards in waters of the United States via the discharge of municipal stormwater.
 - (iii) Conclusions drawn, including supporting information for any determinations.

(iv) Activities undertaken to eliminate controllable sources of PCBs in the drainage areas specified in Part I.C.1.e.(vi) that cause or contribute to exceedances of applicable water quality standards in waters of the United States via the discharge of municipal stormwater including proposed activities that extend beyond the five (5) year permit term.

(v) Account of stakeholder involvement in the process.

(vi) Channel Drainage Areas: The PCB strategy required in Part I.C.1.e is only applicable to:

COA and AMAFCA Channel Drainage Areas:

- San Jose Drain
- North Diversion Channel

Bernalillo County Channel Drainage Areas:

- Adobe Acres Drain
- Alameda Outfall Channel
- Paseo del Norte Outfall Channel
- Sanchez Farm Drainage Area

A cooperative strategy to address PCBs in the COA, AMAFCA and Bernalillo County's drainage areas may be developed between Bernalillo County, AMAFCA, and the COA. If a cooperative strategy is developed, the cooperative strategy shall be submitted to EPA within three (3) years from the effective date of the permit and submit a progress report with the fourth and with subsequent Annual Reports,

Note: COA and AMAFCA must continue implementing the existing PCB strategy until a new Cooperative PCB Strategy is submitted to EPA.

- f. Temperature (Applicable only to the COA and AMAFCA as a continuation of program in 2012 NMS000101 individual permit): The permittees must continue assessing the potential effect of stormwater discharges in the Rio Grande by collecting and evaluating additional data. If the data indicates there is a potential of stormwater discharges contributing to exceedances of applicable temperature water quality standards in waters of the United States, within thirty (30) days such as findings, the permittees must develop and implement a strategy to eliminate conditions that cause or contribute to these exceedances. The strategy must include:
- (i) Identify structural controls, post construction design standards, or pollutants contributing to raised temperatures in the receiving waters of the Rio Grande. Both dry and wet weather discharges shall be addressed. Assessment may be made using available data or collecting additional data;
 - (ii) Develop and implement controls to eliminate structural controls, post construction design standards, or the discharge of pollutants at levels that cause or contribute to exceedances of applicable water quality standards for temperature in waters of the United States; and
 - (iii) Provide a progress report with the first and with subsequent Annual Reports. The progress reports shall include:
 - (a) Summary of data.
 - (b) Activities undertaken to identify MS4 discharge contribution to exceedances of applicable temperature water quality standards in waters of the United States.
 - (c) Conclusions drawn, including supporting information for any determinations.
 - (d) Activities undertaken to reduce MS4 discharge contribution to exceedances of applicable temperature water quality standards in waters of the United States.
 - (e) Accounting of stakeholder involvement.

2. **Discharges to Impaired Waters with and without approved TMDLs.** Impaired waters are those that have been identified pursuant to Section 303(d) of the Clean Water Act as not meeting applicable surface water quality standards. This may include both waters with EPA-approved Total Maximum Daily Loads (TMDLs) and those for which a TMDL has not yet been approved. For the purposes of this permit, the conditions for discharges to impaired waters also extend to controlling pollutants in MS4 discharges to tributaries to the listed impaired waters in the Middle Rio Grande watershed boundary identified in Appendix A.
 - a. Discharges of pollutant(s) of concern to impaired water bodies for which there is an EPA approved total maximum daily load (TMDL) are not eligible for this general permit unless they are consistent with the approved TMDL. A water body is considered impaired for the purposes of this permit if it has been identified, pursuant to the latest EPA approved CWA §303(d) list, as not meeting New Mexico Surface Water Quality Standards.
 - b. The permittee shall control the discharges of pollutant(s) of concern to impaired waters and waters with approved TMDLs as provided in sections (i) and (ii) below, and shall assess the success in controlling those pollutants.
 - (i) **Discharges to Water Quality Impaired Water Bodies with an Approved TMDL**

If the permittee discharges to an impaired water body with an approved TMDL (see Appendix B), where stormwater has the potential to cause or contribute to the impairment, the permittee shall include in the SWMP controls targeting the pollutant(s) of concern along with any additional or modified controls required in the TMDL and this section. The SWMP and required annual reports must include information on implementing any focused controls required to reduce the pollutant(s) of concern as described below:

 - (a) Targeted Controls: The SWMP submitted with the first annual report must include a detailed description of all targeted controls to be implemented, such as identifying areas of focused effort or implementing additional Best Management Practices (BMPs) that will be implemented to reduce the pollutant(s) of concern in the impaired waters.
 - (b) Measurable Goals: For each targeted control, the SWMP must include a measurable goal and an implementation schedule describing BMPs to be implemented during each year of the permit term. Where the impairment is for bacteria, the permittee must, at minimum comply with the activities and schedules described in Table 1.a of Part I.C.2.(iii).
 - (c) Identification of Measurable Goal: The SWMP must identify a measurable goal for the pollutant(s) of concern. The value of the measurable goal must be based on one of the following options:
 - A. If the permittee is subject to a TMDL that identifies an aggregate Waste Load Allocation (WLA) for all or a class of permitted MS4 stormwater sources, then the SWMP may identify such WLA as the measurable goal. Where an aggregate WLA measurable goal is used, all affected MS4 operators are jointly responsible for progress in meeting the measurable goal and shall (jointly or individually) develop a monitoring/assessment plan. This program element may be coordinated with the monitoring required in Part III.A.
 - B. Alternatively, if multiple permittees are discharging into the same impaired water body with an approved TMDL (which has an aggregate WLA for all permitted stormwater MS4s), the MS4s may combine or share efforts, in consultation with/and the approval of NMED, to determine an alternative sub-measurable goal derived from the WLA for the pollutant(s) of concern (e.g., bacteria) for their respective MS4. The SWMP must clearly define this alternative approach and must describe how the sub-measurable goals would cumulatively support the aggregate WLA. Where an aggregate WLA measurable goal has been broken into sub-measurable goals for individual MS4s, each permittee is only responsible for progress in meeting its WLA sub-measurable goal.

- C. If the permittee is subject to an individual WLA specifically assigned to that permittee, the measurable goal must be the assigned WLA. Where WLAs have been individually assigned, or where the permittee is the only regulated MS4 within the urbanized area that is discharging into the impaired watershed with an approved TMDL, the permittee is only responsible for progress in meeting its WLA measurable goal.
- (d) Annual Report: The annual report must include an analysis of how the selected BMPs have been effective in contributing to achieving the measurable goal and shall include graphic representation of pollutant trends, along with computations of annual percent reductions achieved from the baseline loads and comparisons with the target loads.
- (e) Impairment for Bacteria: If the pollutant of concern is bacteria, the permittee shall include focused BMPs addressing the five areas below, as applicable, in the SWMP and implement as appropriate. If a TMDL Implementation Plan (a plan created by the State or a Tribe) is available, the permittee may refer to the TMDL Implementation Plan for appropriate BMPs. The SWMP and annual report must include justification for not implementing a particular BMP included in the TMDL Implementation Plan. The permittee may not exclude BMPs associated with the minimum control measures required under 40 CFR §122.34 from their list of proposed BMPs. The BMPs shall, as appropriate, address the following:
- A. Sanitary Sewer Systems
 - Make improvements to sanitary sewers;
 - Address lift station inadequacies;
 - Identify and implement operation and maintenance procedures;
 - Improve reporting of violations; and
 - Strengthen controls designed to prevent over flows
 - B. On-site Sewage Facilities (for entities with appropriate jurisdiction)
 - Identify and address failing systems; and
 - Address inadequate maintenance of On-Site Sewage Facilities (OSSFs).
 - C. Illicit Discharges and Dumping
 - Place additional effort to reduce waste sources of bacteria; for example, from septic systems, grease traps, and grit traps.
 - D. Animal Sources
 - Expand existing management programs to identify and target animal sources such as zoos, pet waste, and horse stables.
 - E. Residential Education: Increase focus to educate residents on:
 - Bacteria discharging from a residential site either during runoff events or directly;
 - Fats, oils, and grease clogging sanitary sewer lines and resulting overflows;
 - Decorative ponds; and
 - Pet waste.
- (f) Monitoring or Assessment of Progress: The permittee shall monitor or assess progress in achieving measurable goals and determining the effectiveness of BMPs, and shall include documentation of this monitoring or assessment in the SWMP and annual reports. In addition, the SWMP must include methods to be used. This program element may be coordinated with the monitoring required in Part III.A. The permittee may use the following methods either individually or in conjunction to evaluate progress towards the measurable goal and improvements in water quality as follows:
- A. Evaluating Program Implementation Measures: The permittee may evaluate and report progress towards the measurable goal by describing the activities and BMPs implemented, by identifying the appropriateness of the identified BMPs, and by evaluating the success of implementing the measurable goals. The permittee may assess progress by using program implementation indicators

such as: (1) number of sources identified or eliminated; (2) decrease in number of illegal dumping; (3) increase in illegal dumping reporting; (4) number of educational opportunities conducted; (5) reductions in SSOs; or, 6) increase in illegal discharge detection through dry screening, etc.; and

- B. **Assessing Improvements in Water Quality:** The permittee may assess improvements in water quality by using available data for segment and assessment units of water bodies from other reliable sources, or by proposing and justifying a different approach such as collecting additional instream or outfall monitoring data, etc. Data may be acquired from NMED, local river authorities, partnerships, and/or other local efforts as appropriate. Progress towards achieving the measurable goal shall be reported in the annual report. Annual reports shall report the measurable goal and the year(s) during the permit term that the MS4 conducted additional sampling or other assessment activities.
- (g) **Observing no Progress towards the Measurable Goal:** If, by the end of the third year from the effective date of the permit, the permittee observes no progress toward the measurable goal either from program implementation or water quality assessments, the permittee shall identify alternative focused BMPs that address new or increased efforts towards the measurable goal. As appropriate, the MS4 may develop a new approach to identify the most significant sources of the pollutant(s) of concern and shall develop alternative focused BMPs (this may also include information that identifies issues beyond the MS4's control). These revised BMPs must be included in the SWMP and subsequent annual reports.

Where the permittee originally used a measurable goal based on an aggregated WLA, the permittee may combine or share efforts with other MS4s discharging to the same impaired stream segment to determine an alternative sub-measurable goal for the pollutant(s) of concern for their respective MS4s, as described in Part I.C.2.b.(i).(c).B above. Permittees must document, in their SWMP for the next permit term, the proposed schedule for the development and subsequent adoption of alternative sub-measurable goals for the pollutant(s) of concern for their respective MS4s and associated assessment of progress in meeting those individual goals.

- (ii) Discharges Directly to Water Quality Impaired Water Bodies without an Approved TMDL:
The permittee shall also determine whether the permitted discharge is directly to one or more water quality impaired water bodies where a TMDL has not yet been approved by NMED and EPA. If the permittee discharges directly into an impaired water body without an approved TMDL, the permittee shall perform the following activities:

- (a) **Discharging a Pollutant of Concern:** The permittee shall:
- A. Determine whether the MS4 may be a source of the pollutant(s) of concern by referring to the CWA §303(d) list and then determining if discharges from the MS4 would be likely to contain the pollutant(s) of concern at levels of concern. The evaluation of CWA §303(d) list parameters should be carried out based on an analysis of existing data (e.g., Illicit Discharge and Improper Disposal Program) conducted within the permittee's jurisdiction.
 - B. Ensure that the SWMP includes focused BMPs, along with corresponding measurable goals, that the permittee will implement, to reduce, the discharge of pollutant(s) of concern that contribute to the impairment of the water body. (note: Only applicable if the permittee determines that the MS4 may discharge the pollutant(s) of concern to an impaired water body without a TMDL. The SWMP submitted with the first annual report must include a detailed description of proposed controls to be implemented along with corresponding measurable goals.
 - C. Amend the SWMP to include any additional BMPs to address the pollutant(s) of concern.
- (b) **Impairment for Bacteria:** Where the impairment is for bacteria, the permittee shall identify potential significant sources and develop and implement targeted BMPs to control bacteria from those sources (see Part I.C.2.b.(i).(e).A through E.. The permittee must, at minimum comply with the activities and

schedules described in Table 1.a of Part I.C.2.(iii). The annual report must include information on compliance with this section, including results of any sampling conducted by the permittee.

Note: Probable pollutant sources identified by permittees should be submitted to NMED on the following form: <ftp://ftp.nmenv.state.nm.us/www/swqb/Surveys/PublicProbableSourceIDSurvey.pdf>

- (c) Impairment for Nutrients: Where the impairment is for nutrients (e.g., nitrogen or phosphorus), the permittee shall identify potential significant sources and develop and implement targeted BMPs to control nutrients from potential sources. The permittee must, at minimum comply with the activities and schedules described in Table 1.b of Part I.C.2, (iii). The annual report must include information on compliance with this section, including results of any sampling conducted by the permittee.
- (d) Impairment for Dissolved Oxygen: See Endangered Species Act (ESA) Requirements in Part I.C.3. These program elements may be coordinated with the monitoring required in Part III.A.
- (iii) Program Development and Implementation Schedules: Where the impairment is for nutrient constituent (e.g., nitrogen or phosphorus) or bacteria, the permittee must at minimum comply with the activities and schedules in Table 1.a and Table 1.b.

Table 1.a. Pre-TMDL Bacteria Program Development and Implementation Schedules

Activity	Class Permittee				
	A Phase I MS4s	B Phase II MS4s (2000 Census)	C New Phase II MS4s (2010 Census **)	D MS4s within Indian Lands	Cooperative (*) Any Permittee with cooperative programs
Identify potential significant sources of the pollutant of concern entering your MS4	Ten (10) months from effective date of permit	Ten (10) months from effective date of permit	One (1) year from effective date of permit	One (1) year from effective date of permit	Sixteen (16) months from effective date of permit
Develop (or modify an existing program ***) and implement a public education program to reduce the discharge of bacteria in municipal storm water contributed by (if applicable) by pets, recreational and exhibition livestock, and zoos.	Twelve (12) months from effective date of permit	Twelve (12) months from effective date of permit	Fourteen (14) months from effective date of permit	Fourteen (14) months from effective date of permit	Sixteen (16) months from effective date of permit
Develop (or modify an existing program ***) and implement a program to reduce the discharge of bacteria in municipal storm water contributed by areas within your MS4 served by on-site wastewater treatment systems.	Fourteen (14) months from effective date of permit	Fourteen (14) months from effective date of permit	Sixteen (16) months from effective date of permit	Sixteen (16) months from effective date of permit	Eighteen (18) months from effective date of permit
Review results to date from the Illicit Discharge Detection and Elimination program (see Part I.D.5.e) and modify as necessary to prioritize the detection and elimination of discharges contributing bacteria to the MS4	Fourteen (14) months from effective date of permit	Fourteen (14) months from effective date of permit	Sixteen (16) months from effective date of permit	Sixteen (16) months from effective date of permit	Eighteen (18) months from effective date of permit

Develop (or modify an existing program ***) and implement a program to reduce the discharge of bacteria in municipal storm water contributed by other significant source identified in the Illicit Discharge Detection and Elimination program (see Part I.D.5.e)	Sixteen (16) months from effective date of permit	Sixteen (16) months from effective date of permit	Eighteen (18) months from effective date of permit	Eighteen (18) months from effective date of permit	Twenty (20) months from effective date of permit
Include in the Annual Reports progress on program implementation and reducing the bacteria and updates their measurable goals as necessary	Update as necessary	Update as necessary	Update as necessary	Update as necessary	Update as necessary

(*) During development of cooperative programs, the permittee must continue to implement existing programs

(**) or MS4s designated by the Director

(***) Permittees previously covered under permit NMS000101 or NMR040000

Note: The deadlines established in this table may be extended by the Director for any MS4 designated as needing a permit after issuance of this permit to accommodate expected date of permit coverage.

Table 1.b. Pre-TMDL Nutrient Program Development and Implementation Schedules

Activity	Class Permittee				
	A Phase I MS4s	B Phase II MS4s (2000 Census)	C New Phase II MS4s (2010 Census **)	D MS4s within Indian Lands	Cooperative (*) Any Permittee with cooperative programs
Identify potential significant sources of the pollutant of concern entering your MS4	Ten (10) months from effective date of permit	Ten (10) months from effective date of permit	One (1) year from effective date of permit	One (1) year from effective date of permit	Sixteen (16) months from effective date of permit
Develop (or modify an existing program ***) and implement a public education program to reduce the discharge of pollutant of concern in municipal storm water contributed by residential and commercial use of fertilizer	Ten (10) months from effective date of permit	Ten (10) months from effective date of permit	One (1) year from effective date of permit	One (1) year from effective date of permit	Sixteen (16) months from effective date of permit
Develop (or modify an existing program ***) and implement a program to reduce the discharge of the pollutant of concern in municipal storm water contributed by fertilizer use at municipal operations (e.g., parks, roadways, municipal facilities)	One (1) year from effective date of permit	One (1) year from effective date of permit	Sixteen (16) months from effective date of permit	Sixteen (16) months from effective date of permit	Eighteen (18) months from effective date of permit

Develop (or modify an existing program ***) and implement a program to reduce the discharge of the pollutant of concern in municipal storm water contributed by municipal and private golf courses within your jurisdiction	One (1) year from effective date of permit	One (1) year from effective date of permit	Sixteen (16) months from effective date of permit	Sixteen (16) months from effective date of permit	Eighteen (18) months from effective date of permit
Develop (or modify an existing program ***) and implement a program to reduce the discharge of the pollutant of concern in municipal storm water contributed by other significant source identified in the Illicit Discharge Detection and Elimination program (see Part I.D.5.e)	One (1) year from effective date of permit	One (1) year from effective date of permit	Sixteen (16) months from effective date of permit	Sixteen (16) months from effective date of permit	Eighteen (18) months from effective date of permit
Include in the Annual Reports progress on program implementation and reducing the nutrient pollutant of concern and updates their measurable goals	Update as necessary	Update as necessary	Update as necessary	Update as necessary	Update as necessary

(*) During development of cooperative programs, the permittee must continue to implement existing programs

(**) or MS4s designated by the Director

(***) Permittees previously covered under permit NMS000101 or NMR040000

Note: The deadlines established in this table may be extended by the Director for any MS4 designated as needing a permit after issuance of this permit to accommodate expected date of permit coverage.

These program elements may be coordinated with the monitoring required in Part III.A.

3. **Endangered Species Act (ESA) Requirements.** Consistent with U.S. FWS Biological Opinion dated August 21, 2014 to ensure actions required by this permit are not likely to jeopardize the continued existence of any currently listed as endangered or threatened species or adversely affect its critical habitat, permittees shall meet the following requirements and include them in the SWMP:

a. **Dissolved Oxygen Strategy in the Receiving Waters of the Rio Grande:**

- (i) The permittees must identify (or continue identifying if previously covered under permit NMS000101) structural controls, natural or man-made topographical and geographical formations, MS4 operations, or oxygen demanding pollutants contributing to reduced dissolved oxygen in the receiving waters of the Rio Grande. The permittees shall implement controls, and update/revise as necessary, to eliminate discharge of pollutants at levels that cause or contribute to exceedances of applicable water quality standards for dissolved oxygen in waters of the Rio Grande. The permittees shall submit a summary of findings and a summary of activities undertaken under Part I.C.3.a.(i) with each Annual Report. The SWMP submitted with the first and fourth annual reports must include a detailed description of controls implemented (or/and proposed control to be implemented) along with corresponding measurable goals. (Applicable to all permittees).
- (ii) As required in Part I.C.1.d, the COA and AMAFCA shall revise the May 1, 2012 Strategy for dissolved oxygen to address dissolved oxygen at the North Diversion Channel Embayment and/or other MS4 locations. The permittees shall submit the revised strategy to FWS and EPA for approval within a year of permit issuance and progress reports with the subsequent Annual Reports (see also Part I.C.1.d.(iv)). The permittees shall ensure that actions to reduce pollutants or remedial activities selected for the North Diversion Channel Embayment and its watershed are implemented such that there is a reduction in

frequency and magnitude of all low oxygen storm water discharge events that occur in the Embayment or downstream in the MRG as indicated in Table 1.c. Actions to meet the year 3 measurable goals must be taken within 2 years from the effective date of the permit. Actions to meet the year 5 measurable goals must be taken within 4 years from the effective date of the permit.

Table 1.c Measurable Goals of Anoxic and Hypoxia Levels Measured by Permit Year

<i>Permit Year</i>	<i>Anoxic Events*, max</i>	<i>Hypoxic Events**, max</i>
<i>Year 1</i>	<i>18</i>	<i>36</i>
<i>Year 2</i>	<i>18</i>	<i>36</i>
<i>Year 3</i>	<i>9</i>	<i>18</i>
<i>Year 4</i>	<i>9</i>	<i>18</i>
<i>Year 5</i>	<i>4</i>	<i>9</i>

Notes:

- * Anoxic Events: See Appendix G, for oxygen saturation and dissolved oxygen concentrations at various water temperatures and atmospheric pressures for the North Diversion Channel area that are considered anoxic and associated with the Rio Grande Silvery minnow lethality.
- ** Hypoxic Events: See Appendix for G, for oxygen saturation and dissolved oxygen concentrations at various water temperatures and atmospheric pressures for the North Diversion Channel area that are considered hypoxic and associated with the Rio Grande silvery minnow harassment.

(a) The revised strategy shall include:

- A. A Monitoring Plan describing all procedures necessary to continue conducting continuous monitoring of dissolved oxygen (DO) and temperature in the North Diversion Channel Embayment and at one (1) location in the Rio Grande downstream of the mouth of the North Diversion Channel within the action area (e.g., Central Bridge). The monitoring plan to be developed will describe the methodology used to assure its quality, and will identify the means necessary to address any gaps that occur during monitoring, in a timely manner (that is, within 24 to 48 hours).
- B. A Quality Assurance and Quality Control (QA/QC) Plan describing all standard operating procedures, quality assurance and quality control plans, maintenance, and implementation schedules that will assure timely and accurate collection and reporting of water temperature, dissolved oxygen, oxygen saturation, and flow. The QA/QC plan should include all procedures for estimating oxygen data when any oxygen monitoring equipment fail. Until a monitoring plan with quality assurance and quality control is submitted by EPA, any data, including any provisional or incomplete data from the most recent measurement period (e.g. if inoperative monitoring equipment for one day, use data from previous day) shall be used as substitutes for all values in the calculations for determinations of incidental takes. Given the nature of the data collected as surrogate for incidental take, all data, even provisional data (e.g., oxygen/water temperature data, associated metadata such as flows, date, times), shall be provided to the Service in a spreadsheet or database format within two weeks after formal request.

(b) Reporting: The COA and AMAFCA shall provide

- A. An Annual Incidental Take Report to EPA and the Service that includes the following information: beginning and end date of any qualifying stormwater events, dissolved oxygen values and water temperature in the North Diversion Channel Embayment, dissolved oxygen values and water temperature at a downstream monitoring station in the MRG, flow rate in the North Diversion Channel, mean daily flow rate in the MRG, evaluation of oxygen and temperature data

as either anoxic or hypoxic using Table 2 of the BO, and estimate the number of silvery minnows taken based on Appendix A of the BO. Electronic copy of The Annual Incidental Take Report should be provided with the Annual Report required under Part III.B no later than December 1 for the proceeding calendar year.

- B. A summary of data and findings with each Annual Report to EPA and the Service. All data collected (including provisional oxygen and water temperature data, and associated metadata), transferred, stored, summarized, and evaluated shall be included in the Annual Report. If additional data is requested by EPA or the Service, The COA and AMAFCA shall provide such as information within two weeks upon request,

The revised strategy required under Part I.C.3.a.(ii), the Annual Incidental Take Reports required under Part I.C.3.a.(ii).(b).A, and Annual Reports required under Part III.B can be submitted to FWS via e-mail nmesfo@fws.gov and joel_lusk@fws.gov, or by mail to the New Mexico Ecological Services field office, 2105 Osuna Road NE, Albuquerque, New Mexico 87113. (Only Applicable to the COA and AMAFCA)

- b. Sediment Pollutant Load Reduction Strategy (Applicable to all permittees): The permittee must develop, implement, and evaluate a sediment pollutant load reduction strategy to assess and reduce pollutant loads associated with sediment (e.g., metals, etc. adsorbed to or traveling with sediment, as opposed to clean sediment) into the receiving waters of the Rio Grande. The strategy must include the following elements:
- (i) Sediment Assessment: The permittee must identify and investigate areas within its jurisdiction that may be contributing excessive levels (e.g., levels that may contribute to exceedance of applicable Water Quality Standards) of pollutants in sediments to the receiving waters of the Rio Grande as a result of stormwater discharges. The permittee must identify structural elements, natural or man-made topographical and geographical formations, MS4 operations activities, and areas indicated as potential sources of sediment pollutants in the receiving waters of the Rio Grande. At the time of assessment, the permittee shall record any observed erosion of soil or sediment along ephemeral channels, arroyos, or stream banks, noting the scouring or sedimentation in streams. The assessment should be made using available data from federal, state, or local studies supplemented as necessary with collection of additional data. The permittee must describe, in the first annual report, all standard operating procedures, quality assurance plans to assure that accurate data are collected, summarized, evaluated and reported.
 - (ii) Estimate Baseline Loading: Based on the results of the sediment pollutants assessment required in Part I.C.3.b.(i) above the permittee must provide estimates of baseline total sediment loading and relative potential for contamination of those sediments by urban activities for drainage areas, sub-watersheds, Impervious Areas (IAs), and/or Directly Connected Impervious Area (DCIAs) draining directly to a surface waterbody or other feature used to convey waters of the United States. Sediment loads may be provided for targeted areas in the entire Middle Rio Grande Watershed (see Appendix A) using an individual or cooperative approach. Any data available and/or preliminary numeric modeling results may be used in estimating loads.
 - (iii) Targeted Controls: Include a detailed description of all proposed targeted controls and BMPs that will be implemented to reduce sediment pollutant loads calculated in Part I.C.3.b.(ii) above during the next ten (10) years of permit issuance. For each targeted control, the permittee must include interim measurable goals (e.g., interim sediment pollutant load reductions) and an implementation and maintenance schedule, including interim milestones, for each control measure, and as appropriate, the months and years in which the MS4 will undertake the required actions. Any data available and/or preliminary numeric modeling results may be used in establishing the targeted controls, BMPs, and interim measurable goals. The permittee must prioritize pollutant load reduction efforts and target areas (e.g. drainage areas, sub-watersheds, IAs, DCIAs) that generate the highest annual average pollutant loads.
 - (iv) Monitoring and Interim Reporting: The permittee shall monitor or assess progress in achieving interim measurable goals and determining the effectiveness of BMPs, and shall include documentation of this

monitoring or assessment in the SWMP and annual reports. In addition, the SWMP must include methods to be used. This program element may be coordinated with the monitoring required in Part III.A.

- (v) Progress Evaluation and Reporting: The permittee must assess the overall success of the Sediment Pollutant Load Reduction Strategy and document both direct and indirect measurements of program effectiveness in a Progress Report to be submitted with the fifth Annual Report. Data must be analyzed, interpreted, and reported so that results can be applied to such purposes as documenting effectiveness of the BMPs and compliance with the ESA requirements specified in Part I.C.3.b. The Progress Report must include:
- (a) A list of species likely to be within the action area;
 - (b) Type and number of structural BMPs installed;
 - (c) Evaluation of pollutant source reduction efforts;
 - (d) Any recommendation based on program evaluation;
 - (e) Description of how the interim sediment load reduction goals established in Part I.C.3.b.(iii) were achieved; and
 - (f) Future planning activities needed to achieve increase of sediment load reduction required in Part I.C.3.d.(iii).

(vi) Critical Habitat (Applicable to all permittees): Verify that the installation of stormwater BMPs will not occur in or adversely affect currently listed endangered or threatened species critical habitat by reviewing the activities and locations of stormwater BMP installation within the location of critical habitat of currently listed endangered or threatened species at the U.S. Fish and Wildlife service website <http://criticalhabitat.fws.gov/crithab/>.

D. STORMWATER MANAGEMENT PROGRAM (SWMP)

1. **General Requirements.** The permittee must develop, implement, and enforce a SWMP designed to reduce the discharge of pollutants from a MS4 to the maximum extent practicable (MEP), to protect water quality (including that of downstream state or tribal waters), and to satisfy applicable surface water quality standards. The permittees shall continue implementation of existing SWMPs, and where necessary modify or revise existing elements and/or develop new elements to comply with all discharges from the MS4 authorized in Part I.A. The updated SWMP shall satisfy all requirements of this permit, and be implemented in accordance with Section 402(p)(3)(B) of the Clean Water Act (Act), and the Stormwater Regulations (40 CFR §122.26 and §122.34). This permit does not extend any compliance deadlines set forth in the previous permits (NMS000101 with effective date March 1, 2012 and permits No: NM NMR040000 and NMR04000I with effective date July 1, 2007).

If a permittee is already in compliance with one or more requirements in this section because it is already subject to and complying with a related local, state, or federal requirement that is at least as stringent as this permit's requirement, the permittee may reference the relevant requirement as part of the SWMP and document why this permit's requirement has been satisfied. Where this permit has additional conditions that apply, above and beyond what is required by the related local, state, or federal requirement, the permittee is still responsible for complying with these additional conditions in this permit.

2. **Legal Authority.** Each permittee shall implement the legal authority granted by the State or Tribal Government to control discharges to and from those portions of the MS4 over which it has jurisdiction. The difference in each co-permittee's jurisdiction and legal authorities, especially with respect to third parties, may be taken into account in developing the scope of program elements and necessary agreements (i.e. Joint Powers Agreement, Memorandum of Agreement, Memorandum of Understanding, etc.). Permittees may use a combination of statute, ordinance, permit, contract, order, interagency or inter-jurisdictional agreement(s) with other permittees to:

- a. Control the contribution of pollutants to the MS4 by stormwater discharges associated with industrial activity and the quality of stormwater discharged from sites of industrial activity (applicable only to MS4s located within the corporate boundary of the COA);
- b. Control the discharge of stormwater and pollutants associated with land disturbance and development activities, both during the construction phase and after site stabilization has been achieved (post-construction), consistent with Part I.D.5.a and Part I.D.5.b;
- c. Prohibit illicit discharges and sanitary sewer overflows to the MS4 and require removal of such discharges consistent with Part I.D.5.c;
- d. Control the discharge of spills and prohibit the dumping or disposal of materials other than stormwater (e.g. industrial and commercial wastes, trash, used motor vehicle fluids, leaf litter, grass clippings, animal wastes, etc.) into the MS4;
- e. Control, through interagency or inter-jurisdictional agreements among permittees, the contribution of pollutants from one (1) portion of the MS4 to another;
- f. Require compliance with conditions in ordinances, permits, contracts and/or orders; and
- g. Carry out all inspection, surveillance and monitoring procedures necessary to maintain compliance with permit conditions.

3. **Shared Responsibility and Cooperative Programs.**

- a. The SWMP, in addition to any interagency or inter-jurisdictional agreement(s) among permittees, (e.g., the Joint Powers Agreement to be entered into by the permittees), shall clearly identify the roles and responsibilities of each permittee.
- b. Implementation of the SWMP may be achieved through participation with other permittees, public agencies, or private entities in cooperative efforts to satisfy the requirements of Part I.D in lieu of creating duplicate program elements for each individual permittee.
 - (i) Implementation of one or more of the control measures may be shared with another entity, or the entity may fully take over the measure. A permittee may rely on another entity only if:
 - (a) the other entity, in fact, implements the control measure;
 - (b) the control measure, or component of that measure, is at least as stringent as the corresponding permit requirement; or,
 - (c) the other entity agrees to implement the control measure on the permittee's behalf. Written acceptance of this obligation is expected. The permittee must maintain this obligation as part of the SWMP description. If the other entity agrees to report on the minimum measure, the permittee must supply the other entity with the reporting requirements in Part III.D of this permit. The permittee remains responsible for compliance with the permit obligations if the other entity fails to implement the control measure component.
- c. Each permittee shall provide adequate finance, staff, equipment, and support capabilities to fully implement its SWMP and all requirements of this permit.

4. **Measurable Goals.** The permittees shall control the discharge of pollutants from its MS4. The permittee shall implement the provisions set forth in Part I.D.5 below, and shall at a minimum incorporate into the SWMP the control measures listed in Part I.D.5 below. The SWMP shall include measurable goals, including interim milestones, for each control measure, and as appropriate, the months and years in which the MS4 will undertake the required actions and the frequency of the action.

5. **Control Measures.**

a. **Construction Site Stormwater Runoff Control.**

- (i) The permittee shall develop, revise, implement, and enforce a program to reduce pollutants in any stormwater runoff to the MS4 from construction activities that result in a land disturbance of greater than or equal to one acre. Reduction of stormwater discharges from construction activity disturbing less than one acre must be included in the program if that construction activity is part of a larger common plan of development or sale that would disturb one acre or more. **Permittees previously covered under permit NMS000101 or NMR040000 must continue existing programs, updating as necessary, to comply with the requirements of this permit.** (Note: Highway Departments and Flood Control Authorities may only apply the construction site stormwater management program to the permittees's own construction projects)
- (ii) The program must include the development, implementation, and enforcement of, at a minimum:
 - (a) An ordinance or other regulatory mechanism to require erosion and sediment controls, as well as sanctions to ensure compliance, to the extent allowable under State, Tribal or local law;
 - (b) Requirements for construction site operators to implement appropriate erosion and sediment control best management practices (both structural and non-structural);
 - (c) Requirements for construction site operators to control waste such as, but not limited to, discarded building materials, concrete truck washout, chemicals, litter, and sanitary waste at the construction site that may cause adverse impacts to water quality (see EPA guidance at <http://cfpub.epa.gov/npdes/stormwater/menuofbmps/index.cfm?action=browse&Rbutton=detail&bmp=117>);
 - (d) Procedures for site plan review which incorporate consideration of potential water quality impacts. The site plan review must be conducted prior to commencement of construction activities, and include a review of the site design, the planned operations at the construction site, the planned control measures during the construction phase (including the technical criteria for selection of the control measures), and the planned controls to be used to manage runoff created after the development;
 - (e) Procedures for receipt and consideration of information submitted by the public;
 - (f) Procedures for site inspection (during construction) and enforcement of control measures, including provisions to ensure proper construction, operation, maintenance, and repair. The procedures must clearly define who is responsible for site inspections; who has the authority to implement enforcement procedures; and the steps utilized to identify priority sites for inspection and enforcement based on the nature of the construction activity, topography, and the characteristics of soils and the quality of the receiving water. If a construction site operator fails to comply with procedures or policies established by the permittee, the permittee may request EPA enforcement assistance. The site inspection and enforcement procedures must describe sanctions and enforcement mechanism(s) for violations of permit requirements and penalties with detail regarding corrective action follow-up procedures, including enforcement escalation procedures for recalcitrant or repeat offenders. Possible sanctions include non-monetary penalties (such as stop work orders and/or permit denials for non-compliance), as well as monetary penalties such as fines and bonding requirements;
 - (g) Procedures to educate and train permittee personnel involved in the planning, review, permitting, and/or approval of construction site plans, inspections and enforcement. Education and training shall also be provided for developers, construction site operators, contractors and supporting personnel, including requiring a stormwater pollution prevention plan for construction sites within the permittee's jurisdiction;
 - (h) Procedures for keeping records of and tracking all regulated construction activities within the MS4, i.e. site reviews, inspections, inspection reports, warning letters and other enforcement documents. A

summary of the number and frequency of site reviews, inspections (including inspector's checklist for oversight of sediment and erosion controls and proper disposal of construction wastes) and enforcement activities that are conducted annually and cumulatively during the permit term shall be included in each annual report; and

- (iii) Annually conduct site inspections of 100 percent of all construction projects cumulatively disturbing one (1) or more acres within the MS4 jurisdiction. Site inspections are to be followed by any necessary compliance or enforcement action. Follow-up inspections are to be conducted to ensure corrective maintenance has occurred; and, all projects must be inspected at completion for confirmation of final stabilization.
- (iv) The permittee must coordinate with all departments and boards with jurisdiction over the planning, review, permitting, or approval of public and private construction projects/activities within the permit area to ensure that the construction stormwater runoff controls eliminate erosion and maintain sediment on site. Planning documents include, but are not limited to: comprehensive or master plans, subdivision ordinances, general land use plan, zoning code, transportation master plan, specific area plans, such as sector plan, site area plans, corridor plans, or unified development ordinances.
- (v) The site plan review required in Part I.D.5.a.(ii)(d) must include an evaluation of opportunities for use of GI/LID/Sustainable practices and when the opportunity exists, encourage project proponents to incorporate such practices into the site design to mimic the pre-development hydrology of the previously undeveloped site. For purposes of this permit, pre-development hydrology shall be met according to Part I.D.5.b of this permit. (consistent with any limitations on that capture). Include a reporting requirement of the number of plans that had opportunities to implement these practices and how many incorporated these practices.
- (vi) The permittee must include in the SWMP a description of the mechanism(s) that will be utilized to comply with each of the elements required in Part I.D.5.a.(i) throughout Part I.D.5.a.(v), including description of each individual BMP (both structural or non-structural) or source control measures and its corresponding measurable goal.
- (vii) The permittee shall assess the overall success of the program, and document the program effectiveness in the annual report. The permittee must include in each annual report:
 - (a) A summary of the frequency of site reviews, inspections and enforcement activities that are conducted annually and cumulatively during the permit term.
 - (b) The number of plans that had the opportunity to implement GI/LID/Sustainable practices and how many incorporated the practices.

Program Flexibility Elements

- (viii) The permittee may use storm water educational materials locally developed or provided by the EPA (refer to <http://water.epa.gov/polwaste/npdes/swbmp/index.cfm>, <http://www.epa.gov/smartgrowth/parking.htm>, <http://www.epa.gov/smartgrowth/stormwater.htm>), the NMED, environmental, public interest or trade organizations, and/or other MS4s.
- (ix) The permittee may develop or update existing construction handbooks (e.g., the COA NPDES Stormwater Management Guidelines for Construction and Industrial Activities Handbook) to be consistent with promulgated construction and development effluent limitation guidelines.
- (x) The construction site inspections required in Part I.D.5.a.(iii) may be carried out in conjunction with the permittee's building code inspections using a screening prioritization process.

Table 2. Construction Site Stormwater Runoff Control - Program Development and Implementation Schedules

Activity	Permittee Class				
	A Phase I MS4s	B Phase II MS4s (2000 Census)	C New Phase II MS4s (2010 Census **)	D MS4s within Indian Lands	Cooperative (*) Any Permittee with cooperative programs
Development of an ordinance or other regulatory mechanism as required in Part I.D.5.a.(ii)(a)	Ten (10) months from effective date of permit	Ten (10) months from effective date of permit	One (1) year from effective date of permit	One (1) year from effective date of permit	Eighteen (18) months from effective date of the permit
Develop requirements and procedures as required in Part I.D.5.a.(ii)(b) through in Part I.D.5.a.(ii)(h)	Ten (10) months from effective date of permit	Thirteen (13) months from effective date of permit	Sixteen (16) months from effective date of permit	Sixteen (16) months from effective date of permit	Eighteen (18) months from effective date of permit
Annually conduct site inspections of 100 percent of all construction projects cumulatively disturbing one (1) or more acres as required in Part I.D.5.a.(iii)	Ten (10) months from effective date of permit	Start Thirteen (13) months from effective date of permit and annually thereafter	Start Sixteen (16) months from effective date of permit and annually thereafter	Start eighteen (18) months from effective date of permit and thereafter	Start two (2) years from effective date of permit and thereafter
Coordinate with all departments and boards with jurisdiction over the planning, review, permitting, or approval of public and private construction projects/activities within the permit area as required in Part I.D.5.a.(iv)	Ten (10) months from effective date of permit	Ten (10) months from effective date of permit	Twelve (12) months from effective date of permit	Twelve (12) months from effective date of permit	Fourteen (14) months from effective date of permit
Evaluation of GI/LID/Sustainable practices in site plan reviews as required in Part I.D.5.a.(v)	Ten (10) months from effective date of permit	Ten (10) months from effective date of permit	Twelve (12) months from effective date of permit	Twelve (12) months from effective date of permit	Fourteen (14) months from effective date of permit
Update the SWMP document and annual report as required in Part I.D.5.a.(vi) and in Part I.D.5.a.(vii)	Update as necessary	Update as necessary	Update as necessary	Update as necessary	Update as necessary
Enhance the program to include program elements in Part I.D.5.a.(viii) through Part I.D.5.a.(x)	Update as necessary	Update as necessary	Update as necessary	Update as necessary	Update as necessary

(*) During development of cooperative programs, the permittee must continue to implement existing programs. (**) or MS4s designated by the Director

Note: The deadlines established in this table may be extended by the Director for any MS4 designated as needing a permit after issuance of this permit to accommodate expected date of permit coverage.

b. Post-Construction Stormwater Management in New Development and Redevelopment

(i) The permittee must develop, revise, implement, and enforce a program to address stormwater runoff from new development and redevelopment projects that disturb greater than or equal to one acre, including projects less than one acre that are part of a larger common plan of development or sale, that discharge into the MS4. The program must ensure that controls are in place that would prevent or minimize water quality impacts. **Permittees previously covered under NMS000101 or NMR040000 must continue existing programs, updating as necessary, to comply with the requirements of this permit.** (Note: Highway Departments and Flood Control Authorities may only apply the post-construction stormwater management program to the permittee's own construction projects)

(ii) The program must include the development, implementation, and enforcement of, at a minimum:

(a) Strategies which include a combination of structural and/or non-structural best management practices (BMPs) to control pollutants in stormwater runoff.

(b) An ordinance or other regulatory mechanism to address post-construction runoff from new development and redevelopment projects to the extent allowable under State, Tribal or local law. The ordinance or policy must:

Incorporate a stormwater quality design standard that manages on-site the 90th percentile storm event discharge volume associated with new development sites and 80th percentile storm event discharge volume associated with redevelopment sites, through stormwater controls that infiltrate, evapotranspire the discharge volume, except in instances where full compliance cannot be achieved, as provided in Part I.D.5.b.(v). The stormwater from rooftop discharge may be harvested and used on-site for non-commercial use. Any controls utilizing impoundments that are also used for flood control that are located in areas where the New Mexico Office of the State Engineer requirements at NMAC 19.26.2.15 (see also Section 72-5-32 NMSA) apply must drain within 96 hours unless the state engineer has issued a waiver to the owner of the impoundment.

Options to implement the site design standard include, but not limited to: management of the discharge volume achieved by canopy interception, soil amendments, rainfall harvesting, rain tanks and cisterns, engineered infiltration, extended filtration, dry swales, bioretention, roof top disconnections, permeable pavement, porous concrete, permeable pavers, reforestation, grass channels, green roofs and other appropriate techniques, and any combination of these practices, including implementation of other stormwater controls used to reduce pollutants in stormwater (e.g., a water quality facility).

Estimation of the 90th or 80th percentile storm event discharge volume is included in EPA Technical Report entitled "*Estimating Predevelopment Hydrology in the Middle Rio Grande Watershed, New Mexico, EPA Publication Number 832-R-14-007*". Permittees can also estimate:

Option A: a site specific 90th or 80th percentile storm event discharge volume using methodology specified in the referenced EPA Technical Report.

Option B: a site specific pre-development hydrology and associated storm event discharge volume using methodology specified in the referenced EPA technical Report.

(c) The permittee must ensure the appropriate implementation of the structural BMPs by considering some or all of the following: pre-construction review of BMP designs; inspections during construction to verify BMPs are built as designed; post-construction inspection and maintenance of BMPs; and penalty provisions for the noncompliance with preconstruction BMP design; failure to construct BMPs

in accordance with the agreed upon pre-construction design; and ineffective post-construction operation and maintenance of BMPs;

- (d) The permittee must ensure that the post-construction program requirements are constantly reviewed and revised as appropriate to incorporate improvements in control techniques;
 - (e) Procedure to develop and implement an educational program for project developers regarding designs to control water quality effects from stormwater, and a training program for plan review staff regarding stormwater standards, site design techniques and controls, including training regarding GI/LID/Sustainability practices. Training may be developed independently or obtained from outside resources, i.e. federal, state, or local experts;
 - (f) Procedures for site inspection and enforcement to ensure proper long-term operation, maintenance, and repair of stormwater management practices that are put into place as part of construction projects/activities. Procedure(s) shall include the requirement that as-built plans be submitted within ninety (90) days of completion of construction projects/activities that include controls designed to manage the stormwater associated with the completed site (post-construction stormwater management). Procedure(s) may include the use of dedicated funds or escrow accounts for development projects or the adoption by the permittee of all privately owned control measures. This may also include the development of maintenance contracts between the owner of the control measure and the permittee. The maintenance contract shall include verification of maintenance practices by the owner, allows the MS4 owner/operator to inspect the maintenance practices, and perform maintenance if inspections indicate neglect by the owner;
 - (g) Procedures to control the discharge of pollutants related to commercial application and distribution of pesticides, herbicides, and fertilizers where permittee(s) hold jurisdiction over lands not directly owned by that entity (e.g., incorporated city). The procedures must ensure that herbicides and pesticides applicators doing business within the permittee's jurisdiction have been properly trained and certified, are encouraged to use the least toxic products, and control use and application rates according to the applicable requirements; and
 - (h) Procedure or system to review and update, as necessary, the existing program to ensure that stormwater controls or management practices for new development and redevelopment projects/activities continue to meet the requirements and objectives of the permit.
- (iii) The permittee must coordinate with all departments and boards with jurisdiction over the planning, review, permitting, or approval of public and private new development and redevelopment projects/activities within the permit area to ensure the hydrology associated with new development and redevelopment sites mimic to the extent practicable the pre-development hydrology of the previously undeveloped site, except in instances where the pre-development hydrology requirement conflicts with applicable water rights appropriation requirements. For purposes of this permit, pre-development hydrology shall be met by capturing the 90th percentile storm event runoff (consistent with any limitations on that capture) which under undeveloped natural conditions would be expected to infiltrate or evapotranspire on-site and result in little, if any, off-site runoff. (Note: This permit does not prevent permittees from requiring additional controls for flood control purposes.) Planning documents include, but are not limited to: comprehensive or master plans, subdivision ordinances, general land use plan, zoning code, transportation master plan, specific area plans, such as sector plan, site area plans, corridor plans, or unified development ordinances.
- (iv) The permittee must assess all existing codes, ordinances, planning documents and other applicable regulations, for impediments to the use of GI/LID/Sustainable practices. The assessment shall include a list of the identified impediments, necessary regulation changes, and recommendations and proposed schedules to incorporate policies and standards to relevant documents and procedures to maximize infiltration, recharge, water harvesting, habitat improvement, and hydrological management of stormwater runoff as allowed under the applicable water rights appropriation requirements. The permittee must develop a report of the assessment findings, which is to be used to provide information to the permittee, of the regulation changes necessary to remove impediments and allow implementation of these practices.

- (v) Alternative Compliance for Infeasibility due to Site Constrains:
- (a) Infeasibility to manage the design standard volume specified in Part I(D)(5)(b)(ii)(b), or a portion of the design standard volume, onsite may result from site constraints including the following:
 - A. too small a lot outside of the building footprint to create the necessary infiltrative capacity even with amended soils;
 - B. soil instability as documented by a thorough geotechnical analysis;
 - C. a site use that is inconsistent with capture and reuse of storm water;
 - D. other physical conditions; or,
 - E. to comply with applicable requirements for on-site flood control structures leaves insufficient area to meet the standard.
 - (b) A determination that it is infeasible to manage the design standard volume specified in Part I.D.5.b.(ii)(b), or a portion of the design standard volume, on site may not be based solely on the difficulty or cost of implementing onsite control measures, but must include multiple criteria that rule out an adequate combination of the practices set forth in Part I.D,5.b.(v).
 - (c) This permit does not prevent imposition of more stringent requirements related to flood control. Where both the permittee's site design standard ordinance or policy and local flood control requirements on site cannot be met due to site conditions, the standard may be met through a combination of on-site and off-site controls.
 - (d) Where applicable New Mexico water law limits the ability to fully manage the design standard volume on site, measures to minimize increased discharge consistent with requirements under New Mexico water law must still be implemented.
 - (e) In instances where an alternative to compliance with the standard on site is chosen, technical justification as to the infeasibility of on-site management of the entire design standard volume, or a portion of the design standard volume, is required to be documented by submitting to the permittee a site-specific hydrologic and/or design analysis conducted and endorsed by a registered professional engineer, geologist, architect, and/or landscape architect.
 - (f) When a Permittee determines a project applicant has demonstrated infeasibility due to site constraints specified in Part I.D.5.b.(v) to manage the design standard volume specified in Part I.D.5.b.(ii).(b) or a portion of the design standard volume on-site, the Permittee shall require one of the following mitigation options:
 - A. *Off-site mitigation.* The off-site mitigation option only applies to redevelopment sites and cannot be applied to new development. Management of the standard volume, or a portion of the volume, may be implemented at another location within the MS4 area, approved by the permittee. The permittee shall identify priority areas within the MS4 in which mitigation projects can be completed. The permittee shall determine who will be responsible for long-term maintenance on off-site mitigation projects.
 - B. *Ground Water Replenishment Project:* Implementation of a project that has been determined to provide an opportunity to replenish regional ground water supplies at an offsite location.
 - C. *Payment in lieu.* Payment in lieu may be made to the permittee, who will apply the funds to a public stormwater project. MS4s shall maintain a publicly accessible database of approved projects for which these payments may be used.

D. Other. In a situation where alternative options A through C above are not feasible and the permittee wants to establish another alternative option for projects, the permittee may submit to the EPA for approval, the alternative option that meets the standard.

- (vi) The permittee must estimate the number of acres of impervious area (IA) and directly connected impervious area (DCIA). For the purpose of this part, IA includes conventional pavements, sidewalks, driveways, roadways, parking lots, and rooftops. DCIA is the portion of IA with a direct hydraulic connection to the permittee's MS4 or a waterbody via continuous paved surfaces, gutters, pipes, and other impervious features. DCIA typically does not include isolated impervious areas with an indirect hydraulic connection to the MS4 (e.g., swale or detention basin) or that otherwise drain to a pervious area.
- (vii) The permittee must develop an inventory and priority ranking of MS4-owned property and infrastructure (including public right-of-way) that may have the potential to be retrofitted with control measures designed to control the frequency, volume, and peak intensity of stormwater discharges to and from its MS4. In determining the potential for retrofitting, the permittee shall consider factors such as the complexity and cost of implementation, public safety, access for maintenance purposes, subsurface geology, depth to water table, proximity to aquifers and subsurface infrastructure including sanitary sewers and septic systems, and opportunities for public use and education under the applicable water right requirements and restrictions. In determining its priority ranking, the permittee shall consider factors such as schedules for planned capital improvements to storm and sanitary sewer infrastructure and paving projects; current storm sewer level of service and control of discharges to impaired waters, streams, and critical receiving water (drinking water supply sources);
- (viii) The permittee must incorporate watershed protection elements into relevant policy and/or planning documents as they come up for regular review. If a relevant planning document is not scheduled for review during the term of this permit, the permittee must identify the elements that cannot be implemented until that document is revised, and provide to EPA and NMED a schedule for incorporation and implementation not to exceed five years from the effective date of this permit. As applicable to each permittee's MS4 jurisdiction, policy and/or planning documents must include the following:
 - (a) A description of master planning and project planning procedures to control the discharge of pollutants to and from the MS4.
 - (b) Minimize the amount of impervious surfaces (roads, parking lots, roofs, etc.) within each watershed, by controlling the unnecessary creation, extension and widening of impervious parking lots, roads and associated development. The permittee may evaluate the need to add impervious surface on a case-by-case basis and seek to identify alternatives that will meet the need without creating the impervious surface.
 - (c) Identify environmentally and ecologically sensitive areas that provide water quality benefits and serve critical watershed functions within the MS4 and ensure requirements to preserve, protect, create and/or restore these areas are developed and implemented during the plan and design phases of projects in these identified areas. These areas may include, but are not limited to critical watersheds, floodplains, and areas with endangered species concerns and historic properties. Stakeholders shall be consulted as appropriate.
 - (d) Implement stormwater management practices that minimize water quality impacts to streams, including disconnecting direct discharges to surface waters from impervious surfaces such as parking lots.
 - (e) Implement stormwater management practices that protect and enhance groundwater recharge as allowed under the applicable water rights laws.
 - (f) Seek to avoid or prevent hydromodification of streams and other water bodies caused by development, including roads, highways, and bridges.

- (g) Develop and implement policies to protect native soils, prevent topsoil stripping, and prevent compaction of soils.
- (h) The program must be specifically tailored to address local community needs (e.g. protection to drinking water sources, reduction of water quality impacts) and must be designed to attempt to maintain pre-development runoff conditions.
- (ix) The permittee must update the SWMP as necessary to include a description of the mechanism(s) utilized to comply with each of the elements required in Part I.D.5.b.(i) throughout Part I.D.5.b.(viii) as well as the citations and descriptions of design standards for structural and non-structural controls to control pollutants in stormwater runoff, including discussion of the methodology used during design for estimating impacts to water quality and selecting structural and non-structural controls. Description of measurable goals for each BMP (structural or non-structural) or each stormwater control must be included in the SWMP.
- (x) The permittee shall assess the overall success of the program, and document the program effectiveness in the annual report. The following information must be included in each annual report:
 - (a) Include a summary and analysis of all maintenance, inspections and enforcement, and the number and frequency of inspections performed annually.
 - (b) A cumulative listing of the annual modifications made to the Post-Construction Stormwater Management Program during the permit term, and a cumulative listing of annual revisions to administrative procedures made or ordinances enacted during the permit term.
 - (c) According to the schedule presented in the Program Development and Implementation Schedule in Table 3, the permittee must
 - A. Report the number of MS4-owned properties and infrastructure that have been retrofitted with control measures designed to control the frequency, volume, and peak intensity of stormwater discharges. The permittee may also include in its annual report non-MS4 owned property that has been retrofitted with control measures designed to control the frequency, volume, and peak intensity of stormwater discharges.
 - B. As required in Part I.D.5.b.(vi), report the tabulated results for IA and DCIA and its estimation methodology. In each subsequent annual report, the permittee shall estimate the number of acres of IA and DCIA that have been added or removed during the prior year. The permittee shall include in its estimates the additions and reductions resulting from development, redevelopment, or retrofit projects undertaken directly by the permittee; or by private developers and other parties in a voluntary manner on in compliance with the permittee's regulations.

Program Flexibility Elements:

- (xi) The permittee may use storm water educational materials locally developed or provided by EPA (refer to <http://water.epa.gov/polwaste/npdes/swbmp/index.cfm>, <http://www.epa.gov/smartgrowth/parking.htm>, and <http://www.epa.gov/smartgrowth/stormwater.htm>); the NMED; environmental, public interest or trade organizations; and/or other MS4s.
- (xii) When choosing appropriate BMPs, the permittee may participate in locally-based watershed planning efforts, which attempt to involve a diverse group of stakeholders including interested citizens. When developing a program that is consistent with this measure's intent, the permittee may adopt a planning process that identifies the municipality's program goals (e.g., minimize water quality impacts resulting from post-construction runoff from new development and redevelopment), implementation strategies (e.g., adopt a combination of structural and/or non-structural BMPs), operation and maintenance policies and procedures, and enforcement procedures.

- (xiii) The permittee may incorporate the following elements in the Post-Construction Stormwater Management in New Development and Redevelopment program required in Part I.D.5.b.(ii)(b):
- (a) Provide requirements and standards to direct growth to identified areas to protect environmentally and ecologically sensitive areas such as floodplains and/or other areas with endangered species and historic properties concerns;
 - (b) Include requirements to maintain and/or increase open space/buffers along sensitive water bodies, minimize impervious surfaces, and minimize disturbance of soils and vegetation; and
 - (c) Encourage infill development in higher density urban areas, and areas with existing storm sewer infrastructure.

Table 3. Post-Construction Stormwater Management in New Development and Redevelopment - Program Development and Implementation Schedules

Activity	Permittee Class				
	A Phase I MS4s	B Phase II MS4s (2000 Census)	C New Phase II MS4s (2010 Census **)	D MS4s within Indian Lands	Cooperative (*) Any Permittee with cooperative programs
Development of strategies as required in Part I.D.5.b.(ii).(a)	Ten (10) months from effective date of permit	Ten (10) months from effective date of permit	Twelve (12) months from effective date of permit	Twelve (12) months from effective date of permit	Fourteen (14) months from effective date of permit
Development of an ordinance or other regulatory mechanism as required in Part I.D.5.b.(ii).(b)	Twenty (24) months from effective date of permit	Thirty (30) months from effective date of permit	Thirty six (36) months from effective date of permit	Thirty six (36) months from effective date of permit	Thirty six (36) months from effective date of permit
Implementation and enforcement, via the ordinance or other regulatory mechanism, of site design standards as required in Part I.D.5.b.(ii).(b)	Within thirty six (36) months from effective date of the permit	Within forty two (42) months from the effective date of the permit	Within forty eight (48) months from effective date of the permit	Within forty eight (48) months from effective date of the permit	Within forty eight (48) months from effective date of the permit
Ensure appropriate implementation of structural controls as required in Part I.D.5.b.(ii).(c) and Part I.D.5.b.(ii).(d)	Ten (10) months from effective date of permit	One (1) year from effective date of permit	Two (2) years from effective date of permit	Two (2) years from effective date of permit	Thirty (30) months from effective date of permit
Develop procedures as required in Part I.D.5.b.(ii).(e), Part I.D.5.b.(ii).(f), Part I.D.5.b.(ii).(g), and Part I.D.5.b.(ii).(h)	Ten (10) months from effective date of permit	Ten (10) months from effective date of permit	One (1) year from effective date of permit	One (1) year from effective date of permit	Eighteen (18) months from effective date of permit

Coordinate internally with all departments and boards with jurisdiction over the planning, review, permitting, or approval of public and private construction projects/activities within the permit area as required in Part I.D.5.b.(iii)	Ten (10) months from effective date of permit	Ten (10) months from effective date of permit	Eleven (11) months from effective date of permit	Eleven (11) months from effective date of permit	One (1) year from effective date of permit
As required in Part I.D.5.b.(iv), the permittee must assess all existing codes, ordinances, planning documents and other applicable regulations, for impediments to the use of GI/LID/Sustainable practices	Ten (10) months from effective date of permit	One (1) year from effective date of permit	Eighteen (18) months from effective date of permit	Eighteen (18) months from effective date of permit	Two (2) years from effective date of permit
As required in Part I.D.5.b.(iv), develop and submit a report of the assessment findings on GI/LID/Sustainable practices.	Eleven (11) months from effective date of permit	Eighteen (18) months from effective date of permit	Two (2) years from effective date of permit	Two (2) years from effective date of permit	Twenty seven (27) months from effective date of permit
Estimation of the number of acres of IA and DCIA as required in Part I.D.5.b.(vi)	Ten (10) months from effective date of permit	One (1) year from effective date of permit	Two (2) years from effective date of permit	Two (2) years from effective date of permit	Thirty (30) months from effective date of permit
Inventory and priority ranking as required in section in Part I.D.5.b.(vii)	Within fifteen (15) months from effective date of the permit	Within twenty four (24) months from effective date of the permit	Within thirty six (36) months from effective date of the permit	Within thirty six (36) months from effective date of the permit	Within forty two (42) months from effective date of the permit
Incorporate watershed protection elements as required in Part I.D.5.b.(viii)	Ten (10) months from effective date of permit	One (1) year from effective date of permit	Two (2) years from effective date of permit	Two (2) years from effective date of permit	Thirty (30) months from effective date of permit
Update the SWMP document and annual report as required in Part I.D.5.b.(ix) and Part I.D.5.b.(x).	Update as necessary	Update as necessary	Update as necessary	Update as necessary	Update as necessary
Enhance the program to include program elements in Part I.D.5.b.(xi) and Part I.D.5.b.(xii)	Update as necessary	Update as necessary	Update as necessary	Update as necessary	Update as necessary

(*) During development of cooperative programs, the permittee must continue to implement existing programs.

(**) or MS4s designated by the Director

Note: The deadlines established in this table may be extended by the Director for any MS4 designated as needing a permit after issuance of this permit to accommodate expected date of permit coverage.

c. Pollution Prevention/Good Housekeeping for Municipal/Co-permittee Operations.

- (i) The permittee must develop, revise and implement an operation and maintenance program that includes a training component and the ultimate goal of preventing or reducing pollutant runoff from municipal operations. **Permittees previously covered under NMS000101 or NMR040000 must continue existing programs while updating those programs, as necessary, to comply with the requirements of this permit.** The program must include:
- (a) Development and implementation of an employee training program to incorporate pollution prevention and good housekeeping techniques into everyday operations and maintenance activities. The employee training program must be designed to prevent and reduce storm water pollution from activities such as park and open space maintenance, fleet and building maintenance, new construction and land disturbances, and storm water system maintenance. The permittee must also develop a tracking procedure and ensure that employee turnover is considered when determining frequency of training;
 - (b) Maintenance activities, maintenance schedules, and long term inspections procedures for structural and non-structural storm water controls to reduce floatable, trash, and other pollutants discharged from the MS4.
 - (c) Controls for reducing or eliminating the discharge of pollutants from streets, roads, highways, municipal parking lots, maintenance and storage yards, fleet or maintenance shops with outdoor storage areas, salt/sand storage locations, snow disposal areas operated by the permittee, and waste transfer stations;
 - (d) Procedures for properly disposing of waste removed from the separate storm sewers and areas listed in Part I.D.5.c.(i).(c) (such as dredge spoil, accumulated sediments, floatables, and other debris); and
 - (e) Procedures to ensure that new flood management projects assess the impacts on water quality and examine existing projects for incorporating additional water quality protection devices or practices.

Note: The permittee may use training materials that are available from EPA, NMED, Tribe, or other organizations.

- (ii) The Pollution Prevention/Good Housekeeping program must include the following elements:
- (a) Develop or update the existing list of all stormwater quality facilities by drainage basin, including location and description;
 - (b) Develop or modify existing operational manual for de-icing activities addressing alternate materials and methods to control impacts to stormwater quality;
 - (c) Develop or modify existing program to control pollution in stormwater runoff from equipment and vehicle maintenance yards and maintenance center operations located within the MS4;
 - (d) Develop or modify existing street sweeping program. Assess possible benefits from changing frequency or timing of sweeping activities or utilizing different equipment for sweeping activities;
 - (e) A description of procedures used by permittees to target roadway areas most likely to contribute pollutants to and from the MS4 (i.e., runoff discharges directly to sensitive receiving water, roadway receives majority of de-icing material, roadway receives excess litter, roadway receives greater loads of oil and grease);
 - (f) Develop or revise existing standard operating procedures for collection of used motor vehicle fluids (at a minimum oil and antifreeze) and toxics (including paint, solvents, fertilizers, pesticides, herbicides,

and other hazardous materials) used in permittee operations or discarded in the MS4, for recycle, reuse, or proper disposal;

- (g) Develop or revised existing standard operating procedures for the disposal of accumulated sediments, floatables, and other debris collected from the MS4 and during permittee operations to ensure proper disposal;
 - (h) Develop or revised existing litter source control programs to include public awareness campaigns targeting the permittee audience; and
 - (i) Develop or review and revise, as necessary, the criteria, procedures and schedule to evaluate existing flood control devices, structures and drainage ways to assess the potential of retrofitting to provide additional pollutant removal from stormwater. Implement routine review to ensure new and/or innovative practices are implemented where applicable.
 - (j) Enhance inspection and maintenance programs by coordinating with maintenance personnel to ensure that a target number of structures per basin are inspected and maintained per quarter;
 - (k) Enhance the existing program to control the discharge of floatables and trash from the MS4 by implementing source control of floatables in industrial and commercial areas;
 - (l) Include in each annual report, a cumulative summary of retrofit evaluations conducted during the permit term on existing flood control devices, structures and drainage ways to benefit water quality. Update the SWMP to include a schedule (with priorities) for identified retrofit projects;
 - (m) Flood management projects: review and revise, as necessary, technical criteria guidance documents and program for the assessment of water quality impacts and incorporation of water quality controls into future flood control projects. The criteria guidance document must include the following elements:
 - A. Describe how new flood control projects are assessed for water quality impacts.
 - B. Provide citations and descriptions of design standards that ensure water quality controls are incorporated in future flood control projects.
 - C. Include method for permittees to update standards with new and/or innovative practices.
 - D. Describe master planning and project planning procedures and design review procedures.
 - (n) Develop procedures to control the discharge of pollutants related to the storage and application of pesticides, herbicides, and fertilizers applied, by the permittee's employees or contractors, to public right-of-ways, parks, and other municipal property. The permittee must provide an updated description of the data monitoring system for all permittee departments utilizing pesticides, herbicides and fertilizers.
- (iii) Comply with the requirements included in the EPA Multi Sector General Permit (MSGP) to control runoff from industrial facilities (as defined in 40 CFR 122.26(b)(14)(i)-(ix) and (xi)) owned or operated by the permittees and ultimately discharge to the MS4. The permittees must develop or update:
- (a) A list of municipal/permittee operations impacted by this program,
 - (b) A map showing the industrial facilities owned and operated by the MS4,
 - (c) A list of the industrial facilities (other than large construction activities defined as industrial activity) that will be included in the industrial runoff control program by category and by basin. The list must include the permit authorization number or a MSGP NOI ID for each facility as applicable.

- (iv) The permittee must include in the SWMP a description of the mechanism(s) utilized to comply with each of the elements required in Part I.D.5.c.(i) throughout Part I.D.5.c.(iii) and its corresponding measurable goal.
- (v) The permittee shall assess the overall success of the program, and document the program effectiveness in the annual report.

Table 4. Pollution Prevention/Good Housekeeping for Municipal/Co-permittee Operations - Program Development and Implementation Schedules

Activity	Permittee Class				
	A Phase I MS4s	B Phase II MS4s (2000 Census)	C New Phase II MS4s (2010 Census **)	D MS4s within Indian Lands	Cooperative (*) Any Permittee with cooperative programs
-Develop or update the Pollution Prevention/Good House Keeping program to include the elements in Part I.D.5.c.(i)	Ten (10) months from effective date of the permit	Twelve (12) months from effective date of the permit	Fourteen (14) months from effective date of the permit	Fourteen (14) months from effective date of the permit	Eighteen (18) months from effective date of the permit
-Enhance the program to include the elements in Part I.D.5.c.(ii)	Ten (10) months from effective date of the permit	One (1) year from effective date of the permit	Two (2) years from effective date of the permit	Two (2) years from effective date of the permit	Thirty (30) months from effective date of the permit
-Develop or update a list and a map of industrial facilities owned or operated by the permittee as required in Part I.D.5.c.(iii)	Ten (10) months from effective date of the permit	Eleven (11) months from effective date of the permit	One (1) year from effective date of the permit	One (1) year from effective date of the permit	Eighteen (18) months from effective date of the permit
Update the SWMP document and annual report as required in Part I.D.5.c.(iv) and Part I.D.5.c.(v)	Update as necessary	Update as necessary	Update as necessary	Update as necessary	Update as necessary

(*) During development of cooperative programs, the permittee must continue to implement existing programs (**)

(**) or MS4s designated by the Director

Note: The deadlines established in this table may be extended by the Director for any MS4 designated as needing a permit after issuance of this permit to accommodate expected date of permit coverage.

d. Industrial and High Risk Runoff (Applicable only to Class A permittees)

- (i) The permittee must control through ordinance, permit, contract, order or similar means, the contribution of pollutants to the municipal storm sewer by storm water discharges associated with industrial activity and the quality of storm water discharged from sites of industrial activity as defined in 40 CFR 122.26(b)(14)(i)-(ix) and (xi). If no such industrial activities are in a permittees jurisdiction, that permittee may certify that this program element does not apply.
- (ii) The permittee must continue implementation and enforcement of the Industrial and High Risk Runoff program, assess the overall success of the program, and document both direct and indirect measurements of program effectiveness in the annual report. The program shall include:
 - (a) A description of a program to identify, monitor, and control pollutants in stormwater discharges to the MS4 from municipal landfills; other treatment, storage, or disposal facilities for municipal waste (e.g. transfer stations, incinerators, etc.); hazardous waste treatment, storage, disposal and recovery facilities; facilities that are subject to EPCRA Title III, Section 313; and any other industrial or commercial discharge the permittee(s) determines are contributing a substantial pollutant loading to the

MS4. (Note: If no such facilities are in a permittees jurisdiction, that permittee may certify that this program element does not apply.); and

- (b) Priorities and procedures for inspections and establishing and implementing control measures for such discharges.
- (iii) Permittees must comply with the monitoring requirements specified in Part III.A.4;
- (iv) The permittee must modify the following as necessary:
 - (a) The list of the facilities included in the program, by category and basin;
 - (b) Schedules and frequency of inspection for listed facilities. Facility inspections may be carried out in conjunction with other municipal programs (e.g. pretreatment inspections of industrial users, health inspections, fire inspections, etc.), but must include random inspections for facilities not normally visited by the municipality;
 - (c) The priorities for inspections and procedures used during inspections (e.g. inspection checklist, review for NPDES permit coverage; review of stormwater pollution prevention plan; etc.); and
 - (d) Monitoring frequency, parameters and entity performing monitoring and analyses (MS4 permittees or subject facility). The monitoring program may include a waiver of monitoring for parameters at individual facilities based on a “no-exposure” certification;
- (v) The permittee must include in the SWMP a description of the mechanism(s) utilized to comply with each of the elements required in Part I.D.5.d.(i) throughout Part I.D.5.d.(iv) and its corresponding measurable goal.
- (vi) The permittee shall assess the overall success of the program, and document the program effectiveness in the annual report.

Program Flexibility Elements:

- (vii) The permittee may:
 - (a) Use analytical monitoring data, on a parameter-by-parameter basis, that a facility has collected to comply with or apply for a State or NPDES discharge permit (other than this permit), so as to avoid unnecessary cost and duplication of effort;
 - (b) Allow the facility to test only one (1) outfall and to report that the quantitative data also apply to the substantially identical outfalls if:
 - A. A Type 1 or Type 2 industrial facility has two (2) or more outfalls with substantially identical effluents, and
 - B. Demonstration by the facility that the stormwater outfalls are substantially identical, using one (1) or all of the following methods for such demonstration. The NPDES Stormwater Sampling Guidance Document (EPA 833-B-92-001), available on EPA’s website at [provides](#) detailed guidance on each of the three options: (1) submission of a narrative description and a site map; (2) submission of matrices; or (3) submission of model matrices.
 - (c) Accept a copy of a “no exposure” certification from a facility made to EPA under 40 CFR §122.26(g), in lieu of analytic monitoring.

Table 5: Industrial and High Risk Runoff - Program Development and Implementation Schedules:

Activity	Permittee Class	
	A Phase I MS4s	Cooperative (*) Any Permittee with cooperative programs
Ordinance (or other control method) as required in Part I.D.5.d.(i)	Ten (10) months from effective date of the permit	Twelve (12) months from effective date of the permit
Continue implementation and enforcement of the Industrial and High Risk Runoff program, assess the overall success of the program, and document both direct and indirect measurements of program effectiveness in the annual report as required in Part I.D.5.d.(ii)	Ten (10) months from effective date of the permit	Twelve (12) months from effective date of the permit
Meet the monitoring requirements in Part I.D.5.d.(iii)	Ten (10) months from effective date of the permit	Twelve (12) months from effective date of the permit
Include requirements in Part I.D.5.d.(iv)	Ten (10) months from permit effective date of the permit	Twelve (12) months from effective date of the permit
Update the SWMP document and annual report as required in Part I.D.5.d.(v) and Part I.D.5.d.(vi)	Update as necessary	Update as necessary
Enhance the program to include requirements in Part I.D.5.d.(vii)	Update as necessary	Update as necessary

(*) During development of cooperative programs, the permittee must continue to implement existing programs.
Note: The deadlines established in this table may be extended by the Director for any MS4 designated as needing a permit after issuance of this permit to accommodate expected date of permit coverage.

e. Illicit Discharges and Improper Disposal

- (i) The permittee shall develop, revise, implement, and enforce a program to detect and eliminate illicit discharges (as defined at 40 CFR 122.26(b)(2)) entering the MS4. **Permittees previously covered under NMS000101 or NMR040000 must continue existing programs while updating those programs, as necessary, to comply with the requirements of this permit.** The permittee must:
 - (a) Develop, if not already completed, a storm sewer system map, showing the names and locations of all outfalls as well as the names and locations of all waters of the United States that receive discharges from those outfalls. Identify all discharges points into major drainage channels draining more than twenty (20) percent of the MS4 area;
 - (b) To the extent allowable under State, Tribal or local law, effectively prohibit, through ordinance or other regulatory mechanism, non-stormwater discharges into the MS4, and implement appropriate enforcement procedures and actions;
 - (c) Develop and implement a plan to detect and address non-stormwater discharges, including illegal dumping, to the MS4. The permittee must include the following elements in the plan:
 - A. Procedures for locating priority areas likely to have illicit discharges including field test for selected pollutant indicators (ammonia, boron, chlorine, color, conductivity, detergents, *E. coli*, enterococci, total coliform, fluoride, hardness, pH, potassium, conductivity, surfactants), and visually screening outfalls during dry weather;

- B. Procedures for enforcement, including enforcement escalation procedures for recalcitrant or repeat offenders;
 - C. Procedures for removing the source of the discharge;
 - D. Procedures for program evaluation and assessment; and
 - E. Procedures for coordination with adjacent municipalities and/or state, tribal, or federal regulatory agencies to address situations where investigations indicate the illicit discharge originates outside the MS4 jurisdiction.
- (d) Develop an education program to promote, publicize, and facilitate public reporting of illicit connections or discharges, and distribution of outreach materials. The permittee shall inform public employees, businesses and the general public of hazards associated with illegal discharges and improper disposal of waste.
- (e) Establish a hotline to address complaints from the public.
- (f) Investigate suspected significant/severe illicit discharges within forty-eight (48) hours of detection and all other discharges as soon as practicable; elimination of such discharges as expeditiously as possible; and, requirement of immediate cessation of illicit discharges upon confirmation of responsible parties.
- (g) Review complaint records for the last permit term and develop a targeted source reduction program for those illicit discharge/improper disposal incidents that have occurred more than twice in two (2) or more years from different locations. (Applicable only to class A and B permittees)
- (h) If applicable, implement the program using the priority ranking develop during last permit term
- (ii) The permittee shall address the following categories of non-stormwater discharges or flows (e.g., illicit discharges) only if they are identified as significant contributors of pollutants to the MS4: water line flushing, landscape irrigation, diverted stream flows, rising ground waters, uncontaminated ground water infiltration (as defined at 40 CFR 35.2005(90)), uncontaminated pumped ground water, discharges from potable water sources, foundation drains, air conditioning condensation, irrigation water, springs, water from crawl space pumps, footing drains, lawn watering, individual residential car washing, flows from riparian habitats and wetlands, dechlorinated swimming pool discharges, and street wash water.
- Note:* Discharges or flows from fire fighting activities are excluded from the effective prohibitions against non-stormwater and need only be addressed where they are identified a significant sources of pollutants to water of the United States).
- (iii) The permittee must screen the entire jurisdiction at least once every five (5) years and high priority areas at least once every year. High priority areas include any area where there is ongoing evidence of illicit discharges or dumping, or where there are citizen complaints on more than five (5) separate events within twelve (12) months. The permittee must:
- (a) Include in its SWMP document a description of the means, methods, quality assurance and controls protocols, and schedule for successfully implementing the required screening, field monitoring, laboratory analysis, investigations, and analysis evaluation of data collected.
 - (b) Comply with the dry weather screening program established in Table 6 and the monitoring requirements specified in Part III.A.2.
 - (c) If applicable, implement the priority ranking system develop in previous permit term.

- (iv) Waste Collection Programs: The permittee must develop, update, and implement programs to collect used motor vehicle fluids (at a minimum, oil and antifreeze) for recycle, reuse, or proper disposal, and to collect household hazardous waste materials (including paint, solvents, fertilizers, pesticides, herbicides, and other hazardous materials) for recycle, reuse, or proper disposal. Where available, collection programs operated by third parties may be a component of the programs. Permittees shall enhance these programs by establishing the following elements as a goal in the SWMP:
 - A. Increasing the frequency of the collection days hosted;
 - B. Expanding the program to include commercial fats, oils and greases; and
 - C. Coordinating program efforts between applicable permittee departments.
- (v) Spill Prevention and Response. The permittee must develop, update and implement a program to prevent, contain, and respond to spills that may discharge into the MS4. The permittees must continue existing programs while updating those programs, as necessary, to comply with the requirements of this permit. The Spill Prevention and Response program shall include:
 - (a) Where discharge of material resulting from a spill is necessary to prevent loss of life, personal injury, or severe property damage, the permittee(s) shall take, or insure the party responsible for the spill takes, all reasonable steps to control or prevent any adverse effects to human health or the environment: and
 - (b) The spill response program may include a combination of spill response actions by the permittee (and/or another public or private entity), and legal requirements for private entities within the permittee's municipal jurisdiction.
- (vi) The permittee must include in the SWMP a description of the mechanism(s) utilized to comply with each of the elements required in Part I.D.5.e.(i) throughout Part I.D.5.e.(v) and its corresponding measurable goal. A description of the means, methods, quality assurance and controls protocols, and schedule for successfully implementing the required screening, field monitoring, laboratory analysis, investigations, and analysis evaluation of data collected
- (vii) The permittee shall assess the overall success of the program, and document the program effectiveness in the annual report.
- (viii) The permittee must expeditiously revise as necessary, within nine (9) months from the effective date of the permit, the existing permitting/certification program to ensure that any entity applying for the use of Right of Way implements controls in their construction and maintenance procedures to control pollutants entering the MS4. (Only applicable to NMDOT)

Program Flexibility Elements

- (ix) The permittee may:
 - (a) Divide the jurisdiction into assessment areas where monitoring at fewer locations would still provide sufficient information to determine the presence or absence of illicit discharges within the larger area;
 - (b) Downgrade high priority areas after the area has been screened at least once and there are citizen complaints on no more than five (5) separate events within a twelve (12) month period;
 - (c) Rely on a cooperative program with other MS4s for detection and elimination of illicit discharges and illegal dumping;

- (d) If participating in a cooperative program with other MS4s, required detection program frequencies may be based on the combined jurisdictional area rather than individual jurisdictional areas and may use assessment areas crossing jurisdictional boundaries to reduce total number of screening locations (e.g., a shared single screening location that would provide information on more than one jurisdiction); and
- (e) After screening a non-high priority area once, adopt an “in response to complaints only” IDDE for that area provided there are citizen complaints on no more than two (2) separate events within a twelve (12) month period.
- (f) Enhance the program to utilize procedures and methodologies consistent with those described in “Illicit Discharge Detection and Elimination, A Guidance Manual for Program Development and Technical Assessments.”

Table 6. Illicit Discharges and Improper Disposal - Program Development and Implementation Schedules

Activity	Permittee Class				
	A Phase I MS4s	B Phase II MS4s (2000 Census)	C New Phase II MS4s (2010 Census ***)	D MS4s within Indian Lands	Cooperative (*) Any Permittee with cooperative programs
Mapping as required in Part I.D.5.e.(i)(a)	Ten (10) months from effective date of permit	Ten (10) months from effective date of permit	Eleven (11) months from effective date of permit	Eleven (11) months from effective date of permit	Fourteen (14) months from effective date of permit
Ordinance (or other control method) as required in Part I.D.5.e.(i)(b)	Ten (10) months from effective date of permit	Ten (10) months from effective date of permit	Two (2) years from effective date of permit	Two (2) years from effective date of permit	Thirty (30) months from effective date of permit
Develop and implement a IDDE plan as required in Part I.D.5.e.(i)(c)	Ten (10) months from effective date of permit	Ten (10) months from effective date of permit	Two (2) years from effective date of permit	Two (2) years from effective date of permit	Thirty (30) months from effective date of permit
Develop an education program as required in Part I.D.5.e.(i)(d)	Ten (10) months from effective date of permit	Ten (10) months from effective date of permit	One (1) year from effective date of permit	One (1) year from effective date of permit	Eighteen (18) months from effective date of permit
Establish a hotline as required in Part I.D.5.e.(i)(e)	Update as necessary	Ten (10) months from effective date of permit	One (1) year from effective date of permit	One (1) year from effective date of permit	Eighteen (18) months from effective date of permit
Investigate suspected significant/severe illicit discharges as required in Part I.D.5.e.(i)(f)	Ten (10) months from effective date of permit	Ten (10) months from effective date of permit	One (1) year from effective date of permit	One (1) year from effective date of permit	Eighteen (18) months from effective date of permit
Review complaint records and develop a targeted source reduction program as required in Part I.D.5.e.(i)(g)	Ten (10) months from effective date of permit	Ten (10) months from effective date of permit	N/A	N/A	One (1) year from effective date of permit

Screening of system as required in Part I.D.5.e.(iii) as follows: a.) High priority areas**	1 / year	1 / year	1 / year	1 / year	1 / year
b.) Whole system	-Screen 20% of the MS4 per year	- Screen 20% of the MS4 per year	-Years 1 – 2: develop procedures as required in Part I.D.5.e.(i)(c) -Year 3: screen 30% of the MS4 -Year 4: screen 20% of the MS4 -Year 5: screen 50% of the MS4	-Years 1 – 2: develop procedures as required Part I.D.5.e.(i)(c) -Year 3: screen 30% of the MS4 -Year 4: screen 20% of the MS4 -Year 5: screen 50% of the MS4	-Years 1 – 3: develop procedures as require in Part I.D.5.e.(i)(c) -Year 4: screen 30% of the MS4 -Year 5: screen 70% of the MS4
Develop, update, and implement a Waste Collection Program as required in Part I.D.5.e.(iv)	Ten (10) months from effective date of permit	Eighteen (18) months from effective date of permit	Two (2) years from effective date of permit	Two (2) years from effective date of permit	Thirty (30) months from effective date of permit
Develop, update and implement a Spill Prevention and Response program to prevent, contain, and respond to spills that may discharge into the MS4 as required in Part I.D.5.e.(v)	Ten (10) months from effective date of permit	Ten (10) months from effective date of permit	One (1) year from effective date of permit	One (1) year from effective date of permit	Eighteen (18) months from effective date of permit
Update the SWMP document and annual report as required in Part I.D.5.e.(iii), Part I.D.5.e.(vi), and Part I.D.5.e.(vii).	Update as necessary	Update as necessary	Update as necessary	Update as necessary	Update as necessary
Enhance the program to include requirements in Part I.D.5.e.(ix)	Update as necessary	Update as necessary	Update as necessary	Update as necessary	Update as necessary

(*) During development of cooperative programs, the permittee must continue to implement existing programs.

(**) High priority areas include any area where there is ongoing evidence of illicit discharges or dumping, or where there are citizen complaints on more than five (5) separate events within twelve (12) months (***) or MS4s designated by the Director

Note: The deadlines established in this table may be extended by the Director for any MS4 designated as needing a permit after issuance of this permit to accommodate expected date of permit coverage.

f. Control of Floatables Discharges

- (i) The permittee must develop, update, and implement a program to address and control floatables in discharges into the MS4. The floatables control program shall include source controls and, where necessary, structural controls. **Permittees previously covered under NMS000101 or NMR040000 must continue existing programs while updating those programs, as necessary, to comply with the requirements of this permit.** The following elements must be included in the program:

- (a) Develop a schedule for implementation of the program to control floatables in discharges into the MS4 (Note: AMAFCA and the City of Albuquerque should update the schedule according to the findings of the 2005 AMAFCA/COA Floatable and Gross Pollutant Study and other studies); and
- (b) Estimate the annual volume of floatables and trash removed from each control facility and characterize the floatable type.
- (ii) The permittee must include in the SWMP a description of the mechanism(s) utilized to comply with each of the elements required in Part I.D.5.f.(i).
- (iii) The permittee shall assess the overall success of the program, and document the program effectiveness in the annual report.

Table 7. Control of Floatables Discharges - Program Development and Implementation Schedules

Activity	Permittee Class				
	A Phase I MS4s	B Phase II MS4s (2000 Census)	C New Phase II MS4s (2010 Census **)	D MS4s within Indian Lands	Cooperative (*) Any Permittee with cooperative programs
- Develop a schedule to implement the program as required in Part I.D.5.f.(i)(a)	Ten (10) months from the effective date of the permit	Ten (10) months from the effective date of the permit	One (1) year from the effective date of the permit	One (1) year from the effective date of the permit	Eighteen (18) months from the effective date of the permit
-Estimate the annual volume of floatables and trash removed from each control facility and characterize the floatable type as required in Part I.D.5.f.(i)(b)	Ten (10) months from the effective date of the permit	One (1) year from the effective date of the permit	Two (2) years from the effective date of the permit	Two (2) years from the effective date of the permit	Thirty (30) months from the effective date of the permit
Update the SWMP document and annual report as required in Part I.D.5.f.(ii) and Part I.D.5.f.(iii).	Update as necessary	Update as necessary	Update as necessary	Update as necessary	Update as necessary

(*) During development of cooperative programs, the permittee must continue to implement existing programs.

(**) or MS4s designated by the Director

Note: The deadlines established in this table may be extended by the Director for any MS4 designated as needing a permit after issuance of this permit to accommodate expected date of permit coverage.

g. Public Education and Outreach on Stormwater Impacts

- (i) The permittee shall, individually or cooperatively, develop, revise, implement, and maintain a comprehensive stormwater program to educate the community, employees, businesses, and the general public of hazards associated with the illegal discharges and improper disposal of waste and about the impact that stormwater discharges on local waterways, as well as the steps that the public can take to reduce pollutants in stormwater. **Permittees previously covered under NMS000101 and NMR040000 must continue existing programs while updating those programs, as necessary, to comply with the requirements of this permit.**
- (ii) The permittee must implement a public education program to distribute educational knowledge to the community or conduct equivalent outreach activities about the impacts of storm water discharges on water bodies and the steps that the public can take to reduce pollutants in storm water runoff. The permittee must:

- (a) Define the goals and objectives of the program based on high priority community-wide issues;
 - (b) Develop or utilize appropriate educational materials, such as printed materials, billboard and mass transit advertisements, signage at select locations, radio advertisements, television advertisements, and websites;
 - (c) Inform individuals and households about ensuring proper septic system maintenance, ensuring the proper use and disposal of landscape and garden chemicals including fertilizers and pesticides, protecting and restoring riparian vegetation, and properly disposing of used motor oil or household hazardous wastes;
 - (d) Inform individuals and groups how to become involved in local stream and beach restoration activities as well as activities that are coordinated by youth service and conservation corps or other citizen groups;
 - (e) Use tailored public education program, using a mix of locally appropriate strategies, to target specific audiences and communities. Examples of strategies include distributing brochures or fact sheets, sponsoring speaking engagements before community groups, providing public service announcements, implementing educational programs targeted at school age children, and conducting community-based projects such as storm drain stenciling, and watershed cleanups; and
 - (f) Use materials or outreach programs directed toward targeted groups of commercial, industrial, and institutional entities likely to have significant stormwater impacts. For example, providing information to restaurants on the impact of grease clogging storm drains and to garages on the impact of oil discharges. The permittee may tailor the outreach program to address the viewpoints and concerns of all communities, particularly minority and disadvantaged communities, as well as any special concerns relating to children. The permittee must make information available for non-English speaking residents, where appropriate.
- (iii) The permittee must include the following information in the Stormwater Management Program (SWMP) document:
- (a) A description of a program to promote, publicize, facilitate public reporting of the presence of illicit discharges or water quality associated with discharges from municipal separate storm sewers;
 - (b) A description of the education activities, public information activities, and other appropriate activities to facilitate the proper management and disposal of used oil and toxic materials; and
 - (c) A description of the mechanism(s) utilized to comply with each of the elements required in Part I.D.5.g.(i) and Part I.D.5.g.(ii) and its corresponding measurable goal.
- (iv) The permittee must assess the overall success of the program, and document both direct and indirect measurements of program effectiveness in the Annual Report.

Program Flexibility Elements

- (v) Where necessary to comply with the Minimum Control Measures established in Part I.D.5.g.(i) and Part I.D.5.g.(ii), the permittee should develop a program or modify/revise an existing education and outreach program to:
 - (a) Promote, publicize, and facilitate the use of Green Infrastructure (GI)/Low Impact Development (LID)/Sustainability practices; and
 - (b) Include an integrated public education program (including all permittee departments and programs within the MS4) regarding litter reduction, reduction in pesticide/herbicide use, recycling and proper

disposal (including yard waste, hazardous waste materials, and used motor vehicle fluids), and GI/LID/Sustainable practices (including xeriscaping, reduced water consumption, water harvesting practices allowed by the New Mexico State Engineer Office).

- (vi) The permittee may collaborate or partner with other MS4 operators to maximize the program and cost effectiveness of the required outreach.
- (vii) The education and outreach program may use citizen hotlines as a low-cost strategy to engage the public in illicit discharge surveillance.
- (viii) The permittee may use stormwater educational materials provided by the State, Tribe, EPA, environmental, public interest or trade organizations, or other MS4s. The permittee may also integrate the education and outreach program with existing education and outreach programs in the Middle Rio Grande area. Example of existing programs include:
 - (a) Classroom education on stormwater;
 - A. Develop watershed map to help students visualize area impacted.
 - B. Develop pet-specific education
 - (b) Establish a water committee/advisor group;
 - (c) Contribute and participate in Stormwater Quality Team;
 - (d) Education/outreach for commercial activities;
 - (e) Hold regular employee trainings with industry groups
 - (f) Education of lawn and garden activities;
 - (g) Education on sustainable practices;
 - (h) Education/outreach of pet waste management;
 - (i) Education on the proper disposal of household hazardous waste;
 - (j) Education/outreach programs aimed at minority and disadvantaged communities and children;
 - (k) Education/outreach of trash management;
 - (l) Education/outreach in public events;
 - A. Participate in local events—brochures, posters, etc.
 - B. Participate in regional events (i.e., State Fair, Balloon Fiesta).
 - (m) Education/outreach using the media (e.g. publish local newsletters);
 - (n) Education/outreach on water conservation practices designed to reduce pollutants in storm water for home residences.

Table 8. Public Education and Outreach on Stormwater Impacts - Program_Development and Implementation Schedules

Activity	Permittee Class				
	A Phase I MS4s	B Phase II MS4s (2000 Census)	C New Phase II MS4s (2010 Census **)	D MS4s within Indian Lands	Cooperative (*) Any Permittee with cooperative programs
Develop, revise, implement, and maintain an education and outreach program as required in Part I.D.5.g.(i) and Part I.D.5.g.(ii)	Ten (10) months from the effective date of the permit	Eleven (11) months from the effective date of the permit	Twelve (12) months from effective date of the permit	Twelve (12) months from effective date of the permit	Fourteen (14) months from effective date of the permit
Update the SWMP document and annual report as required in Part I.D.5.g.(iii) and Part I.D.5.g.(iv)	Update as necessary	Update as necessary	Update as necessary	Update as necessary	Update as necessary
Enhance the program to include requirements in Part I.D.5.g.(v) through Part I.D.5.g.(viii)	Update as necessary	Update as necessary	Update as necessary	Update as necessary	Update as necessary

(*) During development of cooperative programs, the permittee must continue to implement existing programs.

(**) or MS4s designated by the Director

Note: The deadlines established in this table may be extended by the Director for any MS4 designated as needing a permit after issuance of this permit to accommodate expected date of permit coverage.

h. Public Involvement and Participation

- (i) The permittee must provide local public notice of and make available for public review a copy of the complete NOI and attachments (see Part I.B.2). Local public notice may be made by newspaper notice, notice at a council meeting, posting on the internet, or other method consistent with state/tribal/local public notice requirements.

The permittee must consider all public comments received during the public notice period and modify the NOI, or include a schedule to modify the SWMP, as necessary, or as required by the Director modify the NOI or/and SWMP in response to such comments. The Permittees must include in the NOI any unresolved public comments and the MS4's response to these comments. Responses provided by the MS4 will be considered as part of EPA's decision-making process. See also Appendix E Providing Comments or Requesting a Public Hearing on an Operator's NOI.

- (ii) The permittee shall develop, revise, implement and maintain a plan to encourage public involvement and provide opportunities for participation in the review, modification and implementation of the SWMP; develop and implement a process by which public comments to the plan are received and reviewed by the person(s) responsible for the SWMP; and, make the SWMP available to the public and to the operator of any MS4 or Tribal authority receiving discharges from the MS4. **Permittee previously covered under NMS000101 or NMR040000 must continue existing public involvement and participation programs while updating those programs, as necessary, to comply with the requirements of this permit.**

- (iii) The plan required in Part I.D.5.h.(ii) shall include a comprehensive planning process which involves public participation and where necessary intergovernmental coordination, to reduce the discharge of pollutants to the maximum extent practicable using management practices, control techniques and system, design and engineering methods, and such other provisions which are appropriate. The permittee must include the following elements in the plan:
 - (a) A detailed description of the general plan for informing the public of involvement and participation opportunities, including types of activities; target audiences; how interested parties may access the SWMP; and how the public was involved in development of the SWMP;
 - (b) The development and implementation of at least one (1) assessment of public behavioral change following a public education and/or participation event;
 - (c) A process to solicit involvement by environmental groups, environmental justice communities, civic organizations or other neighborhoods/organizations interested in water quality-related issues, including but not limited to the Middle Rio Grande Water Quality Work Group, the Middle Rio Grande Bosque Initiative, the Middle Rio Grande Endangered Species Act Collaborative Program, the Middle Rio Grande-Albuquerque Reach Watershed Group, the Pueblos of Santa Ana, Sandia and Isleta, Albuquerque Bernalillo County Water Utility Authority, UNM Colleges and Schools, and Chartered Student Organizations; and
 - (d) An evaluation of opportunities to utilize volunteers for stormwater pollution prevention activities and awareness throughout the area.
- (iv) The permittee shall comply with State, Tribal and local public notice requirements when implementing a public involvement/ participation program.
- (v) The public participation process must reach out to all economic and ethnic groups. Opportunities for members of the public to participate in program development and implementation include serving as citizen representatives on a local stormwater management panel, attending public hearings, working as citizen volunteers to educate other individuals about the program, assisting in program coordination with other pre-existing programs, or participating in volunteer monitoring efforts.
- (vi) The permittee must include in the SWMP a description of the mechanism(s) utilized to comply with each of the elements required in Parts I.D.5.h.(i) throughout Part I.D.5.h.(iv) and its corresponding measurable goal.
- (vii) The permittee shall assess the overall success of the program, and document the program effectiveness in the annual report.
- (viii) The permittee must provide public accessibility of the Storm Water Management Program (SWMP) document and Annual Reports online via the Internet and during normal business hours at the MS4 operator's main office, a local library, posting on the internet and/or other readily accessible location for public inspection and copying consistent with any applicable federal, state, tribal, or local open records requirements. Upon a showing of significant public interest, the MS4 operator is encouraged to hold a public meeting (or include in the agenda of in a regularly scheduled city council meeting, etc.) on the NOI, SWMP, and Annual Reports. (See Part III B)

Program Flexibility Elements

- (ix) The permittee may integrate the public Involvement and participation program with existing education and outreach programs in the Middle Rio Grande area. Example of existing programs include: Adopt-A-Stream Programs; Attitude Surveys; Community Hotlines (e.g. establishment of a "311"-type number and system established to handle storm-water-related concerns, setting up a public tracking/reporting

system, using phones and social media); Revegetation Programs; Storm Drain Stenciling Programs; Stream cleanup and Monitoring program/events.

Table 9. Public Involvement and Participation - *Program Development and Implementation Schedules*

Activity	Permittee Class				
	A Phase I MS4s	B Phase II MS4s (2000 Census)	C New Phase II MS4s (2010 Census **)	D MS4s within Indian Lands	Cooperative (*) Any Permittee with cooperative programs
Develop (or update), implement, and maintain a public involvement and participation plan as required in Part I.D.5.h.(ii) and Part I.D.5.h.(iii)	Ten (10) months from effective date of the permit	Ten (10) months from effective date of the permit	Eleven (11) months from effective date of the permit	Eleven (11) months from effective date of the permit	One (1) year from effective date of the permit
Comply with State, Tribal, and local notice requirements when implementing a Public Involvement and Participation Program as required in Part I.D.5.h.(iv)	Ten (10) months from effective date of the permit	Eleven (11) months from effective date of the permit	Twelve (12) months from effective date of the permit	Twelve (12) months from effective date of the permit	Fourteen (14) months from effective date of the permit
Include elements as required in Part I.D.5.h.(v)	Ten (10) months from effective date of the permit	Eleven (11) months from effective date of the permit	One (1) year from effective date of the permit	One (1) year from effective date of the permit	Eighteen (18) months from effective date of the permit
Update the SWMP document and annual report as required in Part I.D.5.h.(vi), Part I.D.5.h.(vii), and Part I.D.5.h.(viii)	Update as necessary	Update as necessary	Update as necessary	Update as necessary	Update as necessary
Enhance the program to include requirements in Part I.D.5.h.(ix)	Update as necessary	Update as necessary	Update as necessary	Update as necessary	Update as necessary

(*) During development of cooperative programs, the permittee must continue to implement existing programs.
(**) or MS4s designated by the Director

Note: The deadlines established in this table may be extended by the Director for any MS4 designated as needing a permit after issuance of this permit to accommodate expected date of permit coverage.

6. Stormwater Management Program Review and Modification.

- a. Program Review. Permittee shall participate in an annual review of its SWMP in conjunction with preparation of the annual report required in Part III.B. Results of the review shall be discussed in the annual report and shall include an assessment of:
 - (i) SWMP implementation, progress in achieving measurable goals, and compliance with program elements and other permit conditions;
 - (ii) the effectiveness of its SWMP, and any necessary modifications, in complying with the permit, including requirements to control the discharge of pollutants, and comply with water quality standards and any applicable approved TMDLs; and the adequacy of staff, funding levels, equipment, and support capabilities to fully implement the SWMP and comply with permit conditions.

- (a) Project staffing requirements, in man hours, for the implementation of the MS4 program during the upcoming year.
 - (b) Staff man hours used during the previous year for implementing the MS4 program. Man hours may be estimated based on staff assigned, assuming a forty (40) hour work week.
- b. Program Modification. The permittee(s) may modify its SWMP with prior notification or request to the EPA and NMED in accordance with this section.
 - (i) Modifications adding, but not eliminating, replacing, or jeopardizing fulfillment of any components, controls, or requirements of its SWMP may be made by the permittee(s) at any time upon written notification to the EPA.
 - (ii) Modifications replacing or eliminating an ineffective or unfeasible component, control or requirement of its SWMP, including monitoring and analysis requirements described in Parts III.A and V, may be requested in writing at any time. If request is denied, the EPA will send a written explanation of the decision. Modification requests shall include the following:
 - (a) a description of why the SWMP component is ineffective, unfeasible (including cost prohibitions), or unnecessary to support compliance with the permit;
 - (b) expectations on the effectiveness of the proposed replacement component; and
 - (c) an analysis of how the proposed replacement component is expected to achieve the goals of the component to be replaced.
 - (iii) Modifications resulting from schedules contained in Part VI may be requested following completion of an interim task or final deadline.
 - (iv) Modification requests or notifications shall be made in writing, signed in accordance with Part IV.H.
- c. Program Modifications Required by EPA. Modifications requested by EPA shall be made in writing, set forth the time schedule for the permittee(s) to develop the modifications, and offer the permittee(s) the opportunity to propose alternative program modifications to meet the objective of the requested modification. The EPA may require changes to the SWMP as needed to:
 - (i) Address impacts on receiving water quality caused, or contributed to, by discharges from the MS4;
 - (ii) Include more stringent requirements necessary to comply with new State or Federal statutory or regulatory requirements;
 - (iii) Include such other conditions deemed necessary by the EPA to comply with the goals and requirements of the Clean Water Act; or
 - (iv) If, at any time, EPA determines that the SWMP does not meet permit requirements.
- d. Transfer of Ownership, Operational Authority, or Responsibility for SWMP Implementation: The permittee(s) shall implement the SWMP:
 - (i) On all new areas added to their portion of the MS4 (or for which they become responsible for implementation of stormwater quality controls) as expeditiously as possible, but not later than one (1) year from addition of the new areas. Implementation may be accomplished in a phased manner to allow additional time for controls that cannot be implemented immediately;

- (ii) Within ninety (90) days of a transfer of ownership, operational authority, or responsibility for SWMP implementation, the permittee(s) shall have a plan for implementing the SWMP on all affected areas. The plan may include schedules for implementation; and information on all new annexed areas and any resulting updates required to the SWMP shall be submitted in the annual report.
7. **Retention of Program Records.** The permittee shall retain SWMP records developed in accordance with Part I.D, Part IV.P, and Part VI for at least five (5) years after coverage under this permit terminates.
 8. **Qualifying State, Tribal or Local Program.** The permittee may substitute the BMPs and measurable goals of an existing storm water pollution control program to qualify for compliance with one or more of the minimum control measures if the existing measure meets the requirements of the minimum control measure as established in Part I.D.5

PART II. NUMERIC DISCHARGE LIMITATIONS

A. DISCHARGE LIMITATIONS. Reserved

PART III. MONITORING, ASSESSMENT, AND REPORTING REQUIREMENTS:

A. MONITORING AND ASSESSMENT

The permittee must develop, in consultation with NMED and EPA (and affected Tribes if monitoring locations would be located on Tribal lands), and implement a comprehensive monitoring and assessment program designed to meet the following objectives:

- Assess compliance with this permit;
- Assess the effectiveness of the permittee's stormwater management program;
- Assess the impacts to receiving waters resulting from stormwater discharges;
- Characterize stormwater discharges;
- Identify sources of elevated pollutant loads and specific pollutants;
- Detect and eliminate illicit discharges and illegal connections to the MS4; and
- Assess the overall health and evaluate long-term trends in receiving water quality.

The permittee shall select specific monitoring locations sufficient to assess effects of storm water discharges on receiving waters. The monitoring program may take advantage of monitoring stations/efforts utilized by the permittees or others in previous stormwater monitoring programs or other water quality monitoring efforts. Data collected by others at such stations may be used to satisfy part, or all, of the permit monitoring requirements provided the data collection by that party meets the requirements established in Part III.A.1 throughout Part III.A.5. The comprehensive monitoring and assessment program shall be described in the SWMP document and the results must be provided in each annual report.

Implementation of the comprehensive monitoring and assessment program may be achieved through participation with other permittees to satisfy the requirements of Part III.A.1 throughout Part III.A.5 below in lieu of creating duplicate program elements for each individual permittee.

1. **Wet Weather Monitoring:** The permittees shall conduct wet weather monitoring to gather information on the response of receiving waters to wet weather discharges from the MS4 during both wet season (July 1 through October 31) and dry season (November 1 through June 30). Wet Weather Monitoring shall be conducted at outfalls, internal sampling stations, and/or in-stream monitoring locations at each water of the US that runs in each entity or entities' jurisdiction(s). Permittees may choose either Option A or Option B below:
 - a. *Option A:* Individual monitoring
 - (i) Class A: Perform wet weather monitoring at a location coming into the MS4 jurisdictional area (upstream) and leaving the MS4 jurisdictional area (downstream), see Appendix D. Monitor for TSS, TDS, COD, BOD₅, DO, oil and grease, *E.coli*, pH, total kjeldahl nitrogen, nitrate plus nitrite, dissolved phosphorus, total ammonia plus organic nitrogen, total phosphorus, PCBs and gross alpha. Monitoring of temperature shall be also conducted at outfalls and/or Rio Grande monitoring locations. Phase I permittees must include additional parameters from monitoring conducted under permit NMS000101 (from last 10 years) whose mean values are at or above a WQS. Permittee must sample these pollutants a minimum of 10 events during the permit term with at least 5 events in wet season and 4 events in dry season.
 - (ii) Class B, C, and D: Perform wet weather monitoring at a location coming into the MS4 jurisdictional area (upstream) and leaving the MS4 jurisdictional area (downstream), see Appendix D. Monitor for TSS, TDS, COD, BOD₅, DO, oil and grease, *E.coli*, pH, total kjeldahl nitrogen, nitrate plus nitrite, dissolved phosphorus, total ammonia plus organic nitrogen, total phosphorus, PCBs and gross alpha. Monitoring of temperature shall be also

conducted at outfalls and/or Rio Grande monitoring locations. If applicable, include additional parameters from monitoring conducted under permits NMR040000 or/and NMR04000I whose mean values are at or above a WQS; sample these pollutants a minimum of 8 events per location during the permit term with at least 4 events in wet season and 2 events in dry season.

b. *Option B: Cooperative Monitoring Program*

Develop a cooperative wet weather monitoring program with other permittees in the Middle Rio Grande watershed (see map in Appendix A). The program will monitor waters coming into the watershed (upstream) and leaving the watershed (downstream), see suggested sampling locations in Appendix D. The program must include sampling for TSS, TDS, COD, BOD5, DO, oil and grease, *E.coli*, pH, total kjeldahl nitrogen, nitrate plus nitrite, dissolved phosphorus, total ammonia plus organic nitrogen, total phosphorus, PCBs and Gross alpha. Monitoring of temperature shall be also conducted at outfalls and/or Rio Grande monitoring locations. Permittees must include additional parameters from monitoring conducted under permits NMS000101, NMR040000 or/and NMR04000I whose mean values are at or above a WQS. The monitoring program must sample the pollutants for a minimum of 7 storm events per location during the permit term with at least 3 events wet season and 2 events in dry season.

Note: Seasonal monitoring periods are: Wet Season: July 1 through October 31; Dry Season: November 1 through June 30.

- c. Wet weather monitoring shall be performed only when the predicted (or actual) rainfall magnitude of a storm event is greater than 0.25 inches and an antecedent dry period of at least forty-eight (48) hours after a rain event greater than 0.1 inch in magnitude is satisfied. Monitoring methodology will consist of collecting a minimum of four (4) grab samples spaced at a minimum interval of fifteen (15) minutes each (or a flow weighted automatic composite, see Part III.A.5.a.(i)). Individual grab samples shall be preserved and delivered to the laboratory where samples will be combined into a single composite sample from each monitoring location.
- d. Monitoring methodology at each MS4 monitoring location shall be collected during any portion of the monitoring location's discharge hydrograph (i.e. first flush, rising limb, peak, and falling limb) after a discernible increase in flow at the tributary inlet.
- e. The permittee must comply with the schedules contained in Table 10. The results of the Wet Weather Monitoring must be provided in each annual report.
- f. DO, pH, conductivity, and temperature shall be analyzed in the field within fifteen (15) minutes of sample collection.
- g. Alternate wet weather monitoring locations established in Part III.A.1.a or Part III.A.1.b may be substituted for just cause during the term of the permit. Requests for approval of alternate monitoring locations shall be made to the EPA and NMED in writing and include the rationale for the requested monitoring station relocation. Unless disapproved by the EPA, use of an alternate monitoring location (except for those with numeric effluent limitations) may commence thirty (30) days from the date of the request. For monitoring locations where numeric effluent limitations have been established, the permit must be modified prior to substitution of alternate monitoring locations. At least six (6) samples shall be collected during the first year of monitoring at substitute monitoring locations. If there are less than six sampleable events, this should be document for reporting purposes.

- h. Response to monitoring results: The monitoring program must include a contingency plan for collecting additional monitoring data within the MS4 or at additional appropriate instream locations should monitoring results indicate that MS4 discharges may be contributing to instream exceedances of WQS. The purpose of this additional monitoring effort would be to identify sources of elevated pollutant loadings so they could be addressed by the SWMP.

Table 10. Wet Weather Monitoring Program Implementation Schedules:

Activity	Permittee Class				
	A Phase I MS4s	B Phase II MS4s (2000 Census)	C New Phase II MS4s (2010 Census **)	D MS4s within Indian Lands	Cooperative (*) Any Permittee with cooperative programs
Submit wet weather monitoring preference to EPA (i.e., individual monitoring program vs. cooperative monitoring program) with NOI submittals	NOI submittal Deadline (see Table 1)	NOI submittal Deadline (see Table 1)	NOI submittal Deadline (see Table 1)	NOI submittal Deadline (see Table 1)	NOI submittal Deadline (see Table 1)
Submit a detailed description of the monitoring scheme to EPA and NMED for approval. The monitoring scheme should include: a list of pollutants; a description of monitoring sites with an explanation of why those sites were selected; and a detailed map of all proposed monitoring sites	Ten (10) months from effective date of permit	Ten (10) months from effective date of permit	Eleven (11) months from effective date of permit	Eleven (11) months from effective date of permit	Twelve (12) months from effective date of permit
Submit certification that all wet weather monitoring sites are operational and begin sampling	March 22, 2016	March 22, 2016	May 21, 2016	May 21, 2016	June 21, 2016
Update SWMP document and submit annual reports	Annually	Annually	Annually	Annually	Annually

() or MS4s designated by the Director**

Note: The deadlines established in this table may be extended by the Director for any MS4 designated as needing a permit after issuance of this permit to accommodate expected date of permit coverage.

2. **Dry Weather Discharge Screening of MS4:** Each permittee shall identify, investigate, and address areas within its jurisdiction that may be contributing excessive levels of pollutants to the Municipal Separate Storm Sewer System as a result of dry weather discharges (i.e., discharges from separate storm sewers that occur without the direct influence of runoff from storm events, e.g. illicit discharges, allowable non-stormwater, groundwater infiltration, etc.). Due to the arid and semi-arid conditions of the area, the dry weather discharges screening program may be carried out during both wet season (July 1 through October 31) and dry Season (November 1 through June 30). Results of the assessment

shall be provided in each annual report. This program may be coordinated with the illicit discharge detection and elimination program required in Part I.D.5.e. The dry weather screening program shall be described in the SWMP and comply with the schedules contained in Part I.D.5.e.(iii). The permittee shall

- a. Include sufficient screening points to adequately assess pollutant levels from all areas of the MS4.
- b. Screen for, at a minimum, BOD₅, sediment or a parameter addressing sediment (e.g., TSS or turbidity), E. coli, Oil and Grease, nutrients, any pollutant that has been identified as cause of impairment of a waterbody receiving discharges from that portion of the MS4, including temperature.
- c. Specify the sampling and non-sampling techniques to be issued for initial screening and follow-up purposes. Sample collection and analysis need not conform to the requirements of 40 CFR Part 136; and
- d. Perform monitoring only when an antecedent dry period of at least seventy-two (72) hours after a rain event greater than 0.1 inch in magnitude is satisfied. Monitoring methodology shall consist of collecting a minimum of four (4) grab samples spaced at a minimum interval of fifteen (15) minutes each. Grab samples will be combined into a single composite sample from each station, preserved, and delivered to the laboratory for analysis. A flow weighted automatic composite sample may also be used.

3. **Floatable Monitoring:** The permittees shall establish locations for monitoring/assessing floatable material in discharges to and/or from their MS4. Floatable material shall be monitored at least twice per year at priority locations and at minimum of two (2) stations except as provided in Part III.A.3. below. The amount of collected material shall be estimated in cubic yards.

- a. One (1) station should be located in the North Diversion (only applicable to the COA and AMAFCA).
- b. Non-traditional MS4 as defined in Part VII shall sample/assess at one (1) station.
- c. Phase II MS4s shall sample/assess at one (1) station within their jurisdiction or participate in a cooperative floatable monitoring plan addressing impacts on perennial waters of the US on a larger watershed basis.

A cooperative monitoring program may be established in partnership with other MS4s to monitor and assess floatable material in discharges to and/or from a joint jurisdictional area or watershed basis.

4. **Industrial and High Risk Runoff Monitoring** (Applicable only to Class A permittees): The permittees shall monitor stormwater discharges from Type 1 and 2 industrial facilities which discharge to the MS4 provided such facilities are located in their jurisdiction. (Note: if no such facilities are in the permittee's jurisdiction, the permittee must certify that this program element does not apply). The permittee shall:

- a. Conduct analytical monitoring of Type 1 facilities that discharge to the MS4. Type 1 facilities are municipal landfills; hazardous waste treatment, disposal and recovery facilities; facilities that are subject to EPCRA Title III, Section 313; and industrial facilities the permittee(s) determines are contributing a substantial pollutant loading to the MS4.
 - (i) The following parameters shall be monitored:
 - any pollutants limited in an existing NPDES permit to a subject facility;

- oil and grease;
 - chemical oxygen demand (COD);
 - pH;
 - biochemical oxygen demand, five-day (BOD₅);
 - total suspended solids (TSS);
 - total phosphorous;
 - total Kjeldahl nitrogen (TKN);
 - nitrate plus nitrite nitrogen;
 - any discharge information required under 40 CFR §122.21(g)(7)(iii) and (iv);
 - total cadmium;
 - total chromium;
 - total copper;
 - total lead;
 - total nickel;
 - total silver;
 - total zinc; and,
 - PCBs.
- (ii) Frequency of monitoring shall be established by the permittee(s), but may not be less than once per year;
- (iii) In lieu of the above parameter list, the permittee(s) may alter the monitoring requirement for any individual Type 1 facility:
- (a) To coincide with the corresponding industrial sector-specific monitoring requirements of the 2008 Multi-Sector General Stormwater Permit or any applicable general permit issued after September 2008. This exception is not contingent on whether a particular facility is actually covered by the general permit; or
 - (b) To coincide with the monitoring requirements of any individual permit for the stormwater discharges from that facility, and
 - (c) Any optional monitoring list must be supplemented by pollutants of concern identified by the permittee(s) for that facility.
- b. Conduct appropriate monitoring (e.g. analytic, visual), as determined by the permittee(s), at Type 2 facilities that discharge to the MS4. Type 2 facilities are other municipal waste treatment, storage, or disposal facilities (e.g. POTWs, transfer stations, incinerators) and industrial or commercial facilities the permittee(s) believed contributing pollutants to the MS4. The permittee shall include in each annual report, a list of parameters of concern and monitoring frequencies required for each type of facility.
- c. May use analytical monitoring data, on a parameter-by-parameter basis, that a facility has collected to comply with or apply for a State or NPDES discharge permit (other than this permit), so as to avoid unnecessary cost and duplication of effort;
- d. May allow the facility to test only one (1) outfall and to report that the quantitative data also apply to the substantially identical outfalls if:
- (i) A Type 1 or Type 2 industrial facility has two (2) or more outfalls with substantially identical effluents, and

- (ii) Demonstration by the facility that the stormwater outfalls are substantially identical, using one (1) or all of the following methods for such demonstration. The NPDES Stormwater Sampling Guidance Document (EPA 833-B-92-001), available on EPA's website at provides detailed guidance on each of the three options: (1) submission of a narrative description and a site map; (2) submission of matrices; or (3) submission of model matrices.
- b. May accept a copy of a "no exposure" certification from a facility made to EPA under 40 CFR §122.26(g), in lieu of analytic monitoring.

5. **Additional Sample Type, Collection and Analysis:**

- a. **Wet Weather (or Storm Event) Discharge Monitoring:** If storm event discharges are collected to meet the objectives of the Comprehensive Monitoring and Assessment Program required in Part III.A (e.g., assess compliance with this permit; assess the effectiveness of the permittee's stormwater management program; assess the impacts to receiving waters resulting from stormwater discharges), the following requirements apply:
 - (i) **Composite Samples:** Flow-weighted composite samples shall be collected as follows:
 - (a) **Composite Method –** Flow-weighted composite samples may be collected manually or automatically. For both methods, equal volume aliquots may be collected at the time of sampling and then flow-proportioned and composited in the laboratory, or the aliquot volume may be collected based on the flow rate at the time of sample collection and composited in the field.
 - (b) **Sampling Duration –** Samples shall be collected for at least the first three (3) hours of discharge. Where the discharge lasts less than three (3) hours, the permittee should report the value. .
 - (c) **Aliquot Collection –** A minimum of three (3) aliquots per hour, separated by at least fifteen (15) minutes, shall be collected. Where more than three (3) aliquots per hour are collected, comparable intervals between aliquots shall be maintained (e.g. six aliquots per hour, at least seven (7) minute intervals).
 - (ii) **Grab Samples:** Grab samples shall be taken during the first two (2) hours of discharge.
- b. **Analytical Methods:** Analysis and collection of samples shall be done in accordance with the methods specified at 40 CFR §136. Where an approved 40 CFR §136 method does not exist, any available method may be used unless a particular method or criteria for method selection (such as sensitivity) has been specified in the permit. The minimum quantification levels (MQLs) in Appendix F are to be used for reporting pollutant data for NPDES permit applications and/or compliance reporting.

