

Revised Designation Decision and Record of Decision in Response to A Petition by Amigos Bravos for a Determination that Stormwater Discharges in Los Alamos County Contribute to Water Quality Standards Violations and Require Clean Water Act Permit Coverage

Summary of Petition, Procedural History, and Region 6 Revised Designation

On June 30, 2014, Amigos Bravos, a river conservation organization in New Mexico, submitted to the Regional Administrator of EPA Region 6 (EPA) “A Petition by Amigos Bravos for a Determination that Stormwater Discharges in Los Alamos County Contribute to Water Quality Standards Violations and Require a Clean Water Act Permit” (Petition). See Appendix 1- Petition. The Petition calls for a “determination, pursuant to 40 CFR § 122.26(a)(9)(i)(D), that non-de minimis, currently non-NPDES permitted stormwater discharges in Los Alamos County are contributing to violations¹ of water quality standards in certain impaired waters throughout the area, and therefore require National Pollutant Discharge Elimination System (NPDES) permits pursuant to section 402(p) of the Clean Water Act (CWA) and/or designation as a municipal separate storm sewer system.” Petition at 1.

The Petition alleges that urban stormwater from Los Alamos County sites, particularly urban stormwater from developed areas at Los Alamos National Laboratory (LANL), the Los Alamos Townsite, and the community of White Rock (White Rock), is contributing to violations of New Mexico state water quality standards (NM WQS), including NM WQS for polychlorinated biphenyls (PCBs), copper, zinc, and nickel, and that as a result, discharges from these sites should be subject to NPDES permitting requirements. CWA §§ 402(p)(2)(E) and (p)(6) and EPA’s stormwater regulations at 40 CFR § 122.26(a)(9)(i)(D) provide that the Director may designate stormwater discharges as requiring NPDES permit coverage if he or she determines that the discharge, or category of discharges within a geographic area, contributes to a violation of a water quality standard (WQS) or is a significant contributor of pollutants to “waters of the United States.” Pursuant to 40 C.F.R. § 122.2, “[w]hen there is no ‘approved State program,’ meaning the program is administered by EPA, ‘Director’ means the Regional Administrator.” Because the State of New Mexico is not authorized to implement the NPDES program, EPA Region 6 administers the NPDES program in the State. In response to the Petition, the Incorporated County of Los Alamos (the County) and LANL submitted to EPA additional information and data related to stormwater discharges in Los Alamos County on November 4, 2014, and November 24, 2014, respectively.

¹ The CWA uses the term “violation,” but EPA acknowledges that under the CWA, WQS are not directly enforceable. In this document, EPA uses the term “violation” to refer to an exceedance of WQS.

The water quality sampling results detailed in the 2011-2014 and 2015 BDD Reports provide evidence of stormwater flows from the Pajarito Plateau traveling through the Los Alamos and Pueblos Canyons to the Rio Grande. The sampling results from storm events during the 2011 Las Conchas fire are particularly strong evidence of pollutants from the Pajarito Plateau reaching the river. The Las Conchas fire, the largest wildfire in New Mexico history, started on the Pajarito Plateau about 5.5 miles west of the Bandelier National Monument and burned a total of 154,349 acres, threatening the Los Alamos Townsite and LANL.⁵¹ As discussed above, the 2011-2014 BDD Report found that the fire on the Plateau played an important role in mobilizing contaminants in the Los Alamos Canyon/Pueblo Canyon watershed and transporting them through the Pueblo and Los Alamos Canyons to the Rio Grande and the BDD diversion, and that the water quality effects of this fire to the Rio Grande watershed were significant. Because the Los Alamos and Pueblo Canyons and their tributaries are discrete conveyances carrying pollutants from the MS4s to the Rio Grande, the canyons are point sources.

In conclusion, based on EPA's field observations on September 21-22, 2022, including its analysis of remote sensing data, and its analysis of LANL Surface Water Data, the BDD Reports, and flow data provided by NMED, EPA finds that the canyons leading from the Pajarito Plateau to the Rio Grande serve as discrete conveyances, i.e., point sources, that carry stormwater containing pollutants of concern from MS4s in the Los Alamos Urban Area and LANL to the Rio Grande. Because those stormwater discharges exceed applicable WQS for certain pollutants of concern when they are discharged by the MS4s to the canyons, and the Rio Grande is a traditional navigable water (i.e., water of the US) impaired for some of the same pollutants of concern, EPA finds that those stormwater discharges contribute to WQS violations.

Designation Decision

Based on the above, EPA determines that stormwater discharges from MS4s located in the Los Alamos Urban Area as defined by the latest decennial Census⁵² and on LANL property within Los Alamos and Santa Fe Counties contribute to violations of NM WQS. Therefore, under the authority of CWA § 402(p)(2)(E), (p)(6), and 40 C.F.R. § 122.26(a)(9)(i)(D), EPA designates these stormwater discharges for NPDES permit coverage. EPA finds there are insufficient data to determine that discharges of stormwater from the community of White Rock contribute to any violations of NM WQS. Therefore, EPA is not designating those discharges as requiring NPDES permit coverage.



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EPA, Region 6

Dated: 12/09/2024

⁵¹ <https://www.nps.gov/band/learn/nature/lasconchas.htm>.