Screening level tests may utilize less expensive "field test kits" using test methods not approved by EPA under 40 CFR 136, provided the manufacturers published detection ranges are adequate for the illicit discharge detection purposes.

EPA Method 1668 shall be utilized when PCB water column monitoring is conducted to determine compliance with permit requirements. For purposes of sediment sampling in dry weather as part of a screening program to identify area(s) where PCB control/clean-up efforts may need to be focused, either the Arochlor test (EPA Method 8082) or USGS test method (8093) may be utilized, but must use EPA Method 1668 (latest revision) for confirmation and determination of specific PCB levels at that location.

EPA Method 900.0 shall be utilized when gross alpha water column monitoring is conducted to determine compliance with permit requirements.

B. ANNUAL REPORT

The permittees shall submit an annual report to be submitted by no later than **December 1st**. See suggested form at <http://epa.gov/region6/water/npdes/sw/ms4/index.htm>. The report shall cover the previous year from **July 1st to June 30rd** and include the below separate sections. Additionally, the year one (1) and year four (4) annual report shall include submittal of a complete SWMP revision.

At least forty five (45) days prior to submission of each Annual Report, the permittee must provide public notice of and make available for public review and comment a draft copy of the Annual Report. All public input must be considered in preparation of the final Annual Reports and any changes to the SWMP.

Note: A complete copy of the signed Annual Report should be maintained on site.

1. **SWMP(s) status of implementation:** shall include the status of compliance with all schedules established under this permit and the status of actions required in Parts I, III, and VI.
2. **SWMP revisions:** shall include revisions, if necessary, to the assessments of controls or BMPs reported in the permit application (or NOI for coverage under this permit) under 40 CFR §122.26(d)(2)(v) and §122.34(d)(1)(i) are to be included, as well as a cumulative list of all SWMP revisions during the permit term.

Class A permittees shall include revisions, if necessary, to the fiscal analysis reported in the permit application (or NOI for coverage under this permit) under §122.26(d)(2)(vi).

3. **Performance assessment:** shall include:
 - a. an assessment of performance in terms of measurable goals, including, but not limited to, a description of the number and nature of enforcement actions and inspections, public education and public involvement efforts;
 - b. a summary of the data, including monitoring data, that is accumulated throughout the monitoring year (July 1 to June 30); actual values of representative monitoring results shall be included, if results are above minimum quantification level (MQL); and
 - c. an identification of water quality improvements or degradation.
4. **Annual expenditures:** for the reporting period, with a breakdown for the major elements of the stormwater management program and the budget for the year following each annual report. (Applicable only to Class A permittees)
5. **Annual Report Responsibilities for Cooperative Programs:** preparation of a system-wide report with cooperative programs may be coordinated among cooperating MS4s and then used as part of individual Annual Reports. The report of a cooperative program element shall indicate which, if any, permittee(s) have failed to provide the required information on the portions of the MS4 for which they are responsible to the cooperation permittees.
 - a. Joint responsibility for reports covering cooperative programs elements shall be limited to participation in preparation of the overview for the entire system and inclusion of the identity of any permittee who failed to provide input to the annual report.

- b. Individual permittees shall be individually responsible for content of the report relating to the portions of the MS4 for which they are responsible and for failure to provide information for the system-wide annual report no later than July 31st of each year.
6. **Public Review and Comment:** a brief summary of any issues raised by the public on the draft Annual Report, along with permittee's responses to the public comments.
7. **Signature on Certification of Annual Reports:** The annual report shall be signed and certified, in accordance with Part IV.H and include a statement or resolution that the permittee's governing body or agency (or delegated representative) has reviewed or been apprised of the content of the Annual Report. Annual report shall be due no later than December 1st of each year. A complete copy of the signed Annual Report should be maintained on site.

C. CERTIFICATION AND SIGNATURE OF RECORDS.

All reports required by the permit and other information requested by the EPA shall be signed and certified in accordance with Part IV.H.

D. REPORTING: WHERE AND WHEN TO SUBMIT

1. Monitoring results (Part III.A.1, Part III.A.3, Part III.A.5.a) obtained during the reporting period running from July 1st to June 30th shall be submitted on discharge monitoring report (DMR) forms along with the annual report required by Part III.B. A separate DMR form is required for each monitoring period (season) specified in Part III.A.1. If any individual analytical test result is less than the minimum quantification level (MQL) listed for that parameter, then a value of zero (0) may be used for that test result for the discharge monitoring report (DMR) calculations and reporting requirements. The annual report shall include the actual value obtained, if test result is less than the MQL (See Appendix F).
2. Signed copies of DMRs required under Part III, the Annual Report required by Part III.B, and all other reports required herein, shall be submitted in electronic form to R6_MS4Permits@epa.gov (note: there is an underscore between R6 and MS4).

Copy of a suggested Annual Report Format is located in EPA R6 website:
<http://epa.gov/region6/water/npdes/sw/ms4/index.htm>.

Electronic submittal of the documents required in the permit using a compatible Integrated Compliance Information System (ICIS) format would be allowed if available.

3. Requests for SWMP updates, modifications in monitoring locations, or application for an individual permit shall, be submitted to,:

U.S. EPA, Region 6
Water Quality Protection Division
Operations Support Office (6WQ-O)
1445 Ross Avenue
Dallas, Texas 75202-2733

4. Additional Notification. Permittee(s) shall also provide copies of NOIs, DMRs, annual reports, NOTs, requests for SWMP updates, items for compliance with permit requirements for Compliance with Water Quality Standards in Part I.C.1, TMDL's reports established in Part I.C.2, monitoring scheme, reports, and certifications required in Part III.A.1, programs or changes in monitoring locations, and all other reports required herein, to:

New Mexico Environment Department
Attn: Bruce Yurdin, Program Manager
Surface Water Quality Bureau
Point Source Regulation Section
P.O. Box 5469
Santa Fe, New Mexico 87502

Pueblo of Sandia Environment Department
Attn: Scott Bulgrin, Water Quality Manager
481 Sandia Loop
Bernalillo, NM 87004

(Note: Only those MS4s with discharges upstream of or to waters under the jurisdictional of the Pueblo of Sandia: AMAFCA, Sandoval County, Village of Corrales, City of Rio Rancho, Town of Bernalillo, SSCAFCA, and ESCAFCA)

Pueblo of Isleta
Attn: Ramona M. Montoya, Environment Division Manager
P.O. Box 1270
Isleta NM 87022

(Notes: Only the City of Albuquerque, Albuquerque Metropolitan Arroyo Flood Control Authority (AMAFCA), New Mexico Department of Transportation (NMDOT) District 3, KAFB (Kirtland Air Force Base), Sandia Labs (DOE), and Bernalillo County). All parties submitting an NOI or NOT shall notify the Pueblo of Isleta in writing that a NOI or NOT has been submitted to EPA

Water Resources Division Manager
Pueblo of Santa Ana
2 Dove Road
Santa Ana Pueblo, New Mexico 87004

(Note: Only those MS4s with discharges upstream of or to waters under the jurisdictional of the Pueblo of Santa Ana)

PART IV. STANDARD PERMIT CONDITIONS

A. DUTY TO COMPLY.

The permittee(s) must comply with all conditions of this permit insofar as those conditions are applicable to each permittee, either individually or jointly. Any permit noncompliance constitutes a violation of the Clean Water Act (The Act) and is grounds for enforcement action; for permit termination, revocation and reissuance, or modification; or for denial of a permit renewal application.

B. PENALTIES FOR VIOLATIONS OF PERMIT CONDITIONS.

The EPA will adjust the Civil and administrative penalties listed below in accordance with the Civil Monetary Penalty Inflation Adjustment Rule (Federal Register: Dec. 31, 1996, Volume 61, No. 252, pages 69359-69366, as corrected, March 20, 1997, Volume 62, No. 54, pages 13514-13517) as mandated by the Debt Collection Improvement Act of 1996 for inflation on a periodic basis. This rule allows EPA's penalties to keep pace with inflation. The Agency is required to review its penalties at least once every four years thereafter and to adjust them as necessary for inflation according to a specified formula. The civil and administrative penalties listed below were adjusted for inflation starting in 1996.

1. Criminal Penalties.

- a. **Negligent Violations:** The Act provides that any person who negligently violates permit conditions implementing Sections 301, 302, 306, 307, 308, 318, or 405 of the Act is subject to a fine of not less than \$2,500 nor more than \$25,000 per day of violation, or by imprisonment for not more than one (1) year, or both.
- b. **Knowing Violations:** The Act provides that any person who knowingly violates permit conditions implementing Sections 301, 302, 306, 307, 308, 318, or 405 of the Act is subject to a fine of not less than \$5,000 nor more than \$50,000 per day of violation, or by imprisonment for not more than three (3) years, or both.
- c. **Knowing Endangerment:** The Act provides that any person who knowingly violates permit conditions implementing Sections 301, 302, 306, 307, 308, 318, or 405 of the Act and who knows at that time that he is placing another person in imminent danger of death or serious bodily injury is subject to a fine of not more than \$250,000, or by imprisonment for not more than fifteen (15) years, or both.
- d. **False Statement:** The Act provides that any person who knowingly makes any false material statement, representation, or certification in any application, record, report, plan, or other document filed or required to be maintained under the Act or who knowingly falsifies, tampers with, or renders inaccurate, any monitoring device or method required to be maintained under the Act, shall upon conviction, be punished by a fine of not more than \$10,000 or by imprisonment for not more than two (2) years, or by both. If a conviction is for a violation committed after a first conviction of such person under this paragraph, punishment shall be by a fine of not more than \$20,000 per day of violation, or by imprisonment of not more than four (4) years, or by both. (See Section 309(c)(4) of the Act).

2. Civil Penalties. The Act provides that any person who violates a permit condition implementing Sections 301, 302, 306, 307, 308, 318, or 405 of the Act is subject to a civil penalty not to exceed \$27,500 per day for each violation.

3. Administrative Penalties. The Act provides that any person who violates a permit condition implementing Sections 301, 302, 306, 307, 308, 318, or 405 of the Act is subject to an administrative penalty, as follows:

- a. **Class I penalty:** Not to exceed \$11,000 per violation nor shall the maximum amount exceed \$27,500.

- b. Class II penalty: Not to exceed \$11,000 per day for each day during which the violation continues nor shall the maximum amount exceed \$137,500.
- C. DUTY TO REAPPLY.** If the permittee wishes to continue an activity regulated by this permit after the permit expiration date, the permittee must apply for and obtain a new permit. The application shall be submitted at least 180 days prior to expiration of this permit. The EPA may grant permission to submit an application less than 180 days in advance but no later than the permit expiration date. Continuation of expiring permits shall be governed by regulations promulgated at 40 CFR §122.6 and any subsequent amendments.
- D. NEED TO HALT OR REDUCE ACTIVITY NOT A DEFENSE.** It shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.
- E. DUTY TO MITIGATE.** The permittee(s) shall take all reasonable steps to control or prevent any discharge in violation of this permit which has a reasonable likelihood of adversely affecting human health or the environment.
- F. DUTY TO PROVIDE INFORMATION.** The permittee(s) shall furnish to the EPA, within a time specified by the EPA, any information which the EPA may request to determine compliance with this permit. The permittee(s) shall also furnish to the EPA upon request copies of records required to be kept by this permit.
- G. OTHER INFORMATION.** When the permittee becomes aware that he or she failed to submit any relevant facts or submitted incorrect information in any report to the EPA, he or she shall promptly submit such facts or information.
- H. SIGNATORY REQUIREMENTS.** For a municipality, State, or other public agency, all DMRs, SWMPs, reports, certifications or information either submitted to the EPA or that this permit requires be maintained by the permittee(s), shall be signed by either a:
1. Principal executive officer or ranking elected official; or
 2. Duly authorized representative of that person. A person is a duly authorized representative only if:
 - a. The authorization is made in writing by a person described above and submitted to the EPA.
 - b. The authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility or activity, such as the position of manager, operator, superintendent, or position of equivalent responsibility or an individual or position having overall responsibility for environmental matters for the company. A duly authorized representative may thus be either a named individual or any individual occupying a named position.
 3. If an authorization is no longer accurate because a different individual or position has responsibility for the overall operation of the facility, a new written authorization satisfying the requirements of this paragraph must be submitted to the EPA prior to or together with any reports, information, or applications to be signed by an authorized representative.
 4. Certification: Any person signing documents under this section shall make the following certification: "I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

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- I. PENALTIES FOR FALSIFICATION OF MONITORING SYSTEMS.** The Act provides that any person who falsifies, tampers with, or knowingly renders inaccurate any monitoring device or method required to be maintained under this permit shall, upon conviction, be punished by fines and imprisonment described in Section 309 of the Act.
- J. OIL AND HAZARDOUS SUBSTANCE LIABILITY.** Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the permittee from any responsibilities, liabilities, or penalties to which the permittee is or may be subject under section 311 of the Act or section 106 of CERCLA.
- K. PROPERTY RIGHTS.** The issuance of this permit does not convey any property rights of any sort, nor any exclusive privileges, nor does it authorize any injury to private property nor any invasion of personal rights, nor any infringement of Federal, State or local laws or regulations.
- L. SEVERABILITY.** The provisions of this permit are severable, and if any provision of this permit, or the application of any provision of this permit to any circumstance, is held invalid, the application of such provision to other circumstances, and the remainder of this permit shall not be affected thereby.
- M. REQUIRING A SEPARATE PERMIT.**
1. The EPA may require any permittee authorized by this permit to obtain a separate NPDES permit. Any interested person may petition the EPA to take action under this paragraph. The Director may require any permittee authorized to discharge under this permit to apply for a separate NPDES permit only if the permittee has been notified in writing that a permit application is required. This notice shall include a brief statement of the reasons for this decision, an application form (as necessary), a statement setting a deadline for the permittee to file the application, and a statement that on the effective date of the separate NPDES permit, coverage under this permit shall automatically terminate. Separate permit applications shall be submitted to the address shown in Part III.D. The EPA may grant additional time to submit the application upon request of the applicant. If an owner or operator fails to submit, prior to the deadline of the time extension, a separate NPDES permit application as required by the EPA, then the applicability of this permit to the permittee is automatically terminated at the end of the day specified for application submittal.
 2. Any permittee authorized by this permit may request to be excluded from the coverage of this permit by applying for a separate permit. The permittee shall submit a separate application as specified by 40 CFR §122.26(d) for Class A permittees and by 40 CFR §122.33(b)(2) for Class B, C, and D permittees, with reasons supporting the request to the Director. Separate permit applications shall be submitted to the address shown in Part III.D.3. The request may be granted by the issuance of a separate permit if the reasons cited by the permittee are adequate to support the request.
 3. When an individual NPDES permit is issued to a discharger otherwise subject to this permit, or the permittee is authorized to discharge under an alternative NPDES general permit, the applicability of this permit to the individual NPDES permittee is automatically terminated on the effective date of the individual permit or the date of authorization of coverage under the alternative general permit, whichever the case may be. When an individual NPDES permit is denied to an operator otherwise subject to this permit, or the operator is denied for coverage under an alternative NPDES general permit, the applicability of this permit to the individual NPDES permittee is automatically terminated on the date of such denial, unless otherwise specified by the permitting authority.
- N. STATE / ENVIRONMENTAL LAWS.**
1. Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the permittee from any responsibilities, liabilities, or penalties established pursuant to any applicable State law or regulation under authority preserved by section 510 of the Act.

2. No condition of this permit shall release the permittee from any responsibility or requirements under other environmental statutes or regulations.

O. PROPER OPERATION AND MAINTENANCE. The permittee shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the permittee to achieve compliance with the conditions of this permit and with the requirements of stormwater management programs. Proper operation and maintenance also includes adequate laboratory controls and appropriate quality assurance procedures. Proper operation and maintenance requires the operation of backup or auxiliary facilities or similar systems, installed by a permittee only when necessary to achieve compliance with the conditions of the permit.

P. MONITORING AND RECORDS.

1. The permittee must retain records of all monitoring information, including, all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation, copies of all reports required by this permit, copies of Discharge Monitoring Reports (DMRs), a copy of the NPDES permit, and records of all data used to complete the NOI for this permit, for a period of at least three years from the date of the sample, measurement, report or application, or for the term of this permit, whichever is longer. This period may be extended by request of the permitting authority at any time.
2. The permittee must submit its records to the permitting authority only when specifically asked to do so. The permittee must retain a description of the SWMP required by this permit (including a copy of the permit language) at a location accessible to the permitting authority. The permittee must make its records, including the NOI and the description of the SWMP, available to the public if requested to do so in writing.
3. Records of monitoring information shall include:
 - a. The date, exact place, and time of sampling or measurements;
 - b. The initials or name(s) of the individual(s) who performed the sampling or measurements;
 - c. The date(s) analyses were performed;
 - d. The time(s) analyses were initiated;
 - e. The initials or name(s) of the individual(s) who performed the analyses;
 - f. References and written procedures, when available, for the analytical techniques or methods used; and
 - g. The results of such analyses, including the bench sheets, instrument readouts, computer disks or tapes, etc., used to determine these results.
4. The permittee must maintain, for the term of the permit, copies of all information and determinations used to document permit eligibility under Parts I.A.5.f and Part I.A.3.b.

Q. MONITORING METHODS. Monitoring must be conducted according to test procedures approved under 40 CFR §136, unless other test procedures have been specified in this permit. The minimum quantification levels (MQLs) in Appendix F are to be used for reporting pollutant data for NPDES permit applications and/or compliance reporting.

R. INSPECTION AND ENTRY. The permittee shall allow the EPA or an authorized representative of EPA, or the State, upon the presentation of credentials and other documents as may be required by law, to:

1. Enter the permittee's premises where a regulated facility or activity is located or conducted or where records must be kept under the conditions of this permit;
2. Have access to and copy at reasonable times, any records that must be kept under the conditions of this permit;

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3. Inspect at reasonable times any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this permit; and
4. Sample or monitor at reasonable times, for the purposes of assuring permit compliance or as otherwise authorized by the Act, any substance or parameters at any location.

S. PERMIT ACTIONS. This permit may be modified, revoked and reissued, or terminated for cause. The filing of a request by the permittee for a permit modification, revocation and reissuance, or termination, or a notification of planned changes or anticipated noncompliance does not stay any permit condition.

T. ADDITIONAL MONITORING BY THE PERMITTEE(S). If the permittee monitors more frequently than required by this permit, using test procedures approved under 40 CFR §136 or as specified in this permit, the results of this monitoring shall be included in the calculation and reporting of the data submitted in the Discharge Monitoring Report (DMR). Such increased monitoring frequency shall also be indicated on the DMR.

U. ARCHEOLOGICAL AND HISTORIC SITES (Applicable to areas within the corporate boundary of the City of Albuquerque and Tribal lands). This permit does not authorize any stormwater discharges nor require any controls to control stormwater runoff which are not in compliance with any historic preservation laws.

1. In accordance with the Albuquerque Archaeological Ordinance (Section 2-12-2, 14-16-5, and 14-14-3-4), an applicant for either:
 - a. A preliminary plan for any subdivision that is five acres or more in size; or
 - b. A site development plan or master development plan for a project that is five acres or more in size on property that is zoned SU-1 Special Use, IP Industrial Park, an SU-2 zone that requires site plan review, PC Planned Community with a site, or meets the Zoning Code definition of a Shopping Center must first obtain either a Certificate of No Effect or a Certificate of Approval from the City Archaeologist. Details of the requirements for a Certificate of No Effect or a Certificate of Approval are described in the ordinance. Failure to obtain a certificate as required by ordinance shall subject the property owner to the penalties of §1-1-99 ROA 1994.
2. If municipal excavation and/or construction projects implementing requirements of this permit will result in the disturbance of previously undisturbed land, and the project is not required to have a separate NPDES permit (e.g. general permit for discharge of stormwater associated with construction activity), then the permittee may seek authorization for stormwater discharges from such sites of disturbance by:
 - a. Submitting, thirty (30) days prior to commencing land disturbance, the following to the State Historic Preservation Officer (SHPO) and to appropriate Tribes and Tribal Historic Preservation Officers for evaluation of possible effects on properties listed or eligible for listing on the National Register of Historic Places:
 - (i) A description of the construction or land disturbing activity and the potential impact that this activity may have upon the ground, and
 - (ii) A copy of a USGS topographic map outlining the location of the project and other ancillary impact areas.
 - (iii) The addresses of the SHPO, Sandia Pueblo, and Isleta Pueblo are:

State Historic Preservation Officer
New Mexico Historic Preservation Division

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Bataan Memorial Building
407 Galisteo Street, Ste. 236
Santa Fe, New Mexico 87501

Pueblo of Sandia Environment Department
Attn: Frank Chaves, Environment Director
481 Sandia Loop
Bernalillo, New Mexico 87004

Pueblo of Isleta
Department of Cultural and Historic Preservation
Attn: Daniel Waseta, Director
P.O. Box 1270
Isleta NM 87022

Water Resources Division Manager
Pueblo of Santa Ana
2 Dove Road
Santa Ana Pueblo, New Mexico 87004

3. If the permittee receives a request for an archeological survey or notice of adverse effects from the SHPO, the permittee shall delay such activity until:
 - a. A cultural resource survey report has been submitted to the SHPO for a review and a determination of no effect or no adverse effect has been made, and
 - b. If an adverse effect is anticipated, measures to minimize harm to historic properties have been agreed upon between the permittee and the SHPO.
4. If the permittee does not receive notification of adverse effects or a request for an archeological survey from the SHPO within thirty (30) days, the permittee may proceed with the activity.
5. Alternately, the permittee may obtain authorization for stormwater discharges from such sites of disturbance by applying for a modification of this permit. The permittee may apply for a permit modification by submitting the following information to the Permitting Authority 180 days prior to commencing such discharges:
 - a. A letter requesting a permit modification to include discharges from activities subject to this provision, in accordance with the signatory requirements in Part IV.H.
 - b. A description of the construction or land disturbing activity and the potential impact that this activity may have upon the ground; County in which the facility will be constructed; type of facility to be constructed; size area (in acres) that the facility will encompass; expected date of construction; and whether the facility is located on land owned or controlled by any political subdivision of New Mexico; and
 - c. A copy of a USGS topographic map outlining the location of the project and other ancillary impact areas.

- V. **CONTINUATION OF THE EXPIRED GENERAL PERMIT.** If this permit is not reissued or replaced prior to the expiration date, it will be administratively continued in accordance with the Administrative Procedures Act and remain in force and effect. Any permittee who was granted permit coverage prior to the expiration date will automatically remain covered by the continued permit until the earlier of:

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1. Reissuance or replacement of this permit, at which time the permittee must comply with the Notice of Intent conditions of the new permit to maintain authorization to discharge; or
 2. Issuance of an individual permit for your discharges; or
 3. A formal permit decision by the permitting authority not to reissue this general permit, at which time the permittee must seek coverage under an alternative general permit or an individual permit.
- W. **PERMIT TRANSFERS:** This permit is not transferable to any person except after notice to the permitting authority. The permitting authority may require modification or revocation and reissuance of the permit to change the name of the permittee and incorporate such other requirements as may be necessary under the Act.
- X. **ANTICIPATED NONCOMPLIANCE.** The permittee must give advance notice to the permitting authority of any planned changes in the permitted small MS4 or activity which may result in noncompliance with this permit. (see
- Y. **PROCEDURES FOR MODIFICATION OR REVOCATION:** Permit modification or revocation will be conducted according to 40 CFR 122.62, 122.63, 122.64 and 124.5.

PART V. PERMIT MODIFICATION

- A. MODIFICATION OF THE PERMIT.** The permit may be reopened and modified, in accordance with 40 CFR §122.62, §122.63, and §124.5, during the life of the permit to address:
1. Changes in the State's Water Quality Management Plan, including Water Quality Standards;
 2. Changes in applicable water quality standards, statutes or regulations;
 3. A new permittee who is the owner or operator of a portion of the MS4;
 4. Changes in portions of the SWMP that are considered permit conditions;
 5. Construction activities implementing requirements of this permit that will result in the disturbance of previously undisturbed land and not required to have a separate NPDES permit; or
 6. Other modifications deemed necessary by the EPA to meet the requirements of the Act.
- B. MODIFICATION OF THE SWMP(s).** Only those portions of the SWMPs specifically required as permit conditions shall be subject to the modification requirements of 40 CFR §124.5. Addition of components, controls, or requirements by the permittee(s); replacement of an ineffective or infeasible control implementing a required component of the SWMP with an alternate control expected to achieve the goals of the original control; and changes required as a result of schedules contained in Part VI shall be considered minor changes to the SWMP and not modifications to the permit. (See also Part I.D.6)
- C. CHANGES IN REPRESENTATIVE MONITORING SITES.** Changes in monitoring sites, other than those with specific numeric effluent limitations (as described in Part III.A.1.g), shall be considered minor modifications to the permit and shall be made in accordance with the procedures at 40 CFR §122.63.

PART VI. SCHEDULES FOR IMPLEMENTATION AND COMPLIANCE.

- A. IMPLEMENTATION AND AUGMENTATION OF THE SWMP(s).** The permittee(s) shall comply with all elements identified in Parts I and III for SWMP implementation and augmentation, and permit compliance. The EPA shall have sixty (60) days from receipt of a modification or augmentation made in compliance with Part VI to provide comments or request revisions. During the initial review period, EPA may extend the time period for review and comment. The permittee(s) shall have thirty (30) days from receipt of the EPA's comments or required revisions to submit a response. All changes to the SWMP or monitoring plans made to comply with schedules in Parts I and III must be approved by EPA prior to implementation.
- B. COMPLIANCE WITH EFFLUENT LIMITATIONS.** Reserved.
- C. REPORTING COMPLIANCE WITH SCHEDULES.** No later than fourteen (14) days following a date for a specific action (interim milestone or final deadline) identified in the Part VI schedule(s), the permittee(s) shall submit a written notice of compliance or noncompliance to the EPA in accordance with Part III.D.
- D. MODIFICATION OF THE SWMP(s).** The permittee(s) shall modify its SWMP, as appropriate, in response to modifications required in Part VI.A. Such modifications shall be made in accordance with Part V.B.

PART VII. DEFINITIONS

All definitions contained in Section 502 of the Act shall apply to this permit and are incorporated herein by reference. Unless otherwise specified, additional definitions of words or phrases used in this permit are as follows:

- (1) **Baseline Load** means the load for the pollutant of concern which is present in the waterbody before BMPs or other water quality improvement efforts are implemented.
- (2) **Best Management Practices (BMPs)** means schedules of activities, prohibitions of practices, maintenance procedures, and other management practices to prevent or reduce the discharge of pollutants to waters of the United States. BMPs also include treatment requirements, operating procedures, and practices to control plant site runoff, spillage or leaks, sludge or waste disposal, or drainage from raw material storage.
- (3) **Bioretention** means the water quality and water quantity stormwater management practice using the chemical, biological and physical properties of plants, microbes and soils for the removal of pollution from stormwater runoff.
- (4) **Canopy Interception** means the interception of precipitation, by leaves and branches of trees and vegetation that does not reach the soil.
- (5) **Contaminated Discharges:** The following discharges are considered contaminated:
 - Has had a discharge resulting in the discharge of a reportable quantity for which notification is or was required pursuant to 40 CFR 117.21 or 40 CFR 302.6 at any time since November 16, 1987; or
 - Has had a discharge resulting in the discharge of a reportable quantity for which notification is or was required pursuant to 40 CFR 110.6 at any time since November 16, 1987; or
 - Contributes to a violation of an applicable water quality standard.
- (6) **Controls or Control Measures or Measures** means schedules of activities, prohibitions of practices, maintenance procedures, and other management practices to prevent or control the pollution of waters of the United States. Controls also include treatment requirements, operating procedures, and practices to control plant site runoff, spillage or leaks, sludge or waste disposal, or drainage from raw material storage.
- (7) **Controllable Sources:** Sources, private or public, which fall under the jurisdiction of the MS4.
- (8) **CWA or The Act** means Clean Water Act (formerly referred to as the Federal Water Pollution Control Act or Federal Water Pollution Control Act Amendments of 1972) Pub.L. 92-500, as amended Pub. L. 95-217, Pub. L. 95-576, Pub. L. 96-483 and Pub. L. 97-117, 33 U.S.C. 1251 et.seq.
- (9) **Co-permittee** means a permittee to a NPDES permit that is only responsible for permit conditions relating to the discharge for which it is operator.
- (10) **Composite Sample** means a sample composed of two or more discrete samples. The aggregate sample will reflect the average water quality covering the compositing or sample period.
- (11) **Core Municipality** means, for the purpose of this permit, the municipality whose corporate boundary (unincorporated area for counties and parishes) defines the municipal separate storm sewer system. (ex. City of Dallas for the Dallas Municipal Separate Storm Sewer System, Harris County for unincorporated Harris County).
- (12) **Direct Connected Impervious Area (DCIA)** means the portion of impervious area with a direct hydraulic connection to the permittee's municipal separate storm sewer system or a waterbody via continuous paved surfaces, gutters, pipes, and other impervious features. Direct connected impervious area typically does not include isolated impervious areas with an indirect hydraulic connection to the municipal separate storm sewer system (e.g., swale or detention basin) or that otherwise drain to a pervious area.
- (13) **Director** means the Regional Administrator or an authorized representative.
- (14) **Discharge** for the purpose of this permit, unless indicated otherwise, means discharges from the municipal separate storm sewer system.
- (15) **Discharge-related activities** include: activities which cause, contribute to, or result in storm water point source pollutant discharges; and measures to control storm water discharges, including the siting, construction and operation of best management practices (BMPs) to control, reduce or prevent storm water pollution.
- (16) **Engineered Infiltration** means an underground device or system designed to accept stormwater and slowly exfiltrates it into the underlying soil. This device or system is designed based on soil tests that define the exfiltration rate.
- (17) **Evaporation** means rainfall that is changed or converted into a vapor.
- (18) **Evapotranspiration** means the sum of evaporation and transpiration of water from the earth's surface to the atmosphere. It includes evaporation of liquid or solid water plus the transpiration of plants.
- (19) **Extended Filtration** means a structural stormwater practice which filters stormwater runoff through vegetation and engineered soil media. A portion of the stormwater runoff drains into an underdrain system which slowly releases it after the storm is over.

- (20) **Facility** means any NPDES "point source" or any other facility (including land or appurtenances thereto) that is subject to regulation under the NPDES program.
- (21) **Flood Control Projects** mean major drainage projects developed to control water quantity rather than quality, including channelization and detention.
- (22) **Flow-weighted composite sample** means a composite sample consisting of a mixture of aliquots collected at a constant time interval, where the volume of each aliquot is proportional to the flow rate of the discharge.
- (23) **Grab Sample** means a sample which is taken from a wastestream on a one-time basis without consideration of the flow rate of the wastestream and without consideration of time.
- (24) **Green Infrastructure** means an array of products, technologies, and practices that use natural systems – or engineered systems that mimic natural processes – to enhance overall environmental quality and provide utility services. As a general principal, Green Infrastructure techniques use soils and vegetation to infiltrate, evapotranspire, and/or recycle stormwater runoff. When used as components of a stormwater management system, Green Infrastructure practices such as green roofs, porous pavement, rain gardens, and vegetated swales can produce a variety of environmental benefits. In addition to effectively retaining and infiltrating rainfall, these technologies can simultaneously help filter air pollutants, reduce energy demands, mitigate urban heat islands, and sequester carbon while also providing communities with aesthetic and natural resource benefits.
- (25) **Hydromodification** means the alteration of the natural flow of water through a landscape, and often takes the form of channel straightening, widening, deepening, or relocating existing, natural stream channels. It also can involve excavation of borrow pits or canals, building of levees, streambank erosion, or other conditions or practices that change the depth, width or location of waterways. Hydromodification usually results in water quality and habitat impacts.
- (26) **Illicit connection** means any man-made conveyance connecting an illicit discharge directly to a municipal separate storm sewer.
- (27) **Illicit discharge** means any discharge to a municipal separate storm sewer that is not composed entirely of stormwater except discharges pursuant to a NPDES permit (other than the NPDES permit for discharges from the municipal separate storm sewer) and discharges resulting from fire fighting activities.
- (28) **Impervious Area (IA)** means conventional pavements, sidewalks, driveways, roadways, parking lots, and rooftops.
- (29) **Indian Country** means:
- All land within the limits of any Indian reservation under the jurisdiction of the United States Government, notwithstanding the issuance of any patent, and, including rights-of-way running through the reservation;
 - All dependent Indian communities within the borders of the United States whether within the originally or subsequently acquired territory thereof, and whether within or without the limits of a state; and
 - All Indian allotments, the Indian titles to which have not been extinguished, including rights-of-way running through the same. This definition includes all land held in trust for an Indian tribe.
- (30) **Individual Residence** means, for the purposes of this permit, single or multi-family residences. (e.g. single family homes and duplexes, town homes, apartments, etc.)
- (31) **Infiltration** means the process by which stormwater penetrates the soil.
- (32) **Land application unit** means an area where wastes are applied onto or incorporated into the soil surface (excluding manure spreading operations) for treatment or disposal.
- (33) **Landfill** means an area of land or an excavation in which wastes are placed for permanent disposal, and which is not a land application unit, surface impoundment, injection well, or waste pile.
- (34) **Land Use** means the way in which land is used, especially in farming and municipal planning.
- (35) **Large or medium municipal separate storm sewer system** means all municipal separate storm sewers that are either: (i) located in an incorporated place (city) with a population of 100,000 or more as determined by the latest Decennial Census by the Bureau of Census (these cities are listed in Appendix F of 40 CFR §122); or (ii) located in the counties with unincorporated urbanized populations of 100,000 or more, except municipal separate storm sewers are located in the incorporated places, townships, or towns within such counties (these counties are listed in Appendices H and I of 40 CFR §122); or (iii) owned or operated by a municipality other than those described in Paragraph (i) or (ii) and that are designated by the Regional Administrator as part of the large or medium municipal separate storm sewer system.
- (36) **MEP** means maximum extent practicable, the technology-based discharge standard for municipal separate storm sewer systems to reduce pollutants in storm water discharges. A discussion of MEP as it applies to small MS4s is found at 40 CFR 122.34. CWA section 402(p)(3)(B)(iii) requires that a municipal permit “shall require controls to reduce the discharge of pollutants to the maximum extent practicable, including management practices, control techniques and system design, and engineering methods, and other provisions such as the Administrator or the State determines appropriate for the control of such pollutants.
- (37) **Measurable Goal** means a quantitative measure of progress in implementing a component of storm water management program.

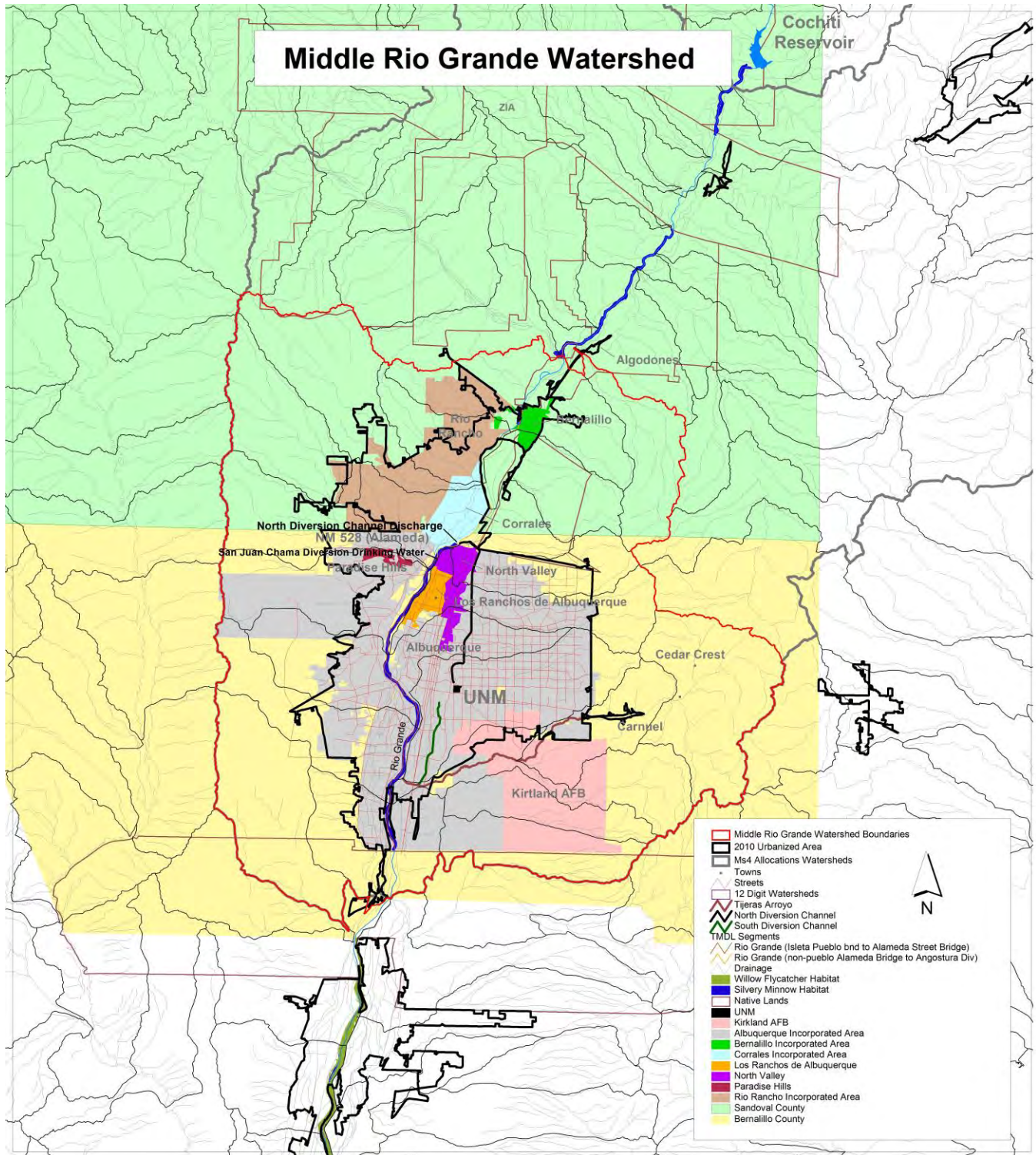
- (38) **Municipal Separate Storm Sewer (MS4)** means all separate storm sewers that are defined as “large” or “medium” or “small” municipal separate storm sewer systems pursuant to paragraphs 40 CFR §122.26(b)(4), (b)(7), and (b)(16), or designated under paragraph 40 CFR §122.26(a)(1)(v).
- (39) **Non-traditional MS4** means systems similar to separate storm sewer systems in municipalities, such as systems at military bases, large hospital or prison complexes, and highways and other thoroughfares. The term does not include separate storm sewers in very discrete areas, such as individual buildings. 40 CFR 122.26(a)(16)(iii).
- (40) **NOI** means Notice of Intent to be covered by this permit (see Part I.B of this permit)
- (41) **NOT** means Notice of Termination.
- (42) **Outfall** means a *point source* as defined by 40 CFR 122.2 at the point where a municipal separate storm sewer discharges to waters of the United States and does not include open conveyances connecting two municipal separate storm sewers, or pipes, tunnels or other conveyances which connect segments of the same stream or other waters of the United States and are used to convey waters of the United States.
- (43) **Percent load reduction** means the difference between the baseline load and the target load divided by the baseline load.
- (44) **Owner or operator** means the owner or operator of any “facility or activity” subject to regulation under the NPDES program.
- (45) **Permittee** refers to any person (defined below) authorized by this NPDES permit to discharge to Waters of the United States.
- (46) **Permitting Authority** means EPA, Region 6.
- (47) **Person** means an individual, association, partnership, corporation, municipality, State or Federal agency, or an agent or employee thereof.
- (48) **Point Source** means any discernible, confined, and discrete conveyance, including but not limited to, any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, container, rolling stock, concentrated animal feeding operation, landfill leachate collection system, vessel or other floating craft from which pollutants are or may be discharged. This term does not include return flows from irrigated agriculture or agricultural stormwater runoff.
- (49) **Pollutant** is defined at 40 CFR 122.2. Pollutant means dredged spoil, solid waste, incinerator residue, filter back-wash, sewage, garbage, sewage sludge. Munitions, chemical waste, biological materials, radioactive materials (except those regulated under the Atomic Energy Act of 1954, as amended (42 U.S.C. 2011), heat, wrecked or discarded equipment, rock sand, cellar dirt and industrial, municipal, and agricultural waste discharged into water.
- (50) **Pre-development Hydrology**, Predevelopment hydrology is generally the rain volume at which runoff would be produced when a site or an area is in its natural condition, prior to development disturbances. For the Middle Rio Grande area, EPA considers predevelopment conditions to be a mix of woods and desert shrub.
- (51) **Rainfall and Rainwater Harvesting** means the collection, conveyance, and storage of rainwater. The scope, method, technologies, system complexity, purpose, and end uses vary from rain barrels for garden irrigation in urban areas, to large-scale collection of rainwater for all domestic uses.
- (52) **Soil amendment** means adding components to in-situ or native soils to increase the spacing between soil particles so that the soil can absorb and hold more moisture. The amendment of soils changes various other physical, chemical and biological characteristics so that the soils become more effective in maintaining water quality.
- (53) **Storm drainage projects** include stormwater inlets, culverts, minor conveyances and a host of other structures or devices.
- (54) **Storm sewer**, unless otherwise indicated, means a municipal separate storm sewer.
- (55) **Stormwater** means stormwater runoff, snow melt runoff, and surface runoff and drainage.
- (56) **Stormwater Discharge Associated with Industrial Activity** means the discharge from any conveyance which is used for collecting and conveying stormwater and which is directly related to manufacturing, processing, or raw materials storage areas at an industrial plant (See 40 CFR §122.26(b)(14) for specifics of this definition).
- (57) **Target load** means the load for the pollutant of concern which is necessary to attain water quality goals (e.g. applicable water quality standards).
- (58) **Stormwater Management Program (SWMP)** means a comprehensive program to manage the quality of stormwater discharged from the municipal separate storm sewer system. For the purposes of this permit, the Stormwater Management Program is considered a single document, but may actually consist of separate programs (e.g. "chapters") for each permittee.
- (59) **Targeted controls** means practices implemented to address particular pollutant of concern. For example litter program targets floatables.
- (60) **Time-weighted composite** means a composite sample consisting of a mixture of equal volume aliquots collected at a constant time interval.
- (61) **Total Maximum Daily Load (TMDL)** means a calculation of the maximum amount of a pollutant that a waterbody can receive and still meet water quality standards. A TMDL is the sum of individual wasteload allocations for point sources (WLA), load allocations for non-point sources and natural background (LA), and must consider seasonal variation and include a margin of safety. The TMDL comes in the form of a technical document or plan.

- (62) **Toxicity** means an LC50 of <100% effluent.
- (63) **Waste load allocation (WLA)** means the portion of a receiving water's loading capacity that is allocated to one of its existing or future point sources of pollution. WLAs constitute a type of water quality-based effluent limitation.
- (64) **Wetlands** means those areas that are inundated or saturated by surface or ground water at a frequency and duration to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas.
- (65) **Whole Effluent Toxicity (WET)** means the aggregate toxic effect of an effluent measured directly by a toxicity test.

PART VIII PERMIT CONDITIONS APPLICABLE TO SPECIFIC AREAS OR INDIAN COUNTY LANDS

Reserved

Appendix A - Middle Rio Grande Watershed Jurisdictions and Potential Permittees



Middle Rio Grande Watershed Jurisdictions and Potential Permittees

Class A:

City of Albuquerque
AMAFCA (Albuquerque Metropolitan Arroyo Flood Control Authority)
UNM (University of New Mexico)
NMDOT (New Mexico Department of Transportation District 3)

Class B:

Bernalillo County
Sandoval County
Village of Corrales
City of Rio Rancho
Los Ranchos de Albuquerque
KAFB (Kirtland Air Force Base)
Town of Bernalillo
EXPO (State Fairgrounds/Expo NM)
SSCAFCA (Southern Sandoval County Arroyo Flood Control Authority)
NMDOT (New Mexico Department of Transportation District 3)

Class C:

ESCAFCA (Eastern Sandoval County Arroyo Flood Control Authority)
Sandia Labs (DOE)

Class D:

Pueblo of Sandia
Pueblo of Isleta
Pueblo of Santa Ana

Note: There could be additional potential permittees.

NMDOT Dist. 3 falls into the Class A type permittee, if an individual program is developed or/and implemented. The timelines for cooperative programs should be used, if NMDOT Dist. 3 cooperates with other permittees.

Appendix B - Total Maximum Daily Loads (TMDLs)

B.1. Approved Total Maximum Daily Loads (TMDLs) Tables

A bacteria TMDL for the Middle Rio Grande was approved by the New Mexico Water Quality Control Commission on April 13, 2010, and by EPA on June 30, 2010. The new TMDL modifies: 1) the indicator parameter for bacteria from fecal coliform to *E. coli*, and 2) the way the WLAs are assigned

Discharges to Impaired Waters – TMDL Waste Load Allocations (WLAs)² for *E. coli*: Rio Grande¹

Stream Segment	Stream Name	Permittee Class	FLOW CONDITIONS & ASSOCIATED WLA (cfu/day) ³				
			High	Moist	Mid-Range	Dray	Low
2105_50	Isleta Pueblo boundary to Alameda Street Bridge (based on flow at USGS Station NM08330000)	Class A ⁴	3.36x10 ¹⁰	8.41 x10 ¹⁰	5.66 x10 ¹⁰	2.09 x10 ¹⁰	4.67 x10 ⁹
		Class B ⁵ Class C ⁶	3.73 x10 ⁹	9.35 x10 ⁹	6.29 x10 ⁹	2.32 x10 ⁹	5.19 x10 ⁸
2105.1_00	non-Pueblo Alameda Bridge to Angostura Diversion (based on flow at USGS Station NM08329928)	Class A	5.25 x10 ¹⁰	1.52 x10 ¹⁰	–	5.43 x10 ⁹	2.80 x10 ⁹
		Class B Class C	2.62 x10 ¹¹	7.59 x10 ¹⁰	–	2.71 x10 ¹⁰	1.40 x10 ¹⁰

- 1 Total Maximum Daily Load for the Middle Rio Grande Watershed, NMED, 2010.
- 2 The WLAs for the stormwater MS4 permit was based on the percent jurisdiction area approach. Thus, the MS4 WLAs are a percentage of the available allocation for each hydrologic zone, where the available allocation = TMDL – WLA – MOS.
- 3 Flow conditions relate to percent of days the flow in the Rio Grande at a USGS Gauge exceeds a particular level: High 0-10%; Moist 10-40%; Mid-Range 40-60%; Dry 60-90%; and Low 90-100%. (Source: Figures 4.3 and 4.4 in 2010 Middle Rio Grande TMDL)
- 4 Phase I MS4s
- 5 Phase II MS4s (2000 Census)
- 6 New Phase II MS4s (2010 Census or MS4s designated by the Director)

Estimating Target Loadings for Particular Monitoring Location:

The Table in B.2 below provides a mechanism to calculate, based on acreage within a drainage area, a target loading value for a particular monitoring location.

B.2. Calculating Alternative Sub-measurable Goals

Individual permittees or a group of permittees seeking alternative sub-measurable goals under C.2.b.(i).(c).B should consult NMED. Preliminary proposals should be submitted with the Notice of Intent (NOI) under Part I.B.2.k according to the due dates specified in Part I.B.1.a of the permit. This proposal shall include, but is not limited to, the following items

B.2.1 Determine base loading for subwatershed areas consistent with TMDL

- a. Using the table below, the permittee must develop a target load consistent with the TMDL for any sampling point in the watershed (even if it includes area outside the jurisdictional area of the permit).

E. coli loading on a per area basis (cfu/sq mi/day)

	high	moist	mid	dry	low
Alameda to Isleta	1.79E+09	4.48E+08	3.02E+08	1.11E+08	2.58E+07
Angostura to Alameda	3.25E+09	9.41E+08	5.19E+08	3.37E+08	1.74E+08

- b. An estimation of the pertinent, subwatershed area that the permittee is responsible for and the basis for determining that area, including the means for excluding any tributary inholdings;
- c. Using the total loading for the watershed (from part a) and the percentage of the watershed area that is part of the permittee(s) jurisdiction (part b) to calculate a base WLA for this subwatershed.

B.2.2 Set Alternative subwatershed targets

- a. Permittee(s) may reallocate WLA within and between subwatershed based on factors including:
 - Population density within the pertinent watershed area;
 - Slope of the waterway;
 - Percent impervious surface and how that value was determined;
 - Stormwater treatment, installation of green infrastructure for the control or treatment of stormwater and stormwater pollution prevention and education programs within specific watersheds
- b. A proposal for an alternative subwatershed target must include the rationale for the factor(s) used

B.2.3 Ensure overall compliance with TMDL WLA allocation

The permittee(s) will provide calculations demonstrating the total WLA under the alternative proposed in (Part II) is consistent with the baseline calculated in (Part I) based on their total jurisdictional area. Permittee(s) will not be allowed to allocate more area within the watershed than is accorded to them under their jurisdictional area. For permittees that work cooperatively, WLA calculations may be combined and used where needed within the sub-watershed amongst the cooperating parties.

WLA calculations must be sent as part of the Notice of Intent to EPA via e-mail at R6_MS4Permits@epa.gov. These calculations must also be sent to:

Sarah Holcomb
 Industrial and Stormwater Team Leader
 NMED Surface Water Quality Bureau
 P.O. Box 5469,

Appendix C - Historic Properties Eligibility Procedures

MS4 operators must determine whether their MS4's storm water discharges, allowable non-storm water discharges, or construction of best management practices (BMPs) to control such discharges, have potential to affect a property that is either listed or eligible for listing on the National Register of Historic Places.

For existing dischargers who do not need to construct BMPs for permit coverage, a simple visual inspection may be sufficient to determine whether historic properties are affected. However, for MS4s which are new storm water dischargers and for existing MS4s which are planning to construct BMPs for permit eligibility, MS4 operators should conduct further inquiry to determine whether historic properties may be affected by the storm water discharge or BMPs to control the discharge. In such instances, MS4 operators should first determine whether there are any historic properties or places listed on the National Register or if any are eligible for listing on the register (e.g., they are "eligible for listing").

Due to the large number of entities seeking coverage under this permit and the limited number of personnel available to State and Tribal Historic Preservation Officers nationwide to respond to inquiries concerning the location of historic properties, EPA suggests that MS4 operators first access the "National Register of Historic Places" information listed on the National Park Service's web page (www.nps.gov/nr/). Addresses for State Historic Preservation Officers and Tribal Historic Preservation Officers are listed in Parts II and III of this appendix, respectively. In instances where a Tribe does not have a Tribal Historic Preservation Officer, MS4 operators should contact the appropriate Tribal government office when responding to this permit eligibility condition. MS4 operators may also contact city, county or other local historical societies for assistance, especially when determining if a place or property is eligible for listing on the register. Tribes that do not currently reside in an area may also have an interest in cultural properties in areas they formerly occupied. Tribal contact information is available at <http://www.epa.gov/region06/6dra/oejta/tribalaffairs/index.html>

The following three scenarios describe how MS4 operators can meet the permit eligibility criteria for protection of historic properties under this permit:

- (1) If historic properties are not identified in the path of an MS4's storm water and allowable non-storm water discharges or where construction activities are planned to install BMPs to control such discharges (e.g., diversion channels or retention ponds), then the MS4 operator has met the permit eligibility criteria under Part I.A.3.b.(i).
- (2) If historic properties are identified but it is determined that they will not be affected by the discharges or construction of BMPs to control the discharge, the MS4 operator has met the permit eligibility criteria under Part.I.A.3.b.(ii).
- (3) If historic properties are identified in the path of an MS4's storm water and allowable non-storm water discharges or where construction activities are planned to install BMPs to control such discharges, and it is determined that there is the potential to adversely affect the property, the MS4 operator can still meet the permit eligibility criteria under Part I.A.3.b.(ii) if he/she obtains and complies with a written agreement with the appropriate State or Tribal Historic Preservation Officer which outlines measures the MS4 operator will follow to mitigate or prevent those adverse effects. The operator should notify EPA before exercising this option.

The contents of such a written agreement must be included in the MS4's Storm Water Management Program.

In situations where an agreement cannot be reached between an MS4 operator and the State or Tribal Historic Preservation Officer, MS4 operators should contact EPA for assistance.

The term "adverse effects" includes but is not limited to damage, deterioration, alteration or destruction of the historic property or place. EPA encourages MS4 operators to contact the appropriate State or Tribal Historic Preservation Officer as soon as possible in the event of a potential adverse effect to a historic property.

MS4 operators are reminded that they must comply with applicable State, Tribal and local laws concerning the protection of historic properties and places.

I. Internet Information on the National Register of Historic Places

An electronic listing of the "National Register of Historic Places," as maintained by the National Park Service on its National Register Information System (NRIS), can be accessed on the Internet at www.nps.gov/nr/.

II. State Historic Preservation Officers (SHPO)

SHPO List for areas covered by the permit:

NEW MEXICO

Historic Preservation Div, Office of Cultural Affairs
Bataan Memorial Building, 407 Galisteo Street, Suite 236
Santa Fe, NM 87501
505-827-6320 FAX: 505-827-6338

III. Tribal Historic Preservation Officers
(THPO)

In instances where a Tribe does not have a Tribal Historic Preservation Officer, please contact the appropriate Tribal government office when responding to this permit eligibility condition.

Tribal Historic Preservation Officers:

Mescalero Apache Tribe
P.O. Box 227
Mescalero, New Mexico 88340

Pueblo of Sandia Environment Department
Attn: Frank Chaves, Environment Director
481 Sandia Loop
Bernalillo, New Mexico 87004

Pueblo of Isleta
Department of Cultural and Historic Preservation
Attn: Dr. Henry Walt, THPO
P.O. Box 1270
Isleta NM 87022

Water Resources Division Manager
Pueblo of Santa Ana
2 Dove Road
Santa Ana Pueblo, New Mexico 87004

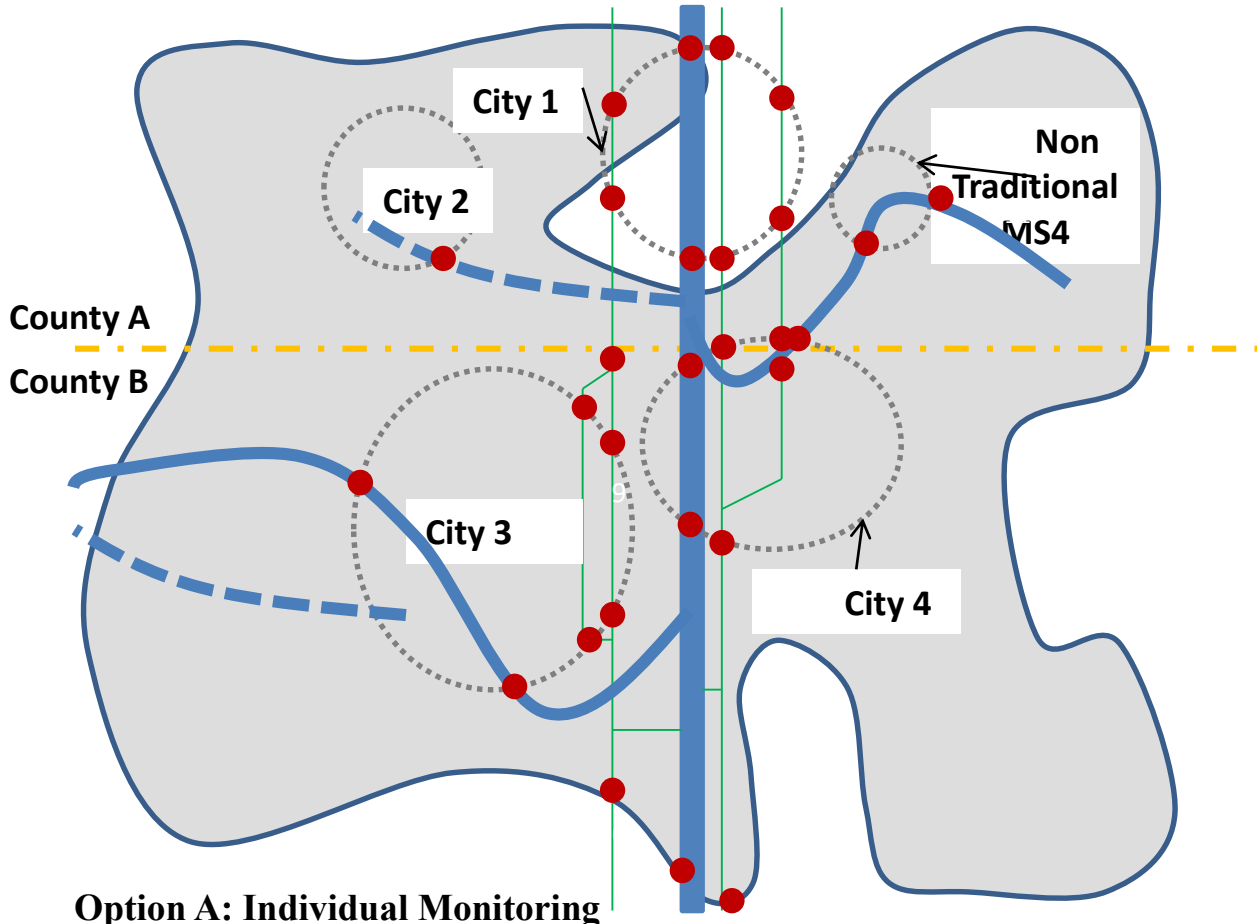
For more information:

National Association of Tribal Historic
Preservation Officers
P.O. Box 19189
Washington, DC 20036-9189
Phone: (202) 628-8476
Fax: (202) 628-2241

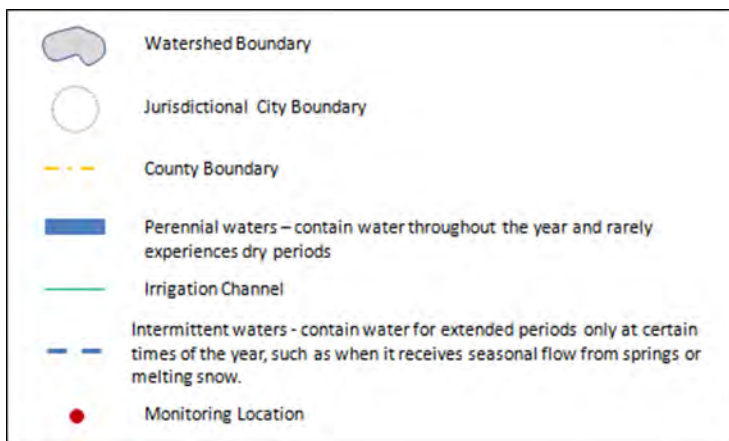
IV. Advisory Council on Historic Preservation

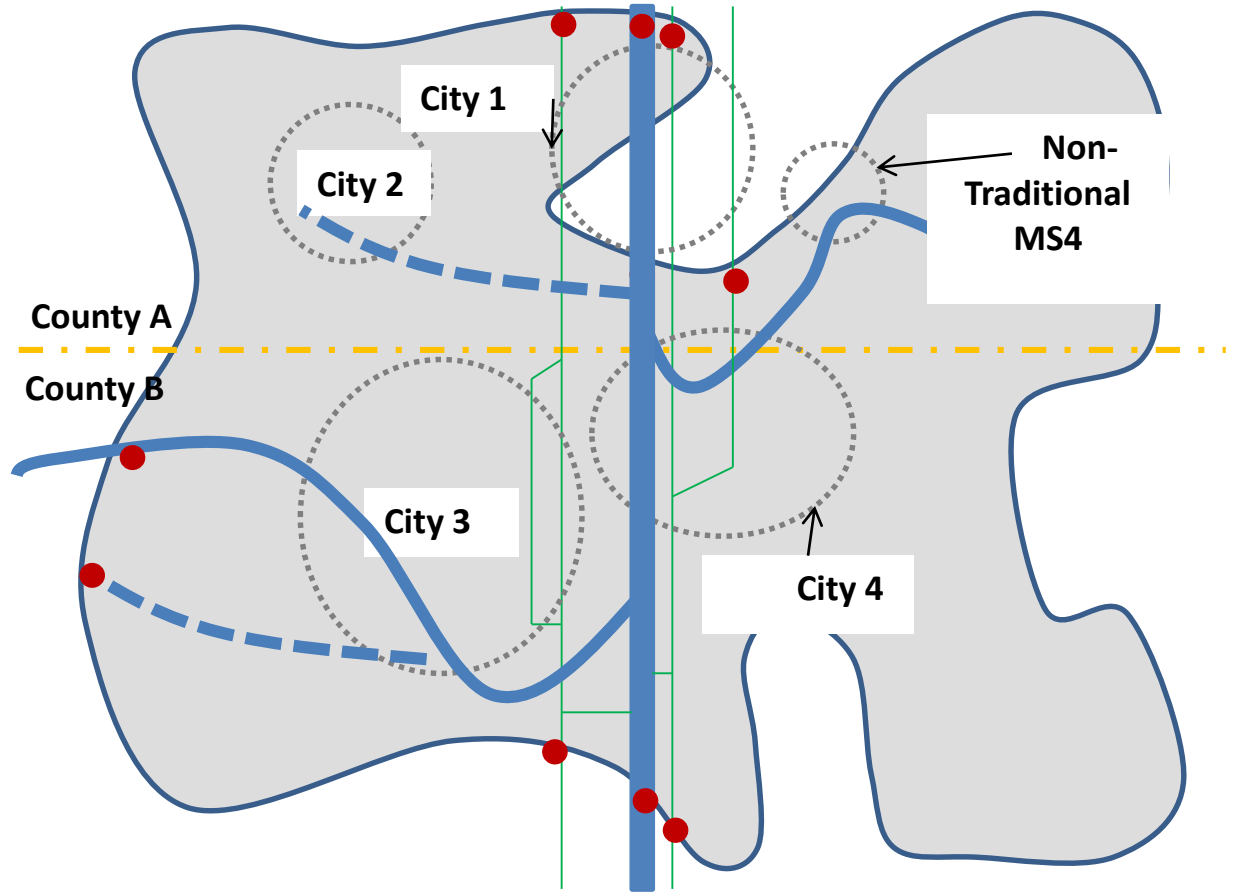
Advisory Council on Historic Preservation, 1100 Pennsylvania Avenue, NW., Suite 803,
Washington, DC 20004 Telephone: (202) 606-8503, Fax: (202) 606-8647/8672, E-mail:
achp@achp.gov

Appendix D - Suggested Initial Phase Sampling Location Concepts – Wet Weather Monitoring

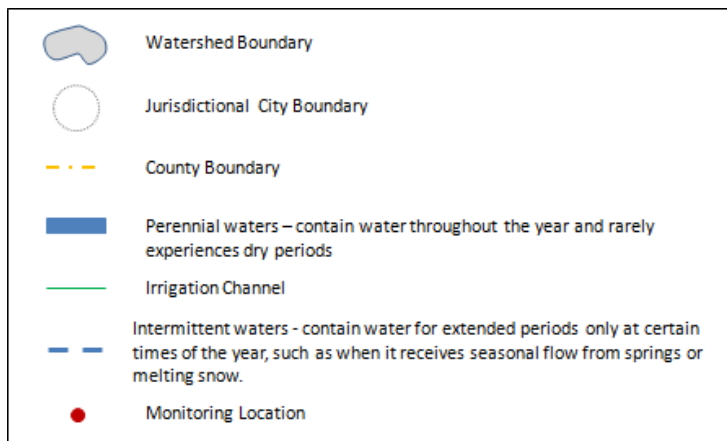


Option A: Individual Monitoring





Option B: Cooperative Monitoring



Appendix E - Providing Comments or Requesting a Public Hearing on an MS4 Operator's NOI

NOTE: Appendix E is for public information only and does not impose conditions on the permittee.

Any interested person may provide comments or request a public hearing on a Notice of Intent (NOI) submitted under this general permit. The general permit itself is not reopened for comment during the period an NOI is available for review and comment.

A. How Will I Know A MS4 is Filing an NOI and How Can I Get a Copy?

The permittee is required to provide a local public notice that they are filing an NOI and make a copy of the draft NOI submittal available locally. EPA will put basic information from all NOIs received on the Internet at:

<http://www.epa.gov/region6/6wq/npdes/sw/sms4/index.htm> . You may contact the listed MS4 representative for local access to the NOI. You may also request a copy from EPA by contacting [Ms. Dorothy Brown](mailto:brown.dorothy@epa.gov) at 214-665-8141 or brown.dorothy@epa.gov or via mail at the Address in Item D below, attention Dorothy Brown.

B. When Can I File Comments or a Hearing Request?

You can file comments and/or request a hearing as soon as a NOI is filed, but your request must be postmarked or physically received by EPA within thirty (30) calendar days of the date the NOI is posted on the web site in Section A.

C. How Do I File Comments or Make My Hearing Request?

Your comments and/or hearing request must be in writing and must state the nature of the issues proposed to be raised in the hearing. You should be as specific as possible and include suggested remedies where possible. You should include any data supporting your position(s). If you are submitting the request on behalf of a group or organization, you should describe the nature and membership of the group or organization. Electronic format comments in MS-WORD or PDF format are preferred.

D. Where Do I Send Copies of My Comments or Hearing Request?

Electronic Format: Submit one copy of your comments or hearing request via e-mail to [Ms. Dorothy Brown](mailto:brown.dorothy@epa.gov) at brown.dorothy@epa.gov and copy the Operator of the MS4 at the address on the NOI (send hard copy to MS4 Operator if no e-mail address provided). You may also submit via compact disk or diskette formatted for PCs to addresses for hard copy below. (Hard Copy: You must send an original and one copy of your comments or hearing request to EPA at the address below and a copy to the Operator of the MS4 at the address provided on the NOI)

U.S. EPA Region 6
Water Quality Protection Division (6WQ-NP)
Attn: Dorothy Brown
1445 Ross Ave., Suite 1200
Dallas, TX 75202

E. How Will EPA Determine Whether or Not To Hold a Public Hearing?

EPA will evaluate all hearing requests received on an NOI to determine if a significant degree of public interest exists and whether issues raised may warrant clarification of the MS4 Operator's NOI submittal. EPA will hold a public hearing if a significant amount of public interest is evident. EPA may also, at the Agency's discretion, hold either a public hearing or an informal public meeting to clarify issues related to the NOI submittal. EPA may hold a single public hearing or public meeting covering more than one MS4 (e.g., for all MS4s in an Urbanized Area, etc.).

F. How Will EPA Announce a Public Hearing or Public Meeting?

EPA will provide public notice of the time and place for any public hearing or public meeting in a major newspaper with local distribution and via the Internet at <http://www.epa.gov/region6/6wq/npdes/sw/sms4/index.htm>.

G. What Will EPA Do With Comments on an NOI?

EPA will take all comments made directly or in the course of a public hearing or public meeting into consideration in determining whether or not the MS4 that submitted the NOI is appropriately covered under the general permit. The MS4 operator will have the opportunity to provide input on issues raised. The Director may require the MS4 operator to supplement or amend the NOI submittal in order to be authorized under the general permit or may direct the MS4 Operator to submit an individual permit application. A summary of issues raised and EPA's responses will be made available online at <http://www.epa.gov/region6/6wq/npdes/sw/sms4/index.htm>. A hard copy may also be requested by contacting Ms. Dorothy Brown (see paragraph D)

Appendix F - Minimum Quantification Levels (MQL's)

The following Minimum Quantification Levels (MQL's) are to be used for reporting pollutant data for NPDES permit applications and/or compliance reporting.

POLLUTANTS	MQL µg/l	POLLUTANTS	MQL µg/l
METALS, RADIOACTIVITY, CYANIDE and CHLORINE			
Aluminum	2.5	Molybdenum	10
Antimony	60	Nickel	0.5
Arsenic	0.5	Selenium	5
Barium	100	Silver	0.5
Beryllium	0.5	Thallium	0.5
Boron	100	Uranium	0.1
Cadmium	1	Vanadium	50
Chromium	10	Zinc	20
Cobalt	50	Cyanide	10
Copper	0.5	Cyanide, weak acid dissociable	10
Lead	0.5	Total Residual Chlorine	33
Mercury (*)	0.0005 0.005		
DIOXIN			
2,3,7,8-TCDD	0.00001		
VOLATILE COMPOUNDS			
Acrolein	50	1,3-Dichloropropylene	10
Acrylonitrile	20	Ethylbenzene	10
Benzene	10	Methyl Bromide	50
Bromoform	10	Methylene Chloride	20
Carbon Tetrachloride	2	1,1,2,2-Tetrachloroethane	10
Chlorobenzene	10	Tetrachloroethylene	10
Clorodibromomethane	10	Toluene	10
Chloroform	50	1,2-trans-Dichloroethylene	10
Dichlorobromomethane	10	1,1,2-Trichloroethane	10
1,2-Dichloroethane	10	Trichloroethylene	10
1,1-Dichloroethylene	10	Vinyl Chloride	10
1,2-Dichloropropane	10		
ACID COMPOUNDS			
2-Chlorophenol	10	2,4-Dinitrophenol	50
2,4-Dichlorophenol	10	Pentachlorophenol	5
2,4-Dimethylphenol	10	Phenol	10
4,6-Dinitro-o-Cresol	50	2,4,6-Trichlorophenol	10

POLLUTANTS	MQL µg/l	POLLUTANTS	MQL µg/l
BASE/NEUTRAL			
Acenaphthene	10	Dimethyl Phthalate	10
Anthracene	10	Di-n-Butyl Phthalate	10
Benzidine	50	2,4-Dinitrotoluene	10
Benzo(a)anthracene	5	1,2-Diphenylhydrazine	20
Benzo(a)pyrene	5	Fluoranthene	10
3,4-Benzofluoranthene	10	Fluorene	10
Benzo(k)fluoranthene	5	Hexachlorobenzene	5
Bis(2-chloroethyl)Ether	10	Hexachlorobutadiene	10
Bis(2-chloroisopropyl)Ether	10	Hexachlorocyclopentadiene	10
Bis(2-ethylhexyl)Phthalate	10	Hexachloroethane	20
Butyl Benzyl Phthalate	10	Indeno(1,2,3-cd)Pyrene	5
2-Chloronaphthalene	10	Isophorone	10
Chrysene	5	Nitrobenzene	10
Dibenzo(a,h)anthracene	5	n-Nitrosodimethylamine	50
1,2-Dichlorobenzene	10	n-Nitrosodi-n-Propylamine	20
1,3-Dichlorobenzene	10	n-Nitrosodiphenylamine	20
1,4-Dichlorobenzene	10	Pyrene	10
3,3'-Dichlorobenzidine	5	1,2,4-Trichlorobenzene	10
Diethyl Phthalate	10		
PESTICIDES AND PCBs			
Aldrin	0.01	Beta-Endosulfan	0.02
Alpha-BHC	0.05	Endosulfan sulfate	0.02
Beta-BHC	0.05	Endrin	0.02
Gamma-BHC	0.05	Endrin Aldehyde	0.1
Chlordane	0.2	Heptachlor	0.01
4,4'-DDT and derivatives	0.02	Heptachlor Epoxide	0.01
Dieldrin	0.02	PCBs **	0.2
Alpha-Endosulfan	0.01	Toxaphene	0.3

(MQL's Revised November 1, 2007)

- (*) Default MQL for Mercury is 0.005 unless Part I of your permit requires the more sensitive Method 1631 (Oxidation / Purge and Trap / Cold vapor Atomic Fluorescence Spectrometry), then the MQL shall be 0.0005.
- (**) EPA Method 1668 should be utilized when PCB water column monitoring is conducted to determine compliance with permit requirements. Either the Arochlor test (EPA Method 8082) or USGS test method (8093) may be utilized for purposes of sediment sampling as part of a screening program, but must use EPA Method 1668 (latest revision) for confirmation and determination of specific PCB levels at that location.

Appendix G – Oxygen Saturation and Dissolved Oxygen Concentrations North Diversion Channel Area

Concentrations of dissolved oxygen in water at various atmospheric pressures and temperatures with 100 percent oxygen saturation, 54.3 percent oxygen saturation (associated with hypoxia and harassment of silvery minnows), and 8.7 percent oxygen saturation (associated with anoxia and lethality of silvery minnows) at the North Diversion Channel (NDC) (based on USGS DO website <<http://water.usgs.gov/software/DOTABLES/>> for pressures between 628 to 648 millimeters of mercury (Hg)). Source: Biological Consultation Cons. #22420-2011-F-0024-R001

Water temp. (°C)	100% Oxygen Saturation at NDC			54.3% saturation = Harassmen			8.7% saturation= 50%Lethality		
	628mmHg	638mmHg	648mmHg	628mmHg	638mmHg	648mmHg	628mmHg	638mmHg	64BmmHg
0	12.1	12.3	12.5	66	6.7	6.8	1.1	1.1	1.1
1	11.7	11.9	12.1	64	6.5	6.6	1.0	1.0	1.1
2	11.4	11.6	11.8	6.2	6.3	8.4	1.0	1.0	1.0
▼	11.1	11.3	11.5	6.0	6.1	6.2	1.0	1.0	1.0
4	10.8	11	11.2	5.9	6.0	6.1	0.9	1.0	1.0
5	10.5	10.7	10.9	5.7	5.8	5.9	0.9	0.9	0.9
6	10.3	10.4	10.6	5.6	5.8	5.0	0.9	0.9	0.9
7	10	10.2	10.3	5.4	5.5	5.6	0.9	0.9	0.9
8	9.8	9.9	10.1	5.3	5.4	5.5	0.9	0.9	0.9
8	9.5	9.7	9.6	5.2	5.3	5.3	0.8	0.8	0.9
▼▼	9.3	9.5	9.6	5.0	5.2	5.2	0.0	0.8	0.8
11	9.1	9.2	9.4	4.9	5.0	5.1	0.8	0.8	0.8
12	8.9	9	9.2	4.8	4.9	5.0	0.8	0.8	0.8
13	8.7	8.8	9	4.7	4.8	4.9	0.8	0.8	0.8
14	8.5	8.6	8.8	4.8	4.7	4.8	0.7	0.7	0.0
15	8.3	8.4	8.8	4.5	4.6	4.7	0.7	0.7	0.7
16	0.1	8.3	0.4	4.4	4.5	4.6	0.7	0.7	0.7
17	8	8.1	8.2	4.3	4.4	4.5	0.7	0.7	0.7
16	7.8	7.9	8	4.2	4.3	4.3	0.7	0.7	0.7
19	7.6	7.8	7.9	4.1	4.2	4.3	0.7	0.7	0.7
20	7.5	7.6	7.7	4.1	4.1	4.2	0.7	0.7	0.7
21	7.3	7.4	7.6	4.0	4.0	4.1	0.6	0.6	0.7
22	7.2	7.3	7.4	3.9	4.0	4.0	0.6	0.6	0.6
23	7	7.2	7.3	3.8	3.9	4.0	0.6	0.6	0.6
24	6.9	7	7.1	3.7	3.8	3.9	0.6	0.6	0.6
25	6.8	6.9	7	3.7	3.7	3.6	0.6	0.6	0.6
26	6.7	6.8	6.9	3.6	3.7	3.7	0.6	0.6	0.6
27	6.5	6.6	6.8	3.5	3.6	3.7	0.6	0.6	0.8
26	6.4	6.5	6.6	3.5	3.5	3.6	0.6	0.8	0.8
29	6.3	6.4	6.5	3.4	3.5	3.5	0.5	0.6	0.8
20	8.2	8.3	6.4	3.4	3.4	3.5	0.5	0.5	0.8
31	6.1	6.2	6.3	3.3	3.4	3.4	0.5	0.5	0.5
32	6	6.1	6.2	3.3	3.3	3.4	0.5	0.5	0.5
33	5.0	6	6.1	3.2	3.3	3.3	0.5	0.5	0.5
34	5.8	5.9	6	3.1	3.2	3.3	0.5	0.5	0.5
	5.7	5.6	5.9	3.1	3.1	3.2	0.5	0.5	0.5

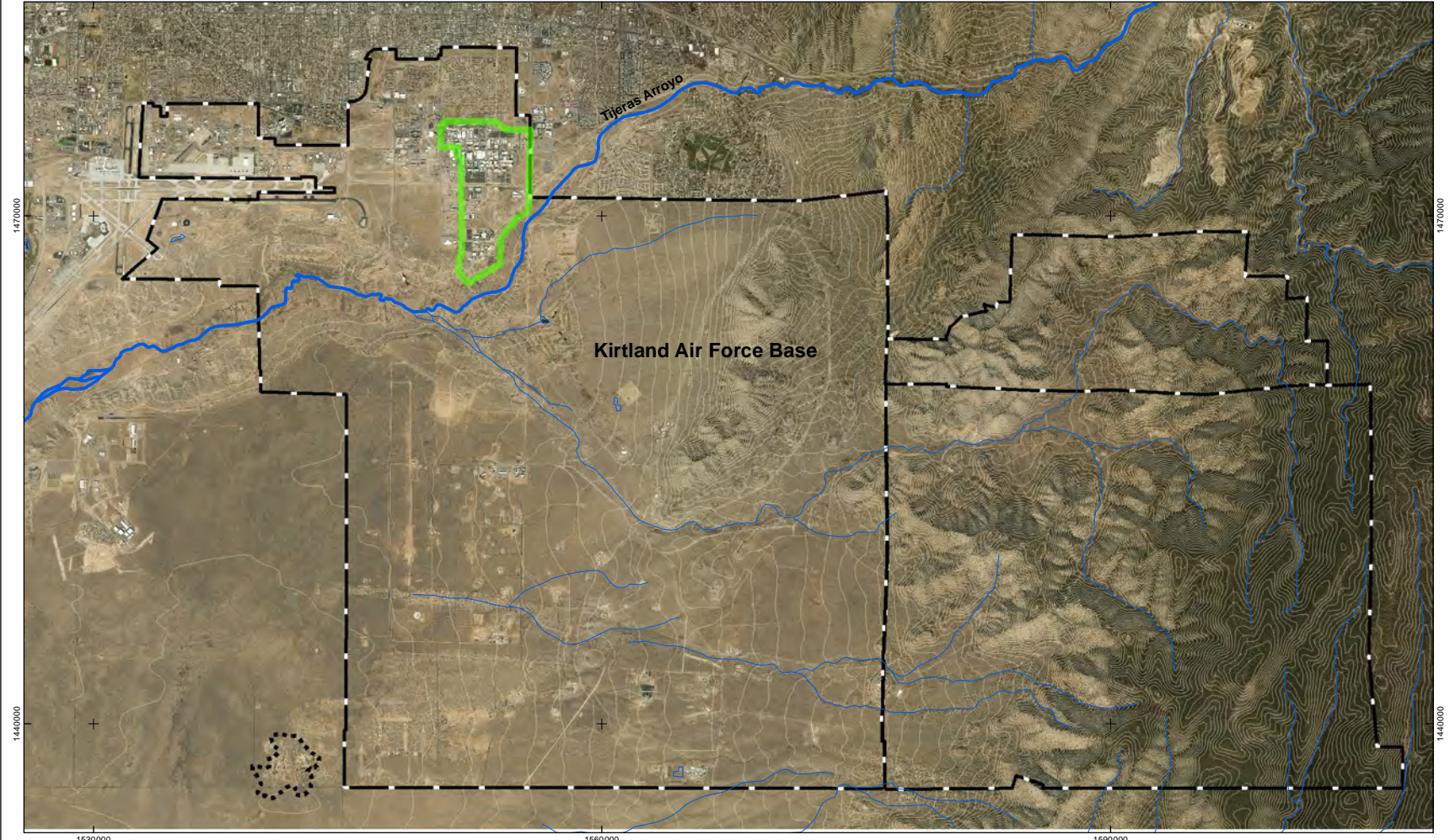
Appendix B: SNL Site Maps

No.	Description
B-1	Location of SNL MS4 Area
B-2	SNL MS4 Stormdrain System Map
B-3	SNL MS4 Drainage Areas and Monitoring Locations
B-4	Generalized Flow Path of Stormwater Discharged from the SNL MS4 through the KAFB MS4
B-5	Albuquerque Metro Area Flood Control Authority (AMAFCA) Stormwater Drainage Map Showing Generalized Flow Paths of Stormwater from the SNL MS4 to the Rio Grande
B-6	MSGP Sites Discharging to the SNL MS4


Appendix B-1

v.5, August 10, 2019


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Legend

 SNL MS4

 Playa Area

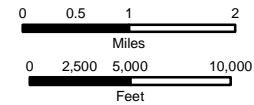
 40 ft. Contour

 Tijeras Arroyo

 KAFB Boundary

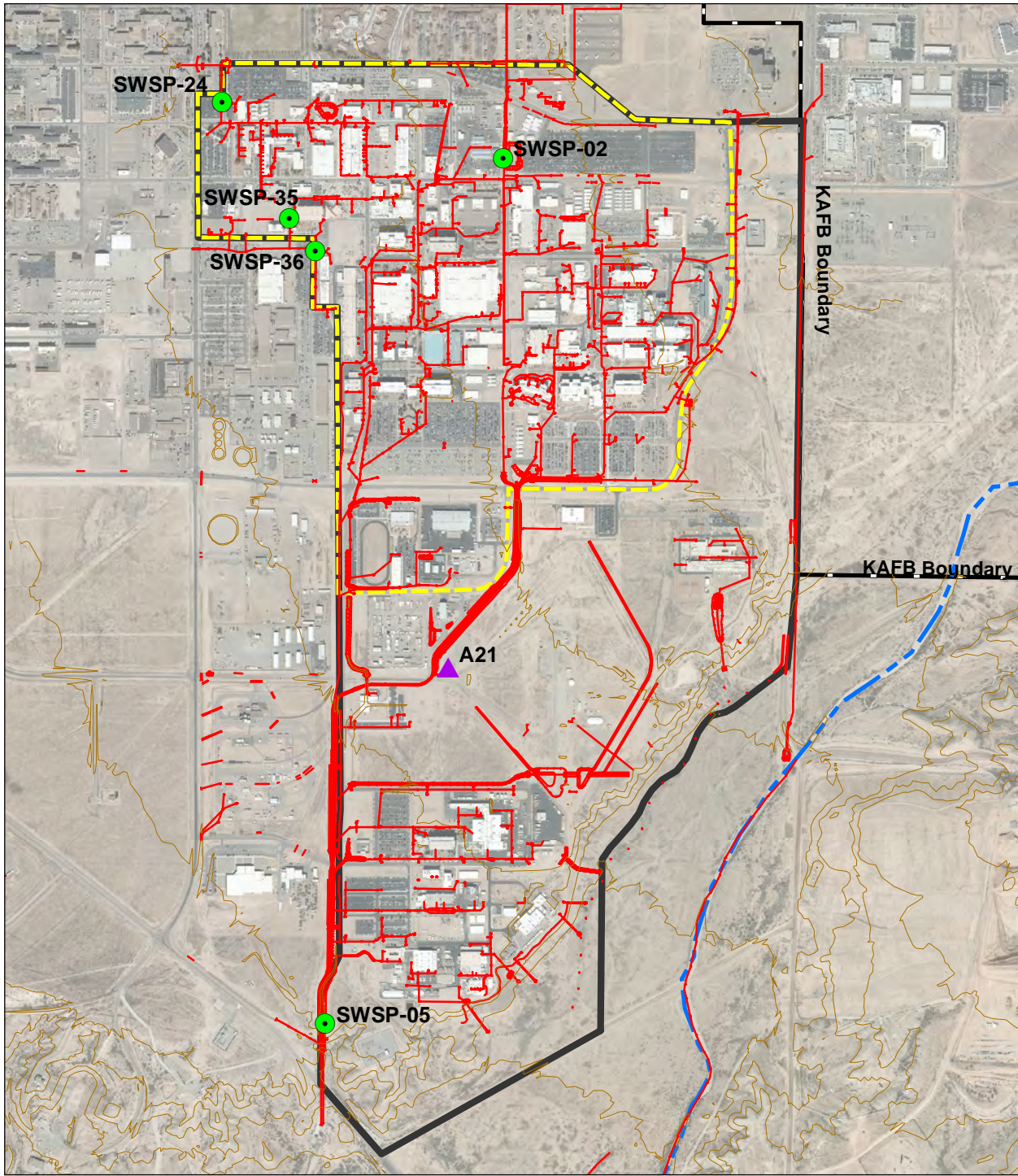
Location of SNL MS4 Area

Sandia National Laboratories, New Mexico
Environmental Geographic Information System



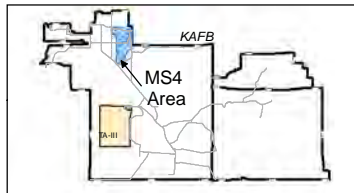
New Mexico State Plane Central Zone, 1983
1988 North American Vertical Datum

Appendix B-2



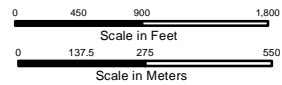
Legend

- Water Quality Monitoring Locations
- ▲ MS4 Rain Guage (Tower A21)
- 20 ft. Contour
- Storm Drain Systems
- - - Tijeras Arroyo
- KAFB Boundary
- Urbanized Area
- SNL MS4



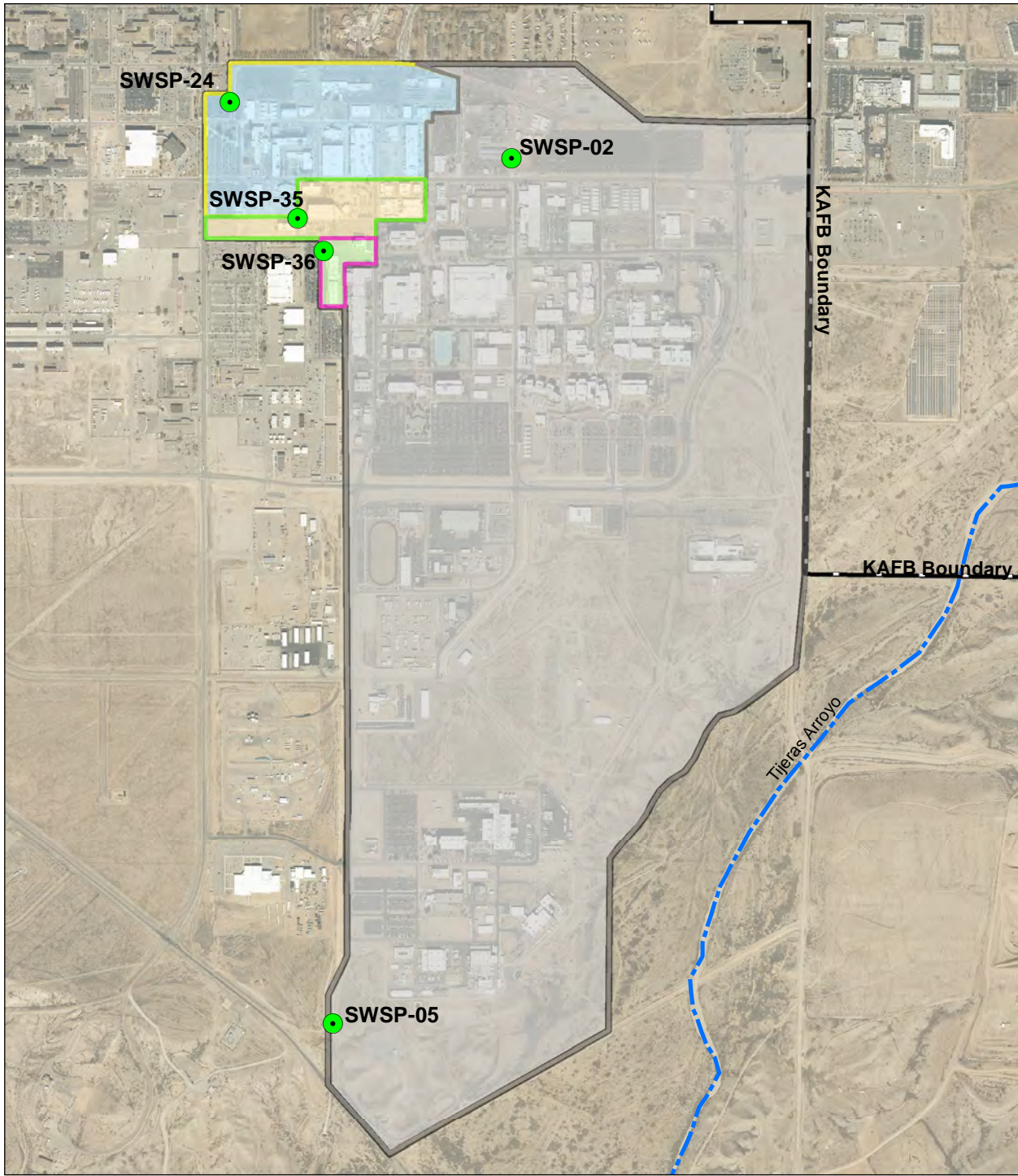
New Mexico State Plane Central Zones, 1983
1988 North American Vertical Datum

**SNL MS4
Stormdrain and
Monitoring Locations**











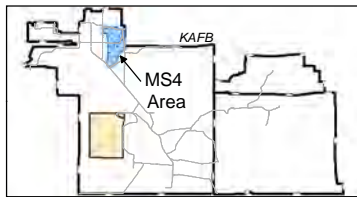
Sandia National Laboratories, New Mexico
Environmental Geographic Information System

Appendix B-3



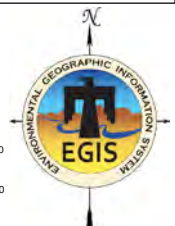
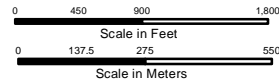
Legend

-  SNL MS4
-  SWSP 35 Drainage
-  SWSP 36 Drainage
-  SWSP-05 Drainage
-  SWSP-24 Drainage
-  Tijeras Arroyo
-  Water Quality Monitoring Locations
-  KAFB Boundary



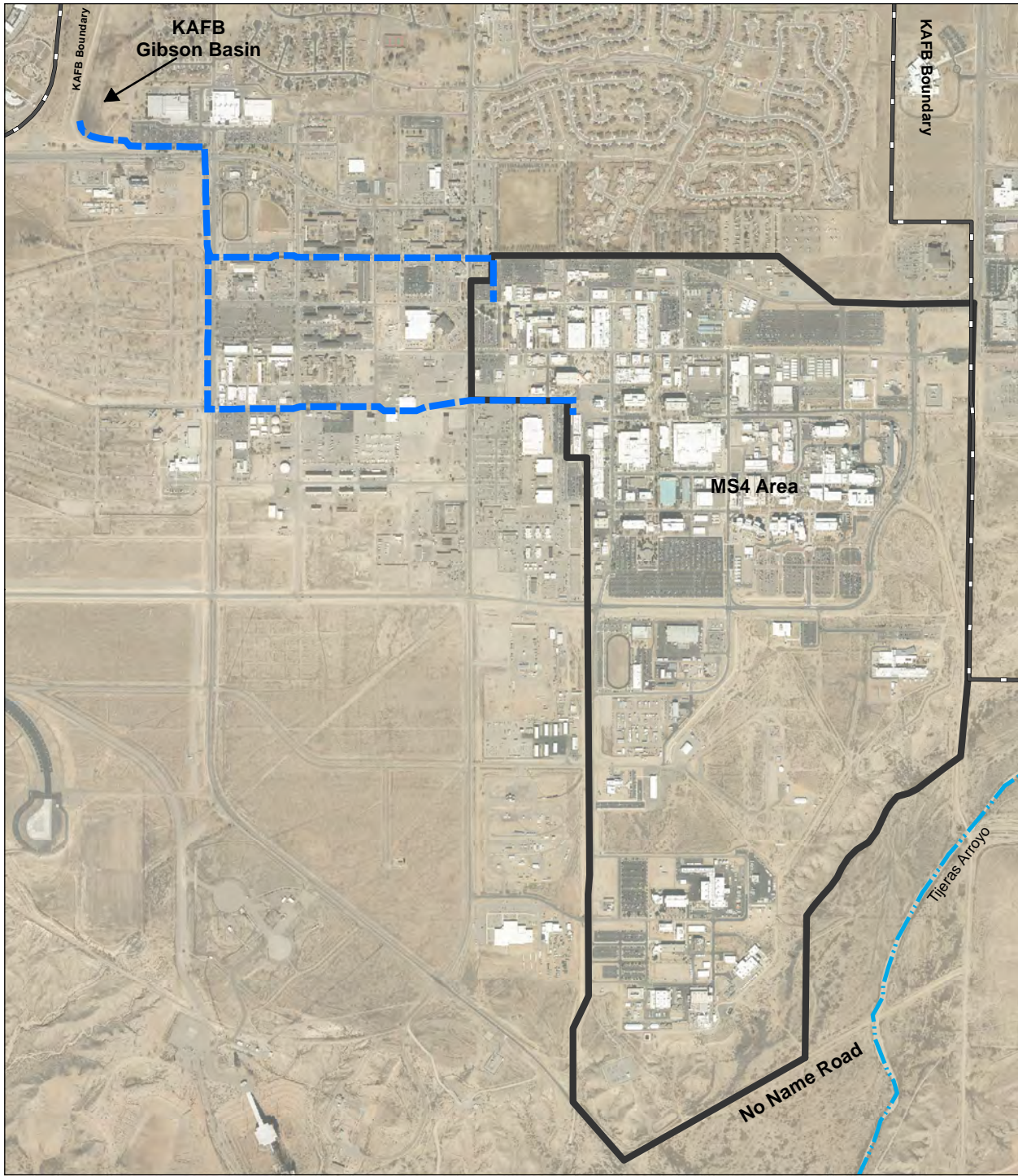
New Mexico State Plane Central Zones, 1983
1988 North American Vertical Datum

**MS4 Drainage Areas
and Monitoring Locations**







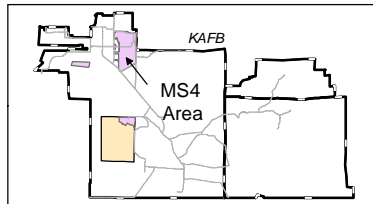
Sandia National Laboratories, New Mexico
Environmental Geographic Information System

Appendix B-4

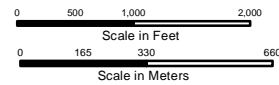


Legend

-  Approximate flow data to KAFB Gibson Basin
-  KAFB Boundary
-  Tijeras Arroyo
-  SNL MS4



Generalized Flow Path of Stormwater Discharged from the SNL MS4 through the KAFB MS4



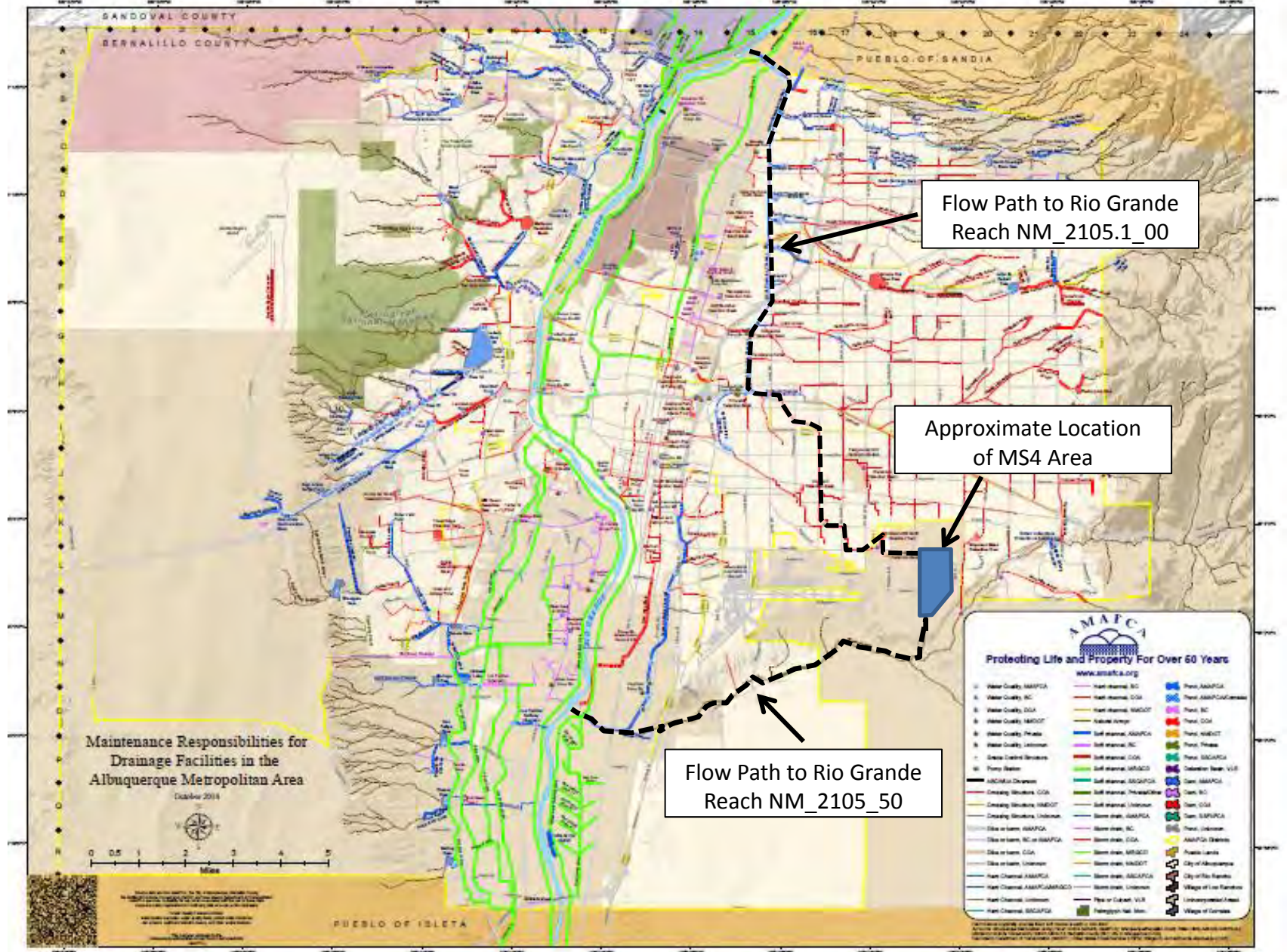
New Mexico State Plane Central Zones, 1983
1988 North American Vertical Datum

Sandia National Laboratories, New Mexico
Environmental Geographic Information System

Appendix B-5

v.5, August 10, 2019

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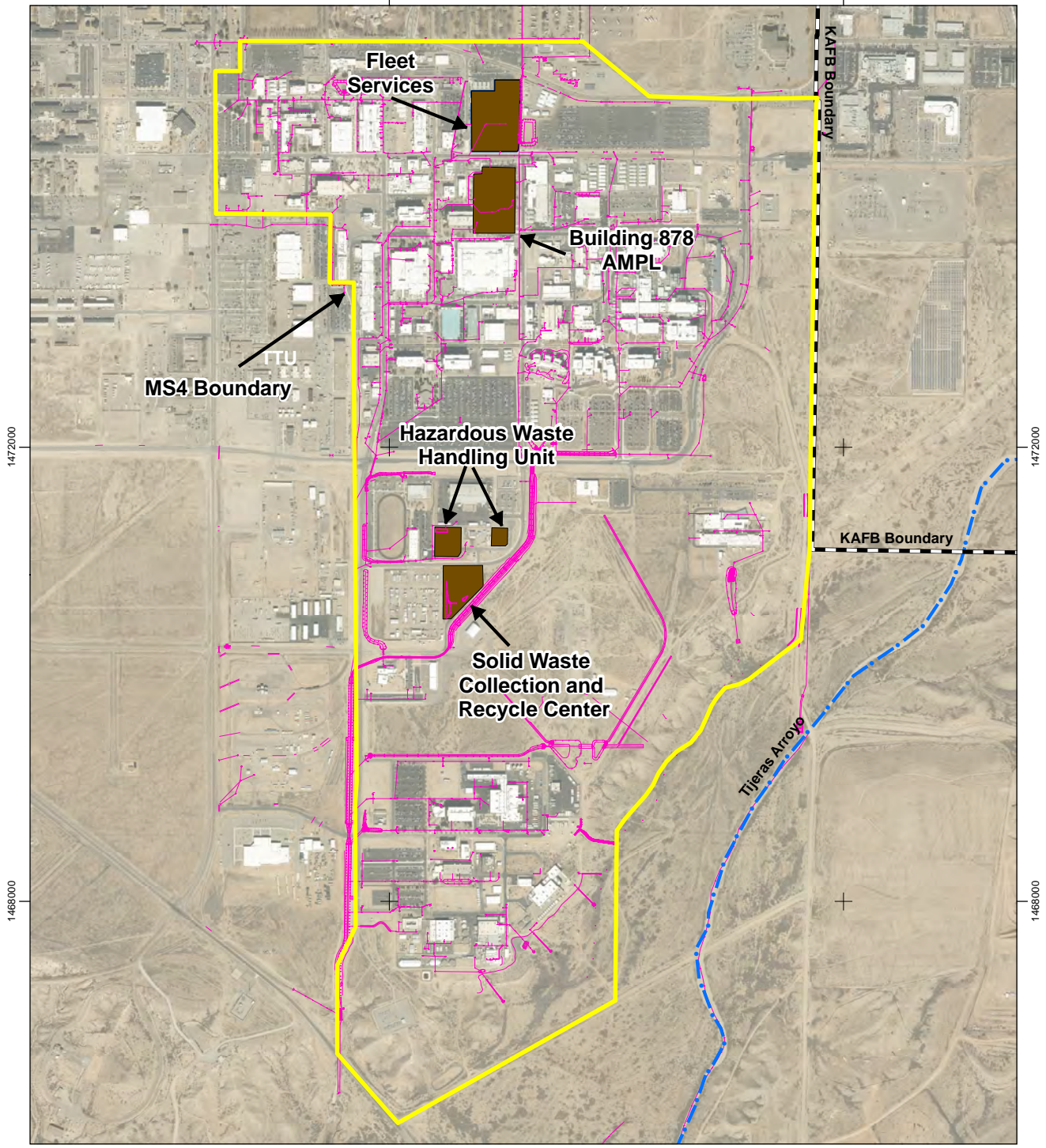


Albuquerque Metro Area Flood Control Authority (AMAFCA) Stormwater Drainage Map Showing Generalized Flow Paths of Stormwater from the SNL MS4 to the Rio Grande

Appendix B-6

v.5, August 10, 2019

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1472000

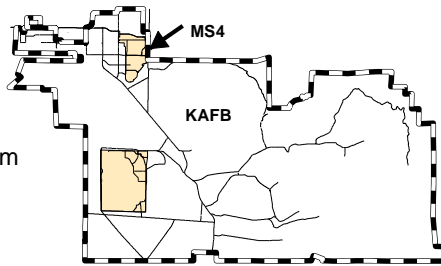
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1468000

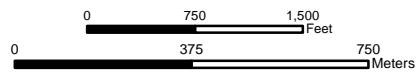
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Legend

-  SNL MS4
-  MSGP Site
-  Storm Drain System
-  Tijeras Arroyo
-  KAFB Boundary



SNL MSGP Sites Discharging to the MS4



Projection: New Mexico State Plane, Central Zone 3002, 1983 North American Datum

Sandia National Laboratories, New Mexico
Environmental Geographic Information System

Appendix C: Notices of Intent and Public Notice

No.	Description
C-1	Notice of Intent for DOE (June, 2015)
C-2	Notice of Intent for Sandia Corporation (June, 2015)
C-3	Legal Notice for NOIs
C-4	Mailing Notice for NOIs
C-5	Notice of Intent for DOE (Revised December, 2015)
C-6	Notice of Intent for Sandia Corporation (Revised December, 2015)
C-7	Legal Notice for Annual Report and updated SWMPP (December, 2016)
C-8	Legal Notice for Annual Report and updated SWMPP (December, 2017)
C-9	Notification of Management and Operating Contractor Name Change (April 28, 2017)
C-10	Legal Notice for Annual Report and updated SWMPP (December, 2018)
C-11	Legal Notice for Annual Report and updated SWMPP (December, 2019)

Appendix C-1

v.5, August 10, 2019

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NOTICE OF INTENT



National Pollutant Discharge Elimination System Stormwater Program
MS4 Notice of Intent Format



Check box if you are submitting an individual NOI with one or more cooperative program elements.

Check box if you are submitting an individual NOI with individual program elements only.

Check box if your municipality or organization was previously covered under a MS4 permit.

Please indicate the permittee class type: (Note: The definition of the permittee class type is located in Table 1 of Part I.B.1.)

A (Phase I) B (Phase II) C (New Phase II) D (MS4s within Indian Lands)

I. MS4(s) Information

A. General Information

Department of Energy/Sandia National Laboratories (DOE/SNL)

Name of MS4

Karen

Name of Contact Person (First)

Agogino

(Last)

Water Prg. Mgr.

(Title)

(505) 845-6100

Telephone (including area code)

karen.agogino@nnsa.doe.gov

Email

U. S. Department of Energy, National Nuclear Security Administration, Sandia Field Office, P.O. Box 5400

Mailing Address

Albuquerque

City

NM

State

87185

ZIP code

What size population does your MS4(s) serve?

The operator is: Federal State Tribal other public (check one)

B. In what urbanized area (UA), the MS4 is located in:

- Farmington UA
- Santa Fe UA
- Albuquerque UA
- Los Lunas UA
- Las Cruces UA
- El Paso UA

C. If not located in an UA, the MS4 is located in:

Core Municipality

Indian Reservation/Pueblo

County(ies)

Cluster

D. Is this a Phase I MS4? Yes No

Is this a Non-traditional MS4? Yes No

If so, Check one: Dept. of Transportation Flood Control Authority University

Other - Specify

What is the Latitude and longitude of the approximate center of the MS4?

Latitude Longitude

II. Eligibility Determination

A. Receiving Water(s) Information

Does the MS4 discharge to any waters for which an TMDL applicable to discharges from the MS4 has been approved? (See Part I.A.5.f) Yes No NA

The receiving water(s) are:

	<i>State or Tribal Segment ID</i>	<i>Approved TMDL</i>		<i>TMDL assigns WLA to MS4</i>	
<input type="text" value="Tijeras Arroyo (SNL MS4 discharge point)"/>	<input type="text" value="NM-9000.A_070"/>	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
<input type="text" value="Middle Rio Grande (via Tijeras Arroyo)"/>	<input type="text" value="NM-2105_50"/>	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No
<input type="text"/>	<input type="text"/>	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> Yes	<input type="checkbox"/> No
<input type="text"/>	<input type="text"/>	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> Yes	<input type="checkbox"/> No
<input type="text"/>	<input type="text"/>	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> Yes	<input type="checkbox"/> No

Is the MS4 (or a group of MS4s) seeking an alternative sub-measurable goal for TMDL controls under Part I.C.2.b.(i).(c).B? Yes No NA

If so, the MS4 or a group of MS4s must submit a preliminary proposal with the NOI to EPA and NMED (see Part I.B.2.k, Section B.2 in Appendix B and Part III.D.4). This proposal should include, but is not limited to, the elements included in Appendix B under Section B.2 of the permit

If the MS4 discharges to a receiving water for which EPA has approved or developed a TMDL, describe how the eligibility requirements of Part I.A.5.f and Part I.C.2. have been met :

DOE and Sandia will implement measures or controls that are consistent with the EPA-approved TMDL through the SWMP, as documented in the SWMP Plan.

TMDL requirements will be complied with through the development of targeted controls, measurable goals, monitoring, and reporting as described in Section 2.4 of the SWMP Plan.

Sandia has calculated a waste load allocation (WLA) based on the permit-assigned MS4 WLA, which will serve as a quantitative measurable goal.

DOE and Sandia will monitor all SNL MS4 inflows and outflows and determine waste loads for each. A total MS4 WL will be determined and evaluated against the WLA.

B. Is the MS4 partially located on Indian Country lands? Yes No

If so, the Indian Country Lands include the following: (NOTE: MS4s straddling State and Indian Country land boundaries will be issued authorization under all applicable permits and may have additional State or Tribal-specific requirements applicable to different areas of the MS4 - see Part VIII and initial notification under Part III.D.4)

C. Is the permit in compliance with the National Historic Preservation Act (NHPA)? Yes No

In order to be eligible for coverage under this permit, the MS4 operator must meet one of the following criteria: (Please check which criterion the MS4 is eligible under)

Criterion A: storm water discharges, allowable non-storm water discharges, and discharge-related activities do not affect a property that is listed or is eligible for listing on the National Register of Historic Places as maintained by the Secretary of the Interior.

Criterion B: the applicant has obtained and is in compliance with a written agreement with the State Historic Preservation Officer (SHPO) or Tribal Historic Preservation Officer (THPO) (or equivalent tribal authority) that outlines all measures the MS4 operator will undertake to mitigate or prevent adverse effect to the historic property.

Provide a brief summary of the basis for the criterion selected above:

There are no DOE-owned SNL properties listed on the National Register of Historic Places. The requirements of Part IV.U of the MS4 Permit do not apply to SNL.

There are no historic properties identified in the path of SNL's stormwater and allowable non-stormwater discharges or where construction activities are planned to install BMPs to control such discharges.

Construction and stormwater management/sampling activities proposed in the SWMP Plan are not anticipated to impact any known archaeological or cultural resources.

A NEPA review is conducted for every proposed disturbance to evaluate all necessary permitting actions, including those related to preservation of archaeological or cultural resources.

III. Preliminary Description of the Proposed Stormwater Program

As applicable, use Sections 1 through 8 below to describe the storm water management program (SWMP), including best management practices (BMPs) or storm water controls that will be implemented and the measurable goals for each of the storm water minimum control measures specified in Part I.D.5 of this permit, the month and year in which the MS4 operator will start and fully implement each of the minimum control measures or the frequency of the action, the name of the person(s) or position(s) responsible for implementing or coordinating the SWMP.

If the MS4 operator is participating in cooperative programs with other parties (or is relying on another governmental entity) to satisfy one or more permit obligations (see Part I.D.3), use the space provided under *Cooperative Elements* to identify the partners and briefly describe roles and responsibilities.

NOTE:

The space provided in the fields below (255 characters) should be used to briefly describe proposed BMPs and corresponding measurable goals. Individual boxes should be used to describe individual target activities. If additional space is required to describe target activities, the MS4(s) should attach such as information with the NOI using the format provided.

Section 1. Construction Site Stormwater Runoff Control – Proposed BMPS, Stormwater Controls, and Measurable Goals

1.1. Development of an ordinance or other regulatory mechanism as required in Part I.D.5.a.(ii)(a)

Sandia's Environmental Programs Department currently maintains Corporate Procedure ESH100.2.ENV.10: Management of Surface and Stormwater Discharges to address stormwater discharges at SNL.
Revisions to the procedure are in progress to meet all of the MS4 Permit requirements, and to specifically require compliance with the CGP, including the installation of erosion and sediment controls at construction sites.
Sandia can enforce corporate procedures with disciplinary action up to and including termination of employment. Enforcement of the SWMP will be addressed through the protocol discussed in Section 1.6 of the SWMP Plan.
DOE can enforce on Sandia through contract DE-AC04-94AL85000, which requires Sandia to comply with applicable Federal, State, and local laws and regulations.

Cooperative Elements

DOE (as owner of SNL) and Sandia (as operator of SNL) share responsibility for the SNL MS4. DOE and Sandia together will comply with all of the requirements of the MS4 Permit, but will do so independently of participation in a cooperative group.

1.2. Develop requirements and procedures as required in Part I.D.5.a.(ii)(b) through in Part I.D.5.a.(ii)(h)

DOE and Sandia currently comply with the CGP and the majority of the requirements of these Parts of the MS4 Permit. See Section 5.2.2.1 of the SWMP Plan for details.

DOE and Sandia have a process in place for educating personnel and construction contractors involved in the planning, review, permitting, and/or approval of construction activities. See Section 5.2.2.2 of the SWMP Plan for details. +

In addition to maintaining a rigorous CGP process, DOE and Sandia will revise Corporate Procedure ESH.100.2. ENV10 to include all requirements of the MS4 Permit. See Section 5.2.2.3 of the SWMP Plan for details.

Cooperative Elements

DOE (as owner of SNL) and Sandia (as operator of SNL) share responsibility for the SNL MS4. DOE and Sandia together will comply with all of the requirements of the MS4 Permit, but will do so independently of participation in a cooperative group. +

1.3. Annually conduct site inspections of 100 percent of all construction projects cumulatively disturbing one (1) or more acres as required in Part I.D.5.a.(iii)

Construction site inspections are routinely performed by the Sandia Stormwater Team in accordance with the CGP and SWPPP requirements.

100 percent of all construction projects cumulatively disturbing one or more acres within the MS4 jurisdiction will be inspected many times within a year.

When site inspections reveal necessary maintenance, repair or other problems with the site, corrective action reports are created and follow-up inspections are performed to document completion of corrective actions.

All projects are inspected at completion of construction, prior to filing a Notice of Termination, to verify proper final stabilization. See 5.2.3 of the SWMP Plan.

Cooperative Elements

DOE (as owner of SNL) and Sandia (as operator of SNL) share responsibility for the SNL MS4. DOE and Sandia together will comply with all of the requirements of the MS4 Permit, but will do so independently of participation in a cooperative group. +

1.4. Coordinate with all departments and boards with jurisdiction over the planning, review, permitting, or approval of public and private construction projects/activities within the permit area as required in Part I.D.5.a.(iv)

Currently, when a construction SWPPP is developed, the Environmental Programs Department promotes coordination with many departments that have responsibilities associated with construction projects/activities. See SWMP Plan Section 5.2.4. +

As the SMWP evolves, the Stormwater Team identified in Section 1.7 of the SWMP Plan will expand to include subject matter experts and points of contacts in multiple organizations including Environmental and Facilities Programs. +

Cooperative Elements

DOE (as owner of SNL) and Sandia (as operator of SNL) share responsibility for the SNL MS4. DOE and Sandia together will comply with all of the requirements of the MS4 Permit, but will do so independently of participation in a cooperative group. +

1.5. Evaluation of GI/LID/Sustainable practices in site plan reviews as required in Part I.D.5.a.(v)

SNL buildings (new/renovations) must comply with the Guiding Principles for Federal Leadership in High Performance Sustainable Building. Over \$5M, they must achieve the U.S. Green Building Council's certification of LEED Gold for New Construction. +

DOE and Sandia currently review projects in the construction planning stages to demonstrate compliance GI/LID/Sustainable Practices.

A summary of the annual construction projects (one acre or more) that incorporated GI/LID/Sustainable Practices will be included with the SWMP Plan revisions associated with the Annual Report.

More details on the SNL's compliance with GI/LID/Sustainable Practices are included in Section 6 of the SWMP Plan.

Cooperative Elements

DOE (as owner of SNL) and Sandia (as operator of SNL) share responsibility for the SNL MS4. DOE and Sandia together will comply with all of the requirements of the MS4 Permit, but will do so independently of participation in a cooperative group. +

1.6. Enhance the program to include program elements in Part I.D.5.a.(viii) through Part I.D.5.a.(x)

DOE and Sandia use stormwater educational material and training courses to educate personnel about how their job duties may impact stormwater quality.

Stormwater regulation is and will continue to be considered in the development and revision of construction guidelines and manuals at SNL.

Cooperative Elements

DOE (as owner of SNL) and Sandia (as operator of SNL) share responsibility for the SNL MS4. DOE and Sandia together will comply with all of the requirements of the MS4 Permit, but will do so independently of participation in a cooperative group. +

1.7. Describe other proposed activities to address the Construction Site Stormwater Runoff Control Measure:

Although not required, in 2014 Sandia began requiring the installation of stormwater controls and pollution prevention measures to address the most critical pollutant sources at construction sites less than one acre in size. +

Sediment controls for any storm drains or drop inlets within the boundary of the project area are required. Portable toilets must be secured to prevent tipping (e.g., stake with rebar or bolt to trailer).

Chemicals stored outdoors must be covered/containerized and on secondary containment to prevent contact with stormwater. Containers and trucks containing paint, concrete or other building products must be washed into an appropriate waste container. +

Section 2. Post-Construction Stormwater Management in New Development and Redevelopment – Proposed BMPs, Stormwater Controls, and Measurable Goals

2.1. Development of strategies as required in Part I.D.5.b.(ii).(a)

A combination of structural and/or non-structural best management practices (BMPs) will be implemented to control pollutants in stormwater runoff on new development and redevelopment projects within the SNL MS4. +

Details of the strategies are discussed in Section 6.2 of the SWMP Plan.

Cooperative Elements

DOE (as owner of SNL) and Sandia (as operator of SNL) share responsibility for the SNL MS4. DOE and Sandia together will comply with all of the requirements of the MS4 Permit, but will do so independently of participation in a cooperative group. +

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2.2. Development of an ordinance or other regulatory mechanism as required in Part I.D.5.b.(ii).(b)

Sandia Corporate Procedure ESH.100.2.ENV10 will be revised to include requirements of the MS4 Permit, EISA and 19.26.2.15 NMAC to address post-construction runoff from new development and redevelopment projects. +

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Cooperative Elements

DOE (as owner of SNL) and Sandia (as operator of SNL) share responsibility for the SNL MS4. DOE and Sandia together will comply with all of the requirements of the MS4 Permit, but will do so independently of participation in a cooperative group. +

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2.3. Implementation and enforcement, via the ordinance or other regulatory mechanism, of site design standards as required in Part I.D.5.b.(ii).(b).

SNL is a Federal facility and currently complies with the EISA, Section 438 of the CWA, for the purposes of preserving or restoring predevelopment hydrology for all development and redevelopment projects with a footprint that exceeds 5,000 square feet. +

DOE and Sandia manage post-construction runoff by either retaining stormwater from a 95th percentile storm (1.0 inch) onsite (most common); or retaining the calculated volume of the difference between predevelopment and postdevelopment runoff. +

SNL will be constructing detention basins for post-construction stormwater management (pursuant to Section 438 and the MS4 Permit) and may be constructing basins as sediment control BMPs that are compliant with Office of the State Engineer requirements. +

See SWMP Plan Section 6.2.3 for additional detail.

Cooperative Elements

DOE (as owner of SNL) and Sandia (as operator of SNL) share responsibility for the SNL MS4. DOE and Sandia together will comply with all of the requirements of the MS4 Permit, but will do so independently of participation in a cooperative group. +

2.4. Ensure appropriate implementation of structural controls as required in Part I.D.5.b.(ii).(c) and Part I.D.5.b.(ii).(d)

Pre-construction reviews of BMP designs will be completed during development of construction SWPPPs, as described in Section 5.2.2 of the SWMP Plan.

Inspections will be performed during construction to verify post-construction stormwater management BMPs are being built as designed.

An inspection will be performed upon completion of construction to verify post-construction stormwater management BMPs are completed as designed, and once per year thereafter to verify proper maintenance.

Non-compliance will be addressed through the enforcement protocol discussed in Section 1.6 of the SWMP Plan.

Cooperative Elements

DOE (as owner of SNL) and Sandia (as operator of SNL) share responsibility for the SNL MS4. DOE and Sandia together will comply with all of the requirements of the MS4 Permit, but will do so independently of participation in a cooperative group. +

2.5. Develop procedures as required in Part I.D.5.b.(ii).(e), Part I.D.5.b.(ii).(f), Part I.D.5.b.(ii).(g), and Part I.D.5.b.(ii).(h)

Sandia Corporate Training (SW100) Stormwater Pollution Prevention Training will be revised to address the awareness of site design techniques and controls, including GI/LID/Sustainability Practices, and the SNL SSP.

Sandia Corporate Procedure ESH.100.2.ENV10 will be revised to include the elements listed in Section 6.2.5 of the SWMP Plan such as requiring training, site inspections, as-built plans and revision of the procedure, as necessary. +

Corporate Procedure ESH.100.2.ENV10 and the Sandia Integrated Pest Management Plan will be revised to include controls for pesticides, herbicides, and fertilizers with respect to application, storage, and training. See Section 6.2.5 of the SWMP Plan. +

Cooperative Elements

DOE (as owner of SNL) and Sandia (as operator of SNL) share responsibility for the SNL MS4. DOE and Sandia together will comply with all of the requirements of the MS4 Permit, but will do so independently of participation in a cooperative group. +

2.6. Coordinate internally with all departments and boards with jurisdiction over the planning, review, permitting, or approval of public and private construction projects/activities within the permit area as required in Part I.D.5.b.(iii)

As the SMWP develops, the Stormwater Team identified in Section 1.7 of this SWMP Plan will evolve to include subject matter experts and points of contacts in multiple organizations including Environmental Programs and Facilities. +

DOE and Sandia will coordinate with all departments that have responsibilities associated with the planning, review, permitting, or approval of new development and redevelopment projects/activities within the SNL MS4. +

The requirement to ensure the hydrology associated with new development and redevelopment sites mimics the pre-development hydrology of the previously undeveloped site will be discussed prior to the development of a CGP SWPPP (Section 5.2.2 of SWMP Plan). +

Cooperative Elements

DOE (as owner of SNL) and Sandia (as operator of SNL) share responsibility for the SNL MS4. DOE and Sandia together will comply with all of the requirements of the MS4 Permit, but will do so independently of participation in a cooperative group. +

2.7. As required in Part I.D.5.b.(iv), the permittee must assess all existing codes, ordinances, planning documents and other applicable regulations, for impediments to the use of GI/LID/Sustainable practices

SNL is a federal facility and therefore DOE and Sandia are required to comply with numerous Executive Orders, the EISA and other Acts, as well as other federal mandates regarding sustainability. +

Sandia prepares the SNL Site Sustainability Plan (SSP; see the SWMP Plan Appendix) annually in support of DOE's Strategic Sustainability Performance Plan (SSPP). As part of this process, GI/LID/Sustainable Practices are evaluated. +

See Section 6.2.7 of the SWMP Plan for additional details.

Cooperative Elements

DOE (as owner of SNL) and Sandia (as operator of SNL) share responsibility for the SNL MS4. DOE and Sandia together will comply with all of the requirements of the MS4 Permit, but will do so independently of participation in a cooperative group. +

2.8. As required in Part I.D.5.b.(iv), describe the plan to report the assessment findings on GI/LID/Sustainable practices

DOE and Sandia will review the initiatives of the SSP on an annual basis and summarize the notable GI/LID/Sustainable Practices in the Annual Report.

See Section 6.2.7 of the SWMP Plan for details.

Cooperative Elements

DOE (as owner of SNL) and Sandia (as operator of SNL) share responsibility for the SNL MS4. DOE and Sandia together will comply with all of the requirements of the MS4 Permit, but will do so independently of participation in a cooperative group. +

2.9. Estimation of the number of acres of IA and DCIA as required in Part I.D.5.b.(vi)

The number of acres of impervious area (IA; including conventional pavements, sidewalks, driveways, roadways, parking lots, and rooftops) will be estimated for the SNL MS4 and included in the SWMP Plan submitted with the first Annual Report. +

The directly connected impervious area (DCIA; the portion of IA with a direct hydraulic connection to the MS4 via continuous paved surfaces, gutters, pipes, and other impervious features) will be estimated for the SNL MS4. +

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Cooperative Elements

DOE (as owner of SNL) and Sandia (as operator of SNL) share responsibility for the SNL MS4. DOE and Sandia together will comply with all of the requirements of the MS4 Permit, but will do so independently of participation in a cooperative group. +

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2.10. Inventory and priority ranking as required in section in Part I.D.5.b.(vii)

DOE and Sandia will conduct an inventory and priority ranking of the property within the SNL MS4 that may have the potential to be retrofitted with control measures designed to control the frequency, volume, and peak intensity of stormwater discharges. +

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Cooperative Elements

DOE (as owner of SNL) and Sandia (as operator of SNL) share responsibility for the SNL MS4. DOE and Sandia together will comply with all of the requirements of the MS4 Permit, but will do so independently of participation in a cooperative group. +

2.11. Incorporate watershed protection elements as required in Part I.D.5.b.(viii)

Sandia Corporate Procedure ESH.100.2.ENV10 will be revised to include the watershed protection elements listed in Section 6.2.10 of the SWMP Plan such as recommendations:

to identify environmentally and ecologically sensitive areas that serve critical watershed functions; for disconnecting direct discharges from impervious surfaces; for implementing stormwater management practices that protect groundwater quality; +

to avoid or prevent hydromodification of water bodies; to protect native soils, prevent topsoil stripping, and prevent compaction of soils; and to maintain pre-development runoff conditions.

Cooperative Elements


DOE (as owner of SNL) and Sandia (as operator of SNL) share responsibility for the SNL MS4. DOE and Sandia together will comply with all of the requirements of the MS4 Permit, but will do so independently of participation in a cooperative group. +

2.12. Enhance the program to include program elements in Part I.D.5.b.(xi) and Part I.D.5.b.(xii)

DOE and Sandia use stormwater educational material and training courses to educate personnel about how their job duties may impact stormwater quality.


DOE and Sandia participate in local stakeholder groups, including the Technical Advisory Group (TAG) that was formed to help local MS4s understand, collaborate, and comply with Permit NMR04A000.


Cooperative Elements

DOE (as owner of SNL) and Sandia (as operator of SNL) share responsibility for the SNL MS4. DOE and Sandia together will comply with all of the requirements of the MS4 Permit, but will do so independently of participation in a cooperative group. 

2.13. Describe other proposed activities to address the Post-Construction Stormwater Management in New Development and Redevelopment Measure:

Corporate Procedure ESH100.2.ENV.10 and Corporate Training SW100 will be reviewed and updated annually, at a minimum to reflect changes in regulations and associated BMPs.

An annual review will be conducted of construction projects completed within the reporting period to verify that as-built plans, detailing controls for post-construction stormwater management, were submitted within ninety days of construction completion. 

A log will be maintained to summarize any additional measures that have been implemented to decrease impervious areas, decrease stormwater discharges, and/or improve water quality. The log will be updated annually. 

Section 3. Pollution Prevention/Good Housekeeping for Municipal/Co-permittee Operations – Proposed BMPs, Stormwater Controls, and Measurable Goals

3.1. Develop or update the Pollution Prevention/Good House Keeping program to include the elements in Part I.D.5.c.(i)

DOE and Sandia already require annual stormwater pollution prevention training for personnel with job duties that have the potential to impact stormwater quality.
Waste is managed through the Solid Waste Collection and Recycling Center (a facility designed to manage solid waste and recyclable materials generated by SNL).
As needed, DOE and Sandia will clean debris, floatables, and sediment from basins, ditches, and other conveyance infrastructure.
An assessment of technical guidance documents will be performed to determine water quality impacts and the potential for incorporation of water quality controls into new flood control projects. See Section 7.2.1 of the SWMP Plan. +

Cooperative Elements

DOE (as owner of SNL) and Sandia (as operator of SNL) share responsibility for the SNL MS4. DOE and Sandia together will comply with all of the requirements of the MS4 Permit, but will do so independently of participation in a cooperative group. +

3.2. Enhance the program to include the elements in Part I.D.5.c.(ii)

DOE and Sandia will evaluate the successfulness of the program and modify the SWMP with respect to each of the elements of Part I.D.5.c.(ii) as described in Section 7.2.1.6 of the SWMP Plan, including but not limited to the items listed below: +
<ul style="list-style-type: none"> • Develop a list of all stormwater quality facilities, including location and description • Develop an operational model for de-icing activities, including methods to protect water quality • Update plan to decrease runoff of vehicle related pollutants +
<ul style="list-style-type: none"> • A review and revision of the existing street sweeping plan and schedule • A list of the roadways most likely contributing to pollution in runoff • A review and revision of existing plan for collecting used motor vehicle fluids +
<ul style="list-style-type: none"> • A review and revision of the existing procedures and schedule for cleaning debris and sediment from the stormwater drainage system • A review and revision of the existing litter control program, including public awareness campaigns +

Cooperative Elements

DOE (as owner of SNL) and Sandia (as operator of SNL) share responsibility for the SNL MS4. DOE and Sandia together will comply with all of the requirements of the MS4 Permit, but will do so independently of participation in a cooperative group. +

3.3. Develop or update a list and a map of industrial facilities owned or operated by the permittee as required in Part I.D.5.c.(iii)


DOE and Sandia discharge industrial stormwater at SNL in accordance with the provisions of the Multi-Sector General Permit (MSGP) as authorized by NMR05GP29 (DOE) and NMR05GQ63 (Sandia), as discussed in Sections 1.2.4 and 1.4.6 of the SWMP Plan. +

Any measures required by the MS4 Permit will be applied to MSGP sites located within boundaries of the SNL MS4 to augment measures already in place under the MSGP.

Cooperative Elements

DOE (as owner of SNL) and Sandia (as operator of SNL) share responsibility for the SNL MS4. DOE and Sandia together will comply with all of the requirements of the MS4 Permit, but will do so independently of participation in a cooperative group. +

3.4. Describe other proposed activities to address the Pollution Prevention/Good Housekeeping for Municipal/permittee Operations Measure:

Corporate Procedure ESH100.2.ENV.10: Management of Surface and Stormwater Discharges, and Corporate Training SW100 - Stormwater Pollution Prevention Training, will be reviewed and updated annually, at a minimum. 

The SNL MS4 will be divided into areas and inspected for compliance with the P2/GH Program such that each area is inspected a minimum of two times within the Permit term.

The chemicals and application methods associated with deicing operations and storage at SNL will be reviewed and procedures revised (as necessary) by December 22, 2016.

DOE and Sandia will prepare a cumulative summary of retrofit evaluations conducted during the Permit term on existing flood control devices, structures and drainage ways to benefit water quality.

Section 4: Industrial and High Risk Runoff – Proposed BMPs, Stormwater Controls, and Measurable Goals (APPLICABLE ONLY TO CLASS A PERMITTEES)

4.1. Ordinance (or other control method) as required in Part I.D.5.d.(i)

DOE and Sandia are Class C permittees; Section 4 does not apply.

Cooperative Elements

DOE and Sandia are Class C permittees; Section 4 does not apply.

4.2. Continue implementation and enforcement of the Industrial and High Risk Runoff program, assess the overall success of the program, and document both direct and indirect measurements of program effectiveness in the annual report as required in Part I.D.5.d.(ii)

DOE and Sandia are Class C permittees; Section 4 does not apply.

Cooperative Elements

DOE and Sandia are Class C permittees; Section 4 does not apply.

4.3. Meet the monitoring requirements in Part I.D.5.d.(iii)

DOE and Sandia are Class C permittees; Section 4 does not apply.

Cooperative Elements

DOE and Sandia are Class C permittees; Section 4 does not apply.

4.4. Include requirements in Part I.D.5.d.(iv)

DOE and Sandia are Class C permittees; Section 4 does not apply.

Cooperative Elements

DOE and Sandia are Class C permittees; Section 4 does not apply.

4.5. Enhance the program to include requirements in Part I.D.5.d.(vii)

DOE and Sandia are Class C permittees; Section 4 does not apply.

Cooperative Elements

DOE and Sandia are Class C permittees; Section 4 does not apply.

4.6. Describe other proposed activities to address the Industrial and High Risk Runoff Measure:

DOE and Sandia are Class C permittees; Section 4 does not apply.

Section 5. Illicit Discharges and Improper Disposal – Proposed BMPs, Stormwater Controls, and Measurable Goals

5.1. Mapping as required in Part I.D.5.e.(i)(a)

A map of the SNL MS4 stormwater drainage system, indicating all outfalls and the names and locations of all waters of the U.S. that receive discharges from those outfalls is provided in Appendix B of the SWMP Plan.

Cooperative Elements

DOE (as owner of SNL) and Sandia (as operator of SNL) share responsibility for the SNL MS4. DOE and Sandia together will comply with all of the requirements of the MS4 Permit, but will do so independently of participation in a cooperative group. +

5.2. Ordinance (or other control method) as required in Part I.D.5.e.(i)(b)

Sandia currently has a corporate procedure that prohibits discharges to the surface without prior approval from the Environmental Programs Department (Corporate Procedure ESH100.2.ENV.10: Management of Surface and Stormwater Discharges). +
Corporate Procedure ESH100.2.ENV.10 is presented to personnel as a component of annual mandatory corporate training materials, and other safety and environmental screening processes. ESH100.2.ENV.10 is summarized in SWMP Plan Section 8.2.2. +

Cooperative Elements

DOE (as owner of SNL) and Sandia (as operator of SNL) share responsibility for the SNL MS4. DOE and Sandia together will comply with all of the requirements of the MS4 Permit, but will do so independently of participation in a cooperative group. +

5.3. Develop and implement a IDDE plan as required in Part I.D.5.e.(i)(c)

The Sandia workforce is trained to prevent and report activities or events with the potential to cause environmental harm.

If an illicit discharge is observed, the Stormwater Team will perform or coordinate visual screening, employee interviews, field parameters and sample collection to identify possible sources.


Enforcement of the IDDEP will be addressed through Corporate Policy and the protocol discussed in Section 1.6 of the SWMP Plan.

Investigations into the exact cause of the illicit discharge will be conducted to determine how operations or controls can be modified to prevent future illicit discharges. Additional details are provided in Section 8.2.3 of the SWMP Plan. +

Cooperative Elements

DOE (as owner of SNL) and Sandia (as operator of SNL) share responsibility for the SNL MS4. DOE and Sandia together will comply with all of the requirements of the MS4 Permit, but will do so independently of participation in a cooperative group. +

5.4. Develop an education program as required in Part I.D.5.e.(i)(d)


Sandia will be debuting a stormwater awareness campaign in 2015, "Stormwater - Keep it Clean" to include educational brochures, posters and a publication in The Porcelain Press (discussed in more detail in Section 10 of the SWMP Plan). 

The campaign will target Members of the Workforce to raise stormwater quality awareness and advertise training, and will occur during each wet season (July 1 through October 31).

The corporate stormwater pollution prevention training is offered online at any time and is also given in a live presentation to keys groups of employees that have the greatest potential to impact stormwater quality.

Copies of the most recent editions of these materials will be included as an appendix to the SWMP Plan.

Cooperative Elements

DOE (as owner of SNL) and Sandia (as operator of SNL) share responsibility for the SNL MS4. DOE and Sandia together will comply with all of the requirements of the MS4 Permit, but will do so independently of participation in a cooperative group. 

5.5. Establish a hotline as required in Part I.D.5.e.(i)(e)

Using any landline at SNL, emergencies can be reported by dialing 911, and non-emergencies can be reported by dialing 311.

Using any phone, emergencies can be reported by dialing (505) 844-0911 and non-emergencies by dialing (505) 844-0311.

The Sandia Emergency Operations Center (EOC) is available at 844-6515 for spill response and cleanup.

Sandia is the primary recipient of calls from these numbers. DOE and various departments within Sandia are in the chain of notification and response.

Cooperative Elements

DOE (as owner of SNL) and Sandia (as operator of SNL) share responsibility for the SNL MS4. DOE and Sandia together will comply with all of the requirements of the MS4 Permit, but will do so independently of participation in a cooperative group. +

5.6. Investigate suspected significant/severe illicit discharges as required in Part I.D.5.e.(i)(f)

All illicit discharges at SNL are taken seriously by DOE and Sandia. Should an illicit discharge be detected, it will be investigated within 48 hours, and the sources identified as soon as possible.
Any additional controls (administrative and/or engineered) necessary to prevent future discharges will be implemented as soon as practicable.


Cooperative Elements

DOE (as owner of SNL) and Sandia (as operator of SNL) share responsibility for the SNL MS4. DOE and Sandia together will comply with all of the requirements of the MS4 Permit, but will do so independently of participation in a cooperative group. +

5.7. Review complaint records and develop a targeted source reduction program as required in Part I.D.5.e.(i)(g)

Part I.D.5.e.(i)(g) is applicable to class A and B Permittees only; as a class C permittee this requirement does not apply to DOE and Sandia.

Cooperative Elements

DOE (as owner of SNL) and Sandia (as operator of SNL) share responsibility for the SNL MS4. DOE and Sandia together will comply with all of the requirements of the MS4 Permit, but will do so independently of participation in a cooperative group. 

5.8. Screening of system as required in Part I.D.5.e.(iii) as follows:

The SNL MS4 has no identified high priority areas at this time.

Screening of the SNL MS4 is informally conducted on on-going basis by field personnel trained to monitor for leaks, spills, and other discharges.

Formal screening will be conducted and documented at least once every five years which will include the inspection of all known outfalls and MS4 conveyance structures for the presence of illicit discharge.

Any illicit discharge encountered will be sampled, tracked to its source, and corrected through administrative or engineered control measures.

Cooperative Elements

DOE (as owner of SNL) and Sandia (as operator of SNL) share responsibility for the SNL MS4. DOE and Sandia together will comply with all of the requirements of the MS4 Permit, but will do so independently of participation in a cooperative group. +

5.9. Develop, update, and implement a Waste Collection Program as required in Part I.D.5.e.(iv)

Sandia has a well developed waste management and recycling program. The program is described in Section 8.2.9 of the SWMP Plan. The program includes education and involvement of all workforce members.

The SNL Solid Waste Collection & Recycling Center (SWCRC) has three purposes:
1. Screen the SNL's collected solid waste and recyclables for prohibited materials.
2. Bale, store, and ship solid waste to an approved landfill. +


The SWCRC recycles cardboard, white paper, mixed paper, aluminum cans, foam packaging, plastics (mixed #1-7 rigids), toner and ink cartridges, wood, plywood, green waste and construction/demolition scrap metals.

Hazardous waste generated at SNL is handled under Corporate Procedure ESH100.2.ENV.22. This procedure provides detailed instructions for using, labeling, storing, accumulating, managing, and transporting waste to disposal facilities. +

Cooperative Elements


DOE (as owner of SNL) and Sandia (as operator of SNL) share responsibility for the SNL MS4. DOE and Sandia together will comply with all of the requirements of the MS4 Permit, but will do so independently of participation in a cooperative group. +

5.10. Develop, update and implement a Spill Prevention and Response program to prevent, contain, and respond to spills that may discharge into the MS4 as required in Part I.D.5.e.(v)

Sandia has a detailed Spill Prevention Control and Countermeasure Plan that includes prevention measures including inspections, testing, records, security, operational procedures, best management practices, and personnel. 

In the event of a release, Sandia maintains a sophisticated system of containment facilities, trained response staff, and emergency equipment to prevent pollutants from entering the stormwater drainage system.

Cooperative Elements

DOE (as owner of SNL) and Sandia (as operator of SNL) share responsibility for the SNL MS4. DOE and Sandia together will comply with all of the requirements of the MS4 Permit, but will do so independently of participation in a cooperative group. 

5.11. Enhance the program to include requirements in Part I.D.5.e.(ix)

Sandia will utilize ideas from the manual "Illicit Discharge Detection and Elimination, A Guidance Document for Program Development and Technical Assessments" to enhance the IDDE Program as needed.

Cooperative Elements

DOE (as owner of SNL) and Sandia (as operator of SNL) share responsibility for the SNL MS4. DOE and Sandia together will comply with all of the requirements of the MS4 Permit, but will do so independently of participation in a cooperative group. +

5.12. Describe other proposed activities to address the Illicit Discharges and Improper Disposal Measure:

Corporate Procedure ESH100.2.ENV.10 and Corporate Training SW100 will be reviewed and updated annually, at a minimum to reflect changes in regulations and associated BMPs.

A log will be maintained of illicit discharges reported within the SNL MS4 boundary. The log will include the method of reporting, pertinent details about the illicit discharge, and a summary of the findings and corrective actions. +

An annual summary of solid waste management will be included in the SWMP Plan revision included with each Annual Report.

Section 6. Control of Floatables Discharges – Proposed BMPs, Stormwater Controls, and Measurable Goals


6.1. Develop a schedule to implement the program as required in Part I.D.5.f.(i)(a)

SNL's smoke-free campus and the culture of the workforce foster an environment such that solid waste dumping (i.e., littering) is uncommon.


Additionally, on a larger scale, Sandia manages floatables through administrative and source controls, through robust waste management and pollution prevention programs. These programs are described in detail in Section 8.2 of the SWMP Plan. +

For the reasons stated above, DOE and Sandia do not anticipate there to be a significant amount of floatables generated within the SNL MS4.


Cooperative Elements

DOE (as owner of SNL) and Sandia (as operator of SNL) share responsibility for the SNL MS4. DOE and Sandia together will comply with all of the requirements of the MS4 Permit, but will do so independently of participation in a cooperative group. 

6.2. Describe the plan to estimate the annual volume of floatables and trash removed from each control facility and characterize the floatable type as required in Part I.D.5.f.(i)(b)


Sandia operates an aggressive waste management and pollution prevention programs that include education and a recycling facility. During FY 2014 approximately 70 percent of the solid waste generated by Sandia was recycled. 

There is an insignificant litter or refuse presence within the SNL MS4.

DOE and Sandia propose to implement additional source control measures to reduce trash that might otherwise end up in stormwater, rather than implement costly and unnecessary structural controls (e.g., trash racks). 

Structural controls may be installed in the future should they prove to be necessary.

Cooperative Elements

DOE (as owner of SNL) and Sandia (as operator of SNL) share responsibility for the SNL MS4. DOE and Sandia together will comply with all of the requirements of the MS4 Permit, but will do so independently of participation in a cooperative group. 

6.3. Describe other proposed activities to address the Control of Floatables Discharges Measure:

The Floatables Program established in compliance with the MS4 Permit will be enhanced to control the discharge of floatables and trash from the SNL MS4 by implementing source control of floatables specifically in industrial and commercial areas. +

Corporate Procedure ESH100.2.ENV.10 and Corporate Training SW100 will be reviewed and updated annually, at a minimum to reflect changes in regulations and associated BMPs.

The main SNL MS4 outfall measured by stormwater sampling point SWSP-05 will be inspected quarterly for the presence of floatable debris. Inspection reports will be maintained with the SWMP Plan.

An annual assessment of the Floatables Program will be conducted to evaluate the need for structural controls.

Section 7. Public Education and Outreach on Stormwater Impacts – proposed BMPs, Stormwater Controls, and Measurable Goals

7.1. Develop, revise, implement, and maintain an education and outreach program as required in Part I.D.5.g.(i) and Part I.D.5.g.(ii)

The Stormwater Quality Program has a website for access by personnel containing basic regulatory requirements pertaining to the protection of stormwater quality, training information and contacts for the Stormwater Team. +

Corporate Training (SW100) Stormwater Pollution Prevention Training is available online to personnel, and performed as a live presentation upon request.

A stormwater pollution prevention informational brochure is distributed at the cafeteria during environmental events and other events such as Earth Day (Bring Your Sons and Daughters to Work Day) and Family Day. +

Sandia owns educational models for stormwater/watershed, groundwater, and drinking water/wastewater and performs demonstrations to students in the classroom, during Earth Day (Bring Your Sons and Daughters to Work Day) and Family Day. +

Cooperative Elements

DOE (as owner of SNL) and Sandia (as operator of SNL) share responsibility for the SNL MS4. DOE and Sandia together will comply with all of the requirements of the MS4 Permit, but will do so independently of participation in a cooperative group. +

7.2. Enhance the program to include requirements in Part I.D.5.g.(v) through Part I.D.5.g.(viii)

DOE and Sandia may utilize educational materials and program elements as needed to improve the public outreach program.

Educational elements for proper septic system maintenance, proper use and disposal of fertilizers and pesticides, and proper disposal of motor oil and household hazardous wastes will be incorporated into DOE's and Sandia's educational program.

Information about litter reduction, recycling, reduction of pesticide/herbicide use, xeriscaping and reduced water consumption, pet waste and solid waste management will be incorporated into DOE's and Sandia's educational program.

Cooperative Elements

DOE (as owner of SNL) and Sandia (as operator of SNL) share responsibility for the SNL MS4. DOE and Sandia together will comply with all of the requirements of the MS4 Permit, but will do so independently of participation in a cooperative group.

7.3. Describe other proposed activities to address the Public Education and Outreach on Stormwater Impacts Measure:

The corporate online training system that disseminates Stormwater Pollution Prevention Training (SW100) is equipped to track completion. DOE's and Sandia's goal is to maintain a minimum of 90 percent annual participation in SW100 training.

The informational brochures and campaign posters will be reviewed and updated annually to ensure regulatory and contact information is current, and to respond to the educational and training needs of the workforce.

Starting in 2016, the Stormwater Team will hold a minimum of three events per reporting period (July 1 - June 30) to perform demonstrations of the educational models to grade-school children and personnel.

Section 8. Public Involvement and Participation – Proposed BMPs, Stormwater Controls, and Measurable Goals

8.1. Develop (or update), implement, and maintain a public involvement and participation plan as required in Part I.D.5.h.(ii) and Part I.D.5.h.(iii)

The Public Involvement and Participation Program (PIPP) will include a comprehensive planning process which involves public participation and, where necessary, intergovernmental coordination. The PIPP is described in Section 11 of the SWMP Plan. +

DOE and Sandia will notify the public via legal notice in the Albuquerque Journal for a period of 30 days, prior to the submission of the NOI (and associated SWMP Plan) and each Annual Report (and associated SWMP Plan revision). +

A copy of the MS4 Permit and the applicable documents (i.e., NOI, Annual Report, SWMP Plan, etc.) will be maintained up-to-date through the University of New Mexico (UNM) LoboVault online database (<https://repository.unm.edu/handle/1928/26737>). +

A functional behavioral assessment will be performed at DOE/DoD Semi-Annual Public Meeting, where the topic of “stormwater” is presented. The public’s antecedent (before), present (during), and consequence (after) behavior will be observed and recorded. +

Cooperative Elements

DOE (as owner of SNL) and Sandia (as operator of SNL) share responsibility for the SNL MS4. DOE and Sandia together will comply with all of the requirements of the MS4 Permit, but will do so independently of participation in a cooperative group. +

8.2. Describe the plan to comply with State, Tribal, and local notice requirements when implementing a Public Involvement and Participation Program as required in Part I.D.5.h.(iv)

DOE and Sandia will comply with State, Tribal, and local public notice requirements when implementing a public involvement/ participation program.

Cooperative Elements

DOE (as owner of SNL) and Sandia (as operator of SNL) share responsibility for the SNL MS4. DOE and Sandia together will comply with all of the requirements of the MS4 Permit, but will do so independently of participation in a cooperative group. +

8.3. Describe a plan to include elements as required in Part I.D.5.h.(v)

Public notices will be printed in a newspaper of general circulation in the Albuquerque area (i.e., The Albuquerque Journal) and be available online.

The DOE/DoD Semi-Annual Public Meetings are open to all citizens and the public is encouraged to attend. The meetings will be used as a mechanism to discuss stormwater permitting at SNL.

The MS4 Permit (specifically Appendix E), NOIs and SWMP Plan will be available at <https://repository.unm.edu/handle/1928/26737> through the University of New Mexico (UNM) LoboVault on-line database.

Physical copies of documents posted to the UNM LoboVault will be available at the UNM Zimmerman Library. Contact Daniel Barkley at 505-277-7180 or barkley@unm.edu in advance to make an appointment.

Cooperative Elements

DOE (as owner of SNL) and Sandia (as operator of SNL) share responsibility for the SNL MS4. DOE and Sandia together will comply with all of the requirements of the MS4 Permit, but will do so independently of participation in a cooperative group. +

8.4. As required in Part I.D.5.h.(viii) provide the internet site (or website) where the SWMP document, Annual Reports, and other documents will be available to the public.

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8.5. Enhance the program to include requirements in Part I.D.5.h.(ix)

DOE and Sandia will consider options for enhancing the PIPP as needed based on the results of the previous year(s).

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Cooperative Elements

DOE (as owner of SNL) and Sandia (as operator of SNL) share responsibility for the SNL MS4. DOE and Sandia together will comply with all of the requirements of the MS4 Permit, but will do so independently of participation in a cooperative group. +
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8.6. Describe other proposed activities to address the Public Involvement and Participation Measure:

Comments received by the public in response to any and all public notices will be considered and maintained with the SWMP Plan for the duration of the Permit term.

DOE and Sandia will perform one functional behavioral assessment during the Permit team at DOE/DoD Semi-Annual Public Meeting, before, during and after the topic of "stormwater" is presented.

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IV. Proposed Monitoring Program

Indicate wet weather monitoring program preference:

Individual Monitoring Program

Cooperative Monitoring Program

Provide a general description of the propose monitoring program.

Wet weather and dry weather monitoring will be conducted in compliance with the location, frequency, constituent, and method requirements described in Part III of the Permit. Monitoring is described in more detail in Section 12 of the SWMP Plan.

DOE and Sandia will collect samples at all SNL MS4 inlets and outlets. This will include 1 inlet location and 4 outlet locations. Flow will be measured at the inlet and main outlet of the MS4.

A map of monitoring locations is provided in Appendix B of the SWMP Plan. E. coli waste loads will be determined for each monitoring location and evaluated for compliance with TMDL's.

V. Public Participation

Include a Summary of issues raised in any local public comments received by the MS4 Operator on the draft NOI/SWMP and MS4 operator's responses.

Public comments and responses to them will be provided to EPA and NMED at the time the NOI and SWMP Plan are submitted (on or before June 20, 2015).

VI. Attachments

Attach a location map showing the boundaries of the MS4 under the applicant's jurisdiction. The map must include streets or other demarcations so that the exact boundaries can be located.

Are other attachments included with the NOI? If so, indicate the title of the document(s).

SWMP Plan v.0, dated May 4, 2015 (<https://repository.unm.edu/handle/1928/26737>)

Maps are included as Appendix B of the SWMP Plan.

VII. Certification

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Signature:

Printed Name:

Date:

Appendix C-2

NOTICE OF INTENT



National Pollutant Discharge Elimination System Stormwater Program MS4 Notice of Intent Format



Check box if you are submitting an individual NOI with one or more cooperative program elements.

Check box if you are submitting an individual NOI with individual program elements only.

Check box if your municipality or organization was previously covered under a MS4 permit.

Please indicate the permittee class type: (Note: The definition of the permittee class type is located in Table 1 of Part I.B.1.)

A (Phase I) B (Phase II) C (New Phase II) D (MS4s within Indian Lands)

I. MS4(s) Information

A. General Information

Department of Energy/Sandia National Laboratories (DOE/SNL)

Name of MS4

Kathie

Name of Contact Person (First)

Deal

(Last)

Stormwater Lead

(Title)

(505) 844-8503

Telephone (including area code)

kjdeal@sandia.gov

Email

P.O. Box 5800, MS-0730

Mailing Address

Albuquerque

City

NM

State

87185-0730

ZIP code

What size population does your MS4(s) serve?

The operator is: Federal State Tribal other public (check one)

B. In what urbanized area (UA), the MS4 is located in:

- Farmington UA
- Santa Fe UA
- Albuquerque UA
- Los Lunas UA
- Las Cruces UA
- El Paso UA

C. If not located in an UA, the MS4 is located in:

Core Municipality

Indian Reservation/Pueblo

County(ies)

Cluster

D. Is this a Phase I MS4? Yes No

Is this a Non-traditional MS4? Yes No

If so, Check one: Dept. of Transportation Flood Control Authority University

Other - Specify

What is the Latitude and longitude of the approximate center of the MS4?

Latitude Longitude

II. Eligibility Determination

A. Receiving Water(s) Information

Does the MS4 discharge to any waters for which an TMDL applicable to discharges from the MS4 has been approved? (See Part I.A.5.f) Yes No NA

The receiving water(s) are:	State or Tribal Segment ID	Approved TMDL	TMDL assigns WLA to MS4
<input type="text" value="Tijeras Arroyo (SNL MS4 discharge point)"/>	<input type="text" value="NM-9000.A_070"/>	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
<input type="text" value="Middle Rio Grande (via Tijeras Arroyo)"/>	<input type="text" value="NM-2105_50"/>	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
<input type="text"/>	<input type="text"/>	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No
<input type="text"/>	<input type="text"/>	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No
<input type="text"/>	<input type="text"/>	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No

Is the MS4 (or a group of MS4s) seeking an alternative sub-measurable goal for TMDL controls under Part I.C.2.b.(i).(c).B? Yes No NA

If so, the MS4 or a group of MS4s must submit a preliminary proposal with the NOI to EPA and NMED (see Part I.B.2.k, Section B.2 in Appendix B and Part III.D.4). This proposal should include, but is not limited to, the elements included in Appendix B under Section B.2 of the permit

If the MS4 discharges to a receiving water for which EPA has approved or developed a TMDL, describe how the eligibility requirements of Part I.A.5.f and Part I.C.2. have been met :

DOE and Sandia will implement measures or controls that are consistent with the EPA-approved TMDL through the SWMP, as documented in the SWMP Plan.

TMDL requirements will be complied with through the development of targeted controls, measurable goals, monitoring, and reporting as described in Section 2.4 of the SWMP Plan.

Sandia has calculated a waste load allocation (WLA) based on the permit-assigned MS4 WLA, which will serve as a quantitative measurable goal.

DOE and Sandia will monitor all SNL MS4 inflows and outflows and determine waste loads for each. A total MS4 WL will be determined and evaluated against the WLA.

B. Is the MS4 partially located on Indian Country lands? Yes No

If so, the Indian Country Lands include the following: (NOTE: MS4s straddling State and Indian Country land boundaries will be issued authorization under all applicable permits and may have additional State or Tribal-specific requirements applicable to different areas of the MS4 - see Part VIII and initial notification under Part III.D.4)

C. Is the permit in compliance with the National Historic Preservation Act (NHPA)? Yes No

In order to be eligible for coverage under this permit, the MS4 operator must meet one of the following criteria: (Please check which criterion the MS4 is eligible under)

Criterion A: storm water discharges, allowable non-storm water discharges, and discharge-related activities do not affect a property that is listed or is eligible for listing on the National Register of Historic Places as maintained by the Secretary of the Interior.

Criterion B: the applicant has obtained and is in compliance with a written agreement with the State Historic Preservation Officer (SHPO) or Tribal Historic Preservation Officer (THPO) (or equivalent tribal authority) that outlines all measures the MS4 operator will undertake to mitigate or prevent adverse effect to the historic property.

Provide a brief summary of the basis for the criterion selected above:

There are no DOE-owned SNL properties listed on the National Register of Historic Places. The requirements of Part IV.U of the MS4 Permit do not apply to SNL.

There are no historic properties identified in the path of SNL's stormwater and allowable non-stormwater discharges or where construction activities are planned to install BMPs to control such discharges.

Construction and stormwater management/sampling activities proposed in the SWMP Plan are not anticipated to impact any known archaeological or cultural resources.

A NEPA review is conducted for every proposed disturbance to evaluate all necessary permitting actions, including those related to preservation of archaeological or cultural resources.

III. Preliminary Description of the Proposed Stormwater Program

As applicable, use Sections 1 through 8 below to describe the storm water management program (SWMP), including best management practices (BMPs) or storm water controls that will be implemented and the measurable goals for each of the storm water minimum control measures specified in Part I.D.5 of this permit, the month and year in which the MS4 operator will start and fully implement each of the minimum control measures or the frequency of the action, the name of the person(s) or position(s) responsible for implementing or coordinating the SWMP.

If the MS4 operator is participating in cooperative programs with other parties (or is relying on another governmental entity) to satisfy one or more permit obligations (see Part I.D.3), use the space provided under **Cooperative Elements** to identify the partners and briefly describe roles and responsibilities.

NOTE:

The space provided in the fields below (255 characters) should be used to briefly describe proposed BMPs and corresponding measurable goals. Individual boxes should be used to describe individual target activities. If additional space is required to describe target activities, the MS4(s) should attach such as information with the NOI using the format provided.

Section 1. Construction Site Stormwater Runoff Control – Proposed BMPS, Stormwater Controls, and Measurable Goals

1.1. Development of an ordinance or other regulatory mechanism as required in Part I.D.5.a.(ii)(a)

Sandia's Environmental Programs Department currently maintains Corporate Procedure ESH100.2.ENV.10: Management of Surface and Stormwater Discharges to address stormwater discharges at SNL.
Revisions to the procedure are in progress to meet all of the MS4 Permit requirements, and to specifically require compliance with the CGP, including the installation of erosion and sediment controls at construction sites. +
Sandia can enforce corporate procedures with disciplinary action up to and including termination of employment. Enforcement of the SWMP will be addressed through the protocol discussed in Section 1.6 of the SWMP Plan. +
DOE can enforce on Sandia through contract DE-AC04-94AL85000, which requires Sandia to comply with applicable Federal, State, and local laws and regulations.

Cooperative Elements

DOE (as owner of SNL) and Sandia (as operator of SNL) share responsibility for the SNL MS4. DOE and Sandia together will comply with all of the requirements of the MS4 Permit, but will do so independently of participation in a cooperative group. +

1.2. Develop requirements and procedures as required in Part I.D.5.a.(ii)(b) through in Part I.D.5.a.(ii)(h)

DOE and Sandia currently comply with the CGP and the majority of the requirements of these Parts of the MS4 Permit. See Section 5.2.2.1 of the SWMP Plan for details.

DOE and Sandia have a process in place for educating personnel and construction contractors involved in the planning, review, permitting, and/or approval of construction activities. See Section 5.2.2.2 of the SWMP Plan for details. +

In addition to maintaining a rigorous CGP process, DOE and Sandia will revise Corporate Procedure ESH.100.2. ENV10 to include all requirements of the MS4 Permit. See Section 5.2.2.3 of the SWMP Plan for details.

Cooperative Elements

DOE (as owner of SNL) and Sandia (as operator of SNL) share responsibility for the SNL MS4. DOE and Sandia together will comply with all of the requirements of the MS4 Permit, but will do so independently of participation in a cooperative group. +

1.3. Annually conduct site inspections of 100 percent of all construction projects cumulatively disturbing one (1) or more acres as required in Part I.D.5.a.(iii)

Construction site inspections are routinely performed by the Sandia Stormwater Team in accordance with the CGP and SWPPP requirements.

100 percent of all construction projects cumulatively disturbing one or more acres within the MS4 jurisdiction will be inspected many times within a year.

When site inspections reveal necessary maintenance, repair or other problems with the site, corrective action reports are created and follow-up inspections are performed to document completion of corrective actions.

All projects are inspected at completion of construction, prior to filing a Notice of Termination, to verify proper final stabilization. See 5.2.3 of the SWMP Plan.

Cooperative Elements

DOE (as owner of SNL) and Sandia (as operator of SNL) share responsibility for the SNL MS4. DOE and Sandia together will comply with all of the requirements of the MS4 Permit, but will do so independently of participation in a cooperative group. +

1.4. Coordinate with all departments and boards with jurisdiction over the planning, review, permitting, or approval of public and private construction projects/activities within the permit area as required in Part I.D.5.a.(iv)

Currently, when a construction SWPPP is developed, the Environmental Programs Department promotes coordination with many departments that have responsibilities associated with construction projects/activities. See SWMP Plan Section 5.2.4. +

As the SMWP evolves, the Stormwater Team identified in Section 1.7 of the SWMP Plan will expand to include subject matter experts and points of contacts in multiple organizations including Environmental and Facilities Programs. +

Cooperative Elements

DOE (as owner of SNL) and Sandia (as operator of SNL) share responsibility for the SNL MS4. DOE and Sandia together will comply with all of the requirements of the MS4 Permit, but will do so independently of participation in a cooperative group. +

1.5. Evaluation of GI/LID/Sustainable practices in site plan reviews as required in Part I.D.5.a.(v)

SNL buildings (new/renovations) must comply with the Guiding Principles for Federal Leadership in High Performance Sustainable Building. Over \$5M, they must achieve the U.S. Green Building Council's certification of LEED Gold for New Construction. +

DOE and Sandia currently review projects in the construction planning stages to demonstrate compliance GI/LID/Sustainable Practices.

A summary of the annual construction projects (one acre or more) that incorporated GI/LID/Sustainable Practices will be included with the SWMP Plan revisions associated with the Annual Report.

More details on the SNL's compliance with GI/LID/Sustainable Practices are included in Section 6 of the SWMP Plan.

Cooperative Elements

DOE (as owner of SNL) and Sandia (as operator of SNL) share responsibility for the SNL MS4. DOE and Sandia together will comply with all of the requirements of the MS4 Permit, but will do so independently of participation in a cooperative group. +

1.6. Enhance the program to include program elements in Part I.D.5.a.(viii) through Part I.D.5.a.(x)

DOE and Sandia use stormwater educational material and training courses to educate personnel about how their job duties may impact stormwater quality.

Stormwater regulation is and will continue to be considered in the development and revision of construction guidelines and manuals at SNL.

Cooperative Elements

DOE (as owner of SNL) and Sandia (as operator of SNL) share responsibility for the SNL MS4. DOE and Sandia together will comply with all of the requirements of the MS4 Permit, but will do so independently of participation in a cooperative group. +

1.7. Describe other proposed activities to address the Construction Site Stormwater Runoff Control Measure:

Although not required, in 2014 Sandia began requiring the installation of stormwater controls and pollution prevention measures to address the most critical pollutant sources at construction sites less than one acre in size. +

Sediment controls for any storm drains or drop inlets within the boundary of the project area are required. Portable toilets must be secured to prevent tipping (e.g., stake with rebar or bolt to trailer).

Chemicals stored outdoors must be covered/containerized and on secondary containment to prevent contact with stormwater. Containers and trucks containing paint, concrete or other building products must be washed into an appropriate waste container. +

Section 2. Post-Construction Stormwater Management in New Development and Redevelopment – Proposed BMPs, Stormwater Controls, and Measurable Goals

2.1. Development of strategies as required in Part I.D.5.b.(ii).(a)

A combination of structural and/or non-structural best management practices (BMPs) will be implemented to control pollutants in stormwater runoff on new development and redevelopment projects within the SNL MS4. +

Details of the strategies are discussed in Section 6.2 of the SWMP Plan.

Cooperative Elements

DOE (as owner of SNL) and Sandia (as operator of SNL) share responsibility for the SNL MS4. DOE and Sandia together will comply with all of the requirements of the MS4 Permit, but will do so independently of participation in a cooperative group. +

2.2. Development of an ordinance or other regulatory mechanism as required in Part I.D.5.b.(ii).(b)

Sandia Corporate Procedure ESH.100.2.ENV10 will be revised to include requirements of the MS4 Permit, EISA and 19.26.2.15 NMAC to address post-construction runoff from new development and redevelopment projects. +

Cooperative Elements

DOE (as owner of SNL) and Sandia (as operator of SNL) share responsibility for the SNL MS4. DOE and Sandia together will comply with all of the requirements of the MS4 Permit, but will do so independently of participation in a cooperative group. +

2.3. Implementation and enforcement, via the ordinance or other regulatory mechanism, of site design standards as required in Part I.D.5.b.(ii).(b).

SNL is a Federal facility and currently complies with the EISA, Section 438 of the CWA, for the purposes of preserving or restoring predevelopment hydrology for all development and redevelopment projects with a footprint that exceeds 5,000 square feet. +

DOE and Sandia manage post-construction runoff by either retaining stormwater from a 95th percentile storm (1.0 inch) onsite (most common); or retaining the calculated volume of the difference between predevelopment and postdevelopment runoff. +

SNL will be constructing detention basins for post-construction stormwater management (pursuant to Section 438 and the MS4 Permit) and may be constructing basins as sediment control BMPs that are compliant with Office of the State Engineer requirements. +

See SWMP Plan Section 6.2.3 for additional detail.

Cooperative Elements

DOE (as owner of SNL) and Sandia (as operator of SNL) share responsibility for the SNL MS4. DOE and Sandia together will comply with all of the requirements of the MS4 Permit, but will do so independently of participation in a cooperative group. +

2.4. Ensure appropriate implementation of structural controls as required in Part I.D.5.b.(ii).(c) and Part I.D.5.b.(ii).(d)


Pre-construction reviews of BMP designs will be completed during development of construction SWPPPs, as described in Section 5.2.2 of the SWMP Plan.

Inspections will be performed during construction to verify post-construction stormwater management BMPs are being built as designed.

An inspection will be performed upon completion of construction to verify post-construction stormwater management BMPs are completed as designed, and once per year thereafter to verify proper maintenance.


Non-compliance will be addressed through the enforcement protocol discussed in Section 1.6 of the SWMP Plan.


Cooperative Elements

DOE (as owner of SNL) and Sandia (as operator of SNL) share responsibility for the SNL MS4. DOE and Sandia together will comply with all of the requirements of the MS4 Permit, but will do so independently of participation in a cooperative group. 


2.5. Develop procedures as required in Part I.D.5.b.(ii).(e), Part I.D.5.b.(ii).(f), Part I.D.5.b.(ii).(g), and Part I.D.5.b.(ii).(h)

Sandia Corporate Training (SW100) Stormwater Pollution Prevention Training will be revised to address the awareness of site design techniques and controls, including GI/LID/Sustainability Practices, and the SNL SSP.

Sandia Corporate Procedure ESH.100.2.ENV10 will be revised to include the elements listed in Section 6.2.5 of the SWMP Plan such as requiring training, site inspections, as-built plans and revision of the procedure, as necessary. 

Corporate Procedure ESH.100.2.ENV10 and the Sandia Integrated Pest Management Plan will be revised to include controls for pesticides, herbicides, and fertilizers with respect to application, storage, and training. See Section 6.2.5 of the SWMP Plan. 

Cooperative Elements

DOE (as owner of SNL) and Sandia (as operator of SNL) share responsibility for the SNL MS4. DOE and Sandia together will comply with all of the requirements of the MS4 Permit, but will do so independently of participation in a cooperative group. 

2.6. Coordinate internally with all departments and boards with jurisdiction over the planning, review, permitting, or approval of public and private construction projects/activities within the permit area as required in Part I.D.5.b.(iii)

As the SMWP develops, the Stormwater Team identified in Section 1.7 of this SWMP Plan will evolve to include subject matter experts and points of contacts in multiple organizations including Environmental Programs and Facilities. +

DOE and Sandia will coordinate with all departments that have responsibilities associated with the planning, review, permitting, or approval of new development and redevelopment projects/activities within the SNL MS4. +

The requirement to ensure the hydrology associated with new development and redevelopment sites mimics the pre-development hydrology of the previously undeveloped site will be discussed prior to the development of a CGP SWPPP (Section 5.2.2 of SWMP Plan). +

Cooperative Elements

DOE (as owner of SNL) and Sandia (as operator of SNL) share responsibility for the SNL MS4. DOE and Sandia together will comply with all of the requirements of the MS4 Permit, but will do so independently of participation in a cooperative group. +


2.7. As required in Part I.D.5.b.(iv), the permittee must assess all existing codes, ordinances, planning documents and other applicable regulations, for impediments to the use of GI/LID/Sustainable practices

SNL is a federal facility and therefore DOE and Sandia are required to comply with numerous Executive Orders, the EISA and other Acts, as well as other federal mandates regarding sustainability.

Sandia prepares the SNL Site Sustainability Plan (SSP; see the SWMP Plan Appendix) annually in support of DOE's Strategic Sustainability Performance Plan (SSPP). As part of this process, GI/LID/Sustainable Practices are evaluated. +

See Section 6.2.7 of the SWMP Plan for additional details.

Cooperative Elements

DOE (as owner of SNL) and Sandia (as operator of SNL) share responsibility for the SNL MS4. DOE and Sandia together will comply with all of the requirements of the MS4 Permit, but will do so independently of participation in a cooperative group. 

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2.8. As required in Part I.D.5.b.(iv), describe the plan to report the assessment findings on GI/LID/Sustainable practices


DOE and Sandia will review the initiatives of the SSP on an annual basis and summarize the notable GI/LID/Sustainable Practices in the Annual Report.

See Section 6.2.7 of the SWMP Plan for details.

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Cooperative Elements

DOE (as owner of SNL) and Sandia (as operator of SNL) share responsibility for the SNL MS4. DOE and Sandia together will comply with all of the requirements of the MS4 Permit, but will do so independently of participation in a cooperative group. 

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2.9. Estimation of the number of acres of IA and DCIA as required in Part I.D.5.b.(vi)

The number of acres of impervious area (IA; including conventional pavements, sidewalks, driveways, roadways, parking lots, and rooftops) will be estimated for the SNL MS4 and included in the SWMP Plan submitted with the first Annual Report. +

The directly connected impervious area (DCIA; the portion of IA with a direct hydraulic connection to the MS4 via continuous paved surfaces, gutters, pipes, and other impervious features) will be estimated for the SNL MS4. +

Cooperative Elements

DOE (as owner of SNL) and Sandia (as operator of SNL) share responsibility for the SNL MS4. DOE and Sandia together will comply with all of the requirements of the MS4 Permit, but will do so independently of participation in a cooperative group. +

2.10. Inventory and priority ranking as required in section in Part I.D.5.b.(vii)

DOE and Sandia will conduct an inventory and priority ranking of the property within the SNL MS4 that may have the potential to be retrofitted with control measures designed to control the frequency, volume, and peak intensity of stormwater discharges. +

Cooperative Elements

DOE (as owner of SNL) and Sandia (as operator of SNL) share responsibility for the SNL MS4. DOE and Sandia together will comply with all of the requirements of the MS4 Permit, but will do so independently of participation in a cooperative group. +

2.11. Incorporate watershed protection elements as required in Part I.D.5.b.(viii)

Sandia Corporate Procedure ESH.100.2.ENV10 will be revised to include the watershed protection elements listed in Section 6.2.10 of the SWMP Plan such as recommendations:
to identify environmentally and ecologically sensitive areas that serve critical watershed functions; for disconnecting direct discharges from impervious surfaces; for implementing stormwater management practices that protect groundwater quality; +
to avoid or prevent hydromodification of water bodies; to protect native soils, prevent topsoil stripping, and prevent compaction of soils; and to maintain pre-development runoff conditions.

Cooperative Elements

DOE (as owner of SNL) and Sandia (as operator of SNL) share responsibility for the SNL MS4. DOE and Sandia together will comply with all of the requirements of the MS4 Permit, but will do so independently of participation in a cooperative group. +

2.12. Enhance the program to include program elements in Part I.D.5.b.(xi) and Part I.D.5.b.(xii)

DOE and Sandia use stormwater educational material and training courses to educate personnel about how their job duties may impact stormwater quality.
DOE and Sandia participate in local stakeholder groups, including the Technical Advisory Group (TAG) that was formed to help local MS4s understand, collaborate, and comply with Permit NMR04A000.

Cooperative Elements

DOE (as owner of SNL) and Sandia (as operator of SNL) share responsibility for the SNL MS4. DOE and Sandia together will comply with all of the requirements of the MS4 Permit, but will do so independently of participation in a cooperative group. +

2.13. Describe other proposed activities to address the Post-Construction Stormwater Management in New Development and Redevelopment Measure:

Corporate Procedure ESH100.2.ENV.10 and Corporate Training SW100 will be reviewed and updated annually, at a minimum to reflect changes in regulations and associated BMPs.
An annual review will be conducted of construction projects completed within the reporting period to verify that as-built plans, detailing controls for post-construction stormwater management, were submitted within ninety days of construction completion. +
A log will be maintained to summarize any additional measures that have been implemented to decrease impervious areas, decrease stormwater discharges, and/or improve water quality. The log will be updated annually. +

Section 3. Pollution Prevention/Good Housekeeping for Municipal/Co-permittee Operations – Proposed BMPs, Stormwater Controls, and Measurable Goals

3.1. Develop or update the Pollution Prevention/Good House Keeping program to include the elements in Part I.D.5.c.(i)

DOE and Sandia already require annual stormwater pollution prevention training for personnel with job duties that have the potential to impact stormwater quality.

Waste is managed through the Solid Waste Collection and Recycling Center (a facility designed to manage solid waste and recyclable materials generated by SNL).

As needed, DOE and Sandia will clean debris, floatables, and sediment from basins, ditches, and other conveyance infrastructure.

An assessment of technical guidance documents will be performed to determine water quality impacts and the potential for incorporation of water quality controls into new flood control projects. See Section 7.2.1 of the SWMP Plan. +

Cooperative Elements

DOE (as owner of SNL) and Sandia (as operator of SNL) share responsibility for the SNL MS4. DOE and Sandia together will comply with all of the requirements of the MS4 Permit, but will do so independently of participation in a cooperative group. +

3.2. Enhance the program to include the elements in Part I.D.5.c.(ii)

DOE and Sandia will evaluate the successfulness of the program and modify the SWMP with respect to each of the elements of Part I.D.5.c.(ii) as described in Section 7.2.1.6 of the SWMP Plan, including but not limited to the items listed below: +

- Develop a list of all stormwater quality facilities, including location and description
- Develop an operational model for de-icing activities, including methods to protect water quality
- Update plan to decrease runoff of vehicle related pollutants +

- A review and revision of the existing street sweeping plan and schedule
- A list of the roadways most likely contributing to pollution in runoff
- A review and revision of existing plan for collecting used motor vehicle fluids +

- A review and revision of the existing procedures and schedule for cleaning debris and sediment from the stormwater drainage system
- A review and revision of the existing litter control program, including public awareness campaigns +

Cooperative Elements

DOE (as owner of SNL) and Sandia (as operator of SNL) share responsibility for the SNL MS4. DOE and Sandia together will comply with all of the requirements of the MS4 Permit, but will do so independently of participation in a cooperative group. +

3.3. Develop or update a list and a map of industrial facilities owned or operated by the permittee as required in Part I.D.5.c.(iii)

DOE and Sandia discharge industrial stormwater at SNL in accordance with the provisions of the Multi-Sector General Permit (MSGP) as authorized by NMR05GP29 (DOE) and NMR05GQ63 (Sandia), as discussed in Sections 1.2.4 and 1.4.6 of the SWMP Plan. +

Any measures required by the MS4 Permit will be applied to MSGP sites located within boundaries of the SNL MS4 to augment measures already in place under the MSGP.

Cooperative Elements

DOE (as owner of SNL) and Sandia (as operator of SNL) share responsibility for the SNL MS4. DOE and Sandia together will comply with all of the requirements of the MS4 Permit, but will do so independently of participation in a cooperative group. +

3.4. Describe other proposed activities to address the Pollution Prevention/Good Housekeeping for Municipal/permittee Operations Measure:

Corporate Procedure ESH100.2.ENV.10: Management of Surface and Stormwater Discharges, and Corporate Training SW100 - Stormwater Pollution Prevention Training, will be reviewed and updated annually, at a minimum. +

The SNL MS4 will be divided into areas and inspected for compliance with the P2/GH Program such that each area is inspected a minimum of two times within the Permit term.

The chemicals and application methods associated with deicing operations and storage at SNL will be reviewed and procedures revised (as necessary) by December 22, 2016.

DOE and Sandia will prepare a cumulative summary of retrofit evaluations conducted during the Permit term on existing flood control devices, structures and drainage ways to benefit water quality.

Section 4: Industrial and High Risk Runoff – Proposed BMPs, Stormwater Controls, and Measurable Goals (APPLICABLE ONLY TO CLASS A PERMITTEES)

4.1. Ordinance (or other control method) as required in Part I.D.5.d.(i)

DOE and Sandia are Class C permittees; Section 4 does not apply.

Cooperative Elements

DOE and Sandia are Class C permittees; Section 4 does not apply.

4.2. Continue implementation and enforcement of the Industrial and High Risk Runoff program, assess the overall success of the program, and document both direct and indirect measurements of program effectiveness in the annual report as required in Part I.D.5.d.(ii)

DOE and Sandia are Class C permittees; Section 4 does not apply.

Cooperative Elements

DOE and Sandia are Class C permittees; Section 4 does not apply.

4.3. Meet the monitoring requirements in Part I.D.5.d.(iii)

DOE and Sandia are Class C permittees; Section 4 does not apply.

Cooperative Elements

DOE and Sandia are Class C permittees; Section 4 does not apply.

4.4. Include requirements in Part I.D.5.d.(iv)

DOE and Sandia are Class C permittees; Section 4 does not apply.

Cooperative Elements

DOE and Sandia are Class C permittees; Section 4 does not apply.

4.5. Enhance the program to include requirements in Part I.D.5.d.(vii)

DOE and Sandia are Class C permittees; Section 4 does not apply.

Cooperative Elements

DOE and Sandia are Class C permittees; Section 4 does not apply.

4.6. Describe other proposed activities to address the Industrial and High Risk Runoff Measure:

DOE and Sandia are Class C permittees; Section 4 does not apply.

Section 5. Illicit Discharges and Improper Disposal – Proposed BMPs, Stormwater Controls, and Measurable Goals

5.1. Mapping as required in Part I.D.5.e.(i)(a)

A map of the SNL MS4 stormwater drainage system, indicating all outfalls and the names and locations of all waters of the U.S. that receive discharges from those outfalls is provided in Appendix B of the SWMP Plan.

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Cooperative Elements

DOE (as owner of SNL) and Sandia (as operator of SNL) share responsibility for the SNL MS4. DOE and Sandia together will comply with all of the requirements of the MS4 Permit, but will do so independently of participation in a cooperative group. +

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5.2. Ordinance (or other control method) as required in Part I.D.5.e.(i)(b)

Sandia currently has a corporate procedure that prohibits discharges to the surface without prior approval from the Environmental Programs Department (Corporate Procedure ESH100.2.ENV.10: Management of Surface and Stormwater Discharges). +

Corporate Procedure ESH100.2.ENV.10 is presented to personnel as a component of annual mandatory corporate training materials, and other safety and environmental screening processes. ESH100.2.ENV.10 is summarized in SWMP Plan Section 8.2.2. +

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Cooperative Elements

DOE (as owner of SNL) and Sandia (as operator of SNL) share responsibility for the SNL MS4. DOE and Sandia together will comply with all of the requirements of the MS4 Permit, but will do so independently of participation in a cooperative group. +

5.3. Develop and implement a IDDE plan as required in Part I.D.5.e.(i)(c)

The Sandia workforce is trained to prevent and report activities or events with the potential to cause environmental harm.
If an illicit discharge is observed, the Stormwater Team will perform or coordinate visual screening, employee interviews, field parameters and sample collection to identify possible sources.
Enforcement of the IDDEP will be addressed through Corporate Policy and the protocol discussed in Section 1.6 of the SWMP Plan.
Investigations into the exact cause of the illicit discharge will be conducted to determine how operations or controls can be modified to prevent future illicit discharges. Additional details are provided in Section 8.2.3 of the SWMP Plan. +

Cooperative Elements

DOE (as owner of SNL) and Sandia (as operator of SNL) share responsibility for the SNL MS4. DOE and Sandia together will comply with all of the requirements of the MS4 Permit, but will do so independently of participation in a cooperative group. +

5.4. Develop an education program as required in Part I.D.5.e.(i)(d)

Sandia will be debuting a stormwater awareness campaign in 2015, "Stormwater - Keep it Clean" to include educational brochures, posters and a publication in The Porcelain Press (discussed in more detail in Section 10 of the SWMP Plan). +

The campaign will target Members of the Workforce to raise stormwater quality awareness and advertise training, and will occur during each wet season (July 1 through October 31).

The corporate stormwater pollution prevention training is offered online at any time and is also given in a live presentation to keys groups of employees that have the greatest potential to impact stormwater quality.

Copies of the most recent editions of these materials will be included as an appendix to the SWMP Plan.

Cooperative Elements

DOE (as owner of SNL) and Sandia (as operator of SNL) share responsibility for the SNL MS4. DOE and Sandia together will comply with all of the requirements of the MS4 Permit, but will do so independently of participation in a cooperative group. +

5.5. Establish a hotline as required in Part I.D.5.e.(i)(e)

Using any landline at SNL, emergencies can be reported by dialing 911, and non-emergencies can be reported by dialing 311.

Using any phone, emergencies can be reported by dialing (505) 844-0911 and non-emergencies by dialing (505) 844-0311.

The Sandia Emergency Operations Center (EOC) is available at 844-6515 for spill response and cleanup.

Sandia is the primary recipient of calls from these numbers. DOE and various departments within Sandia are in the chain of notification and response.

Cooperative Elements

DOE (as owner of SNL) and Sandia (as operator of SNL) share responsibility for the SNL MS4. DOE and Sandia together will comply with all of the requirements of the MS4 Permit, but will do so independently of participation in a cooperative group. +

5.6. Investigate suspected significant/severe illicit discharges as required in Part I.D.5.e.(i)(f)

All illicit discharges at SNL are taken seriously by DOE and Sandia. Should an illicit discharge be detected, it will be investigated within 48 hours, and the sources identified as soon as possible.
Any additional controls (administrative and/or engineered) necessary to prevent future discharges will be implemented as soon as practicable.


Cooperative Elements

DOE (as owner of SNL) and Sandia (as operator of SNL) share responsibility for the SNL MS4. DOE and Sandia together will comply with all of the requirements of the MS4 Permit, but will do so independently of participation in a cooperative group. +

5.7. Review complaint records and develop a targeted source reduction program as required in Part I.D.5.e.(i)(g)

Part I.D.5.e.(i)(g) is applicable to class A and B Permittees only; as a class C permittee this requirement does not apply to DOE and Sandia.

Cooperative Elements

DOE (as owner of SNL) and Sandia (as operator of SNL) share responsibility for the SNL MS4. DOE and Sandia together will comply with all of the requirements of the MS4 Permit, but will do so independently of participation in a cooperative group. 

5.8. Screening of system as required in Part I.D.5.e.(iii) as follows:

The SNL MS4 has no identified high priority areas at this time.

Screening of the SNL MS4 is informally conducted on on-going basis by field personnel trained to monitor for leaks, spills, and other discharges.

Formal screening will be conducted and documented at least once every five years which will include the inspection of all known outfalls and MS4 conveyance structures for the presence of illicit discharge.

Any illicit discharge encountered will be sampled, tracked to its source, and corrected through administrative or engineered control measures.

Cooperative Elements

DOE (as owner of SNL) and Sandia (as operator of SNL) share responsibility for the SNL MS4. DOE and Sandia together will comply with all of the requirements of the MS4 Permit, but will do so independently of participation in a cooperative group. +

5.9. Develop, update, and implement a Waste Collection Program as required in Part I.D.5.e.(iv)

Sandia has a well developed waste management and recycling program. The program is described in Section 8.2.9 of the SWMP Plan. The program includes education and involvement of all workforce members.

The SNL Solid Waste Collection & Recycling Center (SWCRC) has three purposes:
1. Screen the SNL's collected solid waste and recyclables for prohibited materials.
2. Bale, store, and ship solid waste to an approved landfill. +


The SWCRC recycles cardboard, white paper, mixed paper, aluminum cans, foam packaging, plastics (mixed #1-7 rigids), toner and ink cartridges, wood, plywood, green waste and construction/demolition scrap metals.

Hazardous waste generated at SNL is handled under Corporate Procedure ESH100.2.ENV.22. This procedure provides detailed instructions for using, labeling, storing, accumulating, managing, and transporting waste to disposal facilities. +

Cooperative Elements

DOE (as owner of SNL) and Sandia (as operator of SNL) share responsibility for the SNL MS4. DOE and Sandia together will comply with all of the requirements of the MS4 Permit, but will do so independently of participation in a cooperative group. +

5.10. Develop, update and implement a Spill Prevention and Response program to prevent, contain, and respond to spills that may discharge into the MS4 as required in Part I.D.5.e.(v)


Sandia has a detailed Spill Prevention Control and Countermeasure Plan that includes prevention measures including inspections, testing, records, security, operational procedures, best management practices, and personnel. 

In the event of a release, Sandia maintains a sophisticated system of containment facilities, trained response staff, and emergency equipment to prevent pollutants from entering the stormwater drainage system.

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Cooperative Elements

DOE (as owner of SNL) and Sandia (as operator of SNL) share responsibility for the SNL MS4. DOE and Sandia together will comply with all of the requirements of the MS4 Permit, but will do so independently of participation in a cooperative group. 

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5.11. Enhance the program to include requirements in Part I.D.5.e.(ix)


Sandia will utilize ideas from the manual "Illicit Discharge Detection and Elimination, A Guidance Document for Program Development and Technical Assessments" to enhance the IDDE Program as needed.

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Cooperative Elements

DOE (as owner of SNL) and Sandia (as operator of SNL) share responsibility for the SNL MS4. DOE and Sandia together will comply with all of the requirements of the MS4 Permit, but will do so independently of participation in a cooperative group. 

5.12. Describe other proposed activities to address the Illicit Discharges and Improper Disposal Measure:

Corporate Procedure ESH100.2.ENV.10 and Corporate Training SW100 will be reviewed and updated annually, at a minimum to reflect changes in regulations and associated BMPs.


A log will be maintained of illicit discharges reported within the SNL MS4 boundary. The log will include the method of reporting, pertinent details about the illicit discharge, and a summary of the findings and corrective actions. 

An annual summary of solid waste management will be included in the SWMP Plan revision included with each Annual Report.

Section 6. Control of Floatables Discharges – Proposed BMPs, Stormwater Controls, and Measurable Goals

6.1. Develop a schedule to implement the program as required in Part I.D.5.f.(i)(a)

SNL's smoke-free campus and the culture of the workforce foster an environment such that solid waste dumping (i.e., littering) is uncommon.

Additionally, on a larger scale, Sandia manages floatables through administrative and source controls, through robust waste management and pollution prevention programs. These programs are described in detail in Section 8.2 of the SWMP Plan. 

For the reasons stated above, DOE and Sandia do not anticipate there to be a significant amount of floatables generated within the SNL MS4.

Cooperative Elements

DOE (as owner of SNL) and Sandia (as operator of SNL) share responsibility for the SNL MS4. DOE and Sandia together will comply with all of the requirements of the MS4 Permit, but will do so independently of participation in a cooperative group. +

6.2. Describe the plan to estimate the annual volume of floatables and trash removed from each control facility and characterize the floatable type as required in Part I.D.5.f.(i)(b)

Sandia operates an aggressive waste management and pollution prevention programs that include education and a recycling facility. During FY 2014 approximately 70 percent of the solid waste generated by Sandia was recycled. +

There is an insignificant litter or refuse presence within the SNL MS4.

DOE and Sandia propose to implement additional source control measures to reduce trash that might otherwise end up in stormwater, rather than implement costly and unnecessary structural controls (e.g., trash racks). +

Structural controls may be installed in the future should they prove to be necessary.

Cooperative Elements

DOE (as owner of SNL) and Sandia (as operator of SNL) share responsibility for the SNL MS4. DOE and Sandia together will comply with all of the requirements of the MS4 Permit, but will do so independently of participation in a cooperative group. +

6.3. Describe other proposed activities to address the Control of Floatables Discharges Measure:

The Floatables Program established in compliance with the MS4 Permit will be enhanced to control the discharge of floatables and trash from the SNL MS4 by implementing source control of floatables specifically in industrial and commercial areas. +

Corporate Procedure ESH100.2.ENV.10 and Corporate Training SW100 will be reviewed and updated annually, at a minimum to reflect changes in regulations and associated BMPs.

The main SNL MS4 outfall measured by stormwater sampling point SWSP-05 will be inspected quarterly for the presence of floatable debris. Inspection reports will be maintained with the SWMP Plan.

An annual assessment of the Floatables Program will be conducted to evaluate the need for structural controls.

Section 7. Public Education and Outreach on Stormwater Impacts – proposed BMPs, Stormwater Controls, and Measurable Goals

7.1. Develop, revise, implement, and maintain an education and outreach program as required in Part I.D.5.g.(i) and Part I.D.5.g.(ii)

The Stormwater Quality Program has a website for access by personnel containing basic regulatory requirements pertaining to the protection of stormwater quality, training information and contacts for the Stormwater Team. +

Corporate Training (SW100) Stormwater Pollution Prevention Training is available online to personnel, and performed as a live presentation upon request.

A stormwater pollution prevention informational brochure is distributed at the cafeteria during environmental events and other events such as Earth Day (Bring Your Sons and Daughters to Work Day) and Family Day. +

Sandia owns educational models for stormwater/watershed, groundwater, and drinking water/wastewater and performs demonstrations to students in the classroom, during Earth Day (Bring Your Sons and Daughters to Work Day) and Family Day. +

Cooperative Elements

DOE (as owner of SNL) and Sandia (as operator of SNL) share responsibility for the SNL MS4. DOE and Sandia together will comply with all of the requirements of the MS4 Permit, but will do so independently of participation in a cooperative group. +

7.2. Enhance the program to include requirements in Part I.D.5.g.(v) through Part I.D.5.g.(viii)

DOE and Sandia may utilize educational materials and program elements as needed to improve the public outreach program.

Educational elements for proper septic system maintenance, proper use and disposal of fertilizers and pesticides, and proper disposal of motor oil and household hazardous wastes will be incorporated into DOE's and Sandia's educational program.

Information about litter reduction, recycling, reduction of pesticide/herbicide use, xeriscaping and reduced water consumption, pet waste and solid waste management will be incorporated into DOE's and Sandia's educational program.

Cooperative Elements

DOE (as owner of SNL) and Sandia (as operator of SNL) share responsibility for the SNL MS4. DOE and Sandia together will comply with all of the requirements of the MS4 Permit, but will do so independently of participation in a cooperative group.

7.3. Describe other proposed activities to address the Public Education and Outreach on Stormwater Impacts Measure:

The corporate online training system that disseminates Stormwater Pollution Prevention Training (SW100) is equipped to track completion. DOE's and Sandia's goal is to maintain a minimum of 90 percent annual participation in SW100 training.

The informational brochures and campaign posters will be reviewed and updated annually to ensure regulatory and contact information is current, and to respond to the educational and training needs of the workforce.

Starting in 2016, the Stormwater Team will hold a minimum of three events per reporting period (July 1 - June 30) to perform demonstrations of the educational models to grade-school children and personnel.

Section 8. Public Involvement and Participation – Proposed BMPs, Stormwater Controls, and Measurable Goals

8.1. Develop (or update), implement, and maintain a public involvement and participation plan as required in Part I.D.5.h.(ii) and Part I.D.5.h.(iii)

The Public Involvement and Participation Program (PIPP) will include a comprehensive planning process which involves public participation and, where necessary, intergovernmental coordination. The PIPP is described in Section 11 of the SWMP Plan. +

DOE and Sandia will notify the public via legal notice in the Albuquerque Journal for a period of 30 days, prior to the submission of the NOI (and associated SWMP Plan) and each Annual Report (and associated SWMP Plan revision). +

A copy of the MS4 Permit and the applicable documents (i.e., NOI, Annual Report, SWMP Plan, etc.) will be maintained up-to-date through the University of New Mexico (UNM) LoboVault online database (<https://repository.unm.edu/handle/1928/26737>). +

A functional behavioral assessment will be performed at DOE/DoD Semi-Annual Public Meeting, where the topic of "stormwater" is presented. The public's antecedent (before), present (during), and consequence (after) behavior will be observed and recorded. +

Cooperative Elements

DOE (as owner of SNL) and Sandia (as operator of SNL) share responsibility for the SNL MS4. DOE and Sandia together will comply with all of the requirements of the MS4 Permit, but will do so independently of participation in a cooperative group. +

8.2. Describe the plan to comply with State, Tribal, and local notice requirements when implementing a Public Involvement and Participation Program as required in Part I.D.5.h.(iv)

DOE and Sandia will comply with State, Tribal, and local public notice requirements when implementing a public involvement/ participation program.

Cooperative Elements

DOE (as owner of SNL) and Sandia (as operator of SNL) share responsibility for the SNL MS4. DOE and Sandia together will comply with all of the requirements of the MS4 Permit, but will do so independently of participation in a cooperative group. +

8.3. Describe a plan to include elements as required in Part I.D.5.h.(v)

Public notices will be printed in a newspaper of general circulation in the Albuquerque area (i.e., The Albuquerque Journal) and be available online.
The DOE/DoD Semi-Annual Public Meetings are open to all citizens and the public is encouraged to attend. The meetings will be used as a mechanism to discuss stormwater permitting at SNL.
The MS4 Permit (specifically Appendix E), NOIs and SWMP Plan will be available at https://repository.unm.edu/handle/1928/26737 through the University of New Mexico (UNM) LoboVault on-line database.
Physical copies of documents posted to the UNM LoboVault will be available at the UNM Zimmerman Library. Contact Daniel Barkley at 505-277-7180 or barkley@unm.edu in advance to make an appointment.

Cooperative Elements

DOE (as owner of SNL) and Sandia (as operator of SNL) share responsibility for the SNL MS4. DOE and Sandia together will comply with all of the requirements of the MS4 Permit, but will do so independently of participation in a cooperative group. +

8.4. As required in Part I.D.5.h.(viii) provide the internet site (or website) where the SWMP document, Annual Reports, and other documents will be available to the public.

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8.5. Enhance the program to include requirements in Part I.D.5.h.(ix)


DOE and Sandia will consider options for enhancing the PIPP as needed based on the results of the previous year(s).

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Cooperative Elements

DOE (as owner of SNL) and Sandia (as operator of SNL) share responsibility for the SNL MS4. DOE and Sandia together will comply with all of the requirements of the MS4 Permit, but will do so independently of participation in a cooperative group. 
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8.6. Describe other proposed activities to address the Public Involvement and Participation Measure:

Comments received by the public in response to any and all public notices will be considered and maintained with the SWMP Plan for the duration of the Permit term.

DOE and Sandia will perform one functional behavioral assessment during the Permit team at DOE/DoD Semi-Annual Public Meeting, before, during and after the topic of "stormwater" is presented.

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IV. Proposed Monitoring Program

Indicate wet weather monitoring program preference:

Individual Monitoring Program

Cooperative Monitoring Program

Provide a general description of the propose monitoring program.

Wet weather and dry weather monitoring will be conducted in compliance with the location, frequency, constituent, and method requirements described in Part III of the Permit. Monitoring is described in more detail in Section 12 of the SWMP Plan.

DOE and Sandia will collect samples at all SNL MS4 inlets and outlets. This will include 1 inlet location and 4 outlet locations. Flow will be measured at the inlet and main outlet of the MS4.

A map of monitoring locations is provided in Appendix B of the SWMP Plan. E. coli waste loads will be determined for each monitoring location and evaluated for compliance with TMDL's.

V. Public Participation

Include a Summary of issues raised in any local public comments received by the MS4 Operator on the draft NOI/SWMP and MS4 operator's responses.

Public comments and responses to them will be provided to EPA and NMED at the time the NOI and SWMP Plan are submitted (on or before June 20, 2015).

VI. Attachments

Attach a location map showing the boundaries of the MS4 under the applicant's jurisdiction. The map must include streets or other demarcations so that the exact boundaries can be located.

Are other attachments included with the NOI? If so, indicate the title of the document(s).

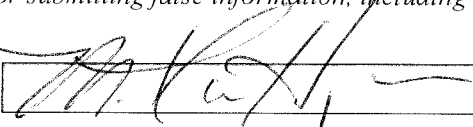
SWMP Plan v.0, dated May 4, 2015 (<https://repository.unm.edu/handle/1928/26737>)

Maps are included as Appendix B of the SWMP Plan.

VII. Certification

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.


Signature:



Printed Name:

Michael W. Hazen

Date:


3 May 2015

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5/11/15

Abq. Int.

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NOTICE

Department of Energy, National Nuclear Security Administration
Sandia National Laboratories

Filing of Notice of Intent and Stormwater Management Program Plan for Municipal Separate Storm Sewer System Permit - NPDES Permit NMR04A000

On behalf of the Department of Energy (DOE) and Sandia Corporation (Sandia), you are hereby notified that DOE and Sandia are requesting coverage under the National Pollutant Discharge Elimination System (NPDES) Municipal Separate Storm Sewer System (MS4) Permit for the Middle Rio Grande Watershed (NMR04A000) for Sandia National Laboratories (SNL).

SNL is a multi-program laboratory managed and operated by Sandia, a wholly owned subsidiary of Lockheed Martin Corporation, for the U.S. Department of Energy's (DOE's) National Nuclear Security Administration under contract DE-AC04-94AL85000. SNL is located within the boundary of Kirtland Air Force Base, immediately southeast of Albuquerque, New Mexico.

Stormwater discharges from SNL are currently regulated under the NPDES Construction General Permit (CGP) and the NPDES Multi-Sector General Permit (MSGP). On December 22, 2014, the Environmental Protection Agency (EPA) issued a new NPDES Permit, the MS4 Permit for the Middle Rio Grande Watershed. DOE and Sandia are listed for potential coverage under the MS4 Permit as Class C permittees and qualify for coverage under the Permit based on the inclusion of a small portion of the northern-most DOE/SNL jurisdiction within the Albuquerque urbanized area (according to the 2010 census). DOE and Sandia will comply with the requirements of the MS4 Permit in addition to the CGP and MSGP.

To obtain coverage under the MS4 Permit, DOE and Sandia will complete the following tasks on or before June 20, 2015:

- Prepare a Notice of Intent (NOI)
- Prepare a Storm Water Management Program (SWMP) Plan
- Publish Public Notice, NOI and SWMP Plan for 30 days
- Submit NOI and SWMP Plan to EPA

COMMENT PERIOD

A 30-day public comment period associated with the proposed filing of the NOIs and SWMP Plan begins on May 11, 2015. Comments on this proposed filing will be accepted through June 10, 2015. Written comments should be submitted to EPA and DOE via email or hard copy to the contacts listed below.

EPA (via e-mail):
Ms. Dorothy Brown
brown.dorothy@epa.gov

DOE (via e-mail):
Karen Agogino
karen.agogino@nnsa.doe.gov

EPA (via hard copy):
U.S. EPA Region 6
Water Quality Protection Division
(6WQ-NP)
Attn: Dorothy Brown
1445 Ross Ave., Suite 1200
Dallas, TX 75202

DOE (via hard copy):
U.S. Department of Energy
National Nuclear Security Administration
Sandia Field Office
Attn: Karen Agogino
PO Box 5400
Albuquerque, New Mexico 87185

PUBLIC HEARING

There is no public hearing scheduled at this time. During the 30 day public comment period, requests for a public hearing can be submitted to the EPA and DOE contacts listed above.

PUBLIC INSPECTION OF DOCUMENTS

The MS4 Permit (specifically Appendix E), NOIs and SWMP Plan will be available at <https://repository.unm.edu/handle/1928/26737> through the University of New Mexico (UNM) LoboVault online database, upon the commencement of the 30 day public comment period. Documents associated with DOE's and Sandia's MS4 Permit coverage will be posted to and maintained on this website throughout the permit term. Physical copies of the documents posted to the UNM LoboVault online database are available at Zimmerman Library, Government Documents Collection, on the UNM main campus in Albuquerque, New Mexico. To review these copies, please contact Daniel Barkley at 505-277-7180 or barkley@unm.edu in advance to make an appointment. Zimmerman Library is open to the public during the following times: 8:00 am to 10:00 pm Monday through Thursday; 8:00 am to 7:00 pm Friday; 12:00 pm to 9:00 pm Saturday; and 12:00 pm to 10:00 pm Sunday.

Journal: May 11, 2015

Appendix C-4

NOTICE
Department of Energy, National Nuclear Security Administration
Sandia National Laboratories

**Filing of Notice of Intent and Stormwater Management Program Plan for
Municipal Separate Storm Sewer System Permit – NPDES Permit NMR04A000**

On behalf of the Department of Energy (DOE) and Sandia Corporation (Sandia), you are hereby notified that DOE and Sandia are requesting coverage under the National Pollutant Discharge Elimination System (NPDES) Municipal Separate Storm Sewer System (MS4) Permit for the Middle Rio Grande Watershed (NMR04A000) for Sandia National Laboratories (SNL).

SNL is a multi-program laboratory managed and operated by Sandia, a wholly owned subsidiary of Lockheed Martin Corporation, for the DOE's National Nuclear Security Administration under contract DE-AC04-94AL85000. SNL is located within the boundary of Kirtland Air Force Base, immediately southeast of Albuquerque, New Mexico.

Stormwater discharges from SNL are currently regulated under the NPDES Construction General Permit (CGP) and the NPDES Multi-Sector General Permit (MSGP). On December 22, 2014, the Environmental Protection Agency (EPA) issued a new NPDES Permit, the MS4 Permit for the Middle Rio Grande Watershed. DOE and Sandia are listed for potential coverage under the Permit as Class C permittees and qualify for coverage under the Permit based on the inclusion of a small portion of the northern-most DOE/SNL jurisdiction within the Albuquerque urbanized area (according to the 2010 census). DOE and Sandia will comply with the requirements of the MS4 Permit in addition to the CGP and MSGP.

To obtain coverage under the MS4 Permit, DOE and Sandia will prepare a Notice of Intent (NOI) and Storm Water Management Program (SWMP) Plan; publish the public notice, NOIs and SWMP Plan for 30 days; and submit the NOIs and SWMP Plan to EPA on or before June 20, 2015.

COMMENT PERIOD

A 30-day public comment period associated with the proposed filing of the NOIs and SWMP Plan begins on **May 11, 2015**. Comments on this proposed filing will be accepted **through June 10, 2015**. Written comments should be submitted to EPA and DOE via email or hard copy to the contacts listed below.

EPA (via e-mail):
Ms. Dorothy Brown
brown.dorothy@epa.gov

DOE (via e-mail):
Karen Agogino
karen.agogino@nnsa.doe.gov

EPA (via hard copy):
U.S. EPA Region 6
Water Quality Protection Division (6WQ-NP)
Attn: Dorothy Brown
1445 Ross Ave., Suite 1200
Dallas, TX 75202

DOE (via hard copy):
U.S. Department of Energy
National Nuclear Security Administration
Sandia Field Office
Attn: Karen Agogino
PO Box 5400
Albuquerque, New Mexico 87185

(continued on next page)



U.S. DEPARTMENT OF
ENERGY



Sandia National Laboratories



Sandia National Laboratories is a multi-program laboratory managed and operated by Sandia Corporation, a wholly owned subsidiary of Lockheed Martin Corporation, for the U.S. Department of Energy's National Nuclear Security Administration under contract DE-AC04-94AL85000. SAND2015-2207 O

NOTICE
Department of Energy, National Nuclear Security Administration
Sandia National Laboratories
(concluded)

PUBLIC HEARING

There is no public hearing scheduled at this time. During the 30 day public comment period, requests for a public hearing can be submitted to the EPA and DOE contacts listed above.

PUBLIC INSPECTION OF DOCUMENTS

The MS4 Permit (specifically Appendix E), NOIs and SWMP Plan will be available at <https://repository.unm.edu/handle/1928/26737> through the University of New Mexico (UNM) LoboVault online database, upon the commencement of the 30 day public comment period. Documents associated with DOE's and Sandia's MS4 Permit coverage will be posted to and maintained on this website throughout the permit term. Physical copies of the documents posted to the UNM LoboVault online database are available at Zimmerman Library, Government Documents Collection, on the UNM main campus in Albuquerque, New Mexico. To review these copies, please contact Daniel Barkley at 505-277-7180 or barkley@unm.edu in advance to make an appointment. Zimmerman Library is open to the public during the following times: 8:00 am to 10:00 pm Monday through Thursday; 8:00 am to 7:00 pm Friday; 12:00 pm to 9:00 pm Saturday; and 12:00 pm to 10:00 pm Sunday.



U.S. DEPARTMENT OF
ENERGY



Sandia National Laboratories



Sandia National Laboratories is a multi-program laboratory managed and operated by Sandia Corporation, a wholly owned subsidiary of Lockheed Martin Corporation, for the U.S. Department of Energy's National Nuclear Security Administration under contract DE-AC04-94AL85000. SAND2015-2207 O

Appendix C-5

v.5, August 10, 2019

A printed copy of this document may not be the official version. The official printed copy of this SWMPP is located in the office of the Environmental Compliance and Monitoring Department (Org. 00641).

NOTICE OF INTENT



National Pollutant Discharge Elimination System Stormwater Program
MS4 Notice of Intent Format



Check box if you are submitting an individual NOI with one or more cooperative program elements.

Check box if you are submitting an individual NOI with individual program elements only.

Check box if your municipality or organization was previously covered under a MS4 permit.

Please indicate the permittee class type: (Note: The definition of the permittee class type is located in Table 1 of Part I.B.1.)

A (Phase I) B (Phase II) C (New Phase II) D (MS4s within Indian Lands)

I. MS4(s) Information

A. General Information

Department of Energy/Sandia National Laboratories (DOE/SNL)

Name of MS4

Karen

Agogino

Water Prg. Mgr.

Name of Contact Person (First)

(Last)

(Title)

(505) 845-6100

karen.agogino@nnsa.doe.gov

Telephone (including area code)

Email

U. S. Department of Energy, National Nuclear Security Administration, Sandia Field Office, P.O. Box 5400

Mailing Address

Albuquerque

NM

87185

City

State

ZIP code

What size population does your MS4(s) serve?

The operator is: Federal State Tribal other public (check one)

B. In what urbanized area (UA), the MS4 is located in:

- Farmington UA
- Santa Fe UA
- Albuquerque UA
- Los Lunas UA
- Las Cruces UA
- El Paso UA

C. If not located in an UA, the MS4 is located in:

Core Municipality

Indian Reservation/Pueblo

County(ies)

Cluster

D. Is this a Phase I MS4? Yes No

Is this a Non-traditional MS4? Yes No

If so, Check one: Dept. of Transportation Flood Control Authority University

Other - Specify

What is the Latitude and longitude of the approximate center of the MS4?

Latitude Longitude

II. Eligibility Determination

A. Receiving Water(s) Information

Does the MS4 discharge to any waters for which an TMDL applicable to discharges from the MS4 has been approved? (See Part I.A.5.f) Yes No NA

The receiving water(s) are:

	<i>State or Tribal Segment ID</i>	<i>Approved TMDL</i>		<i>TMDL assigns WLA to MS4</i>	
<input type="text" value="Tijeras Arroyo (SNL MS4 discharge point)"/>	<input type="text" value="NM-9000.A_070"/>	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
<input type="text" value="Middle Rio Grande (via Tijeras Arroyo)"/>	<input type="text" value="NM-2105_50"/>	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No
<input type="text" value="Middle Rio Grande (via Kirtland AFB MS4)"/>	<input type="text" value="NM-2105.1_00"/>	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No
<input type="text"/>	<input type="text"/>	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> Yes	<input type="checkbox"/> No
<input type="text"/>	<input type="text"/>	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> Yes	<input type="checkbox"/> No

Is the MS4 (or a group of MS4s) seeking an alternative sub-measureable goal for TMDL controls under Part I.C.2.b.(i).(c).B? Yes No NA

If so, the MS4 or a group of MS4s must submit a preliminary proposal with the NOI to EPA and NMED (see Part I.B.2.k, Section B.2 in Appendix B and Part III.D.4). This proposal should include, but is not limited to, the elements included in Appendix B under Section B.2 of the permit

If the MS4 discharges to a receiving water for which EPA has approved or developed a TMDL, describe how the eligibility requirements of Part I.A.5.f and Part I.C.2. have been met :

DOE and Sandia will implement measures or controls that are consistent with the EPA-approved TMDL through the SWMP, as documented in the SWMP Plan.

TMDL requirements will be complied with through the development of targeted controls, measurable goals, monitoring, and reporting as described in Section 2.4 of the SWMP Plan.

Sandia has calculated a waste load allocation (WLA) based on the permit-assigned MS4 WLA, which will serve as a quantitative measurable goal.

DOE and Sandia will monitor all SNL MS4 inflows and outflows and determine waste loads for each. A total MS4 WL will be determined and evaluated against the WLA.

B. Is the MS4 partially located on Indian Country lands? Yes No

If so, the Indian Country Lands include the following: (NOTE: MS4s straddling State and Indian Country land boundaries will be issued authorization under all applicable permits and may have additional State or Tribal-specific requirements applicable to different areas of the MS4 - see Part VIII and initial notification under Part III.D.4)

C. Is the permit in compliance with the National Historic Preservation Act (NHPA)? Yes No

In order to be eligible for coverage under this permit, the MS4 operator must meet one of the following criteria: (Please check which criterion the MS4 is eligible under)

Criterion A: storm water discharges, allowable non-storm water discharges, and discharge-related activities do not affect a property that is listed or is eligible for listing on the National Register of Historic Places as maintained by the Secretary of the Interior.

Criterion B: the applicant has obtained and is in compliance with a written agreement with the State Historic Preservation Officer (SHPO) or Tribal Historic Preservation Officer (THPO) (or equivalent tribal authority) that outlines all measures the MS4 operator will undertake to mitigate or prevent adverse effect to the historic property.

Provide a brief summary of the basis for the criterion selected above:

There are no DOE-owned SNL properties listed on the National Register of Historic Places. The requirements of Part IV.U of the MS4 Permit do not apply to SNL.

There are no historic properties identified in the path of SNL's stormwater and allowable non-stormwater discharges or where construction activities are planned to install BMPs to control such discharges.

Construction and stormwater management/sampling activities proposed in the SWMP Plan are not anticipated to impact any known archaeological or cultural resources.

A NEPA review is conducted for every proposed disturbance to evaluate all necessary permitting actions, including those related to preservation of archaeological or cultural resources.

III. Preliminary Description of the Proposed Stormwater Program

As applicable, use Sections 1 through 8 below to describe the storm water management program (SWMP), including best management practices (BMPs) or storm water controls that will be implemented and the measurable goals for each of the storm water minimum control measures specified in Part I.D.5 of this permit, the month and year in which the MS4 operator will start and fully implement each of the minimum control measures or the frequency of the action, the name of the person(s) or position(s) responsible for implementing or coordinating the SWMP.

If the MS4 operator is participating in cooperative programs with other parties (or is relying on another governmental entity) to satisfy one or more permit obligations (see Part I.D.3), use the space provided under **Cooperative Elements** to identify the partners and briefly describe roles and responsibilities.

NOTE:


The space provided in the fields below (255 characters) should be used to briefly describe proposed BMPs and corresponding measurable goals. Individual boxes should be used to describe individual target activities. If additional space is required to describe target activities, the MS4(s) should attach such as information with the NOI using the format provided.

Section 1. Construction Site Stormwater Runoff Control – Proposed BMPS, Stormwater Controls, and Measurable Goals

1.1. Development of an ordinance or other regulatory mechanism as required in Part I.D.5.a.(ii)(a)


Sandia's Environmental Programs Department currently maintains Corporate Procedure ESH100.2.ENV.10: Management of Surface and Stormwater Discharges to address stormwater discharges at SNL.

Revisions to the procedure will be completed by 12/22/15 to specifically require compliance with the CGP, including the installation of erosion and sediment controls at construction sites.

Sandia can enforce corporate procedures with disciplinary action up to and including termination of employment. Enforcement of the SWMP will be addressed through the protocol discussed in Section 1.6 of the SWMP Plan. 


DOE can enforce on Sandia through contract DE-AC04-94AL85000, which requires Sandia to comply with applicable Federal, State, and local laws and regulations.

Cooperative Elements

DOE (as owner of SNL) and Sandia (as operator of SNL) share responsibility for the SNL MS4. DOE and Sandia together will comply with all of the requirements of the MS4 Permit, but will do so independently of participation in a cooperative group. 


1.2. Develop requirements and procedures as required in Part I.D.5.a.(ii)(b) through in Part I.D.5.a.(ii)(h)

DOE and Sandia currently comply with the CGP and the majority of the requirements of these Parts of the MS4 Permit. See Section 5.2.2.1 of the SWMP Plan for details.

DOE and Sandia have a process in place for educating personnel and construction contractors involved in the planning, review, permitting, and/or approval of construction activities. See Section 5.2.2.2 of the SWMP Plan for details. 

In addition to maintaining a rigorous CGP process, DOE and Sandia will revise corporate procedures to address all requirements of the MS4 Permit by 4/22/16. See Section 5.2.2.3 of the SWMP Plan for details.

Cooperative Elements

DOE (as owner of SNL) and Sandia (as operator of SNL) share responsibility for the SNL MS4. DOE and Sandia together will comply with all of the requirements of the MS4 Permit, but will do so independently of participation in a cooperative group. 

1.3. Annually conduct site inspections of 100 percent of all construction projects cumulatively disturbing one (1) or more acres as required in Part I.D.5.a.(iii)


Construction site inspections are routinely performed by the Sandia Stormwater Team in accordance with the CGP and SWPPP requirements.

100 percent of all construction projects cumulatively disturbing one or more acres within the MS4 jurisdiction will be inspected many times within a year.


When site inspections reveal necessary maintenance, repair or other problems with the site, corrective action reports are created and follow-up inspections are performed to document completion of corrective actions.


All projects are inspected at completion of construction, prior to filing a Notice of Termination, to verify proper final stabilization. See 5.2.3 of the SWMP Plan.

Cooperative Elements


DOE (as owner of SNL) and Sandia (as operator of SNL) share responsibility for the SNL MS4. DOE and Sandia together will comply with all of the requirements of the MS4 Permit, but will do so independently of participation in a cooperative group. 

1.4. Coordinate with all departments and boards with jurisdiction over the planning, review, permitting, or approval of public and private construction projects/activities within the permit area as required in Part I.D.5.a.(iv)


Currently, when a construction SWPPP is developed, the Environmental Programs Department promotes coordination with many departments that have responsibilities associated with construction projects/activities. See SWMP Plan Section 5.2.4. 

As the SMWP evolves, the Stormwater Team identified in Section 1.7 of the SWMP Plan will expand to include subject matter experts and points of contacts in multiple organizations including Environmental and Facilities Programs. 

Cooperative Elements

DOE (as owner of SNL) and Sandia (as operator of SNL) share responsibility for the SNL MS4. DOE and Sandia together will comply with all of the requirements of the MS4 Permit, but will do so independently of participation in a cooperative group. 

1.5. Evaluation of GI/LID/Sustainable practices in site plan reviews as required in Part I.D.5.a.(v)


SNL buildings (new/renovations) must comply with the Guiding Principles for Federal Leadership in High Performance Sustainable Building. Over \$5M, they must achieve the U.S. Green Building Council's certification of LEED Gold for New Construction. 

DOE and Sandia currently review projects in the construction planning stages to demonstrate compliance GI/LID/Sustainable Practices.

A summary of the annual construction projects (one acre or more) that incorporated GI/LID/Sustainable Practices will be included with the SWMP Plan revisions associated with the Annual Report.

More details on the SNL's compliance with GI/LID/Sustainable Practices are included in Section 6 of the SWMP Plan.

Cooperative Elements

DOE (as owner of SNL) and Sandia (as operator of SNL) share responsibility for the SNL MS4. DOE and Sandia together will comply with all of the requirements of the MS4 Permit, but will do so independently of participation in a cooperative group. 

1.6. Enhance the program to include program elements in Part I.D.5.a.(viii) through Part I.D.5.a.(x)

DOE and Sandia use stormwater educational material and training courses to educate personnel about how their job duties may impact stormwater quality.

Stormwater regulation is and will continue to be considered in the development and revision of construction guidelines and manuals at SNL.

Cooperative Elements

DOE (as owner of SNL) and Sandia (as operator of SNL) share responsibility for the SNL MS4. DOE and Sandia together will comply with all of the requirements of the MS4 Permit, but will do so independently of participation in a cooperative group. +

1.7. Describe other proposed activities to address the Construction Site Stormwater Runoff Control Measure:

Although not required, in 2014 Sandia began requiring the installation of stormwater controls and pollution prevention measures to address the most critical pollutant sources at construction sites less than one acre in size. +

Sediment controls for any storm drains or drop inlets within the boundary of the project area are required. Portable toilets must be secured to prevent tipping (e.g., stake with rebar or bolt to trailer).

Chemicals stored outdoors must be covered/containerized and on secondary containment to prevent contact with stormwater. Containers and trucks containing paint, concrete or other building products must be washed into an appropriate waste container. +


Section 2. Post-Construction Stormwater Management in New Development and Redevelopment – Proposed BMPs, Stormwater Controls, and Measurable Goals

2.1. Development of strategies as required in Part I.D.5.b.(ii).(a)

A combination of structural and/or non-structural best management practices (BMPs) will be implemented to control pollutants in stormwater runoff on new development and redevelopment projects within the SNL MS4. +

Details of the strategies are discussed in Section 6.2 of the SWMP Plan.

Cooperative Elements


DOE (as owner of SNL) and Sandia (as operator of SNL) share responsibility for the SNL MS4. DOE and Sandia together will comply with all of the requirements of the MS4 Permit, but will do so independently of participation in a cooperative group. 

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2.2. Development of an ordinance or other regulatory mechanism as required in Part I.D.5.b.(ii).(b)


Sandia corporate procedures will be revised by 12/22/2017 to include requirements of the MS4 Permit, EISA, and 19.26.2.15 NMAC to address post-construction runoff from new development and redevelopment projects. 

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Cooperative Elements

DOE (as owner of SNL) and Sandia (as operator of SNL) share responsibility for the SNL MS4. DOE and Sandia together will comply with all of the requirements of the MS4 Permit, but will do so independently of participation in a cooperative group. 

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2.3. Implementation and enforcement, via the ordinance or other regulatory mechanism, of site design standards as required in Part I.D.5.b.(ii).(b).

SNL is a Federal facility and currently complies with the EISA, Section 438 of the CWA, for the purposes of preserving or restoring predevelopment hydrology for all development and redevelopment projects with a footprint that exceeds 5,000 square feet. +

DOE and Sandia manage post-construction runoff by either retaining stormwater from a 95th percentile storm (1.0 inch) onsite (most common); or retaining the calculated volume of the difference between predevelopment and postdevelopment runoff. +

DOE and Sandia construct detention basins for post-construction stormwater management (pursuant to Section 438 and the MS4 Permit) and constructs basins as sediment control BMPs that are compliant with Office of the State Engineer requirements. +

See SWMP Plan Section 6.2.3 for additional detail.

Cooperative Elements

DOE (as owner of SNL) and Sandia (as operator of SNL) share responsibility for the SNL MS4. DOE and Sandia together will comply with all of the requirements of the MS4 Permit, but will do so independently of participation in a cooperative group. +

2.4. Ensure appropriate implementation of structural controls as required in Part I.D.5.b.(ii).(c) and Part I.D.5.b.(ii).(d)


Pre-construction reviews of BMP designs will be completed during development of construction SWPPPs, as described in Section 5.2.2 of the SWMP Plan.

By 12/22/2016, inspections will be performed during construction to verify post-construction stormwater management BMPs are being built as designed.

By 12/22/2016, inspections will be performed upon completion of construction to verify post-construction stormwater management BMPs are completed as designed, and once per year thereafter to verify proper maintenance. +


Non-compliance is addressed through the enforcement protocol discussed in Section 1.6 of the SWMP Plan.

Cooperative Elements

DOE (as owner of SNL) and Sandia (as operator of SNL) share responsibility for the SNL MS4. DOE and Sandia together will comply with all of the requirements of the MS4 Permit, but will do so independently of participation in a cooperative group. 

2.5. Develop procedures as required in Part I.D.5.b.(ii).(e), Part I.D.5.b.(ii).(f), Part I.D.5.b.(ii).(g), and Part I.D.5.b.(ii).(h)


Sandia Corporate Training (SW100) Stormwater Pollution Prevention Training addresses the awareness of site design techniques and controls, including GI/LID/Sustainability Practices, and the SNL SSP.

By 12/22/2015, Sandia corporate procedures will be revised to include the elements listed in Section 6.2.5 of the SWMP Plan such as requiring training, site inspections, as-built plans and revision of the procedure, as necessary. 

By 12/22/2015, Sandia corporate procedures and the Sandia Integrated Pest Management Plan will be revised to include controls for pesticides, herbicides, and fertilizers with respect to application, storage, and training.

See Section 6.2.5 of the SWMP Plan.

Cooperative Elements

DOE (as owner of SNL) and Sandia (as operator of SNL) share responsibility for the SNL MS4. DOE and Sandia together will comply with all of the requirements of the MS4 Permit, but will do so independently of participation in a cooperative group. 

2.6. Coordinate internally with all departments and boards with jurisdiction over the planning, review, permitting, or approval of public and private construction projects/activities within the permit area as required in Part I.D.5.b.(iii)

By 11/22/2015, the Stormwater Team identified in Section 1.7 of the SWMP Plan will include subject matter experts and points of contacts in multiple organizations including Environmental Programs and Facilities.

DOE and Sandia coordinate with all departments that have responsibilities associated with the planning, review, permitting, or approval of new development and redevelopment projects/activities within the SNL MS4.

The requirement to ensure the hydrology associated with new development and redevelopment sites mimics the pre-development hydrology of the previously undeveloped site is discussed prior to the development of a CGP SWPPP (Section 5.2.2 of SWMP Plan).

Cooperative Elements

DOE (as owner of SNL) and Sandia (as operator of SNL) share responsibility for the SNL MS4. DOE and Sandia together will comply with all of the requirements of the MS4 Permit, but will do so independently of participation in a cooperative group.

2.7. As required in Part I.D.5.b.(iv), the permittee must assess all existing codes, ordinances, planning documents and other applicable regulations, for impediments to the use of GI/LID/Sustainable practices

SNL is a federal facility and therefore DOE and Sandia are required to comply with numerous Executive Orders, the EISA and other Acts, as well as other federal mandates regarding sustainability.

Sandia prepares the SNL Site Sustainability Plan (SSP; see the SWMP Plan Appendix) annually in support of DOE's Strategic Sustainability Performance Plan (SSPP). As part of this process, GI/LID/Sustainable Practices are evaluated.

See Section 6.2.7 of the SWMP Plan for additional details.

Cooperative Elements

DOE (as owner of SNL) and Sandia (as operator of SNL) share responsibility for the SNL MS4. DOE and Sandia together will comply with all of the requirements of the MS4 Permit, but will do so independently of participation in a cooperative group. +

2.8. As required in Part I.D.5.b.(iv), describe the plan to report the assessment findings on GI/LID/Sustainable practices


DOE and Sandia will review the initiatives of the Site Sustainability Plan on an annual basis and summarize the notable GI/LID/Sustainable Practices in Annual Reports.


See Section 6.2.7 of the SWMP Plan for details.

Cooperative Elements

DOE (as owner of SNL) and Sandia (as operator of SNL) share responsibility for the SNL MS4. DOE and Sandia together will comply with all of the requirements of the MS4 Permit, but will do so independently of participation in a cooperative group. +

2.9. Estimation of the number of acres of IA and DCIA as required in Part I.D.5.b.(vi)


By 12/22/16, the number of acres of impervious area (IA; including conventional pavements, sidewalks, driveways, roadways, parking lots, and rooftops) will be estimated for the SNL MS4 and included in the SWMP Plan. 

The directly connected impervious area (DCIA; the portion of IA with a direct hydraulic connection to the MS4 via continuous paved surfaces, gutters, pipes, and other impervious features) will be estimated for the SNL MS4. 

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Cooperative Elements


DOE (as owner of SNL) and Sandia (as operator of SNL) share responsibility for the SNL MS4. DOE and Sandia together will comply with all of the requirements of the MS4 Permit, but will do so independently of participation in a cooperative group. 

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2.10. Inventory and priority ranking as required in section in Part I.D.5.b.(vii)


By 12/22/2017, DOE and Sandia will conduct an inventory and priority ranking of facilities that may have the potential to be retrofitted with control measures designed to control the frequency, volume, and peak intensity of stormwater discharges. 

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Cooperative Elements

DOE (as owner of SNL) and Sandia (as operator of SNL) share responsibility for the SNL MS4. DOE and Sandia together will comply with all of the requirements of the MS4 Permit, but will do so independently of participation in a cooperative group. 


2.11. Incorporate watershed protection elements as required in Part I.D.5.b.(viii)

By 12/22/2016, Sandia corporate procedures will be revised to include the watershed protection elements listed in Section 6.2.10 of the SWMP Plan such as recommendations:

to identify environmentally and ecologically sensitive areas that serve critical watershed functions; for disconnecting direct discharges from impervious surfaces; for implementing stormwater management practices that protect groundwater quality; 

to avoid or prevent hydromodification of water bodies; to protect native soils, prevent topsoil stripping, and prevent compaction of soils; and to maintain pre-development runoff conditions.

Cooperative Elements

DOE (as owner of SNL) and Sandia (as operator of SNL) share responsibility for the SNL MS4. DOE and Sandia together will comply with all of the requirements of the MS4 Permit, but will do so independently of participation in a cooperative group. 

2.12. Enhance the program to include program elements in Part I.D.5.b.(xi) and Part I.D.5.b.(xii)

DOE and Sandia use stormwater educational material and training courses to educate personnel about how their job duties may impact stormwater quality.

DOE and Sandia participate in local stakeholder groups, including the Technical Advisory Group (TAG) that was formed to help local MS4s understand, collaborate, and comply with Permit NMR04A000.

Cooperative Elements

DOE (as owner of SNL) and Sandia (as operator of SNL) share responsibility for the SNL MS4. DOE and Sandia together will comply with all of the requirements of the MS4 Permit, but will do so independently of participation in a cooperative group. +

2.13. Describe other proposed activities to address the Post-Construction Stormwater Management in New Development and Redevelopment Measure:

Sandia corporate procedures and training will be reviewed annually by June 1 of each year, and updated as needed to reflect changes in regulations and associated BMPs.

An annual review will be conducted of construction projects completed within the reporting period to verify that as-built plans, detailing controls for post-construction stormwater management, were submitted within ninety days of construction completion. +

A log will be maintained to document any additional measures that have been implemented to decrease impervious areas, decrease stormwater discharges, and/or improve water quality. The log will be updated annually. +

Section 3. Pollution Prevention/Good Housekeeping for Municipal/Co-permittee Operations – Proposed BMPs, Stormwater Controls, and Measurable Goals

3.1. Develop or update the Pollution Prevention/Good House Keeping program to include the elements in Part I.D.5.c.(i)

- DOE and Sandia already require annual stormwater pollution prevention training for personnel with job duties that have the potential to impact stormwater quality.
- Waste is managed through the Solid Waste Collection and Recycling Center (a facility designed to manage solid waste and recyclable materials generated by SNL).
- As needed, DOE and Sandia will clean debris, floatables, and sediment from basins, ditches, and other conveyance infrastructure.
- By 2/22/2016, an assessment of technical guidance documents will be performed to determine water quality impacts and the potential for incorporation of water quality controls into new flood control projects. See Section 7.2.1 of the SWMP Plan. +


Cooperative Elements

- DOE (as owner of SNL) and Sandia (as operator of SNL) share responsibility for the SNL MS4. DOE and Sandia together will comply with all of the requirements of the MS4 Permit, but will do so independently of participation in a cooperative group. +
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3.2. Enhance the program to include the elements in Part I.D.5.c.(ii)

- By 12/22/2016, DOE and Sandia will evaluate the successfulness of the program and modify the SWMP with respect to each of the elements of Part I.D.5.c.(ii) as described in Section 7.2.1.6 of the SWMP Plan, including but not limited to the following: +
- Develop a list of all stormwater quality facilities, including location and description
 - Develop an operational model for de-icing activities, including methods to protect water quality
 - Update plan to decrease runoff of vehicle related pollutants +
- A review and revision of the existing street sweeping plan and schedule
 - A list of the roadways most likely contributing to pollution in runoff
 - A review and revision of existing plan for collecting used motor vehicle fluids +
- A review and revision of the existing procedures and schedule for cleaning debris and sediment from the stormwater drainage system
 - A review and revision of the existing litter control program, including public awareness campaigns +

Cooperative Elements


DOE (as owner of SNL) and Sandia (as operator of SNL) share responsibility for the SNL MS4. DOE and Sandia together will comply with all of the requirements of the MS4 Permit, but will do so independently of participation in a cooperative group. 

3.3. Develop or update a list and a map of industrial facilities owned or operated by the permittee as required in Part I.D.5.c.(iii)

DOE and Sandia discharge industrial stormwater at SNL in accordance with the provisions of the Multi-Sector General Permit (MSGP) as authorized by NMR053114 (DOE) and NMR053122 (Sandia), as discussed in Sections 1.2.4 and 1.4.6 of the SWMP Plan. 

Any measures required by the MS4 Permit will be applied to MSGP sites located within boundaries of the SNL MS4 to augment measures already in place under the MSGP.

Cooperative Elements

DOE (as owner of SNL) and Sandia (as operator of SNL) share responsibility for the SNL MS4. DOE and Sandia together will comply with all of the requirements of the MS4 Permit, but will do so independently of participation in a cooperative group. 

3.4. Describe other proposed activities to address the Pollution Prevention/Good Housekeeping for Municipal/permittee Operations Measure:

Corporate procedures and training will be reviewed annually by June 1 of each year, and updated as needed.

The SNL MS4 will be divided into areas and inspected for compliance with the P2/GH Program such that each area is inspected a minimum of two times within the Permit term.

The chemicals and application methods associated with deicing operations and storage at SNL will be reviewed and procedures revised (as necessary) by December 22, 2016.

By 12/22/2019, DOE and Sandia will prepare a cumulative summary of retrofit evaluations conducted during the Permit term on existing flood control devices, structures and drainage ways to benefit water quality.

Section 4: Industrial and High Risk Runoff – Proposed BMPs, Stormwater Controls, and Measurable Goals (APPLICABLE ONLY TO CLASS A PERMITTEES)

4.1. Ordinance (or other control method) as required in Part I.D.5.d.(i)

DOE and Sandia are Class C permittees; Section 4 does not apply.

Cooperative Elements

DOE and Sandia are Class C permittees; Section 4 does not apply.

4.2. Continue implementation and enforcement of the Industrial and High Risk Runoff program, assess the overall success of the program, and document both direct and indirect measurements of program effectiveness in the annual report as required in Part I.D.5.d.(ii)

DOE and Sandia are Class C permittees; Section 4 does not apply.

Cooperative Elements

DOE and Sandia are Class C permittees; Section 4 does not apply.

4.3. Meet the monitoring requirements in Part I.D.5.d.(iii)

DOE and Sandia are Class C permittees; Section 4 does not apply.

Cooperative Elements

DOE and Sandia are Class C permittees; Section 4 does not apply.

4.4. Include requirements in Part I.D.5.d.(iv)

DOE and Sandia are Class C permittees; Section 4 does not apply.

Cooperative Elements

DOE and Sandia are Class C permittees; Section 4 does not apply.

4.5. Enhance the program to include requirements in Part I.D.5.d.(vii)

DOE and Sandia are Class C permittees; Section 4 does not apply.

Cooperative Elements

DOE and Sandia are Class C permittees; Section 4 does not apply.

4.6. Describe other proposed activities to address the Industrial and High Risk Runoff Measure:

DOE and Sandia are Class C permittees; Section 4 does not apply.

Section 5. Illicit Discharges and Improper Disposal – Proposed BMPs, Stormwater Controls, and Measurable Goals

5.1. Mapping as required in Part I.D.5.e.(i)(a)

A map of the SNL MS4 stormwater drainage system, indicating all outfalls and the names and locations of all waters of the U.S. that receive discharges from those outfalls is provided in Appendix B of the SWMP Plan.

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Cooperative Elements

DOE (as owner of SNL) and Sandia (as operator of SNL) share responsibility for the SNL MS4. DOE and Sandia together will comply with all of the requirements of the MS4 Permit, but will do so independently of participation in a cooperative group. +

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5.2. Ordinance (or other control method) as required in Part I.D.5.e.(i)(b)


Sandia currently has a corporate procedure that prohibits discharges to the surface without prior approval from the Environmental Programs Department (Corporate Procedure ESH100.2.ENV.10: Management of Surface and Stormwater Discharges). +

Corporate Procedure ESH100.2.ENV.10 is presented to personnel as a component of annual mandatory corporate training materials, and other safety and environmental screening processes. ESH100.2.ENV.10 is summarized in SWMP Plan Section 8.2.2. +

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Cooperative Elements


DOE (as owner of SNL) and Sandia (as operator of SNL) share responsibility for the SNL MS4. DOE and Sandia together will comply with all of the requirements of the MS4 Permit, but will do so independently of participation in a cooperative group. 

5.3. Develop and implement a IDDE plan as required in Part I.D.5.e.(i)(c)


The Sandia workforce is trained to prevent and report activities or events with the potential to cause environmental harm.

If an illicit discharge is observed, the Stormwater Team will perform or coordinate visual screening, employee interviews, field parameters and sample collection to identify possible sources.

Enforcement of the IDDEP will be addressed through corporate policy and the protocol discussed in Section 1.6 of the SWMP Plan.

Investigations into the exact cause of the illicit discharge will be conducted to determine how operations or controls can be modified to prevent future illicit discharges. Additional details are provided in Section 8.2.3 of the SWMP Plan. 

Cooperative Elements

DOE (as owner of SNL) and Sandia (as operator of SNL) share responsibility for the SNL MS4. DOE and Sandia together will comply with all of the requirements of the MS4 Permit, but will do so independently of participation in a cooperative group. 

5.4. Develop an education program as required in Part I.D.5.e.(i)(d)

Sandia will be debuting a stormwater awareness campaign in 2015, "Stormwater - Keep it Clean" to include educational brochures, posters and a publication in The Porcelain Press (discussed in more detail in Section 10 of the SWMP Plan). +

The campaign will target Members of the Workforce to raise stormwater quality awareness and advertise training, and will occur during each wet season (July 1 through October 31).

The corporate stormwater pollution prevention training is offered online at any time and is also given in a live presentation to keys groups of employees that have the greatest potential to impact stormwater quality.

Copies of the most recent editions of these materials will be included as an appendix to the SWMP Plan.

Cooperative Elements

DOE (as owner of SNL) and Sandia (as operator of SNL) share responsibility for the SNL MS4. DOE and Sandia together will comply with all of the requirements of the MS4 Permit, but will do so independently of participation in a cooperative group. +

5.5. Establish a hotline as required in Part I.D.5.e.(i)(e)


Using any landline at SNL, emergencies can be reported by dialing 911, and non-emergencies can be reported by dialing 311.

Using any phone, emergencies can be reported by dialing (505) 844-0911 and non-emergencies by dialing (505) 844-0311.

The Sandia Emergency Operations Center (EOC) is available at 844-6515 for spill response and cleanup.

Sandia is the primary recipient of calls from these numbers. DOE and various departments within Sandia are in the chain of notification and response.

Cooperative Elements

DOE (as owner of SNL) and Sandia (as operator of SNL) share responsibility for the SNL MS4. DOE and Sandia together will comply with all of the requirements of the MS4 Permit, but will do so independently of participation in a cooperative group. 

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5.6. Investigate suspected significant/severe illicit discharges as required in Part I.D.5.e.(i)(f)


All illicit discharges at SNL are taken seriously by DOE and Sandia. Should an illicit discharge be detected, it will be investigated within 48 hours, and the sources identified as soon as possible.

Any additional controls (administrative and/or engineered) necessary to prevent future discharges will be implemented as soon as practicable.

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Cooperative Elements

DOE (as owner of SNL) and Sandia (as operator of SNL) share responsibility for the SNL MS4. DOE and Sandia together will comply with all of the requirements of the MS4 Permit, but will do so independently of participation in a cooperative group. 

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5.7. Review complaint records and develop a targeted source reduction program as required in Part I.D.5.e.(i)(g)

Part I.D.5.e.(i)(g) is applicable to class A and B Permittees only; as a class C permittee this requirement does not apply to DOE and Sandia.

Cooperative Elements

DOE (as owner of SNL) and Sandia (as operator of SNL) share responsibility for the SNL MS4. DOE and Sandia together will comply with all of the requirements of the MS4 Permit, but will do so independently of participation in a cooperative group. 

5.8. Screening of system as required in Part I.D.5.e.(iii) as follows:


The SNL MS4 has no identified high priority areas at this time.

Screening of the SNL MS4 is informally conducted on on-going basis by field personnel trained to monitor for leaks, spills, and other discharges.

Formal screening will be conducted and documented at least once every five years which will include the inspection of all known outfalls and MS4 conveyance structures for the presence of illicit discharge.


Any illicit discharge encountered will be sampled, tracked to its source, and corrected through administrative or engineered control measures.

Cooperative Elements


DOE (as owner of SNL) and Sandia (as operator of SNL) share responsibility for the SNL MS4. DOE and Sandia together will comply with all of the requirements of the MS4 Permit, but will do so independently of participation in a cooperative group. 

5.9. Develop, update, and implement a Waste Collection Program as required in Part I.D.5.e.(iv)


Sandia has a well developed waste management and recycling program. The program is described in Section 8.2.9 of the SWMP Plan. The program includes education and involvement of all workforce members.

The SNL Solid Waste Collection & Recycling Center (SWCRC) has three purposes:
1. Screen the SNL's collected solid waste and recyclables for prohibited materials.
2. Bale, store, and ship solid waste to an approved landfill. 

The SWCRC recycles cardboard, white paper, mixed paper, aluminum cans, foam packaging, plastics (mixed #1-7 rigids), toner and ink cartridges, wood, plywood, green waste and construction/demolition scrap metals.

Hazardous waste generated at SNL is handled under Corporate Procedure ESH100.2.ENV.22. This procedure provides detailed instructions for using, labeling, storing, accumulating, managing, and transporting waste to disposal facilities. 

Cooperative Elements

DOE (as owner of SNL) and Sandia (as operator of SNL) share responsibility for the SNL MS4. DOE and Sandia together will comply with all of the requirements of the MS4 Permit, but will do so independently of participation in a cooperative group. 

5.10. Develop, update and implement a Spill Prevention and Response program to prevent, contain, and respond to spills that may discharge into the MS4 as required in Part I.D.5.e.(v)

Sandia has a detailed Spill Prevention Control and Countermeasure Plan that includes prevention measures including inspections, testing, records, security, operational procedures, best management practices, and personnel. +

In the event of a release, Sandia maintains a sophisticated system of containment facilities, trained response staff, and emergency equipment to prevent pollutants from entering the stormwater drainage system.


Cooperative Elements

DOE (as owner of SNL) and Sandia (as operator of SNL) share responsibility for the SNL MS4. DOE and Sandia together will comply with all of the requirements of the MS4 Permit, but will do so independently of participation in a cooperative group. +

5.11. Enhance the program to include requirements in Part I.D.5.e.(ix)


Sandia will utilize ideas from the manual "Illicit Discharge Detection and Elimination, A Guidance Document for Program Development and Technical Assessments" to enhance the IDDE Program as needed.

Cooperative Elements

DOE (as owner of SNL) and Sandia (as operator of SNL) share responsibility for the SNL MS4. DOE and Sandia together will comply with all of the requirements of the MS4 Permit, but will do so independently of participation in a cooperative group. 

5.12. Describe other proposed activities to address the Illicit Discharges and Improper Disposal Measure:

Corporate procedures and training will be reviewed annually by June 1 of each year, and updated as needed to reflect changes in regulations and associated BMPs.


A log will be maintained of illicit discharges reported within the SNL MS4 boundary. The log will include the method of reporting, pertinent details about the illicit discharge, and a summary of the findings and corrective actions. 

An annual summary of solid waste management will be included in the SWMP Plan revision included with each Annual Report.

Section 6. Control of Floatables Discharges – Proposed BMPs, Stormwater Controls, and Measurable Goals

6.1. Develop a schedule to implement the program as required in Part I.D.5.f.(i)(a)

SNL's smoke-free campus and the culture of the workforce foster an environment such that solid waste dumping (i.e., littering) is uncommon.

Additionally, on a larger scale, Sandia manages floatables through administrative and source controls, through robust waste management and pollution prevention programs. These programs are described in detail in Section 8.2 of the SWMP Plan. 

For the reasons stated above, DOE and Sandia do not anticipate there to be a significant amount of floatables generated within the SNL MS4.

Cooperative Elements

DOE (as owner of SNL) and Sandia (as operator of SNL) share responsibility for the SNL MS4. DOE and Sandia together will comply with all of the requirements of the MS4 Permit, but will do so independently of participation in a cooperative group. +

6.2. Describe the plan to estimate the annual volume of floatables and trash removed from each control facility and characterize the floatable type as required in Part I.D.5.f.(i)(b)

Sandia operates an aggressive waste management and pollution prevention programs that include education and a recycling facility. During FY 2014 approximately 70 percent of the solid waste generated by Sandia was recycled. +
There is an insignificant litter or refuse presence within the SNL MS4.
By 12/22/2016, DOE and Sandia propose to implement additional source control measures to reduce trash that might otherwise end up in stormwater, rather than implement costly and unnecessary structural controls (e.g., trash racks). +
Structural controls may be installed in the future should they prove to be necessary.

Cooperative Elements

DOE (as owner of SNL) and Sandia (as operator of SNL) share responsibility for the SNL MS4. DOE and Sandia together will comply with all of the requirements of the MS4 Permit, but will do so independently of participation in a cooperative group. +

6.3. Describe other proposed activities to address the Control of Floatables Discharges Measure:

The Floatables Program established in compliance with the MS4 Permit will be enhanced to control the discharge of floatables and trash from the SNL MS4 by implementing source control of floatables specifically in industrial and commercial areas. +

Corporate procedures and training will be reviewed annually by June 1 of each year, and updated as needed to reflect changes in regulations and associated BMPs.

The main SNL MS4 outfall measured by stormwater sampling point SWSP-05 will be inspected quarterly for the presence of floatable debris. Inspection reports will be maintained with the SWMP Plan.

An annual assessment of the Floatables Program will be conducted to evaluate the need for structural controls.

Section 7. Public Education and Outreach on Stormwater Impacts – proposed BMPs, Stormwater Controls, and Measurable Goals

7.1. Develop, revise, implement, and maintain an education and outreach program as required in Part I.D.5.g.(i) and Part I.D.5.g.(ii)

The Stormwater Quality Program has a website for access by personnel containing basic regulatory requirements pertaining to the protection of stormwater quality, training information and contacts for the Stormwater Team. +

Corporate Training (SW100) Stormwater Pollution Prevention Training is available online to personnel, and performed as a live presentation upon request.

A stormwater pollution prevention informational brochure is distributed at the cafeteria during environmental events and other events such as Earth Day (Bring Your Sons and Daughters to Work Day) and Family Day. +

Sandia owns educational models for stormwater/watershed, groundwater, and drinking water/wastewater and performs demonstrations to students in the classroom, during Earth Day (Bring Your Sons and Daughters to Work Day) and Family Day. +

Cooperative Elements

DOE (as owner of SNL) and Sandia (as operator of SNL) share responsibility for the SNL MS4. DOE and Sandia together will comply with all of the requirements of the MS4 Permit, but will do so independently of participation in a cooperative group. +

7.2. Enhance the program to include requirements in Part I.D.5.g.(v) through Part I.D.5.g.(viii)

DOE and Sandia may utilize educational materials and program elements as needed to improve the public outreach program.

Educational elements for proper septic system maintenance, proper use and disposal of fertilizers and pesticides, and proper disposal of motor oil and household hazardous wastes will be incorporated into DOE's and Sandia's educational program. +

Information about litter reduction, recycling, reduction of pesticide/herbicide use, xeriscaping and reduced water consumption, pet waste and solid waste management will be incorporated into DOE's and Sandia's educational program. +

Cooperative Elements

DOE (as owner of SNL) and Sandia (as operator of SNL) share responsibility for the SNL MS4. DOE and Sandia together will comply with all of the requirements of the MS4 Permit, but will do so independently of participation in a cooperative group. +

7.3. Describe other proposed activities to address the Public Education and Outreach on Stormwater Impacts Measure:

The corporate online training system that disseminates Stormwater Pollution Prevention Training (SW100) is equipped to track completion. DOE's and Sandia's goal is to maintain a minimum of 90 percent annual participation in SW100 training. +

The informational brochures and campaign posters will be reviewed annually by June 1 of each year, and updated as needed to ensure regulatory and contact information is current, and to respond to the educational and training needs of the workforce. +

Starting in 2016, the Stormwater Team will hold a minimum of three events per reporting period (July 1 - June 30) to perform demonstrations of the educational models to grade-school children and personnel.

Section 8. Public Involvement and Participation – Proposed BMPs, Stormwater Controls, and Measurable Goals

8.1. Develop (or update), implement, and maintain a public involvement and participation plan as required in Part I.D.5.h.(ii) and Part I.D.5.h.(iii)

By 11/22/2015, the Public Involvement and Participation Program (PIPP) will include a comprehensive planning process which involves public participation and, intergovernmental coordination. The PIPP is described in Section 11 of the SWMP Plan.

DOE and Sandia will notify the public via legal notice in the Albuquerque Journal for a period of 30 days, prior to the submission of the NOI (and associated SWMP Plan) and each Annual Report (and associated SWMP Plan revision).

A copy of the MS4 Permit and the applicable documents (i.e., NOI, Annual Report, SWMP Plan, etc.) will be maintained up-to-date through the University of New Mexico (UNM) LoboVault online database (<https://repository.unm.edu/handle/1928/26737>).

A functional behavioral assessment will be performed at DOE/DoD Semi-Annual Public Meeting, where the topic of "stormwater" is presented. The public's antecedent (before), present (during), and consequence (after) behavior will be observed and recorded.


Cooperative Elements

DOE (as owner of SNL) and Sandia (as operator of SNL) share responsibility for the SNL MS4. DOE and Sandia together will comply with all of the requirements of the MS4 Permit, but will do so independently of participation in a cooperative group.

8.2. Describe the plan to comply with State, Tribal, and local notice requirements when implementing a Public Involvement and Participation Program as required in Part I.D.5.h.(iv)

DOE and Sandia will comply with State, Tribal, and local public notice requirements when implementing a public involvement/ participation program.

Cooperative Elements

DOE (as owner of SNL) and Sandia (as operator of SNL) share responsibility for the SNL MS4. DOE and Sandia together will comply with all of the requirements of the MS4 Permit, but will do so independently of participation in a cooperative group. 

8.3. Describe a plan to include elements as required in Part I.D.5.h.(v)


Public notices will be printed in a newspaper of general circulation in the Albuquerque area (i.e., The Albuquerque Journal) and be available online.

The DOE/DoD Semi-Annual Public Meetings are open to all citizens and the public is encouraged to attend. The meetings will be used as a mechanism to discuss stormwater permitting at SNL.

The MS4 Permit (specifically Appendix E), NOIs and SWMP Plan will be available at <https://repository.unm.edu/handle/1928/26737> through the University of New Mexico (UNM) LoboVault on-line database.

Physical copies of documents posted to the UNM LoboVault will be available at the UNM Zimmerman Library. Contact Daniel Barkley at 505-277-7180 or barkley@unm.edu in advance to make an appointment.

Cooperative Elements

DOE (as owner of SNL) and Sandia (as operator of SNL) share responsibility for the SNL MS4. DOE and Sandia together will comply with all of the requirements of the MS4 Permit, but will do so independently of participation in a cooperative group. 


8.4. As required in Part I.D.5.h.(viii) provide the internet site (or website) where the SWMP document, Annual Reports, and other documents will be available to the public.

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8.5. Enhance the program to include requirements in Part I.D.5.h.(ix)

DOE and Sandia will consider options for enhancing the PIPP as needed based on the results of the previous year(s).

Cooperative Elements

DOE (as owner of SNL) and Sandia (as operator of SNL) share responsibility for the SNL MS4. DOE and Sandia together will comply with all of the requirements of the MS4 Permit, but will do so independently of participation in a cooperative group. 

8.6. Describe other proposed activities to address the Public Involvement and Participation Measure:

Comments received by the public in response to any and all public notices will be considered and maintained with the SWMP Plan for the duration of the Permit term.
DOE and Sandia will perform one functional behavioral assessment during the Permit term at DOE/DoD Semi-Annual Public Meeting, before, during and after the topic of "stormwater" is presented.

IV. Proposed Monitoring Program

Indicate wet weather monitoring program preference:

Individual Monitoring Program

Cooperative Monitoring Program

Provide a general description of the propose monitoring program.

Wet weather and dry weather monitoring will be conducted in compliance with the location, frequency, constituent, and method requirements described in Part III of the Permit. Monitoring is described in more detail in Section 12 of the SWMP Plan. +

DOE and Sandia will collect samples at all SNL MS4 inlets and outlets. This will include 1 inlet location and 4 outlet locations. Flow will be measured at the inlet and main outlet of the MS4.

A map of monitoring locations is provided in Appendix B of the SWMP Plan. E. coli waste loads will be determined for each monitoring location and evaluated for compliance with TMDL's.

V. Public Participation

Include a Summary of issues raised in any local public comments received by the MS4 Operator on the draft NOI/SWMP and MS4 operator's responses.

Public comments and responses to them will be provided to EPA and NMED at the time the NOI and SWMP Plan are submitted (on or before June 20, 2015).

VI. Attachments

Attach a location map showing the boundaries of the MS4 under the applicant's jurisdiction. The map must include streets or other demarcations so that the exact boundaries can be located.


Are other attachments included with the NOI? If so, indicate the title of the document(s).

SWMP Plan v.0, dated May 4, 2015 (<https://repository.unm.edu/handle/1928/26737>)

Maps are included as Appendix B of the SWMP Plan.

VII. Certification

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Signature: 

Printed Name: Jeffrey P. Harrell

Date: 11/24/15

Appendix C-6

v.5, August 10, 2019

A printed copy of this document may not be the official version. The official printed copy of this SWMPP is located in the office of the Environmental Compliance and Monitoring Department (Org. 00641).

NOTICE OF INTENT



National Pollutant Discharge Elimination System Stormwater Program
MS4 Notice of Intent Format



Check box if you are submitting an individual NOI with one or more cooperative program elements.

Check box if you are submitting an individual NOI with individual program elements only.

Check box if your municipality or organization was previously covered under a MS4 permit.

Please indicate the permittee class type: (Note: The definition of the permittee class type is located in Table 1 of Part I.B.1.)

A (Phase I) B (Phase II) C (New Phase II) D (MS4s within Indian Lands)

I. MS4(s) Information

A. General Information

Department of Energy/Sandia National Laboratories (DOE/SNL)

Name of MS4

Kathie

Name of Contact Person (First)

Deal

(Last)

Stormwater Lead

(Title)

(505) 844-8503

Telephone (including area code)

kjdeal@sandia.gov

Email

P.O. Box 5800, MS-0730

Mailing Address

Albuquerque

City

NM

State

87185-0730

ZIP code

What size population does your MS4(s) serve?

The operator is: Federal State Tribal other public (check one)

B. In what urbanized area (UA), the MS4 is located in:

- Farmington UA
- Santa Fe UA
- Albuquerque UA
- Los Lunas UA
- Las Cruces UA
- El Paso UA

C. If not located in an UA, the MS4 is located in:

Core Municipality

Indian Reservation/Pueblo

County(ies)

Cluster

D. Is this a Phase I MS4? Yes No

Is this a Non-traditional MS4? Yes No

If so, Check one: Dept. of Transportation Flood Control Authority University

Other - Specify

What is the Latitude and longitude of the approximate center of the MS4?

Latitude Longitude

II. Eligibility Determination

A. Receiving Water(s) Information

Does the MS4 discharge to any waters for which an TMDL applicable to discharges from the MS4 has been approved? (See Part I.A.5.f) Yes No NA

The receiving water(s) are:

	<i>State or Tribal Segment ID</i>	<i>Approved TMDL</i>		<i>TMDL assigns WLA to MS4</i>	
Tijeras Arroyo (SNL MS4 discharge point)	NM-9000.A_070	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
Middle Rio Grande (via Tijeras Arroyo)	NM-2105_50	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No
Middle Rio Grande (via Kirtland AFB MS4)	NM-2105.1_00	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No
<input type="text"/>	<input type="text"/>	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> Yes	<input type="checkbox"/> No
<input type="text"/>	<input type="text"/>	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> Yes	<input type="checkbox"/> No

Is the MS4 (or a group of MS4s) seeking an alternative sub-measurable goal for TMDL controls under Part I.C.2.b.(i).(c).B? Yes No NA

If so, the MS4 or a group of MS4s must submit a preliminary proposal with the NOI to EPA and NMED (see Part I.B.2.k, Section B.2 in Appendix B and Part III.D.4). This proposal should include, but is not limited to, the elements included in Appendix B under Section B.2 of the permit

If the MS4 discharges to a receiving water for which EPA has approved or developed a TMDL, describe how the eligibility requirements of Part I.A.5.f and Part I.C.2. have been met :

DOE and Sandia will implement measures or controls that are consistent with the EPA-approved TMDL through the SWMP, as documented in the SWMP Plan.

TMDL requirements will be complied with through the development of targeted controls, measurable goals, monitoring, and reporting as described in Section 2.4 of the SWMP Plan.

Sandia has calculated a waste load allocation (WLA) based on the permit-assigned MS4 WLA, which will serve as a quantitative measurable goal.

DOE and Sandia will monitor all SNL MS4 inflows and outflows and determine waste loads for each. A total MS4 WL will be determined and evaluated against the WLA.

B. Is the MS4 partially located on Indian Country lands? Yes No

If so, the Indian Country Lands include the following: (NOTE: MS4s straddling State and Indian Country land boundaries will be issued authorization under all applicable permits and may have additional State or Tribal-specific requirements applicable to different areas of the MS4 - see Part VIII and initial notification under Part III.D.4)

C. Is the permit in compliance with the National Historic Preservation Act (NHPA)? Yes No

In order to be eligible for coverage under this permit, the MS4 operator must meet one of the following criteria: (Please check which criterion the MS4 is eligible under)

Criterion A: storm water discharges, allowable non-storm water discharges, and discharge-related activities do not affect a property that is listed or is eligible for listing on the National Register of Historic Places as maintained by the Secretary of the Interior.

Criterion B: the applicant has obtained and is in compliance with a written agreement with the State Historic Preservation Officer (SHPO) or Tribal Historic Preservation Officer (THPO) (or equivalent tribal authority) that outlines all measures the MS4 operator will undertake to mitigate or prevent adverse effect to the historic property.

Provide a brief summary of the basis for the criterion selected above:

There are no DOE-owned SNL properties listed on the National Register of Historic Places. The requirements of Part IV.U of the MS4 Permit do not apply to SNL.

There are no historic properties identified in the path of SNL's stormwater and allowable non-stormwater discharges or where construction activities are planned to install BMPs to control such discharges.

Construction and stormwater management/sampling activities proposed in the SWMP Plan are not anticipated to impact any known archaeological or cultural resources.

A NEPA review is conducted for every proposed disturbance to evaluate all necessary permitting actions, including those related to preservation of archaeological or cultural resources.

III. Preliminary Description of the Proposed Stormwater Program

As applicable, use Sections 1 through 8 below to describe the storm water management program (SWMP), including best management practices (BMPs) or storm water controls that will be implemented and the measurable goals for each of the storm water minimum control measures specified in Part I.D.5 of this permit, the month and year in which the MS4 operator will start and fully implement each of the minimum control measures or the frequency of the action, the name of the person(s) or position(s) responsible for implementing or coordinating the SWMP.

If the MS4 operator is participating in cooperative programs with other parties (or is relying on another governmental entity) to satisfy one or more permit obligations (see Part I.D.3), use the space provided under *Cooperative Elements* to identify the partners and briefly describe roles and responsibilities.

NOTE:

The space provided in the fields below (255 characters) should be used to briefly describe proposed BMPs and corresponding measurable goals. Individual boxes should be used to describe individual target activities. If additional space is required to describe target activities, the MS4(s) should attach such as information with the NOI using the format provided.

Section 1. Construction Site Stormwater Runoff Control – Proposed BMPS, Stormwater Controls, and Measurable Goals

1.1. Development of an ordinance or other regulatory mechanism as required in Part I.D.5.a.(ii)(a)

Sandia's Environmental Programs Department currently maintains Corporate Procedure ESH100.2.ENV.10: Management of Surface and Stormwater Discharges to address stormwater discharges at SNL.

Revisions to the procedure will be completed by 12/22/15 to specifically require compliance with the CGP, including the installation of erosion and sediment controls at construction sites.

Sandia can enforce corporate procedures with disciplinary action up to and including termination of employment. Enforcement of the SWMP will be addressed through the protocol discussed in Section 1.6 of the SWMP Plan. +


DOE can enforce on Sandia through contract DE-AC04-94AL85000, which requires Sandia to comply with applicable Federal, State, and local laws and regulations.

Cooperative Elements

DOE (as owner of SNL) and Sandia (as operator of SNL) share responsibility for the SNL MS4. DOE and Sandia together will comply with all of the requirements of the MS4 Permit, but will do so independently of participation in a cooperative group. +


1.2. Develop requirements and procedures as required in Part I.D.5.a.(ii)(b) through in Part I.D.5.a.(ii)(h)

DOE and Sandia currently comply with the CGP and the majority of the requirements of these Parts of the MS4 Permit. See Section 5.2.2.1 of the SWMP Plan for details.

DOE and Sandia have a process in place for educating personnel and construction contractors involved in the planning, review, permitting, and/or approval of construction activities. See Section 5.2.2.2 of the SWMP Plan for details. 

In addition to maintaining a rigorous CGP process, DOE and Sandia will revise corporate procedures to address all requirements of the MS4 Permit by 4/22/16. See Section 5.2.2.3 of the SWMP Plan for details.

Cooperative Elements

DOE (as owner of SNL) and Sandia (as operator of SNL) share responsibility for the SNL MS4. DOE and Sandia together will comply with all of the requirements of the MS4 Permit, but will do so independently of participation in a cooperative group. 

1.3. Annually conduct site inspections of 100 percent of all construction projects cumulatively disturbing one (1) or more acres as required in Part I.D.5.a.(iii)


Construction site inspections are routinely performed by the Sandia Stormwater Team in accordance with the CGP and SWPPP requirements.

100 percent of all construction projects cumulatively disturbing one or more acres within the MS4 jurisdiction will be inspected many times within a year.


When site inspections reveal necessary maintenance, repair or other problems with the site, corrective action reports are created and follow-up inspections are performed to document completion of corrective actions.


All projects are inspected at completion of construction, prior to filing a Notice of Termination, to verify proper final stabilization. See 5.2.3 of the SWMP Plan.

Cooperative Elements


DOE (as owner of SNL) and Sandia (as operator of SNL) share responsibility for the SNL MS4. DOE and Sandia together will comply with all of the requirements of the MS4 Permit, but will do so independently of participation in a cooperative group. 

1.4. Coordinate with all departments and boards with jurisdiction over the planning, review, permitting, or approval of public and private construction projects/activities within the permit area as required in Part I.D.5.a.(iv)


Currently, when a construction SWPPP is developed, the Environmental Programs Department promotes coordination with many departments that have responsibilities associated with construction projects/activities. See SWMP Plan Section 5.2.4. 

As the SMWP evolves, the Stormwater Team identified in Section 1.7 of the SWMP Plan will expand to include subject matter experts and points of contacts in multiple organizations including Environmental and Facilities Programs. 

Cooperative Elements

DOE (as owner of SNL) and Sandia (as operator of SNL) share responsibility for the SNL MS4. DOE and Sandia together will comply with all of the requirements of the MS4 Permit, but will do so independently of participation in a cooperative group. 

1.5. Evaluation of GI/LID/Sustainable practices in site plan reviews as required in Part I.D.5.a.(v)


SNL buildings (new/renovations) must comply with the Guiding Principles for Federal Leadership in High Performance Sustainable Building. Over \$5M, they must achieve the U.S. Green Building Council's certification of LEED Gold for New Construction. 

DOE and Sandia currently review projects in the construction planning stages to demonstrate compliance GI/LID/Sustainable Practices.

A summary of the annual construction projects (one acre or more) that incorporated GI/LID/Sustainable Practices will be included with the SWMP Plan revisions associated with the Annual Report.

More details on the SNL's compliance with GI/LID/Sustainable Practices are included in Section 6 of the SWMP Plan.

Cooperative Elements

DOE (as owner of SNL) and Sandia (as operator of SNL) share responsibility for the SNL MS4. DOE and Sandia together will comply with all of the requirements of the MS4 Permit, but will do so independently of participation in a cooperative group. 

1.6. Enhance the program to include program elements in Part I.D.5.a.(viii) through Part I.D.5.a.(x)

DOE and Sandia use stormwater educational material and training courses to educate personnel about how their job duties may impact stormwater quality.

Stormwater regulation is and will continue to be considered in the development and revision of construction guidelines and manuals at SNL.

Cooperative Elements

DOE (as owner of SNL) and Sandia (as operator of SNL) share responsibility for the SNL MS4. DOE and Sandia together will comply with all of the requirements of the MS4 Permit, but will do so independently of participation in a cooperative group. +

1.7. Describe other proposed activities to address the Construction Site Stormwater Runoff Control Measure:

Although not required, in 2014 Sandia began requiring the installation of stormwater controls and pollution prevention measures to address the most critical pollutant sources at construction sites less than one acre in size. +

Sediment controls for any storm drains or drop inlets within the boundary of the project area are required. Portable toilets must be secured to prevent tipping (e.g., stake with rebar or bolt to trailer).

Chemicals stored outdoors must be covered/containerized and on secondary containment to prevent contact with stormwater. Containers and trucks containing paint, concrete or other building products must be washed into an appropriate waste container. +


Section 2. Post-Construction Stormwater Management in New Development and Redevelopment – Proposed BMPs, Stormwater Controls, and Measurable Goals

2.1. Development of strategies as required in Part I.D.5.b.(ii).(a)

A combination of structural and/or non-structural best management practices (BMPs) will be implemented to control pollutants in stormwater runoff on new development and redevelopment projects within the SNL MS4. +

Details of the strategies are discussed in Section 6.2 of the SWMP Plan.

Cooperative Elements


DOE (as owner of SNL) and Sandia (as operator of SNL) share responsibility for the SNL MS4. DOE and Sandia together will comply with all of the requirements of the MS4 Permit, but will do so independently of participation in a cooperative group. 

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2.2. Development of an ordinance or other regulatory mechanism as required in Part I.D.5.b.(ii).(b)


Sandia corporate procedures will be revised by 12/22/2017 to include requirements of the MS4 Permit, EISA, and 19.26.2.15 NMAC to address post-construction runoff from new development and redevelopment projects. 

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Cooperative Elements

DOE (as owner of SNL) and Sandia (as operator of SNL) share responsibility for the SNL MS4. DOE and Sandia together will comply with all of the requirements of the MS4 Permit, but will do so independently of participation in a cooperative group. 

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2.3. Implementation and enforcement, via the ordinance or other regulatory mechanism, of site design standards as required in Part I.D.5.b.(ii).(b).

SNL is a Federal facility and currently complies with the EISA, Section 438 of the CWA, for the purposes of preserving or restoring predevelopment hydrology for all development and redevelopment projects with a footprint that exceeds 5,000 square feet. +

DOE and Sandia manage post-construction runoff by either retaining stormwater from a 95th percentile storm (1.0 inch) onsite (most common); or retaining the calculated volume of the difference between predevelopment and postdevelopment runoff. +

DOE and Sandia construct detention basins for post-construction stormwater management (pursuant to Section 438 and the MS4 Permit) and constructs basins as sediment control BMPs that are compliant with Office of the State Engineer requirements. +

See SWMP Plan Section 6.2.3 for additional detail.

Cooperative Elements

DOE (as owner of SNL) and Sandia (as operator of SNL) share responsibility for the SNL MS4. DOE and Sandia together will comply with all of the requirements of the MS4 Permit, but will do so independently of participation in a cooperative group. +

2.4. Ensure appropriate implementation of structural controls as required in Part I.D.5.b.(ii).(c) and Part I.D.5.b.(ii).(d)

Pre-construction reviews of BMP designs will be completed during development of construction SWPPPs, as described in Section 5.2.2 of the SWMP Plan.

By 12/22/2016, inspections will be performed during construction to verify post-construction stormwater management BMPs are being built as designed.

By 12/22/2016, inspections will be performed upon completion of construction to verify post-construction stormwater management BMPs are completed as designed, and once per year thereafter to verify proper maintenance. +

Non-compliance is addressed through the enforcement protocol discussed in Section 1.6 of the SWMP Plan.

Cooperative Elements

DOE (as owner of SNL) and Sandia (as operator of SNL) share responsibility for the SNL MS4. DOE and Sandia together will comply with all of the requirements of the MS4 Permit, but will do so independently of participation in a cooperative group. +

2.5. Develop procedures as required in Part I.D.5.b.(ii).(e), Part I.D.5.b.(ii).(f), Part I.D.5.b.(ii).(g), and Part I.D.5.b.(ii).(h)

Sandia Corporate Training (SW100) Stormwater Pollution Prevention Training addresses the awareness of site design techniques and controls, including GI/LID/Sustainability Practices, and the SNL SSP.

By 12/22/2015, Sandia corporate procedures will be revised to include the elements listed in Section 6.2.5 of the SWMP Plan such as requiring training, site inspections, as-built plans and revision of the procedure, as necessary. +

By 12/22/2015, Sandia corporate procedures and the Sandia Integrated Pest Management Plan will be revised to include controls for pesticides, herbicides, and fertilizers with respect to application, storage, and training.

See Section 6.2.5 of the SWMP Plan.

Cooperative Elements

DOE (as owner of SNL) and Sandia (as operator of SNL) share responsibility for the SNL MS4. DOE and Sandia together will comply with all of the requirements of the MS4 Permit, but will do so independently of participation in a cooperative group. +

2.6. Coordinate internally with all departments and boards with jurisdiction over the planning, review, permitting, or approval of public and private construction projects/activities within the permit area as required in Part I.D.5.b.(iii)

By 11/22/2015, the Stormwater Team identified in Section 1.7 of the SWMP Plan will include subject matter experts and points of contacts in multiple organizations including Environmental Programs and Facilities.

DOE and Sandia coordinate with all departments that have responsibilities associated with the planning, review, permitting, or approval of new development and redevelopment projects/activities within the SNL MS4.

The requirement to ensure the hydrology associated with new development and redevelopment sites mimics the pre-development hydrology of the previously undeveloped site is discussed prior to the development of a CGP SWPPP (Section 5.2.2 of SWMP Plan).

Cooperative Elements

DOE (as owner of SNL) and Sandia (as operator of SNL) share responsibility for the SNL MS4. DOE and Sandia together will comply with all of the requirements of the MS4 Permit, but will do so independently of participation in a cooperative group.

2.7. As required in Part I.D.5.b.(iv), the permittee must assess all existing codes, ordinances, planning documents and other applicable regulations, for impediments to the use of GI/LID/Sustainable practices

SNL is a federal facility and therefore DOE and Sandia are required to comply with numerous Executive Orders, the EISA and other Acts, as well as other federal mandates regarding sustainability.

Sandia prepares the SNL Site Sustainability Plan (SSP; see the SWMP Plan Appendix) annually in support of DOE's Strategic Sustainability Performance Plan (SSPP). As part of this process, GI/LID/Sustainable Practices are evaluated.

See Section 6.2.7 of the SWMP Plan for additional details.

Cooperative Elements

DOE (as owner of SNL) and Sandia (as operator of SNL) share responsibility for the SNL MS4. DOE and Sandia together will comply with all of the requirements of the MS4 Permit, but will do so independently of participation in a cooperative group. +

2.8. As required in Part I.D.5.b.(iv), describe the plan to report the assessment findings on GI/LID/Sustainable practices

DOE and Sandia will review the initiatives of the Site Sustainability Plan on an annual basis and summarize the notable GI/LID/Sustainable Practices in Annual Reports.

See Section 6.2.7 of the SWMP Plan for details.

Cooperative Elements

DOE (as owner of SNL) and Sandia (as operator of SNL) share responsibility for the SNL MS4. DOE and Sandia together will comply with all of the requirements of the MS4 Permit, but will do so independently of participation in a cooperative group. +

2.9. Estimation of the number of acres of IA and DCIA as required in Part I.D.5.b.(vi)

By 12/22/16, the number of acres of impervious area (IA; including conventional pavements, sidewalks, driveways, roadways, parking lots, and rooftops) will be estimated for the SNL MS4 and included in the SWMP Plan. +

The directly connected impervious area (DCIA; the portion of IA with a direct hydraulic connection to the MS4 via continuous paved surfaces, gutters, pipes, and other impervious features) will be estimated for the SNL MS4. +

Cooperative Elements

DOE (as owner of SNL) and Sandia (as operator of SNL) share responsibility for the SNL MS4. DOE and Sandia together will comply with all of the requirements of the MS4 Permit, but will do so independently of participation in a cooperative group. +

2.10. Inventory and priority ranking as required in section in Part I.D.5.b.(vii)

By 12/22/2017, DOE and Sandia will conduct an inventory and priority ranking of facilities that may have the potential to be retrofitted with control measures designed to control the frequency, volume, and peak intensity of stormwater discharges. +

Cooperative Elements

DOE (as owner of SNL) and Sandia (as operator of SNL) share responsibility for the SNL MS4. DOE and Sandia together will comply with all of the requirements of the MS4 Permit, but will do so independently of participation in a cooperative group. +

2.11. Incorporate watershed protection elements as required in Part I.D.5.b.(viii)

By 12/22/2016, Sandia corporate procedures will be revised to include the watershed protection elements listed in Section 6.2.10 of the SWMP Plan such as recommendations:

to identify environmentally and ecologically sensitive areas that serve critical watershed functions; for disconnecting direct discharges from impervious surfaces; for implementing stormwater management practices that protect groundwater quality; +

to avoid or prevent hydromodification of water bodies; to protect native soils, prevent topsoil stripping, and prevent compaction of soils; and to maintain pre-development runoff conditions.

Cooperative Elements

DOE (as owner of SNL) and Sandia (as operator of SNL) share responsibility for the SNL MS4. DOE and Sandia together will comply with all of the requirements of the MS4 Permit, but will do so independently of participation in a cooperative group. +

2.12. Enhance the program to include program elements in Part I.D.5.b.(xi) and Part I.D.5.b.(xii)

DOE and Sandia use stormwater educational material and training courses to educate personnel about how their job duties may impact stormwater quality.

DOE and Sandia participate in local stakeholder groups, including the Technical Advisory Group (TAG) that was formed to help local MS4s understand, collaborate, and comply with Permit NMR04A000.

Cooperative Elements

DOE (as owner of SNL) and Sandia (as operator of SNL) share responsibility for the SNL MS4. DOE and Sandia together will comply with all of the requirements of the MS4 Permit, but will do so independently of participation in a cooperative group. +

2.13. Describe other proposed activities to address the Post-Construction Stormwater Management in New Development and Redevelopment Measure:

Sandia corporate procedures and training will be reviewed annually by June 1 of each year, and updated as needed to reflect changes in regulations and associated BMPs.

An annual review will be conducted of construction projects completed within the reporting period to verify that as-built plans, detailing controls for post-construction stormwater management, were submitted within ninety days of construction completion. +

A log will be maintained to document any additional measures that have been implemented to decrease impervious areas, decrease stormwater discharges, and/or improve water quality. The log will be updated annually. +

Section 3. Pollution Prevention/Good Housekeeping for Municipal/Co-permittee Operations – Proposed BMPs, Stormwater Controls, and Measurable Goals

3.1. Develop or update the Pollution Prevention/Good House Keeping program to include the elements in Part I.D.5.c.(i)

DOE and Sandia already require annual stormwater pollution prevention training for personnel with job duties that have the potential to impact stormwater quality.

Waste is managed through the Solid Waste Collection and Recycling Center (a facility designed to manage solid waste and recyclable materials generated by SNL).

As needed, DOE and Sandia will clean debris, floatables, and sediment from basins, ditches, and other conveyance infrastructure.

By 2/22/2016, an assessment of technical guidance documents will be performed to determine water quality impacts and the potential for incorporation of water quality controls into new flood control projects. See Section 7.2.1 of the SWMP Plan. +

Cooperative Elements

DOE (as owner of SNL) and Sandia (as operator of SNL) share responsibility for the SNL MS4. DOE and Sandia together will comply with all of the requirements of the MS4 Permit, but will do so independently of participation in a cooperative group. +

3.2. Enhance the program to include the elements in Part I.D.5.c.(ii)

By 12/22/2016, DOE and Sandia will evaluate the successfulness of the program and modify the SWMP with respect to each of the elements of Part I.D.5.c.(ii) as described in Section 7.2.1.6 of the SWMP Plan, including but not limited to the following: +

- Develop a list of all stormwater quality facilities, including location and description
- Develop an operational model for de-icing activities, including methods to protect water quality
- Update plan to decrease runoff of vehicle related pollutants +

- A review and revision of the existing street sweeping plan and schedule
- A list of the roadways most likely contributing to pollution in runoff
- A review and revision of existing plan for collecting used motor vehicle fluids +

- A review and revision of the existing procedures and schedule for cleaning debris and sediment from the stormwater drainage system
- A review and revision of the existing litter control program, including public awareness campaigns +

Cooperative Elements

DOE (as owner of SNL) and Sandia (as operator of SNL) share responsibility for the SNL MS4. DOE and Sandia together will comply with all of the requirements of the MS4 Permit, but will do so independently of participation in a cooperative group. +

3.3. Develop or update a list and a map of industrial facilities owned or operated by the permittee as required in Part I.D.5.c.(iii)

DOE and Sandia discharge industrial stormwater at SNL in accordance with the provisions of the Multi-Sector General Permit (MSGP) as authorized by NMR053114 (DOE) and NMR053122 (Sandia), as discussed in Sections 1.2.4 and 1.4.6 of the SWMP Plan. +

Any measures required by the MS4 Permit will be applied to MSGP sites located within boundaries of the SNL MS4 to augment measures already in place under the MSGP.

Cooperative Elements

DOE (as owner of SNL) and Sandia (as operator of SNL) share responsibility for the SNL MS4. DOE and Sandia together will comply with all of the requirements of the MS4 Permit, but will do so independently of participation in a cooperative group. +

3.4. Describe other proposed activities to address the Pollution Prevention/Good Housekeeping for Municipal/permittee Operations Measure:

Corporate procedures and training will be reviewed annually by June 1 of each year, and updated as needed.

The SNL MS4 will be divided into areas and inspected for compliance with the P2/GH Program such that each area is inspected a minimum of two times within the Permit term.

The chemicals and application methods associated with deicing operations and storage at SNL will be reviewed and procedures revised (as necessary) by December 22, 2016.

By 12/22/2019, DOE and Sandia will prepare a cumulative summary of retrofit evaluations conducted during the Permit term on existing flood control devices, structures and drainage ways to benefit water quality.

Section 4: Industrial and High Risk Runoff – Proposed BMPs, Stormwater Controls, and Measurable Goals (APPLICABLE ONLY TO CLASS A PERMITTEES)

4.1. Ordinance (or other control method) as required in Part I.D.5.d.(i)

DOE and Sandia are Class C permittees; Section 4 does not apply.

Cooperative Elements

DOE and Sandia are Class C permittees; Section 4 does not apply.

4.2. Continue implementation and enforcement of the Industrial and High Risk Runoff program, assess the overall success of the program, and document both direct and indirect measurements of program effectiveness in the annual report as required in Part I.D.5.d.(ii)

DOE and Sandia are Class C permittees; Section 4 does not apply.

Cooperative Elements

DOE and Sandia are Class C permittees; Section 4 does not apply.

4.3. Meet the monitoring requirements in Part I.D.5.d.(iii)

DOE and Sandia are Class C permittees; Section 4 does not apply.

Cooperative Elements

DOE and Sandia are Class C permittees; Section 4 does not apply.

4.4. Include requirements in Part I.D.5.d.(iv)

DOE and Sandia are Class C permittees; Section 4 does not apply.

Cooperative Elements

DOE and Sandia are Class C permittees; Section 4 does not apply.

4.5. Enhance the program to include requirements in Part I.D.5.d.(vii)

DOE and Sandia are Class C permittees; Section 4 does not apply.

Cooperative Elements

DOE and Sandia are Class C permittees; Section 4 does not apply.

4.6. Describe other proposed activities to address the Industrial and High Risk Runoff Measure:

DOE and Sandia are Class C permittees; Section 4 does not apply.

Section 5. Illicit Discharges and Improper Disposal – Proposed BMPs, Stormwater Controls, and Measurable Goals

5.1. Mapping as required in Part I.D.5.e.(i)(a)

A map of the SNL MS4 stormwater drainage system, indicating all outfalls and the names and locations of all waters of the U.S. that receive discharges from those outfalls is provided in Appendix B of the SWMP Plan.


Cooperative Elements

DOE (as owner of SNL) and Sandia (as operator of SNL) share responsibility for the SNL MS4. DOE and Sandia together will comply with all of the requirements of the MS4 Permit, but will do so independently of participation in a cooperative group.

5.2. Ordinance (or other control method) as required in Part I.D.5.e.(i)(b)

Sandia currently has a corporate procedure that prohibits discharges to the surface without prior approval from the Environmental Programs Department (Corporate Procedure ESH100.2.ENV.10: Management of Surface and Stormwater Discharges).
Corporate Procedure ESH100.2.ENV.10 is presented to personnel as a component of annual mandatory corporate training materials, and other safety and environmental screening processes. ESH100.2.ENV.10 is summarized in SWMP Plan Section 8.2.2.

Cooperative Elements

DOE (as owner of SNL) and Sandia (as operator of SNL) share responsibility for the SNL MS4. DOE and Sandia together will comply with all of the requirements of the MS4 Permit, but will do so independently of participation in a cooperative group. 

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5.3. Develop and implement a IDDE plan as required in Part I.D.5.e.(i)(c)


The Sandia workforce is trained to prevent and report activities or events with the potential to cause environmental harm.

If an illicit discharge is observed, the Stormwater Team will perform or coordinate visual screening, employee interviews, field parameters and sample collection to identify possible sources.

Enforcement of the IDDEP will be addressed through corporate policy and the protocol discussed in Section 1.6 of the SWMP Plan.

Investigations into the exact cause of the illicit discharge will be conducted to determine how operations or controls can be modified to prevent future illicit discharges. Additional details are provided in Section 8.2.3 of the SWMP Plan. 

Cooperative Elements

DOE (as owner of SNL) and Sandia (as operator of SNL) share responsibility for the SNL MS4. DOE and Sandia together will comply with all of the requirements of the MS4 Permit, but will do so independently of participation in a cooperative group. 

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5.4. Develop an education program as required in Part I.D.5.e.(i)(d)

Sandia will be debuting a stormwater awareness campaign in 2015, "Stormwater - Keep it Clean" to include educational brochures, posters and a publication in The Porcelain Press (discussed in more detail in Section 10 of the SWMP Plan). +

The campaign will target Members of the Workforce to raise stormwater quality awareness and advertise training, and will occur during each wet season (July 1 through October 31).

The corporate stormwater pollution prevention training is offered online at any time and is also given in a live presentation to keys groups of employees that have the greatest potential to impact stormwater quality.

Copies of the most recent editions of these materials will be included as an appendix to the SWMP Plan.

Cooperative Elements

DOE (as owner of SNL) and Sandia (as operator of SNL) share responsibility for the SNL MS4. DOE and Sandia together will comply with all of the requirements of the MS4 Permit, but will do so independently of participation in a cooperative group. +

5.5. Establish a hotline as required in Part I.D.5.e.(i)(e)

Using any landline at SNL, emergencies can be reported by dialing 911, and non-emergencies can be reported by dialing 311.

Using any phone, emergencies can be reported by dialing (505) 844-0911 and non-emergencies by dialing (505) 844-0311.

The Sandia Emergency Operations Center (EOC) is available at 844-6515 for spill response and cleanup.

Sandia is the primary recipient of calls from these numbers. DOE and various departments within Sandia are in the chain of notification and response.

Cooperative Elements

DOE (as owner of SNL) and Sandia (as operator of SNL) share responsibility for the SNL MS4. DOE and Sandia together will comply with all of the requirements of the MS4 Permit, but will do so independently of participation in a cooperative group. +

5.6. Investigate suspected significant/severe illicit discharges as required in Part I.D.5.e.(i)(f)

All illicit discharges at SNL are taken seriously by DOE and Sandia. Should an illicit discharge be detected, it will be investigated within 48 hours, and the sources identified as soon as possible.

Any additional controls (administrative and/or engineered) necessary to prevent future discharges will be implemented as soon as practicable.


Cooperative Elements

DOE (as owner of SNL) and Sandia (as operator of SNL) share responsibility for the SNL MS4. DOE and Sandia together will comply with all of the requirements of the MS4 Permit, but will do so independently of participation in a cooperative group. +

5.7. Review complaint records and develop a targeted source reduction program as required in Part I.D.5.e.(i)(g)

Part I.D.5.e.(i)(g) is applicable to class A and B Permittees only; as a class C permittee this requirement does not apply to DOE and Sandia.

Cooperative Elements

DOE (as owner of SNL) and Sandia (as operator of SNL) share responsibility for the SNL MS4. DOE and Sandia together will comply with all of the requirements of the MS4 Permit, but will do so independently of participation in a cooperative group. 

5.8. Screening of system as required in Part I.D.5.e.(iii) as follows:

The SNL MS4 has no identified high priority areas at this time.

Screening of the SNL MS4 is informally conducted on on-going basis by field personnel trained to monitor for leaks, spills, and other discharges.

Formal screening will be conducted and documented at least once every five years which will include the inspection of all known outfalls and MS4 conveyance structures for the presence of illicit discharge.

Any illicit discharge encountered will be sampled, tracked to its source, and corrected through administrative or engineered control measures.

Cooperative Elements

DOE (as owner of SNL) and Sandia (as operator of SNL) share responsibility for the SNL MS4. DOE and Sandia together will comply with all of the requirements of the MS4 Permit, but will do so independently of participation in a cooperative group. +

5.9. Develop, update, and implement a Waste Collection Program as required in Part I.D.5.e.(iv)

Sandia has a well developed waste management and recycling program. The program is described in Section 8.2.9 of the SWMP Plan. The program includes education and involvement of all workforce members.

The SNL Solid Waste Collection & Recycling Center (SWCRC) has three purposes:
1. Screen the SNL's collected solid waste and recyclables for prohibited materials.
2. Bale, store, and ship solid waste to an approved landfill. +

The SWCRC recycles cardboard, white paper, mixed paper, aluminum cans, foam packaging, plastics (mixed #1-7 rigids), toner and ink cartridges, wood, plywood, green waste and construction/demolition scrap metals.

Hazardous waste generated at SNL is handled under Corporate Procedure ESH100.2.ENV.22. This procedure provides detailed instructions for using, labeling, storing, accumulating, managing, and transporting waste to disposal facilities. +

Cooperative Elements

DOE (as owner of SNL) and Sandia (as operator of SNL) share responsibility for the SNL MS4. DOE and Sandia together will comply with all of the requirements of the MS4 Permit, but will do so independently of participation in a cooperative group. +

5.10. Develop, update and implement a Spill Prevention and Response program to prevent, contain, and respond to spills that may discharge into the MS4 as required in Part I.D.5.e.(v)

Sandia has a detailed Spill Prevention Control and Countermeasure Plan that includes prevention measures including inspections, testing, records, security, operational procedures, best management practices, and personnel. +

In the event of a release, Sandia maintains a sophisticated system of containment facilities, trained response staff, and emergency equipment to prevent pollutants from entering the stormwater drainage system.


Cooperative Elements

DOE (as owner of SNL) and Sandia (as operator of SNL) share responsibility for the SNL MS4. DOE and Sandia together will comply with all of the requirements of the MS4 Permit, but will do so independently of participation in a cooperative group. +

5.11. Enhance the program to include requirements in Part I.D.5.e.(ix)


Sandia will utilize ideas from the manual "Illicit Discharge Detection and Elimination, A Guidance Document for Program Development and Technical Assessments" to enhance the IDDE Program as needed.

Cooperative Elements

DOE (as owner of SNL) and Sandia (as operator of SNL) share responsibility for the SNL MS4. DOE and Sandia together will comply with all of the requirements of the MS4 Permit, but will do so independently of participation in a cooperative group. 

5.12. Describe other proposed activities to address the Illicit Discharges and Improper Disposal Measure:

Corporate procedures and training will be reviewed annually by June 1 of each year, and updated as needed to reflect changes in regulations and associated BMPs.


A log will be maintained of illicit discharges reported within the SNL MS4 boundary. The log will include the method of reporting, pertinent details about the illicit discharge, and a summary of the findings and corrective actions. 

An annual summary of solid waste management will be included in the SWMP Plan revision included with each Annual Report.

Section 6. Control of Floatables Discharges – Proposed BMPs, Stormwater Controls, and Measurable Goals

6.1. Develop a schedule to implement the program as required in Part I.D.5.f.(i)(a)

SNL's smoke-free campus and the culture of the workforce foster an environment such that solid waste dumping (i.e., littering) is uncommon.

Additionally, on a larger scale, Sandia manages floatables through administrative and source controls, through robust waste management and pollution prevention programs. These programs are described in detail in Section 8.2 of the SWMP Plan. 

For the reasons stated above, DOE and Sandia do not anticipate there to be a significant amount of floatables generated within the SNL MS4.

Cooperative Elements

DOE (as owner of SNL) and Sandia (as operator of SNL) share responsibility for the SNL MS4. DOE and Sandia together will comply with all of the requirements of the MS4 Permit, but will do so independently of participation in a cooperative group. +

6.2. Describe the plan to estimate the annual volume of floatables and trash removed from each control facility and characterize the floatable type as required in Part I.D.5.f.(i)(b)

Sandia operates an aggressive waste management and pollution prevention programs that include education and a recycling facility. During FY 2014 approximately 70 percent of the solid waste generated by Sandia was recycled. +
There is an insignificant litter or refuse presence within the SNL MS4.
By 12/22/2016, DOE and Sandia propose to implement additional source control measures to reduce trash that might otherwise end up in stormwater, rather than implement costly and unnecessary structural controls (e.g., trash racks). +
Structural controls may be installed in the future should they prove to be necessary.

Cooperative Elements

DOE (as owner of SNL) and Sandia (as operator of SNL) share responsibility for the SNL MS4. DOE and Sandia together will comply with all of the requirements of the MS4 Permit, but will do so independently of participation in a cooperative group. +

6.3. Describe other proposed activities to address the Control of Floatables Discharges Measure:

The Floatables Program established in compliance with the MS4 Permit will be enhanced to control the discharge of floatables and trash from the SNL MS4 by implementing source control of floatables specifically in industrial and commercial areas. +

Corporate procedures and training will be reviewed annually by June 1 of each year, and updated as needed to reflect changes in regulations and associated BMPs.

The main SNL MS4 outfall measured by stormwater sampling point SWSP-05 will be inspected quarterly for the presence of floatable debris. Inspection reports will be maintained with the SWMP Plan.

An annual assessment of the Floatables Program will be conducted to evaluate the need for structural controls.

Section 7. Public Education and Outreach on Stormwater Impacts – proposed BMPs, Stormwater Controls, and Measurable Goals

7.1. Develop, revise, implement, and maintain an education and outreach program as required in Part I.D.5.g.(i) and Part I.D.5.g.(ii)

The Stormwater Quality Program has a website for access by personnel containing basic regulatory requirements pertaining to the protection of stormwater quality, training information and contacts for the Stormwater Team. +

Corporate Training (SW100) Stormwater Pollution Prevention Training is available online to personnel, and performed as a live presentation upon request.

A stormwater pollution prevention informational brochure is distributed at the cafeteria during environmental events and other events such as Earth Day (Bring Your Sons and Daughters to Work Day) and Family Day. +

Sandia owns educational models for stormwater/watershed, groundwater, and drinking water/wastewater and performs demonstrations to students in the classroom, during Earth Day (Bring Your Sons and Daughters to Work Day) and Family Day. +

Cooperative Elements

DOE (as owner of SNL) and Sandia (as operator of SNL) share responsibility for the SNL MS4. DOE and Sandia together will comply with all of the requirements of the MS4 Permit, but will do so independently of participation in a cooperative group. +

7.2. Enhance the program to include requirements in Part I.D.5.g.(v) through Part I.D.5.g.(viii)

DOE and Sandia may utilize educational materials and program elements as needed to improve the public outreach program.

Educational elements for proper septic system maintenance, proper use and disposal of fertilizers and pesticides, and proper disposal of motor oil and household hazardous wastes will be incorporated into DOE's and Sandia's educational program.

Information about litter reduction, recycling, reduction of pesticide/herbicide use, xeriscaping and reduced water consumption, pet waste and solid waste management will be incorporated into DOE's and Sandia's educational program.

Cooperative Elements

DOE (as owner of SNL) and Sandia (as operator of SNL) share responsibility for the SNL MS4. DOE and Sandia together will comply with all of the requirements of the MS4 Permit, but will do so independently of participation in a cooperative group.

7.3. Describe other proposed activities to address the Public Education and Outreach on Stormwater Impacts Measure:

The corporate online training system that disseminates Stormwater Pollution Prevention Training (SW100) is equipped to track completion. DOE's and Sandia's goal is to maintain a minimum of 90 percent annual participation in SW100 training.

The informational brochures and campaign posters will be reviewed annually by June 1 of each year, and updated as needed to ensure regulatory and contact information is current, and to respond to the educational and training needs of the workforce.

Starting in 2016, the Stormwater Team will hold a minimum of three events per reporting period (July 1 - June 30) to perform demonstrations of the educational models to grade-school children and personnel.

Section 8. Public Involvement and Participation – Proposed BMPs, Stormwater Controls, and Measurable Goals

8.1. Develop (or update), implement, and maintain a public involvement and participation plan as required in Part I.D.5.h.(ii) and Part I.D.5.h.(iii)

By 11/22/2015, the Public Involvement and Participation Program (PIPP) will include a comprehensive planning process which involves public participation and, intergovernmental coordination. The PIPP is described in Section 11 of the SWMP Plan. +

DOE and Sandia will notify the public via legal notice in the Albuquerque Journal for a period of 30 days, prior to the submission of the NOI (and associated SWMP Plan) and each Annual Report (and associated SWMP Plan revision). +

A copy of the MS4 Permit and the applicable documents (i.e., NOI, Annual Report, SWMP Plan, etc.) will be maintained up-to-date through the University of New Mexico (UNM) LoboVault online database (<https://repository.unm.edu/handle/1928/26737>). +

A functional behavioral assessment will be performed at DOE/DoD Semi-Annual Public Meeting, where the topic of "stormwater" is presented. The public's antecedent (before), present (during), and consequence (after) behavior will be observed and recorded. +


Cooperative Elements

DOE (as owner of SNL) and Sandia (as operator of SNL) share responsibility for the SNL MS4. DOE and Sandia together will comply with all of the requirements of the MS4 Permit, but will do so independently of participation in a cooperative group. +

8.2. Describe the plan to comply with State, Tribal, and local notice requirements when implementing a Public Involvement and Participation Program as required in Part I.D.5.h.(iv)

DOE and Sandia will comply with State, Tribal, and local public notice requirements when implementing a public involvement/ participation program.

Cooperative Elements

DOE (as owner of SNL) and Sandia (as operator of SNL) share responsibility for the SNL MS4. DOE and Sandia together will comply with all of the requirements of the MS4 Permit, but will do so independently of participation in a cooperative group. 

8.3. Describe a plan to include elements as required in Part I.D.5.h.(v)


Public notices will be printed in a newspaper of general circulation in the Albuquerque area (i.e., The Albuquerque Journal) and be available online.

The DOE/DoD Semi-Annual Public Meetings are open to all citizens and the public is encouraged to attend. The meetings will be used as a mechanism to discuss stormwater permitting at SNL.

The MS4 Permit (specifically Appendix E), NOIs and SWMP Plan will be available at <https://repository.unm.edu/handle/1928/26737> through the University of New Mexico (UNM) LoboVault on-line database.

Physical copies of documents posted to the UNM LoboVault will be available at the UNM Zimmerman Library. Contact Daniel Barkley at 505-277-7180 or barkley@unm.edu in advance to make an appointment.

Cooperative Elements

DOE (as owner of SNL) and Sandia (as operator of SNL) share responsibility for the SNL MS4. DOE and Sandia together will comply with all of the requirements of the MS4 Permit, but will do so independently of participation in a cooperative group. 

8.4. As required in Part I.D.5.h.(viii) provide the internet site (or website) where the SWMP document, Annual Reports, and other documents will be available to the public.

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8.5. Enhance the program to include requirements in Part I.D.5.h.(ix)


DOE and Sandia will consider options for enhancing the PIPP as needed based on the results of the previous year(s).

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Cooperative Elements

DOE (as owner of SNL) and Sandia (as operator of SNL) share responsibility for the SNL MS4. DOE and Sandia together will comply with all of the requirements of the MS4 Permit, but will do so independently of participation in a cooperative group. 
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8.6. Describe other proposed activities to address the Public Involvement and Participation Measure:

Comments received by the public in response to any and all public notices will be considered and maintained with the SWMP Plan for the duration of the Permit term.

DOE and Sandia will perform one functional behavioral assessment during the Permit term at DOE/DoD Semi-Annual Public Meeting, before, during and after the topic of "stormwater" is presented.

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IV. Proposed Monitoring Program

Indicate wet weather monitoring program preference:

Individual Monitoring Program

Cooperative Monitoring Program

Provide a general description of the propose monitoring program.

Wet weather and dry weather monitoring will be conducted in compliance with the location, frequency, constituent, and method requirements described in Part III of the Permit. Monitoring is described in more detail in Section 12 of the SWMP Plan. +

DOE and Sandia will collect samples at all SNL MS4 inlets and outlets. This will include 1 inlet location and 4 outlet locations. Flow will be measured at the inlet and main outlet of the MS4.

A map of monitoring locations is provided in Appendix B of the SWMP Plan. E. coli waste loads will be determined for each monitoring location and evaluated for compliance with TMDL's.

V. Public Participation

Include a Summary of issues raised in any local public comments received by the MS4 Operator on the draft NOI/SWMP and MS4 operator's responses.

Public comments and responses to them will be provided to EPA and NMED at the time the NOI and SWMP Plan are submitted (on or before June 20, 2015).

VI. Attachments

Attach a location map showing the boundaries of the MS4 under the applicant's jurisdiction. The map must include streets or other demarcations so that the exact boundaries can be located.

Are other attachments included with the NOI? If so, indicate the title of the document(s).

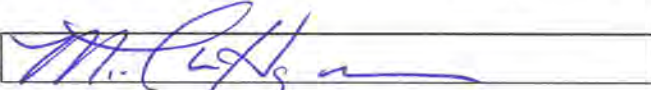
SWMP Plan v.0, dated May 4, 2015 (<https://repository.unm.edu/handle/1928/26737>)

Maps are included as Appendix B of the SWMP Plan.

VII. Certification

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Signature:



Printed Name:

Michael W. Hazen

Date:

29 Oct 2015

Appendix C-7



U.S. DEPARTMENT OF
ENERGY



Sandia
National
Laboratories



NOTICE

Department of Energy, National Nuclear Security Administration
Sandia National Laboratories

Review of Draft Annual Report and Updated Stormwater Management Program Plan for NPDES Municipal Separate Storm Sewer System Permit – Tracking Nos. NMR04A011 and NMR04A012

The Department of Energy (DOE) and Sandia Corporation (Sandia) plan to submit the first Annual Report and an Updated Stormwater Management Program (SWMP) Plan under the National Pollutant Discharge Elimination System (NPDES) Middle Rio Grande Watershed Municipal Separate Storm Sewer System (MS4) Permit for Sandia National Laboratories (SNL). This notice is for the initiation of a public review and comment period on the draft Annual Report and SWMP Plan.

SNL is a multi-program laboratory managed and operated by Sandia, a wholly owned subsidiary of Lockheed Martin Corporation, for the U.S. Department of Energy's (DOE's) National Nuclear Security Administration. The DOE/NNSA, Sandia Field Office administers contract DE-AC04-94AL85000 and oversees contractor operations at the site. SNL is located within the boundary of Kirtland Air Force Base, immediately southeast of Albuquerque, New Mexico.

On December 22, 2014, the Environmental Protection Agency (EPA) issued a new NPDES Permit, the MS4 Permit for the Middle Rio Grande Watershed. DOE and Sandia filed Notices of Intent (NOIs) for permit coverage on June 17, 2015. DOE and Sandia received approval from EPA on November 18, 2015 and December 22, 2015, respectively.

In compliance with requirements of the MS4 Permit, DOE and Sandia will submit the following deliverables to EPA on or before December 1, 2016:

- Annual Report (July 1, 2015 – June 30, 2016 reporting period)
- Updated Stormwater Management Program (SWMP) Plan
- Discharge Monitoring Reports (DMRs) (July 1, 2015 – June 30, 2016 reporting period); *Note: No valid stormwater data was collected during this reporting period.*

All public comments will be considered in preparation of the final Annual Report and updated SWMP Plan.

COMMENT PERIOD

A 30-day public comment period associated with the review of the draft Annual Report and updated SWMP Plan will begin on September 21, 2016. Comments on this proposed filing will be accepted through October 21, 2016. Written comments should be submitted to EPA and DOE via email or hard copy to the contacts listed below.

EPA (via e-mail):

Ms. Dorothy Brown
brown.dorothy@epa.gov

DOE (via e-mail):

Karen Agogino
karen.agogino@nnsa.doe.gov

EPA (via hard copy):

U.S. EPA Region 6
Water Quality Protection Division (6WQ-NP)
Attn: Dorothy Brown
1445 Ross Ave., Suite 1200
Dallas, TX 75202

DOE (via hard copy):

U.S. Department of Energy
National Nuclear Security Administration
Sandia Field Office
Attn: Karen Agogino
PO Box 5400
Albuquerque, New Mexico 87185

PUBLIC HEARING

There is no public hearing scheduled at this time. During the 30-day public comment period, requests for a public hearing can be submitted to the EPA and DOE contacts listed above.

PUBLIC INSPECTION OF DOCUMENTS

The MS4 Permit and associated current compliance deliverables (i.e., NOIs, SWMP Plan, Annual Report, and DMRs) will be available through the University of New Mexico (UNM) LoboVault online database at <https://repository.unm.edu/handle/1928/26737>, upon the commencement of the 30 day public comment period. Documents associated with the SNL MS4 will be maintained up-to-date on this website throughout the permit term.

NOTICE
Department of Energy, National
Nuclear Security Administration
Sandia National Laboratories

Review of Annual Report and Updated Stormwater Management Program Plan for NPDES Municipal Separate Storm Sewer System Permit – Tracking Nos. NMR04A011 and NMR04A012

The Department of Energy (DOE) and Sandia Corporation (Sandia) plan to submit the first Annual Report and an Updated Stormwater Management Program (SWMP) Plan under the National Pollutant Discharge Elimination System (NPDES) Middle Rio Grande Watershed Municipal Separate Storm Sewer System (MS4) Permit for Sandia National Laboratories (SNL). This notice is for the initiation of a public review and comment period on the Annual Report and SWMP Plan.

SNL is a multi-program laboratory managed and operated by Sandia, a wholly owned subsidiary of Lockheed Martin Corporation, for the U.S. Department of Energy's (DOE's) National Nuclear Security Administration. The DOE/NNSA, Sandia Field Office administers contract DE-AC04-94AL85000 and oversees contractor operations at the site. SNL is located within the boundary of Kirtland Air Force Base, immediately southeast of Albuquerque, New Mexico.

On December 22, 2014, the Environmental Protection Agency (EPA) issued a new NPDES Permit, the MS4 Permit for the Middle Rio Grande Watershed. DOE and Sandia filed Notices of Intent (NOIs) for permit coverage on June 17, 2015. DOE and Sandia received approval from EPA on November 18, 2015 and December 22, 2015, respectively.

In compliance with requirements of the MS4 Permit, DOE and Sandia will submit the following deliverables to EPA on or before December 1, 2016:

- Annual Report (July 1, 2015 – June 30, 2016 reporting period)
 - Updated Stormwater Management Program (SWMP) Plan
 - Discharge Monitoring Reports (DMRs) (July 1, 2015 – June 30, 2016 reporting period); Note: No valid stormwater data was collected during this reporting period.
- All public comments will be considered in preparation of the final Annual Report and updated SWMP Plan.

COMMENT PERIOD

A 30-day public comment period associated with the review of the Annual Report and updated SWMP Plan will begin on September 21, 2016. Comments on this proposed filing will be accepted through October 21, 2016. Written comments should be submitted to EPA and DOE via email or hard copy to the contacts listed below.

DOE (via e-mail):
Karen Agogino
karen.agogino@nnsa.doe.gov

DOE (via hard copy):
U.S. Department of Energy
National Nuclear Security Administration
Sandia Field Office
Attn: Karen Agogino
PO Box 5400
Albuquerque, NM 87185

EPA (via e-mail):
Ms. Dorothy Brown
brown.dorothy@epa.gov

EPA (via hard copy):

U.S. EPA Region 6
Water Quality Protection Division
(6WQ-NP)
Attn: Dorothy Brown
1445 Ross Ave., Suite 1200
Dallas, TX 75202

PUBLIC HEARING

There is no public hearing scheduled at this time. During the 30-day public comment period, requests for a public hearing can be submitted to the EPA and DOE contacts listed above.

PUBLIC INSPECTION OF DOCUMENTS

The MS4 Permit and associated current compliance deliverables (i. e., NOIs, SWMP Plan, Annual Report, and DMRs) will be available through the University of New Mexico (UNM) LoboVault online database at <https://repository.unm.edu/handle/1928/26737>, upon the commencement of the 30 day public comment period. Documents associated with the SNL MS4 will be maintained up-to-date on this website throughout the permit term.

Journal: September 21, 2016

Appendix C-8

v.5, August 10, 2019

A printed copy of this document may not be the official version. The official printed copy of this SWMPP is located in the office of the Environmental Compliance and Monitoring Department (Org. 00641).



NOTICE
Department of Energy, National Nuclear Security Administration
Sandia National Laboratories

Review of Annual Report, Discharge Monitoring Reports and Updated Stormwater Management Program Plan for NPDES Municipal Separate Storm Sewer System Permit Tracking Nos. NMR04A011 and NMR04A012

The Department of Energy (DOE) and National Technology and Engineering Solutions of Sandia, LLC (NTESS) plan to submit an Annual Report, Discharge Monitoring Reports (DMRs), and an updated Stormwater Management Program Plan (SWMPP) to the Environmental Protection Agency (EPA) pursuant to the National Pollutant Discharge Elimination System (NPDES) Middle Rio Grande Watershed Municipal Separate Storm Sewer System (MS4) Permit for Sandia National Laboratories (SNL). This notice is for the initiation of a public review and comment period on the Annual Report, DMRs, and updated SWMPP.

Sandia National Laboratories is a multimission laboratory managed and operated by National Technology and Engineering Solutions of Sandia, LLC., a wholly owned subsidiary of Honeywell International, Inc., for the U.S. Department of Energy's National Nuclear Security Administration under contract DE-NA-0003525. The DOE/NNSA, Sandia Field Office administers contract DE-NA-0003525 and oversees contractor operations at the site. SNL is located within the boundary of Kirtland Air Force Base, immediately southeast of Albuquerque, New Mexico.

On December 22, 2014, the EPA issued a new NPDES Permit, the MS4 Permit for the Middle Rio Grande Watershed. DOE and Sandia Corporation (now NTESS) filed Notices of Intent (NOIs) for permit coverage on June 17, 2015. DOE and Sandia Corporation received approval from EPA on November 18, 2015 and December 22, 2015, respectively. NTESS assumed responsibility for Permit NMR04A012 on May 1, 2017 when management and operation of SNL was transferred from Sandia Corporation to NTESS.

In compliance with requirements of the MS4 Permit, DOE and NTESS will submit the following deliverables to EPA on or before December 1, 2017:

- Annual Report (July 1, 2016 – June 30, 2017 reporting period)
- Discharge Monitoring Reports (DMRs) (July 1, 2016 – June 30, 2017 reporting period)
- Updated Stormwater Management Program Plan (SWMPP)

All public comments will be considered.

COMMENT PERIOD

A 30-day public comment period associated with the review of the Annual Report, DMRs, and updated SWMP Plan will begin on September 18, 2017. Comments on this proposed filing will be accepted through October 18, 2017. Written comments should be submitted to EPA and DOE via email or hard copy to the contacts listed below:

EPA (via e-mail):

Ms. Dorothy Brown
brown.dorothy@epa.gov

DOE (via e-mail):

Steve Black
steven.black@nnsa.doe.gov

EPA (via hard copy):

U.S. EPA Region 6
Water Quality Protection Division (6WQ-NP)
Attn: Dorothy Brown
1445 Ross Ave., Suite 1200
Dallas, TX 75202

DOE (via hard copy):

U.S. Department of Energy
National Nuclear Security Administration
Sandia Field Office
Attn: Steve Black
PO Box 5400
Albuquerque, New Mexico 87185

PUBLIC HEARING

There is no public hearing scheduled at this time. During the 30-day public comment period, requests for a public hearing can be submitted to the EPA and DOE contacts listed above.

PUBLIC INSPECTION OF DOCUMENTS

The MS4 Permit and associated current compliance deliverables (i.e., NOIs, SWMPP, Annual Report, and DMRs) will be available through the University of New Mexico (UNM) digital repository online database at http://digitalrepository.unm.edu/snl_ms4/, upon the commencement of the 30 day public comment period. Documents associated with the SNL MS4 will be maintained up-to-date on this website throughout the permit term.

Appendix C-9

v.5, August 10, 2019

A printed copy of this document may not be the official version. The official printed copy of this SWMPP is located in the office of the Environmental Compliance and Monitoring Department (Org. 00641).



Department of Energy
National Nuclear Security Administration
Sandia Field Office
P.O. Box 5400
Albuquerque, NM 87185



APR 28 2017

CERTIFIED MAIL-RETURN RECEIPT REQUESTED

Mr. Nasim Jahan
USEPA REGION 6
1445 Ross Avenue
Suite 1200
Mail Code: 6WQ
Dallas, Texas 75202-2733

Ms. Nelly Smith
USEPA REGION 6
1445 Ross Avenue
Suite 1200
Mail Code: 6WQ
Dallas, Texas 75202-2733

Mr. Robert Houston
USEPA REGION 6
1445 Ross Avenue
Suite 1200
Mail Code: 6EN
Dallas, Texas 75202-2733

Subject: Notification of Management and Operating Contractor Name Change, Sandia National Laboratories/New Mexico

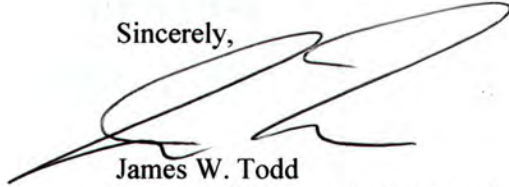
Dear Mr. Jahan, Ms. Smith and Mr. Houston:

The Department of Energy/National Nuclear Security Administration (DOE/NNSA) is submitting this letter to notify the Environmental Protection Agency that the current cited Operator/Permittee, Sandia Corporation, is undergoing a name change to National Technology and Engineering Solutions of Sandia, LLC. The name change will be effective on May 1, 2017. As the Operator under the Permit remains the same, there is no transfer of requirements to a new Operator. This notice covers the following Permits:

1. Multi-Sector General Permit, Tracking Number NMR053122
2. Middle Rio Grande Watershed Based Municipal Separate Storm Sewer System Permit, Tracking Number NMR04A012

We are further inquiring whether the Environmental Protection Agency requests that the current cited Operator/Permittee submit a revised Notice of Intent or if this letter is sufficient. Please notify Steven Black at (505) 845-6885 or Steven.Black@nnsa.doe.gov of this determination.

Sincerely,



James W. Todd
Assistant Manager for Engineering

cc:

Shelly Lemon, Chief
NMED/SWQB
P.O. BOX 5469, Santa Fe, New Mexico 87502
Stephen Younger, NTESS
David Douglass, NTESS
Rosemary Avery, SNL/NM
Amy Blumberg, SNL/NM
Terry Cooper, SNL/NM
Kathie Deal, SNL/NM
Darrell Fong, SNL/NM
Andrew Gough, SNL/NM
Jaime Moya, SNL/NM
Douglas Vetter, SNL/NM
Susan Lacy, SFO/ENG
David Rast, SFO/ENG
Steven Black, SFO/ENG
729559

Appendix C-10

v.5, August 10, 2019

A printed copy of this document may not be the official version. The official printed copy of this SWMPP is located in the office of the Environmental Compliance and Monitoring Department (Org. 00641).



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Ordered By John Kay
Customer Email mlafin@sandia.gov
Ad Cost \$357.29
Tax Amount \$28.14
Total Amount \$385.43
Amount Due \$385.43
Affidavits 0

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PO Number Quote
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Product Albuquerque Journal
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NOTICE
Sandia National Laboratories

**Department of Energy,
National Nuclear Security Administration
Review of Draft Annual Report
and Updated Stormwater Management Program Plan for
NPDES Municipal Separate Storm Sewer System Permit –
Tracking Nos. NMR04A011 and NMR04A012**

The Department of Energy (DOE) and Sandia Corporation (Sandia) plan to submit their second Annual Report and an Updated Stormwater Management Program (SWMP) Plan under the National Pollutant Discharge Elimination System (NPDES) Middle Rio Grande Watershed Municipal Separate Storm Sewer System (MS4) Permit for Sandia National Laboratories (SNL). This notice is for the initiation of a public review and comment period on the draft Annual Report and SWMP Plan.

Sandia National Laboratories is a multimission laboratory managed and operated by National Technology and Engineering Solutions of Sandia, LLC., a wholly owned subsidiary of Honeywell International, Inc., for the U.S. Department of Energy's National Nuclear Security Administration under contract DE-NA-0003525. The DOE/NNSA, Sandia Field Office administers contract DE-NA-0003525 and oversees contractor operations at the site. SNL is located within the boundary of Kirtland Air Force Base, immediately southeast of Albuquerque, New Mexico.

On December 22, 2014, the Environmental Protection Agency (EPA) issued a new NPDES Permit, the MS4 Permit for the Middle Rio Grande Watershed. DOE and Sandia filed Notices of Intent (NOIs) for permit coverage on June 17, 2015. DOE and Sandia received approval from EPA on November 18, 2015 and December 22, 2015, respectively.

In compliance with requirements of the MS4 Permit, DOE and Sandia will submit the following deliverables to EPA on or before December 1, 2018:

- Annual Report (July 1, 2017 – June 30, 2018 reporting period)
- Updated Stormwater Management Program Plan (SWMP)
- Discharge Monitoring Reports (DMRs) (July 1, 2017 – June 30, 2018 reporting period)

All public comments will be considered in preparation of the final Annual Report and updated SWMP Plan.

COMMENT PERIOD

A 30-day public comment period associated with the review of the draft Annual Report and updated SWMP Plan will begin on September 17, 2018. Comments on this proposed filing will be accepted through October 17, 2018. Written comments should be submitted to EPA and DOE via email or hard copy to the contacts listed below.

EPA (via e-mail):
Ms. Dorothy Brown
brown.dorothy@epa.gov

EPA (via hard copy):
U.S. EPA Region 6
Water Quality Protection Division (6WQ-NP)
Attn: Dorothy Brown
1445 Ross Ave., Suite 1200
Dallas, TX 75202

DOE (via e-mail):
Ms. Dorothy Brown
Steven Black
steven.black@nnsa.doe.gov

DOE (via hard copy):
U.S. Department of Energy
National Nuclear Security Administration
Sandia Field Office
Attn: Steven Black
PO Box 5400
Albuquerque, New Mexico 87185

PUBLIC HEARING

There is no public hearing scheduled at this time. During the 30-day public comment period, requests for a public hearing can be submitted to the EPA and DOE contacts listed above.

PUBLIC INSPECTION OF DOCUMENTS

The MS4 Permit and associated current compliance deliverables (i.e., NOIs, SWMP Plan, Annual Report, and DMRs) will be available through the University of New Mexico (UNM) Digital repository online database at http://digitalrepository.unm.edu/sn1_ms4/, upon the commencement of the 30 day public comment period. Documents associated with the SNL MS4 will be maintained up-to-date on this website throughout the permit term.

Journal: September 15, 16, 17, 2018



NOTICE
Department of Energy, National Nuclear Security Administration
Sandia National Laboratories

Review of Annual Report, Discharge Monitoring Reports and Updated Stormwater Management Program Plan for NPDES Municipal Separate Storm Sewer System Permit Tracking Nos. NMR04A011 and NMR04A012

The Department of Energy (DOE) and National Technology and Engineering Solutions of Sandia, LLC (NTESS) plan to submit an Annual Report, Discharge Monitoring Reports (DMRs), and an updated Stormwater Management Program Plan (SWMPP) to the Environmental Protection Agency (EPA) pursuant to the National Pollutant Discharge Elimination System (NPDES) Middle Rio Grande Watershed Municipal Separate Storm Sewer System (MS4) Permit for Sandia National Laboratories (SNL). This notice is for the initiation of a public review and comment period on the Annual Report, DMRs, and updated SWMPP.

Sandia National Laboratories is a multimission laboratory managed and operated by National Technology and Engineering Solutions of Sandia, LLC., a wholly owned subsidiary of Honeywell International, Inc., for the U.S. Department of Energy's National Nuclear Security Administration under contract DE-NA-0003525. The DOE/NNSA, Sandia Field Office administers contract DE-NA-0003525 and oversees contractor operations at the site. SNL is located within the boundary of Kirtland Air Force Base, immediately southeast of Albuquerque, New Mexico.

On December 22, 2014, the EPA issued a new NPDES Permit, the MS4 Permit for the Middle Rio Grande Watershed. DOE and Sandia Corporation (now NTESS) filed Notices of Intent (NOIs) for permit coverage on June 17, 2015. DOE and Sandia Corporation received approval from EPA on November 18, 2015 and December 22, 2015, respectively. NTESS assumed responsibility for Permit NMR04A012 on May 1, 2017 when management and operation of SNL was transferred from Sandia Corporation to NTESS.

In compliance with requirements of the MS4 Permit, DOE and NTESS will submit the following deliverables to EPA on or before December 1, 2018:

- Annual Report (July 1, 2017 – June 30, 2018 reporting period)
- Discharge Monitoring Reports (DMRs) (July 1, 2017 – June 30, 2018 reporting period)
- Updated Stormwater Management Program Plan (SWMPP)

All public comments will be considered.

COMMENT PERIOD

A 30-day public comment period associated with the review of the Annual Report, DMRs, and updated SWMP Plan will begin on September 19, 2018. Comments on this proposed filing will be accepted through October 22, 2018. Written comments should be submitted to EPA and DOE via email or hard copy to the contacts listed below:

EPA (via e-mail):

Ms. Dorothy Brown
brown.dorothy@epa.gov

DOE (via e-mail):

Steve Black
steven.black@nnsa.doe.gov

EPA (via hard copy):

U.S. EPA Region 6
Water Quality Protection Division (6WQ-NP)
Attn: Dorothy Brown
1445 Ross Ave., Suite 1200
Dallas, TX 75202

DOE (via hard copy):

U.S. Department of Energy
National Nuclear Security Administration
Sandia Field Office
Attn: Steve Black
PO Box 5400
Albuquerque, New Mexico 87185

PUBLIC HEARING

There is no public hearing scheduled at this time. During the 30-day public comment period, requests for a public hearing can be submitted to the EPA and DOE contacts listed above.

PUBLIC INSPECTION OF DOCUMENTS

The MS4 Permit and associated current compliance deliverables (i.e., NOIs, SWMPP, Annual Report, and DMRs) will be available through the University of New Mexico (UNM) digital repository online database at http://digitalrepository.unm.edu/snl_ms4/, upon the commencement of the 30 day public comment period. Documents associated with the SNL MS4 will be maintained up-to-date on this website throughout the permit term.

Appendix C-11



NOTICE
Department of Energy, National Nuclear Security Administration
Sandia National Laboratories

Review of Annual Report, Discharge Monitoring Reports and Updated Stormwater Management Program Plan for NPDES Municipal Separate Storm Sewer System Permit Tracking Nos. NMR04A011 and NMR04A012

The Department of Energy (DOE) and National Technology and Engineering Solutions of Sandia, LLC (NTESS) plan to submit an Annual Report, Discharge Monitoring Reports (DMRs), and an updated Stormwater Management Program Plan (SWMPP) to the Environmental Protection Agency (EPA) pursuant to the National Pollutant Discharge Elimination System (NPDES) Middle Rio Grande Watershed Municipal Separate Storm Sewer System (MS4) Permit for Sandia National Laboratories (SNL). This notice is for the initiation of a public review and comment period on the Annual Report, DMRs, and updated SWMPP.

Sandia National Laboratories is a multimission laboratory managed and operated by National Technology and Engineering Solutions of Sandia, LLC., a wholly owned subsidiary of Honeywell International, Inc., for the U.S. Department of Energy's National Nuclear Security Administration under contract DE-NA-0003525. The DOE/NNSA, Sandia Field Office administers contract DE-NA-0003525 and oversees contractor operations at the site. SNL is located within the boundary of Kirtland Air Force Base, immediately southeast of Albuquerque, New Mexico.

On December 22, 2014, the EPA issued a new NPDES Permit, the MS4 Permit for the Middle Rio Grande Watershed. DOE and Sandia Corporation (now NTESS) filed Notices of Intent (NOIs) for permit coverage on June 17, 2015. DOE and Sandia Corporation received approval from EPA on November 18, 2015 and December 22, 2015, respectively. NTESS assumed responsibility for Permit NMR04A012 on May 1, 2017 when management and operation of SNL was transferred from Sandia Corporation to NTESS.

In compliance with requirements of the MS4 Permit, DOE and NTESS will submit the following deliverables to EPA on or before December 1, 2019:

- Annual Report (July 1, 2018 – June 30, 2019 reporting period)
- Discharge Monitoring Reports (DMRs) (July 1, 2018 – June 30, 2019 reporting period)
- Updated Stormwater Management Program Plan (SWMPP)

All public comments will be considered.

COMMENT PERIOD

A 30-day public comment period associated with the review of the Annual Report, DMRs, and updated SWMP Plan will begin on September 20, 2019. Comments on this proposed filing will be accepted through October 20, 2019. Written comments should be submitted to EPA and DOE via email or hard copy to the contacts listed below:

EPA (via e-mail):
Ms. Dorothy Brown
brown.dorothy@epa.gov

DOE (via e-mail):
Victoria Branson
victoria.branson@nnsa.doe.gov

EPA (via hard copy):
U.S. EPA Region 6
Water Quality Protection Division (6WQ-NP)
Attn: Dorothy Brown
1445 Ross Ave., Suite 1200
Dallas, TX 75202

DOE (via hard copy):
U.S. Department of Energy
National Nuclear Security Administration
Sandia Field Office
Attn: Victoria Branson
PO Box 5400
Albuquerque, New Mexico 87185

PUBLIC HEARING

There is no public hearing scheduled at this time. During the 30-day public comment period, requests for a public hearing can be submitted to the EPA and DOE contacts listed above.

PUBLIC INSPECTION OF DOCUMENTS

The MS4 Permit and associated current compliance deliverables (i.e., NOIs, SWMPP, Annual Report, and DMRs) will be available through the University of New Mexico (UNM) digital repository online database at http://digitalrepository.unm.edu/snl_ms4/, upon the commencement of the 30 day public comment period. Documents associated with the SNL MS4 will be maintained up-to-date on this website throughout the permit term.

Appendix D: SNL Precipitation Data

No.	Description
D-1	Seasonal Precipitation Characteristics and NPDES Arid Classification for Sandia National Laboratories, New Mexico
D-2	Temporal Distribution of Rain Events during the Stormwater Sampling Season
D-3	Frequency of SNL/NM Rain Events that Meet the Requirements of a “Qualifying Event” under the MS4 Permit

Appendix D-1



date: March 23, 2017

to: Kathie Deal and John Kay, MS 0730 (4141)

from: Joseph Fontana, MS-0730 (4143)

subject: Reference Memorandum for Seasonal Precipitation Characteristics and Climate Classification for Sandia National Laboratories, New Mexico [SNL/NM].

Important Note: This memorandum is a revision of a 2013 memo titled “Reference Memorandum for Seasonal Precipitation Characteristics and NPDES Arid Classification for Sandia National Laboratories, New Mexico [SNL/NM]”, authored by Regina Deola.

The Meteorology Program operates and maintains a meteorological network at SNL/NM to provide mission support across the laboratory. The program has meteorological records including wind, temperature, humidity, and precipitation that extend back to 1994. Data from this network can be found in summarized form in the Annual Site Environmental Reports published each year. Additional real-time information from the network and GPS locations of all the sites may be found on the Meteorological Program website [<http://clean-air.sandia.gov/>].

Site Specific Precipitation Data for SNL/NM

Table 1 includes the monthly and annual precipitation for the A36 tower located in the northern part of Technical Area III (TA-III) at the laboratory. This tower was chosen to represent the laboratory due to its central geographic location. Table 1 shows the 1994-2016 precipitation average for TA-III, which is 8.71 inches; data from 2014 are not included in the table due to a rain gauge malfunction that occurred that year. A second precipitation gauge, tower A21, is located approximately three miles north of the A36 tower and represents TA-I and TA-II. It recorded an annual average of 8.06 inches (1995-2014). A third precipitation gauge, tower SC1, located in the foothills east of the main laboratory at an elevation of 5810 feet, recorded an annual average of 10.57 inches (1995-2014). Precipitation increases with increasing elevations towards the mountains east of the main Technical Areas.

The National Weather Service (NWS) at the Albuquerque International Airport has a long term record which supports the finding of the on-site data analysis. This weather station is approximately five miles northwest of TA-III. The 92-year period of record for the NWS Office at the airport includes an annual average of 8.65 inches of precipitation [<http://www.wrcc.dri.edu/cgi-bin/cliMAIN.pl?nm0234>]. It should be noted that the NWS 30 year “climate normal” that shifts every decade shows that some decades are wetter than others, but even the wettest 30 year climate [1971-2000] is below 10 inches (9.47 inches/year). Additional on-site calculations in Table 1 include the mean number of days when measureable precipitation was recorded, and the number of days per month when 0.25 inches of precipitation was recorded. Note that during the winter, several months may elapse between precipitation events that produce 0.25 inches of rain.

Seasonal Nature of SNL/NM Precipitation

At SNL/NM, the majority of the average annual precipitation falls during the July-October wet season. The main driver for this seasonal disparity in precipitation is the North American Monsoon pattern and the tropical moisture surges that arrives with it. Though it can be quite variable from year to year, the monsoon season typically manifests in central NM during the first week of July. After arrival, the monsoonal moisture surges will advance and retreat for the next 8 to 10 weeks.

Table 1. Monthly and Annual Precipitation for the A36 tower from 1994 through 2016.

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
1994	0.01	0.26	0.61	0.06	2.84	0.44	0.97	4.55	1.35	1.73	1.49	0.82	15.13
1995	0.52	0.59	0.21	0.46	0.16	0.02	0.95	1.19	1.75	0.00	0.09	0.07	6.01
1996	0.34	0.21	0.02	0.00	0.00	1.44	0.60	2.83	0.79	3.00	0.66	0.00	9.89
1997	0.53	0.14	0.15	1.68	0.56	0.99	3.53	0.79	1.69	0.21	1.07	1.02	12.36
1998	0.17	0.84	2.93	0.68	0.00	0.15	2.46	1.83	0.54	1.57	0.29	0.16	11.62
1999	0.24	0.00	1.11	0.76	0.47	0.35	1.64	2.17	0.86	0.30	0.01	0.10	8.01
2000	0.14	0.29	1.44	0.00	0.00	0.34	0.40	1.25	0.08	2.45	0.96	0.25	7.60
2001	0.32	0.26	0.35	0.46	0.35	1.28	0.97	0.98	0.25	0.01	0.77	0.42	6.42
2002	0.31	0.12	0.00	0.56	0.01	0.25	0.42	1.45	1.42	0.78	0.54	0.11	5.97
2003	0.00	1.29	1.04	0.00	0.02	0.13	0.19	1.91	0.14	0.93	0.70	0.16	6.51
2004	0.17	1.46	0.68	1.12	0.00	1.01	2.53	0.56	0.71	1.09	1.00	0.36	10.69
2005	1.79	1.72	0.89	1.10	0.35	0.04	1.26	1.03	1.48	1.03	0.01	0.17	10.87
2006	0.02	0.00	0.16	0.09	0.00	1.09	4.06	6.08	0.86	1.57	0.01	1.43	15.37
2007	0.26	0.70	0.78	0.92	0.85	0.39	1.65	0.39	0.70	0.08	0.24	1.40	8.36
2008	0.47	0.48	0.00	0.36	0.52	0.01	1.67	1.47	0.01	1.35	0.25	0.54	7.13
2009	0.00	0.01	0.11	0.26	0.89	0.79	1.07	1.14	1.74	1.60	0.06	0.30	7.97
2010	0.92	0.27	0.65	0.57	0.09	1.06	0.98	1.45	1.89	0.75	0.01	1.03	9.67
2011	0.01	0.00	0.00	0.09	0.11	0.00	0.71	1.99	0.70	1.35	0.22	1.70	6.88
2012	0.44	0.41	0.18	0.59	0.38	0.05	0.81	1.02	0.23	0.00	0.17	0.23	4.51
2013	0.16	0.14	0.16	0.08	0.06	0.45	4.75	0.50	4.12	0.16	0.82	0.71	12.11
2015	0.64	0.35	0.29	0.43	2.29	0.35	2.30	0.49	0.74	1.29	0.84	0.16	11.17
2016	0.45	0.06	0.01	0.48	0.11	0.95	0.95	1.86	0.69	1.23	0.98	0.65	8.42
							WET SEASON						
Monthly Means	0.35	0.41	0.50	0.48	0.34	0.50	1.78	1.49	1.12	0.93	0.47	0.61	8.71
Days with >=0.01	4.05	4.45	4.78	3.86	4.50	3.77	8.82	8.60	5.36	5.41	4.86	4.91	61.5
Days with >=0.25	0.27	0.59	0.59	0.68	0.55	0.64	1.82	1.78	1.27	1.50	0.55	0.68	10.7

Table 1 indicates that the highest monthly totals and averages occur during the July/August monsoon season. During most years the 4-month period between July and October includes approximately 60 percent of the annual rainfall. The North American Monsoon generally retreats in September, but periodic typhoon, hurricane, or tropical storm remnants can affect the region in the September and October time frame. As can be seen from the monthly totals for September and October over the years, remnants do not affect the area every year.

Climate Considerations and Definition of Arid Areas

The climate of SNL/NM is typical of dry, higher altitude, continental areas with large diurnal temperature ranges and limited rainfall. Most precipitation in this area falls in brief, heavy rain-showers. While various climatic classification schemes may produce slightly different results for this area depending on the atmospheric parameters used, type of evapotranspiration accounting, and the period of record used for the scheme, they all result in a “dry” climate classification, whether it is labeled semi-arid or arid. Peveril Meigs’ desert classification system, a widely accepted system used by many organizations including the USGS, defines arid areas as areas with an average annual rainfall of less than 10 inches. This definition of arid areas results in a large portion of the NM laboratory, and all Technical Areas at SNL/NM, being classified as arid.

Periodic Variations in Rainfall Distribution

Winters and most springs lack major precipitation in this area, as can be seen in the monthly averages in Table 1. This is mainly a result of the geographic location, the position of mountain ranges between the laboratory and moisture sources, and the general global circulation pattern. Winter and spring precipitation can vary from normal when the global circulation pattern known as the Southern Oscillation is in an El-Nino phase (ENSO). The El-Nino phase may lead to increased winter and spring precipitation in the central areas of NM. The El-Nino periods do not always result in an increase in each month when the pattern is present, but does tend to increase the annual precipitation for the year. The temporal duration of the El-Nino and La-Nina phases can be as short as 7 months, and as long as 3 years. Historically, the El-Nino return cycle has varied from as few as three years to as long as seven years. During the La-Nina phase of the ENSO, multiple years of below normal rainfall may be recorded. Current climate change research suggests that for many locations in the southwestern US, climate change may result in periods with La-Nina like annual precipitation, with an increase in the intensity and frequency of droughts.

Summary

Virtually all SNL/NM areas west of the foothills are classified as arid areas. Some remote outdoor test areas in the mountains and foothills may have annual rainfall over 10 inches a year. While precipitation is limited in the vicinity of SNL/NM, approximately 60 percent of the annual rainfall occurs in 4 months of the year during the July/August monsoon season and into the early fall. It is during these 4 months from July to October that there is a better chance of having a precipitation event that produces one quarter inch of rain or greater in a 24-hour period.

Associated Documentation

- Prein, A. F., G. J. Holland, R. M. Rasmussen, M. P. Clark, and M. R. Tye (2016), Running dry: The U.S. Southwest's drift into a drier climate state, *Geophys. Res. Lett.*, 43, doi:10.1002/2015GL066727.
- Mitchell, David L., Dorothea Ivanova, Robert Rabin, Timothy J. Brown, and Kelly Redmond. "Gulf of California Sea Surface Temperatures and the North American Monsoon: Mechanistic Implications from Observations." *Journal of Climate* 15.17 (2002): 2261-281.
- Koster, Randal D., Hailan Wang, Siegfried D. Schubert, Max J. Suarez, and Sarith Mahanama. "Drought-Induced Warming in the Continental United States under Different SST Regimes." *Journal of Climate* 22 (2009): 5385-400.
- Higgins, R. W., and W. Shi. "Dominant Factors Responsible for Interannual Variability of the Summer Monsoon in the Southwestern United States." *Journal of Climate* 13 (2000): 759-76.
- W, K. R. "What is a Desert?" *What is a Desert?* USGS, 18 Dec. 2001. Web. 22 Mar. 2017. <<https://pubs.usgs.gov/gip/deserts/what/>>.
- "The North American Monsoon." *The North American Monsoon*. Climate Prediction Center, n.d. Web. 22 Mar. 2017. <http://www.cpc.ncep.noaa.gov/products/outreach/Report-to-the-Nation-Monsoon_aug04.pdf>

Copy to:

MS-0729 Regina A. Deola, Org 4143

MS-0651 Customer Funded Record Center, Org 09532

Appendix D-2

v.5, August 10, 2019

A printed copy of this document may not be the official version. The official printed copy of this SWMPP is located in the office of the Environmental Compliance and Monitoring Department (Org. 00641).



date: August 19, 2015

to: Kathie J. Deal, MS-0730 (4143)

from: Joseph H. Fontana, MS-0730 (4143)

subject: Temporal Distribution of Rain Events during the Stormwater Sampling Season

The goal of this memorandum is to document the distribution of antecedent dry periods prior to rain events during the stormwater sampling season. The sampling season includes the months of July, August, September, and October, when over 60 percent of the annual rainfall occurs in the vicinity of SNL/NM. Much of the wet season’s precipitation during July and August can be attributed to the North American Monsoon (NAM) weather pattern. Monsoonal moisture arrives in surges, triggering consecutive days of rain.

Local Precipitation Data and Study Parameters

Precipitation data from three meteorological towers around SNL/NM was used in this study. Table 1 identifies the tower locations and co-ordinates. The analysis includes precipitation for all years between 1994 and 2014, with the exceptions of 1994 for SC1, 2014 for A36, and 1997, 1999, and 2001 for A21.

Table 1: Tower Locations and Coordinates

Tower ID	General Location	GPS Coordinates
A21	TA-II	35 02.42N 106 32.59W
A36	Northern TA-III	34 59.76N 106 32.20W
SC1	Coyote Canyon Foothills	34 59.29N 106 28.65W

For purposes of this study a rain event is defined as a day in which 0.01 inches or more of rain was recorded at the sampling location. The antecedent dry period was the number of days prior to the rain event with no rain. Antecedent dry periods are characterized by number of days, running from zero (consecutive days of rain) to more than seven. For the first rain event in each wet season, the antecedent dry period is considered the number of completed days since the beginning of the wet season, July 1st. Dry periods of three or more days are of particular importance for this study.

Results

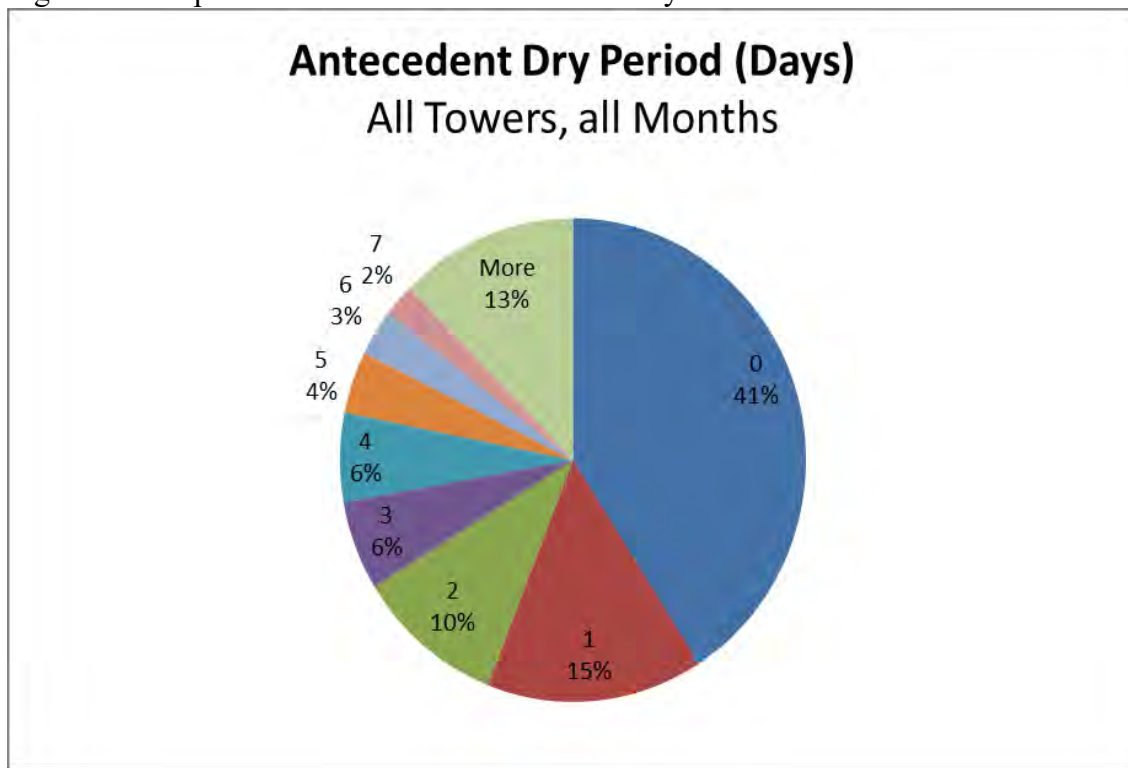
The total number of events and monthly distribution of the rain events for the analysis is summarized in Table 2. The total number of years analyzed is also included in Table 2 to assist with identifying percentages. On Average, July and August contain more events (8-10/month) than September and October (5-6/month).

Table 2: Number of Rain Events

Tower	Total Events	July	August	September	October
A21 (18 years)	492	158	141	103	90
A36 (20 years)	559	172	177	110	100
SC1 (20 years)	661	208	181	115	107

Each rain event was then analyzed to identify the antecedent dry period. Figure 1 shows the distribution of length, in days, for the antecedent dry periods. Figure 1 is a composite of all three towers and all four months.

Figure 1: Composite Distribution of Antecedent Dry Periods



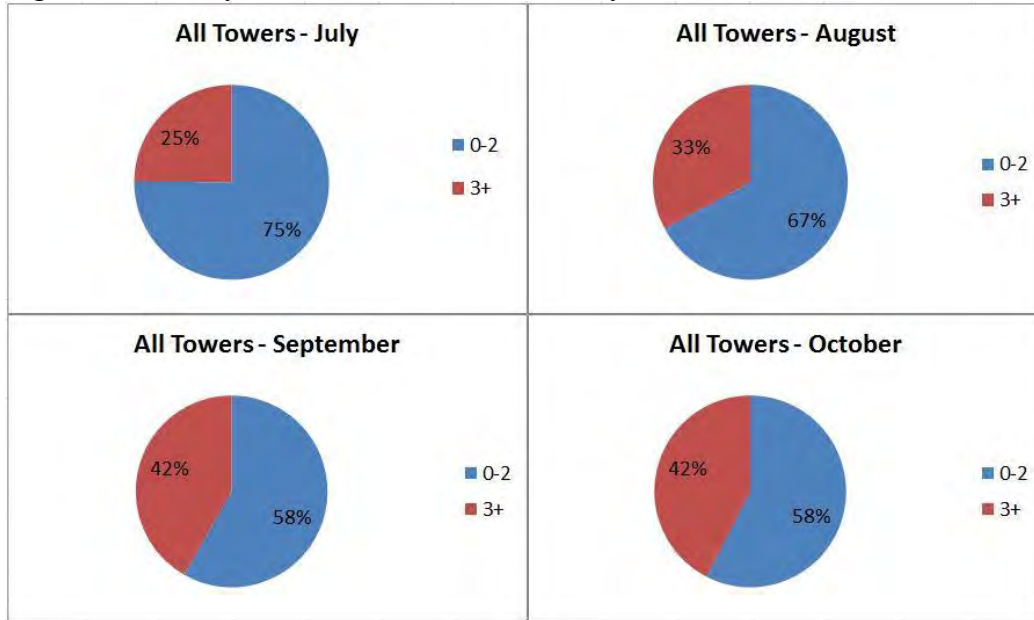
Across all towers and months, the most likely antecedent dry period is zero days, indicating that rain fell the day before. Varying slightly by tower and month, dry periods of zero days made up between 35 and 50% of occurrences (not shown). As Figure 1 shows, longer antecedent dry periods occur less frequently than shorter ones. Across all towers and all months, antecedent dry periods of less than three days made up 66% of occurrences. Antecedent dry periods of three or more days made up 34%.

Discussion

The distribution of antecedent dry period length changes considerably over the course of the wet season. This can be attributed to changes in the regional weather pattern, specifically a transition from monsoonal surges of moisture in July and August to synoptically-driven precipitation events in September and October. Figure 2 shows the percentage of short dry

periods (less than three days) for each month. In July, short dry periods make up 75% of occurrences. This drops to 67% in August and then 58% in both September and October.

Figure 2: Monthly Variations in Antecedent Dry Period Distribution



Slight variations are present between the three towers. These are caused by events that were observed at at least one tower, but not all of them. Variations were larger in July and August during the NAM. Figure 3 shows the percentage of antecedent dry periods that were less than three days, broken down by both tower and month.

Table 3: Breakdown of Antecedent Dry Periods by Tower and Month

		A21	A36	SC1	Total
July	0-2 days	73.42%	71.51%	79.33%	75.09%
	3+ days	26.58%	28.49%	20.67%	24.91%
August	0-2 days	65.25%	66.67%	69.06%	67.13%
	3+ days	34.75%	33.33%	30.94%	32.87%
September	0-2 days	58.25%	58.18%	58.26%	58.23%
	3+ days	41.75%	41.82%	41.74%	41.77%
October	0-2 days	56.67%	57%	58.88%	57.58%
	3+ days	43.33%	43%	41.12%	42.42%

It should be noted that many events during the wet season have totals of only 0.01 inches and the majority of events have totals less than 0.15 inches for the locations in this study. In addition, given the spotty nature of monsoon rains, the local accumulation of precipitation at one point may not give a sense of areal accumulations. These notes are identified here because they may further impact the number of samples that may be obtained in any one sampling season.

Copy to:
 MS-0729 Regina A. Deola, Org 4143
 MS-0651 Customer Funded Record Center, Org 09532

Appendix D-3



date: January 19, 2017

to: John T. Kay, MS-0730 (4141)

from: Joseph H. Fontana, MS-0730 (4143)

subject: Frequency of SNL/NM Rain Events that Meet the Requirements of a “Qualifying Event” under the MS4 Permit

The goal of this memorandum is to document the frequency of rain events observed at SNL/NM that qualify for stormwater sampling in accordance with the Municipal Separate Storm Sewer System (MS4) Permit. The precipitation requirement for MS4 Permit sampling is an exceedance of 0.25 inches of rain during a 24-hour period that is preceded by a 48-hour period with less than 0.10 inches of rain.

The MS4 Permit requires sampling be conducted during the “wet season” (July-October) and the “dry season” (November-June). While the totality of events will be reported, events during the wet season are of particular interest because over 60 percent of local annual rainfall occurs during the months of July, August, September, and October. The wet season includes the North American Monsoon, a weather pattern that impacts the region between July and mid-September and can trigger consecutive days of afternoon rainfall.

Local Precipitation Data and Study Parameters

Precipitation data from three meteorological towers around SNL/NM were used in this study. Table 1 identifies the tower IDs, locations, and GPS coordinates. The analysis includes precipitation for all years between 1994 and 2015, with the exceptions of 1994 for SC1, 2014 for A36, and 1997, 1999, and 2001 for A21. The terrain around each tower is unique and has an observable impact on local rainfall. Tower SC1 is located in the foothills east of A21 and A36, and averages 2-3 additional inches of rainfall per year due to topography. Tower A21 is the tower used for MS4 Permit compliance because it is centrally located within the permitted SNL/NM MS4 boundary. Tower A21 is used to document rainfall amounts and determine if a qualifying event has occurred. A36 and SC1 are both several miles away from the MS4 area.

Table 1: Tower Locations, Coordinates, and Average Annual Precipitation (1995-2014)

Tower ID	General Location	GPS Coordinates	Annual Precipitation
A21	TA-II	35 02.42N 106 32.59W	8.06 inches
A36	Northern TA-III	34 59.76N 106 32.20W	8.71 inches
SC1	Coyote Canyon Foothills	34 59.29N 106 28.65W	10.57 inches

Each tower measures liquid precipitation in units of 0.01 inches at fifteen minute intervals, eventually producing a total at the end of each day. For the purposes of this study, an event was considered to qualify for MS4 Permit sampling if a daily total of more than 0.25 inches is preceded by a daily total of less than 0.10 inches. A single day was chosen to represent the required 48-hour antecedent period due to the monsoonal nature of local rain events during the stormwater sampling season. As monsoon rain events are typically short-lived and occur in the afternoon, a single antecedent day below the minimum threshold is often indicative of a 48-hour antecedent period below or near threshold.

Results

Study findings were representative of semi-arid climate at SNL/NM and the localized nature of convection-driven monsoonal rainfall. About 10 days with more than 0.25 inches of rain each year was recorded at towers A21 and A36, while SC1 (in the foothills) observed approximately 15 days. Of these days, 55-60% of them occurred during the wet season (July-October). Depending on the tower, there are 5-9 days during the wet season with rainfall in excess of 0.25 inches. Figures 1 and 2 display the totality of daily rain recorded at Tower A21 and the relative rarity of quarter-inch and MS4 compliant events.

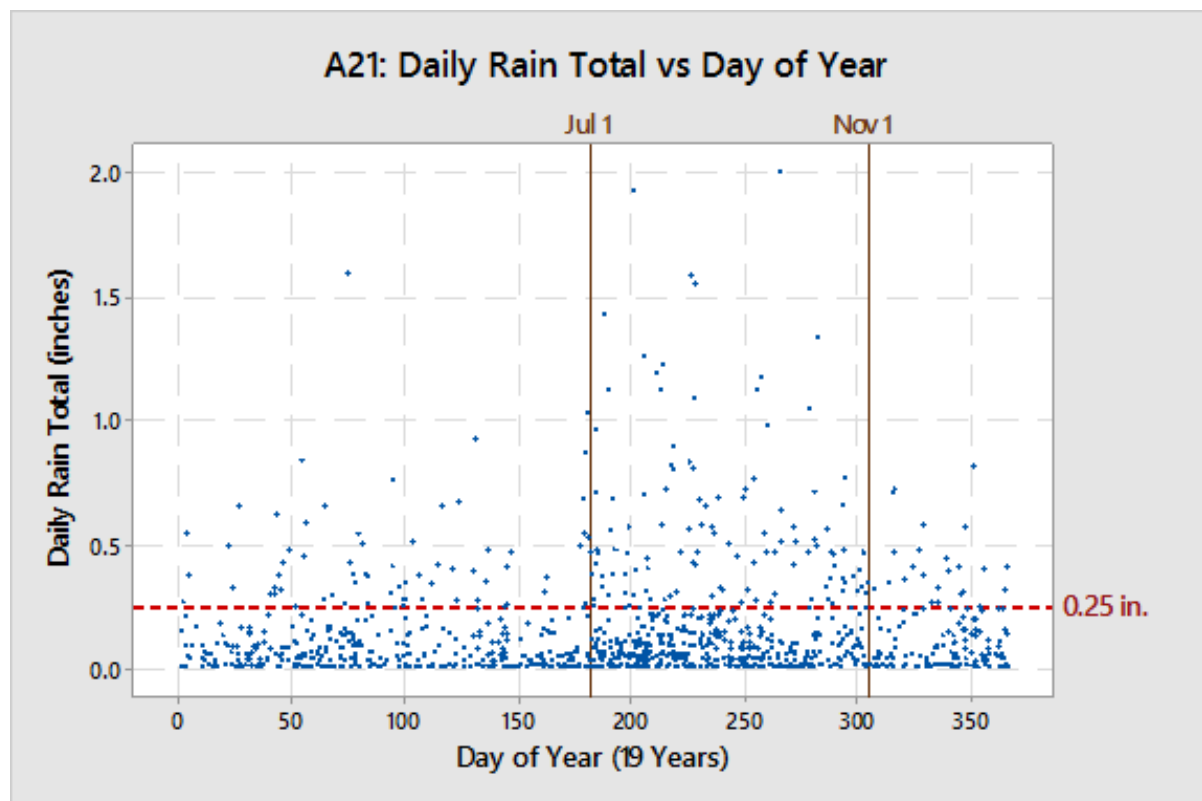


Figure 1: Scatterplot of 19 years of daily rain totals recorded at tower A21, sorted by day of year. July 1st and November 1st mark the beginning of the wet and dry seasons. Of all recorded totals, only about 10 per year exceed 0.25 inches.

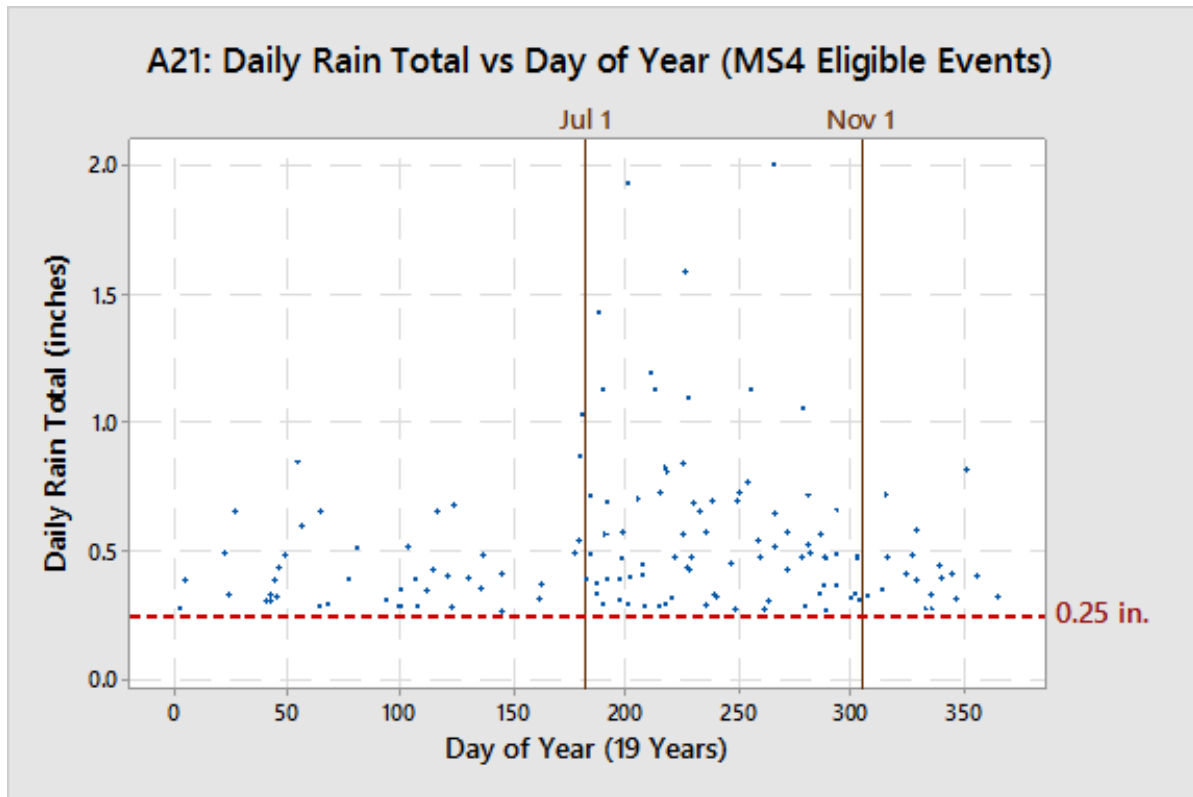


Figure 2: Scatterplot of 19 years of MS4 eligible events recorded at tower A21, sorted by day of year. Less than 7 events per year were MS4 eligible.

When the MS4 Permit’s antecedent precipitation requirement is considered, a sizable portion of these days do not qualify. Across all towers and seasons, 25-30% of days with more than 0.25 inches of rain are preceded by a day with at least 0.10 inches of rain, disqualifying them as compliant with the MS4 Permit’s precipitation requirement for sampling. Tower A21 in particular only averages 3.81 qualifying events each wet season. During the dry season, there are even fewer opportunities; Tower A21 averages 3 qualifying events over the 8-month period.

The frequency of MS4-qualifying rain events is displayed in Tables 2 through 4. Table 2 displays data for the entire year, Table 3 displays data for the wet season (July-October), and Table 4 displays data for the dry season (November-June).

Table 2: Frequency of Events that Qualify for MS4 Permit Stormwater Sampling (All year)

Tower	+0.25 inch rain days	Days per year	Events that Qualify for MS4 Sampling	MS4 Qualifying Events per year
A21	201 (21 years)	9.57	143 (71.1%)	6.81
A36	224 (21 years)	10.67	167 (74.6%)	7.95
SC1	283 (19 years)	14.89	204 (72.1%)	10.74

Table 3: Frequency of Events that Qualify for MS4 Permit Wet Season Sampling (Jul-Oct)

Tower	+0.25 inch rain days	Days per season	Events that Qualify for MS4 Sampling	MS4 Qualifying Events per Wet Season
A21	112 (21 years)	5.33	80 (71.4%)	3.81
A36	129 (21 years)	6.14	99 (76.7%)	4.71
SC1	169 (19 years)	8.89	118 (69.8%)	6.21

Table 4: Frequency of Events that Qualify for MS4 Permit Dry Season Sampling (Nov-Jun)

Tower	+0.25 inch rain days	Days per season	Events that Qualify for MS4 Sampling	MS4 Qualifying Events per Dry Season
A21	89 (21 years)	4.24	63 (70.8%)	3.00
A36	95 (21 years)	4.53	68 (71.6%)	3.24
SC1	114 (19 years)	6.00	86 (75.4%)	4.53

Discussion

Due to the semi-arid climate at SNL/NM, the frequency of days with more than a quarter-inch of rain is limited compared to most of the contiguous United States. During the wet season (July-October), the frequency of these occurrences is as low as five and nine days per year, depending on the tower. The MS4 Permit's precipitation requirement for sampling (more than 0.25 inches of rain in a day preceded by 48 hours with less than 0.10 inches of rain) disqualifies almost a third of these rain events, leaving an average of 3.81 that are eligible for wet season sampling (based on Tower A21 data). During the dry season (November-June) there are an average of 3 days eligible for sampling.

It should be noted that many events during the wet season have totals of only 0.01 inches and the majority of events have totals less than 0.15 inches for the locations in this study. In addition, given the spotty nature of monsoon rains, the local accumulation of precipitation at one point may not give a sense of areal accumulations; a concept that should be considered as they may further impact the number of samples that may be obtained in any one sampling season.

Copy to:

MS-0729 Regina A. Deola, Org 4143

MS-0651 Customer Funded Record Center, Org 09532

Appendix E: Corporate Requirements

No.	Description
E-1	MN471022, <i>Surface and Stormwater Discharges</i>

Sandia Corporate procedures and other documentation containing requirements related to the SWMPP are available to EPA upon request. These documents are not reproduced as part of the SWMPP because they are not owned and maintained by the Stormwater Program and may change without notice at any time. Personnel access the most recent versions of these documents through regularly updated webpages on the internal Sandia network. Pertinent documents referenced in this SWMPP (or portions thereof) include:

Description
FY15 Site Sustainability Plan. Available at: http://www.sandia.gov/news/publications/environmental_reports/
MN471022, <i>NEPA, Cultural Resources, and Historic Properties</i>
MN471022, <i>Migratory Birds, Protected Species, and Other Biota</i>
MN471022, <i>Oil and Fuel Storage</i>
GN470110, <i>Managing Waste at Sandia National Laboratories</i>
MN471022, <i>Hazardous Waste Operations and Emergency Response</i>
MN471022, <i>Report Environmental Release Reporting</i>
IM100.2.2, <i>Control Records</i>
ISS100.6.1, <i>Prepare for and Manage Emergencies</i>
EPIP100, <i>Emergency Operations Center Operations</i>
EPIP300, <i>Declaration of Operational Emergencies and Protective Actions</i>
EPIP400, <i>Executive Management Notifications</i>
EPIP800, <i>Emergency Termination/Recovery</i>
Field Operating Procedure FOP 13-01, <i>Stormwater Inspections</i>
Field Operating Procedure FOP 95-16, <i>Stormwater Sampling</i>
SNL/NM Integrated Pest Management Plan
SNL/NM Gardener's Maintenance Manual
SNL/NM Spill Prevention, Control, and Countermeasure Plan (SPCC)

v.5, August 10, 2019

A printed copy of this document may not be the official version. The official printed copy of this SWMPP is located in the office of the Environmental Compliance and Monitoring Department (Org. 00641).

Appendix E-1

MN471022, ES&H Manual

Surface and Stormwater Discharges

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Purpose

This chapter explains how to manage [stormwater discharges](#) and other surface discharges.

1 Manage Non-Stormwater Discharge

1.1 Plan a Non-Stormwater Surface Discharge

Do not discharge to the surface or a [stormwater drainage system](#) without obtaining prior written approval as follows:

- In New Mexico: complete the Surface Discharge Profile Form and email it to the [Surface Water Discharge subject matter expert](#) (SME).
- In California: contact the [Environment Monitoring and Ecology Program SME](#) for assistance.

The following is a list of allowable non-stormwater discharges (NSWD):

- Discharges from firefighting activities (this does not include discharges from training exercises associated with emergency response and firefighting)
- [Potable water](#), including uncontaminated water line and fire hydrant flushing

- Landscape irrigation, provided that all pesticides, herbicides, and fertilizer have been applied in accordance with the approved manufacturing labeling and any applicable discharge permits
- Water used to control dust in New Mexico
Note: This is not an allowable NSWSD under the California Industrial Permit.
- Sidewalk or pavement wash waters, provided that no detergents are used and no spills or leaks of toxic or **hazardous materials** have occurred (unless all spilled material has been removed) in New Mexico
Note: This is not an allowable NSWSD under the California Industrial Permit.
- Uncontaminated, non-turbid discharges of groundwater or spring water
- Foundation or footing drains where flows are not contaminated with process materials such as solvents or contaminated groundwater
- Uncontaminated condensate from air conditioners, coolers, and other compressors and from the outside storage of refrigerated gases or liquids
- Routine external building washdown, provided that no detergents are used in New Mexico
Note: This is not an allowable NSWSD under the California Industrial Permit.
- Incidental windblown mist from cooling towers that collects on rooftops or adjacent portions of a facility, but not intentional discharges from the cooling tower (e.g., “piped” cooling tower blowdown or drains)
- Water from crawl space pumps that is not contaminated with process materials in New Mexico
Note: This is not an allowable NSWSD under the California Industrial Permit.

1.2 Report an Unplanned or Unauthorized Non-Stormwater Surface Discharge

Immediately report to the [Environmental Release Response and Reporting Team](#) in accordance with ES&H Manual, “Environmental Release Reporting.”

For additional information, refer to EM001, *Emergency Planning and Response for Members of the Workforce Policy*, and EM001.1, *Actions to Take in an Emergency*.

2 Discharge Stormwater

Note: The discharge of pollutants to or in stormwater is prohibited.

Implement the following basic stormwater pollution prevention practices at SNL/NM:

- Protect storm drains and inlets within the project area from sediment and contaminants.
- Install sediment controls for any storm drains or drop inlets within the boundary of the project area.
- Contain chemicals and fuels stored outdoors in sealed containers to prevent contact with precipitation.
- Place chemicals and fuels stored outdoors on secondary containment to prevent contact with stormwater runoff.
- Elevate chemicals and fuels stored indoors (or under a waterproof structure) above the ground surface (e.g., on a pallet) to prevent contact with stormwater runoff or other moisture.

- Maintain a spill kit on-site that is suitable for responding to the types and quantities of chemicals and fuels. Personnel should be familiar with its function and location.
- Secure portable toilets to prevent tipping (e.g., stake with rebar or bolt to a trailer).
- Keep wash containers and trucks containing paint, concrete, or other building products in an appropriate waste container.
Note: The discharge of these materials to the sanitary sewer, storm drain, or surface is prohibited.
- Maintain a minimum 50 ft setback from storm drain inlets for vehicle and equipment fuel and maintenance, chemical storage, portable toilets, and concrete and paint washout containers.
- Complete training requirements. (See [Training](#).)

Implement the following basic pollution prevention practices at SNL/CA:

- Implement additional minimum best management practices per the California Industrial Permit; contact the Environmental Monitoring Program SME for assistance:
- Provide secondary containment for portable toilets.
- Do not store items outside if they are not designed for outdoor use (old lab equipment, stock metal for machine shops, old office furniture, etc.).
- Cover all waste containers (dumpsters, scrap metal hoppers, etc.).
- Complete training requirements.

Members of the Workforce at SNL/NM who discharge stormwater within technical areas I, II, or IV do the following:

- Comply with the National Pollutant Discharge Elimination System (NPDES) Middle Rio Grande Watershed-Based Municipal Separate Storm Sewer System Permit and associated Stormwater Management Program Plan requirements.
- Complete training requirements.

Members of the Workforce at SNL/NM who discharge stormwater from an industrial site or activity as defined by the NPDES Multi-Sector General Permit do the following:

- Comply with the NPDES Multi-Sector General Permit and associated Stormwater Pollution Prevention Plan requirements.
- Complete training requirements.

Members of the Workforce who discharge stormwater from a construction site or activity do the following:

- Obtain NPDES Construction General Permit coverage and an associated Stormwater Pollution Prevention Plan if any of the following is true:
 - Project has a planned or actual [land disturbance](#) of one or more acres
 - There are multiple smaller projects or phases that are less than one acre but will collectively disturb one or more acres
 - Project is less than one acre, but is adjacent to or contiguous with a project with active permit coverage
 - The California Construction General Permit has requirements based on the risk level of the project; contact the Environmental Monitoring Program SME for assistance
- Comply with [MAN-004](#), *Design Standards Manual*, requirements.
- Complete training requirements.

Note: Any project that begins prior to obtaining permit coverage and an associated Stormwater Pollution Prevention Plan will be stopped immediately and will not be authorized to commence until obtaining the necessary coverage and documentation.

Members of the Workforce at SNL/NM who discharge stormwater from the application of (1) biological pesticides or (2) chemical pesticides that leave a residue, when the pesticide application is for one of the pesticide use patterns identified in the note will do the following:

- Obtain NPDES Pesticide General Permit coverage.
- Complete training requirements.

Note: Pesticide use patterns:

- To control mosquitos, black flies, or other flying insect pests that develop or are present during a portion of their life cycle in or above standing or flowing water
- To control weeds, algae, and pathogens that are pests in water and at water's edge, including ditches and/or canals
- To control animal pests (fish, lampreys, insects, mollusks, and pathogens) in water and at water's edge
- Applied to a forest canopy to control the population of a pest species (e.g., insect or pathogen) where, to target the pests effectively, a portion of the pesticide unavoidably will be applied over and deposited to water

3 Manage Stormwater Runoff

Members of the Workforce who apply or store fertilizer in areas with the potential for exposure to precipitation or stormwater runoff do the following:

- Comply with the requirements of GDL-128, *Gardener's Manual*, which provides detailed information on the selection and application of fertilizer.
- Complete training SW100, *Stormwater Pollution Prevention*.

Note: This is a requirement, independent of stormwater permit coverage.

Members of the Workforce who apply or store pesticides, herbicides, insecticides, or fungicides in areas with the potential for exposure to precipitation or stormwater runoff do the following:

- Comply with the requirements of PLN-021, *Integrated Pest Management Plan*, which provides detailed procedures for selecting, storing, and applying pesticides, herbicides, insecticides, and fungicides.
- Complete training SW100, *Stormwater Pollution Prevention*.

Note: This is a requirement, independent of stormwater permit coverage.

4 Design and Construct Infrastructure

Note: This is a requirement, independent of stormwater permit coverage.

1. Comply with Section 438 of the Energy Independence and Security Act (EISA).
Note: Section 438 of EISA requires that any development or redevelopment project involving a federal facility with a footprint that exceeds 5,000 square feet use site planning, design, construction, and maintenance strategies for the property to maintain or restore, to the maximum extent technically feasible, the predevelopment hydrology of the property with regard to the temperature, rate, volume, and duration of flow. Specific details on how to

comply with Section 438 of EISA are included in MAN-004, *Design Standards Manual*. Guidance for work outside of SNL/NM may be based upon the *Design Standards Manual* with appropriate adjustments on a project by project basis.

- In California, contact the Environmental Monitoring SME for guidance.

Members of the Workforce who construct a stormwater management, retention, detention, or sediment basin and impoundment do the following:

- Comply with Section 19.26.2, *Natural Resources and Wildlife*, of the New Mexico Administrative Code.
- Design a stormwater basin or impoundment to allow for the infiltration of stormwater within 96 hours following a storm event.

5 Maintain Proper Building Discharge Practices

At SNL/CA, ensure that all construction projects implement stormwater best management practices. Consult the [Environmental Monitoring Program contact](#) for SNL/CA for more information about best management practices.

When removing water from utility manholes, ensure that this water is discharged to the sanitary sewer.

Resources

Related Laboratory Policies and Processes

- [ESH001](#), *Environment, Safety, and Health Policy*
- [ESH001.1](#), *Integrate ES&H into Work Planning and Execution*
- [EM001](#), *Emergency Planning and Response for Members of the Workforce Policy*
- [EM001.1](#), *Actions to Take in an Emergency*

References

- GDL-128, *Gardener's Maintenance Manual*
- [Energy Independence and Security Act Section 438](#)
- [MAN-004](#), *Design Standards Manual*
- [MN471022](#), *ES&H Manual*
- [NPDES Construction General Permit \(CGP\)](#)
- [NPDES Middle Rio Grande Watershed Based Municipal Separate Storm Sewer System Permit \(MS4 Permit\) and associated Stormwater Management Program Plan](#)
- [NPDES Multi-Sector General Permit and associated Stormwater Pollution Prevention Plan](#)
- [PLN-021](#), *Integrated Pest Management Plan*
- [Section 19.26.2 New Mexico Administrative Code](#), *Natural Resources and Wildlife*, Surface Water, Administration
- [Section 20.6.2 New Mexico Administrative Code](#), *Environmental Protection*, Water Quality, Ground and Surface Water Protection

Forms and Templates

- [Surface Discharge Profile Form](#)

Systems, Applications, and Websites

- [ES&H Contacts and Services](#)
- [SNL/CA Environmental Programs](#)
- [SNL/NM Environmental Programs](#)
- [SNL/NM Stormwater](#)

Training

Role	Required	Recommended
<p>Members of the Workforce at SNL/NM (including construction site operators, contractors or support) whose job includes one or more of the following responsibilities: designing, installing, maintaining, or repairing stormwater controls, conducting inspections, or implementing corrective actions at construction sites*; planning, reviewing, permitting, or approving construction site plans, inspections and corrective actions; operating or maintaining SNL/NM grounds or landscaping, fleet, buildings (outside), roads, stormwater inlets or drainage system, or projects with any land disturbance; designing projects that control the effects on water quality from stormwater runoff; or planning or reviewing projects with regard to stormwater quality standards and pollution prevention controls.</p> <p>Note: Members of the Workforce responsible for installation and/or repair of stormwater controls/measures, conducting stormwater inspections, or implementing corrective actions are required to have additional site-specific training on stormwater controls, pollution prevention requirements, inspections, and corrective actions.</p>	<p>SW100, <i>Stormwater Pollution Prevention</i> (annually)</p>	
<p>Members of the Workforce who work in a permitted industrial area or are responsible for implementing stormwater pollution prevention controls/activities in permitted areas.</p> <p>Note: The industrial areas included in the Multi-Sector General Permit are listed on the introduction page to SW200 in TEDS.</p>	<p>SW200, <i>Stormwater Discharges from Industrial Sites</i> (annually)</p>	

Records Retention and Disposition Schedule

- [EN-120-221-000](#), NPDES Construction General Permit Records
- [EN-120-222-000](#), NPDES Multi-Sector General Permit Records
- [EN-120-223-000](#), NPDES Watershed Based Municipal Separate Storm Sewer System Permit Records
- [EN-120-224-200](#), Stormwater Program Documents and Decision Records

Contacts

- Senior manager: [Terry Cooper](#) (CA: [John Garcia](#))
- Manager: [Paula Schuh](#) (CA: [Lisa Crawford](#))
- Subject matter experts: [John Kay](#), [Andrew Gough](#), and [Ben Martinez](#) (CA: [Robert Holland](#))

Review Cycle

- This document needs to be reviewed and/or revised every three years, or when activities change.
- **Review date:** August 31, 2021

Change History

Issue: A

- **Effective date:** August 31, 2018
- This *ES&H Manual* chapter describes how to implement the requirements that were previously presented in ESH100.2.ENV.10, *Manage Surface and Stormwater Discharges*.

Issue: A-1

- **Effective date:** August 31, 2018
- **Type of change:** Administrative
- **Revision date:** January 3, 2019
- **Summary of changes**
 - Changed subject matter expert **from** Kathie Deal **to** John Kay.
 - Updated Laboratory Policy System references and hyperlinks.
 - Updated ES&H contacts and services hyperlinks.

Issue: A-2

- **Effective date:** August 31, 2018
- **Type of change:** Administrative
- **Revision date:** February 27, 2019
- **Summary of changes**
 - Changed manager **from** Stephanie Salinas **to** Paula Schuh.

Appendix F: Water Quality Standards, TMDLs, and §303(d) List

No.	Description
F-1	Calculation of <i>E. coli</i> Waste Load Allocation

Appendix F-1

Calculation of *E. coli* Waste Load Allocation for Sandia National Laboratories Using the Percent Jurisdictional Area Approach

1. Introduction

The SNL MS4 is required by the MS4 Permit to meet total maximum daily load (TMDL) requirements for one constituent, *E. coli*. The SNL MS4 is subject to the *E. coli* TMDL for the Isleta Pueblo to Tijeras Arroyo reach of the Rio Grande (NM-2105_50). Approximately 90 percent of the northern SNL MS4 drains to the Tijeras Arroyo which discharges to the Rio Grande within the Isleta Pueblo to Tijeras Arroyo reach. Approximately 10 percent of the SNL MS4 drains to the Kirtland Air Force Base (KAFB) stormwater drainage system, which ultimately discharges to the Rio Grande within the Alameda Bridge to HWY 550 reach (NM-2105.1_00), via the Albuquerque Metropolitan Area Flood Control Authority (AMAFCA) North Diversion Channel. The Alameda Bridge to HWY 550 reach has no TMDLs associated with it.

The maximum amount of *E. coli* that can be discharged in any given day from the SNL MS4 is defined as the Waste Load Allocation (WLA), and is calculated based on TMDL criteria for the MRG Watershed. Each MS4 within the MRG Watershed is allowed to discharge a certain proportion of the TMDL for *E. coli* based on the drainage area (size in square miles) of the MS4, and the reach of the Rio Grande to which it discharges.

The method used to calculate numerical values for *E. coli* waste load allocations is called the Percent Jurisdiction Area Approach (PJAA). Detailed guidance on the TMDLs, WLAs, and PJAA is provided in the document *US EPA-Approved TMDL for the Middle Rio Grande Watershed, June 30, 2010* (U.S. EPA, 2010; see Appendix F of the SWMP Plan). A simplified method for determining WLAs for MS4s within the Albuquerque Urbanized Area (UA) is provided in Appendix B of the NPDES MS4 Permit NMR04A000 (Permit). The WLAs presented in the Appendix B, Section B.2 were used to calculate the WLAs for the SNL MS4 in accordance with the methods presented in Appendix B.

The MS4 Permit requires the determination of a WLA for the portion of the SNL MS4 that falls within the Albuquerque UA. However, only a portion of the SNL MS4 falls within the UA, and therefore a WLA is determined for the entire MS4 rather than just the UA portion. Maps of the UA, MS4 area, and sampling locations proposed for evaluating TMDL compliance are included in Appendices B of the SWMP Plan.

2. Total Maximum Daily Load (TMDL)

The TMDL varies based on daily flow volume (discharge) in the MRG; the higher the flow, the higher the TMDL. Flow duration curves developed by the New Mexico Environment Department (NMED) and EPA establish ranges for five separate flow conditions, referred to as

high, moist, mid-range, dry, and low (U.S. EPA, 2010). The TMDLs were developed for the Isleta to Alameda reach, which has subsequently been split into two reaches; the Isleta Pueblo to Tijeras Arroyo reach and the Tijeras Arroyo to Alameda reach. New reach specific TMDLs have not been developed, therefore, the TMDLs for the old reach (Isleta Pueblo to Alameda) apply to the new reach (Isleta Pueblo to Tijeras Arroyo).

The TMDL flow conditions were developed using a 35-year record (1974-2009) from a U.S. Geological Survey (USGS) flow gauge located near Central Avenue in Albuquerque, NM (USGS Gauge 08330000). The flow conditions are defined by the flow rates listed in Table 1.

Table 1: Flow conditions for the Isleta Pueblo to Alameda Bridge reach of the Middle Rio Grande

Flow Condition	High	Moist	Mid-Range	Dry	Low
Flow Rate (cfs)	> 3,360	929 to 3,360	664 to 929	319 to 664	< 319

TMDLs for each of the flow conditions are based on water quality standards established by the New Mexico Water Quality Control Commission. The TMDL is the amount of pollutant that would flow in the river if it existed at the water quality standard for the entire day’s flow. From the TMDL, a Margin of Safety (MOS), Load Allocation (LA), and Total Waste Load Allocation (TWLA) are determined. The general relationship can be expressed as:

$$\text{TMDL} = \text{TWLA} + \text{LA} + \text{MOS}$$

Where:

TWLA = Total Waste Load Allocation

LA = Load Allocation

MOS = Margin of Safety

The LA represents the pollutant load originating from natural or background sources within the watershed. The MOS is used to produce conservative allocations, in order to ensure that the TMDL is not exceeded. The TWLA represents the pollutant load that can occur from anthropogenic activities.

The TMDLs and associated data that are relevant to the SNL MS4 (recreated from Table 4.11 in U.S. EPA, 2010) are included in Table 2. A detailed description of the methods used to develop the values in Table 2 can be found in U.S. EPA, 2010.

Table 2: TMDL and WLA for *E. coli*: Middle Rio Grande (Isleta Pueblo boundary to Alameda Bridge)

Flow Condition	High	Moist	Mid-Range	Dry	Low
Flow Rate (cfs)	> 3,360	929 to 3,360	664 to 929	319 to 664	< 319
TMDL (cfu/day)	5.27x10 ¹²	1.65x10 ¹²	9.03x10 ¹¹	5.77x10 ¹¹	1.89x10 ¹¹
Margin of Safety (cfu/day)	1.40x10 ¹²	5.77x10 ¹¹	1.38 x10 ¹¹	2.10x10 ¹¹	1.89x10 ⁹
Total Waste Load Allocation ^a (cfu/day)	5.08x10 ¹¹	2.28x10 ¹¹	1.98 x10 ¹¹	1.58x10 ¹¹	1.40x10 ¹¹
Load Allocation (cfu/day)	3.36x10 ¹²	8.41x10 ¹¹	5.66 x10 ¹¹	2.09x10 ¹¹	4.86x10 ¹⁰

^a From U.S. EPA, 2010. TWLA includes both wastewater treatment plants and MS4s.

3. Waste Load Allocations

The waste load allocation is distributed between all the wastewater treatment plants (WWTP) and MS4s that discharge to a given reach. The WLAs for the WWTPs and the MS4s are presented in EPA, 2010. The WLAs for the WWTPs are based on effluent limitations and discharge volumes. The WLAs for all MS4s combined is the difference between the total WLA and the WWTP portion of the total WLA (whatever is left after assigning WLAs to the WWTPs).

4. SNL Waste Load Allocation

The MS4 WLAs listed in Table 3 are the total permitted WLAs for all MS4s in the MRG watershed combined, and represent the amount of *E. coli* that can be discharged from the entire Albuquerque UA (210.41 square miles). By dividing the MS4 WLA by the total area of the UA (210.41 square miles), the normalized MS4 WLA (cfu/square mile/day) was determined. The values for TWLA, WWTP WLA, MS4 WLA, and normalized MS4 WLAs are shown in Table 3.

Each MS4's allowable discharge of *E. coli* is determined by multiplying the normalized WLA by the MS4's total drainage area. The total area of the SNL MS4 is 1.16 square miles. The portion of the MS4 that drains to Tijeras Arroyo is 1.05 square miles. There is one stormwater inflow monitoring location (SWSP-02), and one stormwater discharge monitoring location (SWSP-05) within this area. The drainage area for each monitoring location was determined using Geographical Information System (GIS) software. Table 4 lists the size and WLA of each drainage area.

Table 3: Waste Load Allocations for *E. coli*: Middle Rio Grande (Alameda Bridge to Isleta Pueblo).

Flow Condition	High	Moist	Mid-Range	Dry	Low
Total WLA (cfu/day)	5.08x10 ¹¹	2.28x10 ¹¹	1.98 x10 ¹¹	1.58x10 ¹¹	1.40x10 ¹¹
WWTP WLA (cfu/day) ^a	1.35x10 ¹¹	1.35x10 ¹¹	1.35x10 ¹¹	1.35x10 ¹¹	1.35x10 ¹¹
MS4 WLA (cfu/day)	3.73x10 ¹¹	9.35 x10 ¹⁰	6.29 x10 ¹⁰	2.32x10 ¹⁰	5.19x10 ⁹
Normalized MS4 WLA (cfu/square mile/day) ^b	1.79x10 ⁹	4.48x10 ⁸	3.02x10 ⁸	1.11x10 ⁸	2.58x10 ⁷

^aThe WWTP WLA is referred to as the NPDES WLA in U.S. EPA, 2010.

^bThe normalized WLA values were obtained from Appendix B of the MS4 Permit.

Table 4: SNL WLAs for areas discharging to the Isleta Pueblo to Alameda Bridge reach of the MRG.

	Area (Miles ²)	WLAs by Flow Condition				
		High	Moist	Mid-Range	Dry	Low
Normalized MS4 ^a	1.00	1.79x10 ⁹	4.48 x10 ⁸	3.02 x10 ⁸	1.11 x10 ⁸	2.58 x10 ⁷
SWMP-02 ^b	0.03	5.37x10 ⁷	1.34 x10 ⁷	9.06 x10 ⁸	3.33 x10 ⁸	7.74 x10 ⁷
SWMP-05	1.05	1.88 x10 ⁹	4.70 x10 ⁸	3.17 x10 ⁸	1.17 x10 ⁸	2.71 x10 ⁷
Urbanized Area	0.43	7.70 x10 ⁸	1.93 x10 ⁸	1.30 x10 ⁸	4.77 x10 ⁷	1.11 x10 ⁷
MS4 Area	1.05	1.88 x10 ⁹	4.70 x10 ⁸	3.17 x10 ⁸	1.17 x10 ⁸	2.71 x10 ⁷

^a Values taken from Appendix B of Permit NMR04A000

^b The drainage area within the SNL MS4 for SWSP-02 is approximately 0.03 square miles. The total drainage area for SWSP-02 is larger; it is estimated to be approximately 0.08 square miles because a portion of the runoff from KAFB property drains to SWSP-02. The flow at SWSP-02 continues to SWSP-05, and the SWSP-02 drainage area that falls within the SNL MS4 is included in the drainage area of SWSP-05.

The drainage area within the SNL MS4 for SWSP-02 is approximately 0.03 square miles. The total drainage area for SWSP-02 is estimated to be approximately 0.08 square miles because a portion of the runoff from KAFB property drains to SWSP-02. The flow at SWSP-02 continues to SWSP-05, and the SWSP-02 drainage area that falls within the SNL MS4 is included in the drainage area of SWSP-05. Maps of these areas are included in Appendix B of the SWMP Plan.

5. TMDL Monitoring and Reporting

The Permit specifies that the TMDL applies only to areas within the Albuquerque UA; however, the SNL MS4 extends outside the boundaries of the UA. Because of storm drain access limitations, there are no monitoring locations that can be used to assess waste load for the UA only. Therefore, *E. coli* waste load is monitored and calculated for the entire portion of the MS4 that discharges to Tijeras Arroyo (not just the UA). The amount of *E. coli* attributable to only

the portion of the MS4 within the Albuquerque UA is estimated on a proportional per area basis, by multiplying the waste load for entire MS4 area by a factor of 0.41 (UA area/total MS4 area).

Flow rates at SWSP-02 and SWSP-05 are determined by direct measurement using the slope-area method described in the Bureau of Reclamation Water Measurement Manual (Bureau of Reclamation, 2001). The depth of water is determined using either a pressure transducer or sonic sensor. The specific methods, data, and calculations used to determine flow for these two monitoring locations is fully described in the Monitoring Plan (i.e., Chapters 2 and 12 of the SWMPP). Flow will not be monitored at the three discharge locations that flow to KAFB and ultimately the Alameda to HWY 550 reach, because that reach does not have a TMDL.

The waste load at SWMP-02 will be used to adjust the waste load discharged from SNL. The total drainage area for SWSP-02 is 0.8 square miles, and the portion of that within the SNL MS4 is 0.03 square miles. Therefore, the waste load determined from monitoring at SWSP-02 will be corrected by a factor of $0.03/0.8$, or 0.0375. The remainder is assumed to originate outside the SNL MS4. The waste load that is estimated to originate outside the SNL MS4 will be subtracted from the waste load determined at SWSP-05 to determine the total SNL waste load.

Appendix G: Supporting Documents for Construction Site Runoff Control Program

No.	Description
G-1	Performance Assessment Details – Reporting Period: July 1, 2017 – June 30, 2018
G-2	Leadership in Energy and Environmental Design (LEED) Project Planning Checklist
G-3	Site Plan Review Forms

Appendix G-1

Inspections of Construction Projects During Reporting Period: July 1, 2018 - June 30, 2019

Project Name	Project Type	Frequency of Inspections	Number of Corrective Actions	Conditions Requiring Corrective Actions	Stormwater GI/LID Features Considered and/or Implemented
Building 725 Addition	Addition to existing building	Jul-Oct: every 14 days & w/in 24 hours of \geq 0.25 inches Nov-Jun: monthly & w/in 24 hours of \geq 0.25 inches	6	Insufficient fiber rolls around soil stockpiles, insufficient signage, concrete on ground next to washout.	A detention basin will be installed.
Battery Test Facility	New Building Construction	Jul-Oct: every 14 days & w/in 24 hours of \geq 0.25 inches Nov-Jun: monthly & w/in 24 hours of \geq 0.25 inches	9	Concrete washout full, insufficient fiber rolls for dirt stockpile, portable toilet not staked, insufficient signage.	Four detention basins were installed
956 Track	Landscaping and drainage improvements	Jul-Oct: every 14 days & w/in 24 hours of \geq 0.25 inches Nov-Jun: monthly & w/in 24 hours of \geq 0.25 inches	6	Silt fence required maintenance, concrete washout full, portable toilet not staked, metal rebar stored on ground (needs to be on pallets), NOI sign not clearly visible.	This project does not significantly change the runoff characteristics therefore EISA is not applicable.
Building 970 Drainage	Flood Control and Drainage	Jul-Oct: every 14 days & w/in 24 hours of \geq 0.25 inches Nov-Jun: monthly & w/in 24 hours of \geq 0.25 inches	0	None	Detention basin evaluated but determined not technically feasible.
TA-IV Escarpment	Erosion Control and stabilization	Jul-Oct: every 14 days & w/in 24 hours of \geq 0.25 inches Nov-Jun: monthly & w/in 24 hours of \geq 0.25 inches	4	Silt fence maintenance, concrete washout maintenance, trash	An existing EISA detention basin will be utilized.
Building 972	New Building Construction	Jul-Oct: every 14 days & w/in 24 hours of \geq 0.25 inches Nov-Jun: monthly & w/in 24 hours of \geq 0.25 inches	1	Concrete washout maintenance	A detention basin will be installed.

Inspections of Construction Projects During Reporting Period: July 1, 2018 - June 30, 2019

Project Name	Project Type	Frequency of Inspections	Number of Corrective Actions	Conditions Requiring Corrective Actions	Stormwater GI/LID Features Considered and/or Implemented
20th Street Parking Lot	New Gravel Parking Lot Construction	Jul-Oct: every 14 days & w/in 24 hours of \geq 0.25 inches Nov-Jun: monthly & w/in 24 hours of \geq 0.25 inches	2	Silt fence maintenance, insufficient signage	A detention basin was installed.
Contractor Laydown Yard	Permanent Construction Laydown Yard	Jul-Oct: every 14 days & w/in 24 hours of \geq 0.25 inches Nov-Jun: monthly & w/in 24 hours of \geq 0.25 inches	0	Permit coverage active but construction not started by June 30, 2019	A detention basin will be installed.
TA-IV Temporary Structure	New Building Construction	Jul-Oct: every 14 days & w/in 24 hours of \geq 0.25 inches Nov-Jun: monthly & w/in 24 hours of \geq 0.25 inches	0	Permit coverage active but construction not started by June 30, 2019	TBD, a detention basin may be installed based on site conditions encountered during construction.
Natural Gas Pipeline Replacement	Underground Utility Installation	Jul-Oct: every 14 days & w/in 24 hours of \geq 0.25 inches Nov-Jun: monthly & w/in 24 hours of \geq 0.25 inches	0	Permit coverage active but construction not started by June 30, 2019	This project does not significantly change the runoff characteristics therefore EISA is not applicable.
Building 706 (Hi-Bay)	Building Remodel	Jul-Oct: every 14 days & w/in 24 hours of \geq 0.25 inches Nov-Jun: monthly & w/in 24 hours of \geq 0.25 inches	0	Permit coverage active but construction not started by June 30, 2019	Detention basin will be installed.

Appendix G-2

v.5, August 10, 2019

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LEED v4 for BD+C: New Construction and Major Renovation

Project Checklist

Project Name:
Date:

Y ? N

0	0	0	Credit	Integrative Process	1
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0 0 0 Location and Transportation 16

0	0	0	Credit	LEED for Neighborhood Development Location	16
0	0	0	Credit	Sensitive Land Protection	1
0	0	0	Credit	High Priority Site	2
0	0	0	Credit	Surrounding Density and Diverse Uses	5
0	0	0	Credit	Access to Quality Transit	5
0	0	0	Credit	Bicycle Facilities	1
0	0	0	Credit	Reduced Parking Footprint	1
0	0	0	Credit	Green Vehicles	1

0 0 0 Sustainable Sites 10

Y			Prereq	Construction Activity Pollution Prevention	Required
0	0	0	Credit	Site Assessment	1
0	0	0	Credit	Site Development - Protect or Restore Habitat	2
0	0	0	Credit	Open Space	1
0	0	0	Credit	Rainwater Management	3
0	0	0	Credit	Heat Island Reduction	2
0	0	0	Credit	Light Pollution Reduction	1

0 0 0 Water Efficiency 11

Y			Prereq	Outdoor Water Use Reduction	Required
Y			Prereq	Indoor Water Use Reduction	Required
Y			Prereq	Building-Level Water Metering	Required
0	0	0	Credit	Outdoor Water Use Reduction	2
0	0	0	Credit	Indoor Water Use Reduction	6
0	0	0	Credit	Cooling Tower Water Use	2
0	0	0	Credit	Water Metering	1

0 0 0 Energy and Atmosphere 33

Y			Prereq	Fundamental Commissioning and Verification	Required
Y			Prereq	Minimum Energy Performance	Required
Y			Prereq	Building-Level Energy Metering	Required
Y			Prereq	Fundamental Refrigerant Management	Required
0	0	0	Credit	Enhanced Commissioning	6
0	0	0	Credit	Optimize Energy Performance	18
0	0	0	Credit	Advanced Energy Metering	1
0	0	0	Credit	Demand Response	2
0	0	0	Credit	Renewable Energy Production	3
0	0	0	Credit	Enhanced Refrigerant Management	1
0	0	0	Credit	Green Power and Carbon Offsets	2

0 0 0 Materials and Resources 13

Y			Prereq	Storage and Collection of Recyclables	Required
Y			Prereq	Construction and Demolition Waste Management Planning	Required
0	0	0	Credit	Building Life-Cycle Impact Reduction	5
0	0	0	Credit	Building Product Disclosure and Optimization - Environmental Product Declarations	2
0	0	0	Credit	Building Product Disclosure and Optimization - Sourcing of Raw Materials	2
0	0	0	Credit	Building Product Disclosure and Optimization - Material Ingredients	2
0	0	0	Credit	Construction and Demolition Waste Management	2

0 0 0 Indoor Environmental Quality 16

Y			Prereq	Minimum Indoor Air Quality Performance	Required
Y			Prereq	Environmental Tobacco Smoke Control	Required
0	0	0	Credit	Enhanced Indoor Air Quality Strategies	2
0	0	0	Credit	Low-Emitting Materials	3
0	0	0	Credit	Construction Indoor Air Quality Management Plan	1
0	0	0	Credit	Indoor Air Quality Assessment	2
0	0	0	Credit	Thermal Comfort	1
0	0	0	Credit	Interior Lighting	2
0	0	0	Credit	Daylight	3
0	0	0	Credit	Quality Views	1
0	0	0	Credit	Acoustic Performance	1

0 0 0 Innovation 6

0	0	0	Credit	Innovation	5
0	0	0	Credit	LEED Accredited Professional	1

0 0 0 Regional Priority 4

0	0	0	Credit	Regional Priority: Specific Credit	1
0	0	0	Credit	Regional Priority: Specific Credit	1
0	0	0	Credit	Regional Priority: Specific Credit	1
0	0	0	Credit	Regional Priority: Specific Credit	1

0 0 0 TOTALS Possible Points: 110

Certified: 40 to 49 points, Silver: 50 to 59 points, Gold: 60 to 79 points, Platinum: 80 to 110

Appendix G-3

v.5, August 10, 2019

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MS4 Permit Number: Choose an item.

Construction Project: Building 725 Addition **Location:** TA-I

No.	SWPPP Contents	Present in SWPPP
1	Does the SWPPP contain the acreage that construction activities are expected to disturb?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
2	Does the SWPPP contain a description of the project's soil type(s)?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
3	Does the SWPPP document the first receiving water?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
4	Does the SWPPP identify a stormwater team?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
5	Does the SWPPP describe the nature of the construction activities?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
6	Does the SWPPP contain a site map that identifies the location of best management practices?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
7	Does the SWPPP include a list and description of all pollutant-generating activities?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
8	Does the SWPPP identify potential non-stormwater discharges?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
9	Does the SWPPP include a description of stormwater control measures?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
10	Does the SWPPP include a temporary and permanent stabilization plan?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
11	Does the SWPPP describe pollution prevention measures?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
12	Does the SWPPP describe procedures for inspections, maintenance, and corrective actions?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
13	Does the SWPPP contain documentation of staff training?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
14	Does the SWPPP contain documentation of compliance with other regulatory requirements?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
15	Was the SWPPP signed by a qualified erosion control specialist (e.g., CPESC certified, engineers with appropriate training, etc.)?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
16	If the answer to any of the questions above is "No", identify any necessary or recommended revisions in the space provided.	

I certify I have completed a site plan review in accordance with Part I.D.5.a(ii)(d) of the MS4 Permit. The information contained is, to the best of my knowledge and belief, true, accurate, and complete.

Name: Steven Black **Title:** Water Quality Program Manager
Signature: [Handwritten Signature] **Date:** 7/31/17

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MS4 Permit Number: NMR04A011 (DOE)

Construction Project: Battery Test Facility - 1012 **Location:** TA II

No.	SWPPP Contents	Present in SWPPP
1	Does the SWPPP identify a stormwater team?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
2	Does the SWPPP describe the nature of the construction activities?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
3	Does the SWPPP contain the acreage that construction activities are expected to disturb?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
4	Does the SWPPP document the first receiving water?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
5	Does the SWPPP identify potential non-stormwater discharges?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
6	Does the SWPPP contain a description of the project's soil type(s)?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
7	Does the SWPPP contain documentation of compliance with other regulatory requirements?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
8	Does the SWPPP include a description of stormwater control measures?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
9	Does the SWPPP include a temporary and permanent stabilization plan?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
10	Does the SWPPP include a list and description of all pollutant-generating activities?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
11	Does the SWPPP describe pollution prevention measures?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
12	Does the SWPPP describe procedures for inspections, maintenance, and corrective actions?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
13	Was the SWPPP signed by a qualified erosion control specialist (e.g., CPESC certified, engineers with appropriate training, etc.)?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
14	Does the SWPPP contain a site map that identifies the location of best management practices?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
15	Does the SWPPP contain documentation of staff training?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
16	If the answer to any of the questions above is "No", identify any necessary or recommended revisions in the space provided.	

I certify I have completed a site plan review in accordance with Part I.D.5.a(ii)(d) of the MS4 Permit. The information contained is, to the best of my knowledge and belief, true, accurate, and complete.

Name: Steven Black **Title:** Water Quality Program Manager
Signature: [Signature] **Date:** 4/16/18

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MS4 Permit Number: Choose an item.

Construction Project: 956 Track **Location:** TA11

No.	SWPPP Contents	Present in SWPPP
1	Does the SWPPP identify a stormwater team?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
2	Does the SWPPP describe the nature of the construction activities?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
3	Does the SWPPP contain the acreage that construction activities are expected to disturb?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
4	Does the SWPPP document the first receiving water?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
5	Does the SWPPP identify potential non-stormwater discharges?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
6	Does the SWPPP contain a description of the project's soil type(s)?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
7	Does the SWPPP contain documentation of compliance with other regulatory requirements?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
8	Does the SWPPP include a description of stormwater control measures?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
9	Does the SWPPP include a temporary and permanent stabilization plan?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
10	Does the SWPPP include a list and description of all pollutant-generating activities?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
11	Does the SWPPP describe pollution prevention measures?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
12	Does the SWPPP describe procedures for inspections, maintenance, and corrective actions?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
13	Was the SWPPP signed by a qualified erosion control specialist (e.g., CPESC certified, engineers with appropriate training, etc.)?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
14	Does the SWPPP contain a site map that identifies the location of best management practices?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
15	Does the SWPPP contain documentation of staff training?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
16	If the answer to any of the questions above is "No", identify any necessary or recommended revisions in the space provided.	

I certify I have completed a site plan review in accordance with Part I.D.5.a(ii)(d) of the MS4 Permit. The information contained is, to the best of my knowledge and belief, true, accurate, and complete.

Name: Steven Black **Title:** Water Quality Program Manager
Signature: St Black **Date:** 6/28/18

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MS4 Permit Number: Choose an item.

Construction Project: 976 Drainage Project **Location:** TA IV

No.	SWPPP Contents	Present in SWPPP
1	Does the SWPPP identify a stormwater team?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
2	Does the SWPPP describe the nature of the construction activities?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
3	Does the SWPPP contain the acreage that construction activities are expected to disturb?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
4	Does the SWPPP document the first receiving water?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
5	Does the SWPPP identify potential non-stormwater discharges?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
6	Does the SWPPP contain a description of the project's soil type(s)?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
7	Does the SWPPP contain documentation of compliance with other regulatory requirements?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
8	Does the SWPPP include a description of stormwater control measures?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
9	Does the SWPPP include a temporary and permanent stabilization plan?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
10	Does the SWPPP include a list and description of all pollutant-generating activities?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
11	Does the SWPPP describe pollution prevention measures?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
12	Does the SWPPP describe procedures for inspections, maintenance, and corrective actions?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
13	Was the SWPPP signed by a qualified erosion control specialist (e.g., CPESC certified, engineers with appropriate training, etc.)?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
14	Does the SWPPP contain a site map that identifies the location of best management practices?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
15	Does the SWPPP contain documentation of staff training?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
16	If the answer to any of the questions above is "No", identify any necessary or recommended revisions in the space provided.	

I certify I have completed a site plan review in accordance with Part I.D.5.a(ii)(d) of the MS4 Permit. The information contained is, to the best of my knowledge and belief, true, accurate, and complete.

Name: Steven Black **Title:** Water Quality Program Manager
Signature: [Signature] **Date:** 6/28/18

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MS4 Permit Number: NMR04A011 (DOE)

Construction Project: Escarpment **Location:** TTA-IV

No.	SWPPP Contents	Present in SWPPP
1	Does the SWPPP identify a stormwater team?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
2	Does the SWPPP describe the nature of the construction activities?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
3	Does the SWPPP contain the acreage that construction activities are expected to disturb?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
4	Does the SWPPP document the first receiving water?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
5	Does the SWPPP identify potential non-stormwater discharges?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
6	Does the SWPPP contain a description of the project's soil type(s)?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
7	Does the SWPPP contain documentation of compliance with other regulatory requirements?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
8	Does the SWPPP include a description of stormwater control measures?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
9	Does the SWPPP include a temporary and permanent stabilization plan?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
10	Does the SWPPP include a list and description of all pollutant-generating activities?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
11	Does the SWPPP describe pollution prevention measures?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
12	Does the SWPPP describe procedures for inspections, maintenance, and corrective actions?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
13	Was the SWPPP signed by a qualified erosion control specialist (e.g., CPESC certified, engineers with appropriate training, etc.)?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
14	Does the SWPPP contain a site map that identifies the location of best management practices?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
15	Does the SWPPP contain documentation of staff training?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
16	If the answer to any of the questions above is "No", identify any necessary or recommended revisions in the space provided.	

I certify I have completed a site plan review in accordance with Part I.D.5.a(ii)(d) of the MS4 Permit. The information contained is, to the best of my knowledge and belief, true, accurate, and complete.

Name: Steven Black **Title:** Water Quality Program Manager
Signature: St. Black **Date:** 4/16/18

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MS4 Permit Number: NMROHA011 (DOE)

Construction Project: 972 Building **Location:** TA-IV

No.	SWPPP Contents	Present in SWPPP
1	Does the SWPPP identify a stormwater team?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
2	Does the SWPPP describe the nature of the construction activities?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
3	Does the SWPPP contain the acreage that construction activities are expected to disturb?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
4	Does the SWPPP document the first receiving water?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
5	Does the SWPPP identify potential non-stormwater discharges?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
6	Does the SWPPP contain a description of the project's soil type(s)?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
7	Does the SWPPP contain documentation of compliance with other regulatory requirements?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
8	Does the SWPPP include a description of stormwater control measures?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
9	Does the SWPPP include a temporary and permanent stabilization plan?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
10	Does the SWPPP include a list and description of all pollutant-generating activities?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
11	Does the SWPPP describe pollution prevention measures?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
12	Does the SWPPP describe procedures for inspections, maintenance, and corrective actions?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
13	Was the SWPPP signed by a qualified erosion control specialist (e.g., CPESC certified, engineers with appropriate training, etc.)?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
14	Does the SWPPP contain a site map that identifies the location of best management practices?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
15	Does the SWPPP contain documentation of staff training?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
16	If the answer to any of the questions above is "No", identify any necessary or recommended revisions in the space provided. <u>n/a</u>	

I certify I have completed a site plan review in accordance with Part I.D.5.a(ii)(d) of the MS4 Permit. The information contained is, to the best of my knowledge and belief, true, accurate, and complete.

Name: VICTORIA R BRANSON **Title:** WATER QUALITY PROGRAM MANAGER

Signature:  **Date:** 4-8-2019

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MS4 Permit Number: NM204A011 (DOE)
Choose an item.

Construction Project: 20^m st Parking lot Location: TA-11

No.	SWPPP Contents	Present in SWPPP
1	Does the SWPPP identify a stormwater team?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
2	Does the SWPPP describe the nature of the construction activities?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
3	Does the SWPPP contain the acreage that construction activities are expected to disturb?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
4	Does the SWPPP document the first receiving water?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
5	Does the SWPPP identify potential non-stormwater discharges?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
6	Does the SWPPP contain a description of the project's soil type(s)?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
7	Does the SWPPP contain documentation of compliance with other regulatory requirements?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
8	Does the SWPPP include a description of stormwater control measures?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
9	Does the SWPPP include a temporary and permanent stabilization plan?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
10	Does the SWPPP include a list and description of all pollutant-generating activities?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
11	Does the SWPPP describe pollution prevention measures?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
12	Does the SWPPP describe procedures for inspections, maintenance, and corrective actions?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
13	Was the SWPPP signed by a qualified erosion control specialist (e.g., CPESC certified, engineers with appropriate training, etc.)?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
14	Does the SWPPP contain a site map that identifies the location of best management practices?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
15	Does the SWPPP contain documentation of staff training?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
16	If the answer to any of the questions above is "No", identify any necessary or recommended revisions in the space provided.	

I certify I have completed a site plan review in accordance with Part I.D.5.a(ii)(d) of the MS4 Permit. The information contained is, to the best of my knowledge and belief, true, accurate, and complete.

Name: Steven Black Title: Water Quality Program Manager
Signature: St Black Date: 6/28/18

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MS4 Permit Number: NMR04A011 (DOE)

Construction Project: Contractor laydown yard **Location:** TA-11

No.	SWPPP Contents	Present in SWPPP
1	Does the SWPPP identify a stormwater team?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
2	Does the SWPPP describe the nature of the construction activities?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
3	Does the SWPPP contain the acreage that construction activities are expected to disturb?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
4	Does the SWPPP document the first receiving water?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
5	Does the SWPPP identify potential non-stormwater discharges?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
6	Does the SWPPP contain a description of the project's soil type(s)?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
7	Does the SWPPP contain documentation of compliance with other regulatory requirements?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
8	Does the SWPPP include a description of stormwater control measures?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
9	Does the SWPPP include a temporary and permanent stabilization plan?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
10	Does the SWPPP include a list and description of all pollutant-generating activities?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
11	Does the SWPPP describe pollution prevention measures?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
12	Does the SWPPP describe procedures for inspections, maintenance, and corrective actions?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
13	Was the SWPPP signed by a qualified erosion control specialist (e.g., CPESC certified, engineers with appropriate training, etc.)?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
14	Does the SWPPP contain a site map that identifies the location of best management practices?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
15	Does the SWPPP contain documentation of staff training?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
16	If the answer to any of the questions above is "No", identify any necessary or recommended revisions in the space provided.	

I certify I have completed a site plan review in accordance with Part I.D.5.a(ii)(d) of the MS4 Permit. The information contained is, to the best of my knowledge and belief, true, accurate, and complete.

Name: VICTORIA R BRANSON **Title:** Water Quality ^{Program} Manager

Signature:  **Date:** 6-6-2019

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MS4 Permit Number: NMR04A011 (DOE)

Construction Project: TA-IV Temporary Bldg. **Location:** TA-IV

No.	SWPPP Contents	Present in SWPPP
1	Does the SWPPP identify a stormwater team?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
2	Does the SWPPP describe the nature of the construction activities?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
3	Does the SWPPP contain the acreage that construction activities are expected to disturb?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
4	Does the SWPPP document the first receiving water?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
5	Does the SWPPP identify potential non-stormwater discharges?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
6	Does the SWPPP contain a description of the project's soil type(s)?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
7	Does the SWPPP contain documentation of compliance with other regulatory requirements?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
8	Does the SWPPP include a description of stormwater control measures?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
9	Does the SWPPP include a temporary and permanent stabilization plan?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
10	Does the SWPPP include a list and description of all pollutant-generating activities?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
11	Does the SWPPP describe pollution prevention measures?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
12	Does the SWPPP describe procedures for inspections, maintenance, and corrective actions?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
13	Was the SWPPP signed by a qualified erosion control specialist (e.g., CPESC certified, engineers with appropriate training, etc.)?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
14	Does the SWPPP contain a site map that identifies the location of best management practices?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
15	Does the SWPPP contain documentation of staff training?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
16	If the answer to any of the questions above is "No", identify any necessary or recommended revisions in the space provided.	

I certify I have completed a site plan review in accordance with Part I.D.5.a(ii)(d) of the MS4 Permit. The information contained is, to the best of my knowledge and belief, true, accurate, and complete.

Name: VICTORIA E BRANSON **Title:** Water Quality Program Manager

Signature:  **Date:** 6-6-2019

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MS4 Permit Number: NMR04A011 (DOE)

Construction Project: Natural Gas Pipe Replacement **Location:** TA-1

No.	SWPPP Contents	Present in SWPPP
1	Does the SWPPP identify a stormwater team?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
2	Does the SWPPP describe the nature of the construction activities?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
3	Does the SWPPP contain the acreage that construction activities are expected to disturb?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
4	Does the SWPPP document the first receiving water?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
5	Does the SWPPP identify potential non-stormwater discharges?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
6	Does the SWPPP contain a description of the project's soil type(s)?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
7	Does the SWPPP contain documentation of compliance with other regulatory requirements?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
8	Does the SWPPP include a description of stormwater control measures?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
9	Does the SWPPP include a temporary and permanent stabilization plan?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
10	Does the SWPPP include a list and description of all pollutant-generating activities?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
11	Does the SWPPP describe pollution prevention measures?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
12	Does the SWPPP describe procedures for inspections, maintenance, and corrective actions?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
13	Was the SWPPP signed by a qualified erosion control specialist (e.g., CPESC certified, engineers with appropriate training, etc.)?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
14	Does the SWPPP contain a site map that identifies the location of best management practices?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
15	Does the SWPPP contain documentation of staff training?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
16	If the answer to any of the questions above is "No", identify any necessary or recommended revisions in the space provided.	

I certify I have completed a site plan review in accordance with Part I.D.5.a(ii)(d) of the MS4 Permit. The information contained is, to the best of my knowledge and belief, true, accurate, and complete.

Name: VICTORIA R BRANIN **Title:** Water Quality Program Manager

Signature:  **Date:** 6-6-2019

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MS4 Permit Number: NMR04A011 (DOE)

Construction Project: Building 706 **Location:** TA-1

No.	SWPPP Contents	Present in SWPPP
1	Does the SWPPP identify a stormwater team?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
2	Does the SWPPP describe the nature of the construction activities?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
3	Does the SWPPP contain the acreage that construction activities are expected to disturb?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
4	Does the SWPPP document the first receiving water?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
5	Does the SWPPP identify potential non-stormwater discharges?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
6	Does the SWPPP contain a description of the project's soil type(s)?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
7	Does the SWPPP contain documentation of compliance with other regulatory requirements?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
8	Does the SWPPP include a description of stormwater control measures?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
9	Does the SWPPP include a temporary and permanent stabilization plan?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
10	Does the SWPPP include a list and description of all pollutant-generating activities?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
11	Does the SWPPP describe pollution prevention measures?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
12	Does the SWPPP describe procedures for inspections, maintenance, and corrective actions?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
13	Was the SWPPP signed by a qualified erosion control specialist (e.g., CPESC certified, engineers with appropriate training, etc.)?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
14	Does the SWPPP contain a site map that identifies the location of best management practices?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
15	Does the SWPPP contain documentation of staff training?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
16	If the answer to any of the questions above is "No", identify any necessary or recommended revisions in the space provided.	

I certify I have completed a site plan review in accordance with Part I.D.5.a(ii)(d) of the MS4 Permit. The information contained is, to the best of my knowledge and belief, true, accurate, and complete.

Name: VICTORIA R BRANSON **Title:** WATER QUALITY PROGRAM MANAGER

Signature:  **Date:** 6-6-2019

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Appendix H: Supporting Documents for Post-Construction Stormwater Management Program

No.	Description
H-1	Estimated Impervious Area and Directly Connected Impervious Area within the SNL/NM MS4 Jurisdictional Boundaries
H-2	Map of Impervious Areas in Northern MS4 Area
H-3	Inventory and Ranking of Potential GI/LID Retrofit Projects

v.5, August 10, 2019

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Appendix H-1

v.5, August 10, 2019

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Estimated Impervious Area (IA) and Directly Connected IA (DCIA)
for the SNL/NM MS4 Jurisdiction

Impermeable Area (IA) and Directly Connected Impervious Area (DCIA) estimates are summarized in Table H-1 below. A map is provided in Appendix H-2. IA and DCIA were estimated using GIS mapping tools. The IA includes conventional pavements, sidewalks, driveways, roadways, parking lots, and rooftops. The DCIA is comprised of the part of the IA that has a direct hydraulic connection to the MS4 via continuous paved surfaces, gutters, pipes, and other impervious features.

The IA within the MS4 jurisdiction was estimated to comprise a total area of approximately 348 acres, which is roughly 47% of the total MS4 jurisdiction. Within the MS4 there are an estimated 283 acres DCIA (81% of the IA).

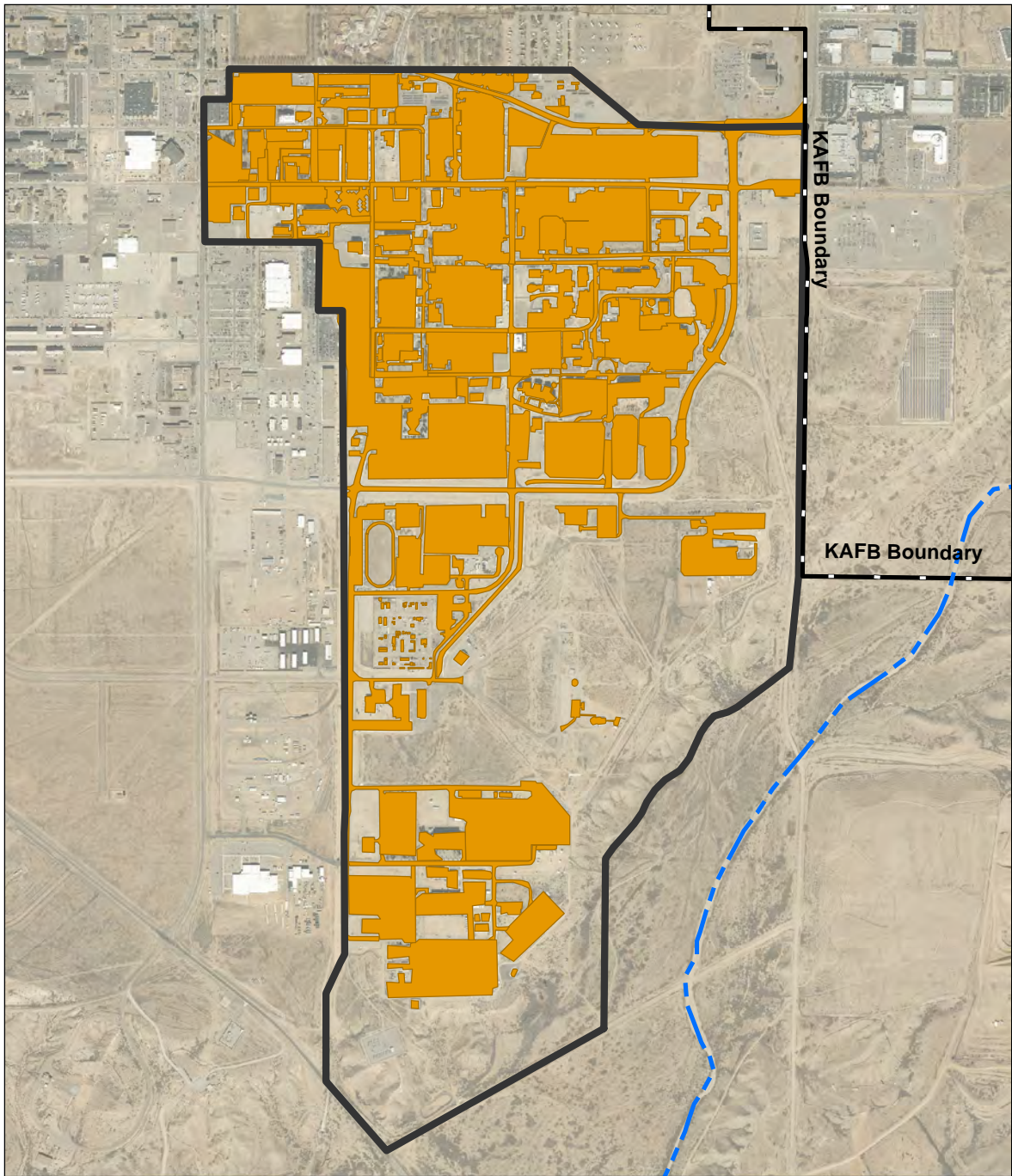
Table H-1: IA and DCIA in the SNL/NM MS4 Jurisdiction

	Total Area (acres)	Impervious Area (acres)	% of Total Area that is Impervious (acres)	% IA that is DC (acres)	DCIA (acres)	% DCIA
TA-I	360.00	248.14	68.93	90	223.33	62.04
TA-II	231.65	59.52	25.69	50	29.76	12.85
TA-IV	150.75	40.44	26.83	75	30.33	20.12
Total MS4	742.40	348.10	46.89	81	283.42	38.18





Appendix H-2

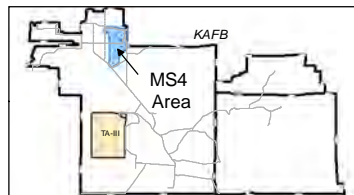
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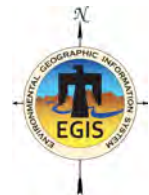
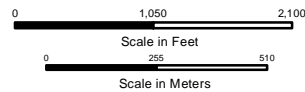


Legend

-  Impervious Areas
-  SNL MS4
-  KAFB Boundary
-  Tijeras Arroyo



New Mexico State Plane Central Zones, 1983
1988 North American Vertical Datum



Sandia National Laboratories, New Mexico
Environmental Geographic Information System

Impervious Areas in the MS4 Area

Appendix H-3

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Inventory and Priority Ranking of Infrastructure for Potential GI/LID/Sustainable Practice Retrofits

1. Introduction

This attachment provides additional details in support of SWMPP Section 6.2.8, and Part I.D.5.b(vii) of the MS4 Permit. The Stormwater Program has conducted an inventory and developed a priority ranking of property within the SNL MS4 that may have the potential to be retrofitted with control measures designed to control the frequency, volume, and peak intensity of stormwater discharges within and from the MS4. The evaluation considered larger scale measures that could be implemented. Smaller scale control measures for individual buildings or isolated areas were not included in this assessment; those areas are addressed through compliance with EISA Section 438 during the development and redevelopment project planning process.

This evaluation was completed during the 2016-2017 reporting period. Projects were ranked according to both feasibility/practicality of implementation, and the potential improvements to stormwater discharges they might provide.

Regarding the feasibility and practicality of a project, the following factors were considered:

- Complexity and cost of implementation
- Access for maintenance purposes
- Subsurface geology
- Proximity to subsurface infrastructure including sanitary sewers

Regarding priority ranking, the following factors were considered:

- Budget schedules and available capital
- Improvements to stormwater drainage system and sanitary sewer infrastructure
- Improvements to paving projects
- Existing stormwater drainage system service plan
- Control of discharges to impaired waters

2. Inventory and Priority Rankings

The MS4 encompasses three technical areas (TA), referred to as TA-I, TA-II, and TA-IV. Screening was conducted for each area separately. A summary of findings is provided in Table 1, and discussions are provided in Sections 2.1 through 2.3.

2.1 Technical Area I

TA-I comprises the most highly populated and developed portion of the SNL MS4, which includes all of the MS4 north of Hardin Boulevard, and covers an area of approximately 0.5 square miles (320 acres). It is estimated that 68% of TA-I is comprised of impervious areas (IA)

and 70% of the IA are directly connected impervious area (DCIA) to the SNL MS4 storm drainage system.

Much of TA-I has previously been evaluated for stormwater control measures on a project-specific basis. Since 2007, construction or redevelopment projects with a footprint exceeding 5,000 GSF have been subject to EISA Section 438 requirements. As TA-I continues to be redeveloped, additional GI/LID measures to improve stormwater conditions will be implemented on a project scale basis. The primary stormwater control measures currently used within TA-I include the minimization of impermeable surfaces to decrease runoff, and the use of stormwater detention basins to slow peak runoff. There is also limited use of cisterns and direct diversion to planters for decorative landscape irrigation.

To meet the requirement of the MS4 permit part I.D.5.b(vii), screening of TA-I was conducted using aerial photographs, maps of the stormwater drainage system infrastructure, and ground truthing to identify areas where a large amount of runoff can be treated by a single (or few) relatively large scale GI/LID retrofit projects, such as detention basins. Screening of TA-I identified detention of runoff from roads, parking lots, and unstabilized sediment-laden areas as the control measure with the greatest potential to decrease the frequency, volume, and peak intensity of stormwater discharges. Specifically, two large parking lots were identified for future retrofitting with additional detention basins, or modifications to existing detention basins. These are termed the Building 823 parking lot and the Water Tower parking lot (Figure 1). Together, these parking areas comprise a total of 27 acres (15 acres for the Building 823 parking lot and 12 acres for the Water Tower parking lot) which is nearly 10% of the TA-I area.

The 823 parking lot currently has no stormwater controls. The Stormwater Program recommends that a stormwater management feature be installed in the southwestern corner of the parking area, where most runoff currently flows directly into a drop inlet. Design specifics are outside the scope of this SWMPP; however, the feature should be designed to allow sediment to settle before water is discharged. The feature should also be designed to ensure that all water either drains or infiltrates from the basin within 96-hours of the storm event.

The Water Tower parking lot currently has a detention basin, but it is recommended that the outlet be raised to increase detention time in order to decrease peak discharge rates and decrease sediment load. It is also recommended that the feasibility of diverting inflow to the MS4 from a relatively small storm channel located immediately adjacent to the basin be evaluated. Design specifics are outside the scope of this SWMPP.

Implementation of this recommendation is dependent upon funding, the prioritization and timing of which is beyond the control of the Stormwater Program. Other GI/LID improvement opportunities within TA-I are relatively small-scale and incremental; they will be addressed during future construction and reconstruction projects, which will continue to be reviewed through the NEPA review process to assess eligibility for EISA Section 438 requirements.

2.2 Technical Area II

TA-II covers an area of approximately 232 acres. Most of the area is undeveloped and covered with native vegetation, however, much of TA-II is being considered for future development. Currently, approximately 25% of TA-II is comprised of IA, of which 50% is DCIA.

No current opportunities for GI/LID retrofitting within TA-II were identified. The existing IAs mostly drain to surrounding undisturbed desert landscape where stormwater infiltrates, evaporates, or is used by native vegetation. A small portion of IA contributes runoff to the stormdrain system, but there is no centralized location(s) that could be used to implement a GI/LID retrofit of significant size.

Planning for the future development of TA-II campus is in its early stages, and the Stormwater Program is actively participating in a multidisciplinary group of planners, architects, and environmental professionals that are developing conceptual ideas for implementing GI/LID principles that meet or exceed the intent of EISA, MS4, and other regulatory requirements.

2.3 Technical Area IV

TA-IV covers an area of approximately 150 acres, of which an estimated 40% is impervious. Approximately 75% of the IA is DCIA.

During development and redevelopment projects, TA-IV is subject to EISA Section 438 requirements and is evaluated for implementation of potential GI/LID measures. Much of TA-IV has been evaluated in the past, and the area already has a number of stormwater detention basins, and block and gravel inlet protection structures.

Screening of TA-IV identified detention of runoff from roads and parking lots as the control measure with the greatest potential to decrease the frequency, volume, and peak intensity of stormwater discharges. Specifically, two large parking lots on the west side of TA-IV were identified for future retrofitting with additional detention basins, and/or modifications to existing detention basins.

The northern parking lot covers an area of 3 acres, and the southern parking lot covers an area of 5.5 acres. Together, these areas comprise approximately 15% of the IA within TA-IV.

Implementation of this recommendation is dependent upon funding, the prioritization and timing of which is beyond the control of the Stormwater Program. Other GI/LID improvement opportunities within TA-IV are relatively small-scale and incremental; they will be addressed during future construction and reconstruction projects, which will continue to be reviewed through the NEPA review process to assess eligibility for EISA Section 438 requirements.

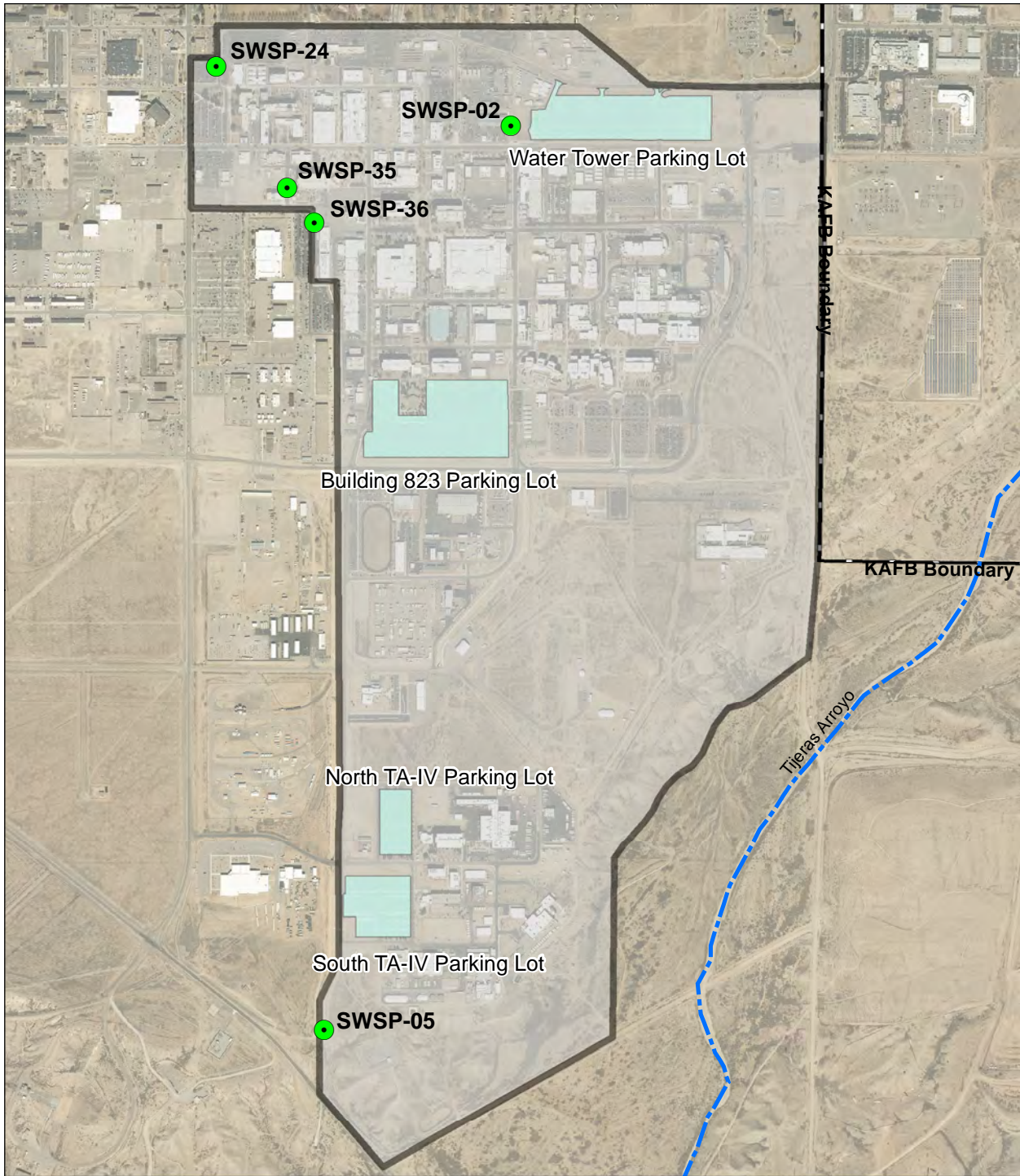
3. Summary and Conclusions

This assessment was conducted to help identify potential improvements to stormwater discharge conditions that might be achievable through implementation of GI/LID retrofit projects within the SNL MS4; it does not commit SNL to implement any of the projects identified. While SNL constantly seeks to make improvements to stormwater discharge conditions (volume and

quality), the projects identified in this assessment are not deemed necessary to comply with regulatory requirements. Implementation of these projects is subject to available funding and consideration of their benefits relative to other projects.

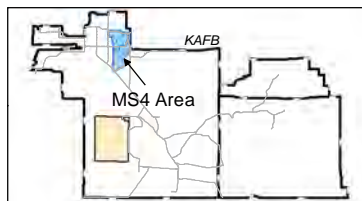
If implemented, the combined impact of these projects would be to detain runoff from an additional 10% of the IA that currently exists within the SNL MS4. Detention of these flows would decrease peak discharge rates, and provide time for suspended solids to settle out of stormwater.

The development of TA-II offers increased opportunities to implement GI/LID measures to improve stormwater management and discharge conditions. The Stormwater Program is proactively participating in the planning phase of proposed development in this area to promote widespread use of GI/LID measures.



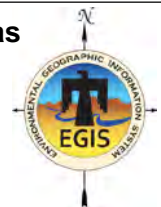
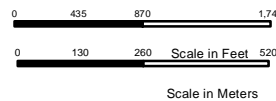
Legend

- Water Quality Monitoring Locations
- - - Tijeras Arroyo
- MS4 Parking Lots
- SNL MS4
- KAFB Boundary



New Mexico State Plane Central Zones, 1983
1988 North American Vertical Datum

**Potential GI/LID Retrofit Areas
MS4**



Sandia National Laboratories, New Mexico
Environmental Geographic Information System

Potential GI/LID Retrofit Areas

Appendix I: Supporting Documents for Pollution Prevention / Good Housekeeping Program

No.	Description
I-1	List of Stormwater Quality Detention Basins at SNL/NM
I-2	Map of Stormwater Quality Detention Basins at SNL/NM
I-3	List of Stormwater Quality Inlet Structures at SNL/NM
I-4	Map of Stormwater Quality Inlet Structures at SNL/NM

v.5, August 10, 2019

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Appendix I-1

List of Stormwater Detention Basins

Structure	Location Area	Location Near Building	Location Description
Detention Basin - E13SDRET01	TAI	897	The retention/detention basin that lies between N Avenue and Hardin Blvd between the parking lot directly south of 897 and the parking lot to the southwest of 897.
Detention Basin - E12SDRET01	TAI	829	This is the retention and detention cobble pond area between 9th Street and the western end of the parking lot for 825 south of N Ave.
Detention Basin - F13SDDDET01	TAI	T26	Detention and junction basin for flows from T-City into the Hardin Channel. Basin is approximately 100 feet east of 14th Street and 30 north of the Hardin Channel. Feb 05 this was inside the WIF construction area.
Detention Basin - E12SDRET02	TAI	819	The small rocked in area in the landscaped area at the northeast corner of 9th Street and M Avenue. It is very near a grated inlet in this same area.
Detention Basin - E12SDRET03	TAI	819	Landscaped low area approximately 30 feet south of 819 and 15 feet west of 819.
Detention Basin - E12SDRET04	TAI	819	This is the landscaped area low spot approximately 15 feet west of the south end of 819.
Detention Basin - E12SDRET05	TAI	819	This is the landscaped area low spot approximately 15 feet west of the north end of 819.
Detention Basin - E13SDRET02	TAI	879	This is one of three rock-line detention/retention basins directly east of building 879 between building 879 and building 700. This is the southern most of the three and is a retention basin.
Detention Basin - E13SDRET03	TAI	879	This is one of three rock-line detention/retention basins directly east of building 879 between building 879 and building 700. This is the middle most of the three and is a retention basin.
Detention Basin - E13SDDDET01	TAI	879	This is one of three rock-line detention/retention basins directly east of building 879 between building 879 and building 700. This is the northern most of the three and is a detention basin.
Detention Basin - E13SDRET04	TAI	877	This is one of three rock-line detention/retention basins directly east of building 877. This is the southern most of the three and is a retention basin.

List of Stormwater Detention Basins

Structure	Location Area	Location Near Building	Location Description
Detention Basin - E13SDRET05	TAI	877	This is one of three rock-line detention/retention basins directly east of building 877. This is the northern most of the three and is a retention basin.
Detention Basin - E13SDDDET02	TAI	877	This is one of three rock-line detention/retention basins directly east of building 877. This is the middle of the three and is a detention basin.
Detention Basin - E13SDRET06	TAI	700	This is the rock-lined retention basin area directly south of building 700.
Detention Basin - E13SDRET07	TAI	877	This is one of two rock-line retention/detention basins north of building 877 just south of K Avenue. This is the eastern one and is a retention basin.
Detention Basin - E13SDDDET03	TAI	877	This is one of two rock-line retention/detention basins north of building 877 just south of K Avenue. This is the western one and is a detention basin.
Detention Basin - E13SDDDET04	TAI	872	This is the rock-line detention basin directly north of the main entrance or building 872 and just south of K Avenue. This basin exits to K Avenue via sidewalk drain.
Detention Basin - E13SDRET08	TAI	872	This is a rock-lined retention basin located at the southeast corner of 14th Street and K Avenue.
Detention Basin - E13SDDDET05	TAI	700	Rock lined detention basin that sits just a few feet to the west and southwest of building 703. This should not be confused with the three rock-lined basins immediately to the east of building 877.
Detention Basin - D12SDDDET01	TAI	831	The large detention basin that sits between buildings 750, 753, and 831.
Detention Basin - D12SDRET01	TAI	753	Rock-line retention area to the west of the main south entrance of building 753.
Detention Basin - D12SDRET02	TAI	753	Rock-line retention area to the east of the main south entrance of building 753. This retention area wraps around the south, east, and northeast portions of the area around building 753.
Detention Basin - E13SDRET09	TAI	701	Retention basin on the north side of building 701 between the building and the north side sidewalk. Retention basin is toward the western end of building 701.

List of Stormwater Detention Basins

Structure	Location Area	Location Near Building	Location Description
Detention Basin - E13SDRET10	TAI	701	Retention basin primarily on the south side of building 701 between the building and the fence for the 858 area. The retention basin also wraps around the east side of building 701.
Detention Basin - E13SDRET11	TAI	899	Retention Basin located to the north and northeast of building 899.
Detention Basin - E13SDRET12	TAI	899	Retention Basin located to the northwest of building 899.
Detention Basin - E13SDRET13	TAI	899	Retention Basin located to the southwest of building 899 with overflow pipe. This should not be confused with the retention basin to the southwest of building 899 that is south of the concrete entrance driveway.
Detention Basin - E13SDRET14	TAI	899	Retention Basin located directly south of building 899 with overflow pipe.
Detention Basin - E13SDRET15	TAI	899	Retention Basin located to the southeast of building 899.
Detention Basin - E13SDRET16	TAI	899	Retention Basin located to the southwest of building 899 and south of the south parking area driveway entrance. Retention basin has an overflow pipe.
Detention Basin - D13SDRET01	TAI	954	Rock-lined retention basin along the north side of building 954 and is approximately 30 feet north of the north side of building 954.
Detention Basin - E14SDRET01	TAI	895	Retention area in the grass field area to the west of the north portion of building 895 approximately 100 feet to the west.
Detention Basin - G13SDRET01	TAIV	971	Small retaining basin area to the northeast of the northeast corner of building 971. More specifically, the basin is approximately 20 feet directly east of the northeast corner of building 971.
Detention Basin - G13SDDRET01	TAIV	971	Small detention basin area to the east of building 971. More specifically, the basin is approximately 20 feet directly east of the southeast corner of building 971.
Detention Basin - G13SDRET02	TAIV	971	Small retention basin area to the south of building 971. More specifically, the basin is approximately 25 feet directly south of building 971.
Detention Basin - C14SDRET01	Eubank	518	This is the very large retention basin immediately to the south of the main driveway entrance into CINT off of Eubank Blvd.

List of Stormwater Detention Basins

Structure	Location Area	Location Near Building	Location Description
Detention Basin - C14SDRET02	Eubank	518	This is the retention basin immediately to the north of the main driveway entrance into CINT off of Eubank Blvd.
Detention Basin - C14SDRET03	Eubank	518	This is the retention basin to the northeast of the main CINT parking lot that sits northeast of CINT.
Detention Basin - C14SDDET01	Eubank	518	This is the detention basin area to the northeast of CINT. It is between the building and the parking area and between the triple culverts.
Detention Basin - E13SDRET17	TAI	703	Rock lined retention and detention basin that sits just a few feet to the northeast of building 703.
Detention Basin - E13SDRET18	TAI	703	Rock lined retention and detention basin that sits just a few feet directly to the east of building 703. There is another basin to the northeast and should not be confused with this basin.
Detention Basin - D13SDDET01	TAI	887	This is the large detention basin at the west-southwest corner of the Water Tower Parking Lot.
Detention Basin - D14SDDET01	TAI	8895B	Earth detention basin surrounding a drop inlet and is approximately 30 feet east of the east curb line of 20th Street and approximately 75 feet north of the north curb line of H Avenue.
Detention Basin - E13SDDET07	TAI	898	Earth-line retention basin that holds the flows from the east central courtyard of building 898. More specifically the basin is approximately 30 feet south of the main south face of building 898 and approximately 190 feet east of the southwest corner of building 898.
Detention Basin - E13SDDET06	TAI	T70	Detention basin with elevated drop inlet inside that sits approximately 125 feet directly east of the north side of building T70.
Detention Basin - E14SDDET01	TAI	897	Detention basin directly south of Gate 30. More specifically it is approximately 250 feet north of Hardin Boulevard and approximately 320 feet west of 20th Street.
Detention Basin - F13SDDET02	TAI	898	Directly south of building 898 are two parking lots. Between these parking lots are two detention basins with drop inlets at the bottom. This is the southern most basin. More specifically it is approximately 320 feet east of building T42 and approximately 500 feet south of the southern most edge of building 898.

List of Stormwater Detention Basins

Structure	Location Area	Location Near Building	Location Description
Detention Basin - E13SDDET08	TAI	898	Directly south of building 898 are two parking lots. Between these parking lots are two detention basins with drop inlets at the bottom. This is the northern most basin. More specifically it is approximately 320 feet east of building T42 and approximately 370 feet south of the southern most edge of building 898.
Detention Basin - F13SDDET03	TAI	T26	Detention basin approximately 145 feet directly southeast of building T26 with a rock rundown at the east end (from the parking lot) and an overflow channel at the west end.
Detention Basin - E13SDRET19	TAI	T12	Small depressed retention area about 6 inches deep right at the northwest corner of building T12.
Detention Basin - E13SDRET20	TAI	T43	Small depressed retention area about 6 inches deep right at the southwest corner of building T43.
Detention Basin - E13SDRET21	TAI	T43	Small depressed retention area about 6 inches deep right at the northwest corner of building T43.
Detention Basin - E13SDRET22	TAI	T48	Small depressed retention area about 6 inches deep right at the southwest corner of building T48.
Detention Basin - E13SDRET23	TAI	T48	Small depressed retention area about 6 inches deep right at the northwest corner of building T48.
Detention Basin - E13SDRET25	TAI	T6	Small depressed retention area about 6 inches deep right at the northwest corner of building T6.
Detention Basin - E13SDRET26	TAI	T73	Small depressed retention area about 6 inches deep that runs north-south approximately 10 feet east of T73. The area runs from T6 at the south to T74 at the north.
Detention Basin - D12SDRET03	TAI	770	Temporary retention basin immediately to the northeast of the intersection of K Avenue and 6th Street.
Detention Basin - F13SDRET01	TAII	967	Retention pond at the southeast of building 967. More specifically it is 80 feet south of the southeast corner of building 967 and approximately 15 feet east of the southeast corner of building 967.
Detention Basin - F13SDRET02	TAII	967	Earth retention pond approximately 150 feet south of the southwest corner of building 967 and approximately 80 feet west of the southwest corner of building 967.

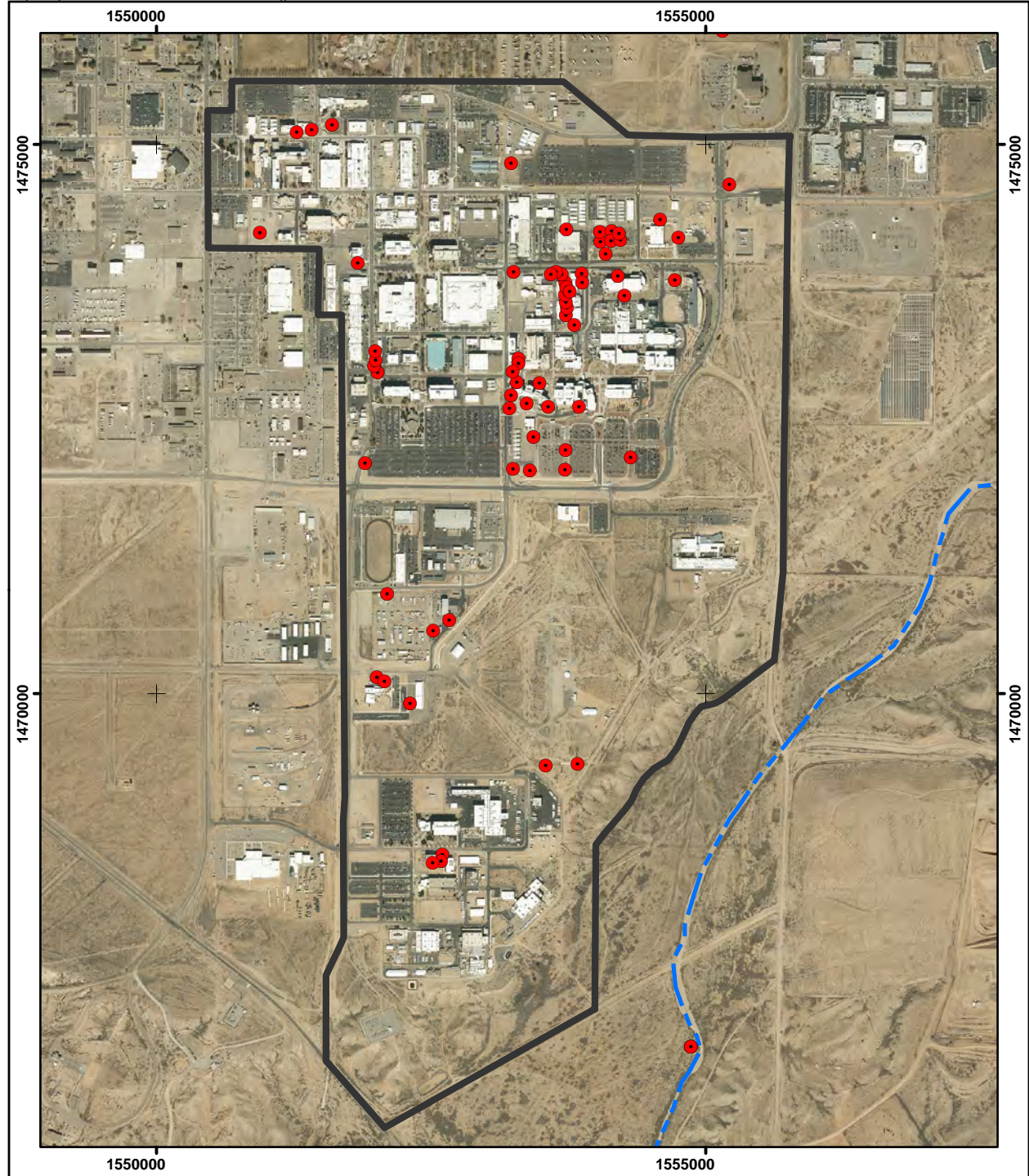
List of Stormwater Detention Basins

Structure	Location Area	Location Near Building	Location Description
Detention Basin - F12SDRET01	TAII	MO308	Evaporation bed for storm drain cleaning that sits along the north block wall of the maintenance yards and immediately to the west of the northwest entrance into the maintenance yards.
Detention Basin - R13SDRET01	TAIII	6635	Retention basin approximately 100 feet direction southwest of the southwest face of building 6635.
Detention Basin - E13SDDET09	TAI	954	Detention basin directly east of the south end of building 954, directly north of building 701, directly west of building 720, and directly south of the 701 parking lot.
Detention Basin - E14SDDET02	TAI	720	Detention basin directly south of building 720 and directly north of K Avenue.
Detention Basin - D14SDDET02	TAI	720	Detention basin directly north of building 720 and directly south of the 720 parking lot.
Detention Basin - D14SDRET01	TAI	720	This is the retention basin on the east side of the east fence for the building 720 site. It is approximately 75 feet north of the south face of building 720.
Detention Basin - E13SDRET27	TAI	704	Small retention basin on the east side of building 704 approximately 80 feet north of the south face of building 704. There are two basins close together. This is the northern one.
Detention Basin - E13SDRET28	TAI	704	Small retention basin on the east side of building 704 approximately 60 feet north of the south face of building 704. There are two basins close together. This is the southern one.
Detention Basin - E13SDRET29	TAI	704	Retention basin on the south side of building 704 approximately 20 feet south of the south face of building 704.
Detention Basin - D13SDRET02	TAI	954	Small curbed island with depressions curb openings for water retention located in the 701 parking lot. There are six of these. This one is the south row west end.
Detention Basin - D13SDRET03	TAI	954	Small curbed island with depressions curb openings for water retention located in the 701 parking lot. There are six of these. This one is the south row middle.
Detention Basin - D13SDRET04	TAI	954	Small curbed island with depressions curb openings for water retention located in the 701 parking lot. There are six of these. This one is the south row east end.

List of Stormwater Detention Basins

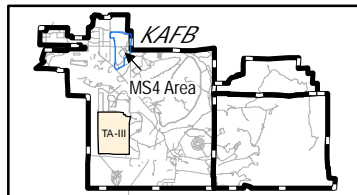
Structure	Location Area	Location Near Building	Location Description
Detention Basin - D13SDRET05	TAI	954	Small curbed island with depressions curb openings for water retention located in the 701 parking lot. There are six of these. This one is the north row east end.
Detention Basin - D13SDRET06	TAI	954	Small curbed island with depressions curb openings for water retention located in the 701 parking lot. There are six of these. This one is the north row middle.
Detention Basin - D13SDRET07	TAI	954	Small curbed island with depressions curb openings for water retention located in the 701 parking lot. There are six of these. This one is the north row west end.

Appendix I-2

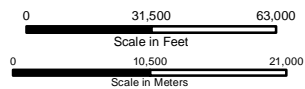


Legend

- Stormwater Detention Basins
- SNL MS4
- - - Tijeras Arroyo



**SNL-NM MS4
Stormwater Detention
Basins**



New Mexico State Plane Central Zones, 1983
1988 North America Vertical Datum

Sandia National Laboratories, New Mexico
Environmental Geographic Information System

Appendix I-3

v.5, August 10, 2019

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List of Block and Gravel Stormwater Drainage System Inlet Structures

Structure Number	Date Installed
F12SDMH03	8/1/2011
F12SDMH03A	8/1/2011
E12DI36	8/1/2011
E12DI01	9/25/2011
E12DI02	9/25/2011
F12SDMH05	9/25/2011
F12SDMH07	9/25/2011
F12DI05	9/25/2011
G12SDMH01	9/25/2011
H12DI02	9/25/2011
F13DI08	2/1/2012
F14SDMH11	2/1/2012
F14SDMH08	2/1/2012
F14DI09	2/1/2012
F12DI01	6/1/2012
F13SDMH03A	6/27/2012
E14DI54	7/11/2013
E14DI47	7/12/2013
D14DI04	8/23/2013
E14DI033	10/25/2013
G13DI25	5/23/2014
G13DI38	5/29/2014
G13DI04	6/9/2014
G12DI08	6/19/2014
G13DI27	7/11/2014
G13DI35	7/11/2014
G13DI106	7/15/2014
G13DI08	10/24/2014
D13DI51	Planned
D13DI15	Planned
E13DI101A	Planned
E13DI101	Planned
D14DI01	Planned
D13DI16	Planned
E12DI22	Planned
E13DI99A	Planned
E13DI11	Planned
E13DI96	Planned
E13DI82	Planned

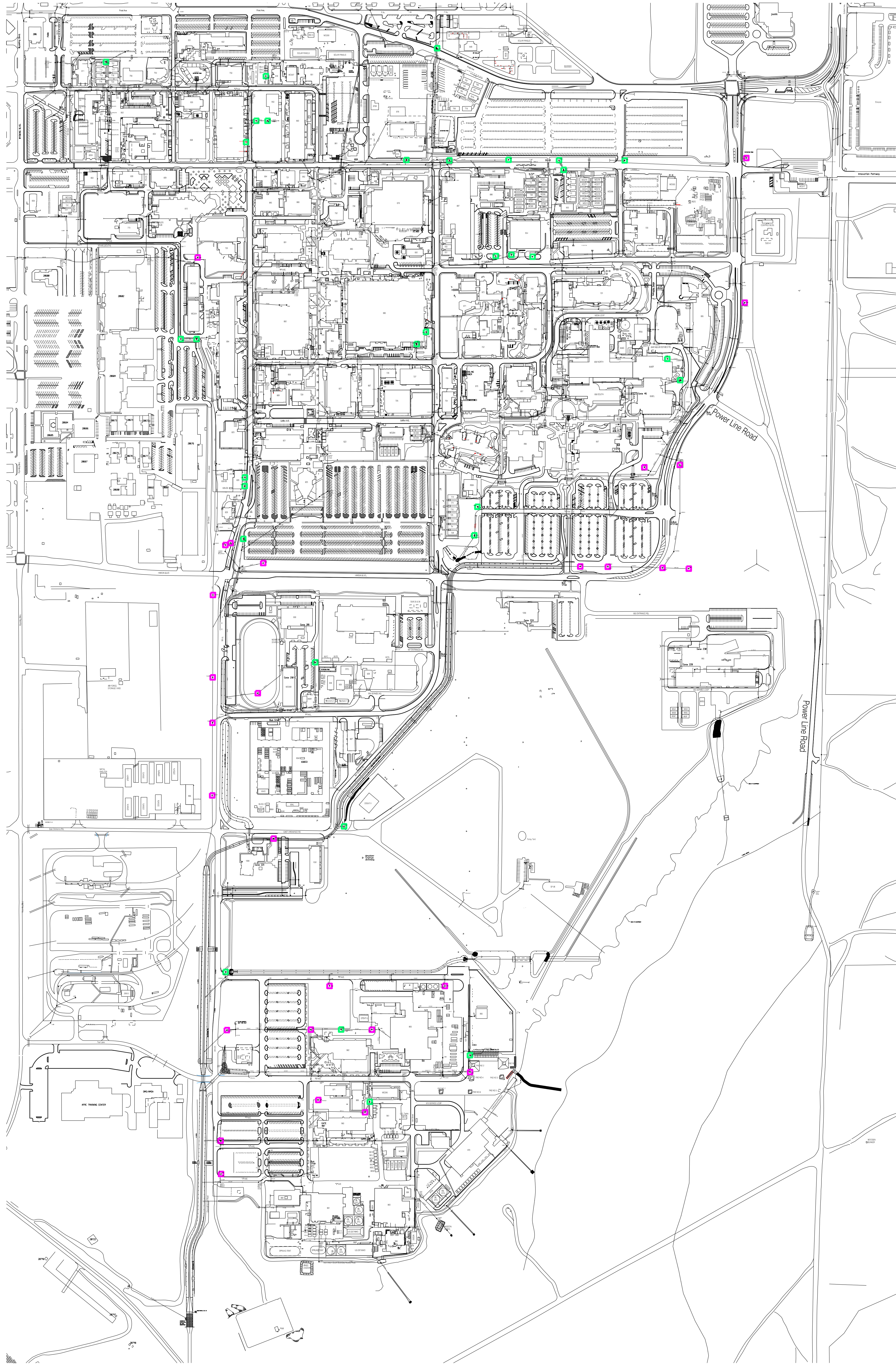
List of Block and Gravel Stormwater Drainage System Inlet Structures

Structure Number	Date Installed
E13DI83	Planned
E13DI52	Planned
E14DI41	Planned
E14DI42	Planned
E14DI48	Planned
E12DI04	Planned
E12DI03	Planned
E13DI125	Planned
E13DI130	Planned
D13DI49	Planned
D12SDADR02	Planned
D12DI87	Planned
D12DI88	Planned
D12DI34	Planned
D12DI93	Planned
E12DI38	Planned
E12DI37	Planned
D12SDADR13	Planned
G12DI24	Planned
G12DI200	Planned
F13DI09	Planned
F13DI01	Planned
G13DI26	Planned
G13DI105	Planned
G13DI50	Planned

Appendix I-4

v.5, August 10, 2019

A printed copy of this document may not be the official version. The official printed copy of this SWMPP is located in the office of the Environmental Compliance and Monitoring Department (Org. 00641).



Legend

- Sediment Control Structure
- Planned Future Sediment Control Structure

PREPARED BY:

Tino Ortiz

CHECKED BY:

SANDIA NATIONAL LABORATORIES FACILITIES ENGINEERING

DETAIL NO.:

SCALE:

Not To Scale

DATE:

03-15-2016

REV:

Storm Drain Sediment Control Structures

Storm 03-15-2016.dgn

Appendix J: Supporting Documents for Illicit Discharge Detection and Elimination Program

This appendix is reserved for documentation of SWMP elements as they are developed or revised (and approved for public release).

No.	Description
reserved	reserved

Appendix K: Supporting Documents for Control of Floatable Discharges Program

No.	Description
K-1	Picture of block and gravel storm drain inlet protection structure

Appendix K-1



Picture of a typical "Block and Gravel" inlet protection control structure used at SNL/NM to prevent trash and sediment from entering the stormdrain system.

Appendix L: Supporting Documents for Public Education and Outreach Program

No.	Description
L-1	Stormwater Awareness Poster
L-2	Porcelain Press Flyers
L-3	Enviroscape® educational models brochure and presentation guide

Appendix L-1

STORMWATER

keep it clean

💧 **MAINTAIN A CLEAN AND ORDERLY WORK SITE**

💧 **COVER MATERIALS AND CONTAIN CHEMICALS**

💧 **PREVENT AND REPORT SPILLS**

💧 **REDUCE AND RECYCLE WASTE**

💧 **MINIMIZE SOIL DISTURBANCE**

💧 **LEARN MORE: TEDS SW 100 & SW200**

Appendix L-2



STORMWATER – Keep It Clean



Albuquerque's stormwater runoff (~2.7 billion gallons per year) flows untreated into the Rio Grande carrying pollutants such as bacteria and nutrients from pet and yard waste, toxic and hazardous products

(cleansers, petroleum, pesticides, herbicides, solvents, paint, detergents, mercury containing products), and sediment. The Rio Grande provides critical habitat for threatened and endangered species of birds and fish, and serves as a municipal, agricultural and recreational water resource to Albuquerque and surrounding communities. Albuquerque's stormwater runoff is higher in

bacteria (E. coli./fecal coliform), nutrients, and sediment than most other big cities in the Southwest.

SNL is committed to protecting sensitive waters such as the Rio Grande and its receiving waters (and arroyos). The Stormwater Program supports Sandia by evaluating construction, industrial, and municipal activities for compliance with federal regulations in order to prevent discharges of stormwater pollutants.

When at home, please pick up after your pets and avoid excessive use of fertilizer, herbicides and pesticides. When at work, if your projects or job duties have the ability to impact stormwater quality, please sign up for free Stormwater Pollution Prevention Training (SW100) in TEDS. Questions? Contact Kathie Deal at 844-8503 or kjdeal@sandia.gov.

Suspect/Counterfeit Items Open House

Come and join us for some hands on learning! On **August 18th, 2015**, the Suspect/Counterfeit Items team will be hosting an Open House at the Steve Schiff Auditorium from 9 am to noon. The Open house does not require any registration and will be open to all laboratory staff and contractors. Personnel may show up anytime within the allotted 3 hours to view items and have the option of attending a half hour presentation. Presentations offered include: Introduction to Suspect/Counterfeit Items from 9:00 to 9:30; Suspect/Counterfeit Items in hoist, lifting, and rigging equipment from 10:00 to 10:30; Suspect/Counterfeit Items in Electronics and Electrical Components from 11:00 to 11:30. Hands on training sessions and items will be available the entire 3 hours so come and join in on some fun and learn about how to prevent and detect Suspect/Counterfeit Items! S/CI POC: Gabrielle Holcomb - sqasci@sandia.gov.

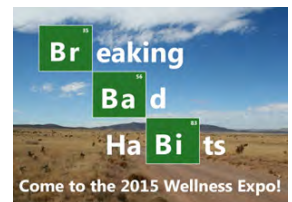


Get Screened, Get Real-Time Results, and Create (or Sustain) Healthy Habits

Help us start a chain reaction! Come to Sandia's 2015 Wellness Expo for free, convenient, annual preventive screenings for you and your spouse. **Why come?** The Expo will provide many opportunities to learn more about your health and ask questions to physicians, nutritionists, dietitians, and pediatricians. There will be family-friendly activities, including a healthy risk checklist, a coloring table, and a blender bike. Don't miss this event – act as if your health depends on it!

August 29, 2015 from 8 a.m. to 2:30 p.m. at Embassy Suites off I-25 and Lomas. Appointments start at 7a.m.

BCBSNM members may register at timeconfirm.com/SNL-Expo2015 UHC members may register at register.wellness-inc.com/SNLExpo2015. Learn more at hbe.sandia.gov.



PORCELAIN PRESS

a fixture since 1995



8/15/2016

Courtesy of Dept. 4143, MS 0730

SNL/NM Vol. 21 No. 17

Albuquerque's stormwater runoff (~2.7 billion gallons per year) flows untreated to the Rio Grande through storm channels and arroyos. Common every day pollutants that exist at relatively low levels throughout the city (pet waste, fertilizer, road deposits) can become a serious environmental concern during storm events, because they are rapidly washed to the river where concentrations can increase substantially.

The Rio Grande provides critical habitat for threatened and endangered species of birds and fish, and serves as a municipal, agricultural and recreational water resource to Albuquerque and surrounding communities. Albuquerque's stormwater runoff is higher in bacteria (E. coli. and fecal coliform), nutrients, and sediment compared to other big cities in the Southwest.



Sandia is committed to protecting sensitive waters such as the Rio Grande, as well its tributaries and surrounding environment. The Stormwater Program supports Sandia by evaluating construction, industrial, and municipal activities for compliance with federal regulations in order to prevent discharges of stormwater pollutants.

You can do your part at home by picking up pet waste; avoiding excessive use of fertilizer, herbicides and pesticides; and using commercial car washes. When at work, if your projects or job duties have the ability to impact stormwater quality, please sign up for free Stormwater Pollution Prevention Training (SW100) in TEDS. Questions? Contact Kathie Deal at 844-8503 or kjdeal@sandia.gov.

Tis' the Cardboard Recycling Season – Break Down Your Boxes and Recycle!

Cardboard Recycling Instructions from the SNL/NM Recycling Webpage

Tech Areas 1, 2, 4 and CINT

Break down boxes and place them in a **BLUE** cardboard dumpster, or at a designated custodial collection area.

Tech Areas 3, 5, & Remote Sites

Break down boxes and place them in the solid waste dumpsters where they will be recovered by the solid waste screening process.

IPOC

Break down boxes and neatly place in outdoor rolling blue carts on 1st Floor Break Room Patio. When the cart is full, please empty it in the blue dumpster at the northwest corner of the parking lot, let the building custodians know, or call 844-3470.

Technology Park

Break down boxes and neatly place in designated pick-up areas.

- **CERL** - A cardboard dumpster is available west at CGSC.
- **CGSC** - A cardboard dumpster is located in the dumpster corral.
- **CSRI** - A cardboard dumpster is located in the dumpster corral.
- **SSC200/300** - A cardboard dumpster is located in the dumpster corral.



Flattening boxes is necessary for the large volume of cardboard to be accommodated in the blue-colored dumpsters. If you have a cardboard box that you want to get rid of, you need to take responsibility for breaking down the box. If you are in Tech Area 1, 2 4, or CINT and you choose to not take the cardboard to a blue dumpster, Custodial Services will remove flattened boxes that have been placed in a designated collection area. Due to the large volume of cardboard boxes, everyone must pitch in. This is a team effort!



Comments or article submittals to
Benjamin Henning at 505-284-2677 or bdhenni@sandia.gov
Old editions in your restrooms? Consider becoming a distributor.
Contact Benjamin Henning to sign up to receive the Porcelain Press.



PORCELAIN PRESS



a fixture since 1995

8/14/2017

Courtesy of Dept. 00643, MS 0730

SNL/NM Vol. 22 No. 17

PLAY IT FORWARD

Supporting our local community!
Donate gently-used sports equipment!

2ND ANNUAL
GUYS GIVE DONATION DRIVE!



DRIVE DATES:
AUGUST 21 – SEPTEMBER 1

Collection Points

800	802	821	823	836
870	880	887	890	891
894	897	898	899	962
6585	8585	IPOC	CGSC	T16

United Way
of Central New Mexico



Questions to Jac Pier
at 845-0634

Guys Give is one of the United Way of Central New Mexico's affinity groups. We are collecting gently-used Sports equipment to benefit the Boys & Girls Clubs of Central New Mexico (BGCCNM). Please glance at your garage and storage areas and bring in gently-used items to one of our collection points.

DONATE TODAY

Stormwater -- Keep It Clean

Did you know that Sandia's stormdrain system is a regulated facility?

It's intended only for rain and snow melt.

The EPA issues permits that allow us to operate the stormdrain system; those permits strictly govern uses and activities in and around the stormdrain system. Most of our stormwater flows untreated to Tijeras Arroyo and ultimately to the Rio Grande.

The Rio Grande provides critical habitat for threatened and endangered species of birds and fish, and serves as a municipal, agricultural and recreational water resource to Albuquerque and surrounding communities. Common every day pollutants that you may not even notice (fertilizer, road deposits, sediment) can become detrimental to the environment during storm events, because they are rapidly washed to the river, where concentrations can spike.

Sandia is committed to protecting the Rio Grande, as well its tributaries and surrounding environment.

You can do your part at home by picking up pet waste; avoiding excessive use of fertilizer, herbicides and pesticides; and using commercial car washes. When at work, if your projects or job duties have the ability to impact stormwater quality, please sign up for free Stormwater Pollution Prevention Training (SW100) in TEDS. Questions? Contact Kathie Deal at 844-8503 or kjdeal@sandia.gov.



Back



August is officially here, which means summer break is just about over, and it's back to school for some of us. This time brings a lot of different changes into our usual routine. While we are going through these changes in routine, be mindful of your safety and security around Sandia and at home.

Visit livesafe.sandia.gov for some tips on being mindful when commuting to work, school, or home.



Comments or article submittals to Brenda Bailey White at 505-844-8128 or bebaile@sandia.gov
Old editions in your restrooms? Consider becoming a distributor.
Contact Brenda Bailey White to sign up to receive the Porcelain Press.

Break down cardboard boxes

Year-end purchasing dramatically increases the number of cardboard boxes awaiting recycling. The custodial team removes cardboard from buildings for recycling, but doesn't break them down due to the risk of overexertion. After emptying a cardboard box, flatten the cardboard. Enlist a coworker for help breaking down cardboard boxes if needed.

Stage flattened boxes in the nearest designated cardboard recycling collection location. Ask a Custodial Services team member for recycling locations.



Environmental objectives and targets

Annually, Sandia sets objectives and targets for reducing energy and water usage, waste creation, and greenhouse gas emissions. Each division also develops its own goals. See the 2018 Site Sustainability Plan at tiny.Sandia.gov/3ahpo or review the EMS Division objectives/targets at tiny.Sandia.gov/wobjnj. Questions to your division Environmental Management System representative.



Stormwater protection

Sandia's stormwater runoff flows untreated to the Rio Grande, which provides critical habitat for threatened and endangered species of birds and fish, and is an important municipal, agricultural and recreational resource. Sandia protects the Rio Grande and its tributaries by ensuring that construction, industrial and municipal activities comply with federal and state regulations and minimize impacts to stormwater quality. If your work could impact stormwater, sign up for, SW100, in TEDS at tiny.Sandia.gov/Stormwater. Questions to Kathie Deal (0641) at 844-8503.

New Lab Policy System

A new Laboratory Policy System featuring streamlined Labs-level policies and processes and a user-friendly design will debut on Techweb by Friday, Aug. 31. The system was developed by the policy management team, in conjunction with cross-division policy leads and subject matter experts, to reduce frustration, reduce risk and enable consistent implementation of policies and processes. Questions to Cps1@Sandia.gov.

New project management/control training

"Engage," a new corporate training program designed for project managers and controllers, provides foundational skills and knowledge for those in the project management job family. Managers and members of the workforce can work together to determine what classes best support career goals and customer needs. Learn more at tiny.Sandia.gov/PMO or contact Pmo@sandia.gov.



June

National Safety Month

#1 OPERATIONAL PRIORITY:
SAFETY & SECURITY



Preventing Pollution During Storm Season

All stormwater flows **untreated** from SNL into Tijeras Arroyo and the Rio Grande. Sandia ensures compliance with three permits issued by the Environmental Protection Agency through a robust sampling program.



NATIONAL SAFETY MONTH

You can minimize Sandia's impact:

- Maintain a spill kit suitable for responding to the types and quantities of chemicals present at your site
- Use drip pans/cloths when servicing vehicles/equipment
- Store chemicals and materials inside whenever possible (those stored outside should be covered and on secondary containment)
- Containerize solid waste in covered receptacles
- Secure portable toilets to the ground or to a trailer
- Containerize wash residues from paints, concrete, and other products into appropriate waste containers (never to the ground)



Spill Kit

**For more information,
take SW100 in TEDS.**

Appendix L-3

Are you responsible for environmental education? For community outreach on environmental and green issues?

The interactive EnviroScape® units dramatically demonstrate sources of pollution — and its prevention. Engaging and effective in creating a real sense of understanding through experience and hands-on demonstrations, EnviroScape reaches across cultural, language, learning and age levels – making

seemingly complex issues much clearer. Proven successful with students from Kindergarten through 12th grade, universities, soil and water conservation districts, city governments, utility companies, corporate outreach specialists, consultants and civic and environmental groups around the world.

EnviroScape® Watershed/Nonpoint Source

What happens when it rains? Demonstrate pollution and stormwater runoff in your watershed and its prevention! Shows residential, industrial, forestry, transportation, recreation, agricultural, construction — rain carries soil (cocoa), chemicals (drink mixes) and oil (cocoa mixture) through the watershed to a pond, lake, river, bay or ocean. Plus best management practices demonstrate how to prevent pollution.



EnviroScape® Wetlands

What does a wetland do? Learn basic functions and values of inland and coastal wetlands. Recognize different types of wetlands, understand what activities negatively affect wetlands and what activities can help to conserve and protect wetlands. what we do on the land.



EnviroScape® Drinking Water & Wastewater Treatment

Is our drinking water safe? Three demonstrations that can be done together or individually – drinking water sources and treatment, wastewater treatment, and biosolids –plus a bonus demo on storm water! Follow the path of water we use — from the **source** to the **use** to **treatment** and back into the river. Includes septic system and rural water sources, and storm water discharged directly to a waterbody OR sent to the wastewater treatment plant. *See under the road and some buildings with removable pieces.*



EnviroScape® includes everything you need for a demonstration — except the water!

The three-dimensional landscape models are approximately 25" x 30" x 5" and come with ingredients and props and a peer-reviewed easy-to-use User's Guide to aid an instructor, group leader or facilitator in presenting a demonstration. Optional setup videos and supplemental curriculum are also available. Easy to use & clean! Comes in a foam padded shipping case, with optional purchase of a wheeled case or tote bag.

EnviroScape® Coastal

Why are beaches becoming polluted? See the sources of pollution and effects on wetlands, estuaries, the ocean, beaches, barrier islands, groundwater and even coral reefs and shellfish beds. Relates to many different areas in a community such as residential, resorts and recreation, agricultural, urban, construction, marinas, beaches and more. The model also addresses marine debris, oil spills, industrial and treatment plants, underground storage tanks, storm water and septic systems.



EnviroScape® Hazardous Materials

Toxic materials? Hazardous Wastes? Sounds too far away for many of us to relate, but it's in our communities and everyday life. Show what is meant by toxic or hazardous materials and waste and the best way to manage these in order to protect our health and environment. What happens in transportation accidents? What about commercial facilities? Underground storage tanks? Abandoned sites and older, unlined landfills? And what if the groundwater gets contaminated – how do we clean it up?



EnviroScape® Waste Management (Landfill & Recycling)

How does a landfill work? How can we manage our waste better? Experience a functioning modern landfill operation including recycling, leachate collection, composting, groundwater monitoring – and compare it with those “dumps” of the past. An exciting way to learn how landfills are designed to manage our waste and protect the environment.





PRICE LIST & ORDER FORM

visit our website at www.enviroscapes.com

	Item #	Item Description	Prices	Quantity	Amount (\$)
Units	71005C	Watershed/Nonpoint Source Unit	\$795		
	71005CW	Wetlands Unit	\$795		
	71005CH	Hazardous Materials Unit	\$825		
	71005CL	Waste Management (Landfill & Recycling Unit)	\$897		
	71005CC	Coastal Unit	\$899		
	71005CD	Drinking Water & Wastewater Treatment	\$987		
Online ordering at www.enviroscapes.com/shop . Any questions, email us at info@enviroscapes.com or call 703-631-8810 x.12.					
Add-ons	71005GWR	Groundwater Kit	\$187		
	71005RIP	Riparian Kit	\$89*		
	71005MYOW	Make Your Own Watershed Kit GROUP Activity (12 kits)	\$535		
	71005CASE	Carrying Case (sold separately)	\$349		
	71005BAG	Shoulder Tote (<i>bolds Deluxe Unit</i>)	\$109*		
	5101	Storm Drain Stencil Activity (20 labels)	\$ 10**		
Curricula	Air & Waste Management Association's Environmental Resource Guide (ERG) Nonpoint Source Pollution Series				
	ERG.K-2	Environmental Resource Guide — K-2	\$45**		
	ERG.3-5	Environmental Resource Guide — 3-5	\$45**		
	ERG.6-8	Environmental Resource Guide — 6-8	\$45**		
	ERG.9-12	Environmental Resource Guide — 9-12	\$52**		

* \$18 shipping / **shipping included

Please allow 2 to 3 weeks for delivery. Special shipping can be arranged for a fee. Prices may change without notice.

How did you hear about EnviroScape? _____

Subtotal \$ _____

Name _____

CODE: _____ LESS - \$ _____
(calculate special offers here; provide the appropriate Code)

Affiliation _____

Sales tax \$ _____
(applicable ONLY to California & Virginia purchasers)

Street Address _____

Shipping & handling \$ _____
(\$35 per each item purchased, unless marked with * or **)

City _____ State _____ Zip _____

TOTAL ORDER \$ _____

Phone _____ Fax _____

Email _____

YES add me to your Listserve.

PAYMENT METHOD — Make check payable to **JT&A, inc**

Check/Money Order Enclosed Purchase Order Enclosed

Purchase Order # _____

CHARGE TO MY: VISA Master Card AMEX

Card # _____ Exp. date _____

Authorized signature _____

SHIPPING AND HANDLING: \$35 per each item purchased¹, unless marked w/ (*)\$18 or ()shipping included** All orders are shipped Regular UPS. **Please provide street address, no P.O. boxes.** For shipments to CANADA, \$60 per item (shipped Standard UPS).

Special shipping can be accommodated if requested.

¹ For shipping in the continental U.S.; additional charges apply to Alaska, Hawaii, US Virgin Islands and international destinations.

**SEND TO: EnviroScape® Units, c/o JT&A, inc. • 14524-F Lee Road • Chantilly, VA 20151
(703) 631-8810 • Fx (703) 631-6558 • www.enviroscapes.com**

Educational Program for Enviroscope Stormwater Model

This document serves as a general guide and provides ideas for Sandia personnel presenting stormwater issues using the Enviroscope Watershed Model.

The model is intended for students in the age range of about 7 to 10 years old, but depending on how the model is used, it can be presented to younger or older audiences. The presenter needs to gauge the level of sophistication of the audience and adjust the content accordingly.

General Overview

Primary stormwater pollution concepts the presentation is intended to convey:

- Hydrologic cycle
- What is a watershed?
- Pre versus post-development watershed characteristics and runoff
- Common sources and types of pollution
- What happens when it rains?
- What are the specific detrimental effects of various pollutants
- How can we reduce/prevent stormwater pollution?

Initial Setup

Option 1: Set up all the houses and cars, etc. before the presentation begins. Begin presentation by explaining this is the watershed we live in.

Option 2: Start without buildings, cars, and roads. Begin presentation by explaining that the watershed was different before it was developed. Add all the infrastructure and illustrate how different the watershed is now than it was before development.

Hydrologic Cycle

Use a diagram to illustrate the hydrologic cycle. Explain that water is not created or destroyed, and that it is constantly cycling through the biosphere from ocean, to rain, to surface water and groundwater, and eventually back to the ocean.

What is a Watershed?

- A watershed is like a bowl. It is the area of land that collects and drains rainfall and snowmelt to a central location- lake, river, ocean, playa. Point out the mountains, streams, lowlands, and receiving water body on the model and explain how all water flows downhill to the bottom.
- Everywhere is in a watershed
- Our watershed is the Middle Rio Grande Watershed. Correlate the main features of the model to MRG Watershed- the mountains are the Sandia's, the river is the Rio Grande, etc.

Pre versus Post-watershed Characteristics and Runoff

- Discuss that a pre-development watershed has lots of plants and soil, rainfall is slowed and infiltrated, runoff is relatively limited, and there is little pollution.
- Explain that as people started settling in the area first they built farms, then roads, then more people moved in and needed houses, then factories moved in... Build the city to show how the pre-development watershed was changed over time to become what it is today.
- Explain the increase in impervious surfaces, compacted surfaces, and decrease in vegetation has increased the amount of runoff that occurs.
- Show the difference between spraying water on the felt strips vs. spraying water on the plastic- is there more runoff from the sandy desert or from a parking lot?

Sources and Types of Pollution

Ask if anyone knows what pollution is. Explain that pollution is any harmful, unhealthy, or undesirable substance that is introduced into the environment.

Ask if anyone knows what some of the more common types of pollutants in our watershed are. Give them the container of the example pollutant they named and ask them if they can put some on the model where they think they would find it. Have a different student apply the different pollutants where they think they might find them.

- Sediment
- Animal waste
- Fertilizer
- Pesticide
- Herbicide
- Oil
- Detergent
- Trash
- Factory discharge

Point out the difference between point source and non-point source pollution. Point source pollution comes from a specific location, like the end of a pipe discharging from a factory. Non-point source pollution comes from a large area, like dog waste from an entire neighborhood. Point source pollution is relatively easy to find and stop, but non-point source requires a large scale shift in practices and attitudes to change. Non-point sources account for well over half the nation's water pollution.

If all the non-point source pollution stayed where it was- spread out all over in small amounts, then it might not ever really cause a problem. In fact, those pollutants are spread throughout our neighborhoods right now and they don't seem like that much of a problem, do they? But what happens when it rains?

Make it rain

Have the students spray down the model with spray bottles. Ask them what is happening to the pollution that was spread over a large area in relatively low concentrations.

Where does the water go? Does it go into the sewer? Is it treated?

Show how all the different pollution sources wash into the Rio Grande. Diffuse pollution at low concentrations becomes concentrated pollution at high concentrations. Explain that no one person is causing a problem but together we do. We have to all do our part to minimize pollution. Questions for discussion:

- What does the rain do to the pollution?
- Where did the pollution end up?
- Was the pollution more of a problem before or after the rain?

Why do we Care About Pollution?

Would you want to go swimming in the river?

Would you like to drink water from the river?

What is affected by the pollution?

- Fish (metals, pesticides, etc.)
- Birds (metals, pesticides, etc.)
- Eutrophication (plant life, aquatic life, smell, visual aesthetics)
- Drinking water (costs more to clean up, hard to lose the algae taste)
- Recreational uses (E. coli, get sick)
- Sedimentation effects (carries pollution, fish spawning habitat)

What Can we do to Decrease Water Pollution?

Pick up animal waste, don't litter

Avoid over use of fertilizer, pesticides

Recycle used motor oil

Avoid disturbing vegetation and soil

Demonstrate the use of BMPs:

- Silt fences
- Revegetation
- Soil stabilization
- Fence cattle
- Wattles
- Buffer strips
- Trash racks, filter screens

Appendix M: Supporting Documents for Public Involvement and Participation Program

No.	Description
M-1	Public Meeting Agenda and Presentation – October 27, 2015
M-2	Assessment of October 27, 2015 Public Meeting
M-3	Public Meeting Agenda and Presentation - April 27, 2017
M-4	Public Meeting Agenda and Presentation - April 24, 2018
M-5	SNL/NM Earth Day Presentations- April 25, 2019

v.5, August 10, 2019

A printed copy of this document may not be the official version. The official printed copy of this SWMPP is located in the office of the Environmental Compliance and Monitoring Department (Org. 00641).

Appendix M-1

**Department of Energy / Department of Defense
SEMI-ANNUAL PUBLIC MEETING**

Tuesday, October 27, 2015

5:30 – 7:30 p.m.

Cesar Chavez Community Center
7505 Kathryn SE, Albuquerque NM
(Located east of Louisiana Blvd. and Kathryn)

*This is a joint meeting between Sandia National Laboratories' Environmental Programs
and Kirtland Air Force Base (AFB) Environmental Restoration Program (ERP).*

AGENDA

Department of Energy (DOE) Report

5:30 - 6:30 pm

Introduction

Dave Rast, DOE

MS4 Stormwater Permit

John Kay, Sandia National Labs

RCRA Permit Information Resources

Anita Reiser, Sandia National Labs

Environmental Restoration Operations Status

John Cochran, Sandia National Labs
and Joe Estrada, DOE

Question & Answer

Department of Defense (DoD) Report

6:30 - 7:30 pm


Kirtland AFB Performance-Based Remediation
Update

FPM Remediations, Inc./AECOM



FOR MORE INFORMATION:

Dave Rast
Department of Energy/Sandia Field Office
P.O. Box 5400
Albuquerque, NM 87185-5400
(505) 845-5349

Kirtland AFB Public Affairs
377 ABW/PA
2000 Wyoming Blvd. SE, Suite A-1
Kirtland AFB, NM 87117
(505) 846-5991
377ABW.PA@kirtland.af.mil.

Exceptional service in the national interest 


Overview of U.S. EPA Municipal Separate Storm Sewer System (MS4) NPDES Permit No. NMR04A000


Labels National Laboratories is a not-for-profit, federal government owned and operated, limited liability company. It is wholly owned subsidiary of Lockheed Martin Corporation. Lockheed Martin is a wholly owned subsidiary of Lockheed Martin Corporation. Lockheed Martin is a wholly owned subsidiary of Lockheed Martin Corporation. Lockheed Martin is a wholly owned subsidiary of Lockheed Martin Corporation.

What is the MS4 Permit?

- An MS4 is any system of stormwater conveyances (channels, storm drains, roads with drainage systems, curbs, gutters, ditches...) that discharge to a water of the U.S.
- The Permit establishes requirements to reduce pollution carried by stormwater run-off and restore portions of the Middle Rio Grande.
 - MS4 Permit applies to the Albuquerque Urbanized Area (based on 2010 census)
- DOE/Sandia is a permittee, joining KAFB, City of Albuquerque, Bernalillo County, and other entities
- The MS4 permit is issued and enforced by EPA
 - MS4 Permit requirements are in addition to existing industrial and construction stormwater permits



MS4 Areas at SNL




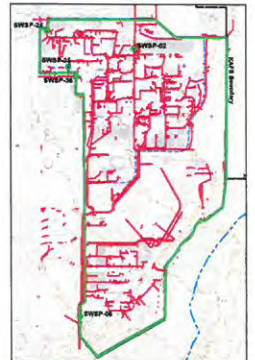
Northern MS4 Area

Kirtland Air Force Base

Southern MS4 Area



Northern SNL MS4

- 1.16 square miles
 - 1.05 sq-mi drains directly to Tijeras Arroyo
 - 0.11 sq-mi drains to KAFB MS4

Southern SNL MS4

- 0.16 square miles
- Unlined swales and culverts under roads


What Does the Permit Require?

- Control Measure Programs
 - Construction Site Stormwater Runoff Control
 - Post-Construction Stormwater Management in New Development and Redevelopment
 - Pollution Prevention / Good Housekeeping
 - Illicit Discharge Detection and Elimination
 - Control of Floatable Discharges
 - Public Education and Outreach
 - Public Involvement and Participation
- Water Quality Monitoring
- Annual Reporting
- Annual Program Review and Improvement

Control Measure Programs


Construction Site Runoff

- Maintain compliance with Construction General Permit (CGP)
- Erosion and sediment controls
- Pollution prevention measures
- Routine inspections



Post-Construction Runoff

- Compliance with Energy Independence and Security Act (EISA) Section 438 to maintain pre-development hydrology
 - Minimize soil compaction and impermeable surfaces
 - Example: Detention basins infiltrate stormwater and slow discharges




Photos taken by Sandia Corporation

Control Measure Programs (cont)

Pollution Prevention & Good Housekeeping

- Maintain compliance with the Multi-Sector General Permit (MSGP)
- Waste Management and Pollution Prevention Programs
- Provide training to personnel




Illicit Discharge Detection and Elimination

- Corporate policies to report and respond to environmental releases
- Screen the entire SNL MS4

Control Measure Programs (cont)


Control of Floatables

- Waste Management and Pollution Prevention Programs
- Keep stormdrain system, drains/inlets clean



Education and Outreach


- Training for personnel
- Demonstrations to students using educational models
- "Stormwater - Keep It Clean" campaign, which includes posters, newsletters, and informational brochures.




Public Involvement and Participation Program

Purpose: Encourage public involvement and provide opportunities for participation in review, modification and implementation of the SNL Stormwater Management Program (SWMP) Plan

- Provide the Notices of Intent (NOIs), SWMP Plans, and Annual Reports for public review and comment
- Address public comments and submit responses to EPA
- Participate in semi-annual DOE/DoD public meetings



Monitoring Program



- Monitor all stormwater inflows and outflows to/from MS4 jurisdiction
- Inflows will be monitored at stormwater sampling point SWSP-02.
- Outflows to Tijeras Arroyo will be monitored at SWSP-05.
- Outflows to the KAFB MS4 will be monitored at SWSP-24, 35, and 36.

Reporting Requirements

- Annual Reports, Discharge Monitoring Reports (DMRs), and SWMP Plan Revisions
 - submit to EPA, NMED, and Pueblo of Isleta by December 1 each year
 - reporting period is July 1 through June 30
 - first Annual Report due December 1, 2016
 - 45 day public review and comment period starting ~ October 1, 2016
- Reports, data, and SWMP Plan revisions are available to the public through the LoboVault website and in hard copy at the UNM Library.
- Any comments received will be addressed and the reports modified as appropriate prior to submittal

Information and Contacts




UNM LoboVault Collection of Documents:
<https://repository.unm.edu/handle/1928/26737>


To View Hard Copies in Person:
 Monica Dorame
 Zimmerman Library
 Government Documents Collection
 (505) 277-7180
mdorame@unm.edu




DOE Contact Information:
 Karen Agogino
 Water Quality Program Manager
 DOE National Nuclear Security Administration
 Sandia Field Office
 (505) 845-6100
karen.agogino@nnsa.doe.gov

The End






WQ Constituents and Standards




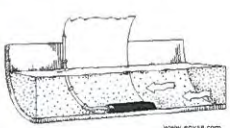

Constituent	Unit	WQCC WQ Standard October 97, 2000	Isleta Pueblo WQ Standard March 16, 2002	Most Stringent Applicable WQ Standard
Temperature	°C	< 32.2	< 32.2	< 32.2
pH	—	6.6-9.0	6.0-9.0	6.6-9.0
DO	mg/L	>5	>5	>5
TSS	mg/L	—	—	—
TDS	mg/L	1,500 ^a	—	1,500 ^a
COD	mg/L	—	—	—
BOD ₅	mg/L	—	—	—
Oil and Grease	mg/L	—	10/15 ^d	10/15 ^d
E. coli	cfu/100mL	206/940 ^b	47/88 ^b	47/88 ^b
TKN	mg/L	varies ^c	varies ^c	varies ^c
Total Phosphorus	mg/L	—	—	—
PCBs	µg/L	0.00064	0.00074	0.00064
Gross Alpha	pCi/L	15	15	15

— no established standard; ^amonthly average; ^bmonthly geometric mean/single sample; ^cbased on ammonia as nitrogen; no TKN standard listed; temperature and pH dependent; typical anticipated range is 2-6 mg/L, calculated as: N = ((0.0577(1+10^{7.888-9pH}))+2.487(1+10^{2.7-88pH}))*MIN(2.85, 1.45*10^{0.028(105-T)}); ^dweekly average/single sample

Monitoring Methods




- All MS4 monitoring stations are equipped with an automatic sampler. A sensor located in the storm channel or pipe detects flow and turns on the sampler pump. Four sub-samples are collected (one every 15 minutes) and composited into a single sample for analysis.

- A hand-held probe will be used to measure dissolved oxygen (DO), pH, temperature, and conductivity in the field.
- Flow metering will occur at SWSP-02 and SWSP-05 (accounts for 90% of the Northern SNL MS4).

Total Maximum Daily Load



- The Rio Grande has been assigned a "Total Maximum Daily Load (TMDL)" for *E. coli*. This is the maximum amount of *E. coli* that the Rio Grande can receive over the course of a day.
- E. coli* is a bacteria that lives in the intestines of mammals and birds. Domestic animal waste is a common source of *E. coli* in stormwater runoff in Albuquerque.
- SNL/NM will meet the TMDL for two reaches of the Rio Grande:
 - Pueblo of Isleta Boundary to Alameda Bridge (ID: NM-2105_50)
 - Alameda Bridge to HWY 550 (ID: NM-2105_1_00)

Appendix M-2

DoD/DOE Public Meeting October 27, 2015

Public Behavioral Evaluation

Department of Energy (DOE) and Sandia Corporation (Sandia) completed an assessment of public behavior before, during, and after stormwater was discussed a public meeting held on October 27, 2015. The Assessment was completed in fulfillment of requirements provided in Section 1.D.5.h(iii)(b) of the MS4 Permit. The assessment was conducted during a 15 minute informational presentation about the MS4 permit and the Sandia National Laboratories (SNL) Stormwater Management Program (SWMP) Plan. The presentation provided an overview of the control measure programs, monitoring plan, and reporting requirements. The public was encouraged to provide review and comment of the NOIs, SWMP Plans, and Annual Reports, and were advised of upcoming public comment periods and how to access pertinent documents on-line and in person (hard copy).

The attached assessment form was completed by approximately ten DOE and Sandia staff members. The staff members that completed the forms were primarily scientists of various disciplines, and were not necessarily trained in evaluating human behavior. Therefore, the results are considered to be non-scientific in nature.

In general, prior to the presentation, the public audience was rated as “ambivalent” or “neutral” in their level of interest and attitude toward the MS4 permit and SWMP. During the presentation, the public was rated as “interested”, although not “engaged”. Following the presentation, the public remained “interested” but did not become “engaged”. There were no questions asked or comments made.

DOE/Sandia will continue to seek public participation and increase stormwater awareness in the community.

**DoD/DOE Public Meeting
October 27, 2015**

Assessment of Audience

- 1. Rate the demeanor of the audience immediately before the presentation begins. (select one number and positive/negative/neutral)**

1 (ambivalent) 2 3 4 5 (engaged)

positive negative neutral

- 2. Rate the demeanor of the audience during the presentation. (select one number and positive/negative/neutral)**

1 (ambivalent) 2 3 4 5 (engaged)

positive negative neutral

- 3. Did the audience ask questions or make comments?** yes no

If yes, please circle one or more of the words that describes the tone of the questions/comments and/or include a description below.

apathetic interested encouraged concerned judgmental adversarial

Other: _____

- 4. Rate the demeanor of the audience immediately after the presentation ends. (select one positive/negative/neutral)**

1 (ambivalent) 2 3 4 5 (engaged)

positive negative neutral

- 5. Rate the overall satisfaction of the audience with the presentation. (select one number)**

1 (very unsatisfied) 2 3 4 5 (very satisfied)

**Department of Energy / Department of Defense
SEMI-ANNUAL PUBLIC MEETING**

Tuesday, October 27, 2015

5:30 – 7:30 p.m.

Cesar Chavez Community Center
7505 Kathryn SE, Albuquerque NM
(Located east of Louisiana Blvd. and Kathryn)

*This is a joint meeting between Sandia National Laboratories' Environmental Programs
and Kirtland Air Force Base (AFB) Environmental Restoration Program (ERP).*

AGENDA

Department of Energy (DOE) Report

5:30 - 6:30 pm

Introduction

Dave Rast, DOE

MS4 Stormwater Permit

John Kay, Sandia National Labs

RCRA Permit Information Resources

Anita Reiser, Sandia National Labs

Environmental Restoration Operations Status

John Cochran, Sandia National Labs
and Joe Estrada, DOE

Question & Answer

Department of Defense (DoD) Report

6:30 - 7:30 pm

Kirtland AFB Performance-Based Remediation
Update

FPM Remediations, Inc./AECOM

FOR MORE INFORMATION:

Dave Rast
Department of Energy/Sandia Field Office
P.O. Box 5400
Albuquerque, NM 87185-5400
(505) 845-5349

Kirtland AFB Public Affairs
377 ABW/PA
2000 Wyoming Blvd. SE, Suite A-1
Kirtland AFB, NM 87117
(505) 846-5991
377ABW.PA@kirtland.af.mil.

Appendix M-3

v.5, August 10, 2019

A printed copy of this document may not be the official version. The official printed copy of this SWMPP is located in the office of the Environmental Compliance and Monitoring Department (Org. 00641).



U.S. DEPARTMENT OF
ENERGY



**Sandia
National
Laboratories**



U.S. AIR FORCE



SEMI-ANNUAL PUBLIC MEETING

Thursday, April 27, 2017

5:30 – 7:30 p.m.

Cesar Chavez Community Center
7505 Kathryn SE, Albuquerque NM

We invite you to attend this joint meeting hosted by the U.S. Department of Energy (DOE), Sandia National Laboratories, and Kirtland Air Force Base (AFB). The purpose of the meeting is to provide information about our environmental programs.

AGENDA

Department of Defense (DoD) Report

5:30 - 6:30 pm

Introduction

Kirtland AFB

Site WP-026 Base Sewage Lagoons and Golf Course and Golf Course Main Pond (Solid Waste Management Unit (SWMU) WP-26) Status Update

Richard Wells, AECOM

Site ST-070E, Buildings 481/482 Oil/Water Separator, (Former ST-219) Status Update

Richard Wells, AECOM

Public Comment

Department of Energy (DOE) Report

6:30 - 7:30 pm

Introduction

Dave Rast, DOE

Environmental Restoration Operations Status

John Cochran, Sandia National Labs and Karen Oden, DOE

MS4 Stormwater Permit

John Kay, Sandia National Labs

FOR MORE INFORMATION:

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DOE/Sandia Field Office
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Albuquerque, NM 87185-5400
(505) 845-5349
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Kirtland AFB Public Affairs
377 ABW/PA
2000 Wyoming Blvd. SE, Suite A-1
Kirtland AFB, NM 87117
(505) 846-5991
Email: 377ABW.PA@kirtland.af.mil

DOE/SNL MAILING LIST MAINTAINER

You are on a mailing list to receive information via the US mail about Sandia National Laboratories' environmental activities.

If you would like to receive these notices via e-mail, please send your contact information to envinfo@sandia.gov.

If you wish to be removed from either the US mail or e-mail mailing list (please specify which list), send your request to.

Email: envinfo@sandia.gov

or

US mail Sandia National Laboratories
c/o Anita Reiser
Dept. 4144, MS 0729
P. O. Box 5800
Albuquerque, NM 87185-0729


We make every attempt to keep our list current and targeted only to those interested in our environmental activities.

Additional information is also available on our website at www.sandia.gov/about/environment/





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Overview and Status Report
 U.S. EPA
 Middle Rio Grande Watershed
 Municipal Separate Storm Sewer System (MS4)
 Permit

Sandia National Laboratories is a multi-program laboratory managed and operated by Sandia Corporation, an equal opportunity affirmative action employer, for the U.S. Department of Energy's National Nuclear Security Administration under contract DE-AC02-04OR21400. SANDIA CORP., 2969 DOWNEY DRIVE, MS 907, ALBUQUERQUE, NM 87122-5070, USA.

Presentation Overview

1. Stormwater Regulation at SNL
2. What is the MS4 Permit?
3. Control Measures
4. Monitoring Program
5. Reporting Requirements
6. How to Obtain Additional Information
7. Questions?

2

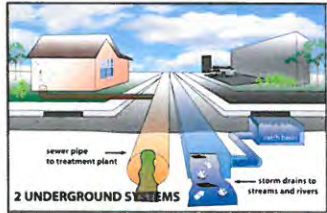
Stormwater Regulation at SNL

1. Construction General Permit (CGP)
 - Regulates active construction sites ≥ 1 acre
2. Multi-Sector General Permit (MSGP)
 - Regulates specific industrial activities
3. Municipal Separate Storm Sewer System (MS4) Permit
 - Regulates entire stormdrain system

3

What is an MS4?

- A Municipal Separate Storm Sewer System (MS4) is "a conveyance or system of conveyances (including roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, manmade channels, or storm drains)...that discharges to waters of the United States".




2 UNDERGROUND SYSTEMS

4


Middle Rio Grande MS4 Permit

- Watershed scale protections for urbanized areas discharging to the Middle Rio Grande
- Approximately 12 separate permittees
 - MS4 Technical Advisory Group
- Permit coverage began November 2015



5


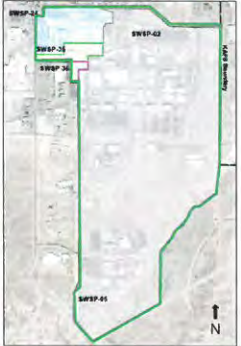
SNL MS4 Location



6

SNL MS4

- 1.16 square miles
 - 1.05 sq-mi drains directly to Tijeras Arroyo
 - 0.11 sq-mi drains to KAFB MS4

7



MS4 Permit Requirements

- 7 Control Measure Programs
 - Construction Site Stormwater Management
 - Post-Construction Stormwater Management
 - Pollution Prevention/Good Housekeeping
 - Illicit Discharge Detection and Elimination
 - Control of Floatables
 - Public Education and Outreach
 - Public Involvement and Participation
- Stormwater Quality Monitoring
- Annual Reporting

8

Construction Site Runoff

- Maintained compliance with Construction General Permit
- Stormwater Pollution Prevention Plans
- SNL conducted ~50 inspections in 2016 within the MS4 boundary

9

Post-Construction Runoff


- Compliance with Energy Independence and Security Act (EISA) Section 438
 - Maintain pre-development hydrology
- Infiltrate and slow runoff through permeable surfaces, detention, and reuse
- Stormwater detention basins
- Rainwater reuse systems
- Permeable landscaping
- Native vegetation



10

Pollution Prevention & Good Housekeeping


- Chemical inventory and tracking program
- Waste Management and Recycling Program
- Pest Management Plan and Gardener's Manual
- Sediment Control Plan
- Bi-weekly inspections of SNL MS4 outfalls (approximately 400 outfall inspections in 2016)



11

Illicit Discharge Detection and Elimination


- Sandia 311
- Corporate policies, procedures, and response protocol
- Conduct regular screening and monitoring of SNL MS4 for non-stormwater discharges
- Coordination with Facilities Management and Operations to identify sources of non-stormwater flow



12

Control of Floatables


- Waste Management and Recycling Program
- Block & Gravel inlet protection
- Street sweeping plan
- Bi-weekly inspections and maintenance of outfalls



13

Education and Outreach


- Provided stormwater training to over 250 SNL personnel and contractors in 2016
- Maintain "Stormwater - Keep It Clean" campaign (posters, brochures, newsletters, porcelain press)
- Presentations to students using a watershed model
 - Rio Rancho Water Festival
 - Explora STEM Fiesta
 - Sandia STEM and Earth Day events
 - APS classrooms for River X-change



14

Water Quality Monitoring

- Monitor all inflows and outflows 8 times each location over permit term (5 years)
- Wet Weather Monitoring Plan approved by EPA
- Collecting samples during the current monitoring period
 - July 1, 2016 - June 30, 2017
- Results due to EPA December 1, 2017



15

Reporting & Public Involvement

- Annual Reports, Monitoring Reports, and Updated Stormwater Management Program Plan
 - Due December 1 every year
 - 30 day public review and comment period in October of each year
- All EPA deliverables are available to the public through the UNM Digital Repository website and in hard copy at the UNM Library
- Participation in April DoD/DOE public meetings

16

Information and Contacts

To Access Files Online:
UNM Digital Repository of Documents
http://digitalrepository.unm.edu/snl_ms4/

To View Hard Copies in Person:
Monica Dorame
Zimmerman Library
Government Documents Collection
(505) 277-7180
mdorame@unm.edu

DOE Contact Information:
Steve Black
Water Quality Program Manager
DOE National Nuclear Security Administration
Sandia Field Office
(505) 845-6885
Steven.Black@nnsa.doe.gov



18

Backup Slides

18

Appendix M-4

MS4 Stormwater Permit

MS4 Permit Description

- MS4 stands for Municipal Separate Storm Sewer System
- MS4 Permit applies to centralized storm drainage systems within the Albuquerque Urbanized Area
- Other permittees include KAFB, UNM, NMDOT, City of Albuquerque, Bernalillo County, AMAFCA, about 8 others
- Permit issued December, 2014; the permit term is 5 years. A new MS4 Permit will be issued in 2019
- Permit requires 7 control measure programs, water quality monitoring of all MS4 inflows and outflows, and annual reporting

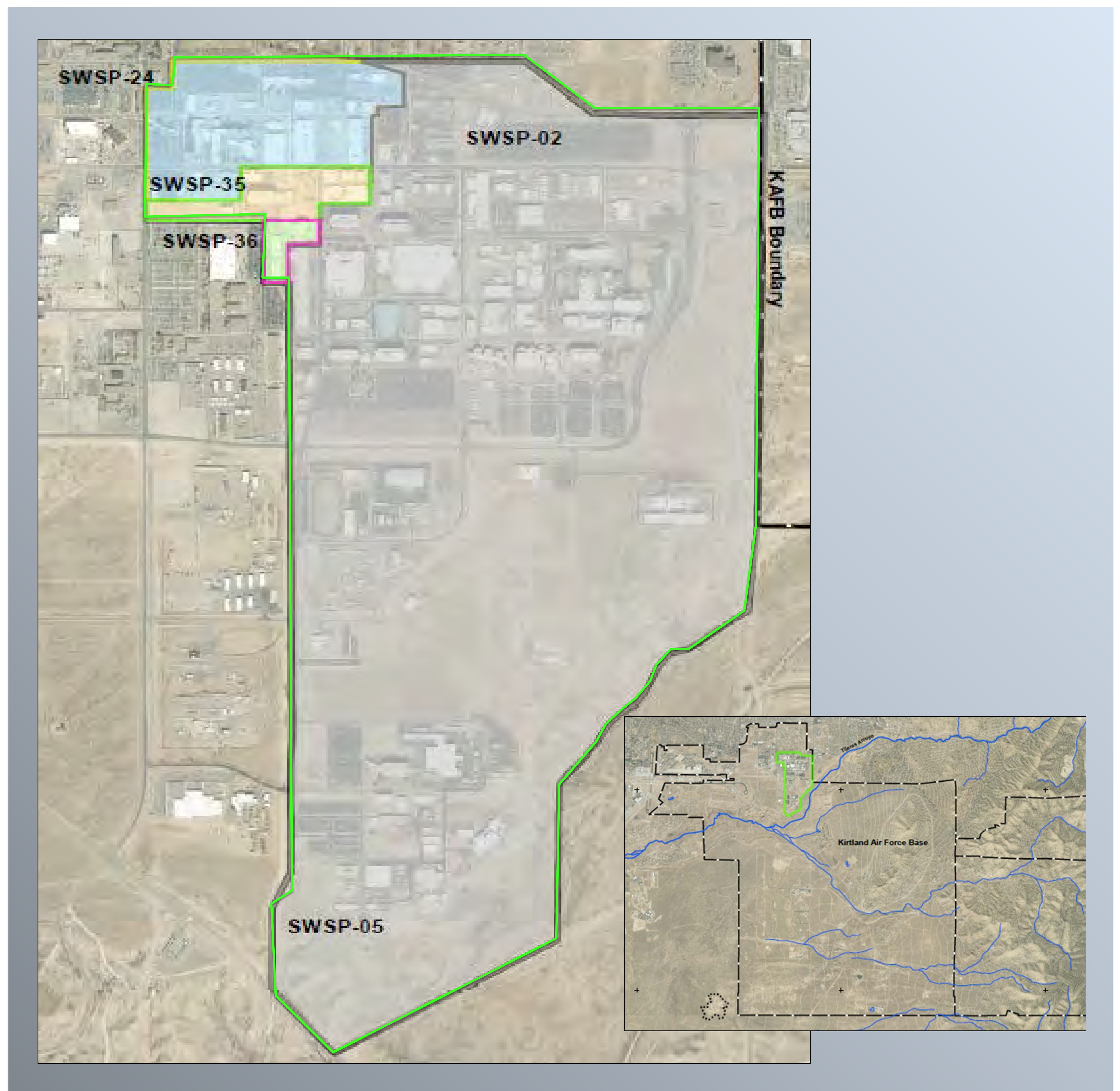
SNL/NM MS4 Description

- SNL/NM MS4 includes TA-I, TA-II, and TA-IV. Total area = 742 acres
- 90% of MS4 drains south to Tijeras Arroyo
- 10% of MS4 drains west to KAFB, then north to KAFB detention basins
- 5 water quality monitoring locations (1 inflow, 4 outflows)



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John Kay
Stormwater Program
Sandia National Laboratories
New Mexico



MS4 Stormwater Permit

Control Measure Programs

The control measure programs are designed to prevent pollutants from entering the stormdrain system and/or being discharged from the MS4.

Construction Site Runoff Control

- Compliance with Construction General Permit
- Stormwater Pollution Prevention Plans
- Conducted ~50 inspections in 2017 within the MS4

Post-Construction Site Runoff Control

- Compliance with EISA Section 438
- Maintain pre-development hydrology
- Reduce and slow runoff using GI/LID + BMPs

Pollution Prevention and Good Housekeeping

- Chemical inventory and tracking program
- Waste Management and Recycling Program
- Pest Management Plan and Gardener's Manual
- Sediment Control Plan

Illicit Discharge Detection and Elimination

- Corporate policies, procedures, and training
- Regular screening and monitoring of MS4
- Coordination with Facilities Management and Operations to prevent Illicit Discharges

Control of Floatables

- Waste Management and Recycling Program
- Block & Gravel inlet protection
- Street sweeping plan
- Bi-weekly inspections and maintenance of outfalls

Public Education and Outreach

- Provided stormwater training to ~250 SNL personnel and contractors in 2017
- "Stormwater - Keep It Clean" campaign
- Watershed model presentations to local students

Public Involvement and Participation

- Annual Reports, Discharge Monitoring Reports, and Updated Stormwater Management Program Plan
- 30 day public review and comment period in October of each year
- All EPA deliverables are available to the public through the UNM Digital Repository website:

http://digitalrepository.unm.edu/snl_ms4/

- Participation in DoD/DOE public meetings



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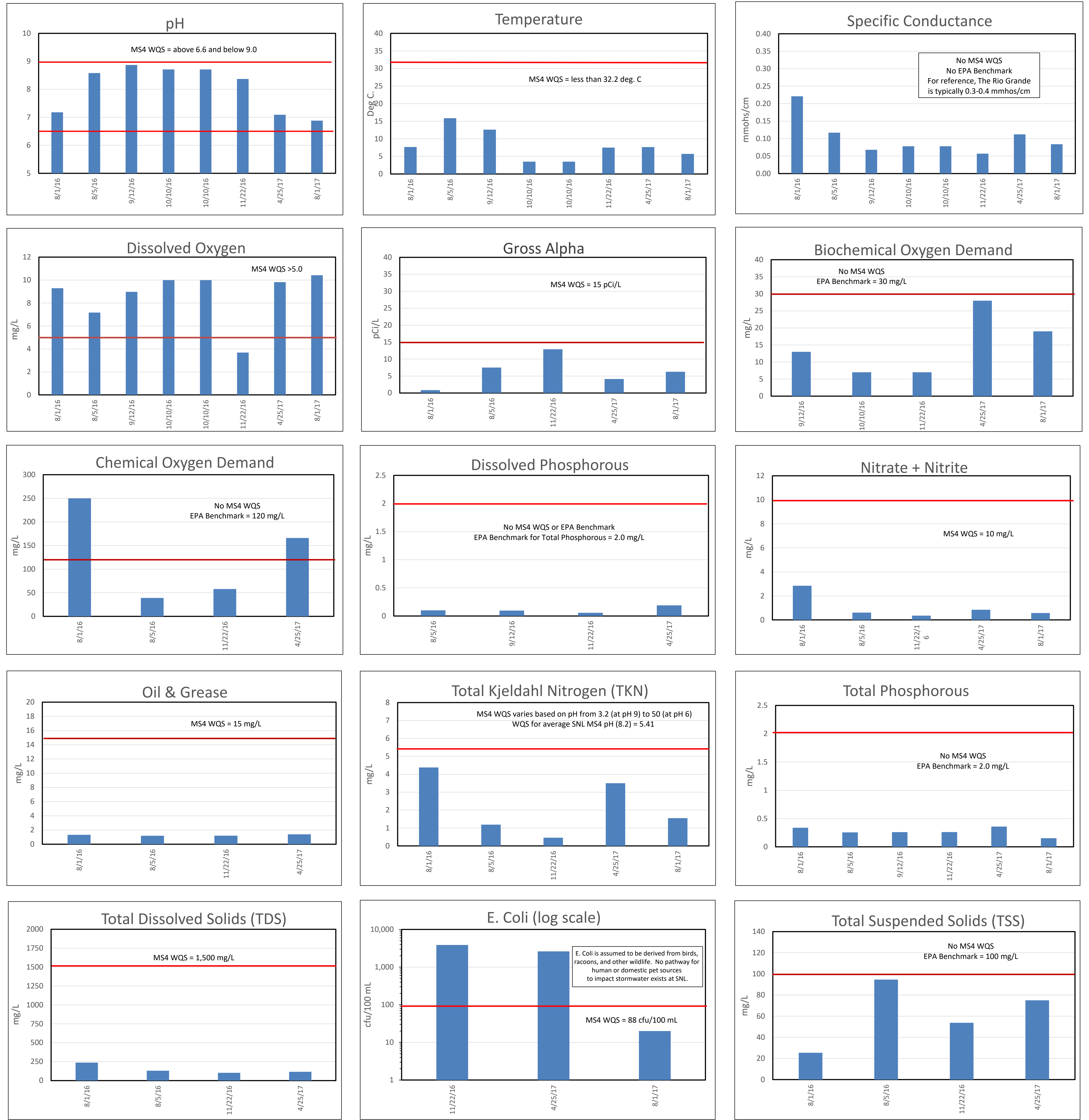
John Kay
Stormwater Program
Sandia National Laboratories
New Mexico

MS4 Stormwater Permit

Water Quality Monitoring

Water quality monitoring is conducted to identify pollutants entering the stormdrain system in order to guide improvements to the control measure programs.

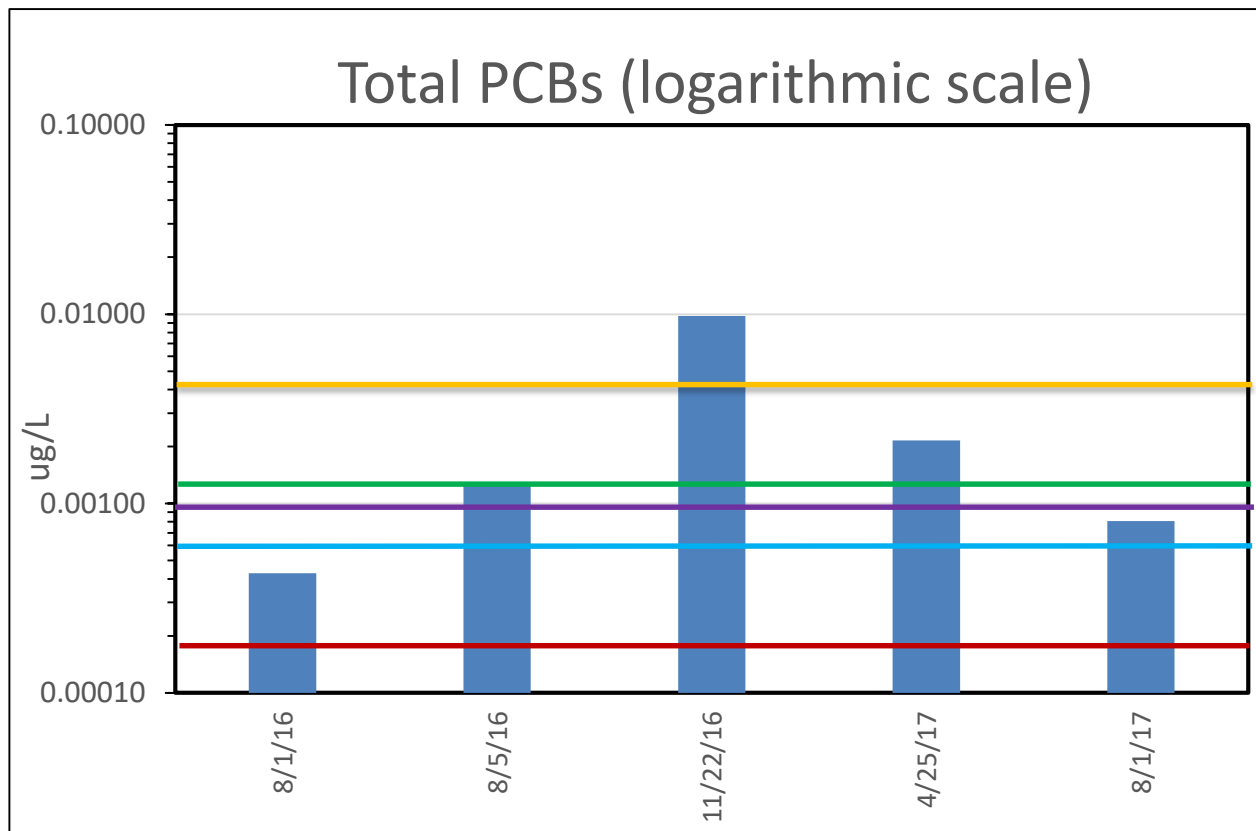
MS4 Stormwater Quality Data Collected at SWSP-05 Since Permit Inception



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Long Term Focused Pollutant Reduction Activities

- Additional Sediment Reduction BMPs
- Microbial Source Tracking & Reduction
- PCB Source Tracking & Reduction
- Atmospheric PCB Deposition Monitoring



Albuquerque Metro Stormwater (a)	Median = 0.00428 Range: ND-0.124
SWSP-05 Discharge	Median = 0.00127 Range: 0.000428-0.0098
Pajarito Plateau Baseline Runoff (b)	Median = 0.00097 Range: 0.00023-0.0207
Sandia Peak Snow Samples (b)	Median = 0.00059 Range: 0.00053-0.00065
MS4 Water Quality Standard	0.00017 ug/L

(a) U.S. Geological Survey, Scientific Investigations Report 2015-5006. Summary of Urban Stormwater Quality in Albuquerque, NM 2003-2012. 2015.
(b) Los Alamos National Laboratory, LA-UR-12-1081. PCBs in Precipitation and Stormwater Within the Upper Rio Grande Watershed. May, 2012.

John Kay
Stormwater Program
Sandia National Laboratories
New Mexico

Appendix M-5

v.5, August 10, 2019

A printed copy of this document may not be the official version. The official printed copy of this SWMPP is located in the office of the Environmental Compliance and Monitoring Department (Org. 00641).

Stormwater Matters !!!

Regulatory and Corporate Drivers

- EPA NPDES Construction General Permit (CGP)
- EPA NPDES Multi-Sector General Permit (MSGP)
- EPA NPDES Municipal Separate Storm Sewer System (MS4) Permit
- State of New Mexico Section 20.6.2 NMAC water quality regulations
- DOE Order 458.1 *Protection of the Public and the Environment*
- NTESS ES&H Manual Chapter MN470112 *Surface & Stormwater Discharges*

Stormwater Program Services

- Assist line organizations identify and comply with regulations and policy
- Interface with City, State, and Federal regulators and inspectors
- Interface with NNSA/SFO
- Prepare and administer permits (SWPPPs)
- Conduct inspections
- Identify BMPs and corrective measures
- Conduct water quality monitoring
- Prepare regulatory reports and data deliverables
- Perform corporate and project specific training
- Provide community education and outreach



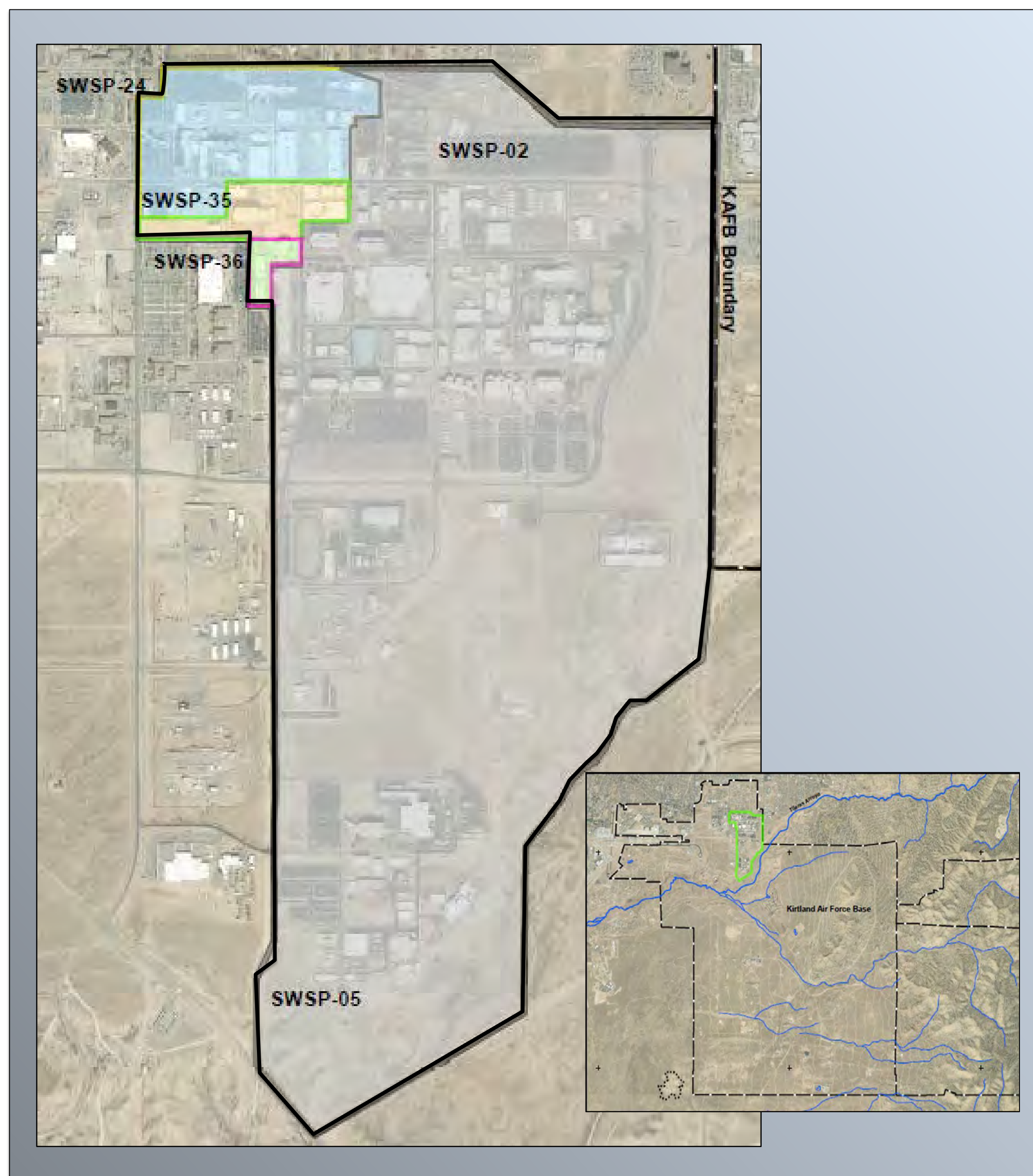
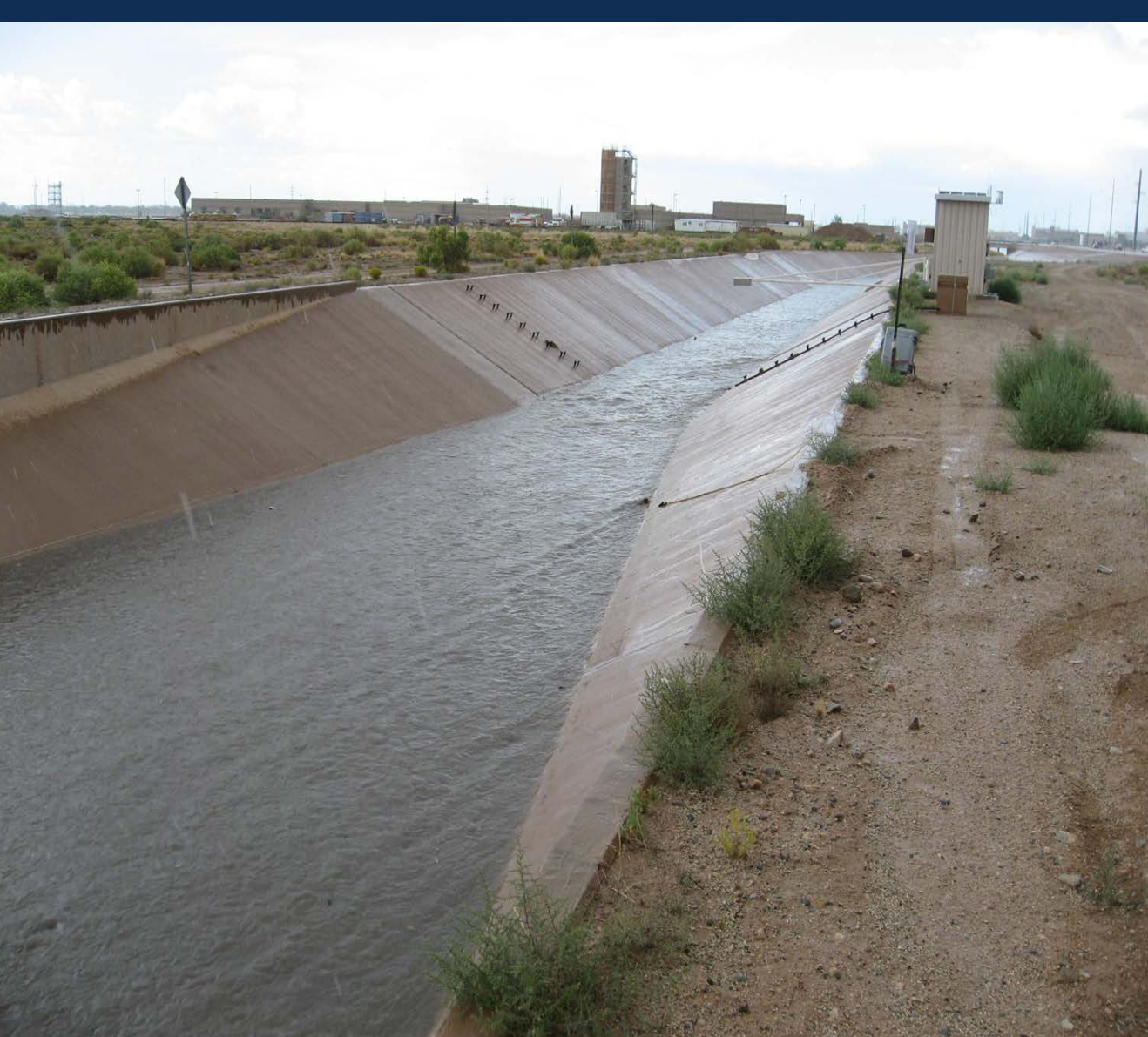
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Stormwater Program
Sandia National Laboratories
New Mexico



MS4 Permit

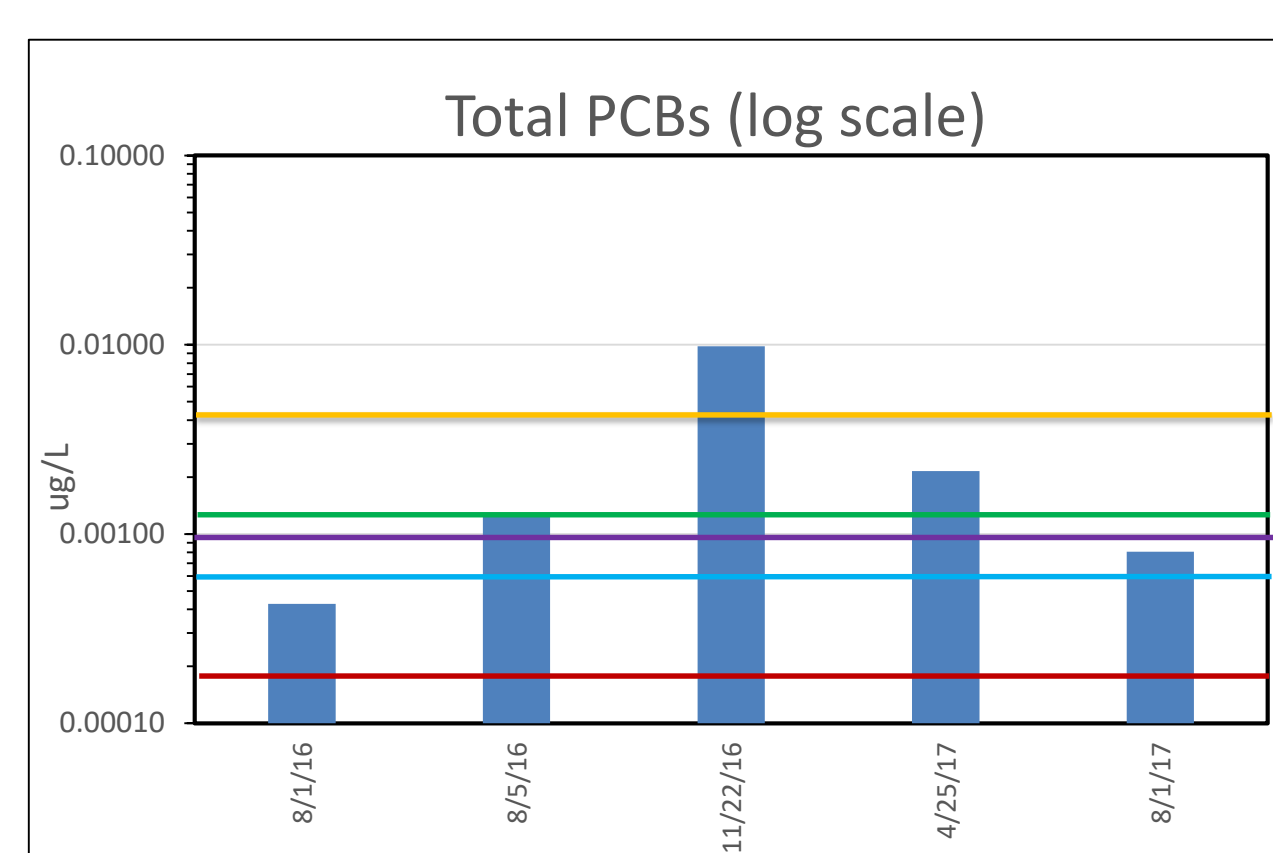
- MS4 = Municipal Separate Storm Sewer System
- MS4 Permit applies to centralized storm drainage systems within TA-I, TA-II, and TA-IV. Total area = 742 acres
- MS4 Permit requires 7 control measure programs, water quality monitoring of all MS4 inflows and outflows, and annual reporting to EPA
- 90% of MS4 drains south to Tijeras Arroyo, 10% drains north to KAFB detention basins



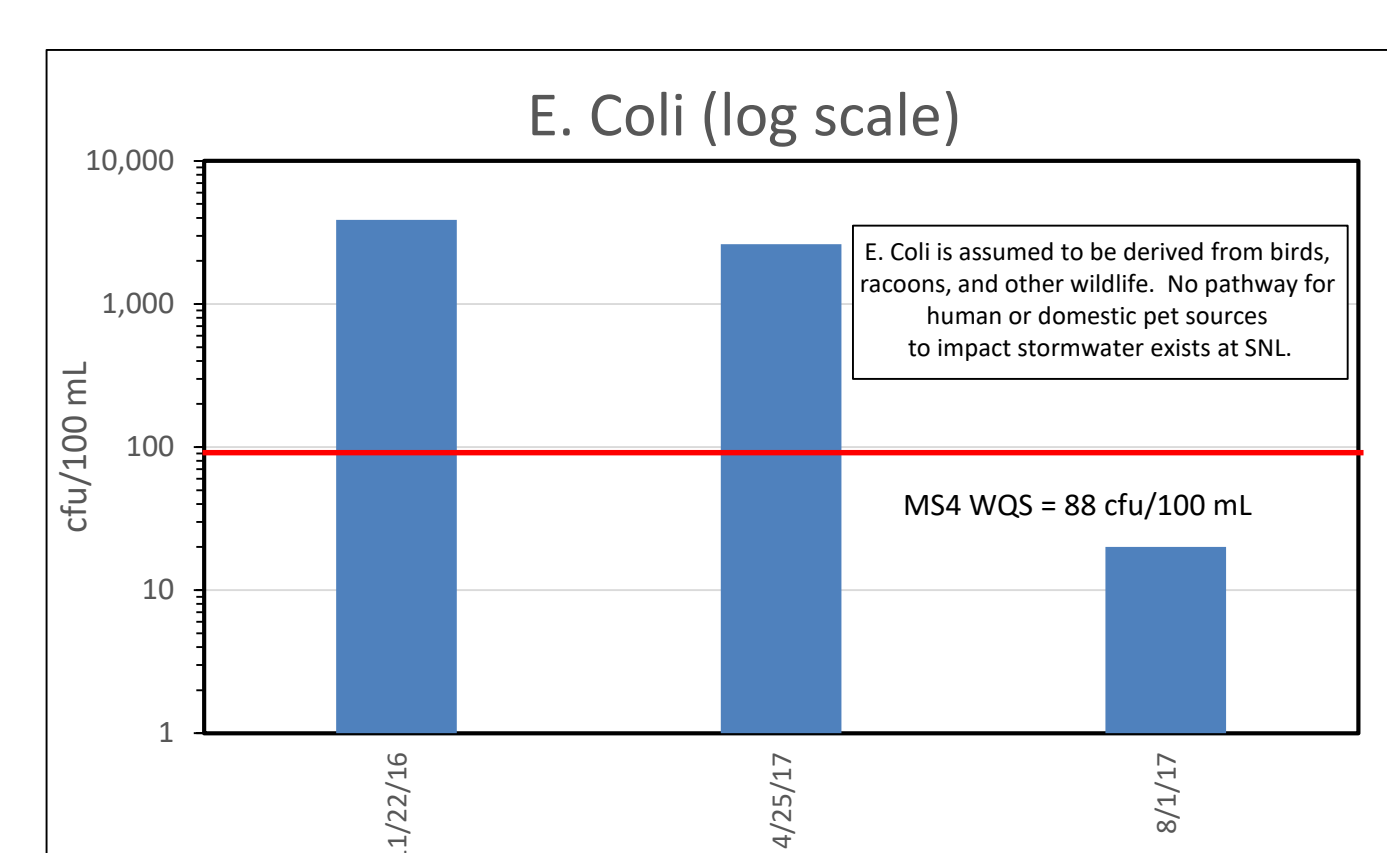
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MS4 Stormwater Quality

- Overall very good
- Areas for improvement include E. Coli, PCBs, and Sediment Load
 - E. Coli suspected to originate from local wildlife
 - PCBs suspected to originate from historic operations & atmosphere
 - Sediment load difficult to manage in arid desert regions
 - Ongoing improvements and investigations have been initiated



(a) U.S. Geological Survey, Scientific Investigations Report 2015-5006. Summary of Urban Stormwater Quality in Albuquerque, NM 2003-2012, 2015.
(b) Los Alamos National Laboratory, LA-UR-12-1081. PCBs in Precipitation and Stormwater Within the Upper Rio Grande Watershed, May, 2012.



John Kay, MS4 Permit Lead
Stormwater Program
Sandia National Laboratories
New Mexico

Construction General Permit

- Permit coverage is required for all construction projects expected to disturb one or more acres.
- Three main goals of the CGP:
 - Reduce erosion
 - Minimize sedimentation
 - Control the discharge of non-stormwater pollutants
- For every construction project, a Stormwater Pollution Prevention Plan (SWPPP) is created. Each SWPPP is site-specific and identifies:
 - Sources of pollutants
 - Best management practices (BMPs) to prevent or reduce erosion and control sediment from leaving the construction site
 - Final stabilization methods that will provide long-term and effective cover



BMPs in Action!



Inlet Protection



Secondary Containment

Sediment is the most common construction related pollutant in rivers, streams, lakes and reservoirs



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Callan Pope, CGP Lead
Stormwater Program
Sandia National Laboratories
New Mexico

Multi-Sector General Permit

- The MSGP regulates stormwater discharges associated with certain industrial activities at SNL/NM
- There are 6 applicable industrial sectors at SNL/NM under which eligible sites (industrial activity areas) are regulated
- Most of the sites at SNL/NM eligible for MSGP coverage are regulated under Sector K: Hazardous Waste Treatment, Storage, or Disposal Facilities
- The MSGP monitoring program includes
 - Quarterly site inspections
 - Analytical sampling
 - Visual assessments of samples



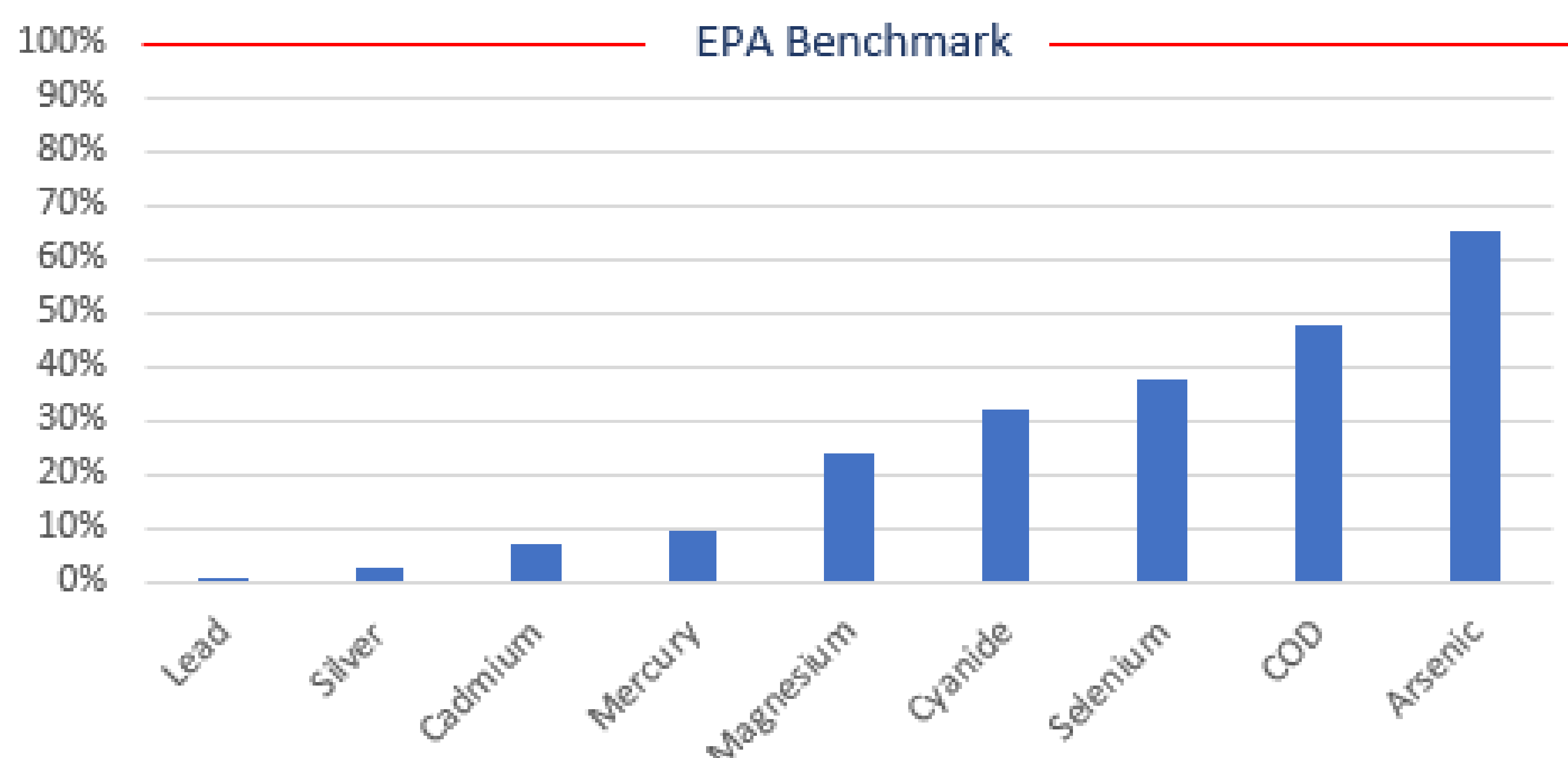
Control Measures for All MSGP Sites

- Minimize exposure of industrial materials to stormwater
- Good Housekeeping to reduce potential pollutant sources
- Minimize non-stormwater discharges

MSGP Stormwater Quality

- Analytical results consistently fall below regulatory benchmarks
- Sediment is a pollutant under the MSGP and sediment transport and erosion control are the biggest challenges to minimizing discharge of pollutants from industrial sites at SNL/NM

Mean as % of EPA Benchmark¹
All Sector K Sites



¹ Because values are low, percentages are skewed by laboratory detection and reporting limits.



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Carolyn Daniel, MSGP Lead
Stormwater Program
Sandia National Laboratories
New Mexico

Appendix N: Delegation of Authority

No.	Description
N-1	DOE Delegations of Authority
N-2	NTESS Delegations of Authority (included in reverse chronological order)

Appendix N-1



Department of Energy
National Nuclear Security Administration
Sandia Field Office
P.O. Box 5400
Albuquerque, NM 87185



CERTIFIED MAIL

JUL 20 2015

Mr. Brent Larsen
NPDES Permits & TMDLs Branch
US EPA, Region 06
1445 Ross Ave., Suite 1200
Mail Code: 6WQ-PP
Dallas, Texas 75202-2733

Subject: Two Duly Authorized Representative Letters for the National Pollutant Discharge Elimination System 2014 Municipal Separate Storm Sewer System at Sandia National Laboratories New Mexico

Dear Mr. Larsen:

Enclosed are two Duly Authorized Representative letters for the National Pollutant Discharge Elimination System (NPDES) 2014 Municipal Separate Storm Sewer System (MS4) Permit at Sandia National Laboratories, New Mexico (SNL/NM). Enclosure 1 is the letter for the Department of Energy National Nuclear Security Administration (DOE/NNSA) as owner and enclosure 2 is the letter for Sandia Corporation as operator of SNL/NM.

If you have questions, please contact me at (505) 845-6100.

Sincerely,

A handwritten signature in blue ink, appearing to read "Karen Agogino".

Karen Agogino, P.E. (NM & CA)
Water Quality Program Manager
Office of Engineering

Enclosures:

1. DOE/NNSA Duly Authorized Representative Letter
2. Sandia Corporation Duly Authorized Representative Letter

cc: See Page 2

Mr. Brent Larsen

-2-

cc w/enclosure:

Tim Lewandowski, SNL/NM

Stephanie Salinas, SNL/NM

Kathie Deal, SNL/NM

Jamie Lynn Gomez, SNL/NM

Selma, Cuellar, SNL/NM

John Kay, SNL/NM

William Ortiz, SFO/ENG

Susan Lacy, SFO/ENG

635511



Department of Energy
National Nuclear Security Administration
Sandia Field Office
P. O. Box 5400
Albuquerque, NM 87185



JUN 16 2015

MEMORANDUM FOR ASSISTANT MANAGER FOR ENGINEERING

FROM:

JEFFREY P. HARRELL
MANAGER

SUBJECT:

Delegation of Authority for the National Pollutant Discharge Elimination System Municipal Separate Storm Sewer System Permit No. NMR04A000 Issued by the Environmental Protection Agency


Pursuant to Part IV.H of Municipal Separate Storm Sewer System (MS4) Permit No. NMR04A000 this memorandum serves to designate the Assistant Manager for Engineering (AME) as my duly authorized representative for signature of all future submittals and material required to be maintained under the MS4 Permit No. NMR04A000 including, but not limited to:

- Discharge Monitoring Reports;
- Annual Reports;
- Stormwater Management Program Plans;
- Certifications;
- Monitoring Plans;
- Supporting Documents; and
- Data, Maps, and Figures.


The AME has responsibility for environmental matters at the Sandia Field Office (SFO). This authorization cannot be used for signing a Notice of Intent under Part I.A.6.a.v of the MS4 Permit No. NMR04A000. The authorization in this letter may not be re-delegated by the AME to another position. In the absence of the AME, this authority may be officially delegated to an individual selected to serve in that position through the Department of Energy, National Nuclear Security Administration Human Resources process. By signing this authorization, I confirm that I meet the following requirements as a principal executive to make such a designation as set forth in Part I.A.6.a.v and Part IV.H of the MS4 Permit No. NMR04A000.

JUN 16 2015

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."



Jeffrey P. Harrell
Manager



Date

cc:
Shirley Mondy, SFO/Chief of Staff
626916

Appendix N-2

v.5, August 10, 2019

A printed copy of this document may not be the official version. The official printed copy of this SWMPP is located in the office of the Environmental Compliance and Monitoring Department (Org. 00641).



Operated for the United States Department of Energy
by National Technology and Engineering
Solutions of Sandia, LLC.

P.O. Box 5800, MS-0104
Albuquerque, NM 87185-0104

P.O. Box 969
Livermore, CA 94551-0969

Phone: (505) 845-3283
Fax: (505) 844-9611
Email: dsdougl@sandia.gov

David S. Douglass
Deputy Laboratories Director

May 31, 2017

Mr. Brent Larsen
NPDES Permits & TMDLs Branch
US EPA, Region 06
1445 Ross Ave., Suite 1200
Mail Code: 6WQ-PP
Dallas, TX 75202-2733

Dear Mr. Larsen:

Subject: *Update to National Technology and Engineering Solutions of Sandia, LLC (formerly Sandia Corporation) Principal Executive Officer and Duly Authorized Representative for the National Pollutant Discharge Elimination System Municipal Separate Storm Sewer System Permit, Tracking Number NMR04A012*

The Department of Energy/National Nuclear Security Administration (DOE/NNSA) Sandia Field Office recently submitted notification to Region 6 of the Environmental Protection Agency (EPA) that Sandia Corporation (a former permittee of Sandia National Laboratories) had undergone a name change to the National Technology and Engineering Solutions of Sandia, LLC. The name change was effective on May 1, 2017. As the operator under the Municipal Separate Storm Sewer System (MS4) Permit remains the same, there is no transfer of requirements to a new operator. However, the position of the principal executive officer with responsibility for ensuring compliance with the Permit has changed from a Vice President to a Deputy Laboratories Director.

As set forth in the Part IV.H (Signatory Requirements) of the MS4 Permit, this letter is written authorization that in addition to notification of my position as the principal executive officer, I am further notifying that the Director of Environment, Safety and Health (ES&H) will serve as my duly authorized representative. The Director of ES&H holds responsibility for environmental matters at Sandia National Laboratories (Part IV.H.1) and is hereby authorized to



Exceptional Service in the National Interest



certify all submittals and materials required to be submitted and/or maintained pursuant to the MS4 Permit including, but not limited to, the following:

- Notices of Intent
- Notices of Termination
- Stormwater Management Program Plan (SWMPPs), including updates and modifications
- Discharge Monitoring Reports Annual Reports
- Certifications
- Monitoring Plans
- Supporting Documents
- Data, Maps, and Figures

Pursuant to Part IV.H.2.b of the MS4 Permit, the role of duly authorized representative applies to the position rather than the individual and will apply to any future individual formally occupying the position of Director of ES&H during the permit term. This authorization does not extend to individuals who are given a temporary or acting position. Pursuant to Part IV.H.3, a new written authorization will be submitted to the EPA, if this authorization is no longer accurate. Finally, any person signing documents under Part IV.H will make the following certification:

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

If you have any questions or require additional information, please contact Mr. Darrell Fong at (505) 284-6357.

Sincerely,



David Douglass
Deputy Laboratories Director

Copy to:

Black, Steven

DOE/NNSA/SFO

steven.black@nnsa.doe.gov



Michael W. Hazen
Vice President
Infrastructure Operations
Chief Security Officer

July 14, 2015

Mr. Brent Larsen
NPDES Permits & TMDLs Branch
US EPA, Region 06
1445 Ross Ave., Suite 1200
Mail Code: 6WQ-PP
Dallas, TX 75202-2733

Dear Mr. Larsen:

Subject: ***Duly Authorized Representative for National Pollutant Discharge Elimination System (NPDES) 2014 Municipal Separate Storm Sewer System (MS4) Permit***

As set forth in the Part IV.H Signatory Requirements of the 2014 MS4 Permit for the Middle Rio Grande Watershed (MS4 Permit), this letter is written authorization that the Director of Radiation Protection, Waste Management, and Environmental Safety & Health will serve as my duly authorized representative for signature of all submittals and materials required to be maintained under the MS4 Permit including, but not limited to the following:

- Discharge Monitoring Reports
- Annual Reports
- Stormwater Management Program Plans (SWMP) and Revisions
- Certifications
- Monitoring Plans
- Supporting Documents
- Data, Maps, and Figures

As the principal executive officer at Sandia Corporation and in accordance with Part IV.H.1 of the MS4 Permit, this delegation is based on the Director of Radiation Protection, Waste Management, and Environmental Safety & Health having responsibility for environmental matters at Sandia Corporation (operator of Sandia National Laboratories). Pursuant to Part IV.H.2.b of the MS4 permit, this letter applies to the position rather than the individual, and will apply to any future individual formally occupying the position of Director during the permit term. This authorization does not extend to acting Directors and it does not delegate authority for Notices of Intent or Notices of Termination. Pursuant to Part IV.H.3, a new written authorization will be submitted to the Environmental Protection Agency if this authorization is no longer accurate. Finally, any person signing documents under Part IV.H of the MS4 Permit will make the following certification:

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

If you have any questions or comments, please contact me at (505) 284-3191/mwhazen@sandia.gov, Jaime Moya, Director, at (505) 844-7955/jlmoya@sandia.gov, Tim Lewandowski, Senior Manager, at (505) 284-3163/tlewand@sandia.gov or Stephanie Salinas, Manager at (505) 845-7711/ssalina@sandia.gov.

Sincerely,



Michael W. Hazen
Vice President

Copy to:

External:

Agogino, Karen DOE/NNSA/SFO karen.agonino@nnsa.doe.gov

Internal:

Blumberg, Amy	(11100)	ajblumb@sandia.gov
Cuellar, Selma	(04143)	scuella@sandia.gov
Deal, Kathie	(04143)	kjdeal@sandia.gov
Gomez, Jamie	(04143)	jlgome@sandia.gov
Kay, John	(04143)	jtkay@sandia.gov
Lewandowski, Tim	(04140)	tlewand@sandia.gov
Moya, Jaime	(04100)	jlmoya@sandia.gov
Salinas, Stephanie	(04143)	ssalina@sandia.gov
CFRC	(09532)	cfrc@sandia.gov

Michael W. Hazen
Vice President
Infrastructure Operations

AUG 23 2016

Mr. Brent Larsen
NPDES Permits & TMDLs Branch
US EPA, Region 06
1445 Ross Ave., Suite 1200
Mail Code: 6WQ-PP
Dallas, TX 75202-2733

Dear Mr. Larsen:

Subject: ***Sandia Corporation's Duly Authorized Representative for the National Pollutant Discharge Elimination System Municipal Separate Storm Sewer System Permit, Tracking Number NMR04A012***

As set forth in the Part IV.H Signatory Requirements of the 2014 National Pollutant Discharge Elimination System Middle Rio Grande Watershed Based Municipal Separate Storm Sewer System (MS4) Permit, this letter is written authorization that the Director of Environment, Safety & Health will serve as my duly authorized representative for signature of all submittals and materials required to be certified under the MS4 Permit including, but not limited to, the following:

- Stormwater Management Program Plans, Updates and Modifications
- Discharge Monitoring Reports
- Annual Reports
- Certifications
- Monitoring Plans
- Supporting Documents
- Data, Maps, and Figures

As the principal executive officer at Sandia Corporation and in accordance with Part IV.H.1 of the MS4 Permit, this delegation is based on the Director of Environment, Safety & Health having responsibility for environmental matters at Sandia Corporation (operator of Sandia National Laboratories). Pursuant to Part IV.H.2.b of the MS4 permit, this letter applies to the position rather than the individual, and will apply to any future individual formally occupying the position of Director during the permit term. This authorization does not extend to acting Directors and does not

AUG 23 2016

delegate authority for Notices of Intent or Notices of Termination. Pursuant to Part IV.H.3, a new written authorization will be submitted to the U.S. Environmental Protection Agency if this authorization is no longer accurate.

Finally, any person signing documents under Part IV.H of the MS4 Permit will certify the following statement:

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

If you have any questions or comments, please contact me at (505) 284-3191 or Jaime Moya at (505) 844-7955.

Sincerely,



Michael W. Hazen
Vice President

Copy to:
Agogino, Karen
Todd, James

DOE/NNSA/SFO
DOE/NNSA/SFO

karen.agonino@nnsa.doe.gov
james.todd@nnsa.doe.gov

Appendix O: Training Documentation

No.	Description
O-1	Stormwater Team Training Documentation and Certificates

Appendix O-1

v.5, August 10, 2019

A printed copy of this document may not be the official version. The official printed copy of this SWMPP is located in the office of the Environmental Compliance and Monitoring Department (Org. 00641).

Certificate of Attendance

THIS ACKNOWLEDGES THAT

Victoria Branson

ATTENDED THE NEW MEXICO ENVIRONMENT DEPARTMENT
2018 MSGP GENERAL PERMIT NPDES WORKSHOP
(6 HOURS)

APRIL 24, 2018
RIO RANCHO, NEW MEXICO



Certificate of Attendance

THIS ACKNOWLEDGES THAT

VICTORIA BRANSON

ATTENDED THE NEW MEXICO ENVIRONMENT DEPARTMENT
2018 CONSTRUCTION GENERAL PERMIT NPDES WORKSHOP
(6 HOURS)

MARCH 19, 2018
ALBUQUERQUE, NEW MEXICO





EnviroCert International, Inc.®

certifies that

John T Kay

Subscribes to the Code of Conduct and Ethics and has met the requirements established for the CPESC® Program as a

**Certified Professional in Erosion and
Sediment Control™**

CPESC Number: **8358**

Certificate Date: **October 13, 2015**

Alan Black, Director, Technical Committee Chair

Robert Anderson, EnviroCert Board President



CISEC, Inc.

Board of Directors

certifies that

Carolyn Daniel

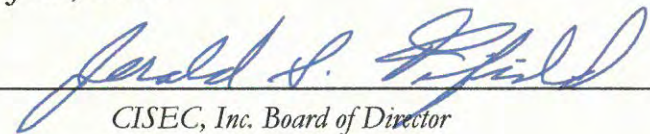
has demonstrated satisfactory evidence of sediment and erosion control inspection skills and successfully passed the certification examination and therefore, as required by CISEC, Inc., is authorized to use the title of

Certified Inspector of Sediment and Erosion Control

Given this 26th day of June, 2015



CISEC, Inc. President



CISEC, Inc. Board of Director

1714

Certification Number



Associated Contractors of New Mexico

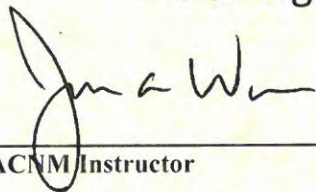
This Certificate of Completion acknowledges that

Callan Pope

Has satisfactorily completed training in

STORM WATER QUALIFIED PERSON

Including US EPA 2017 Construction General Permit



ACNM Instructor



ACNM Director of Training and Safety



ACNM Executive Director

Effective Date: January 24, 2019

Expiration Date: January 24, 2023

Hours Instruction (PDH): 8

ACNM No.: 232659

Certificate No.: 0379



EnviroCert International, Inc.®

certifies that

Kathie J Deal

Subscribes to the Code of Conduct and Ethics and has met the requirements established for the CPESC® Program as a

**Certified Professional in Erosion
and Sediment Control™**

CPESC Number: **8036**

Certificate Date: **December 4, 2014**

Alan Black, Director, Technical Committee Chair

Robert Anderson, EnviroCert Board President



CISEC, Inc.

Board of Directors

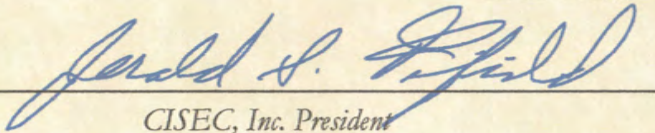
certifies that

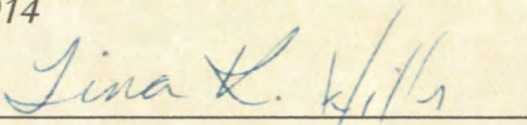
Kathie Deal

has demonstrated satisfactory evidence of sediment and erosion control inspection skills and successfully passed the certification examination and therefore, as required by CISEC, Inc., is authorized to use the title of

Certified Inspector of Sediment and Erosion Control

Given this 6th day of June, 2014


CISEC, Inc. President


CISEC, Inc. Board of Director

1477

Certification Number

CISEC, Inc.

Board of Directors

certifies that

Jamie Gomez

has demonstrated satisfactory evidence of sediment and erosion control inspection skills and successfully passed the certification examination and therefore, as required by CISEC, Inc., is authorized to use the title of

Certified Inspector of Sediment and Erosion Control

Given this 1st day of February 2016

Sina L. Evans

CISEC, Inc. President

Paul P. [Signature]

CISEC, Inc. Board of Director

1808

Certification Number

Appendix P: MS4 Technical Advisory Group

No.	Description
P-1	Middle Rio Grande Stormwater MS4 Technical Advisory Group Memorandum of Agreement

Appendix P-1

Middle Rio Grande Stormwater MS4 Technical Advisory Group

MEMORANDUM OF AGREEMENT

A COOPERATIVE AGREEMENT, CREATING THE MIDDLE RIO GRANDE MS4 TECHNICAL ADVISORY GROUP, IN SUPPORT OF COMPLIANCE EFFORTS FOR A STORMWATER DISCHARGE PERMITTING SYSTEM FOR THE MIDDLE RIO GRANDE VALLEY IN ACCORDANCE WITH THE FEDERAL CLEAN WATER ACT.

WHEREAS, the United States Environmental Protection Agency (EPA), Region 6 regulates the discharge of stormwater from municipal separate storm sewer systems (MS4s) in New Mexico through the issuance of an MS4 permit for the Middle Rio Grande valley urbanized area under the authority of the National Pollutant Discharge Elimination System (NPDES) regulations (40CFR122); and

WHEREAS, the Middle Rio Grande area is comprised of many diverse local, state, federal and tribal entities, each with separate and distinct authority and responsibilities; and

WHEREAS, the Middle Rio Grande area entities potentially eligible for authorization under the proposed NPDES General Permit No. NMR04A000 (hereinafter "MS4 Permit"), and therefore are eligible to enter into this Memorandum of Agreement (hereinafter "Agreement") in furtherance of the requirements of the MS4 Permit, are the City of Albuquerque, Albuquerque Metropolitan Arroyo Flood Control Authority (AMAFCA), University of New Mexico, New Mexico Department of Transportation District 3, Bernalillo County, Sandoval County, Village of Corrales, City of Rio Rancho, Los Ranchos de Albuquerque, Kirtland Air Force Base, Town of Bernalillo, State Fairgrounds/Expo New Mexico, the Southern Sandoval County Arroyo Flood Control Authority (SSCAFCA), the Eastern Sandoval County Arroyo Flood Control Authority (ESCAFCA), Sandia National Laboratories/Department of Energy, Pueblo of Sandia, Pueblo of Isleta, and Pueblo of Santa Ana (collectively "Stormwater Management Entities"); and

WHEREAS, the proposed MS4 Permit encourages cooperative efforts among separate local, state, federal and Tribal governments to reduce the amount of pollutants discharged with stormwater from the Middle Rio Grande urbanized area MS4s; and

WHEREAS, continued cooperation among the Stormwater Management Entities in the MS4 Permit offers an enhanced opportunity for each entity to remain aware of the requirements in the MS4 Permit and facilitate compliance with conditions of the permit;

NOW, THEREFORE, BE IT AGREED THAT:

1. The signatories to this Agreement (hereinafter collectively referred to as "Parties" and individually referred to as "Party") support and encourage a cooperative commitment to assist one another with technical issues regarding compliance with the MS4 Permit and agree to form the Middle Rio Grande MS4 Technical Advisory Group (MS4TAG).

2. The purpose of the MS4TAG will be to exchange technical information regarding compliance with the MS4 Permit, exchange ideas among Parties regarding compliance efforts, and exchange information regarding illicit discharges detected within each Party's jurisdiction. The MS4TAG shall have no binding financial authority and shall be strictly advisory in nature.

3. Nothing in this Agreement shall be construed as obligating a Party to this agreement to expend funds for any purpose, and no Party shall be required to contribute any funds in order to participate in this Agreement. In the event the Parties determine that any joint expenditure of funds among multiple Parties becomes necessary in order to comply with the requirements of the MS4 Permit, a separate agreement shall be entered into between the affected Parties regarding any and all such expenditures at that time.

4. The term of this Agreement shall run from the date the MS4 Permit is issued by the EPA until the date the MS4 Permit is terminated or expires, whichever occurs first. This Agreement may be terminated in its entirety at any time upon the mutual agreement of all of the then-existing Parties to this Agreement. In the event any Party wishes to withdraw from this Agreement without terminating the other Parties' interests in this Agreement, withdrawal shall become effective upon ninety (90) days prior written notice to the other Parties. Withdrawal shall fully and completely terminate that Party's interest in and obligations under this Agreement. Following any Party's withdrawal, this Agreement shall continue in full force and effect as to all remaining Parties to the extent possible.

5. This Agreement does not address the "Public Education and Outreach" or "Cooperative Sampling" sections of the MS4 Permit. Any MS4TAG efforts regarding either of these sections of the MS4 Permit under this Agreement shall be strictly in furtherance of the spirit of cooperation intended among the Parties. Each Party acknowledges its obligations under the "Public Education and Outreach" and "Cooperative Sampling" sections of the MS4 Permit are separate and apart from its activities under this Agreement, and a separate agreement will be required for any collaboration among the Parties with respect to those permit requirements.

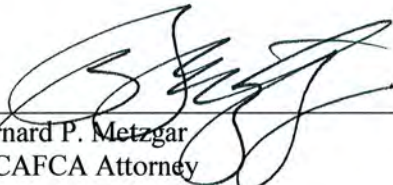
6. The Parties will appoint two (2) Co-Coordiators from among the Parties, one of which must be from a Party located within the Bernalillo County geographical area and one of which must be from a Party located within the Sandoval County geographical area. Appointment of a Co-Coordinator shall be by majority vote of the voting Parties, with only those Parties located in the county of Bernalillo voting on the Co-Coordinator from that area, and only those Parties located in the county of Sandoval voting on the Co-Coordinator from that area. Co-Coordiators must be appointed annually in each subsequent permit year, or earlier if the position becomes vacant for any reason. For the New Mexico Department of Transportation District 3, which operates stormwater management facilities in both counties, for the purposes of this section, they shall select one county affiliation in year one of the agreement and alternate affiliations in subsequent years of this Agreement. The Co-Coordiators will be expected to coordinate the Parties' efforts under this Agreement, including facilitating meetings of the MS4TAG at least monthly for the first year of the MS4 Permit. In years two through five of the permit, the frequency of meetings may be reduced to quarterly with additional meetings called as necessary to discuss issues regarding MS4 Permit compliance.

7. Each Party shall be entitled to one (1) vote on any action items.
8. This Agreement creates no obligations on behalf of any Party to any other Party to this Agreement, including for any requirements imposed or determinations made by EPA. The Parties acknowledge and agree that each shall at all times remain individually liable for full compliance with the requirements of the MS4 Permit, including EPA's determination regarding the implementation schedule.
9. This Agreement may be modified in writing at any time upon the mutual agreement of the Parties.
10. Parties can be added at any time during the life of this Agreement. A potential future Party's submittal of a signature page to the Co-Coordiators and approval by the Co-Coordiators shall add the Party to the Agreement.

MIDDLE RIO GRANDE STORMWATER
MS4 TECHNICAL ADVISORY GROUP
FINAL

10-07-13

Approved as to Form:

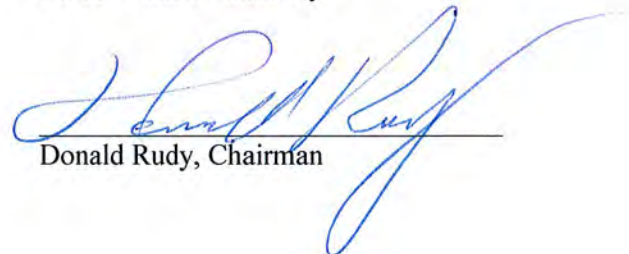


Bernard P. Metzgar
SSCAFCA Attorney

Date: 10/04/13

Southern Sandoval County Arroyo
Flood Control Authority

Date: 10/18/13



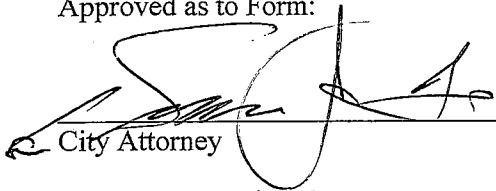
Donald Rudy, Chairman

MIDDLE RIO GRANDE STORMWATER
MS4 TECHNICAL ADVISORY GROUP
FINAL DRAFT

9-30-13

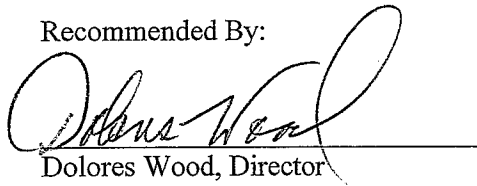
City of Rio Rancho

Approved as to Form:


City Attorney

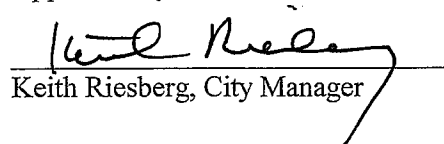
Date: 10/4/13

Recommended By:


Dolores Wood, Director


Date: 11.4.13

Approved By:

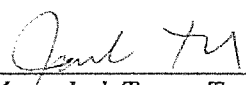

Keith Riesberg, City Manager

Date: 11/1/13

Approved as to Form:


George Perez
Town of Bernalillo Attorney

Date: 10/15/2013



Mayor Jack Torres, Town of Bernalillo

Date: 10/14/13


Attest: 
Ida Fierro, Town Clerk

Date: 10/14/13

VILLAGE OF CORRALES

By:  10.08.13
Philip Gasteyer, Mayor Date

Attest:

 10-08-2013
Juan Reyes, Village Clerk Date

IN WITNESS WHEREOF, the undersigned have caused this Agreement to be executed.

**Albuquerque Metropolitan Arroyo
Flood Control Authority**

Date: 10/24/2013



Tim Eichenberg
Chair of the Board of Directors

Attest:



Bruce Thomson
Secretary/Treasurer

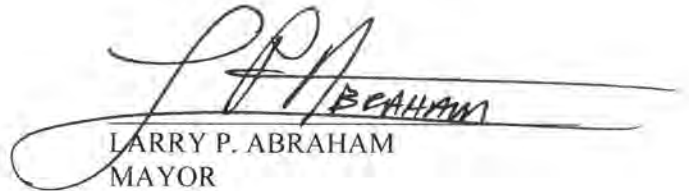
Date: 10/24/13

MIDDLE RIO GRANDE STORMWATER
MS4 TECHNICAL ADVISORY GROUP
FINAL

10-07-13


VILLAGE OF LOS RANCHOS DE ALBUQUERQUE

Date: November 14, 2013



LARRY P. ABRAHAM
MAYOR

(SEAL)



STEHANIE DOMINGUEZ
VILLAGE CLERK

MIDDLE RIO GRANDE STORMWATER
MS4 TECHNICAL ADVISORY GROUP
FINAL

10-07-13

Accepted on behalf of:

U.S. DEPARTMENT OF ENERGY
NATIONAL NUCLEAR SECURITY ADMINISTRATION
SANDIA FIELD OFFICE

By:




Geoffrey L. Beausoleil
Manager

Date

14 NOV 2013

MIDDLE RIO GRANDE STORMWATER
MS4 TECHNICAL ADVISORY GROUP
FINAL

Approved as to Form:

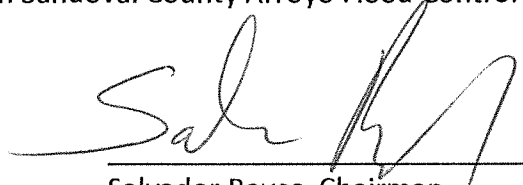


Bernard P. Metzgar
ESCAFCA Attorney

Date: 11/14/13

Eastern Sandoval County Arroyo Flood Control Authority

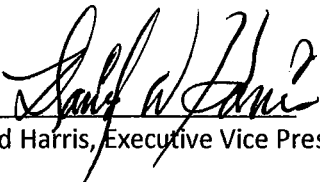
Date: NOV. 19, 2013



Salvador Reyes, Chairman

UNIVERSITY OF NEW MEXICO

Approved by:

 Date: 12/17/13
David Harris, Executive Vice President

Recommended by:

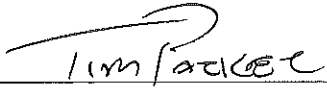
 Date: 12-10-13
Carla P. Domenici, Director
Safety and Risk Services Department

MIDDLE RIO GRANDE STORMWATER
MS4 TECHNICAL ADVISORY GROUP
FINAL

10-07-13

New Mexico Department of Transportation

Approved By:

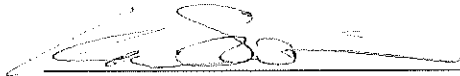


Timothy L. Parker, M.S., P.E.
NMDOT District Three Engineer

Date: _____

12/22/13

Approved As To Form Only:



Ken Swain, Assistant General Counsel
Office of the General Counsel

Date: _____

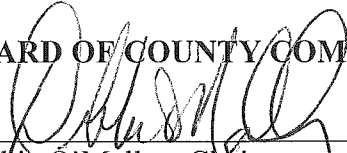
12/18/2013

BERNALILLO COUNTY

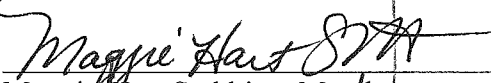
Motion to: Approve a Memorandum of Agreement (MOA) joining the County with other local entities participating in the Middle Rio Grande MS4 Technical Advisory Group (MS4TAG).

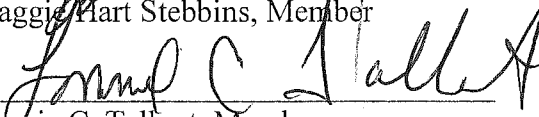
Approved this 28th day of January, 2014

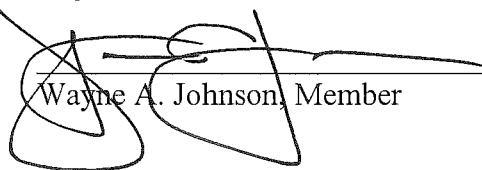
BOARD OF COUNTY COMMISSIONERS


Debbie O'Malley, Chair



Art De La Cruz, Vice Chair


Maggie Hart Stebbins, Member


Lonnie C. Talbert, Member


Wayne A. Johnson, Member

APPROVED AS TO FORM:


County Attorney

Date: 1/28/14

ATTEST:


Maggie Toulouse Oliver, County Clerk

Date: 1/28/14



MIDDLE RIO GRANDE STORMWATER
MS4 TECHNICAL ADVISORY GROUP
FINAL

10-07-13

Approved as to Form:



Patrick F. Trujillo
Sandoval County Attorney

Date: 1/27/2014

Sandoval County

Date: 2/6/2014

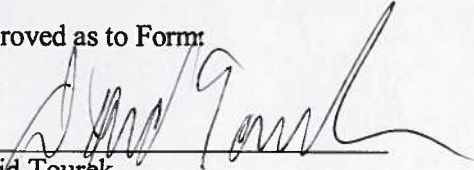


Phillip Rios, County Manager

MIDDLE RIO GRANDE STORMWATER
MS4 TECHNICAL ADVISORY GROUP
FINAL

10-07-13

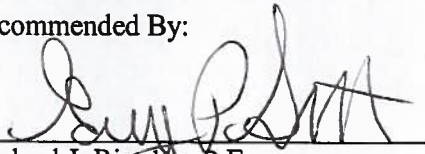
Approved as to Form:



David Tourek
City Attorney

Date: 2/24/14

Recommended By:



Michael J. Riordan, P.E.
Director, Department of Municipal Development

Date: 2/26/14

Approved By:



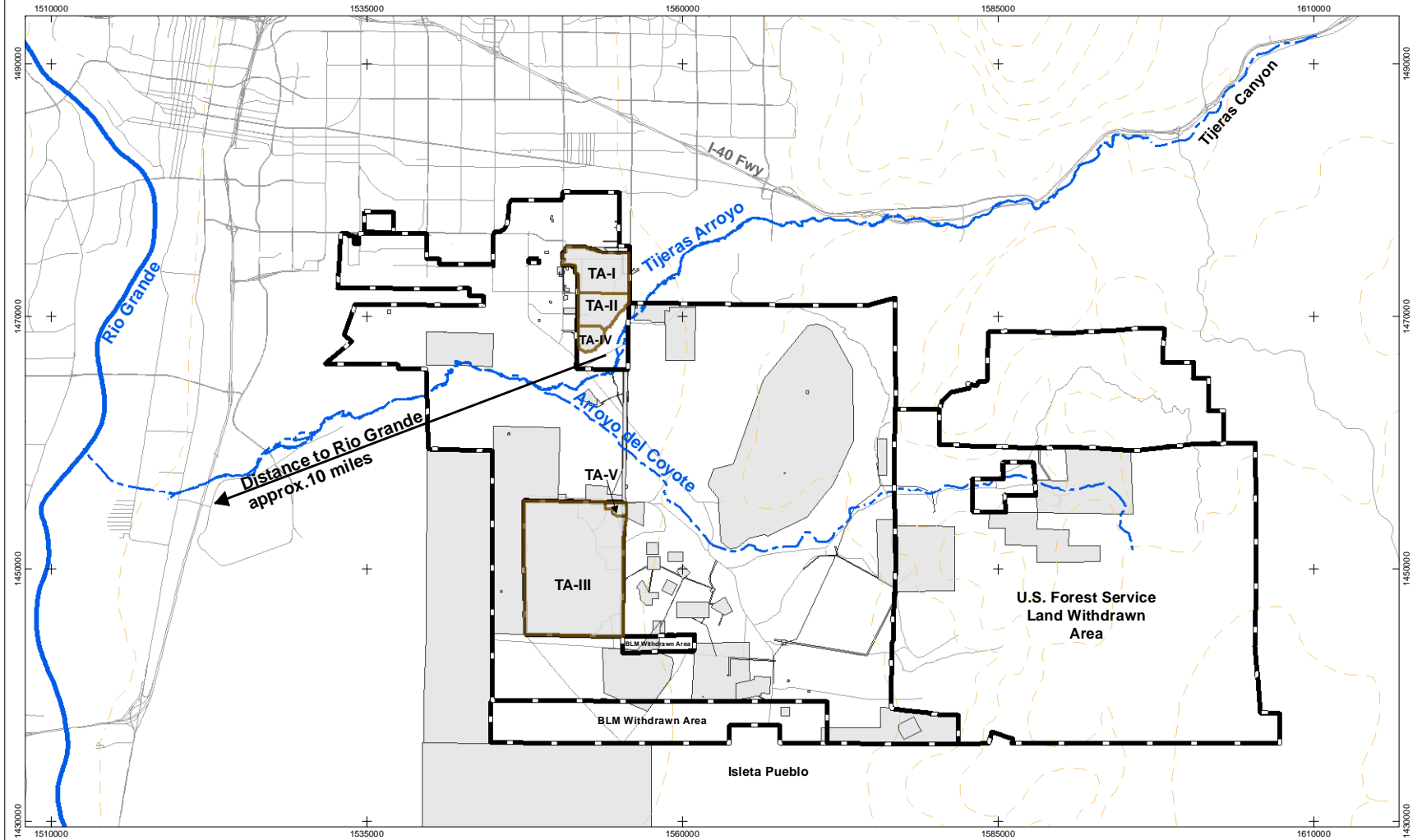
Robert J. Perry
Chief Administrative Officer

Date: 3/4/14

Appendix Q: Endangered Species Act Documentation

No.	Description
Q-1	Map of SNL's Proximity to Major Drainage Features
Q-2	U.S. Fish and Wildlife Service IPaC Trust Resource Report
Q-3	Sediment Pollutant Load Reduction Plan

Appendix Q-1

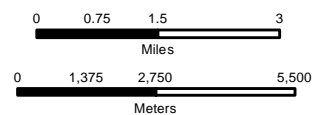


Legend

- KAFB Boundary
- 500-ft. Ground Contour
- Rio Grande
- Major Arroyo
- SNL Technical Area and Permitted Lands
- Technical Area (TA) Boundary
- BLM Withdrawn Area
- U.S. Forest Service Land Withdrawn Area
- Road

Proximity of SNL to Major Drainage Features

Sandia National Laboratories, New Mexico
Environmental Geographic Information System



New Mexico State Plane Central Zone, 1983
1988 North American Vertical Datum

Appendix Q-2

My project

IPaC Trust Resource Report

Generated June 29, 2015 11:42 AM MDT



US Fish & Wildlife Service

IPaC Trust Resource Report



Project Description

NAME

My project

PROJECT CODE

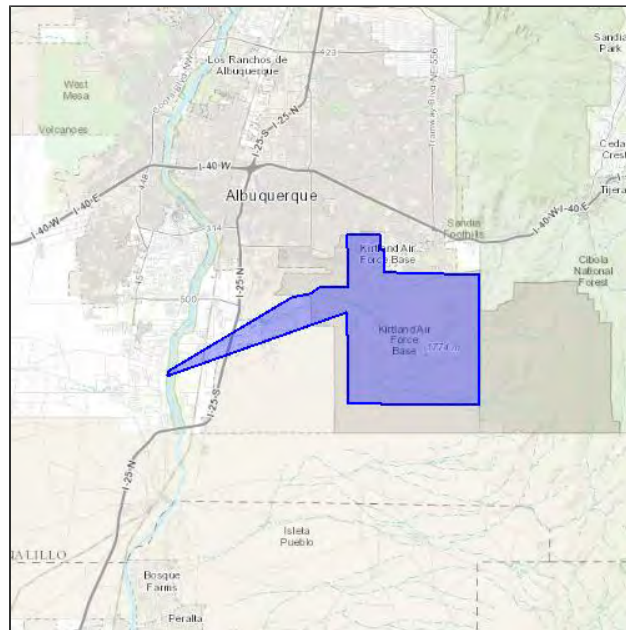
23EE4-JU7H5-GDRIP-G6PEM-AVTFCU

LOCATION

Bernalillo County, New Mexico

DESCRIPTION

No description provided



U.S. Fish & Wildlife Contact Information

Species in this report are managed by:

New Mexico Ecological Services Field Office

2105 Osuna Road Ne

Albuquerque, NM 87113-1001

(505) 346-2525

Endangered Species

Proposed, candidate, threatened, and endangered species that are managed by the [Endangered Species Program](#) and should be considered as part of an effect analysis for this project.

This unofficial species list is for informational purposes only and does not fulfill the requirements under [Section 7](#) of the Endangered Species Act, which states that Federal agencies are required to "request of the Secretary of Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action." This requirement applies to projects which are conducted, permitted or licensed by any Federal agency.

A letter from the local office and a species list which fulfills this requirement can be obtained by returning to this project on the IPaC website and requesting an Official Species List from the regulatory documents section.

Birds

Mexican Spotted Owl *Strix occidentalis lucida* Threatened

CRITICAL HABITAT

There is **final** critical habitat designated for this species.

<https://ecos.fws.gov/speciesProfile/profile/speciesProfile.action?spcode=B074>

Southwestern Willow Flycatcher *Empidonax traillii extimus* Endangered

CRITICAL HABITAT

There is **final** critical habitat designated for this species.

<https://ecos.fws.gov/speciesProfile/profile/speciesProfile.action?spcode=B094>

Sprague's Pipit *Anthus spragueii* Candidate

CRITICAL HABITAT

No critical habitat has been designated for this species.

<https://ecos.fws.gov/speciesProfile/profile/speciesProfile.action?spcode=B0GD>

Yellow-billed Cuckoo *Coccyzus americanus* Threatened

CRITICAL HABITAT

There is **proposed** critical habitat designated for this species.

<https://ecos.fws.gov/speciesProfile/profile/speciesProfile.action?spcode=B06R>

Fishes

Rio Grande Silvery Minnow *Hybognathus amarus* Endangered

CRITICAL HABITAT

There is **final** critical habitat designated for this species.

<https://ecos.fws.gov/speciesProfile/profile/speciesProfile.action?spcode=E07I>

Mammals

New Mexico Meadow Jumping Mouse *Zapus hudsonius luteus*

Endangered

CRITICAL HABITAT

There is **proposed** critical habitat designated for this species.

<https://ecos.fws.gov/speciesProfile/profile/speciesProfile.action?spcode=A0BX>

Critical Habitats

Potential effects to critical habitat(s) within the project area must be analyzed along with the endangered species themselves.

Rio Grande Silvery Minnow Critical Habitat Final designated

<https://ecos.fws.gov/speciesProfile/profile/speciesProfile.action?spcode=E07I#crithab>

Yellow-billed Cuckoo Critical Habitat Proposed

<https://ecos.fws.gov/speciesProfile/profile/speciesProfile.action?spcode=B06R#crithab>

Migratory Birds

Birds are protected by the [Migratory Bird Treaty Act](#) and the Bald and Golden Eagle Protection Act.

Any activity which results in the take of migratory birds or eagles is prohibited unless authorized by the U.S. Fish and Wildlife Service (1). There are no provisions for allowing the take of migratory birds that are unintentionally killed or injured.

You are responsible for complying with the appropriate regulations for the protection of birds as part of this project. This involves analyzing potential impacts and implementing appropriate conservation measures for all project activities.

<p>Bald Eagle <i>Haliaeetus leucocephalus</i> Season: Wintering https://ecos.fws.gov/speciesProfile/profile/speciesProfile.action?spcode=B008</p>	Bird of conservation concern
<p>Bendire's Thrasher <i>Toxostoma bendirei</i> Season: Breeding</p>	Bird of conservation concern
<p>Black-chinned Sparrow <i>Spizella atrogularis</i> Season: Breeding</p>	Bird of conservation concern
<p>Brewer's Sparrow <i>Spizella breweri</i> Season: Migrating https://ecos.fws.gov/speciesProfile/profile/speciesProfile.action?spcode=BOHA</p>	Bird of conservation concern
<p>Brown-capped Rosy-finch <i>Leucosticte australis</i> Season: Wintering</p>	Bird of conservation concern
<p>Burrowing Owl <i>Athene cunicularia</i> Season: Breeding</p>	Bird of conservation concern
<p>Chestnut-collared Longspur <i>Calcarius ornatus</i> Season: Wintering</p>	Bird of conservation concern
<p>Costa's Hummingbird <i>Calypte costae</i> Season: Breeding</p>	Bird of conservation concern
<p>Flammulated Owl <i>Otus flammeolus</i> Season: Breeding https://ecos.fws.gov/speciesProfile/profile/speciesProfile.action?spcode=B0DK</p>	Bird of conservation concern
<p>Fox Sparrow <i>Passerella iliaca</i> Season: Wintering</p>	Bird of conservation concern
<p>Golden Eagle <i>Aquila chrysaetos</i> Year-round https://ecos.fws.gov/speciesProfile/profile/speciesProfile.action?spcode=B0DV</p>	Bird of conservation concern
<p>Grace's Warbler <i>Dendroica graciae</i> Season: Breeding</p>	Bird of conservation concern
<p>Gray Vireo <i>Vireo vicinior</i> Season: Breeding https://ecos.fws.gov/speciesProfile/profile/speciesProfile.action?spcode=B0G5</p>	Bird of conservation concern
<p>Juniper Titmouse <i>Baeolophus ridgwayi</i> Year-round</p>	Bird of conservation concern

Lewis's Woodpecker <i>Melanerpes lewis</i> Year-round	Bird of conservation concern
Loggerhead Shrike <i>Lanius ludovicianus</i> Year-round https://ecos.fws.gov/speciesProfile/profile/speciesProfile.action?spcode=B0FY	Bird of conservation concern
Lucy's Warbler <i>Vermivora luciae</i> Season: Breeding https://ecos.fws.gov/speciesProfile/profile/speciesProfile.action?spcode=B0DL	Bird of conservation concern
Mountain Plover <i>Charadrius montanus</i> Season: Breeding https://ecos.fws.gov/speciesProfile/profile/speciesProfile.action?spcode=B078	Bird of conservation concern
Olive-sided Flycatcher <i>Contopus cooperi</i> Season: Breeding https://ecos.fws.gov/speciesProfile/profile/speciesProfile.action?spcode=B0AN	Bird of conservation concern
Pinyon Jay <i>Gymnorhinus cyanocephalus</i> Year-round	Bird of conservation concern
Prairie Falcon <i>Falco mexicanus</i> Year-round https://ecos.fws.gov/speciesProfile/profile/speciesProfile.action?spcode=B0ER	Bird of conservation concern
Red-headed Woodpecker <i>Melanerpes erythrocephalus</i> Season: Breeding	Bird of conservation concern
Swainson's Hawk <i>Buteo swainsoni</i> Season: Breeding https://ecos.fws.gov/speciesProfile/profile/speciesProfile.action?spcode=B070	Bird of conservation concern
Williamson's Sapsucker <i>Sphyrapicus thyroideus</i> Seasons: Breeding, Wintering https://ecos.fws.gov/speciesProfile/profile/speciesProfile.action?spcode=B0FX	Bird of conservation concern
Willow Flycatcher <i>Empidonax traillii</i> Season: Breeding https://ecos.fws.gov/speciesProfile/profile/speciesProfile.action?spcode=B0F6	Bird of conservation concern

Refuges

Any activity proposed on [National Wildlife Refuge](#) lands must undergo a 'Compatibility Determination' conducted by the Refuge. If your project overlaps or otherwise impacts a Refuge, please contact that Refuge to discuss the authorization process.

Refuge data is unavailable at this time.

Wetlands

Impacts to [NWI wetlands](#) and other aquatic habitats from your project may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal Statutes.

Project proponents should discuss the relationship of these requirements to their project with the Regulatory Program of the appropriate [U.S. Army Corps of Engineers District](#).

DATA LIMITATIONS

The Service's objective of mapping wetlands and deepwater habitats is to produce reconnaissance level information on the location, type and size of these resources. The maps are prepared from the analysis of high altitude imagery. Wetlands are identified based on vegetation, visible hydrology and geography. A margin of error is inherent in the use of imagery; thus, detailed on-the-ground inspection of any particular site may result in revision of the wetland boundaries or classification established through image analysis.

The accuracy of image interpretation depends on the quality of the imagery, the experience of the image analysts, the amount and quality of the collateral data and the amount of ground truth verification work conducted. Metadata should be consulted to determine the date of the source imagery used and any mapping problems.

Wetlands or other mapped features may have changed since the date of the imagery or field work. There may be occasional differences in polygon boundaries or classifications between the information depicted on the map and the actual conditions on site.

DATA EXCLUSIONS

Certain wetland habitats are excluded from the National mapping program because of the limitations of aerial imagery as the primary data source used to detect wetlands. These habitats include seagrasses or submerged aquatic vegetation that are found in the intertidal and subtidal zones of estuaries and nearshore coastal waters. Some deepwater reef communities (coral or tubercid worm reefs) have also been excluded from the inventory. These habitats, because of their depth, go undetected by aerial imagery.

DATA PRECAUTIONS

Federal, state, and local regulatory agencies with jurisdiction over wetlands may define and describe wetlands in a different manner than that used in this inventory. There is no attempt, in either the design or products of this inventory, to define the limits of proprietary jurisdiction of any Federal, state, or local government or to establish the geographical scope of the regulatory programs of government agencies. Persons intending to engage in activities involving modifications within or adjacent to wetland areas should seek the advice of appropriate federal, state, or local agencies concerning specified agency regulatory programs and proprietary jurisdictions that may affect such activities.

Freshwater Pond

PUBH	6.54 acres
PUSC	0.374 acre

Riverine

R2UBH	1740.0 acres
R4SBC	32.3 acres

Appendix Q-3

v.5, August 10, 2019

A printed copy of this document may not be the official version. The official printed copy of this SWMPP is located in the office of the Environmental Compliance and Monitoring Department (Org. 00641).

Sediment Pollutant Load Reduction Plan

1 Introduction

Sediment load in stormwater discharged from the Sandia National Laboratories, New Mexico (SNL) Municipal Separate Storm Sewer System (MS4) was characterized, and potential physical control measures that can be installed to reduce sediment load were identified.

This document was developed by Department of Energy (DOE) and Sandia Corporation (Sandia) in compliance with the requirements of the United States Environmental Protection Agency (EPA) National Pollutant Discharge Elimination System (NDPES) Middle Rio Grande Watershed Based MS4 Permit. DOE and Sandia hold coverage under (NOI Tracking Numbers NMR04A011 and NMR04A012, respectively). The work conducted to produce this Plan was led by Sandia's Stormwater Program of the Environmental Compliance and Monitoring Department (4141), with support provided by personnel in the Infrastructure Department (4821). Department 4141 is responsible for ensuring MS4 Permit compliance, while Department 4821 is responsible for the design and operation of stormwater drainage system infrastructure. Specific requirements of the MS4 Permit as they relate to sediment pollutant load reduction are described below.

2 Permit Requirements

MS4 Part I.C.3.b: Sediment Pollutant Load Reduction Strategy: The permittee must develop, implement, and evaluate a sediment pollutant load reduction strategy [herein referred to as the Sediment Pollutant Load Reduction Plan] to assess and reduce pollutant loads associated with sediment (e.g., metals, etc. adsorbed to or traveling with sediment, as opposed to clean sediment) into the receiving waters of the Rio Grande. The strategy must include the following elements:

MS4 Part I.C.3.b(i) Sediment Assessment: Identify structural elements, natural or man-made topographical and geographical formations, MS4 operations activities, and areas indicated as potential sources of sediments pollutants in the receiving waters of the Rio Grande. Describe in first Annual Report. **Required by December 1, 2016.** See Section 3 of this Plan.

MS4 Part I.C.3.b(ii) Estimate Baseline Loading: Provide estimates of baseline total sediment loading and relative potential for contamination of those sediments by urban activities. **Required by December 1, 2016.** See Section 4 of this Plan.

MS4 Part I.C.3.b(iii) Targeted Controls: Provide a detailed description of all proposed targeted controls and BMPs that will be implemented to reduce sediment pollutant loads during the next ten (10) years of permit issuance. Provide an implementation schedule for each targeted control. **Required by December 1, 2016.** See Section 5 of this Plan.

MS4 Part I.C.3.b(iv) Monitoring and Interim Reporting: Monitor or assess progress in achieving interim measurable goals and determining the effectiveness of BMPs, and include

documentation of this monitoring or assessment in the SWMP and Annual Reports. **Required annually by December 1.** See Section 6 of this Plan.

MS4 Part I.C.3.b(v) Progress Evaluation and Reporting: Assess the overall success of the Sediment Pollutant Load Reduction Plan and document both direct and indirect measurements of program effectiveness in a Progress Report to be submitted with the fifth Annual Report. **Required by December 1, 2019.** See Section 6 of this Plan.

3 Sediment Assessment [MS4 Part I.C.3.b(i)]

Undeveloped areas where soil is exposed at ground surface within the SNL MS4 were thoroughly catalogued and investigated to estimate current rates of erosion (sediment loss in stormwater), existing control measures, and develop a strategy for further reducing sediment loss.

The existing sediment pollutant load was estimated for the Northern MS4 Area at SNL by:

1. Conducting aerial and ground surveys of undeveloped areas where soil is exposed at the ground surface, providing the potential for erosion of sediment;
2. Modeling potential erosion from those areas; and
3. Identifying potential pollutants associated with the sediments in the undeveloped areas.

All undeveloped areas with exposed sediment greater than one-half of an acre were included in this assessment. Areas stabilized with vegetation, both native and landscaped, were also included, as long as the soil in those areas is exposed to precipitation and/or runoff. Areas less than one-half acre (although uncommon) and areas stabilized with gravel (including landscaped, parking, and construction areas) were not included.

3.1 Identifying Undeveloped Areas through GIS Mapping

GIS was used to identify undeveloped areas with exposed soil and sediment within the Northern SNL MS4 area (1.16 square miles). Figures 1, 2 and 3 show the undeveloped areas with exposed sediment (herein referred to as “sediment areas”) identified during this study. Twenty-four separate sediment areas were delineated, comprising a total area of 230.65 acres. The sediment areas range in size from 0.61 to 102.50 acres. Some areas are comprised of multiple sub-areas that are connected by culverts or flow to the same drop inlet (e.g., Area 1 on Figure 1). Each drainage area is comprised of a single soil type (based on Natural Resources Conservation Service (NRCS) data, see Section 3.4 below) and unique (unshared) storm inlet(s). Soil types are shown on Figure 1, and the stormwater drainage system is shown on Figure 2.

The slope of each area was estimated in GIS using 10-foot contour data. GIS was also used to delineate soil types based on NRCS data, which are presented in Attachment 1. The soil data were used in erosion modeling as described in Section 3.4 below. Additionally, the locations of existing and proposed sediment control measures were added to the GIS, and are depicted in Figure 3.

3.2 Verifying Undeveloped Areas through Ground Surveys

Ground surveys were conducted by driving and/or walking each sediment area in order to:

- Verify the areas delineated using GIS mapping;
- Verify drainage patterns;
- Assess relative density of vegetative cover; and
- Verify existing sediment control structures.

Results of ground surveys are included in Figures 1, 2 and 3 and in Attachment 2. The numbered sediment areas depicted in the figures correspond to the numbered sediment areas in Attachment 2.

3.3 Existing Control Measures

A map of existing sediment control structures was provided by the Facilities and Maintenance Operations Center (FMOC). The locations and structure types were verified during ground surveys, and consist of block and gravel (B&G) inlet structures, detention basins, and rock stabilized channels. Because this Plan does not include areas stabilized using gravel, Attachment 2 does not directly acknowledge gravel stabilization as a control measure. Nonetheless, gravel stabilization is a common method used within the SNL MS4 to protect against erosion and reduce sediment in stormwater.

B&G inlet structures are the most common sediment control within the SNL MS4. B&G inlet structures were developed by Sandia to provide a low cost effective method to slow the flow of stormwater and allow sediment to drop out of suspension before entering the storm inlets. The structures consist of concrete blocks wrapped in wire mesh, and surrounded by gravel (Figure 4).

There are currently 20 B&G structures installed within the sediment areas discussed in this Plan. These 20 B&G structures provide inlet protection for 11 of the 24 sediment areas. The location of each B&G structure is shown on Figure 3. Additional B&G inlet structures exist throughout SNL; however, they fall outside the boundary of the SNL MS4 and the scope of this Plan.

Based on results of erosion modeling (Section 3.4), the B&G inlet structures are expected to reduce sediment load entering a drop inlet by an order of magnitude as compared to when no physical control measures are used. Sedimentation observed around some of the structures during ground surveys provides additional evidence that these structures are effective at removing sediment from stormwater. Regular maintenance, including the removal of accumulated sediment and replacement with clean gravel, is required for these structures. Maintenance frequency varies based on sediment load at each location.

There are detention basins located within two sediment areas; Area 5 and Area 10. A single basin in Area 5 overflows directly to the stormwater drainage system. Three small basins in Area 10 flow through B&G inlets before entering the stormwater drainage system. A number of additional detention basins are located throughout SNL, but they collect stormwater from rooftops and hardscaped surfaces rather than sediment areas, and are therefore not included in this Plan.

4 Estimate Baseline Loading [MS4 Part I.C.3.b(ii)]

4.1 RUSLE2 Modeling

The Revised Universal Soil Loss Equation Model Version 2 (RUSLE2) was used to estimate soil loss from each of the 24 areas. Separate model runs were conducted for each area. Modeling was conducted for both existing conditions, and after implementation of any proposed control measures. Proposed control measures are discussed in Section 4.1. A summary of input variables and model results is provided in Attachment 2.

4.1.1 Model Input

The key input variables considered in the model are as follows:

- *Climate (R)*: RUSLE2 includes pre-loaded data from the Albuquerque-Bernalillo County area. SNL-specific precipitation data cannot be used in this model; however, since the model's precipitation data for Bernalillo County is divided into sectors, a sector representative of SNL was selected (NM_Bernalillo R 8). Table 4-1 presents the average monthly and annual precipitation data in RUSLE2 for sector "R 8" compared to the data collected by Sandia. The monthly distribution is similar for both data sets and shows July through October as the wet season. Average monthly and annual precipitation values are also similar.

Table 4-1: Comparison of RUSLE2 and SNL/NM Precipitation Data

Month	Average Monthly Precipitation Data	
	RUSLE2	SNL/NM (1994-2012)
January	0.41	0.35
February	0.46	0.48
March	0.51	0.60
April	0.48	0.51
May	0.50	0.40
June	0.55	0.52
July	1.3	1.41
August	1.6	1.79
September	0.99	0.90
October	0.92	1.04
November	0.42	0.45
December	0.49	0.54
TOTALS	8.70	9.00

- *Base Soil Erodibility (K)*: Soil map unit descriptions for the site were obtained from USDA: Web Soil Survey. The Bernalillo, NM soil database was imported into RUSLE2, and the soil texture

present at each area was specified for model runs. NRCS soil maps and descriptions are provided in Attachment 1.

- *Length/Steepness of Overland Path (LS)*: Length and slope of each area were determined using GIS. Ten-foot contour intervals were used to determine flow path direction, length, and slope.
- *Cover Management (C)*: A representative cover management description was selected from the options in the model. A cover management description representing the existing non-vegetative ground condition OR established vegetative plant community was selected from the model's database for current and proposed conditions.
- *Support Practice (P)*: Support practices were selected as needed from the options in the model's database to represent additional erosion and sediment control measures proposed for the area. The "gravel bag berm" support practice was used to represent the B&G inlet structures because RUSLE does not have a B&G inlet option.

4.1.2 Model Applicability and Limitations

According to the User's Reference Guide for RUSLE2, draft dated May 15, 2008, the RUSLE2 model has the following scope:

- RUSLE2 is designed to estimate average annual erosion. It is not designed to estimate erosion from individual storms or specific time periods.
- When used on basic slopes, RUSLE2 provides an estimate of soil loss within a field.
- When modeling complex slopes, RUSLE2 provides an estimate of sediment delivery, or the amount of sediment leaving an area. Sediment delivery is generally less than soil loss because it subtracts for re-deposition within an area.
- RUSLE2 can accurately represent how major variables effect erosion in small watersheds (<5 acres).
- RUSLE2 does not apply to the following circumstances:
 - Erosion in concentrated flow areas.
 - Erosion by snowmelt.
 - Erosion by wind.

The RUSLE2 User's Manual indicates that: "Contour map intervals greater than 2-ft (1-m) should be used cautiously, if at all, to determine overland flow paths. Contour map intervals of 10-ft (3-m) should not be used because concentrated flow areas that end overland flow paths cannot be adequately delineated. Overland flow paths are generally much too long when contour intervals greater than 10 ft (3 m) are used to determine them." Sandia acknowledges these limitations, and offers the following caveats and justifications for using 10-foot contour intervals to determine slope:

- The slopes of the areas being modelled are very flat and uniform. Any depressions, undulations, or variations in slope are small (inches rather than feet); thus they are unlikely to be better delineated using 2-foot contours than 10-foot contours.
- Due to the uniformity of slopes (as opposed to concave or convex slopes), the use of 2-foot contours would not significantly alter flow path lengths or profiles.

- This Plan is primarily intended to evaluate the effectiveness of implementing sediment control BMPs, and therefore the modelling results are most appropriately used to compare current conditions to post BMP implementation conditions. Exact quantification is not the goal of this work, rather an assessment sediment load reduction over time.

The User's Reference Guide notes the following limitations:

- Regarding climate, RUSLE2's accuracy is significantly reduced in low rainfall regions where annual erosion is low; especially where average soil loss is less than 1 ton/acre/year (t/ac/yr).
- Regarding soil erodibility, RUSLE2 is most applicable to medium textured soils, works moderately well for fine soils, is acceptable for coarse soils, and is the least accurate for sandy soils. Errors can be large when applied to rangeland coarse textured soils in the Southwestern U.S.
- Regarding slope, RUSLE2 works best for overland path lengths between 50 and 300 feet, and where steepness is between 3 and 20 percent.
- The computational accuracy of the USLE within the RUSLE2 model is dependent on the calculated average annual erosion value, as follows:
 - average soil loss less than 0.1 t/ac/yr = up to +/- 500%
 - average soil loss between 0.1 and 0.5 t/ac/yr = +/- 50% > 500%
 - average soil loss between 0.5 and 4 t/ac/yr = up to +/- 50%
 - average soil loss between 4 and 30 t/ac/yr = up to +/- 25%
 - average soil loss greater than 30 t/ac/yr > +/- 25%

4.2 Sediment Load

Modeled sediment loss for each sediment area is provided in Attachment 2. The total sediment loss from the 230 acres of the Northern SNL MS4 is estimated by RUSLE2 modeling to be 7.54 tons/year, which is less than one average sized commercial dump truck load. The average soil loss per acre is 0.033 tons/acre/year, which is equivalent to approximately one-third of an average sized wheel barrow load. As indicated above, the modeled average soil loss value of 0.033 tons/acre/year has an accuracy of +/- 500%. Therefore, the actual value could be as high as 0.165 tons/acre/year or as low as 0.0066 tons/acre/year.

The amount of sediment loss described above is considered to be very low. This is due primarily to the relatively low amount of precipitation (about 9 inches/year) and the flat terrain (slope ranges from 0.6 to 1.2%) within the SNL MS4. The low/medium-density native vegetation covering 190 of the 230 acres (83%) of the undeveloped areas also reduces sediment loss by an order of magnitude compared to bare soil. Additionally, 15 of the 24 sediment areas have a sediment control structure already installed.

Stormwater runoff volume from the SNL MS4 has not been historically monitored. Measurement of stormwater runoff volume (flow volume) was implemented in accordance with MS4 Permit requirements starting in January 2016. Flow monitoring and sampling for total suspended solids (TSS) will provide improved estimates of sediment load in the future. Currently, RUSLE2 results are bound by the model's limitations and cannot be independently verified.

4.3 Sediment Pollutant Load

It is likely that many of the pollutants associated with sediment at SNL represent the background composition of sediment in the area. These sediments and potential source areas are listed in Table 4-2 below.

Table 4-2: Potential pollutants of concern related to soil and sediments within the SNL MS4.

Parameter	Source Location	Source Activity	Description
Gross Alpha	undeveloped soil-covered areas	N/A	Gross alpha is generated by anthropogenic radioactive sources, as well as radioactive materials in natural materials (rock, sediment). While there is a history of use of radioactive materials within the SNL MS4, there are no anthropogenic sources of radioactive materials currently exposed to precipitation or stormwater at SNL. The granite rock formations native to the Albuquerque area are known to contain relatively abundant radioactive elements. It is possible that sediment load from undeveloped areas may contribute gross alpha to stormwater.
PCBs	general MS4; no specific location	Atmospheric deposition	There are no known sources or PCBs in the SNL MS4. PCBs were used historically within the MS4, but there are no known releases to the environment. PCBs are deposited atmospherically; therefore, it is possible that low levels of PCBs could be detected in stormwater.
TDS	site-wide	N/A	TDS is expected to be typical of urbanized areas.
TSS	undeveloped soil-covered areas	N/A	There are areas of undeveloped (disturbed and undisturbed) silty/sandy/gravelly desert landscape within the SNL MS4.

5 Targeted Controls [MS4 Part I.C.3.b(iii)]

The most effective means to decrease pollutants associated with sediment is to reduce the sediment load in stormwater. DOE and Sandia strive to minimize sediment in stormwater at SNL through a combination of physical and institutional controls that include minimizing the number and size of disturbed areas; complying with NPDES Construction General Permit (CGP) requirements for all construction projects one acre and greater in size; installing erosion and sediment controls; and stabilizing soils on a temporary and permanent basis, as appropriate.

Fifteen of the twenty-four sediment areas identified in Attachment 2 already have physical sediment controls implemented to reduce sediment loads to as low as practicable. An additional three areas contain native vegetation that effectively limits sediment load without the need for additional control measures. Although the remaining six areas generate very low sediment loads, additional reduction can be achieved by implementing physical controls in those areas.

5.1 Proposed Control Measures

Physical controls including B&G inlet structures, check dams, and/or rip rap stabilization will be implemented in the six sediment areas (Areas 1, 2, 3, 9, 13, 23) where stabilizing vegetation and/or physical controls are not already present. The proposed control measure for each area is listed in Attachment 2. Additionally, several B&G structures were identified that require either maintenance or modification in the near future to ensure their continued performance.

The installation of new controls and maintenance of existing controls is expected to reduce total sediment load for the entire MS4 by 30%, from 9.43 tons/year to 6.51 tons/year. Proposed control measures specific to the six areas include:

Area 1: Install rock check dams approximately every 250 feet along soil-lined ditch to slow stormwater and reduce erosion. Install a B&G inlet structure at the single storm inlet on the western side of the area. This is anticipated to reduce the amount of sediment entering the stormwater drainage system from this area by about 80%.

Area 2: Install rock check dams approximately every 250 feet along soil-lined ditch to slow stormwater and reduce erosion. Install B&G inlet structures on two storm inlets. This is anticipated to reduce the amount of sediment entering the stormwater drainage system from this area by about 80%.

Area 3: Install rock check dams approximately every 250 feet along soil-lined ditch to slow stormwater and reduce erosion. Install a B&G inlet structure at the single storm inlet. This is anticipated to reduce the amount of sediment entering the stormwater drainage system from this area by about 79%.

Area 9: Two existing B&G inlet structures exist within the area, but they are located such that they intercept runoff from an adjacent paved parking lot and only a small portion of the sediment area. About half of Area 9 is currently used as an overflow parking area. It is likely to be stabilized (either graveled or paved) and incorporated into the adjacent parking lot in the near future. When this occurs, the area of exposed sediment will decrease from 2.09 acres to approximately one acre, reducing sediment load by about 50%. Additionally, a B&G inlet structure is proposed for a single storm inlet that drains most of the area. It is anticipated that these changes will reduce sediment load by about 80% in this area.

Area 13: Rilling and erosion is occurring near the southern part of this area, immediately upstream of a storm inlet. Armoring/stabilizing of the eroded portions of the area using rip-rap, and installation of a sediment filter (such as B&G structure) is recommended. A stronger control structure may be needed in this area, as the flow appears to be concentrated and flowing at a relatively high velocity. Implementation of these measures is expected to reduce sediment contributions from this area by about 77%.

Area 23: Install a B&G inlet on the single storm inlet. This is anticipated to reduce the amount of sediment entering the stormwater drainage system from this area by about 77% from this area.

5.2 Proposed Implementation and Maintenance Timeline

Installation and maintenance of the proposed control measures in addition to the existing controls is dependent upon available funding. DOE and Sandia propose implementing these measures in one area per reporting year (July 1 through June 30), starting in 2017 as listed in Table 5-1.

Table 5-1: Proposed sediment control structure implementation schedule.

Reporting Year of Implementation	Sediment Area	Proposed Control Measure	Projected Reduction in Sediment Load
2017	1	Check dams and B&G inlet protection	Approximately 80% 0.1-3.1 tons/year
2018	2	Check dams and B&G inlet protection	Approximately 79% 0.04-1.0 tons/year
2019	3	Check dams and B&G inlet protection	Approximately 79% 0.02-0.5 tons/year
2020	9	Stabilization and B&G inlet protection	Approximately 77% 0.07-1.9 tons/year
2021	13	Rip rap and B&G inlet protection	Approximately 77% 0.1-3.3 tons/year
2022	23	B&G inlet protection	Approximately 77% 0.07-1.8 tons/year
Total			Approximately 78% 0.5-11.4 tons/year

Maintenance of all stormwater drainage system components, including erosion and sediment control structures, is performed by FMOC personnel on both a regularly-scheduled and as-needed basis. Regular inspection and maintenance of the stormwater drainage system is performed using a tool developed by Sandia called Graded Approach STORM (GA STORM). Using this tool, drainage structures are scheduled for inspection and maintenance based on various factors including the critical nature of the structure, the fill rate, and condition. Approximately 700-900 stormwater drainage system inspections are conducted each year, and FMOC maintenance personnel clean approximately 300-400 structures per year. The results of these inspections are maintained in GA STORM.

In addition to the regular inspection and maintenance schedules adhered to by FMOC personnel, Sandia Stormwater Program personnel will conduct visual inspections of all sediment control structures listed in this document at least once annually. Inspection findings will be documented and maintenance or repair will be scheduled with FMOC. Priority and timing of completion will depend on available funds, personnel resources and environmental urgency.

6 Monitoring, Interim Reporting and Progress Evaluation [MS4 Part I.C.3.b(v)]

Water quality monitoring conducted in accordance with permit requirements will be used to assess total suspended solids and total dissolved solids content of stormwater. Annual assessments of the Plan's effectiveness and progress made toward implementing and maintaining proposed control measures will be provided in SWMP Plan updates submitted by December 1 of each year. A Progress Report submitted with the fifth Annual Report (by December 1, 2019) will assess the overall success of the Sediment Pollutant Load Reduction Plan and document both direct and indirect measurements of program effectiveness.

7 References

Chemical Analyses of Soil Samples Collected from the Sandia National Laboratories, New Mexico Environs, 1993–2005, Sandia National Laboratories, Sand2006-1468, March 2006.

User's Reference Guide, Revised Universal Soil Loss Equation. Version 2. USDA-Agricultural Research Service, Washington, D.C. May 15, 2008.

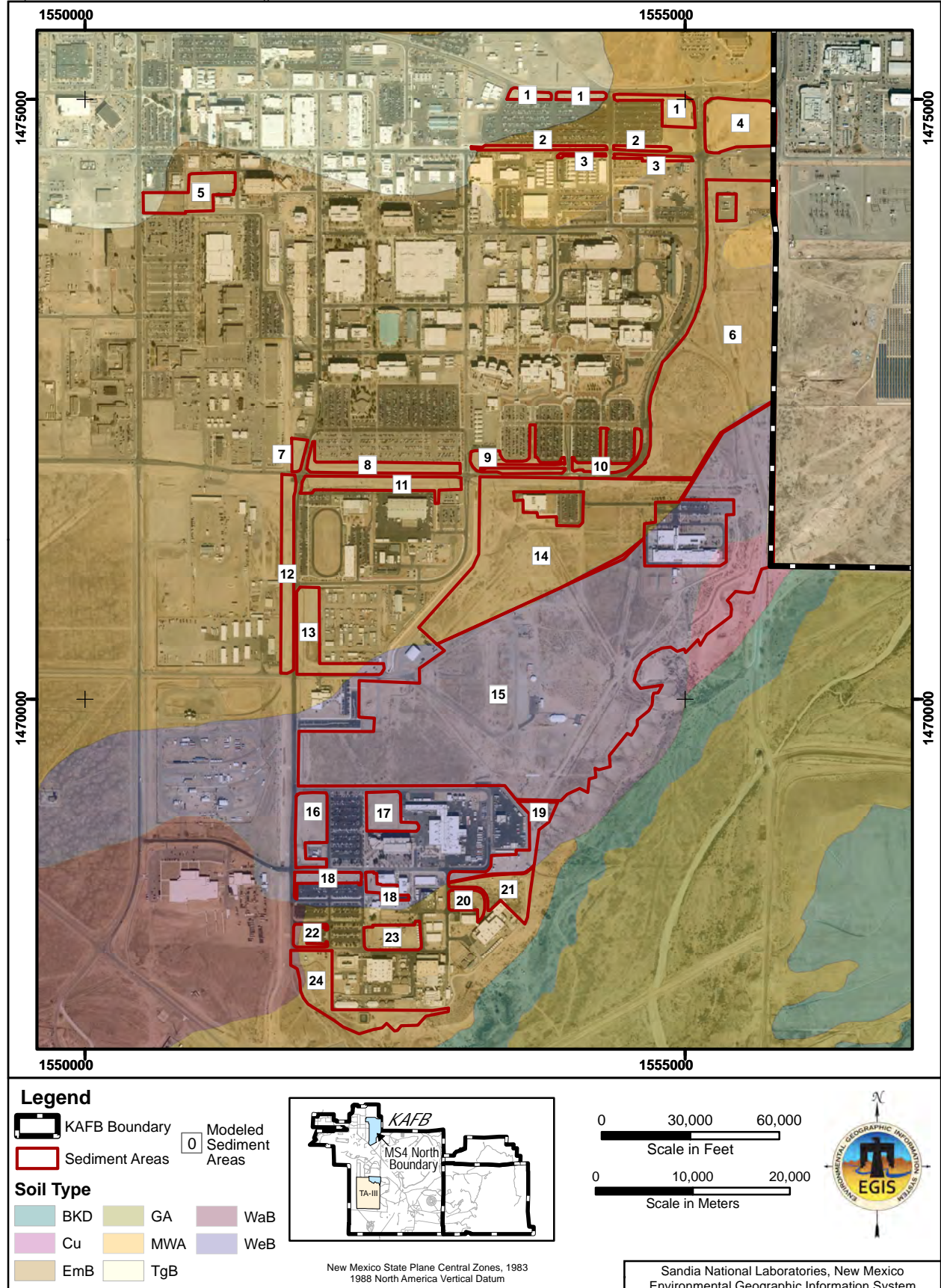


Figure 1: Soil Type

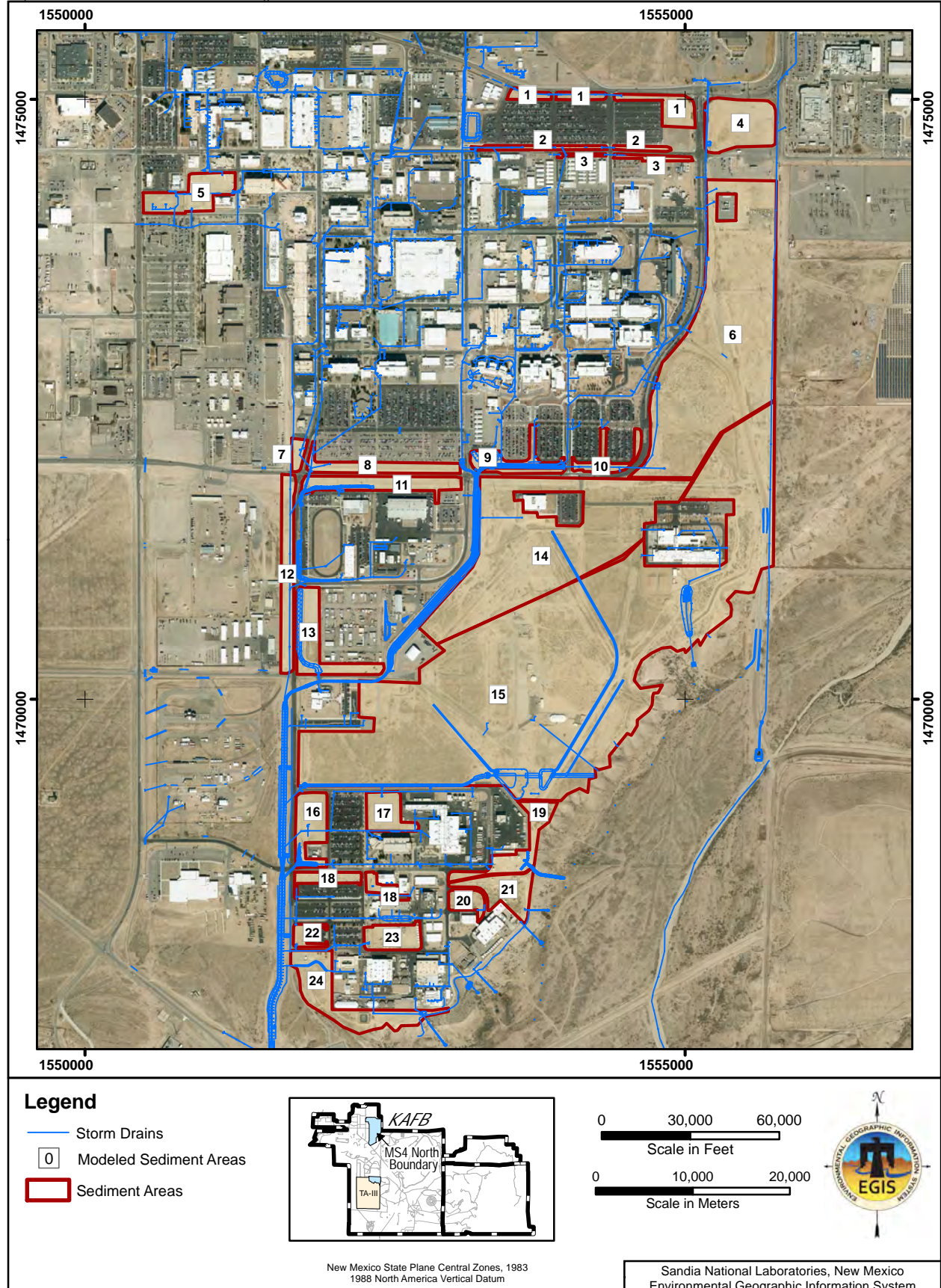


Figure 2: Storm Drainage System

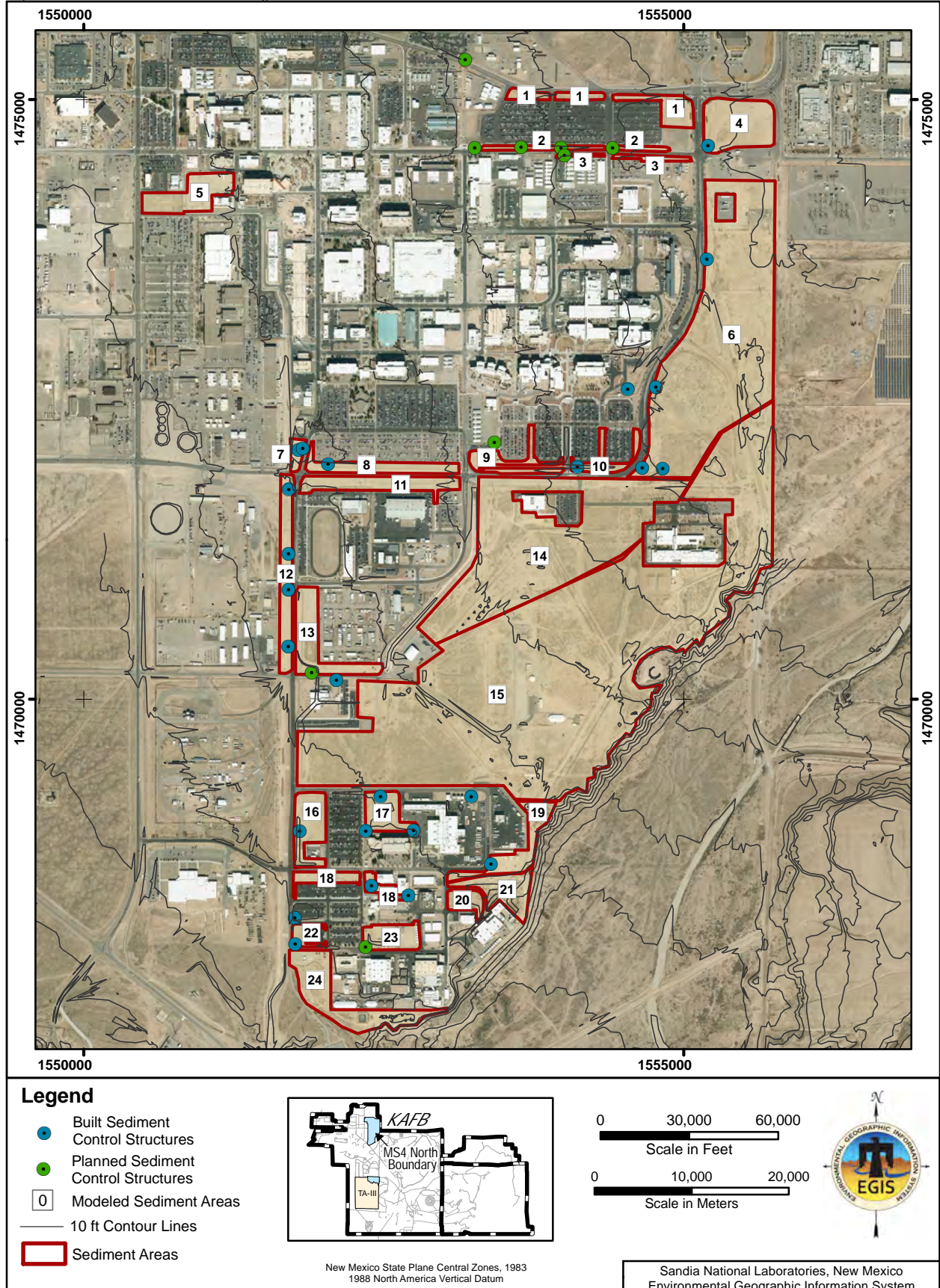


Figure 3: Existing and Proposed Sediment Control Structures



Figure 4: A typical block and gravel (B&G) inlet protection control structure used within the SNL MS4 to prevent trash and sediment from entering the stormdrain system.

Attachment 1

NRCS Soil Survey



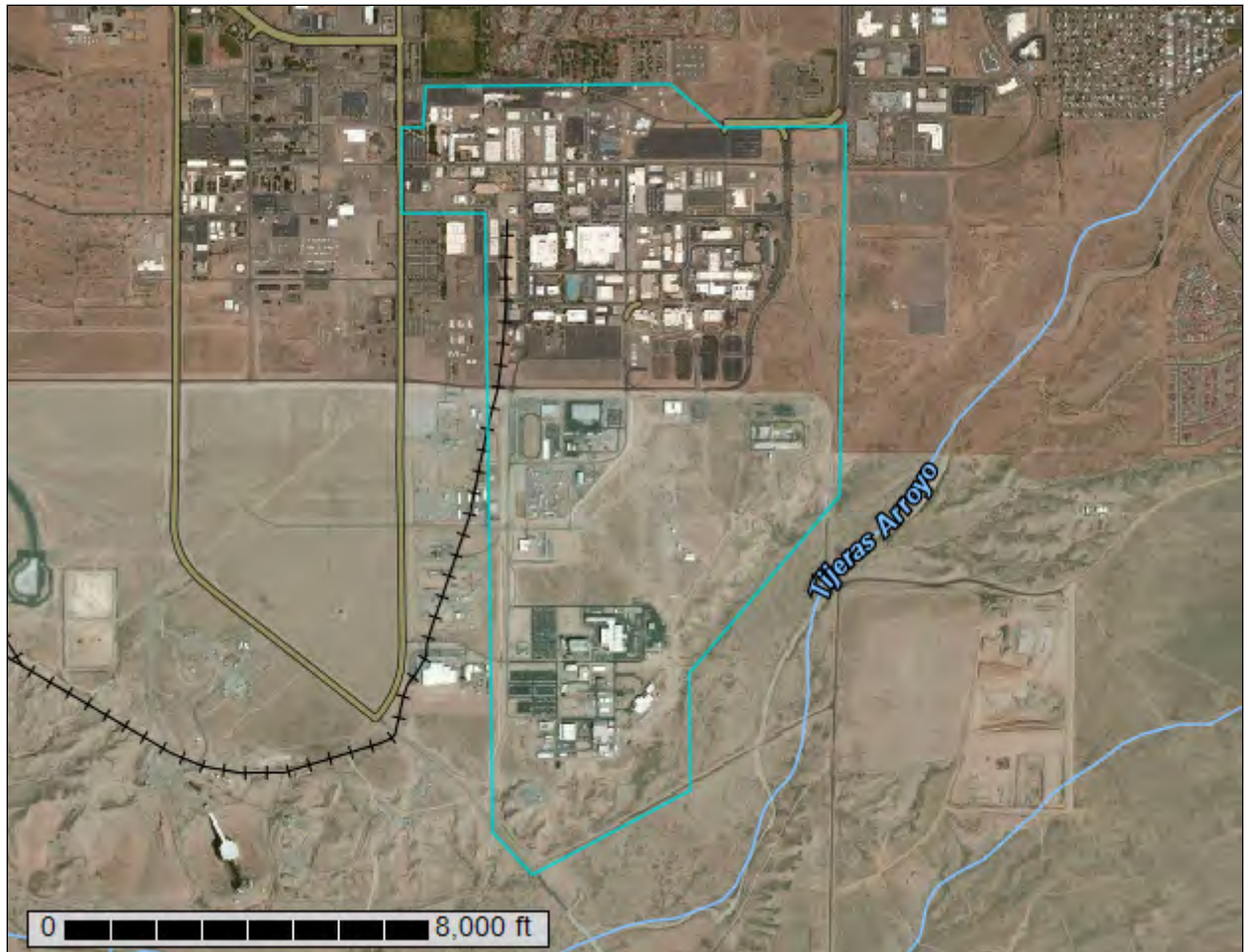
United States
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Agriculture

NRCS

Natural
Resources
Conservation
Service

A product of the National
Cooperative Soil Survey,
a joint effort of the United
States Department of
Agriculture and other
Federal agencies, State
agencies including the
Agricultural Experiment
Stations, and local
participants

Custom Soil Resource Report for Bernalillo County and Parts of Sandoval and Valencia Counties, New Mexico



Preface

Soil surveys contain information that affects land use planning in survey areas. They highlight soil limitations that affect various land uses and provide information about the properties of the soils in the survey areas. Soil surveys are designed for many different users, including farmers, ranchers, foresters, agronomists, urban planners, community officials, engineers, developers, builders, and home buyers. Also, conservationists, teachers, students, and specialists in recreation, waste disposal, and pollution control can use the surveys to help them understand, protect, or enhance the environment.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. Soil surveys identify soil properties that are used in making various land use or land treatment decisions. The information is intended to help the land users identify and reduce the effects of soil limitations on various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Although soil survey information can be used for general farm, local, and wider area planning, onsite investigation is needed to supplement this information in some cases. Examples include soil quality assessments (<http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/health/>) and certain conservation and engineering applications. For more detailed information, contact your local USDA Service Center (<http://offices.sc.egov.usda.gov/locator/app?agency=nrcs>) or your NRCS State Soil Scientist (http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/contactus/?cid=nrcs142p2_053951).

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

The National Cooperative Soil Survey is a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (NRCS) has leadership for the Federal part of the National Cooperative Soil Survey.

Information about soils is updated periodically. Updated information is available through the NRCS Web Soil Survey, the site for official soil survey information.

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How Soil Surveys Are Made

Soil surveys are made to provide information about the soils and miscellaneous areas in a specific area. They include a description of the soils and miscellaneous areas and their location on the landscape and tables that show soil properties and limitations affecting various uses. Soil scientists observed the steepness, length, and shape of the slopes; the general pattern of drainage; the kinds of crops and native plants; and the kinds of bedrock. They observed and described many soil profiles. A soil profile is the sequence of natural layers, or horizons, in a soil. The profile extends from the surface down into the unconsolidated material in which the soil formed or from the surface down to bedrock. The unconsolidated material is devoid of roots and other living organisms and has not been changed by other biological activity.

Currently, soils are mapped according to the boundaries of major land resource areas (MLRAs). MLRAs are geographically associated land resource units that share common characteristics related to physiography, geology, climate, water resources, soils, biological resources, and land uses (USDA, 2006). Soil survey areas typically consist of parts of one or more MLRA.

The soils and miscellaneous areas in a survey area occur in an orderly pattern that is related to the geology, landforms, relief, climate, and natural vegetation of the area. Each kind of soil and miscellaneous area is associated with a particular kind of landform or with a segment of the landform. By observing the soils and miscellaneous areas in the survey area and relating their position to specific segments of the landform, a soil scientist develops a concept, or model, of how they were formed. Thus, during mapping, this model enables the soil scientist to predict with a considerable degree of accuracy the kind of soil or miscellaneous area at a specific location on the landscape.

Commonly, individual soils on the landscape merge into one another as their characteristics gradually change. To construct an accurate soil map, however, soil scientists must determine the boundaries between the soils. They can observe only a limited number of soil profiles. Nevertheless, these observations, supplemented by an understanding of the soil-vegetation-landscape relationship, are sufficient to verify predictions of the kinds of soil in an area and to determine the boundaries.

Soil scientists recorded the characteristics of the soil profiles that they studied. They noted soil color, texture, size and shape of soil aggregates, kind and amount of rock fragments, distribution of plant roots, reaction, and other features that enable them to identify soils. After describing the soils in the survey area and determining their properties, the soil scientists assigned the soils to taxonomic classes (units). Taxonomic classes are concepts. Each taxonomic class has a set of soil characteristics with precisely defined limits. The classes are used as a basis for comparison to classify soils systematically. Soil taxonomy, the system of taxonomic classification used in the United States, is based mainly on the kind and character of soil properties and the arrangement of horizons within the profile. After the soil scientists classified and named the soils in the survey area, they compared the

Custom Soil Resource Report

individual soils with similar soils in the same taxonomic class in other areas so that they could confirm data and assemble additional data based on experience and research.

The objective of soil mapping is not to delineate pure map unit components; the objective is to separate the landscape into landforms or landform segments that have similar use and management requirements. Each map unit is defined by a unique combination of soil components and/or miscellaneous areas in predictable proportions. Some components may be highly contrasting to the other components of the map unit. The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The delineation of such landforms and landform segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, onsite investigation is needed to define and locate the soils and miscellaneous areas.

Soil scientists make many field observations in the process of producing a soil map. The frequency of observation is dependent upon several factors, including scale of mapping, intensity of mapping, design of map units, complexity of the landscape, and experience of the soil scientist. Observations are made to test and refine the soil-landscape model and predictions and to verify the classification of the soils at specific locations. Once the soil-landscape model is refined, a significantly smaller number of measurements of individual soil properties are made and recorded. These measurements may include field measurements, such as those for color, depth to bedrock, and texture, and laboratory measurements, such as those for content of sand, silt, clay, salt, and other components. Properties of each soil typically vary from one point to another across the landscape.

Observations for map unit components are aggregated to develop ranges of characteristics for the components. The aggregated values are presented. Direct measurements do not exist for every property presented for every map unit component. Values for some properties are estimated from combinations of other properties.

While a soil survey is in progress, samples of some of the soils in the area generally are collected for laboratory analyses and for engineering tests. Soil scientists interpret the data from these analyses and tests as well as the field-observed characteristics and the soil properties to determine the expected behavior of the soils under different uses. Interpretations for all of the soils are field tested through observation of the soils in different uses and under different levels of management. Some interpretations are modified to fit local conditions, and some new interpretations are developed to meet local needs. Data are assembled from other sources, such as research information, production records, and field experience of specialists. For example, data on crop yields under defined levels of management are assembled from farm records and from field or plot experiments on the same kinds of soil.

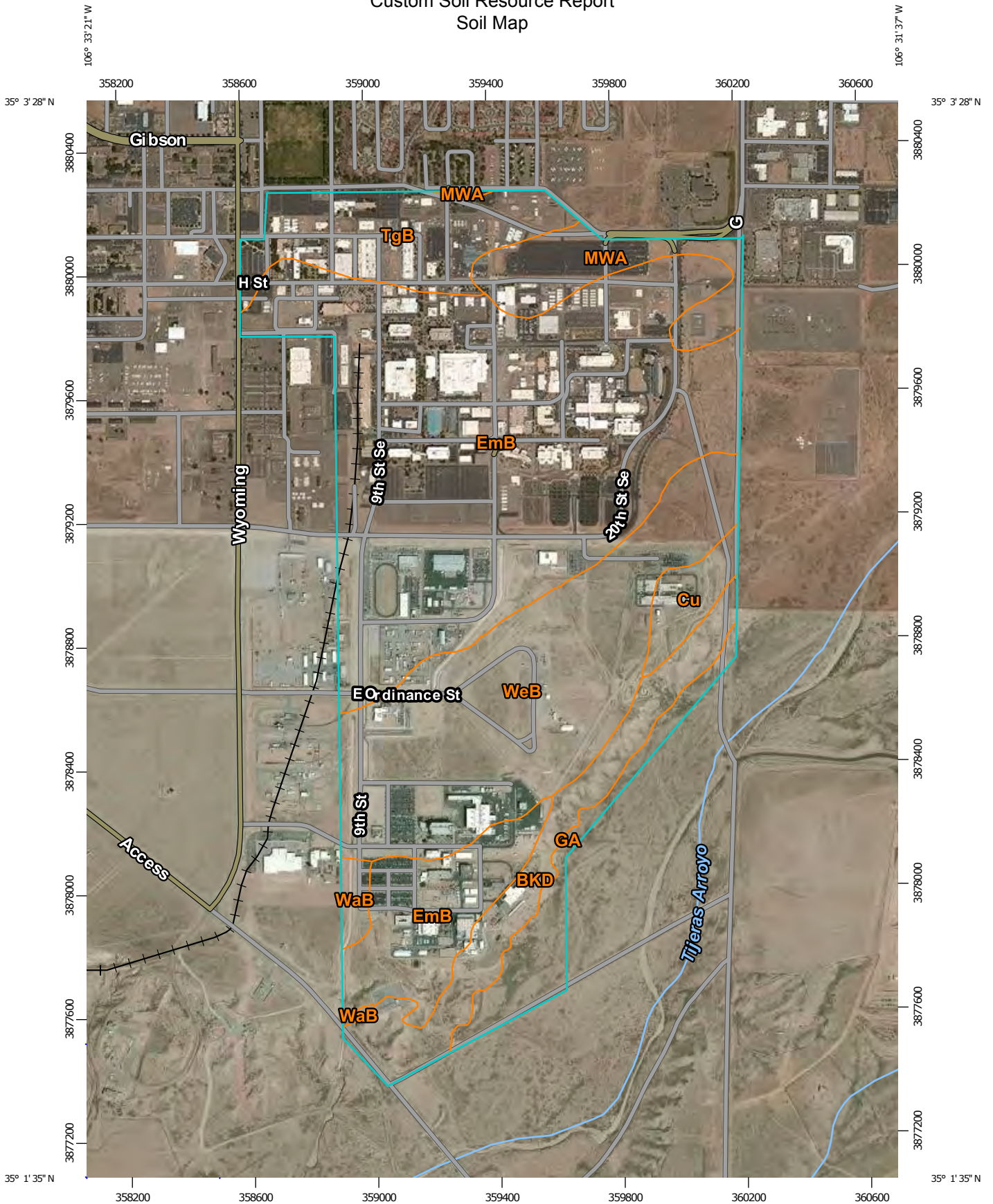
Predictions about soil behavior are based not only on soil properties but also on such variables as climate and biological activity. Soil conditions are predictable over long periods of time, but they are not predictable from year to year. For example, soil scientists can predict with a fairly high degree of accuracy that a given soil will have a high water table within certain depths in most years, but they cannot predict that a high water table will always be at a specific level in the soil on a specific date.

After soil scientists located and identified the significant natural bodies of soil in the survey area, they drew the boundaries of these bodies on aerial photographs and identified each as a specific map unit. Aerial photographs show trees, buildings, fields, roads, and rivers, all of which help in locating boundaries accurately.

Soil Map

The soil map section includes the soil map for the defined area of interest, a list of soil map units on the map and extent of each map unit, and cartographic symbols displayed on the map. Also presented are various metadata about data used to produce the map, and a description of each soil map unit.

Custom Soil Resource Report Soil Map



Map Scale: 1:17,000 if printed on A portrait (8.5" x 11") sheet.




Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 13N WGS84


Custom Soil Resource Report

MAP LEGEND


Area of Interest (AOI)

 Area of Interest (AOI)


Soils


 Soil Map Unit Polygons


 Soil Map Unit Lines


 Soil Map Unit Points

Special Point Features

 Blowout

 Borrow Pit


 Clay Spot


 Closed Depression

 Gravel Pit

 Gravelly Spot

 Landfill

 Lava Flow

 Marsh or swamp

 Mine or Quarry

 Miscellaneous Water


 Perennial Water

 Rock Outcrop


 Saline Spot

 Sandy Spot

 Severely Eroded Spot


 Sinkhole

 Slide or Slip


 Sodic Spot

 Spoil Area

 Stony Spot


 Very Stony Spot

 Wet Spot

 Other

 Special Line Features

Water Features

 Streams and Canals


Transportation

 Rails


 Interstate Highways

 US Routes

 Major Roads

 Local Roads

Background

 Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
 Web Soil Survey URL: <http://websoilsurvey.nrcs.usda.gov>
 Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Bernalillo County and Parts of Sandoval and Valencia Counties, New Mexico
 Survey Area Data: Version 11, Sep 26, 2014

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Mar 23, 2011—May 17, 2014

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Bernalillo County and Parts of Sandoval and Valencia Counties, New Mexico (NM600)			
Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
BKD	Bluepoint-Kokan association, hilly	58.7	7.6%
Cu	Cut and fill land	15.9	2.1%
EmB	Embudo gravelly fine sandy loam, 0 to 5 percent slopes	383.6	49.7%
GA	Gila fine sandy loam	32.7	4.2%
MWA	Madurez-Wink associatin, gently sloping	39.0	5.1%
TgB	Tijeras gravelly fine sandy loam, 1 to 5 percent slopes	62.7	8.1%
WaB	Wink fine sandy loam, 0 to 5 percent slopes	6.9	0.9%
WeB	Wink-Embudo complex, 0 to 5 percent slopes	171.9	22.3%
Totals for Area of Interest		771.5	100.0%

Map Unit Descriptions

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the

Custom Soil Resource Report

contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however, onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives important soil properties and qualities.

Soils that have profiles that are almost alike make up a *soil series*. Except for differences in texture of the surface layer, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Alpha-Beta complex, 0 to 6 percent slopes, is an example.

An *association* is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Alpha-Beta association, 0 to 2 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

Some surveys include *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.

Bernalillo County and Parts of Sandoval and Valencia Counties, New Mexico

BKD—Bluepoint-Kokan association, hilly

Map Unit Setting

National map unit symbol: 1vwd
Elevation: 4,850 to 6,000 feet
Mean annual precipitation: 7 to 10 inches
Mean annual air temperature: 58 to 60 degrees F
Frost-free period: 170 to 195 days
Farmland classification: Not prime farmland

Map Unit Composition

Bluepoint and similar soils: 50 percent
Kokan and similar soils: 40 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Bluepoint

Setting

Landform: Flood plains, alluvial flats
Landform position (three-dimensional): Talf, rise
Down-slope shape: Concave
Across-slope shape: Linear
Parent material: Sandy alluvium and/or eolian sands

Typical profile

H1 - 0 to 8 inches: loamy fine sand
H2 - 8 to 60 inches: stratified fine sand to gravelly loamy fine sand

Properties and qualities

Slope: 5 to 15 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Somewhat excessively drained
Runoff class: Very low
Capacity of the most limiting layer to transmit water (Ksat): High to very high (6.00 to 20.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum in profile: 3 percent
Salinity, maximum in profile: Nonsaline to slightly saline (0.0 to 4.0 mmhos/cm)
Sodium adsorption ratio, maximum in profile: 2.0
Available water storage in profile: Low (about 4.3 inches)

Interpretive groups

Land capability classification (irrigated): 4s
Land capability classification (nonirrigated): 7s
Hydrologic Soil Group: A
Ecological site: Deep Sand (R042XA054NM)

Description of Kokan

Setting

Landform: Hillslopes, fan piedmonts

Landform position (two-dimensional): Footslope, backslope, shoulder

Landform position (three-dimensional): Side slope, rise

Down-slope shape: Linear

Across-slope shape: Linear

Parent material: Alluvium derived from igneous and sedimentary rock

Typical profile

H1 - 0 to 4 inches: gravelly sand

H2 - 4 to 60 inches: stratified very gravelly sand to extremely gravelly loamy coarse sand

Properties and qualities

Slope: 15 to 40 percent

Depth to restrictive feature: More than 80 inches

Natural drainage class: Excessively drained

Runoff class: Low

Capacity of the most limiting layer to transmit water (Ksat): Very high (20.00 in/hr)

Depth to water table: More than 80 inches

Frequency of flooding: None

Frequency of ponding: None

Calcium carbonate, maximum in profile: 2 percent

Salinity, maximum in profile: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)

Sodium adsorption ratio, maximum in profile: 2.0

Available water storage in profile: Very low (about 2.4 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 7e

Hydrologic Soil Group: A

Ecological site: Gravelly Sand (R042XA053NM)

Cu—Cut and fill land

Map Unit Setting

National map unit symbol: 1vwr

Elevation: 4,850 to 6,000 feet

Mean annual precipitation: 7 to 10 inches

Mean annual air temperature: 58 to 60 degrees F

Frost-free period: 170 to 195 days

Farmland classification: Not prime farmland

Map Unit Composition

Cut and fill land: 100 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Cut And Fill Land

Setting

Landform: Scarp slopes
Down-slope shape: Linear
Across-slope shape: Linear

EmB—Embudo gravelly fine sandy loam, 0 to 5 percent slopes

Map Unit Setting

National map unit symbol: 1vws
Elevation: 4,850 to 6,500 feet
Mean annual precipitation: 7 to 10 inches
Mean annual air temperature: 58 to 60 degrees F
Frost-free period: 170 to 195 days
Farmland classification: Not prime farmland

Map Unit Composition

Embudo and similar soils: 85 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Embudo

Setting

Landform: Terraces
Landform position (three-dimensional): Tread
Down-slope shape: Concave
Across-slope shape: Linear
Parent material: Alluvium derived from igneous and sedimentary rock

Typical profile

H1 - 0 to 4 inches: gravelly fine sandy loam
H2 - 4 to 20 inches: gravelly sandy loam
H3 - 20 to 60 inches: stratified very gravelly loamy coarse sand to extremely gravelly loamy sand

Properties and qualities

Slope: 0 to 5 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Well drained
Runoff class: Very low
Capacity of the most limiting layer to transmit water (Ksat): High (2.00 to 6.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: Rare
Frequency of ponding: None
Calcium carbonate, maximum in profile: 5 percent
Salinity, maximum in profile: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Sodium adsorption ratio, maximum in profile: 2.0
Available water storage in profile: Low (about 3.4 inches)

Interpretive groups

Land capability classification (irrigated): None specified

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Land capability classification (nonirrigated): 7e
Hydrologic Soil Group: A
Ecological site: Sandy (R042XA051NM)

GA—Gila fine sandy loam

Map Unit Setting

National map unit symbol: 1vwv
Elevation: 4,850 to 6,000 feet
Mean annual precipitation: 7 to 10 inches
Mean annual air temperature: 58 to 60 degrees F
Frost-free period: 170 to 195 days
Farmland classification: Not prime farmland

Map Unit Composition

Gila and similar soils: 85 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Gila

Setting

Landform: Flood plains, alluvial fans
Landform position (three-dimensional): Talf, rise
Down-slope shape: Concave, linear
Across-slope shape: Linear
Parent material: Alluvium derived from igneous and sedimentary rock

Typical profile

H1 - 0 to 7 inches: fine sandy loam
H2 - 7 to 60 inches: stratified gravelly sandy loam to silt loam

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Well drained
Runoff class: Low
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high
(0.60 to 2.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: Rare
Frequency of ponding: None
Calcium carbonate, maximum in profile: 5 percent
Salinity, maximum in profile: Nonsaline to slightly saline (0.0 to 4.0 mmhos/cm)
Sodium adsorption ratio, maximum in profile: 2.0
Available water storage in profile: High (about 10.5 inches)

Interpretive groups

Land capability classification (irrigated): 1
Land capability classification (nonirrigated): 7c
Hydrologic Soil Group: B
Ecological site: Bottomland (R042XA057NM)

MWA—Madurez-Wink associatin, gently sloping

Map Unit Setting

National map unit symbol: 1vxn
Elevation: 4,850 to 6,000 feet
Mean annual precipitation: 7 to 10 inches
Mean annual air temperature: 58 to 60 degrees F
Frost-free period: 170 to 195 days
Farmland classification: Not prime farmland

Map Unit Composition

Madurez and similar soils: 55 percent
Wink and similar soils: 25 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Madurez

Setting

Landform: Alluvial fans, fan piedmonts
Landform position (three-dimensional): Rise
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Alluvium derived from igneous and sedimentary rock

Typical profile

H1 - 0 to 4 inches: fine sandy loam
H2 - 4 to 21 inches: fine sandy loam
H3 - 21 to 60 inches: sandy loam

Properties and qualities

Slope: 1 to 5 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Well drained
Runoff class: Low
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high
(0.60 to 2.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum in profile: 7 percent
Salinity, maximum in profile: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Sodium adsorption ratio, maximum in profile: 2.0
Available water storage in profile: Moderate (about 8.9 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 7e
Hydrologic Soil Group: B
Ecological site: Loamy (R042XA052NM)

Description of Wink

Setting

Landform: Fan piedmonts, alluvial fans
Landform position (three-dimensional): Rise
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Alluvium derived from igneous and sedimentary rock

Typical profile

H1 - 0 to 4 inches: fine sandy loam
H2 - 4 to 60 inches: sandy loam

Properties and qualities

Slope: 1 to 7 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Well drained
Runoff class: Very low
Capacity of the most limiting layer to transmit water (Ksat): High (2.00 to 6.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum in profile: 10 percent
Salinity, maximum in profile: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Sodium adsorption ratio, maximum in profile: 2.0
Available water storage in profile: Moderate (about 7.7 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 7e
Hydrologic Soil Group: A
Ecological site: Loamy (R042XA052NM)

TgB—Tijeras gravelly fine sandy loam, 1 to 5 percent slopes

Map Unit Setting

National map unit symbol: 1vyt
Elevation: 5,000 to 6,500 feet
Mean annual precipitation: 7 to 10 inches
Mean annual air temperature: 58 to 60 degrees F
Frost-free period: 170 to 195 days
Farmland classification: Not prime farmland

Map Unit Composition

Tijeras and similar soils: 80 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Tijeras

Setting

Landform: Fan remnants, alluvial fans
Landform position (three-dimensional): Rise
Down-slope shape: Convex, linear
Across-slope shape: Convex, linear
Parent material: Alluvium derived from igneous and sedimentary rock

Typical profile

H1 - 0 to 6 inches: gravelly fine sandy loam
H2 - 6 to 19 inches: sandy clay loam
H3 - 19 to 60 inches: gravelly sandy loam

Properties and qualities

Slope: 1 to 5 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Well drained
Runoff class: Low
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.60 to 2.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum in profile: 10 percent
Salinity, maximum in profile: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Sodium adsorption ratio, maximum in profile: 2.0
Available water storage in profile: Low (about 5.8 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 7c
Hydrologic Soil Group: B
Ecological site: Sandy (R042XA051NM)

WaB—Wink fine sandy loam, 0 to 5 percent slopes

Map Unit Setting

National map unit symbol: 1vz2
Elevation: 4,850 to 6,000 feet
Mean annual precipitation: 7 to 10 inches
Mean annual air temperature: 58 to 60 degrees F
Frost-free period: 170 to 195 days
Farmland classification: Not prime farmland

Map Unit Composition

Wink and similar soils: 85 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Wink

Setting

Landform: Alluvial fans, fan piedmonts
Landform position (three-dimensional): Rise
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Alluvium derived from igneous and sedimentary rock

Typical profile

H1 - 0 to 6 inches: fine sandy loam
H2 - 6 to 60 inches: sandy loam

Properties and qualities

Slope: 0 to 5 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Well drained
Runoff class: Very low
Capacity of the most limiting layer to transmit water (Ksat): High (2.00 to 6.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum in profile: 10 percent
Gypsum, maximum in profile: 3 percent
Salinity, maximum in profile: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Sodium adsorption ratio, maximum in profile: 2.0
Available water storage in profile: Moderate (about 7.7 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 7e
Hydrologic Soil Group: A
Ecological site: Loamy (R042XA052NM)

WeB—Wink-Embudo complex, 0 to 5 percent slopes

Map Unit Setting

National map unit symbol: 1vz3
Elevation: 4,850 to 6,500 feet
Mean annual precipitation: 7 to 10 inches
Mean annual air temperature: 58 to 60 degrees F
Frost-free period: 170 to 195 days
Farmland classification: Not prime farmland

Map Unit Composition

Wink and similar soils: 65 percent
Embudo and similar soils: 25 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Wink

Setting

Landform: Alluvial fans, fan piedmonts
Landform position (three-dimensional): Rise
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Alluvium derived from igneous and sedimentary rock

Typical profile

H1 - 0 to 6 inches: fine sandy loam
H2 - 6 to 60 inches: sandy loam

Properties and qualities

Slope: 1 to 5 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Well drained
Runoff class: Very low
Capacity of the most limiting layer to transmit water (Ksat): High (2.00 to 6.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum in profile: 10 percent
Gypsum, maximum in profile: 2 percent
Salinity, maximum in profile: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Sodium adsorption ratio, maximum in profile: 2.0
Available water storage in profile: Moderate (about 7.7 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 7e
Hydrologic Soil Group: A
Ecological site: Loamy (R042XA052NM)

Description of Embudo

Setting

Landform: Terraces
Landform position (three-dimensional): Tread
Down-slope shape: Concave
Across-slope shape: Linear
Parent material: Alluvium derived from igneous and sedimentary rock

Typical profile

H1 - 0 to 4 inches: gravelly fine sandy loam
H2 - 4 to 20 inches: gravelly sandy loam
H3 - 20 to 60 inches: stratified very gravelly loamy coarse sand to extremely gravelly loamy sand

Properties and qualities

Slope: 0 to 5 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Well drained
Runoff class: Very low
Capacity of the most limiting layer to transmit water (Ksat): High (2.00 to 6.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: Rare

Custom Soil Resource Report

Frequency of ponding: None

Calcium carbonate, maximum in profile: 5 percent

Salinity, maximum in profile: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)

Sodium adsorption ratio, maximum in profile: 2.0

Available water storage in profile: Low (about 3.4 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 7e

Hydrologic Soil Group: A

Ecological site: Sandy (R042XA051NM)

References

American Association of State Highway and Transportation Officials (AASHTO). 2004. Standard specifications for transportation materials and methods of sampling and testing. 24th edition.

American Society for Testing and Materials (ASTM). 2005. Standard classification of soils for engineering purposes. ASTM Standard D2487-00.

Cowardin, L.M., V. Carter, F.C. Golet, and E.T. LaRoe. 1979. Classification of wetlands and deep-water habitats of the United States. U.S. Fish and Wildlife Service FWS/OBS-79/31.

Federal Register. July 13, 1994. Changes in hydric soils of the United States.

Federal Register. September 18, 2002. Hydric soils of the United States.

Hurt, G.W., and L.M. Vasilas, editors. Version 6.0, 2006. Field indicators of hydric soils in the United States.

National Research Council. 1995. Wetlands: Characteristics and boundaries.

Soil Survey Division Staff. 1993. Soil survey manual. Soil Conservation Service. U.S. Department of Agriculture Handbook 18. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2_054262

Soil Survey Staff. 1999. Soil taxonomy: A basic system of soil classification for making and interpreting soil surveys. 2nd edition. Natural Resources Conservation Service, U.S. Department of Agriculture Handbook 436. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2_053577

Soil Survey Staff. 2010. Keys to soil taxonomy. 11th edition. U.S. Department of Agriculture, Natural Resources Conservation Service. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2_053580

Tiner, R.W., Jr. 1985. Wetlands of Delaware. U.S. Fish and Wildlife Service and Delaware Department of Natural Resources and Environmental Control, Wetlands Section.

United States Army Corps of Engineers, Environmental Laboratory. 1987. Corps of Engineers wetlands delineation manual. Waterways Experiment Station Technical Report Y-87-1.

United States Department of Agriculture, Natural Resources Conservation Service. National forestry manual. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/home/?cid=nrcs142p2_053374

United States Department of Agriculture, Natural Resources Conservation Service. National range and pasture handbook. <http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/landuse/rangepasture/?cid=stelprdb1043084>

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United States Department of Agriculture, Natural Resources Conservation Service. National soil survey handbook, title 430-VI. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/scientists/?cid=nrcs142p2_054242

United States Department of Agriculture, Natural Resources Conservation Service. 2006. Land resource regions and major land resource areas of the United States, the Caribbean, and the Pacific Basin. U.S. Department of Agriculture Handbook 296. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2_053624

United States Department of Agriculture, Soil Conservation Service. 1961. Land capability classification. U.S. Department of Agriculture Handbook 210. http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_052290.pdf

Attachment 2

Sediment Area Properties and RUSLE Modeling Data

Undeveloped Sediment Area Properties and RUSLE2 Modeling Data

Area #	Area (acres)	Length (ft)	Slope (%)	Soil Type (a)	Cover Type	Existing Control Measure (b)	Modeled Current Soil Loss (c) (tons/ac/yr)	Modeled Current Soil Loss (c) (tons/yr)	Planned Control Measure	Modeled Future Soil Loss (c) (tons/ac/yr)	Modeled Future Soil Loss (c) (tons/yr)	Decrease (c) (tons/yr)	% Decrease
1	3.19	350	1.2	TgB	Bare	--	0.2400	0.77	B&G Inlets	0.0470	0.15	0.62	80.42
2	1.26	1,000	1.2	MWA	Bare	--	0.1870	0.24	B&G Inlets	0.0395	0.05	0.19	78.88
3	0.68	1,000	1.2	MWA	Bare	--	0.1870	0.13	B&G Inlets	0.0395	0.03	0.10	78.88
4	5.43	550	1.2	MWA	Low	B&G Inlets	0.0701	0.38	--	0.0701	0.38	0.00	0.00
5	3.67	150	1.2	EmB	Bare	Gravel/basin	0.0056	0.02	--	0.0056	0.02	0.00	0.00
6	39.12	1,000	1.0	EmB	Medium	B&G Inlets	0.0304	1.19	--	0.0304	1.19	0.00	0.00
7	0.61	100	1.1	EmB	Bare	B&G Inlets	0.0404	0.02	--	0.0404	0.02	0.00	0.00
8	2.68	1,000	0.8	EmB	Bare	B&G Inlets	0.0409	0.11	--	0.0409	0.11	0.00	0.00
9	2.09	750	1.1	EmB	Bare	--	0.2330	0.49	Paving/B&G	0.0540	0.11	0.37	76.82
10	1.44	500	1.1	EmB	Bare	Basins/B&G Inlets	0.0524	0.08	--	0.0524	0.08	0.00	0.00
TA-I Total	60.17							3.42			2.14	1.28	37.36
11	3.52	1,000	0.8	EmB	Bare	B&G Inlets	0.0409	0.14	--	0.0409	0.14	0.00	0.00
12	3.97	400	0.6	EmB	Bare	B&G Inlets	0.0295	0.12	--	0.0295	0.12	0.00	0.00
13	4.28	300	1.0	EmB	Bare	--	0.1970	0.84	Riprap/B&G	0.0457	0.20	0.65	76.80
14	32.79	1,000	1.1	EmB	Medium	--	0.0168	0.55	--	0.0168	0.55	0.00	0.00
15	102.50	1,000	1.1	WeB	Medium	--	0.0120	1.23	--	0.0120	1.23	0.00	0.00
TA-II Total	147.06							2.89			2.24	0.65	22.44
16	3.12	300	1.0	WeB	Bare	B&G Inlets	0.0296	0.09	--	0.0296	0.09	0.00	0.00
17	2.36	350	1.0	WeB	Bare	B&G Inlets	0.0300	0.07	--	0.0300	0.07	0.00	0.00
18	1.24	200	1.0	WeB	Bare	B&G Inlet	0.0286	0.04	--	0.0286	0.04	0.00	0.00
19	3.16	125	1.0	WeB	Bare	Gravel Channel	0.1300	0.41	--	0.1300	0.41	0.00	0.00
20	1.15	75	1.0	EmB	Low	Basin	0.0045	0.01	--	0.0045	0.01	0.00	0.00
21	3.05	275	1.0	EmB	Low	Basin	0.0051	0.02	--	0.0051	0.02	0.00	0.00
22	0.73	200	1.0	EmB	Bare	B&G Inlet	0.0424	0.03	--	0.0424	0.03	0.00	0.00
23	2.23	400	1.0	EmB	Bare	--	0.2020	0.45	B&G Inlet	0.0470	0.10	0.35	76.73
24	6.38	200	1.0	EmB	Low	--	0.0205	0.13	--	0.0205	0.13	0.00	0.00
TA-IV Total	23.42							1.24			0.90	0.35	27.82
MS4 Total	230.65							7.54			5.27	2.27	30.08
(a) Depicted in Figure 1													
(b) Depicted in Figure 3													
(c) Model results contain a potential accuracy range of +/- 500%													

Appendix R: Supporting Documents for Comprehensive Monitoring and Assessment Program

No.	Description
R-1	<i>Certification of Installation of Stormwater Quality Monitoring Stations in Compliance with the National Pollutant Discharge Elimination System Municipal Separate Storm Sewer System Permit, dated January 20, 2016</i>
R-2	<i>Wet Weather Monitoring Plan, dated October 30, 2015 and submitted to EPA and NMED on November 18, 2015</i>
R-3	<i>EPA and NMED comments on Wet Weather Monitoring Plan, issued via email on February 15, 2016</i>
R-4	<i>DOE and Sandia response to EPA and NMED comments on Wet Weather Monitoring Plan, submitted on April 28, 2016</i>
R-5	<i>EPA Approval of Wet Weather Monitoring Plan, email February 13, 2017</i>
R-6	<i>Wet Weather Monitoring Data since Permit Inception</i>

Appendix R-1



Department of Energy
National Nuclear Security Administration
Sandia Field Office
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Albuquerque, NM 87185
JAN 20 2016



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Environmental Protection Agency
Email: R6_MS4Permits@epa.gov

Mr. Brent Larsen
Chief, NPDES Permits & TMDLs Branch
Environmental Protection Agency, Region 06
1445 Ross Ave., Suite 1200
Mail Code: 6WQ-PP
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Mr. Bruce Yurdin
Program Manager, Surface Water Quality Bureau
Point Source Regulation Section
New Mexico Environment Department
P.O. Box 5469
Santa Fe, New Mexico 87502

Ms. Ramona M. Montoya
Environment Division Manager
Pueblo of Isleta
P.O. Box 1270
Isleta, New Mexico 87022

Subject: Certification of Installation of Stormwater Quality Monitoring Stations in Compliance with the National Pollution Discharge Elimination System Municipal Separate Storm Sewer System Permit

Dear Mr. Larsen, Mr. Yurdin, and Ms. Montoya:

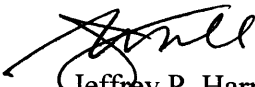
On June 16, 2015, the Department of Energy (DOE) and Sandia Corporation (Sandia) submitted Notices of Intent and a Stormwater Management Program Plan to the U.S. Environmental Protection Agency (EPA) to obtain coverage under the Middle Rio Grande Municipal Separate Storm Sewer System (MS4) Permit, which was issued by the EPA on December 22, 2014.

On November 20, 2015, Sandia and DOE submitted a Wet Weather Monitoring Plan (WWMP) that described how stormwater quality samples will be collected to comply with Permit requirements.

DOE's and Sandia's compliance with the MS4 Permit requires ongoing submissions to EPA. Enclosed are the required DOE and Sandia certifications that the monitoring stations described in the WWMP have been installed and are operational. The MS4 permit requires that these certifications are submitted to EPA on or before January 22, 2016.

If you have questions, please contact Ms. Agogino of our staff at (505) 845-6100.

Sincerely,



Jeffrey P. Harrell
Manager

Enclosure

cc w/o enclosure:

Nelly Smith

US EPA, Region 06

NPDES Permits & TMDLs Branch (6WQ – PP)

1445 Ross Ave., Suite 1200

Mail Code: 6WQ-PP

Dallas, Texas 75202-2733

Jaime Moya, SNL/NM

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John Kay, SNL/NM

Jamie Gomez, SNL/NM

Selma Cuellar, SNL/NM

Susan Lacy, SFO/ENG

Karen Agogino, SFO/ENG

658813

**Certifying Signatures for Sandia National Laboratories
Municipal Separate Storm Sewer System (MS4)
Stormwater Quality Monitoring Stations**

The following signatures are provided to satisfy MS4 Permit Part III.A.1.e (Table 10), which requires Class C permittees (i.e., Sandia Corporation and Department of Energy) to submit certification that all wet weather monitoring sites are operational by January 22, 2016. All five stormwater sampling points (SWSP-02, SWSP-05, SWSP-24, SWSP-35 and SWSP-36) that were described in the Wet Weather Monitoring Plan submitted to EPA on November 20, 2015 are operational and ready to collect samples in a manner compliant with MS4 Permit requirements.

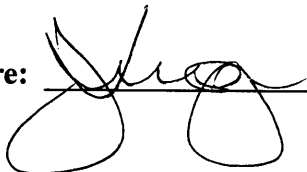
SANDIA CORPORATION

“I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.”

Name: Jaime L. Moya

Title: Director and Chief of Safety

Signature: _____



Date: _____

1/18/16

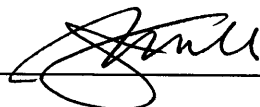
**DEPARTMENT OF ENERGY
NATIONAL NUCLEAR SECURITY ADMINISTRATION**

“I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.”

Name: Jeffrey P. Harrell

Title: Manager, Sandia Field Office

Signature: _____



Date: _____

1/20/2015

Appendix R-2



Department of Energy
National Nuclear Security Administration
Sandia Field Office
P.O. Box 5400
Albuquerque, NM 87185



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Environmental Protection Agency
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Mr. Brent Larsen
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P.O. Box 5469
Santa Fe, New Mexico 87502

Ms. Ramona M. Montoya
Environment Division Manager
Pueblo of Isleta
P.O. Box 1270
Isleta, New Mexico 87022

Subject: Transmittal of Wet Weather Monitoring Plan for the Municipal Separate Storm Sewer System Permit Number NMR04A000

Dear Mr. Larsen, Mr. Yurdin, and Ms. Montoya:

On June 16, 2015, the Department of Energy (DOE) and Sandia Corporation (Sandia) submitted Notices of Intent (NOI) and a Stormwater Management Program (SWMP) Plan to EPA to obtain coverage under the Middle Rio Grande Municipal Separate Storm Sewer System (MS4) Permit, which was issued by the Environmental Protection Agency (EPA) on December 22, 2014. DOE's and Sandia's compliance with the MS4 Permit requires ongoing submissions to EPA.

Enclosed is the Sandia National Laboratories, New Mexico (SNL/NM) Wet Weather Monitoring Plan (WWMP) for the MS4 Permit Number NMR04A000. The WWMP describes how and where stormwater quality samples will be collected to comply with Permit requirements. The WWMP currently exists as Sections 2 and 12, and Appendices B and F of the SNL/NM SWMP Plan. These portions of the SWMP Plan have been extracted and enclosed in fulfillment of the requirement to submit a WWMP. Given that the stormwater sampling requirements of the

Permit are intricately linked to the other Permit requirements, it is our intention to retain the WWMP in the SWMP Plan for the term of the Permit rather than maintaining it as a separate document.

If you have questions, please contact Ms. Agogino of our staff at (505) 845-6100.

Sincerely,



William P. Ortiz
Acting Assistant Manager for Engineering

Enclosure

cc w/o enclosure:

Nelly Smith
US EPA, Region 06
NPDES Permits & TMDLs Branch (6WQ – PP)
1445 Ross Ave., Suite 1200
Mail Code: 6WQ-PP
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Stephanie Salinas, SNL/NM
Kathie Deal, SNL/NM
John Kay, SNL/NM
Jamie Gomez, SNL/NM
Selma Cuellar, SNL/NM
Susan Lacy, SFO/ENG
Karen Agogino, SFO/ENG
652326

**Certifying Signatures for Sandia National Laboratories
Municipal Separate Storm Sewer System (MS4)
Wet Weather Monitoring Plan, dated October 14, 2015**

SANDIA CORPORATION

“I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.”

Name: Jaime L. Moya

Title: Director and Chief of Safety

Signature:

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Date:

10/23/15

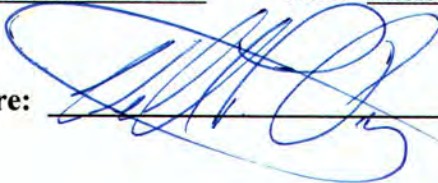
**DEPARTMENT OF ENERGY
NATIONAL NUCLEAR SECURITY ADMINISTRATION**

“I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.”

Name: William P. Ortiz

Title: Assistant Manager for Engineering

Signature:

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Date:

11-18-2015

Sandia National Laboratories, NM

Wet Weather Monitoring Plan

October 30, 2015

Addendum

This addendum to the Wet Weather Monitoring Plan (WWMP) is included to provide clarity. Because the WWMP is excerpted from the Stormwater Management Program Plan (SWMP Plan), some of the acronyms that appear are not defined in the WWMP text. The SWMP Plan can be accessed in its entirety through the University of New Mexico (UNM) LoboVault website at: <https://repository.unm.edu/handle/1928/26737>. This WWMP includes recent revisions to the SWMP Plan, which will be posted to the LoboVault website on or before December 22, 2015.

Acronyms

AMAFCA	Albuquerque Metro Area Flood Control Authority
BOD ₅	Biological Oxygen Demand
COD	Chemical Oxygen Demand
DO	Dissolved Oxygen
DOE	Department of Energy
DMR	Discharge Monitoring Report
EPA	U.S. Environmental Protection Agency
IDDEP	Illicit Discharge Detection and Elimination Program
KAFB	Kirtland Air Force Base
MEP	Maximum Extent Practicable
MQL	Minimum Quantification Levels
MS4	Municipal Separate Stormwater Sewer System
PCB	Polychlorinated Biphenyls
PJAA	Percent Jurisdiction Area Approach
SMO	Sample Management Office
SNL	Sandia National Laboratories
SWMP	Stormwater Management Program
SWSP	Stormwater Sampling Point
TA	Technical Area
TDS	Total Dissolved Solids
TKN	Total Kjeldahl Nitrogen
TMDL	Total Maximum Daily Load
TSS	Total Suspended Solids
UA	Urbanized Area
WLA	Waste Load Allocation
WQCC	Water Quality Control Commission

2. Water Quality Standards [MS4 Part I.C]

The MS4 Permit includes provisions to ensure that Permittees do not cause or contribute to exceedances of applicable water quality standards, and to control discharges to the maximum extent practicable (MEP). This Section of the SWMP Plan presents the water quality standards applicable to the SNL MS4. Measures taken to ensure compliance with those standards are contained throughout the remainder of this SWMP Plan.

2.1 Applicable Standards [MS4 Part I.C.1.b]

Water quality standards that apply to discharges from the SNL MS4 include the State of New Mexico Water Quality Control Commission (WQCC) Standards for Interstate and Intrastate Surface Waters, and the Pueblo of Isleta Surface Water Quality Standards (Appendix F of this SWMP Plan). While the MS4 Permit prohibits the discharge of stormwater from the SNL MS4 that would cause or contribute to an exceedance of any regulated constituent, stormwater sampling is only required for key indicator water quality constituents. These include: temperature, total suspended solids (TSS), total dissolved solids (TDS), chemical oxygen demand (COD), biological oxygen demand (BOD₅), dissolved oxygen (DO), oil and grease, *Escherichia coli* (*E. coli*), pH, total Kjeldahl nitrogen (TKN), total phosphorus, polychlorinated biphenyls (PCBs), and gross alpha. The applicable water quality standard for each of these constituents is listed in Table 2-1 below. The most stringent of the applicable standards listed in the table apply to the SNL MS4.

Table 2-1: Applicable Water Quality Standards for Monitored Constituents

Constituent	Unit	WQCC WQ Standard October 12, 2000	Isleta Pueblo WQ Standard March 18, 2002	Most Stringent Applicable WQ Standard
Temperature	°C	< 32.2	< 32.2	< 32.2
TSS	mg/L	--	--	--
TDS	mg/L	1,500 ^a	--	1,500 ^a
COD	mg/L	--	--	--
BOD ₅	mg/L	--	--	--
DO	mg/L	>5	>5	>5
Oil and Grease	mg/L	--	10/15 ^d	10/15 ^d
<i>E. coli</i>	cfu/100mL	206/940 ^b	47/88 ^b	47/88 ^b
pH	--	6.6-9.0	6.0-9.0	6.6-9.0
TKN	mg/L	varies ^c	varies ^c	varies ^c
Total Phosphorus	mg/L	--	--	--
PCBs	µg/L	0.00064	0.00074	0.00064
Gross Alpha	pCi/L	15	15	15

-- no established standard; ^a monthly average; ^b monthly geometric mean/single sample; ^c based on ammonia as nitrogen; no TKN standard listed; temperature and pH dependent; typical anticipated range is 2-6 mg/L, calculated as: $N = ((0.0577/(1+10^{7.688-pH}))+(2.487/(1+10^{pH-7.688}))) * \text{MIN}(2.85, 1.45 * 10^{0.028 * (25-T)})$; ^d weekly average/single sample

2.2 Notification of Exceedance [MS4 Part I.C.1.c]

In the event of an exceedance of any Pueblo of Isleta water quality standard at an in-stream sampling location, DOE and Sandia will notify EPA and the Pueblo of Isleta in writing within 30 days of discovery of the exceedance. An "in-stream sampling location" is a sampling location in a Water of the U.S. To date, the SNL MS4 has no in-stream sampling locations installed or proposed for installation for compliance with the MS4 Permit.

The MS4 Permit holds no specific requirement for DOE and Sandia to provide notice of an exceedance of the WQCC Standards for Interstate and Intrastate Surface Waters, except as part of the Annual Report. Reporting of exceedances in the Annual Report is addressed in Section 13 of this SWMP Plan.

2.3 Impaired Waters Status [MS4 Part I.C.2]

Impaired waters in New Mexico are those that have been identified by an EPA approved CWA §303(d) List as not meeting applicable New Mexico Surface Water Quality Standards. The MS4 Permit requirements for discharges to impaired waters also extend to controlling pollutants in MS4 discharges to receiving waters of the impaired waters.

The only impaired water in the MRG watershed is the Rio Grande. The Rio Grande has been segregated into several reaches, each with reach-specific impairments. Stormwater from the SNL MS4 discharges to two separate reaches of the Rio Grande: the Isleta Pueblo to Alameda Bridge reach (ID: NM-2105_50), and the Alameda Bridge to HWY 550 reach (ID: NM-2105.1_00). Within the Isleta Pueblo to Alameda Bridge reach, water quality has been determined to be impaired for four constituents: *E. coli*, dissolved oxygen, PCBs (in fish tissue), and temperature. The only impairment with a total maximum daily load (TMDL) for this reach is *E. coli*. Within the Alameda Bridge to HWY 550 reach, water quality has been determined to be impaired for five constituents: PCB (in fish tissue), PCB (in the water column), gross alpha, *E. coli*, and dissolved oxygen. The only impairment with a TMDL for this reach is *E. Coli*. NMED and EPA anticipate the development of additional TMDLs for both reaches, which will be incorporated into future SWMP Plan revisions.

The reach of the Tijeras Arroyo receiving and conveying stormwater discharges from SNL to the Rio Grande (Rio Grande to Four Hills Bridge; ID: NM-9000.A_070) is ephemeral and is not listed as an impaired water. However, for the purposes of the MS4 Permit, the TMDL for the Isleta Pueblo to Alameda Bridge reach of the Rio Grande extends to the Tijeras Arroyo, since it is a receiving water to the Rio Grande.

2.4 Discharges to Impaired Waters with an Approved TMDL and their Receiving Waters [MS4 Part I.C.2.b(i)]

The TMDL requirements of Part I.C.2.b(i) apply to DOE and Sandia. TMDLs for bacteria within both the Isleta Pueblo to Alameda Bridge and Alameda Bridge to HWY 550 reaches of the Middle Rio Grande were published by the WQCC on April 13, 2010, and approved by EPA on June 30, 2010 (US EPA, 2010). The 2010 TMDLs specify *E. coli* as the indicator parameter

used to assess compliance (see the 2014-2016 State of New Mexico Clean Water Act §303(d)/§305(b) Integrated List in Appendix F of this SWMP Plan).

Discharges of pollutants to an impaired water body with an established TMDL are not permitted under the MS4 Permit unless they are consistent with the established TMDL. Each individual MS4 is allowed to discharge a predetermined proportion of the total TMDL, which is referred to as the waste load allocation (WLA). The Permit specifies that the “percent jurisdiction area approach” (PJAA) be used to determine the maximum WLA for each MS4, or cooperating group of MS4s. Descriptions of the PJAA and relevant TMDL data for the Middle Rio Grande watershed are provided in Appendix B of the Permit. Detailed discussions of the TMDLs and the PJAA can also be found in the document *U.S. EPA-Approved TMDL for the Middle Rio Grande Watershed, June 30, 2010* (U.S. EPA, 2010).

WLAs were determined for each of the monitoring locations described in Section 12.2 of this SWMP Plan. Summaries of the calculated SNL MS4 WLAs are provided in Tables 2-2, 2-3 and 2-4, below. A more detailed discussion of the calculation of the SNL MS4 WLAs is provided in Appendix F-1 of this SWMP Plan. Monitoring methods that will be used to determine waste loads for evaluating TMDL compliance are described in Section 2.4.2, below.

Table 2-2: SNL WLAs for Areas Discharging to the Isleta Pueblo to Alameda Bridge Reach of the MRG.

	Area (Miles ²)	WLAs by Flow Condition				
		High	Moist	Mid-Range	Dry	Low
SWMP-02 ^b	0.03	5.37x10 ⁷	1.34 x10 ⁷	9.06 x10 ⁸	3.33 x10 ⁸	7.74 x10 ⁷
SWMP-05	1.05	1.88 x10 ⁹	4.70 x10 ⁸	3.17 x10 ⁸	1.17 x10 ⁸	2.71 x10 ⁷
Urbanized Area	0.43	7.70 x10 ⁸	1.93 x10 ⁸	1.30 x10 ⁸	4.77 x10 ⁷	1.11 x10 ⁷
Northern MS4 Area	1.05	1.88 x10 ⁹	4.70 x10 ⁸	3.17 x10 ⁸	1.17 x10 ⁸	2.71 x10 ⁷

^a Values taken from Appendix B of Permit NMR04A000 ^b The drainage area within the SNL MS4 for SWSP-02 is approximately 0.03 sq. mi. The total drainage area for SWSP-02 is larger; it is estimated to be approximately 0.05 sq. mi because a portion of the runoff from KAFB properties drains to SWSP-02. The flow at SWSP-02 continues to SWSP-05, and the SWSP-02 drainage area that falls within the SNL MS4 is included in the drainage area of SWSP-05.

Table 2-3: SNL WLAs for Areas Discharging to the Alameda Bridge to HWY 550 Reach of the MRG.

	Area (Sq. Mi.)	WLAs by Flow Condition				
		High	Moist	Mid-Range	Dry	Low
SWSP-24	0.08	2.60 x10 ⁸	7.53 x10 ⁷	4.15 x10 ⁷	2.70 x10 ⁷	1.39 x10 ⁷
SWSP-35	0.02	6.50 x10 ⁷	1.88 x10 ⁷	1.04 x10 ⁷	6.74 x10 ⁶	3.48 x10 ⁶
SWSP-36	0.01	3.25 x10 ⁷	9.41 x10 ⁶	5.19 x10 ⁶	3.37 x10 ⁶	1.74 x10 ⁶
Urbanized Area ^b	0.11	3.58 x10 ⁸	1.04 x10 ⁸	5.71 x10 ⁷	3.71 x10 ⁷	1.91 x10 ⁷
Northern MS4 Area	0.11	3.58 x10 ⁸	1.04 x10 ⁸	5.71 x10 ⁷	3.71 x10 ⁷	1.91 x10 ⁷

^a Values taken from Appendix B of Permit NMR04A000 ^b The SNL Northern Area is the sum of areas from SWSP-24, SWSP-35, and SWSP-36.

Table 2-4: SNL WLAs for Discharges to Both Reaches Combined.

	Area (Sq. Mi.)	WLAs by Flow Condition				
		High	Moist	Mid-Range	Dry	Low
Urbanized Area ^a	0.54	1.13 x10 ⁹	2.96 x10 ⁸	1.87 x10 ⁸	8.48 x10 ⁷	3.02 x10 ⁷
Northern MS4 Area ^b	1.16	2.24 x10 ⁹	5.74 x10 ⁸	3.74 x10 ⁸	1.54 x10 ⁸	4.62 x10 ⁷

^a Values determined by adding the Urbanized Area values from Table 4a and 4b. ^b Values determined by adding the Northern MS4 area values from Tables 4a and 4b.

2.4.1 Bacteria-Specific BMPs

There are no historic stormwater sampling data for *E. coli* or any bacteria for the SNL MS4. In the absence of sampling data, there is no identified exceedance of the TMDL for bacteria, and therefore, proposals for implementation of BMPs are not possible or appropriate at this time. SNL meets the definition of a non-traditional MS4², as it does not contain residential areas or domesticated animals (e.g., dogs and cats) that have the potential to contribute large sources of bacteria to the MS4. Due to the urbanized nature of the SNL MS4 areas, wildlife populations are limited within the MS4 boundaries.

There are no on-site wastewater treatment systems that discharge [treated] wastewater to the surface within the boundaries of the SNL MS4. Pre-treatment units are used to meet acceptable discharge limits, but all wastewater is conveyed via underground sewer lines to the Albuquerque Bernalillo County Water Utility Authority. It is not anticipated that bacteria in stormwater discharges from the SNL MS4, as measured by *E. coli*, will exceed the most stringent water quality standards included in Table 2-1.

With consideration to the fact that DOE and Sandia are new MS4 Permittees, the targeted controls, BMPs, measurable goals, and other requirements of Part I.C.2.b(i) will be addressed in the first Annual Report and a revised SWMP Plan (as appropriate) due to EPA by December 1, 2016. At this time, there are no significant sources of *E. coli* within the SNL MS4. Natural background concentrations are expected to be associated with populations of wildlife found within the greater Albuquerque metropolitan area such as birds, rabbits, and coyote. Data collected for compliance with this Permit will be used to further assess potential anthropogenically-influenced sources of *E. coli* and will guide future efforts to implement controls.

2.4.2 Monitoring and Assessment

The Permit specifies that the TMDL applies only to areas within the Albuquerque UA; however, the SNL MS4 extends outside the boundaries of the UA. Due to stormwater drainage access limitations, there are no monitoring locations that can be used to assess waste load for the UA only; therefore, DOE and Sandia propose to monitor *E. coli* for the entire SNL Northern MS4

² Non-traditional MS4 means systems similar to separate storm sewer systems in municipalities, such as systems at military bases, large hospital or prison complexes, and highways and other thoroughfares. The term does not include separate storm sewers in very discrete areas, such as individual buildings. 40 CFR 122.26(a)(16)(iii).

(not just the UA), and report the WLAs for each of the five monitoring locations. Additionally, the amount of *E. coli* attributable to only the portion of the MS4 within the Albuquerque UA will be estimated on a proportional per area basis.

Flow rates at SWSP-02 and SWSP-05 will be determined by direct measurement using the slope-area method described in the Bureau of Reclamation Water Measurement Manual (U.S. Bureau of Reclamation, 2001). The depth of water will be determined using either a pressure transducer or sonic sensor. The specific methods, data, and calculations used to determine flow for these two monitoring locations will be fully described in the Monitoring Plan (i.e., Chapters 2 and 12 of the SWMP). This will provide direct measurement of flow for all inflow to the MS4 jurisdiction, as well as discharge from approximately 90 percent of the Northern MS4.

Flow at the other three monitoring locations (SWSP-24, SWSP-35, and SWSP-36) cannot easily be measured because they are in enclosed subgrade storm drains with limited access. DOE and Sandia propose to estimate flow rates at these locations based on flow rates measured at SWSP-05. The measured flow rate at SWSP-05 will be scaled based on the drainage area of each monitoring location. As an example, the flow at SWSP-24 will be estimated by multiplying the flow monitored at SWSP-05 by the ratio of the SWSP-24 capture area to the SWSP-05 capture area.

The drainage area for water that flows to SWSP-05 is 1.05 sq. mi, and the drainage area for SWSP-24 is 0.08 sq. mi. The estimated flow at SWSP-24 will be calculated as follows:

$$\text{Flow at SWSP 24} = \text{Flow at SWSP 5} \times \left(\frac{\text{Drainage Area of SWSP 24}}{\text{Drainage Area of SWSP 5}} \right)$$

$$\text{Flow at SWSP 24} = \text{Flow at SWSP 5} \times \left(\frac{0.08}{1.05} \right)$$

This same procedure will be used to estimate flow at monitoring locations SWSP-35 and SWSP-36. Waste loads will be calculated using the flows determined as described above, in conjunction with *E. coli* concentrations determined by sampling at each individual monitoring location. The load calculation will be made using the equation provided in Appendix C of the Permit as follows:

$$\text{Load} \left(\frac{\text{lb}}{\text{day}} \right) = \text{Flow} \left(\frac{\text{MG}}{\text{day}} \right) \times \text{Concentration} \left(\frac{\text{mg}}{\text{L}} \right) \times \text{CF}$$

Where CF is a conversion factor:

$$\text{CF} \left(\frac{\text{L} - \text{lb}}{\text{MG} - \text{mg}} \right) = 10^6 \left(\frac{\text{gal}}{\text{MG}} \right) \times \left(\frac{3.785\text{L}}{\text{gal}} \right) \times \left(\frac{1 \text{ lb}}{454,000 \text{ mg}} \right) = 8.34$$

DOE and Sandia will evaluate the calculated waste loads against the waste load allocations for each monitoring location, in addition to the Albuquerque Urbanized Area, and the entire MS4.

2.5 Discharges Directly to Impaired Waters without an Approved TMDL [MS4 Part I.C.2.b(ii)]

The SNL MS4 does not discharge directly to an impaired water without an approved TMDL. Therefore, this requirement does not apply to DOE and Sandia.

2.6 Anticipated Program Development and Implementation Schedule [MS4 Table 1.a]

Table 2-5: Pre-TMDL Bacteria Program Development and Implementation Schedule

Activity	Required Implementation Date	Implementation Status
Identify potential significant sources of pollutants of concern entering the MS4.	12/22/2015	initiated; on-going
Develop and implement a public education program to reduce the discharge of bacteria in municipal stormwater contributed (if applicable) by pets, recreational and exhibition livestock, and zoos.	not applicable to SNL MS4	not applicable to SNL MS4
Develop and implement a program to reduce the discharge of bacteria in municipal stormwater contributed by areas within the MS4 served by on-site wastewater treatment systems.	not applicable to SNL MS4	not applicable to SNL MS4
Review results to date from IDDEP (see Part I.D.5.e) and modify as necessary to prioritize the detection and elimination of discharges contributing bacteria to the MS4.	04/22/2016	pending
Develop and implement a program to reduce the discharge of bacteria in municipal stormwater contributed by other significant sources identified in the IDDEP (see Part I.D.5.e).	06/22/2016	pending
Include in the Annual Reports progress on program implementation and reducing the bacteria and updates their measurable goals as necessary.	December 1 each year (first due 12/01/2016)	pending

12. Comprehensive Monitoring and Assessment Program [MS4 Part III.A]

12.1 Program Objectives [MS4 Part III.A]

This monitoring and assessment program is designed to meet the following objectives related to the SNL MS4:

- Assess compliance with the MS4 Permit.
- Assess the effectiveness of DOE's and Sandia's SWMP.
- Assess the impacts to receiving waters resulting from stormwater discharges.
- Characterize stormwater discharges.
- Identify sources of elevated pollutant loads and specific pollutants.
- Detect and eliminate illicit discharges and illegal connections to the SNL MS4.
- Assess the overall health and evaluate long-term trends in receiving water quality.

DOE (as owner of SNL) and Sandia (as operator of SNL) share responsibility for the SNL MS4. DOE and Sandia together will comply with all of the requirements of the MS4 Permit, but will do so independently of participation in a cooperative group. Monitoring data may be shared with other MS4s to help understand impacts on receiving waters. The sharing of data shall not be construed as evidence of the existence of a cooperative program or a shared responsibility for meeting Permit requirements.

For the purposes of this SWMP Plan and to be consistent with the intent of the MS4 Permit, "monitoring" and "sampling" are synonymous terms that mean the sampling and visual observation of stormwater discharges, including the related preparation and documentation tasks. Additionally, to avoid confusion of acronyms, where stormwater monitoring points would typically be referred to as "SWMPs", they are herein denoted as "SWSP" for stormwater sampling points.

12.2 Monitoring Locations [MS4 Part III.A.1.a(ii)]

Permittees not participating in a cooperative monitoring program are required to monitor all wet weather inflows to and outflows from the MS4 jurisdiction. This section discusses the monitoring locations and methods for the two SNL MS4 Areas which are depicted on a map in Appendix B-2 of this SWMP Plan.

12.2.1 Northern SNL MS4

The Northern MS4 comprises an area of approximately 1.16 sq. mi. and represents the only part of SNL that resembles a traditional MS4. The developed portion contains significant impervious surfaces comprised mainly of buildings, roads, and parking lots, and a centralized stormwater drainage system comprised of numerous gutters, ditches, inlets, and storm drains. The Northern area contains the only part of the Albuquerque urbanized area (as determined by the 2010 Decennial Census) that exists within the SNL MS4. The portion of the Northern Area that is

coincident with the urbanized area boundary is approximately 0.54 sq. mi., which is roughly 47 percent of the northern MS4 area. The entire Northern MS4 has been included for Permit coverage because it represents the actual area from which stormwater is collected and discharged by the MS4.

There are two inflows to the Northern MS4 that are combined into an open concrete lined channel that conveys stormwater from a portion of the KAFB residential housing neighborhood located immediately to the north of TA-I. This flow enters the Northern MS4 and is ultimately conveyed to the Tijeras Arroyo. This inflow location will be monitored, and is referred to as SWSP-02 shown on a map Appendix B-3 of this SWMP Plan.

There are a total of four outflows (one outfall and three discharge points) from the Northern MS4. Drainage from approximately 90 percent of the Northern MS4 is conveyed to a concrete lined channel that discharges directly to the Tijeras Arroyo. This outfall location will be monitored, and is referred to as SWMP-05 (see Appendix B-3 of this SWMP Plan). The remaining stormwater discharges from the northwest quadrant of the Northern MS4 to the KAFB MS4 through three separate discharge points. The jurisdictional transition from the SNL MS4 to the KAFB MS4 will be monitored at three storm drains referred to as SWSP-24, SWSP-35 and SWSP-36 (see Appendix B-3 of this SWMP Plan). Stormwater entering the KAFB MS4 from the Northern SNL MS4 at these three points is ultimately conveyed to the Rio Grande via the AMAFCA North Diversion Channel.

12.2.2 Southern SNL MS4

The Southern MS4 is a low density developed industrial area that covers approximately 0.27 sq. mi. Impervious buildings, roads, and parking lots comprise a portion of the Area; however, most of the area is comprised of highly permeable soils (see Appendix B-4 of this SWMP Plan). Stormwater in the Southern MS4 is diverted by sloped topography, curbs and small ditches away from buildings and other facilities to the periphery of the area. The northern and eastern boundaries of the Southern MS4 were determined based on the limits of developed areas. The western and southern boundaries of the Southern MS4 were determined based on the possibility for stormwater to discharge to a receiving water of the Rio Grande (i.e., Tijeras Arroyo); however there is no centralized stormwater drainage system for this Area, and no discernible discharge directly to a water of the U.S.

BMPs associated with the control measure programs will be applied to the Southern MS4; however, due to the diffuse and minimal stormwater discharges from the Southern MS4, monitoring of stormwater from the Southern MS4 is not proposed at this time.

12.2.3 Changes to Monitoring Locations [MS4 Parts III.A.1.g]

Alternate monitoring locations may be substituted for just cause during the term of the MS4 Permit. Requests for approval of an alternate monitoring location(s) will be made to the EPA and NMED in writing and include the rationale for the requested monitoring station relocation. Unless disapproved by the EPA, use of an alternate monitoring location(s) may commence thirty days from the date of the request. At least six samples are required to be collected during the

first year of monitoring at the substitute monitoring location(s). In the event that there are less than six events where a sample was able to be collected, it will be documented for reporting purposes.

12.3 Wet Weather Monitoring [MS4 Parts III.A.1 and III.A.5.a]

Wet weather monitoring will be conducted during both the wet season and dry season at the sampling locations identified in Section 12.2 of this SWMP Plan. The wet season occurs between July 1 and October 31, and the dry season occurs between November 1 and May 31. Wet weather monitoring is required to be conducted for a minimum of eight events during the Permit term (December 22, 2014 through December 19, 2019) of which at least four events occur during the wet season and two events occur during the dry season. Wet weather monitoring will be performed when the magnitude of a storm event is greater than 0.25 inches, and is preceded by at least a 48-hour period since a precipitation event of 0.1 inches or greater.

Typical precipitation events in the Middle Rio Grande Basin are brief, intense, and highly localized. Stormwater flow may occur far from an actual rain event, and the water quality of the flow may have little to do with pollutants originating within the MS4. This is not the case for the SNL MS4 because flow does not enter the Northern SNL MS4 (except from a small portion of KAFB). Stormwater in the SNL MS4 originates from direct precipitation within the MS4 boundary.

DOE and Sandia maintain a network of rain gauges at SNL, specifically at stormwater sampling points. The primary rain gauge used to measure storm events for MS4 monitoring purposes will be located near the northeast corner of Building 823, which is near the center of the northern MS4 area. If this gauge registers 0.25 inches of precipitation (i.e., a qualifying event), wet weather sampling at SWSP-02, SWSP-05, SWSP-24, SWSP-35, and SWSP-36 will be performed. The SNL MS4 sampling points are identified on maps B-3 and B-5 in Appendix B of this SWMP Plan.

Samples are collected using the grab sample option described in Part III.A.1.c of the Permit. Detailed procedures for sample collection are provided in Sandia Field Operating Procedure FOP 95-16, *Stormwater Sampling*. Portable auto-samplers are programmed to collect four grab samples a minimum of 15 minutes apart during the first two hours of the discharge event. The auto-samplers at two locations (SWSP-02 and SWSP-05) are equipped with four separate one-gallon bottles. Each bottle will be filled with one of the four subsamples; a composite sample will be prepared using equal volumes of the subsamples contained in the four containers. The autosamplers at the other three locations (SWSP-24, 35, and 36) are a different model than those at SWSP-02 and SWSP-05, and are equipped with a single four-gallon container. The four required subsamples are automatically composited when collected in the single container.

Field measurements of temperature, pH, conductivity, and DO will be made in each subsample (applies to SWSP-2 and SWSP-5 only) as well as the composited sample. The composited sample will be preserved (as appropriate) and processed at the Sandia Sample Management Office (SMO) before shipment to the appropriate laboratory. Wet weather monitoring constituents required in the Permit, along with acceptable analytical methods (from 40 CFR Part

136) and their associated hold times, are listed in Table 12-1 below. Limitations that may affect the retrieval time of the auto-collected samples, compositing methods, and laboratory analysis are discussed below in Section.12.3.1.

Wet weather monitoring will also consist of determining flow rates during the discharge event so that the total daily discharge can be determined. Daily discharge volumes will be used to calculate the *E. coli* waste load for evaluation of TMDL compliance. A discussion of flow measurements, waste loads, and TMDLs is provided in Section 2.4 and Appendix F-6 of this SWMP Plan.

Table 12-1: Wet Weather Monitoring Parameters, Analytical Methods, MQLs, and Hold Times

Parameter	Analytical Method	MQL (mg/L)	Hold Time
pH	field meter	--	15 minutes
Temperature	field meter	--	15 minutes
Conductivity	field meter	--	15 minutes
DO	field meter	5.0 ^a	15 minutes
TSS	SM 2540 D	100 ^a	7 days
TDS	SM 2540 C	1500 ^a	7 days
COD	EPA 410.4	120 ^b	28 days
BOD ₅	SM 5210 B	30 ^b	48 hours
Oil and Grease	SM 1664 A	15 ^b	28 days
<i>E. coli</i>	SM9223B	47 ^a cfu/100mL	6 hours
TKN (Total Ammonia + Organic Nitrogen)	SM 4500	2 ^a	28 days
Nitrate + Nitrite	EPA 300.0	132 ^a	28 days
Dissolved Phosphorous	SM 4500	2.0 ^b	14 days
Total Phosphorous	SM 4500	2.0 ^b	14 days
PCBs	EPA 1668	0.00064 ^a µg/L	1 year
Gross Alpha	SM 7110 B	15 ^a pCi/L	6 months

^a No established MQL for the analytical method has been established. The values in this table reflects the water quality standards listed in Section 2.1

^b No established MQL for the analytical method listed has been established. There are no water quality standards for this constituent either. The value listed is an EPA "benchmark" value indicating levels EPA considers having the potential to impair water quality.

12.3.1 Sampling Limitations

12.3.1.1 Safety

DOE and Sandia adhere to strict safety procedures when performing work. Wet season storm events in Albuquerque are typically accompanied by lightning and flash flooding of stormwater drainage areas (e.g., conveyance channels, arroyos, etc.). Safety procedures prohibit worker exposure to such situations; therefore it may not be possible to retrieve the automatically-collected samples within 15 minutes to measure field parameters. The samplers will be accessed

as soon as practicable to measure field parameters and retrieve the automatically-collected samples.

12.3.1.2 Business Hours

Samples will be retrieved from the automatic samplers during normal business hours - Monday through Friday, 7:30 am to 5:00 pm. Additionally, Members of the Workforce that conduct stormwater monitoring are not required to work on the following observed holidays: Memorial Day; Independence Day; Labor Day; Thanksgiving Day; and, Christmas Day through New Year's Day (i.e., winter shutdown).

The field team is staffed with multiple technicians; however, the inability to collect samples during normal business hours due to unexpected circumstances (e.g., sick/personal leave, inclement weather, facility shutdown, or Kirtland Air Force Base gate closure) is possible. Should this occur, automatically-collected samples will be retrieved as soon as practicable or during the next qualifying storm event.

12.3.1.3 Stormwater Flow Duration and Sample Volume

Stormwater from wet season storm events has a tendency to flow with high velocity at high volumes for a short period of time. It is anticipated that the collection of four grab samples at SWSP-02 and SWSP-05, collected a minimum of 15 minutes apart (as required by the Permit), may be a challenge. Should fewer than four grab samples be collected due to limited flow duration, the number of subsamples will be documented and submitted for analysis.

In the event that the volume of a composited sample from any of the sampling points is inadequate to achieve the minimum volume for laboratory analysis, the list of required parameters may be divided over multiple storm events. The priority of samples submitted to the laboratory is listed in Table 12-2 and was created with consideration to the volume of stormwater collected, the volume of stormwater necessary to analyze for the parameter, and the relevance of the parameter with respect to any potential pollutants being discharged at SNL.

Table 12-2: List of required sample volumes and priority for laboratory submittal.

Parameter	Priority (Order of Submittal)	Sample Volume Required by Laboratory (mL)	Cumulative Sample Volume (mL)
<i>E. coli</i>	1	120	120
TSS	2	2,000	2,120
TDS	3	1,000	3,120
TKN (Total Ammonia + Organic Nitrogen)	4	500	3,620
Nitrate + Nitrite	5	125	3,745
Dissolved Phosphorous	6	250	3,995

Parameter	Priority (Order of Submittal)	Sample Volume Required by Laboratory (mL)	Cumulative Sample Volume (mL)
Total Phosphorous	7	250	4,245
COD	8	250	4,495
BOD ₅	9	1,000	5,495
Gross Alpha	10	1,000	6,495
PCBs	11	4,000	10,495
Oil and Grease	12	3,750	14,245

12.3.1.4 E. coli

E. coli has a holding time of six hours. Laboratories contracted to conduct *E. coli* analysis operate on standard business hours of Monday through Friday, 8:00 am to 5:00 pm. Should a storm event create a stormwater discharge at a period when timely sample retrieval is not possible or on a Friday afternoon, the retrieval, processing and delivery of the collected sample to the laboratory may not occur within the maximum hold time. However, the sample may be submitted to the laboratory for analysis, or *E. coli* may be analyzed in stormwater from another storm event.

12.3.1.5 Documentation

In the event any of the above limitations occur, DOE and Sandia will document such occurrences on a Discharge Monitoring Report (DMR), Annual Report or SWMP Plan revision, as applicable.

12.3.2 Anticipated Program Development and Implementation Schedule [MS4 Table 10]

Table 12-3: Wet Weather Monitoring Implementation Schedule

Activity	Required Implementation Date	Status or Anticipated Completion Date
Submit Wet Weather Monitoring Preference	06/20/2015	completed
Submit Detailed Description of Monitoring Scheme	11/22/2015	in progress, will be completed by 11/22/2015
Submit Certification that Sampling Sites are Operational; Begin Sampling	01/22/2016	pending

Activity	Required Implementation Date	Status or Anticipated Completion Date
Update SWMP and Annual Report	December 1 each year (first due 12/01/2016)	pending

12.3.3 Contingency Plan [MS4 Parts III.A.1.h]

If the results from wet weather monitoring indicate that the SNL MS4 is contributing to in-stream Water Quality Standard (WQS) exceedances, then additional monitoring locations will be established to determine the potential source(s) of contamination. The locations of the additional wet weather monitoring stations will be submitted to EPA and NMED for approval, and the SWMP updated to reflect their addition.

12.4 Dry Weather Discharge Screening [MS4 Part III.A.2]

Dry weather monitoring will be conducted to identify, investigate, and address areas that may be contributing contaminants to the SNL MS4 as a result of discharges that occur without the direct influence of storm events (i.e., illicit discharge, allowable non-stormwater discharges). Dry weather screening will be conducted in conjunction with the Illicit Discharge Detection and Elimination Program described in Section 8 of this SWMP Plan.

The entire SNL MS4 will be screened at least once every five years and any identified high priority areas (where known illicit discharges are occurring) at least once every year. All known outfalls and MS4 conveyance structures will be inspected and documented for the presence of dry weather flow. Any dry weather flow encountered will be sampled, investigated and tracked to its source, as described in Section 8 of this SWMP Plan. If they are determined to be illicit discharges they will be ceased through either administrative or engineered control measures as described in Section 8.

Dry weather sample collection will be conducted in the same method as wet weather monitoring (i.e., grab sample option described in Part III.A.1.c). Samples will be collected only after a period of 72 hours has elapsed since a rainfall of greater than 0.1 inches has occurred. The grab samples will be collected in equal portions and composited in the field. The composited sample will be preserved (as appropriate) and processed at the Sandia SMO before shipment to the appropriate laboratory. In accordance with MS4 Part III.A.2, the constituent list will include BOD, TSS, *E. coli*, oil and grease, and pollutants identified as impairments to water bodies receiving the discharges (for SNL, this includes PCBs, gross alpha, temperature, and DO).

12.5 Floatable Monitoring [MS4 Part III.A.3]

Floatable monitoring will be conducted as described in Section 9 of this SWMP Plan. The details and results associated with floatables monitoring will be maintained in Section 9.

12.6 Analytical Methods [MS4 Parts III.A.5.b and IV.Q]

Analysis of all samples (i.e., wet weather, dry weather, and IDDEP) will be done in accordance with the methods specified in 40 CFR 136. Analytical results will be reported with minimum quantification levels (MQLs) at or below those listed in Appendix F of the MS4 Permit, as applicable. Parameters, analytical methods, MQLs, and holding times are listed in Table 12-1 above.

12.7 Additional Monitoring by the Permittee [MS4 Part IV.T]

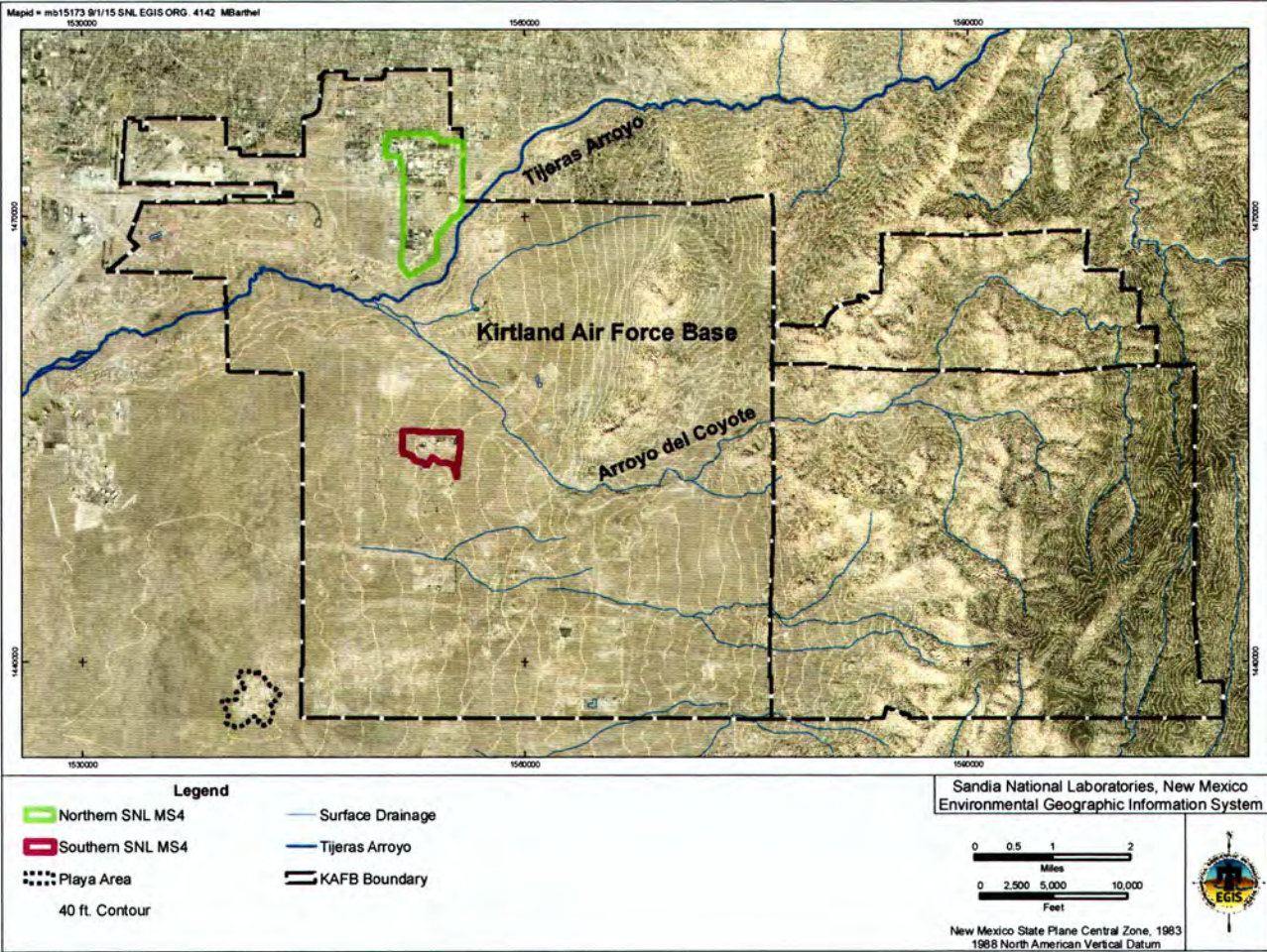
Should the approved sampling locations for the SNL MS4 be monitored more frequently than required by the Permit, using test procedures approved under 40 CFR §136 or as specified in the Permit, the results shall be included in the calculation and reporting of the data submitted in the DMR. Such increased monitoring frequency shall also be indicated on the DMR.

12.8 Recording of Monitoring Results and Maintaining Records [MS4 Part IV.P]

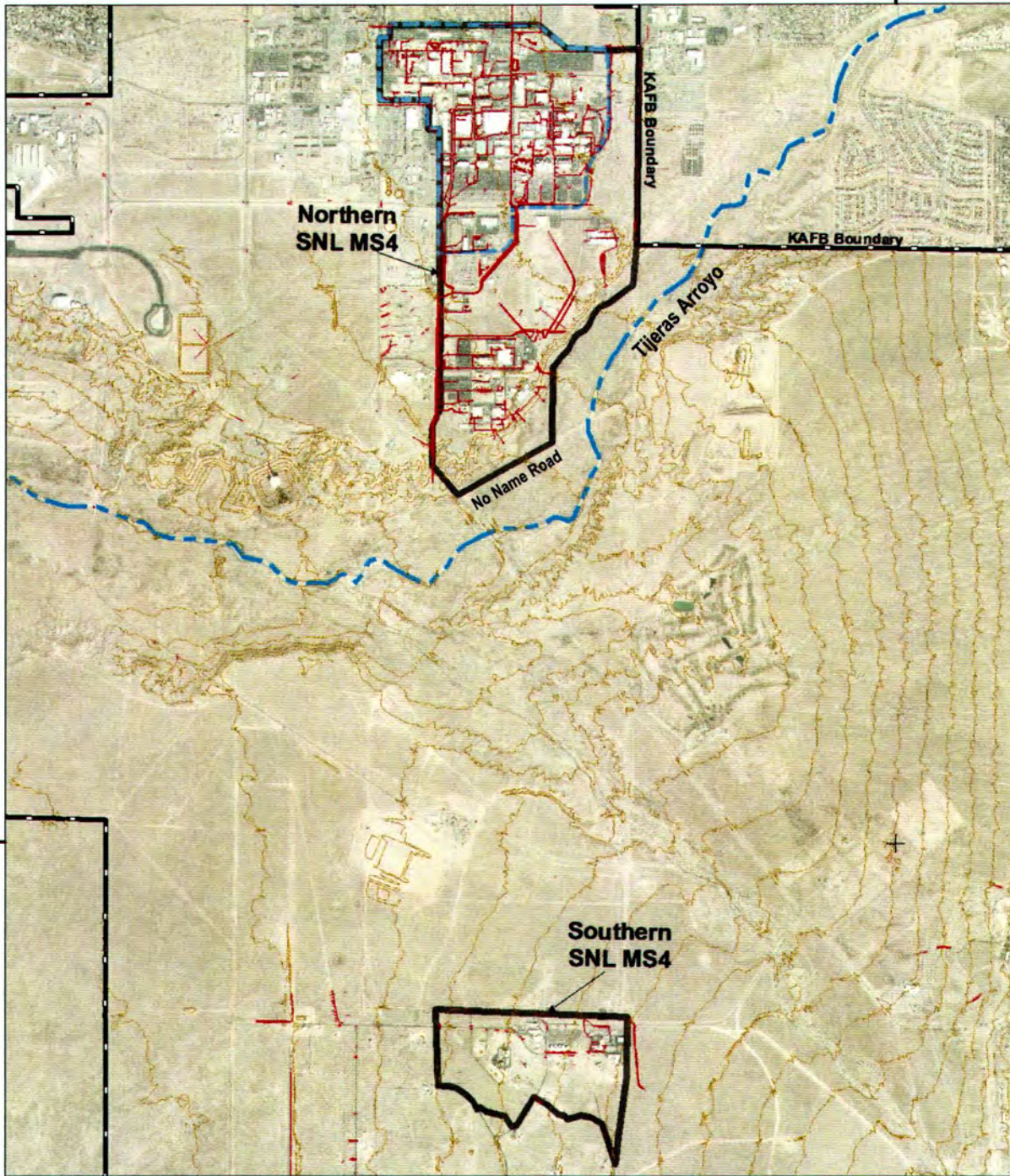
The recording and maintenance of monitoring results is discussed in Section 15 of this SWMP Plan.

12.9 Reporting of Monitoring Results [MS4 Part III.D]

Monitoring results are reported with the Annual Reports. Submission of Annual Reports, DMRs and SWMP Plan revisions is discussed in Section 13 of this SWMP Plan. Section 14 of this SWMP Plan includes additional reporting requirements regarding: items for compliance with Permit requirements associated with WQS (MS4 Part I.C.1) and TMDLs (MS4 Part I.C.2); monitoring scheme and certifications required in Part III.A.1; modifications to monitoring locations; and all other reports.

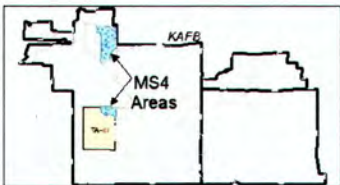


SNL MS4 Areas

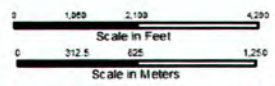


Legend

-  Northern SNL MS4 1.16 SQ. MI.
-  Urbanized Area
-  Southern SNL MS4 .27 SQ. MI.
-  20 ft Contour
-  Storm Drain Systems
-  Major Drainage
-  KAFB Boundary

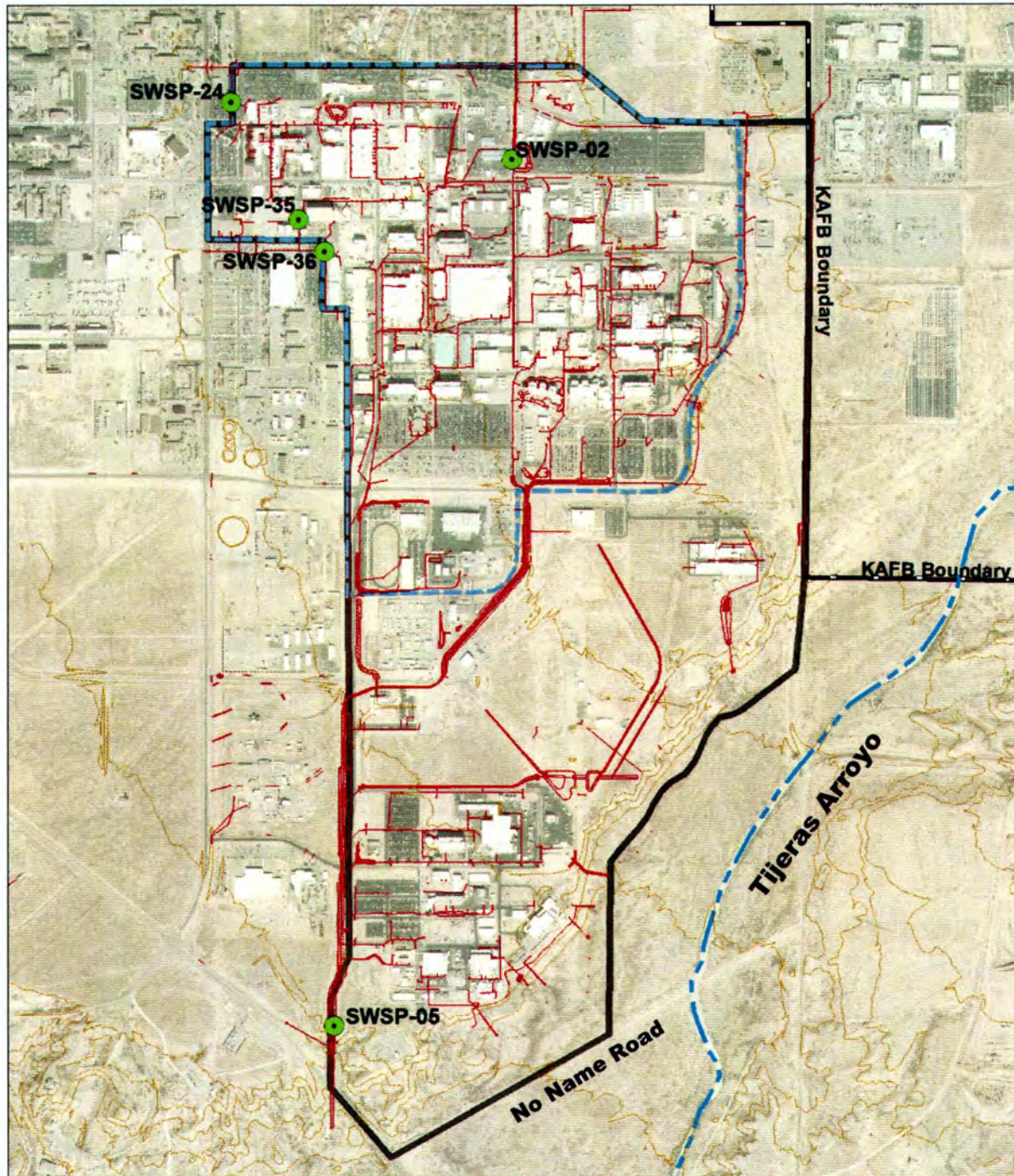


New Mexico State Plane Central Zones, 1983
1988 North American Vertical Datum



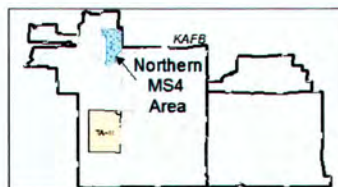
Sandia National Laboratories, New Mexico
Environmental Geographic Information System

Northern SNL MS4 and Southern SNL MS4

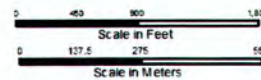


Legend

-  Water Quality Monitoring Locations
-  Northern SNL MS4
-  Urbanized Area
-  Storm Drain Systems
-  Major Drainage
-  KAFB Boundary
-  20 ft. Contour

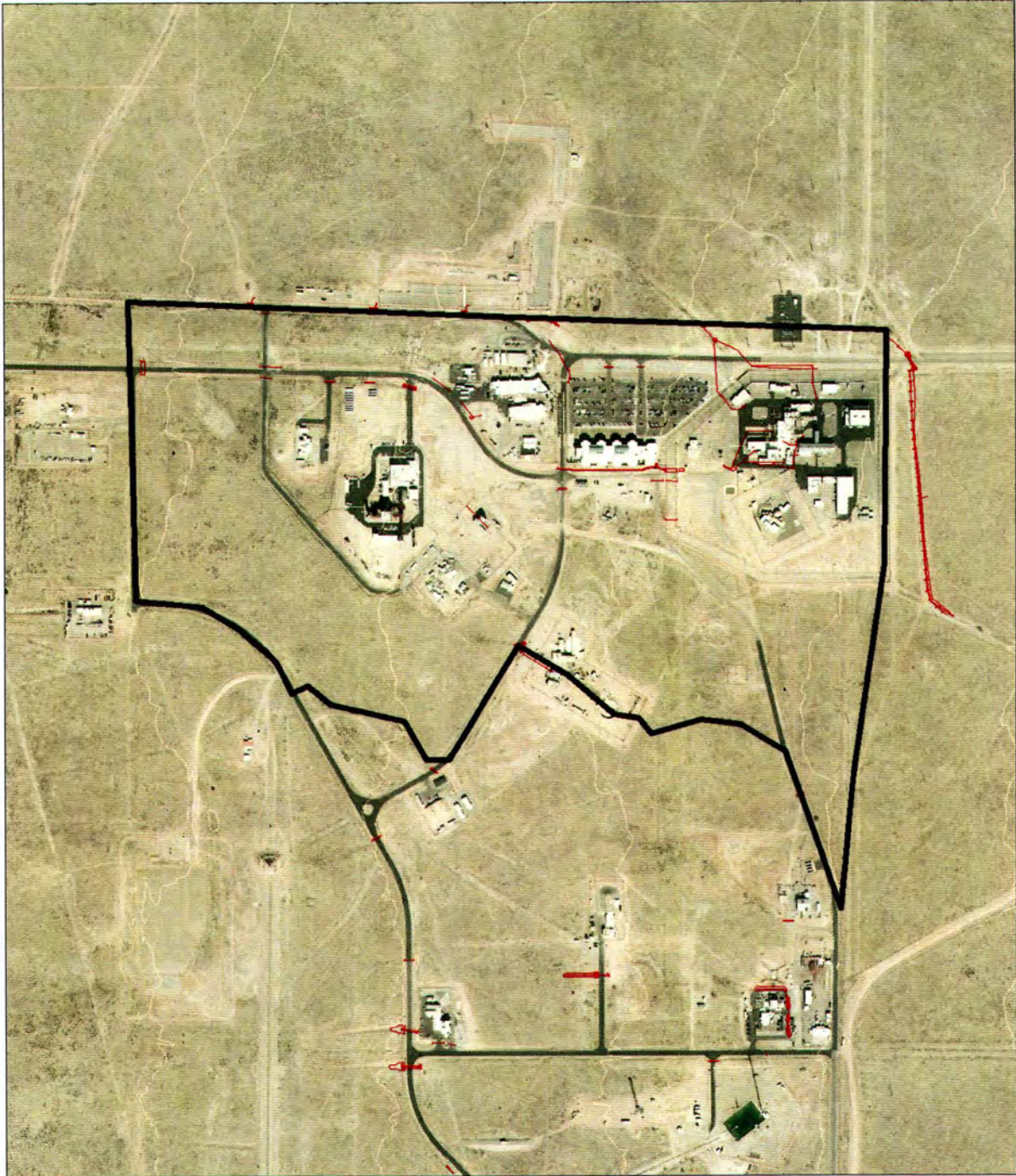


New Mexico State Plane Central Zones, 1983
1988 North American Vertical Datum






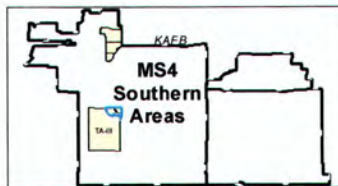
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Environmental Geographic Information System

Northern SNL MS4

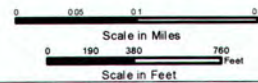


Legend

-  Southern SNL MS4 0.27 sq. mi.
-  Storm Drain Systems
-  20 ft. Contour

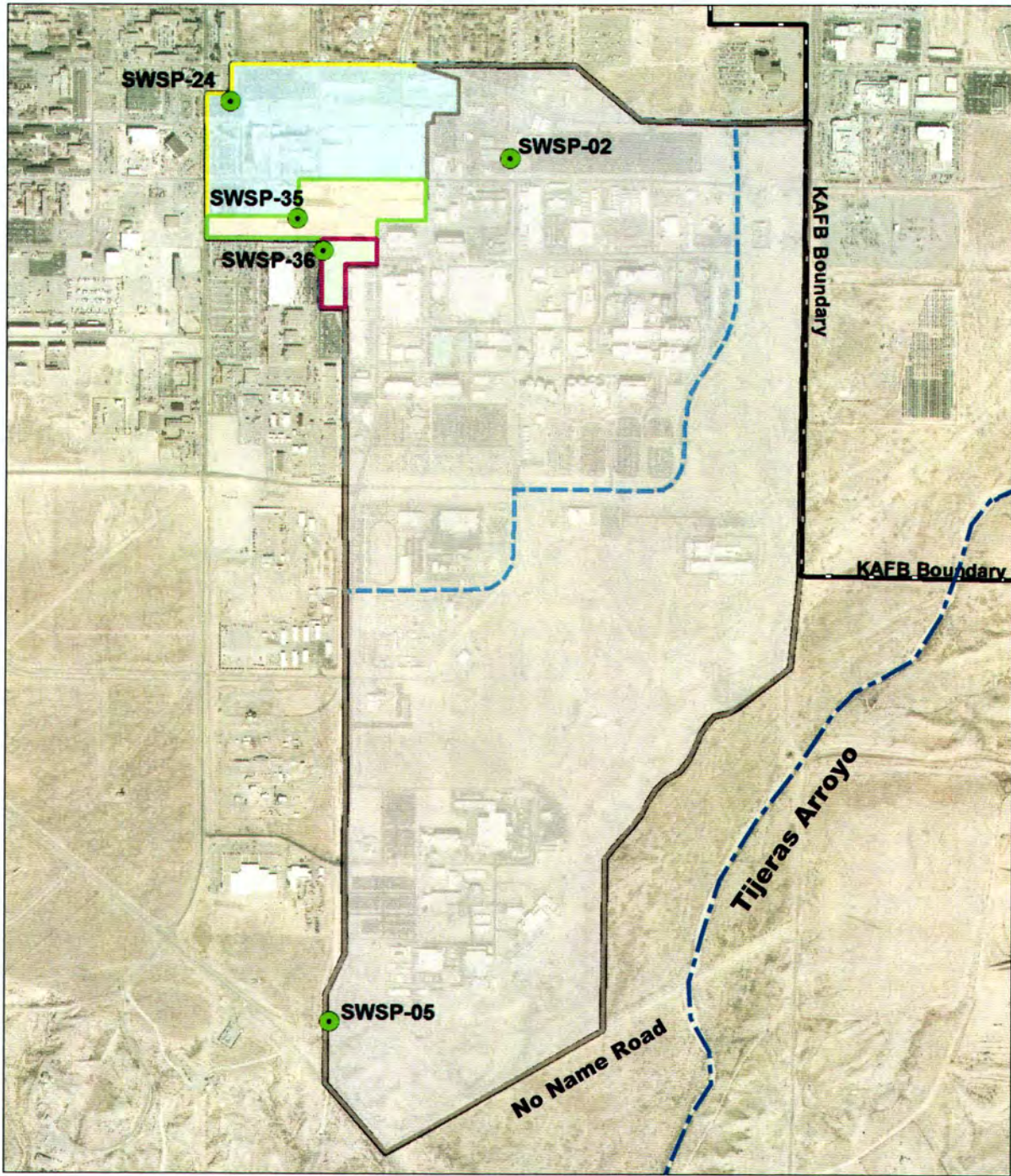


New Mexico State Plane Central Zones, 1983
1988 North American Vertical Datum











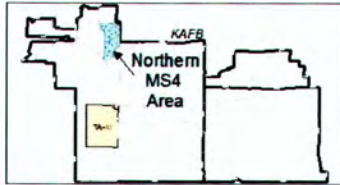
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Southern SNL MS4



Legend

-  Northern SNL MS4
-  SWSP 35 Drainage Area
-  SWSP 36 Drainage Area
-  SWSP-05 Drainage Area
-  SWSP-24 Drainage Area
-  Urbanized Area
-  Water Quality Monitoring Locations
-  KAFB Boundary



New Mexico State Plane Central Zones, 1983
1988 North American Vertical Datum



Sandia National Laboratories, New Mexico
Environmental Geographic Information System

Northern MS4 Drainage Areas and Monitoring Locations

Calculation of *E. coli* Waste Load Allocation for Sandia National Laboratories Using the Percent Jurisdictional Area Approach

1. Introduction

The SNL MS4 is required by the MS4 Permit to meet total maximum daily load (TMDL) requirements for one constituent, *E. coli*. The SNL MS4 is subject to two separate *E. coli* TMDL values: one for the Isleta to Alameda reach of the Rio Grande (NM-2105_50); and one for the Alameda to HWY 550 reach of the Rio Grande (NM-2105_00). Approximately 90 percent of the northern SNL MS4 drains to the Tijeras Arroyo which discharges to the Rio Grande within the Isleta Pueblo to Alameda Bridge reach. Approximately 10 percent drains to the Kirtland Air Force Base (KAFB) stormwater drainage system, which ultimately discharges to the Rio Grande within the Alameda Bridge to HWY 550 reach, via the Albuquerque Metropolitan Area Flood Control Authority (AMAFCA) North Diversion Channel.

The maximum amount of *E. coli* that can be discharged in any given day from the SNL MS4 is defined as the Waste Load Allocation (WLA), and is calculated based on TMDL criteria for the MRG Watershed. Each MS4 within the MRG Watershed is allowed to discharge a certain proportion of the TMDL for *E. coli* based on the drainage area (size in square miles) of the MS4, and the reach of the Rio Grande to which it discharges.

The method used to calculate numerical values for *E. coli* waste load allocations is called the Percent Jurisdiction Area Approach (PJAA). Detailed guidance on the TMDLs, WLAs, and PJAA is provided in the document *US EPA-Approved TMDL for the Middle Rio Grande Watershed, June 30, 2010* (U.S. EPA, 2010; see Appendix F of the SWMP Plan). A simplified method for determining WLAs for MS4s within the Albuquerque Urbanized Area (UA) is provided in Appendix B of the NPDES MS4 Permit NMR04A000. Appendix B of the Permit does not include all necessary information to understand the derivation of the WLAs, and discrepancies in the WLAs occur (presumably as errors or typos). Specifically, the WLAs for the high flow condition included the Appendix B, Section B.1 table are inconsistent with the WLAs presented in U.S. EPA, 2010. However, the WLAs presented in the Appendix B, Section B.2 table appear to be consistent with U.S. EPA, 2010. These values were used to calculate the WLAs for the SNL MS4 in accordance with the methods presented in Appendix B.

The MS4 Permit requires DOE and Sandia to determine a WLA for the portion of the SNL MS4 that falls within the Albuquerque UA. However, only a portion of the SNL MS4 falls within the UA, and therefore a WLA is determined for the entire MS4 rather than just the UA portion. Maps of the UA, MS4 area, and sampling locations proposed for evaluating TMDL compliance are included in Appendices B of the SWMP Plan.

2. Total Maximum Daily Load (TMDL)

The TMDL varies based on daily flow volume (discharge) in the MRG; the higher the flow, the higher the TMDL. Flow duration curves were developed by the New Mexico Environment Department (NMED) and EPA to establish ranges for five separate flow conditions, referred to as high, moist, mid-range, dry, and low (U.S. EPA, 2010). The flow duration curve for the Isleta to Alameda reach was developed using a 35-year record (1974-2009) from a U.S. Geological Survey (USGS) flow gauge located near Central Avenue in Albuquerque, NM (USGS Gauge 08330000). The flow duration curve for the Alameda to HWY 550 reach was developed using a 20-year record (1989-2009) from a U.S. Geological Survey (USGS) flow gauge located near Alameda Bridge, in Albuquerque, NM (USGS Gauge 08329928). The flow conditions are defined by the flow rates listed in Tables 1 and 2.

Table 1: Flow conditions for the Isleta Pueblo to Alameda Bridge reach of the Middle Rio Grande

Flow Condition	High	Moist	Mid-Range	Dry	Low
Flow Rate (cfs)	> 3,360	929 to 3,360	664 to 929	319 to 664	< 319

Table 2: Flow conditions for the Alameda Bridge to HWY 550 reach of the Middle Rio Grande

Flow Condition	High	Moist	Mid-Range	Dry	Low
Flow Rate (cfs)	> 3,670	922 to 3,670	647 to 922	359 to 647	< 359

TMDLs for each of the flow conditions and reaches were determined from water quality standards established by the New Mexico Water Quality Control Commission. The TMDL is the amount of pollutant that would flow in the river if it existed at the water quality standard for the entire day’s flow. From the TMDL, a Margin of Safety (MOS), Load Allocation (LA), and Total Waste Load Allocation (TWLA) are determined... The general relationship can be expressed as:

$$TMDL = TWLA + LA + MOS$$

Where:

TWLA = Total Waste Load Allocation

LA = Load Allocation

MOS = Margin of Safety

The LA represents the pollutant load originating from natural or background sources within the watershed. The MOS is used to produce conservative allocations, in order to ensure that the TMDL is not exceeded. The TWLA represents the pollutant load that can occur from anthropogenic activities.

The TMDLs and associated data that are relevant to the SNL MS4 (recreated from Table 4.11 in U.S. EPA, 2010) are included in Tables 3 and 4 below. A detailed description of the methods used to develop the values in Tables 3 and 4 can be found in U.S. EPA, 2010.

Table 3: TMDL and WLA for *E. coli*: Middle Rio Grande (Isleta Pueblo boundary to Alameda Bridge)

Flow Condition	High	Moist	Mid-Range	Dry	Low
Flow Rate (cfs)	> 3,360	929 to 3,360	664 to 929	319 to 664	< 319
TMDL (cfu/day)	5.27×10^{12}	1.65×10^{12}	9.03×10^{11}	5.77×10^{11}	1.89×10^{11}
Margin of Safety (cfu/day)	1.40×10^{12}	5.77×10^{11}	1.38×10^{11}	2.10×10^{11}	1.89×10^9
Total Waste Load Allocation ^a (cfu/day)	5.08×10^{11}	2.28×10^{11}	1.98×10^{11}	1.58×10^{11}	1.40×10^{11}
Load Allocation (cfu/day)	3.36×10^{12}	8.41×10^{11}	5.66×10^{11}	2.09×10^{11}	4.86×10^{10}

^a From U.S. EPA, 2010. TWLA includes both wastewater treatment plants and MS4s.

Table 4: TMDL and WLA for *E. coli*: Middle Rio Grande (Alameda Bridge to HWY 550)

Flow Condition	High	Moist	Mid-Range ^b	Dry	Low
Flow Rate (cfs)	> 3,360	929 to 3,360	664 to 929	319 to 664	< 319
TMDL (cfu/day)	5.54×10^{12}	1.61×10^{12}	--	5.85×10^{11}	2.96×10^{11}
Margin of Safety (cfu/day)	1.40×10^{12}	5.77×10^{11}	--	2.92×10^{10}	2.96×10^9
Total Waste Load Allocation ^a (cfu/day)	3.28×10^{11}	1.04×10^{11}	--	4.53×10^{10}	2.95×10^{10}
Load Allocation (cfu/day)	4.93×10^{12}	1.43×10^{12}	--	5.10×10^{11}	2.63×10^{11}

^a From U.S. EPA, 2010. TWLA includes both wastewater treatment plants and MS4s.

^b U.S. EPA, 2101 does not specify a TMDL for the mid-range flow condition because no samples were obtained.

3. Waste Load Allocations

The waste load allocations are distributed among wastewater treatment plants (WWTP) and MS4s. The WLAs for the WWTPs and the MS4s are presented in EPA, 2010. The WLAs for the WWTPs are based on effluent limitations and discharge volumes. The WLAs for all MS4s combined was determined based on the total Albuquerque UA of 210.41 square miles.

Table 5: Waste Load Allocations for *E. coli*: Middle Rio Grande (Alameda Bridge to Isleta Pueblo)

Flow Condition	High	Moist	Mid-Range	Dry	Low
Total WLA (cfu/day)	5.08x10 ¹¹	2.28x10 ¹¹	1.98 x10 ¹¹	1.58x10 ¹¹	1.40x10 ¹¹
WWTP WLA (cfu/day) ^a	1.35x10 ¹¹	1.35x10 ¹¹	1.35x10 ¹¹	1.35x10 ¹¹	1.35x10 ¹¹
MS4 WLA (cfu/day)	3.73x10 ¹¹	9.35 x10 ¹⁰	6.29 x10 ¹⁰	2.32x10 ¹⁰	5.19x10 ⁹
Normalized MS4 WLA (cfu/square mile/day) ^b	1.79x10 ⁹	4.48x10 ⁸	3.02x10 ⁸	1.11x10 ⁸	2.58x10 ⁷

^a The WWTP WLA is referred to as the NPDES WLA in U.S. EPA, 2010.

^b The normalized WLA values were obtained from Appendix B of the MS4 Permit. Independent calculations using the WLAs in U.S. EPA, 2010 and the UA of 210.41 square miles produced slightly different values.

Table 6: Waste Load Allocations for *E. coli*: Middle Rio Grande (Alameda Bridge to Isleta Pueblo)

Flow Condition	High	Moist	Mid-Range	Dry	Low
Total WLA (cfu/day)	3.28x10 ¹¹	1.04x10 ¹¹	--	4.53x10 ¹⁰	2.95x10 ¹⁰
WWTP WLA (cfu/day) ^a	1.28x10 ¹⁰	1.28x10 ¹⁰	--	1.28x10 ¹⁰	1.28x10 ¹⁰
MS4 WLA (cfu/day)	3.15x10 ¹¹	9.11x10 ¹⁰	--	3.25x10 ¹⁰	1.68x10 ¹⁰
Normalized MS4 WLA (cfu/square mile/day) ^b	3.25x10 ⁹	9.41x10 ⁸	--	3.37x10 ⁸	1.74x10 ⁸

^a The WWTP WLA is referred to as the NPDES WLA in U.S. EPA, 2010.

^b The normalized WLA values were obtained from Appendix B of the MS4 Permit. Independent calculations using the WLAs in U.S. EPA, 2010 and the UA of 210.41 square miles produced slightly different values.

4. SNL Waste Load Allocation

The MS4 WLAs listed in Tables 5 and 6 are the total permitted WLAs for all MS4s in the MRG watershed and represent the amount of *E. coli* that can be discharged from all identified and permitted point sources. These sources include multiple MS4s as well as two WWTPs. By dividing the MS4 WLA by the total UA (210.41 square miles), the WLA (cfu/ square mile/day) for each square mile of urbanized MS4 was determined. The values for TWLA, WWTP WLA, MS4 WLA, and normalized MS4 WLAs are shown in Tables 5 and 6.

Each MS4’s allowable discharge of *E. coli* is determined by multiplying the normalized WLA by the MS4’s total drainage area. The total area of the Northern SNL MS4 is 1.16 square miles. There is one stormwater inflow monitoring location (SWSP-02), and four stormwater discharge monitoring locations (SWSP-05, 24, 25, and 36) within the Northern SNL MS4. The drainage

area for each monitoring location was determined using Geographical Information System (GIS) software. Tables 7, 8 and 9 list the size and WLA of each area. The drainage area within the SNL MS4 for SWSP-02 is approximately 0.03 square miles. The total drainage area for SWSP-02 is larger; it is estimated to be approximately 0.05 square miles because a portion of the runoff from KAFB property drains to SWSP-02. The flow at SWSP-02 continues to SWSP-05, and the SWSP-02 drainage area that falls within the SNL MS4 is included in the drainage area of SWSP-05. Maps of these areas are included in Appendix B of the SWMP Plan.

Table 7: SNL WLAs for areas discharging to the Isleta Pueblo to Alameda Bridge reach of the MRG.

	Area (Miles ²)	WLAs by Flow Condition				
		High	Moist	Mid-Range	Dry	Low
	1.00	1.79x10 ⁹	4.48 x10 ⁸	3.02 x10 ⁸	1.11 x10 ⁸	2.58 x10 ⁷
SWMP-02 ^b	0.03	5.37x10 ⁷	1.34 x10 ⁷	9.06 x10 ⁸	3.33 x10 ⁸	7.74 x10 ⁷
SWMP-05	1.05	1.88 x10 ⁹	4.70 x10 ⁸	3.17 x10 ⁸	1.17 x10 ⁸	2.71 x10 ⁷
Urbanized Area	0.43	7.70 x10 ⁸	1.93 x10 ⁸	1.30 x10 ⁸	4.77 x10 ⁷	1.11 x10 ⁷
Northern MS4 Area	1.05	1.88 x10 ⁹	4.70 x10 ⁸	3.17 x10 ⁸	1.17 x10 ⁸	2.71 x10 ⁷

^a Values taken from Appendix B of Permit NMR04A000

^b The drainage area within the SNL MS4 for SWSP-02 is approximately 0.03 square miles. The total drainage area for SWSP-02 is larger; it is estimated to be approximately 0.05 square miles because a portion of the runoff from KAFB property drains to SWSP-02. The flow at SWSP-02 continues to SWSP-05, and the SWSP-02 drainage area that falls within the SNL MS4 is included in the drainage area of SWSP-05.

Table 8: SNL WLAs for areas discharging to the Alameda Bridge to HWY 550 reach of the MRG.

	Area (Miles ²)	WLAs by Flow Condition				
		High	Moist	Mid-Range	Dry	Low
Normalized MS4 ^a	1.00	3.25 x10 ⁹	9.41 x10 ⁸	5.19 x10 ⁸	3.37 x10 ⁸	1.74 x10 ⁸
SWSP-24	0.08	2.60 x10 ⁸	7.53 x10 ⁷	4.15 x10 ⁷	2.70 x10 ⁷	1.39 x10 ⁷
SWSP-35	0.02	6.50 x10 ⁷	1.88 x10 ⁷	1.04 x10 ⁷	6.74 x10 ⁶	3.48 x10 ⁶
SWSP-36	0.01	3.25 x10 ⁷	9.41 x10 ⁶	5.19 x10 ⁶	3.37 x10 ⁶	1.74 x10 ⁶
Urbanized Area ^b	0.11	3.58 x10 ⁸	1.04 x10 ⁸	5.71 x10 ⁷	3.71 x10 ⁷	1.91 x10 ⁷
Northern MS4 Area	0.11	3.58 x10 ⁸	1.04 x10 ⁸	5.71 x10 ⁷	3.71 x10 ⁷	1.91 x10 ⁷

^a Values taken from Appendix B of the MS4 Permit

^b The Northern SNL MS4 is the sum of areas from SWSP-24, SWSP-35, and SWSP-36.

Table 9: SNL WLAs for discharges to both reaches combined.

	Area (Miles ²)	WLAs by Flow Condition				
		High	Moist	Mid-Range	Dry	Low
Urbanized Area ^a	0.54	1.13 x10 ⁹	2.96 x10 ⁸	1.87 x10 ⁸	8.48 x10 ⁷	3.02 x10 ⁷
Northern MS4 Area ^b	1.16	2.24 x10 ⁹	5.74 x10 ⁸	3.74 x10 ⁸	1.54 x10 ⁸	4.62 x10 ⁷

^a Values determined by adding the Urbanized Area values from Tables 7 and 8.

^b Values determined by adding the Northern MS4 area values from Tables 7 and 8.

5. TMDL Monitoring and Reporting

The Permit specifies that the TMDL applies only to areas within the Albuquerque UA; however, the SNL MS4 extends outside the boundaries of the UA. Because of storm drain access limitations, there are no monitoring locations that can be used to assess waste load for the UA only. Therefore, DOE and Sandia propose to monitor *E. coli* for the entire SNL Northern MS4 (not just the UA), and report the WLAs for each of the five monitoring locations. Additionally, the amount of *E. coli* attributable to only the portion of the MS4 within the Albuquerque UA will be estimated on a proportional per area basis.

Flow rates at SWSP-02 and SWSP-05 will be determined by direct measurement using the slope-area method described in the Bureau of Reclamation Water Measurement Manual (Bureau of Reclamation, 2001). The depth of water will be determined using either a pressure transducer or sonic sensor. The specific methods, data, and calculations used to determine flow for these two monitoring locations will be fully described in the Monitoring Plan (i.e., Chapters 2 and 12 of the SWMP). This will provide direct measurement of flow for all inflow to the MS4 jurisdiction, as well as discharge from approximately 90 percent of the Northern MS4 area.

Flow at the other three monitoring locations (SWSP-24, SWSP-35, and SWSP-36) cannot easily be measured because they are in enclosed subgrade storm drains with limited access. DOE and Sandia propose to estimate flow rates at these locations based on flow rates measured at SWSP-05. The measured flow rate at SWSP-05 will be scaled based on the drainage area of each monitoring location. For example, the drainage area for water that flows to SWSP-05 is 1.05 square miles, and the drainage area for SWSP-24 is 0.08 square miles. The flow at SWSP-24 will be estimated by multiplying the flow monitored at SWSP-05 by the ratio of the capture area for SWSP-24 to the capture area at SWSP-05 as follows:

$$Flow\ at\ SWSP\ 24 = Flow\ at\ SWSP\ 5 \times \left(\frac{Drainage\ Area\ of\ SWSP\ 24}{Drainage\ Area\ of\ SWSP\ 5} \right)$$

$$Flow\ at\ SWSP\ 24 = Flow\ at\ SWSP\ 5 \times \left(\frac{0.08}{1.05} \right)$$

This same procedure will be used to estimate flow at monitoring locations SWSP-35 and SWSP-36. Waste loads will be calculated using the flows determined as described above, in conjunction with *E. coli* concentrations determined by sampling at each individual monitoring location. The load calculation will be made using the equation provided in Appendix C of the Permit as follows:

$$Load \left(\frac{lb}{day} \right) = Flow \left(\frac{MG}{day} \right) \times Concentration \left(\frac{mg}{L} \right) \times CF$$

Where CF is a conversion factor:

$$CF \left(\frac{L - lb}{MG - mg} \right) = 10^6 \left(\frac{gal}{MG} \right) \times \left(\frac{3.785L}{gal} \right) \times \left(\frac{1 lb}{454,000 mg} \right) = 8.34$$

DOE and Sandia will evaluate the calculated waste loads against the waste load allocations for each monitoring location, in addition to the Albuquerque UA, and the entire MS4.

Appendix R-3

February 5, 2016

Sandia National Laboratories Wet Weather Monitoring Plan under the MRG MS4 permit – NMR04A00

NMED Comments:

1. Part 2.3: The plan states that the only impaired waterbody in the MRG watershed is the Rio Grande. This is incorrect – the Tijeras Arroyo is listed for nutrients (upstream of DOE/SNL discharge), and the Las Huertas Ceek is also listed for nutrients.
2. Part 2.4.1: Plan states that the only wastewater discharges in the SNL area are conveyed via pretreatment units to the ABCWUA sewer system. There is the potential that SSOs could occur on SNL property – this has not been addressed as a possibility in the plan.
3. Part 12.2.1: There should be a general description of the types of activities and storage that are exposed to stormwater in this area, and the types of pollutants that could be generated.
4. Part 12.2.2: There should be a general description of the types of activities and storage that are exposed to stormwater in this area, and the types of pollutants that could be generated.
5. Part 12.2.2: The plan states that there are no monitoring locations proposed for the Southern MS4 area. Although the plan states that this is located in an area of highly permeable soils, there should be at least one monitoring location considered here.
6. Table 12-2: The priority list for the pollutants monitored should be modified slightly. Although SNL does not discharge directly to the Rio Grande (which contains the impairments for PCBs and gross alpha), these two constituents should be moved up on the list for consideration in SNL's sampling scheme. Likewise, the nutrient constituents should be moved up on the list above TSS and TDS.
7. Part 12.3.1.4: When reporting E. coli data in annual reports, SNL should make specific note of the data if they decide to run E. coli samples past the 6 hour holding time.
8. Part 12.6: SNL needs to consider sufficiently sensitive monitoring in this section, per EPA's rulemaking in August 2015. The MQLs listed in Appendix F of the permit do not adequately assess WQS issues in the state of New Mexico. For example, the MQL listed for PCBs is orders of magnitude above the WQS. SNL must ensure that the analytical methods selected will be sensitive enough to assess whether there is an issue with an applicable WQS.

EPA Comments:

1. Flow measurements will be approximate due to the indirect methods used: slope-area method for SWSP-02 and SWSP-05 and application of drainage area ratios to estimate flows at SWSP-24, SWSP-35, and SWSP-36 based on estimated flow at SWSP-05 (p. 2-5). Calculation of waste loads should be accompanied by error margins to convey the uncertainty due to methods used.
2. Time-based compositing of samples will be used for wet-weather monitoring (page 12-3). This may result in an underestimate of pollutant loads if there is a first-flush effect. Because indirect methods are used to measure discharge they do not have the ability to collect flow-weighted composites reliably. It is recommend that Sandia National Laboratories analyzes each of the four grab samples collected at both SWSP-02 and SWSP-5 separately (as well as for the composite if desired) to help assess whether there is a first-flush effect. This may be of particular importance for this area because no previous monitoring data exist and monitoring results will be used to determine the need for BMPs.
3. While understood, the business hours limitations for sample retrieval (p. 12-5) could be problematic, particularly given the sparse nature of storm events in the area, (the same concern applies regarding the lab hours (p. 12-6)), SNL should report sample retrieval time and sample analysis time in the annual report.

Appendix R-4



Department of Energy
National Nuclear Security Administration
Sandia Field Office
P.O. Box 5400
Albuquerque, NM 87185



APR 28 2016

Ms. Nelly Smith
Municipal Stormwater Coordinator
U.S. Environmental Protection Agency
Region 6
NPDES Permits & TMDLs Branch
Mail Code: 6WQ-PP
1445 Ross Ave., Suite 1200
Dallas, Texas 75202-2733

Mr. Bruce Yurdin
Program Manager
New Mexico Environment Department
Surface Water Quality Bureau
Point Source Regulation Section
P.O. Box 5469
Santa Fe, New Mexico 87502

Subject: Response to Comments on the Sandia National Laboratories Middle Rio Grande Municipal Separate Storm Sewer System Permit Wet Weather Monitoring Plan in Compliance with MS4 Permit Tracking Nos. NMR04A011 and NMR04A012

Dear Ms. Smith and Mr. Yurdin:

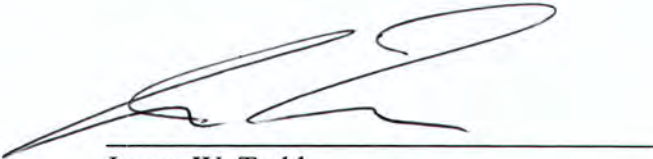
On February 5, 2016, the Department of Energy, National Nuclear Security Administration (DOE/NNSA) Sandia Field Office (SFO) and Sandia Corporation (Sandia) received comments on the Sandia National Laboratories (SNL) Middle Rio Grande Municipal Separate Storm Sewer System (MS4) Wet Weather Monitoring Plan (WWMP) submitted to the U.S. Environmental Protection Agency (EPA) on November 18, 2015. Comments received were from the EPA and the New Mexico Environment Department (NMED) in an email sent by Nelly Smith of the EPA Region 6.

Enclosed are the responses from the DOE/NNSA SFO and Sandia to the cited comments from the EPA and the NMED. There are a total of eleven comments; three from the EPA and eight from the NMED.

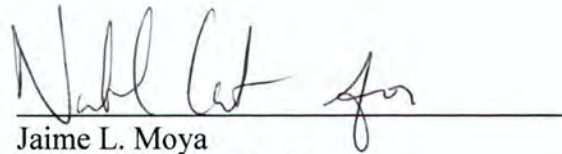
Thank you for consideration of the DOE/NNSA SFO's and Sandia's responses. We anticipate a reply and/or approval of the WWMP no later than June 1, 2016. This will allow time for the revisions to be incorporated into the Stormwater Management Program Plan that will be certified, published for public notice, and submitted to the EPA with the Annual Report. Finally, on January, 20 2016, the DOE/NNSA SFO and Sandia transmitted a certification that five SNL MS4 monitoring stations were operational and ready to collect samples as required by the MS4 permit.

If you have programmatic questions, please contact Karen Agogino, DOE/NNSA SFO Water Quality Program Manager, at (505) 845-6100 / karen.agogino@nnsa.doe.gov. For technical questions regarding the issues/proposed solutions, please contact Kathie Deal, Sandia Stormwater Program Lead, at (505) 844-8503 / kjdeal@sandia.gov.

Sincerely,



James W. Todd
Assistant Manager for Engineering
Department of Energy
National Nuclear Security Administration
Sandia Field Office



Jaime L. Moya
Director and Chief of Safety
Sandia Corporation

Enclosure:

Department of Energy, National Nuclear Security Administration Sandia Field Office and Sandia Corporation Responses to Comments from the U.S. Environmental Protection Agency and the New Mexico Environment Department

cc:

Sarah Holcomb

Industrial and Stormwater Team Supervisor

NMED/SWQB, P.O. Box 5469, Santa Fe, New Mexico 87504

Amy Blumberg, SNL/NM

John Kay, SNL/NM

Kathie Deal, SNL/NM

Stephanie Salinas, SNL/NM

Terry Cooper, SNL/NM

Darrell Fong, SNL/NM

Selma Cuellar, SNL/NM

Cynthia Wimberly, SFO/Legal

Susan Lacy, SFO/ENG

Karen Agogino, SFO/ENG

669769

**Department of Energy, National Nuclear Security Administration Sandia Field Office and
Sandia Corporation Responses to Comments from the U.S. Environmental Protection
Agency and the New Mexico Environment Department**

NMED Comment 1:

Part 2.3: The plan states that the only impaired waterbody in the MRG watershed is the Rio Grande. This is incorrect – the Tijeras Arroyo is listed for nutrients (upstream of DOE/SNL discharge), and the Las Huertas Creek is also listed for nutrients.

Response to NMED Comment 1:

The DOE/NNSA SFO and Sandia agree with the comment. Section 2.3 of the Wet Weather Monitoring Plan (WWMP) should have stated that the only impaired water body in the Middle Rio Grande watershed *down-gradient of stormwater discharged from the SNL MS4* is the Rio Grande. Section 2.3 of the WWMP will be revised accordingly.

NMED Comment 2:

Part 2.4.1: Plan states that the only wastewater discharges in the SNL area are conveyed via pretreatment units to the ABCWUA sewer system. There is the potential that SSOs could occur on SNL property – this has not been addressed as a possibility in the plan.

Response to NMED Comment 2:

There is limited potential for sanitary sewer overflows (SSOs) to occur within the SNL MS4. This is in light of the facts that SNL has a very low occurrence of sanitary sewer overflows and there have been no instances of impacts to the MS4 stormwater drainage system or Waters of the United States from SSOs during at least the last five years. During the last five years there have been instances of sanitary sewer clogs; however, only one resulted in a release to the surface, which did not enter stormwater drainage system. The pipes in that location were replaced to prevent any recurrence.

Sandia manages the risk of SSOs through preventative maintenance (Good Housekeeping/Pollution Prevention Control Measure) and by detecting, investigating, and stopping non-stormwater discharges (Illicit Discharge Detection and Elimination [IDDE] Control Measure).

A new section has been added to the Stormwater Management Program (SWMP) Plan (Section 7.2.1.2.3- Maintenance and Inspection of Sanitary Sewer System) to document procedures used to inspect and maintain the sanitary sewer system. The Facilities Maintenance and Operations Center (FMOC) maintains software to track the scheduling, inspection, and maintenance of the sanitary sewer system. Sanitary sewer lines are inspected using video pipeline inspection tools. The lines are typically (almost always) cleaned at the time of inspection. The inspections are logged and the results are used to identify additional or future preventive maintenance needs, repairs, cleanings, and re-inspections. Re-inspections are done on a graded approach considering importance, condition, and obstruction tendency.

A discussion about SSOs as illicit discharges has been added to Section 8.2.6 of the SWMP Plan, under the umbrella of the IDDE Program. As indicated in Section 8.2.9 of the SWMP Plan, any illicit discharge observed at SNL is required by Corporate Procedure to be reported to the Emergency Operations Center (EOC). In the event a spill is reported to the EOC, designated personnel within the Environmental Programs Department (the SNL Spill Response and Reporting Team) and DOE/NNSA SFO are contacted to respond to the

Department of Energy, National Nuclear Security Administration Sandia Field Office and Sandia Corporation Responses to Comments from the U.S. Environmental Protection Agency and the New Mexico Environment Department

incident. Information such as the location, date, time, duration, source, cause, quality/volume, description and corrective actions are recorded, and immediate verbal notifications (federal, state and local, as applicable) are initiated. Coordination with various applicable subject matter experts (e.g., stormwater, wastewater, groundwater, etc.) occurs to ensure compliance with all laws and regulations. Appropriate spill remediation responses are initiated.

NMED Comment 3:

Part 12.2.1: There should be a general description of the types of activities and storage that are exposed to stormwater in this area, and the types of pollutants that could be generated.

Response to NMED Comment 3:

The DOE/NNSA SFO and Sandia have added a general description of the locations and activities that could generate stormwater pollutants within the SNL MS4 boundary to Section 12.2.1 of the WWMP. Activities conducted within the SNL MS4 that could potentially contribute to the pollutant parameters identified in the MS4 Permit are described in Table 12-1 below.

The SNL MS4 is not a typical municipal MS4 system in that it does not support activities and sources of pollutants expected in municipalities. All activities at SNL are conducted under strict institutional and operational controls; there is very low potential for illicit discharges or other contribution of pollutants to stormwater during normal operations. The SNL MS4 is expected to discharge considerably lower amounts of these pollutants, if any.

Table 12-1: Potential sources of stormwater pollutants to the MS4.

Parameter	Source Location	Source Activity	Description
Temperature	Parking lots, roadways, other hardscaped surfaces	NA	Precipitation during hot summer months may generate runoff with increased temperature due to hot ground surfaces.
Dissolved Oxygen	None	NA	There are no known areas of stagnant water or other oxygen consuming conditions. Dissolved oxygen in stormwater is expected to be near saturation (approximately 7-9 mg/L).
pH	None	NA	There are no sources of high or low pH materials, or other activities or conditions that would significantly increase or decrease pH. pH is anticipated to be near neutral (approximately 6-8).

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Parameter	Source Location	Source Activity	Description
Conductivity	General MS4, no specific location	NA	Conductivity is expected to be typical of urbanized areas. Aside from Total Suspended Solids derived from undeveloped soil covered areas, there are no suspected sources of elevated conductivity within the MS4.
<i>E. coli</i>	General MS4, no specific location	NA	There are no known or suspected anthropogenic sources of <i>E. coli</i> within the SNL MS4. It is anticipated that wildlife such as birds, rodents, raccoons, and coyote will contribute modest amounts of <i>E. coli</i> to stormwater discharge.
Gross Alpha	Sediment-laden areas	NA	Gross alpha is generated by anthropogenic radioactive sources, as well as radioactive materials in natural materials (rock, sediment). While there is a history of use of radioactive materials within the SNL MS4, there are no anthropogenic sources of radioactive materials currently exposed to precipitation or stormwater at SNL. The granite rock formations native to the Albuquerque area are known to contain relatively abundant radioactive elements. It is possible that sediment load from undeveloped areas may contribute gross alpha to stormwater runoff.
PCBs	General MS4, Sediment-laden areas	Atmospheric deposition	There are no known sources of PCBs in the SNL MS4. PCBs were used historically within the MS4, but there are no known releases to the environment. PCBs are deposited atmospherically; therefore, it is possible low levels could be detected in stormwater.
Total Kjeldahl Nitrogen (TKN)	None	NA	TKN is generally used as a measure of animal waste. There are no sewage lagoons or treatment works, or population of agricultural or domestic animals within the SNL MS4. TKN is expected to be low.
Nitrate + Nitrite (NPN)	General MS4, no specific location	Fertilizer application; Possible outdoor test activities	Nitrogen-based fertilizers are applied to landscaped areas throughout the SNL MS4 and may be used for outdoor test activities. Runoff from these areas is minimal, but has the potential to be elevated in nitrogen; however, this is not anticipated to be a significant source.

**Department of Energy, National Nuclear Security Administration Sandia Field Office and
Sandia Corporation Responses to Comments from the U.S. Environmental Protection
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Parameter	Source Location	Source Activity	Description
Dissolved Phosphorous	General MS4, no specific location	Fertilizer application; Possible outdoor test activities	Phosphorous-based fertilizers are applied to landscaped areas throughout the SNL MS4 and may be used for outdoor test activities. Runoff from these areas is minimal, but has the potential to be elevated in phosphorous; however this is not anticipated to be a significant source.
Total Phosphorous			
Chemical Oxygen Demand (COD)	None	NA	The amount of organic material in stormwater runoff is expected to be low. High COD values are typically associated with animal waste or other organic sources (landfills), of which there are no known sources in the SNL MS4.
Biochemical Oxygen Demand (BOD ₅)	None	NA	The amount of organic material in stormwater runoff is expected to be low. High BOD ₅ values are typically associated with animal waste or other organic sources (landfills), of which there are no known sources in the MS4.
Total Dissolved Solids (TDS)	Site wide	NA	TDS is expected to be typical of urbanized areas.
Total Suspended Solids (TSS)	Sediment-laden areas	NA	There are areas of undeveloped (disturbed and not disturbed) silty/sandy/gravelly desert landscape within the MS4.
Oil and Grease	Roads, parking lots	Routine vehicle operation and parking	Oil may be deposited onto paved surfaces from motor vehicles. Fleet Services is a highly-controlled operation regulated under the MSGP, an unlikely source of oil. Food services facilities at SNL are closely regulated and inspected, and are unlikely to be a source of grease in stormwater.

NMED Comment 4:

Part 12.2.2: There should be a general description of the types of activities and storage that are exposed to stormwater in this area, and the types of pollutants that could be generated.

Response to NMED Comment 4:

Please see *Response to NMED Comment 3* above.

NMED Comment 5:

Part 12.2.2: The plan states that there are no monitoring locations proposed for the Southern MS4 area. Although the plan states that this is located in an area of highly permeable soils, there should be at least one monitoring location considered here.

Department of Energy, National Nuclear Security Administration Sandia Field Office and Sandia Corporation Responses to Comments from the U.S. Environmental Protection Agency and the New Mexico Environment Department

Response to NMED Comment 5:

The DOE/NNSA SFO and Sandia have evaluated the potential for implementing wet weather monitoring at the Southern SNL MS4 and offer the following:

- 1) The MS4 Permit is intended for areas that discharge to a Waters of the United States (WOTUS). The Southern SNL MS4 is not connected to a WOTUS by any discernable conveyance feature (stream, ditch, roadside, etc.) and is therefore not a point source to a WOTUS. Any stormwater discharge from the Southern SNL MS4 would have to flow across undeveloped sandy/gravelly desert as sheet flow for more than a mile (or two) before reaching the closest WOTUS, Tijeras Arroyo. The amount of precipitation required to generate overland flow from the Southern SNL MS4 to a WOTUS would be inconceivably large.
- 2) The MS4 Permit requires monitoring at all locations where stormwater flows into or out of the MS4 jurisdiction; internal monitoring is not required unless exceedances occur in stormwater discharged from the MS4. There are no discernable inflows or outflows to/from the Southern SNL MS4 jurisdiction; all stormwater flows originate and terminate within the MS4. DOE/NNSA SFO and Sandia maintain two sampling locations within the Southern MS4 SNL for areas permitted under the Multi-Sector General Permit (MSGP).
- 3) As a point of reference, the combined total area of the Northern and Southern SNL MS4 is less than one percent (0.6%) of the Albuquerque Urbanized Area (UA). The size of the Southern SNL MS4 is only about 0.05% of the UA. The existing five monitoring locations at SNL provide a higher density of monitoring than is conducted anywhere else in the UA.

The SNL SWMP Plan proposes implementation and maintenance of control measures in this area in accordance with the MS4 Permit for stormwater quality protection.

NMED Comment 6:

Table 12-2: The priority list for the pollutants monitored should be modified slightly. Although SNL does not discharge directly to the Rio Grande (which contains the impairments for PCBs and gross alpha), these two constituents should be moved up on the list for consideration in SNL's sampling scheme. Likewise, the nutrient constituents should be moved up on the list above TSS and TDS.

Response to NMED Comment 6:

The DOE/NNSA SFO and Sandia have modified the priority order of sample collection as indicated in the revised table below. Please note that Table 12-2 is now Table 12-3 in the WWMP because a new Table 12-1 was inserted into the WWMP in response to NMED comment 3.

Department of Energy, National Nuclear Security Administration Sandia Field Office and Sandia Corporation Responses to Comments from the U.S. Environmental Protection Agency and the New Mexico Environment Department

Table12-3: List of required sample volumes and priority for laboratory submittal.

Parameter	Priority (Order of Submittal)	Sample Volume Required by Laboratory (mL)	Cumulative Sample Volume (mL)
<i>E. coli</i>	1	120	120
Gross Alpha	2	1,000	1,120
PCBs	3	4,000	5,120
TKN (Total Ammonia + Organic Nitrogen)	4	500	5,620
Nitrate + Nitrite	5	125	5,745
Dissolved Phosphorous	6	250	5,995
Total Phosphorous	7	250	6,245
COD	8	250	6,495
BOD ₅	9	1,000	7,495
TSS	10	2,000	9,495
TDS	11	1,000	10,495
Oil and Grease	12	3,750	14,245

The SNL MS4 monitoring locations have relatively small drainage areas that tend to discharge quickly in response to precipitation. In the event that a stormwater discharge event lasts shorter than one hour, insufficient sample volume will be collected to allow analysis of all required parameters. Based on input received from the EPA and NMED at a meeting of the MRG Technical Advisory Group (TAG) held in Albuquerque on February 22, 2016, samples may be collected over multiple storm events, if necessary to fulfill parameter requirements. Therefore, laboratory bottles will be filled with the available stormwater according to the priority listed above. Should the parameter list not be fulfilled with one storm event, the remaining parameters will be analyzed using stormwater collected during the next qualifying storm event. Section 12.3.1.3 of the WWMP has been modified to clarify this process.

Another option was discussed at the February 22, 2016 meeting to address total sample volume concerns as it relates to the short duration of a stormwater discharge event. The DOE/NNSA SFO and Sandia proposed collecting samples on equal intervals that are less than 15 minutes. For example, if the stormwater discharge events are less than 45 minutes in duration, as expected in some very low-flow areas of the SNL MS4, the four grab samples could be collected on 7-minute intervals such that the composite sample volume would be obtained in approximately 21 minutes, as opposed to 45 minutes. At the meeting EPA indicated they would be willing to consider this alternative. DOE/NNSA and Sandia respectfully request a determination on whether this proposal is approved for use by the EPA and NMED and, if so, our SWMP Plan will be updated to reflect.

**Department of Energy, National Nuclear Security Administration Sandia Field Office and
Sandia Corporation Responses to Comments from the U.S. Environmental Protection
Agency and the New Mexico Environment Department**

NMED Comment 7:

Part 12.3.1.4: When reporting *E. coli* data in annual reports, SNL should make specific note of the data if they decide to run *E. coli* samples past the 6 hour holding time.

Response to NMED Comment 7:

The DOE/NNSA SFO and Sandia will make specific note of samples that do not meet the required holding time in the comments section of DMRs submitted with Annual Reports. The SWMP Plan acknowledges that *E. coli* has a short hold time, and as a result the samples will be transported to a local laboratory soon after collection. Meeting the short hold time is primarily contingent upon a qualifying storm event occurring early enough in the day so that samples can be collected and delivered to the laboratory prior to 6:00 PM. It is estimated that the qualifying storm event will need to start by 3:00 PM to allow sufficient time to yield to lightening (corporate safety protocol), retrieve the samples from the autosamplers and deliver the samples by the 6:00 PM deadline. Section 12.3.1.4 of the WWMP has been updated to include this information.

NMED Comment 8:

Part 12.6: SNL needs to consider sufficiently sensitive monitoring in this section, per EPA's rulemaking in August 2015. The MQLs listed in Appendix F of the permit do not adequately assess WQS issues in the state of New Mexico. For example, the MQL listed for PCBs is orders of magnitude above the WQS. SNL must ensure that the analytical methods selected will be sensitive enough to assess whether there is an issue with an applicable WQS.

Response to NMED Comment 8:

The Water Quality Standards (WQS) listed in Section 2.1 of the WWMP, in particular Table 2-1, include New Mexico Water Quality Standards. The methods and required detection limits presented in Sections 12.3, in particular Table 12-2, meet the sensitivity requirements of both EPA and NM WQS for all constituents. To ensure this, the analytical laboratories that will be conducting analyses for SNL have been provided the required WQS. The lab has provided assurance that analyses will be conducted with reporting limits (practical quantification limits) equal to or less than the WQS, as indicated in Table 12-2.

The DOE/NNSA SFO and Sandia have revised Section 12.6 to explicitly state that New Mexico Water Quality Standards (WQS) have been considered in identifying sufficiently sensitive analytical methods.

EPA Comment 1:

Flow measurements will be approximate due to the indirect methods used: slope-area method for SWSP-02 and SWSP-05 and application of drainage area ratios to estimate flows at SWSP-24, SWSP-35, and SWSP-36 based on estimated flow at SWSP-05 (p. 2-5). Calculation of waste loads should be accompanied by error margins to convey the uncertainty due to methods used.

Response to EPA Comment 1:

The DOE/NNSA SFO and Sandia will provide estimated margins of error in waste load calculations that are associated with uncertainty in flow measurements. However, it is not

Department of Energy, National Nuclear Security Administration Sandia Field Office and Sandia Corporation Responses to Comments from the U.S. Environmental Protection Agency and the New Mexico Environment Department

possible to provide a margin of error for all sources of uncertainty in waste load calculations. In particular, the temporal variation in *E. coli* concentration is poorly understood at this time.

Because the DOE/NNSA SFO and Sandia are new MS4 permittees, and there are no historical *E. coli* data for the SNL MS4, waste load will need to be calculated for an entire monitoring season by multiplying the concentration of *E. coli* obtained during a single sampling event by the total flow volume that occurred for all storms during the monitoring season. This method does not account for variations in *E. coli* concentration from one storm event to the next; it assumes that *E. coli* concentration remains constant and equal to the one sample collected. The uncertainty with this assumption is likely much higher than the uncertainty associated with flow measurements and cannot be estimated until enough *E. coli* data have been collected to enable statistical analyses.

EPA Comment 2:

Time-based compositing of samples will be used for wet-weather monitoring (page 12-3). This may result in an underestimate of pollutant loads if there is a first-flush effect. Because indirect methods are used to measure discharge they do not have the ability to collect flow-weighted composites reliably. It is recommended that Sandia National Laboratories analyze each of the four grab samples collected at both SWSP-02 and SWSP-5 separately (as well as for the composite if desired) to help assess whether there is a first-flush effect. This may be of particular importance for this area because no previous monitoring data exist and monitoring results will be used to determine the need for BMPs.

Response to EPA Comment 2:

The DOE/NNSA SFO and Sandia propose to meet the Permit requirements as described below.

- 1) Our proposed method of composite sampling follows the method required by Part III.A.1.c of the MS4 Permit.
- 2) The first flush is accounted for in the composite sample. The rationale behind collecting a composite sample is to produce a sample representative of the “average” or time weighted pollutant load discharged during a storm event. Additionally, the method proposed by the DOE/NNSA SFO and Sandia is likely an overestimate of pollution load because we only collect sub-samples during the first 45 minutes of a storm event.
- 3) Compliance with the MS4 permit allows for four grab samples of 3.8 L each to be composited for a total laboratory analysis volume of 15.2 L. A total of 14.25 L is necessary for laboratory analysis of all required parameters. The recommendation to submit each grab sample to the laboratory would prevent the full analysis of all required parameters due to insufficient volume. Collecting all analytes during a single storm event rather than over several storm events allows for a more meaningful interpretation of results.

Department of Energy, National Nuclear Security Administration Sandia Field Office and Sandia Corporation Responses to Comments from the U.S. Environmental Protection Agency and the New Mexico Environment Department

EPA Comment 3:

While understood, the business hours limitations for sample retrieval (p. 12-5) could be problematic, particularly given the sparse nature of storm events in the area, (the same concern applies regarding the lab hours [p. 12-6]), SNL should report sample retrieval time and sample analysis time in the annual report.

Response to EPA Comment 3:

As requested, sample retrieval time and sample analysis time will be reported on DMRs submitted with the reports. The DOE/NNSA SFO and Sandia will also provide 15 minute precipitation data obtained from an on-site weather station for each sampling event to document the occurrence of a qualifying event, as well as 5-minute flow data for each sampling event to document the relationship between precipitation and discharge.

Appendix R-5

From: Smith, Nelly
To: [Agogino, Karen Leigh \(SFO\)](#); [Deal, Kathie J.](#)
Cc: [Holcomb, Sarah, NMENV](#)
Subject: [EXTERNAL] NMR04A011 - NMR04A012 - MRG MS4 permit
Date: Monday, February 13, 2017 12:55:19 PM

Good Afternoon:

Our records indicate that we did not officially approve the Monitoring Plans for Sandia National Laboratories-DOE/Sandia Cooperation. This is an notice of approval for those plans.

Thanks!

Nelly Smith
Municipal Stormwater Coordinator
EPA Region 6
Permitting Section
NPDES Permits and TMDLs Branch

ph: 214-665-7109
Email: smith.nelly@epa.gov

Appendix R-6

v.5, August 10, 2019

A printed copy of this document may not be the official version. The official printed copy of this SWMPP is located in the office of the Environmental Compliance and Monitoring Department (Org. 00641).

Water Quality Results Since Inception of MS4 Permit Coverage

Sample Location	Sample Date	Analyte	Result	WQ Standard	Unit	Laboratory Qualifier	Analytical Method
SWSP-02	8/1/2016	pH (field)	8.48	6.6-9.0	--		YSI-556 meter
		T (field)	9.01	<32.2	Deg. C		YSI-556 meter
		Specific Conductance (field)	0.075	--	mmohs/cm		YSI-556 meter
		DO (field)	8.89	>5.0	mg/L		YSI-556 meter
		E. coli	HT	47	cfu/100 mL		SM 9223 B
		Total Suspended Solids	60.8	--	mg/L		SM 2540 D
		Total Dissolved Solids	87.1	1500	mg/L		SM 2540 C
		Total Kjeldhal Nitrogen	1.21	8.5	mg/L		EPA 351.2
		Nitrate + Nitrite	0.54	132	mg/L		EPA 353.2
		Phosphorous (dissolved)	HT	--	mg/L		EPA 365.4
		Phosphorous (total)	0.337	--	mg/L		EPA 365.4
		Chemical Oxugen Demand	64.5	--	mg/L		EPA 410.4
		Biological Oxygen Demand	HT	--	mg/L		SM 5210 B
		Gross Alpha	6.11	15	pCi/L		EPA 900.0
		PCBs	0.00527	0.00017	ug/L		EPA 1668 C
		Oil and grease	1.28	15	mg/L		SM 9223 B
		SWSP-02	8/5/2016	pH (field)	8.61	6.6-9.0	--
T (field)	9.03			<32.2	Deg. C		YSI-556 meter
Specific Conductance (field)	0.057			--	mmohs/cm		YSI-556 meter
DO (field)	8.58			>5.0	mg/L		YSI-556 meter
E. coli	HT			47	cfu/100 mL		SM 9223 B
Total Suspended Solids	33.5			--	mg/L		SM 2540 D
Total Dissolved Solids	30			1500	mg/L		SM 2540 C
Total Kjeldhal Nitrogen	1			8.4	mg/L		EPA 351.2
Nitrate + Nitrite	0.448			132	mg/L		EPA 353.2
Phosphorous (dissolved)	0.1			--	mg/L		EPA 365.4
Phosphorous (total)	0.304			--	mg/L		EPA 365.4
Chemical Oxugen Demand	19.8			--	mg/L		EPA 410.4
Biological Oxygen Demand	HT			--	mg/L		SM 5210 B
Gross Alpha	5.49			15	pCi/L		EPA 900.0
PCBs	0.0065			0.00017	ug/L		EPA 1668 C
Oil and grease	<1.19			15	mg/L		SM 9223 B

Water Quality Results Since Inception of MS4 Permit Coverage

Sample Location	Sample Date	Analyte	Result	WQ Standard	Unit	Laboratory Qualifier	Analytical Method
SWSP-02	9/12/2016	pH (field)	8.3	6.6-9.0	--		YSI-556 meter
		T (field)	9.4	<32.2	Deg. C		YSI-556 meter
		Specific Conductance (field)	0.084	--	mmohs/cm		YSI-556 meter
		DO (field)	8.88	>5.0	mg/L		YSI-556 meter
		E. coli	HT	47	cfu/100 mL		SM 9223 B
		Total Suspended Solids	137	--	mg/L		SM 2540 D
		Total Dissolved Solids	133	1500	mg/L		SM 2540 C
		Total Kjeldhal Nitrogen	1.4	9.4	mg/L		EPA 351.2
		Nitrate + Nitrite	0.37	132	mg/L		EPA 353.2
		Phosphorous (dissolved)	0.14	--	mg/L		EPA 365.4
		Phosphorous (total)	0.545	--	mg/L		EPA 365.4
		Chemical Oxugen Demand	89.7	--	mg/L		EPA 410.4
		Biological Oxugen Demand	10	--	mg/L		SM 5210 B
		Gross Alpha	13	15	pCi/L		EPA 900.0
		PCBs	0.025223	0.00017	ug/L		EPA 1668 C
		Oil and grease	<1.19	15	mg/L		SM 9223 B
		pH (field)	8.77	6.6-9.0	--		YSI-556 meter
T (field)	11.99	<32.2	Deg. C		YSI-556 meter		
Specific Conductance (field)	0.09	--	mmohs/cm		YSI-556 meter		
DO (field)	8.44	>5.0	mg/L		YSI-556 meter		
E. coli	HT	47	cfu/100 mL		SM 9223 B		
Total Suspended Solids	NS	--	mg/L		SM 2540 D		
Total Dissolved Solids	NS	1500	mg/L		SM 2540 C		
Total Kjeldhal Nitrogen	NS	8.5	mg/L		EPA 351.2		
Nitrate + Nitrite	NS	132	mg/L		EPA 353.2		
Phosphorous (dissolved)	0.143	--	mg/L		EPA 365.4		
Phosphorous (total)	0.328	--	mg/L		EPA 365.4		
Chemical Oxugen Demand	NS	--	mg/L		EPA 410.4		
Biological Oxugen Demand	15	--	mg/L		SM 5210 B		
Gross Alpha	NS	15	pCi/L		EPA 900.0		
PCBs	NS	0.00017	ug/L		EPA 1668 C		
Oil and grease	NS	15	mg/L		SM 9223 B		

Water Quality Results Since Inception of MS4 Permit Coverage

Sample Location	Sample Date	Analyte	Result	WQ Standard	Unit	Laboratory Qualifier	Analytical Method
SWSP-02	11/22/2016	pH (field)	8.08	6.6-9.0	--		YSI-556 meter
		T (field)	8.96	<32.2	Deg. C		YSI-556 meter
		Specific Conductance (field)	0.086	--	mmohs/cm		YSI-556 meter
		DO (field)	2.99	>5.0	mg/L		YSI-556 meter
		E. coli	2098	47	cfu/100 mL		SM 9223 B
		Total Suspended Solids	96.8	--	mg/L		SM 2540 D
		Total Dissolved Solids	110	1500	mg/L		SM 2540 C
		Total Kjeldhal Nitrogen	1.05	11.6	mg/L		EPA 351.2
		Nitrate + Nitrite	0.465	132	mg/L		EPA 353.2
		Phosphorous (dissolved)	0.0811	--	mg/L		EPA 365.4
		Phosphorous (total)	0.488	--	mg/L		EPA 365.4
		Chemical Oxygen Demand	429	--	mg/L		EPA 410.4
		Biological Oxygen Demand	14	--	mg/L		SM 5210 B
		Gross Alpha	11.7	15	pCi/L		EPA 900.0
		PCBs	0.0398	0.00017	ug/L		EPA 1668 C
		Oil and grease	<1.18	15	mg/L		SM 9223 B
		SWSP-02	8/1/2017	pH (field)	6.73	6.6-9.0	--
T (field)	10.04			<32.2	Deg. C		YSI-556 meter
Specific Conductance (field)	0.09			--	mmohs/cm		YSI-556 meter
DO (field)	8.9			>5.0	mg/L		YSI-556 meter
E. coli	3076			47	cfu/100 mL		SM 9223 B
Total Suspended Solids	292			--	mg/L		SM 2540 D
Total Dissolved Solids	INS			1500	mg/L		SM 2540 C
Total Kjeldhal Nitrogen	1.76			47.1	mg/L		EPA 351.2
Nitrate + Nitrite	1.02			132	mg/L		EPA 353.2
Phosphorous (dissolved)	0.0733			--	mg/L		EPA 365.4
Phosphorous (total)	0.495			--	mg/L		EPA 365.4
Chemical Oxygen Demand	96.1			--	mg/L		EPA 410.4
Biological Oxygen Demand	10			--	mg/L		SM 5210 B
Gross Alpha	34.6			15	pCi/L		EPA 900.0
PCBs	0.0523			0.00017	ug/L		EPA 1668 C
Oil and grease	INS			15	mg/L		SM 9223 B

Water Quality Results Since Inception of MS4 Permit Coverage

Sample Location	Sample Date	Analyte	Result	WQ Standard	Unit	Laboratory Qualifier	Analytical Method
SWSP-02	8/30/2017	pH (field)	7.7	6.6-9.0	--		YSI-556 meter
		T (field)	9.3	<32.2	Deg. C		YSI-556 meter
		Specific Conductance (field)	0.068	--	mmohs/cm		YSI-556 meter
		DO (field)	9.3	>5.0	mg/L		YSI-556 meter
		E. coli	487	47	cfu/100 mL		SM 9223 B
		Total Suspended Solids	300	--	mg/L		SM 2540 D
		Total Dissolved Solids	55.7	1500	mg/L		SM 2540 C
		Total Kjeldhal Nitrogen	1.74	18.7	mg/L		EPA 351.2
		Nitrate + Nitrite	0.642	132	mg/L		EPA 353.2
		Phosphorous (dissolved)	0.205	--	mg/L		EPA 365.4
		Phosphorous (total)	0.799	--	mg/L		EPA 365.4
		Chemical Oxugen Demand	43.8	--	mg/L		EPA 410.4
		Biological Oxygen Demand	8	--	mg/L		SM 5210 B
		Gross Alpha	19.5	15	pCi/L		EPA 900.0
		PCBs	0.0358	0.00017	ug/L		EPA 1668 C
		Oil and grease	<1.20	15	mg/L		SM 9223 B
		SWSP-02	9/28/2017	pH (field)	8.25	6.6-9.0	--
T (field)	6.17			<32.2	Deg. C		YSI-556 meter
Specific Conductance (field)	0.096			--	mmohs/cm		YSI-556 meter
DO (field)	9.82			>5.0	mg/L		YSI-556 meter
E. coli	>24196			47	cfu/100 mL		SM 9223 B
Total Suspended Solids	140			--	mg/L		SM 2540 D
Total Dissolved Solids	91.4			1500	mg/L		SM 2540 C
Total Kjeldhal Nitrogen	1.32			9.8	mg/L		EPA 351.2
Nitrate + Nitrite	0.566			132	mg/L		EPA 353.2
Phosphorous (dissolved)	0.196			--	mg/L		EPA 365.4
Phosphorous (total)	0.387			--	mg/L		EPA 365.4
Chemical Oxugen Demand	60.7			--	mg/L		EPA 410.4
Biological Oxygen Demand	9			--	mg/L		SM 5210 B
Gross Alpha	5.5			15	pCi/L		EPA 900.0
PCBs	0.0159			0.00017	ug/L		EPA 1668 C
Oil and grease	<1.31			15	mg/L		SM 9223 B

Water Quality Results Since Inception of MS4 Permit Coverage

Sample Location	Sample Date	Analyte	Result	WQ Standard	Unit	Laboratory Qualifier	Analytical Method
SWSP-02	5/22/2018	pH (field)	6.63	6.6-9.0	--		YSI-556 meter
		T (field)	11.02	<32.2	Deg. C		YSI-556 meter
		Specific Conductance (field)	0.127	--	mmohs/cm		YSI-556 meter
		DO (field)	13.13	>5.0	mg/L		YSI-556 meter
		E. coli	548	47	cfu/100 mL		SM 9223 B
		Total Suspended Solids	337	--	mg/L		SM 2540 D
		Total Dissolved Solids	150	1500	mg/L		SM 2540 C
		Total Kjeldhal Nitrogen	3.62	49.4	mg/L		EPA 351.2
		Nitrate + Nitrite	1.19	132	mg/L		EPA 353.2
		Phosphorous (dissolved)	0.282	--	mg/L		EPA 365.4
		Phosphorous (total)	0.67	--	mg/L		EPA 365.4
		Chemical Oxugen Demand	103	--	mg/L		EPA 410.4
		Biological Oxygen Demand	34	--	mg/L		SM 5210 B
		Gross Alpha	19.1	15	pCi/L		EPA 900.0
SWSP-02	7/31/2018	PCBs	0.0084	0.00017	ug/L		EPA 1668 C
		Oil and grease	INS	15	mg/L		SM 9223 B
		pH (field)	7.85	6.6-9.0	--		YSI-556 meter
		T (field)	20.2	<32.2	Deg. C		YSI-556 meter
		Specific Conductance (field)	0.089	--	mmohs/cm		YSI-556 meter
		DO (field)	4.75	>5.0	mg/L		YSI-556 meter
		E. coli	1607	47	cfu/100 mL		SM 9223 B
		Total Suspended Solids	NS	--	mg/L		SM 2540 D
		Total Dissolved Solids	NS	1500	mg/L		SM 2540 C
		Total Kjeldhal Nitrogen	NS	15.4	mg/L		EPA 351.2
		Nitrate + Nitrite	NS	132	mg/L		EPA 353.2
		Phosphorous (dissolved)	NS	--	mg/L		EPA 365.4
		Phosphorous (total)	NS	--	mg/L		EPA 365.4
		Chemical Oxugen Demand	NS	--	mg/L		EPA 410.4
Biological Oxygen Demand	NS	--	mg/L		SM 5210 B		
Gross Alpha	30.2	15	pCi/L		EPA 900.0		
PCBs	NS	0.00017	ug/L		EPA 1668 C		
Oil and grease	NS	15	mg/L		SM 9223 B		

Water Quality Results Since Inception of MS4 Permit Coverage

Sample Location	Sample Date	Analyte	Result	WQ Standard	Unit	Laboratory Qualifier	Analytical Method
SWSP-02	9/20/2018	pH (field)	8.01	6.6-9.0	--		YSI-556 meter
		T (field)	7.32	<32.2	Deg. C		YSI-556 meter
		Specific Conductance (field)	0.122	--	mmohs/cm		YSI-556 meter
		DO (field)	27.7	>5.0	mg/L		YSI-556 meter
		E. coli	12033	47	cfu/100 mL		SM 9223 B
		Total Suspended Solids	138	--	mg/L		SM 2540 D
		Total Dissolved Solids	110	1500	mg/L		SM 2540 C
		Total Kjeldhal Nitrogen	2.23	12.6	mg/L		EPA 351.2
		Nitrate + Nitrite	0.653	132	mg/L		EPA 353.2
		Phosphorous (dissolved)	0.111	--	mg/L		EPA 365.4
		Phosphorous (total)	0.377	--	mg/L		EPA 365.4
		Chemical Oxugen Demand	79	--	mg/L		EPA 410.4
		Biological Oxygen Demand	23	--	mg/L		SM 5210 B
		Gross Alpha	11.2	15	pCi/L		EPA 900.0
		PCBs	0.0432	0.00017	ug/L		EPA 1668 C
		Oil and grease	1.35	15	mg/L		SM 9223 B
		SWSP-02	10/24/2018	pH (field)	5.83	6.6-9.0	--
T (field)	9.12			<32.2	Deg. C		YSI-556 meter
Specific Conductance (field)	0.074			--	mmohs/cm		YSI-556 meter
DO (field)	18.2			>5.0	mg/L		YSI-556 meter
E. coli	1046.2			47	cfu/100 mL		SM 9223 B
Total Suspended Solids	130			--	mg/L		SM 2540 D
Total Dissolved Solids	101			1500	mg/L		SM 2540 C
Total Kjeldhal Nitrogen	1.1			48.8	mg/L		EPA 351.2
Nitrate + Nitrite	0.619			132	mg/L		EPA 353.2
Phosphorous (dissolved)	0.0929			--	mg/L		EPA 365.4
Phosphorous (total)	0.257			--	mg/L		EPA 365.4
Chemical Oxugen Demand	45.9			--	mg/L		EPA 410.4
Biological Oxygen Demand	6			--	mg/L		SM 5210 B
Gross Alpha	6.8			15	pCi/L		EPA 900.0
PCBs	0.00748			0.00017	ug/L		EPA 1668 C
Oil and grease	<1.23			15	mg/L		SM 9223 B

Water Quality Results Since Inception of MS4 Permit Coverage

Sample Location	Sample Date	Analyte	Result	WQ Standard	Unit	Laboratory Qualifier	Analytical Method
SWSP-02	4/23/2019	pH (field)	7.74	6.6-9.0	--		YSI-556 meter
		T (field)	4.79	<32.2	Deg. C		YSI-556 meter
		Specific Conductance (field)	0.081	--	mmohs/cm		YSI-556 meter
		DO (field)	9.59	>5.0	mg/L		YSI-556 meter
		E. coli	NS	47	cfu/100 mL		SM 9223 B
		Total Suspended Solids	NS	--	mg/L		SM 2540 D
		Total Dissolved Solids	NS	1500	mg/L		SM 2540 C
		Total Kjeldhal Nitrogen	NS	48.8	mg/L		EPA 351.2
		Nitrate + Nitrite	NS	132	mg/L		EPA 353.2
		Phosphorous (dissolved)	NS	--	mg/L		EPA 365.4
		Phosphorous (total)	NS	--	mg/L		EPA 365.4
		Chemical Oxygen Demand	NS	--	mg/L		EPA 410.4
		Biological Oxygen Demand	NS	--	mg/L		SM 5210 B
		Gross Alpha	NS	15	pCi/L		EPA 900.0
		PCBs	NS	--	--		EPA 1668 C
		Oil and grease	NS	1.39	mg/L	15	J

--: No water quality standard applicable to this analyte

*: Recovery or %RPD not within acceptance limits and/or spike amount not compatible with the sample

** : Analyte is a surrogate compound

B: The analyte was found in the blank above the effective MDL.

J: Estimated value, the analyte concentration fell above the effective MDL and below the effective PQL

N: Results associated with a spike analysis that was outside control limits

U: The analyte was analyzed for but not detected below the detection limit (see Table 12-3, SWMPP Chapter 12)

HT: sample not analyzed due to hold time violation

INS: insufficient sample volume collected to submit to lab

NS: parameter intentionally not sampled

Water Quality Results Since Inception of MS4 Permit Coverage

Sample Location	Sample Date	Analyte	Result	WQ Standard	Unit	Laboratory Qualifier	Analytical Method
SWSP-05	8/1/2016	pH (field)	7.18	6.6-9.0	--		YSI-556 meter
		T (field)	7.67	<32.2	C		YSI-556 meter
		Specific Conductance (field)	0.221	--	mmohs/cm		YSI-556 meter
		DO (field)	9.29	>5.0	mg/L		YSI-556 meter
		E. coli	HT	47	cfu/100 mL		SM 9223 B
		Total Suspended Solids	25.4	--	mg/L		SM 2540 D
		Total Dissolved Solids	237	1500	mg/L		SM 2540 C
		Total Kjeldhal Nitrogen	4.38	33.7	mg/L		EPA 351.2
		Nitrate + Nitrite	2.85	132	mg/L		EPA 353.2
		Phosphorous (dissolved)	HT	--	mg/L		EPA 365.4
		Phosphorous (total)	0.337	--	mg/L		EPA 365.4
		Chemical Oxugen Demand	250	--	mg/L		EPA 410.4
		Biological Oxygen Demand	HT	--	mg/L		SM 5210 B
		Gross Alpha	0.85	15	pCi/L		EPA 900.0
		PCBs	0.000428	0.00017	ug/L		EPA 1668 C
		Oil and grease	1.33	15	mg/L		SM 9223 B
		SWSP-05	8/5/2016	pH (field)	8.58	6.6-9.0	--
T (field)	15.87			<32.2	C		YSI-556 meter
Specific Conductance (field)	0.117			--	mmohs/cm		YSI-556 meter
DO (field)	7.17			>5.0	mg/L		YSI-556 meter
E. coli	HT			47	cfu/100 mL		SM 9223 B
Total Suspended Solids	94.6			--	mg/L		SM 2540 D
Total Dissolved Solids	130			1500	mg/L		SM 2540 C
Total Kjeldhal Nitrogen	1.19			8.4	mg/L		EPA 351.2
Nitrate + Nitrite	0.608			132	mg/L		EPA 353.2
Phosphorous (dissolved)	0.101			--	mg/L		EPA 365.4
Phosphorous (total)	0.256			--	mg/L		EPA 365.4
Chemical Oxugen Demand	39			--	mg/L		EPA 410.4
Biological Oxygen Demand	HT			--	mg/L		SM 5210 B
Gross Alpha	7.49			15	pCi/L		EPA 900.0
PCBs	0.00127			0.00017	ug/L		EPA 1668 C
Oil and grease	<1.20			15	mg/L		SM 9223 B

Water Quality Results Since Inception of MS4 Permit Coverage

Sample Location	Sample Date	Analyte	Result	WQ Standard	Unit	Laboratory Qualifier	Analytical Method
SWSP-05	9/12/2016	pH (field)	8.87	6.6-9.0	--		YSI-556 meter
		T (field)	12.61	<32.2	C		YSI-556 meter
		Specific Conductance (field)	0.068	--	mmohs/cm		YSI-556 meter
		DO (field)	8.97	>5.0	mg/L		YSI-556 meter
		E. coli	HT	47	cfu/100 mL		SM 9223 B
		Total Suspended Solids	NS	--	mg/L		SM 2540 D
		Total Dissolved Solids	NS	1500	mg/L		SM 2540 C
		Total Kjeldhal Nitrogen	NS	8.7	mg/L		EPA 351.2
		Nitrate + Nitrite	NS	132	mg/L		EPA 353.2
		Phosphorous (dissolved)	0.0955	--	mg/L		EPA 365.4
		Phosphorous (total)	0.26	--	mg/L		EPA 365.4
		Chemical Oxugen Demand	NS	--	mg/L		EPA 410.4
		Biological Oxygen Demand	13	--	mg/L		SM 5210 B
		Gross Alpha	NS	15	pCi/L		EPA 900.0
		PCBs	NS	0.00017	ug/L		EPA 1668 C
		Oil and grease	NS	15	mg/L		SM 9223 B
		SWSP-05	11/22/2016	pH (field)	8.37	6.6-9.0	--
T (field)	7.5			<32.2	C		YSI-556 meter
Specific Conductance (field)	0.057			--	mmohs/cm		YSI-556 meter
DO (field)	3.68			>5.0	mg/L		YSI-556 meter
E. coli	3873			47	cfu/100 mL		SM 9223 B
Total Suspended Solids	53.7			--	mg/L		SM 2540 D
Total Dissolved Solids	103			1500	mg/L		SM 2540 C
Total Kjeldhal Nitrogen	0.46			9.0	mg/L		EPA 351.2
Nitrate + Nitrite	0.355			132	mg/L		EPA 353.2
Phosphorous (dissolved)	0.057			--	mg/L		EPA 365.4
Phosphorous (total)	0.262			--	mg/L		EPA 365.4
Chemical Oxugen Demand	58			--	mg/L		EPA 410.4
Biological Oxygen Demand	7			--	mg/L		SM 5210 B
Gross Alpha	12.9			15	pCi/L		EPA 900.0
PCBs	0.0098			0.00017	ug/L		EPA 1668 C
Oil and grease	<1.21			15	mg/L		SM 9223 B

Water Quality Results Since Inception of MS4 Permit Coverage

Sample Location	Sample Date	Analyte	Result	WQ Standard	Unit	Laboratory Qualifier	Analytical Method
SWSP-05	4/25/2017	pH (field)	7.09	6.6-9.0	--		YSI-556 meter
		T (field)	7.64	<32.2	C		YSI-556 meter
		Specific Conductance (field)	0.112	--	mmohs/cm		YSI-556 meter
		DO (field)	9.82	>5.0	mg/L		YSI-556 meter
		E. coli	2613	47	cfu/100 mL		SM 9223 B
		Total Suspended Solids	75	--	mg/L		SM 2540 D
		Total Dissolved Solids	116	1500	mg/L		SM 2540 C
		Total Kjeldhal Nitrogen	3.50	36.6	mg/L		EPA 351.2
		Nitrate + Nitrite	0.845	132	mg/L		EPA 353.2
		Phosphorous (dissolved)	0.189	--	mg/L		EPA 365.4
		Phosphorous (total)	0.358	--	mg/L		EPA 365.4
		Chemical Oxugen Demand	166	--	mg/L		EPA 410.4
		Biological Oxygen Demand	28	--	mg/L		SM 5210 B
		Gross Alpha	4.13	15	pCi/L		EPA 900.0
		PCBs	0.00215	0.00017	ug/L		EPA 1668 C
SWSP-05	8/1/2017	Oil and grease	<1.40	15	mg/L	U	SM 9223 B
		pH (field)	6.88	6.6-9.0	--		YSI-556 meter
		T (field)	5.7	<32.2	C		YSI-556 meter
		Specific Conductance (field)	0.084	--	mmohs/cm		YSI-556 meter
		DO (field)	10.42	>5.0	mg/L		YSI-556 meter
		E. coli	20	47	cfu/100 mL		SM 9223 B
		Total Suspended Solids	INS	--	mg/L		SM 2540 D
		Total Dissolved Solids	INS	1500	mg/L		SM 2540 C
		Total Kjeldhal Nitrogen	1.55	43.0	mg/L		EPA 351.2
		Nitrate + Nitrite	0.575	132	mg/L		EPA 353.2
		Phosphorous (dissolved)	0.153	--	mg/L		EPA 365.4
		Phosphorous (total)	INS	--	mg/L		EPA 365.4
		Chemical Oxugen Demand	INS	--	mg/L		EPA 410.4
		Biological Oxygen Demand	19	--	mg/L		SM 5210 B
		Gross Alpha	6.25	15	pCi/L		EPA 900.0
PCBs	0.000808	0.00017	ug/L		EPA 1668 C		
Oil and grease	INS	15	mg/L		SM 9223 B		

Water Quality Results Since Inception of MS4 Permit Coverage

Sample Location	Sample Date	Analyte	Result	WQ Standard	Unit	Laboratory Qualifier	Analytical Method
SWSP-05	5/22/2018	pH (field)	6.23	6.6-9.0	--		YSI-556 meter
		T (field)	10.08	<32.2	C		YSI-556 meter
		Specific Conductance (field)	0.076	--	mmohs/cm		YSI-556 meter
		DO (field)	13.99	>5.0	mg/L		YSI-556 meter
		E. coli	727	47	cfu/100 mL		SM 9223 B
		Total Suspended Solids	287	--	mg/L		SM 2540 D
		Total Dissolved Solids	151	1500	mg/L		SM 2540 C
		Total Kjeldhal Nitrogen	3.13	48.8	mg/L		EPA 351.2
		Nitrate + Nitrite	1.01	132	mg/L		EPA 353.2
		Phosphorous (dissolved)	0.207	--	mg/L		EPA 365.4
		Phosphorous (total)	0.534	--	mg/L		EPA 365.4
		Chemical Oxugen Demand	107	--	mg/L		EPA 410.4
		Biological Oxygen Demand	37	--	mg/L		SM 5210 B
		Gross Alpha	15.4	15	pCi/L		EPA 900.0
		PCBs	0.00479	0.00017	ug/L		EPA 1668 C
		Oil and grease	1.54	15	mg/L		SM 9223 B
		SWSP-05	7/31/2018	pH (field)	8.5	6.6-9.0	--
T (field)	8.37			<32.2	C		YSI-556 meter
Specific Conductance (field)	0.069			--	mmohs/cm		YSI-556 meter
DO (field)	8.51			>5.0	mg/L		YSI-556 meter
E. coli	813			47	cfu/100 mL		SM 9223 B
Total Suspended Solids	124			--	mg/L		SM 2540 D
Total Dissolved Solids	95.7			1500	mg/L		SM 2540 C
Total Kjeldhal Nitrogen	1.47			8.5	mg/L		EPA 351.2
Nitrate + Nitrite	0.696			132	mg/L		EPA 353.2
Phosphorous (dissolved)	0.0643			--	mg/L		EPA 365.4
Phosphorous (total)	0.267			--	mg/L		EPA 365.4
Chemical Oxugen Demand	75.2			--	mg/L		EPA 410.4
Biological Oxygen Demand	7			--	mg/L		SM 5210 B
Gross Alpha	9.42			15	pCi/L		EPA 900.0
PCBs	0.0122			0.00017	ug/L		EPA 1668 C
Oil and grease	<1.3			15	mg/L		SM 9223 B

Water Quality Results Since Inception of MS4 Permit Coverage

Sample Location	Sample Date	Analyte	Result	WQ Standard	Unit	Laboratory Qualifier	Analytical Method
SWSP-05	9/20/2018	pH (field)	8.17	6.6-9.0	--		YSI-556 meter
		T (field)	16.49	<32.2	C		YSI-556 meter
		Specific Conductance (field)	0.101	--	mmohs/cm		YSI-556 meter
		DO (field)	23.39	>5.0	mg/L		YSI-556 meter
		E. coli	110	47	cfu/100 mL		SM 9223 B
		Total Suspended Solids	79	--	mg/L		SM 2540 D
		Total Dissolved Solids	101	1500	mg/L		SM 2540 C
		Total Kjeldhal Nitrogen	2.25	10.6	mg/L		EPA 351.2
		Nitrate + Nitrite	0.725	132	mg/L		EPA 353.2
		Phosphorous (dissolved)	0.132	--	mg/L		EPA 365.4
		Phosphorous (total)	0.222	--	mg/L		EPA 365.4
		Chemical Oxugen Demand	106	--	mg/L		EPA 410.4
		Biological Oxygen Demand	25	--	mg/L		SM 5210 B
		Gross Alpha	6.85	15	pCi/L		EPA 900.0
		PCBs	0.00403	0.00017	ug/L		EPA 1668 C
Oil and grease	1.53	15	mg/L		SM 9223 B		
SWSP-05	10/24/2018	pH (field)	6.26	6.6-9.0	--		YSI-556 meter
		T (field)	10.44	<32.2	C		YSI-556 meter
		Specific Conductance (field)	0.077	--	mmohs/cm		YSI-556 meter
		DO (field)	18.79	>5.0	mg/L		YSI-556 meter
		E. coli	2419.6	47	cfu/100 mL		SM 9223 B
		Total Suspended Solids	41	--	mg/L		SM 2540 D
		Total Dissolved Solids	98.6	1500	mg/L		SM 2540 C
		Total Kjeldhal Nitrogen	1.07	48.8	mg/L		EPA 351.2
		Nitrate + Nitrite	0.491	132	mg/L		EPA 353.2
		Phosphorous (dissolved)	0.0668	--	mg/L		EPA 365.4
		Phosphorous (total)	0.146	--	mg/L		EPA 365.4
		Chemical Oxugen Demand	88.6	--	mg/L		EPA 410.4
		Biological Oxygen Demand	14	--	mg/L		SM 5210 B
		Gross Alpha	3.39	15	pCi/L		EPA 900.0
		PCBs	0.00245	0.00017	ug/L		EPA 1668 C
Oil and grease	1.3	15	mg/L		SM 9223 B		

Water Quality Results Since Inception of MS4 Permit Coverage

Sample Location	Sample Date	Analyte	Result	WQ Standard	Unit	Laboratory Qualifier	Analytical Method
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--: No water quality standard applicable to this analyte

*: Recovery or %RPD not within acceptance limits and/or spike amount not compatible with the sample

**.: Analyte is a surrogate compound

B: The analyte was found in the blank above the effective MDL

J: Estimated value, the analyte concentration fell above the effective MDL and below the effective PQL

N: Results associated with a spike analysis that was outside control limits

U: The analyte was analyzed for but not detected below the detection limit (see Table 12-3, SWMPP Chapter 12)

HT: sample not analyzed due to hold time violation

INS: insufficient sample volume collected to submit to lab

NS: parameter intentionally not sampled

Water Quality Results Since Inception of MS4 Permit Coverage

Sample Location	Sample Date	Analyte	Result	WQ Standard	Unit	Laboratory Qualifier	Analytical Method
SWSP-24	8/1/2016	pH (field)	7.21	6.6-9.0	--		YSI-556 meter
		T (field)	23.68	<32.2	C		YSI-556 meter
		Specific Conductance (field)	0.138	--	mmohs/cm		YSI-556 meter
		DO (field)	2.91	>5.0	mg/L		YSI-556 meter
		E. coli	HT	47	cfu/100 mL		SM 9223 B
		Total Suspended Solids	168	--	mg/L		SM 2540 D
		Total Dissolved Solids	137	1500	mg/L		SM 2540 C
		Total Kjeldhal Nitrogen	2.84	32.8	mg/L		EPA 351.2
		Nitrate + Nitrite	1.31	132	mg/L		EPA 353.2
		Phosphorous (dissolved)	HT	--	mg/L		EPA 365.4
		Phosphorous (total)	0.148	--	mg/L		EPA 365.4
		Chemical Oxugen Demand	176	--	mg/L		EPA 410.4
		Biological Oxygen Demand	HT	--	mg/L		SM 5210 B
		Gross Alpha	2.4	15	pCi/L		EPA 900.0
		PCBs	0.00369	0.00017	ug/L		EPA 1668 C
		Oil and grease	INS	15	mg/L		SM 9223 B
		SWSP-24	8/5/2016	pH (field)	8.57	6.6-9.0	--
T (field)	6.81			<32.2	C		YSI-556 meter
Specific Conductance (field)	0.044			--	mmohs/cm		YSI-556 meter
DO (field)	9.5			>5.0	mg/L		YSI-556 meter
E. coli	HT			47	cfu/100 mL		SM 9223 B
Total Suspended Solids	38.2			--	mg/L		SM 2540 D
Total Dissolved Solids	30			1500	mg/L		SM 2540 C
Total Kjeldhal Nitrogen	INS			8.4	mg/L		EPA 351.2
Nitrate + Nitrite	0.342			132	mg/L		EPA 353.2
Phosphorous (dissolved)	INS			--	mg/L		EPA 365.4
Phosphorous (total)	INS			--	mg/L		EPA 365.4
Chemical Oxugen Demand	INS			--	mg/L		EPA 410.4
Biological Oxygen Demand	INS			--	mg/L		SM 5210 B
Gross Alpha	0.77			15	pCi/L		EPA 900.0
PCBs	0.0109			0.00017	ug/L		EPA 1668 C
Oil and grease	<1.27			15	mg/L		SM 9223 B

Water Quality Results Since Inception of MS4 Permit Coverage

Sample Location	Sample Date	Analyte	Result	WQ Standard	Unit	Laboratory Qualifier	Analytical Method		
SWSP-24	8/1/2017	pH (field)	6.97	6.6-9.0	--		YSI-556 meter		
		T (field)	8.25	<32.2	C		YSI-556 meter		
		Specific Conductance (field)	0.074	--	mmohs/cm		YSI-556 meter		
		DO (field)	9.96	>5.0	mg/L		YSI-556 meter		
		E. coli	1274	47	cfu/100 mL		SM 9223 B		
		Total Suspended Solids	INS	--	mg/L		SM 2540 D		
		Total Dissolved Solids	INS	1500	mg/L		SM 2540 C		
		Total Kjeldhal Nitrogen	1.37	40.3	mg/L		EPA 351.2		
		Nitrate + Nitrite	INS	132	mg/L		EPA 353.2		
		Phosphorous (dissolved)	0.0607	--	mg/L		EPA 365.4		
		Phosphorous (total)	0.153	--	mg/L		EPA 365.4		
		Chemical Oxugen Demand	136	--	mg/L		EPA 410.4		
		Biological Oxygen Demand	14	--	mg/L		SM 5210 B		
		Gross Alpha	INS	15	pCi/L		EPA 900.0		
		PCBs	0.0129	0.00017	ug/L		EPA 1668 C		
		Oil and grease	INS	15	mg/L		SM 9223 B		
		SWSP-24	8/30/2017	pH (field)	8.32	6.6-9.0	--		YSI-556 meter
				T (field)	12.66	<32.2	C		YSI-556 meter
				Specific Conductance (field)	0.07	--	mmohs/cm		YSI-556 meter
				DO (field)	9.86	>5.0	mg/L		YSI-556 meter
E. coli	3654			47	cfu/100 mL		SM 9223 B		
Total Suspended Solids	182			--	mg/L		SM 2540 D		
Total Dissolved Solids	32.9			1500	mg/L		SM 2540 C		
Total Kjeldhal Nitrogen	1.26			9.3	mg/L		EPA 351.2		
Nitrate + Nitrite	0.607			132	mg/L		EPA 353.2		
Phosphorous (dissolved)	0.117			--	mg/L		EPA 365.4		
Phosphorous (total)	0.322			--	mg/L		EPA 365.4		
Chemical Oxugen Demand	50			--	mg/L		EPA 410.4		
Biological Oxygen Demand	6.7			--	mg/L		SM 5210 B		
Gross Alpha	10.1			15	pCi/L		EPA 900.0		
PCBs	0.01			0.00017	ug/L		EPA 1668 C		
Oil and grease	1.57			15	mg/L		SM 9223 B		

Water Quality Results Since Inception of MS4 Permit Coverage

Sample Location	Sample Date	Analyte	Result	WQ Standard	Unit	Laboratory Qualifier	Analytical Method
SWSP-24	9/28/2017	pH (field)	8.36	6.6-9.0	--		YSI-556 meter
		T (field)	6.58	<32.2	C		YSI-556 meter
		Specific Conductance (field)	0.053	--	mmohs/cm		YSI-556 meter
		DO (field)	10.31	>5.0	mg/L		YSI-556 meter
		E. coli	4611	47	cfu/100 mL		SM 9223 B
		Total Suspended Solids	98	--	mg/L		SM 2540 D
		Total Dissolved Solids	54.3	1500	mg/L		SM 2540 C
		Total Kjeldhal Nitrogen	0.84	9.0	mg/L		EPA 351.2
		Nitrate + Nitrite	0.288	132	mg/L		EPA 353.2
		Phosphorous (dissolved)	0.133	--	mg/L		EPA 365.4
		Phosphorous (total)	0.168	--	mg/L		EPA 365.4
		Chemical Oxugen Demand	86.2	--	mg/L		EPA 410.4
		Biological Oxygen Demand	8	--	mg/L		SM 5210 B
		Gross Alpha	5.98	15	pCi/L		EPA 900.0
		PCBs	0.0108	0.00017	ug/L		EPA 1668 C
		Oil and grease	2.5	15	mg/L		SM 9223 B
		SWSP-24	2/15/2018	pH (field)	7.94	6.6-9.0	--
T (field)	5.08			<32.2	C		YSI-556 meter
Specific Conductance (field)	0.116			--	mmohs/cm		YSI-556 meter
DO (field)	13.32			>5.0	mg/L		YSI-556 meter
E. coli	109			47	cfu/100 mL		SM 9223 B
Total Suspended Solids	18			--	mg/L		SM 2540 D
Total Dissolved Solids	116			1500	mg/L		SM 2540 C
Total Kjeldhal Nitrogen	1.69			13.8	mg/L		EPA 351.2
Nitrate + Nitrite	0.649			132	mg/L		EPA 353.2
Phosphorous (dissolved)	0.2			--	mg/L		EPA 365.4
Phosphorous (total)	0.236			--	mg/L		EPA 365.4
Chemical Oxugen Demand	139			--	mg/L		EPA 410.4
Biological Oxygen Demand	33			--	mg/L		SM 5210 B
Gross Alpha	0.196			15	pCi/L		EPA 900.0
PCBs	0.00286			0.00017	ug/L		EPA 1668 C
Oil and grease	1.56			15	mg/L		SM 9223 B

Water Quality Results Since Inception of MS4 Permit Coverage

Sample Location	Sample Date	Analyte	Result	WQ Standard	Unit	Laboratory Qualifier	Analytical Method
SWSP-24	5/22/2018	pH (field)	5.09	6.6-9.0	--		YSI-556 meter
		T (field)	13.35	<32.2	C		YSI-556 meter
		Specific Conductance (field)	0.114	--	mmohs/cm		YSI-556 meter
		DO (field)	9.43	>5.0	mg/L		YSI-556 meter
		E. coli	1354	47	cfu/100 mL		SM 9223 B
		Total Suspended Solids	208	--	mg/L		SM 2540 D
		Total Dissolved Solids	133	1500	mg/L		SM 2540 C
		Total Kjeldhal Nitrogen	3.53	48.8	mg/L		EPA 351.2
		Nitrate + Nitrite	0.779	132	mg/L		EPA 353.2
		Phosphorous (dissolved)	0.442	--	mg/L		EPA 365.4
		Phosphorous (total)	0.609	--	mg/L		EPA 365.4
		Chemical Oxugen Demand	131	--	mg/L		EPA 410.4
		Biological Oxygen Demand	43	--	mg/L		SM 5210 B
		Gross Alpha	12.1	15	pCi/L		EPA 900.0
		PCBs	0.0141	0.00017	ug/L		EPA 1668 C
		Oil and grease	2.54	15	mg/L		SM 9223 B
		SWSP-24	9/20/2018	pH (field)	8.05	6.6-9.0	--
T (field)	9.37			<32.2	C		YSI-556 meter
Specific Conductance (field)	0.089			--	mmohs/cm		YSI-556 meter
DO (field)	26.71			>5.0	mg/L		YSI-556 meter
E. coli	24196			47	cfu/100 mL		SM 9223 B
Total Suspended Solids	39			--	mg/L		SM 2540 D
Total Dissolved Solids	82.9			1500	mg/L		SM 2540 C
Total Kjeldhal Nitrogen	2.47			12.0	mg/L		EPA 351.2
Nitrate + Nitrite	0.78			132	mg/L		EPA 353.2
Phosphorous (dissolved)	0.108			--	mg/L		EPA 365.4
Phosphorous (total)	0.143			--	mg/L		EPA 365.4
Chemical Oxugen Demand	130			--	mg/L		EPA 410.4
Biological Oxygen Demand	24			--	mg/L		SM 5210 B
Gross Alpha	2.24			15	pCi/L		EPA 900.0
PCBs	0.00947			0.00017	ug/L		EPA 1668 C
Oil and grease	INS			15	mg/L		SM 9223 B

Water Quality Results Since Inception of MS4 Permit Coverage

Sample Location	Sample Date	Analyte	Result	WQ Standard	Unit	Laboratory Qualifier	Analytical Method
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--: No water quality standard applicable to this analyte

*: Recovery or %RPD not within acceptance limits and/or spike amount not compatible with the sample

** : Analyte is a surrogate compound.

B: The analyte was found in the blank above the effective MDL

J: Estimated value, the analyte concentration fell above the effective MDL and below the effective PQL

N: Results associated with a spike analysis that was outside control limits

U: The analyte was analyzed for but not detected below the detection limit (see Table 12-3, SWMPP Chapter 12)

HT: sample not analyzed due to hold time violation

INS: insufficient sample volume collected to submit to lab

NS: parameter intentionally not sampled

Water Quality Results Since Inception of MS4 Permit Coverage

Sample Location	Sample Date	Analyte	Result	WQ Standard	Unit	Laboratory Qualifier	Analytical Method
SWSP-35	8/1/2016	pH (field)	7.35	6.6-9.0	--		YSI-556 meter
		T (field)	12.82	<32.2	C		YSI-556 meter
		Specific Conductance (field)	0.119	--	mmohs/cm		YSI-556 meter
		DO (field)	6.29	>5.0	mg/L		YSI-556 meter
		E. coli	HT	47	cfu/100 mL		SM 9223 B
		Total Suspended Solids	12.4	--	mg/L		SM 2540 D
		Total Dissolved Solids	151	1500	mg/L		SM 2540 C
		Total Kjeldhal Nitrogen	2.81	28.4	mg/L		EPA 351.2
		Nitrate + Nitrite	1.71	132	mg/L		EPA 353.2
		Phosphorous (dissolved)	HT	--	mg/L		EPA 365.4
		Phosphorous (total)	0.139	--	mg/L		EPA 365.4
		Chemical Oxugen Demand	159	--	mg/L		EPA 410.4
		Biological Oxugen Demand	HT	--	mg/L		SM 5210 B
		Gross Alpha	0.498	15	pCi/L		EPA 900.0
		PCBs	0.00439	0.00017	ug/L		EPA 1668 C
Oil and grease	<1.24	15	mg/L		SM 9223 B		
SWSP-35	9/20/2018	pH (field)	8	6.6-9.0	--		YSI-556 meter
		T (field)	7.58	<32.2	C		YSI-556 meter
		Specific Conductance (field)	0.086	--	mmohs/cm		YSI-556 meter
		DO (field)	28.82	>5.0	mg/L		YSI-556 meter
		E. coli	110	47	cfu/100 mL		SM 9223 B
		Total Suspended Solids	28	--	mg/L		SM 2540 D
		Total Dissolved Solids	82.9	1500	mg/L		SM 2540 C
		Total Kjeldhal Nitrogen	2.43	12.8	mg/L		EPA 351.2
		Nitrate + Nitrite	0.942	132	mg/L		EPA 353.2
		Phosphorous (dissolved)	0.104	--	mg/L		EPA 365.4
		Phosphorous (total)	0.156	--	mg/L		EPA 365.4
		Chemical Oxugen Demand	126	--	mg/L		EPA 410.4
		Biological Oxugen Demand	25	--	mg/L		SM 5210 B
		Gross Alpha	1.67	15	pCi/L		EPA 900.0
		PCBs	0.00522	0.00017	ug/L		EPA 1668 C
Oil and grease	INS	15	mg/L		SM 9223 B		

Water Quality Results Since Inception of MS4 Permit Coverage

Sample Location	Sample Date	Analyte	Result	WQ Standard	Unit	Laboratory Qualifier	Analytical Method
SWSP-35	10/24/2018	pH (field)	5.05	6.6-9.0	--		YSI-556 meter
		T (field)	9.25	<32.2	C		YSI-556 meter
		Specific Conductance (field)	0.07	--	mmohs/cm		YSI-556 meter
		DO (field)	14.39	>5.0	mg/L		YSI-556 meter
		E. coli	4.1	48.8	cfu/100 mL		SM 9223 B
		Total Suspended Solids	25	--	mg/L		SM 2540 D
		Total Dissolved Solids	78.6	1500	mg/L		SM 2540 C
		Total Kjeldhal Nitrogen	1.18	48.8	mg/L		EPA 351.2
		Nitrate + Nitrite	0.745	132	mg/L		EPA 353.2
		Phosphorous (dissolved)	0.0551	--	mg/L		EPA 365.4
		Phosphorous (total)	0.101	--	mg/L		EPA 365.4
		Chemical Oxugen Demand	68.9	--	mg/L		EPA 410.4
		Biological Oxygen Demand	14	--	mg/L		SM 5210 B
		Gross Alpha	1.2	15	pCi/L		EPA 900.0
		PCBs	0.00254	0.00017	ug/L		EPA 1668 C
		Oil and grease	1.33	15	mg/L		SM 9223 B
SWSP-35	10/31/2018	pH (field)	9.01	6.6-9.0	--		YSI-556 meter
		T (field)	8	<32.2	C		YSI-556 meter
		Specific Conductance (field)	0.082	--	mmohs/cm		YSI-556 meter
		DO (field)	12.98	>5.0	mg/L		YSI-556 meter
		E. coli	4	47	cfu/100 mL		SM 9223 B
		Total Suspended Solids	27	--	mg/L		SM 2540 D
		Total Dissolved Solids	58.6	1500	mg/L		SM 2540 C
		Total Kjeldhal Nitrogen	1.18	9.1	mg/L		EPA 351.2
		Nitrate + Nitrite	0.795	132	mg/L		EPA 353.2
		Phosphorous (dissolved)	0.104	--	mg/L		EPA 365.4
		Phosphorous (total)	0.124	--	mg/L		EPA 365.4
		Chemical Oxugen Demand	85.5	--	mg/L		EPA 410.4
		Biological Oxygen Demand	23	--	mg/L		SM 5210 B
		Gross Alpha	5.31	15	pCi/L		EPA 900.0
		PCBs	0.00238	0.00017	ug/L		EPA 1668 C
		Oil and grease	1.7	15	mg/L		SM 9223 B

Water Quality Results Since Inception of MS4 Permit Coverage

Sample Location	Sample Date	Analyte	Result	WQ Standard	Unit	Laboratory Qualifier	Analytical Method
SWSP-35	4/18/2019	pH (field)	9.57	6.6-9.0	--		YSI-556 meter
		T (field)	9.09	<32.2	C		YSI-556 meter
		Specific Conductance (field)	0.085	--	mmohs/cm		YSI-556 meter
		DO (field)	10.83	>5.0	mg/L		YSI-556 meter
		E. coli	20	47	cfu/100 mL		SM 9223 B
		Total Suspended Solids	12	--	mg/L		SM 2540 D
		Total Dissolved Solids	72.9	1500	mg/L		SM 2540 C
		Total Kjeldhal Nitrogen	0.079	6.8	mg/L		EPA 351.2
		Nitrate + Nitrite	0.747	132	mg/L		EPA 353.2
		Phosphorous (dissolved)	0.0919	--	mg/L		EPA 365.4
		Phosphorous (total)	0.124	--	mg/L		EPA 365.4
		Chemical Oxygen Demand	267	--	mg/L		EPA 410.4
		Biological Oxygen Demand	17	--	mg/L		SM 5210 B
		Gross Alpha	1.58	15	pCi/L		EPA 900.0
		PCBs	0.00132	0.00017	ug/L		EPA 1668 C
		Oil and grease	3.15	15	mg/L		SM 9223 B
SWSP-35	4/23/2019	pH (field)	7.9	6.6-9.0	--		YSI-556 meter
		T (field)	3.52	<32.2	C		YSI-556 meter
		Specific Conductance (field)	0.049	--	mmohs/cm		YSI-556 meter
		DO (field)	10.02	>5.0	mg/L		YSI-556 meter
		E. coli	816.4	47	cfu/100 mL		SM 9223 B
		Total Suspended Solids	23.6	--	mg/L		SM 2540 D
		Total Dissolved Solids	14.3	1500	mg/L		SM 2540 C
		Total Kjeldhal Nitrogen	0.799	14.5	mg/L		EPA 351.2
		Nitrate + Nitrite	0.265	132	mg/L		EPA 353.2
		Phosphorous (dissolved)	0.0707	--	mg/L		EPA 365.4
		Phosphorous (total)	0.111	--	mg/L		EPA 365.4
		Chemical Oxygen Demand	62.8	--	mg/L		EPA 410.4
		Biological Oxygen Demand	19	--	mg/L		SM 5210 B
		Gross Alpha	<0.75	15	pCi/L		EPA 900.0
		PCBs	0.00627	0.00017	ug/L		EPA 1668 C
		Oil and grease	<1.33	15	mg/L		SM 9223 B

Water Quality Results Since Inception of MS4 Permit Coverage

Sample Location	Sample Date	Analyte	Result	WQ Standard	Unit	Laboratory Qualifier	Analytical Method
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--: No water quality standard applicable to this analyte

*: Recovery or %RPD not within acceptance limits and/or spike amount not compatible with the sample

**.: Analyte is a surrogate compound

B: The analyte was found in the blank above the effective MDL

J: Estimated value, the analyte concentration fell above the effective MDL and below the effective PQL

N: Results associated with a spike analysis that was outside control limits

U: The analyte was analyzed for but not detected below the detection limit (see Table 12-3, SWMPP Chapter 12)

HT: sample not analyzed due to hold time violation

INS: insufficient sample volume collected to submit to lab

NS: parameter intentionally not sampled

Water Quality Results Since Inception of MS4 Permit Coverage

Sample Location	Sample Date	Analyte	Result	WQ Standard	Unit	Laboratory Qualifier	Analytical Method
SWSP-36	8/1/2016	pH (field)	7.21	6.6-9.0	--		YSI-556 meter
		T (field)	16.85	<32.2	C		YSI-556 meter
		Specific Conductance (field)	0.128	--	mmohs/cm		YSI-556 meter
		DO (field)	5.72	>5.0	mg/L		YSI-556 meter
		E. coli	HT	47	cfu/100 mL		SM 9223 B
		Total Suspended Solids	21.7	--	mg/L		SM 2540 D
		Total Dissolved Solids	137	1500	mg/L		SM 2540 C
		Total Kjeldhal Nitrogen	3.56	32.8	mg/L		EPA 351.2
		Nitrate + Nitrite	1.64	132	mg/L		EPA 353.2
		Phosphorous (dissolved)	HT	--	mg/L		EPA 365.4
		Phosphorous (total)	0.192	--	mg/L		EPA 365.4
		Chemical Oxugen Demand	204	--	mg/L		EPA 410.4
		Biological Oxygen Demand	HT	--	mg/L		SM 5210 B
		Gross Alpha	0.44	15	pCi/L		EPA 900.0
		PCBs	0.00264	0.00017	ug/L		EPA 1668 C
		Oil and grease	1.42	15	mg/L		SM 9223 B
SWSP-36	11/22/2016	pH (field)	8.1	6.6-9.0	--		YSI-556 meter
		T (field)	7.3	<32.2	C		YSI-556 meter
		Specific Conductance (field)	0.051	--	mmohs/cm		YSI-556 meter
		DO (field)	4.02	>5.0	mg/L		YSI-556 meter
		E. coli	517.2	47	cfu/100 mL		SM 9223 B
		Total Suspended Solids	27	--	mg/L		SM 2540 D
		Total Dissolved Solids	64.3	1500	mg/L		SM 2540 C
		Total Kjeldhal Nitrogen	0.393	11.4	mg/L		EPA 351.2
		Nitrate + Nitrite	0.369	132	mg/L		EPA 353.2
		Phosphorous (dissolved)	0.0265	--	mg/L		EPA 365.4
		Phosphorous (total)	0.129	--	mg/L		EPA 365.4
		Chemical Oxugen Demand	50.1	--	mg/L		EPA 410.4
		Biological Oxygen Demand	10	--	mg/L		SM 5210 B
		Gross Alpha	4.81	15	pCi/L		EPA 900.0
		PCBs	0.00322	0.00017	ug/L		EPA 1668 C
		Oil and grease	2.18	15	mg/L		SM 9223 B

Water Quality Results Since Inception of MS4 Permit Coverage

Sample Location	Sample Date	Analyte	Result	WQ Standard	Unit	Laboratory Qualifier	Analytical Method
SWSP-36	1/16/2017	pH (field)	8.92	6.6-9.0	--		YSI-556 meter
		T (field)	10.95	<32.2	C		YSI-556 meter
		Specific Conductance (field)	0.149	--	mmohs/cm		YSI-556 meter
		DO (field)	11.35	>5.0	mg/L		YSI-556 meter
		E. coli	1553.1	47	cfu/100 mL		SM 9223 B
		Total Suspended Solids	29.3	--	mg/L		SM 2540 D
		Total Dissolved Solids	72.9	1500	mg/L		SM 2540 C
		Total Kjeldhal Nitrogen	1.37	8.9	mg/L		EPA 351.2
		Nitrate + Nitrite	0.541	132	mg/L		EPA 353.2
		Phosphorous (dissolved)	0.0495	--	mg/L		EPA 365.4
		Phosphorous (total)	0.0869	--	mg/L		EPA 365.4
		Chemical Oxugen Demand	74.6	--	mg/L		EPA 410.4
		Biological Oxygen Demand	16	--	mg/L		SM 5210 B
		Gross Alpha	6.82	15	pCi/L		EPA 900.0
		PCBs	0.00208	0.00017	ug/L		EPA 1668 C
		Oil and grease	2.12	15	mg/L		SM 9223 B
		SWSP-36	4/25/2017	pH (field)	7.52	6.6-9.0	--
T (field)	6.49			<32.2	C		YSI-556 meter
Specific Conductance (field)	0.079			--	mmohs/cm		YSI-556 meter
DO (field)	10.36			>5.0	mg/L		YSI-556 meter
E. coli	331			47	cfu/100 mL		SM 9223 B
Total Suspended Solids	32			--	mg/L		SM 2540 D
Total Dissolved Solids	92.9			1500	mg/L		SM 2540 C
Total Kjeldhal Nitrogen	1.95			23.4	mg/L		EPA 351.2
Nitrate + Nitrite	0.612			132	mg/L		EPA 353.2
Phosphorous (dissolved)	0.126			--	mg/L		EPA 365.4
Phosphorous (total)	0.173			--	mg/L		EPA 365.4
Chemical Oxugen Demand	105			--	mg/L		EPA 410.4
Biological Oxygen Demand	18			--	mg/L		SM 5210 B
Gross Alpha	1.53			15	pCi/L		EPA 900.0
PCBs	0.00191			0.00017	ug/L		EPA 1668 C
Oil and grease	1.33			15	mg/L		SM 9223 B

Water Quality Results Since Inception of MS4 Permit Coverage

Sample Location	Sample Date	Analyte	Result	WQ Standard	Unit	Laboratory Qualifier	Analytical Method
SWSP-36	8/1/2017	pH (field)	7.02	6.6-9.0	--		YSI-556 meter
		T (field)	13.38	<32.2	C		YSI-556 meter
		Specific Conductance (field)	0.06	--	mmohs/cm		YSI-556 meter
		DO (field)	7.79	>5.0	mg/L		YSI-556 meter
		E. coli	365.4	47	cfu/100 mL		SM 9223 B
		Total Suspended Solids	36	--	mg/L		SM 2540 D
		Total Dissolved Solids	58.6	1500	mg/L		SM 2540 C
		Total Kjeldhal Nitrogen	0.7	38.8	mg/L		EPA 351.2
		Nitrate + Nitrite	0.567	132	mg/L		EPA 353.2
		Phosphorous (dissolved)	0.0468	--	mg/L		EPA 365.4
		Phosphorous (total)	0.0429	--	mg/L		EPA 365.4
		Chemical Oxugen Demand	80.3	--	mg/L		EPA 410.4
		Biological Oxygen Demand	18	--	mg/L		SM 5210 B
		Gross Alpha	2.98	15	pCi/L		EPA 900.0
		PCBs	0.00358	0.00017	ug/L		EPA 1668 C
		SWSP-36	8/30/2017	Oil and grease	1.54	15	mg/L
pH (field)	9.3			6.6-9.0	--		YSI-556 meter
T (field)	17.94			<32.2	C		YSI-556 meter
Specific Conductance (field)	0.125			--	mmohs/cm		YSI-556 meter
DO (field)	8.23			>5.0	mg/L		YSI-556 meter
E. coli	602			47	cfu/100 mL		SM 9223 B
Total Suspended Solids	INS			--	mg/L		SM 2540 D
Total Dissolved Solids	INS			1500	mg/L		SM 2540 C
Total Kjeldhal Nitrogen	0.943			9.1	mg/L		EPA 351.2
Nitrate + Nitrite	0.663			132	mg/L		EPA 353.2
Phosphorous (dissolved)	INS			--	mg/L		EPA 365.4
Phosphorous (total)	0.31			--	mg/L		EPA 365.4
Chemical Oxugen Demand	84.7			--	mg/L		EPA 410.4
Biological Oxygen Demand	6			--	mg/L		SM 5210 B
Gross Alpha	1.19			15	pCi/L		EPA 900.0
PCBs	INS			0.00017	ug/L		EPA 1668 C
Oil and grease	INS	15	mg/L		SM 9223 B		

Water Quality Results Since Inception of MS4 Permit Coverage

Sample Location	Sample Date	Analyte	Result	WQ Standard	Unit	Laboratory Qualifier	Analytical Method
SWSP-36	9/28/2017	pH (field)	8.55	6.6-9.0	--		YSI-556 meter
		T (field)	9.55	<32.2	C		YSI-556 meter
		Specific Conductance (field)	0.051	--	mmohs/cm		YSI-556 meter
		DO (field)	8.97	>5.0	mg/L		YSI-556 meter
		E. coli	145	47	cfu/100 mL		SM 9223 B
		Total Suspended Solids	42	--	mg/L		SM 2540 D
		Total Dissolved Solids	34.3	1500	mg/L		SM 2540 C
		Total Kjeldhal Nitrogen	0.783	8.4	mg/L		EPA 351.2
		Nitrate + Nitrite	0.331	132	mg/L		EPA 353.2
		Phosphorous (dissolved)	0.0587	--	mg/L		EPA 365.4
		Phosphorous (total)	0.127	--	mg/L		EPA 365.4
		Chemical Oxugen Demand	78.3	--	mg/L		EPA 410.4
		Biological Oxygen Demand	16	--	mg/L		SM 5210 B
		Gross Alpha	3.31	15	pCi/L		EPA 900.0
		PCBs	0.0121	0.00017	ug/L		EPA 1668 C
		Oil and grease	3.52	15	mg/L		SM 9223 B
		SWSP-36	7/31/2018	pH (field)	8.9	6.6-9.0	--
T (field)	17.55			<32.2	C		YSI-556 meter
Specific Conductance (field)	0.074			--	mmohs/cm		YSI-556 meter
DO (field)	6.92			>5.0	mg/L		YSI-556 meter
E. coli	11			47	cfu/100 mL		SM 9223 B
Total Suspended Solids	INS			--	mg/L		SM 2540 D
Total Dissolved Solids	INS			1500	mg/L		SM 2540 C
Total Kjeldhal Nitrogen	INS			8.8	mg/L		EPA 351.2
Nitrate + Nitrite	0.664			132	mg/L		EPA 353.2
Phosphorous (dissolved)	INS			--	mg/L		EPA 365.4
Phosphorous (total)	INS			--	mg/L		EPA 365.4
Chemical Oxugen Demand	INS			--	mg/L		EPA 410.4
Biological Oxygen Demand	9			--	mg/L		SM 5210 B
Gross Alpha	4.34			15	pCi/L		EPA 900.0
PCBs	0.00805			0.00017	ug/L		EPA 1668 C
Oil and grease	INS			15	mg/L		SM 9223 B

Water Quality Results Since Inception of MS4 Permit Coverage

Sample Location	Sample Date	Analyte	Result	WQ Standard	Unit	Laboratory Qualifier	Analytical Method
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--: No water quality standard applicable to this analyte

*: Recovery or %RPD not within acceptance limits and/or spike amount not compatible with the sample

**.: Analyte is a surrogate compound

B: The analyte was found in the blank above the effective MDL

J: Estimated value, the analyte concentration fell above the effective MDL and below the effective PQL

N: Results associated with a spike analysis that was outside control limits

U: The analyte was analyzed for but not detected below the detection limit (see Table 12-3, SWMPP Chapter 12)

HT: sample not analyzed due to hold time violation

INS: insufficient sample volume collected to submit to lab

NS: parameter intentionally not sampled