⁵² Because the boundary of the Los Alamos Urban Area will update with each decennial Census, EPA is designating the Los Alamos Urban Area based on the latest decennial Census. This approach, under which future changes to the Los Alamos Urban Area are included in this Designation, is consistent with the approach used by EPA for automatic designation of small MS4s under 40 CFR 122.32(a)(1), as well as with the CWA 402(p)(6) requirement that EPA designate stormwater discharges, other than those discharges designated by regulation "to protect water quality."

After careful review of the Petition and the additional information provided by the County and LANL, as well as review of the State of New Mexico's assessment of water quality in the area, on March 17, 2015, EPA Region 6 published notice in the *Federal Register* (80 FR 13852) of a determination that discharges of stormwater from small municipal separate storm sewer systems (MS4s) on LANL property and urban portions of Los Alamos County contribute to violations of one or more NM WQS. EPA determined that there were insufficient data about the stormwater discharges from White Rock to establish that stormwater discharges from White Rock contribute to WQS violations. The notice opened a 30-day public comment period on the designation decision, ending April 16, 2015, which EPA later extended by an additional 60 days to June 15, 2015.

Based on comments received on the designation decision from interested parties, EPA re-analyzed the data and re-examined its determination that the discharges of urban stormwater contribute to violations of WQS. EPA's re-examination of its designation decision included consideration of a letter from the New Mexico Environment Department (NMED) to EPA dated October 18, 2019, stating that NMED supports the MS4 designations for the discharges at issue.² In the letter, NMED stated that studies conducted by both LANL and NMED have confirmed that "elevated levels of metals and PCBs are contained in urban stormwater leaving the impervious areas of LANL and the County." 2019 NMED Letter at 1. NMED also expressed concern about the impacts of these stormwater discharges from the Los Alamos area on water quality in the Rio Grande, which is a drinking water source for both the City of Santa Fe and the City of Albuquerque and is also used for irrigation. *Id.* at 1.

On December 16, 2019, EPA issued its final decision, designating for NPDES permitting stormwater discharges from small MS4s operated by the County, LANL, and the New Mexico Department of Transportation (NMDOT). The County filed a petition for review with EPA's Environmental Appeals Board; the Board subsequently granted EPA's motion to dismiss the County's petition for review for lack of jurisdiction. The County then filed a petition for review with the U.S. Court of Appeals for the Tenth Circuit, which EPA also moved to dismiss for lack of jurisdiction. The Court deferred ruling on EPA's motion to dismiss to the merits panel and the parties proceeded to brief the merits of the challenge. In the County's opening brief, it asked the Court to remand the matter to EPA considering the Supreme Court's intervening decision in *County of Maui v. Hawaii Wildlife Fund*, 140 S. Ct. 1462 (2020) (*Maui*). EPA then filed a motion for voluntary remand to reconsider its response to the Petition considering the Supreme Court's decision in *Maui* and based on other relevant factors. On January 21, 2022, the Court granted EPA's motion, remanding the matter to EPA "for the limited purpose of reconsidering the EPA's decision that is the subject of this petition for review. Specifically, the EPA should reconsider its decision in light of the Supreme Court's decision in *County of Maui v. Hawaii Wildlife Fund*, 140 S. Ct. 1462 (2020). The EPA may conduct any and all proceedings it deems necessary and appropriate to reconsider the decision at issue in this case." Order, United States Court of Appeals, Tenth Circuit, January 21, 2022, Case # 20-9534, at 2. See Appendix 2 - Remand Order.

In response to the remand, EPA technical field staff visited Los Alamos County in September 2022 to examine first-hand the discharges and waters at issue to ensure a more complete understanding of the flow of stormwater off the Pajarito Plateau and its path downstream through the canyons to the Rio

² Letter from NMED Secretary James C. Kenney to EPA Region 6 Regional Administrator Ken McQueen dated October 18, 2019, superseding NMED letter dated June 15, 2015, which had not supported designation. (2019 NMED Letter).

Grande. Using a variety of tools, including sensing-using mapping tools, first-hand observation, and the collection of monitoring data, EPA evaluated the canyon surface waters' status as "waters of the United States" and their potential to transport stormwater to the Rio Grande. A written report documenting EPA's evaluation of the Los Alamos County canyons surface waters' status as "waters of the United States" is included in this Revised Designation Decision as Appendix 5: *Clean Water Act Jurisdictional Analysis of the Waters of Los Alamos County*. EPA used the data and information collected for this report to reconsider its prior decision, particularly considering the Supreme Court's decision in *Maui* and the subsequent Supreme Court decision in *Sackett v. EPA*, 598 U.S. 651, 143 S. Ct. 1322 (2023) (*Sackett*). In reconsidering its prior decision, EPA also carefully reconsidered all record information, including stormwater discharge data collected by NMED, LANL, and the Buckman Direct Diversion (BDD), NMED's water quality assessments and lists of impaired waters and any supplemental information submitted by LANL or the County regarding EPA's previous 2019 designation decision, as well as the public comments submitted on that decision. To ensure as broad a record as possible on which to base its reconsideration of its prior decision, EPA also exercised its discretion to propose its revised designation determination for public comment. Notice of EPA's Initial Revised Designation Decision was published in the Federal Register on Friday, December 1, 2023, for a 90-day comment period, which ended on February 29, 2024. EPA held a virtual public hearing on its Initial Revised Designation Decision on February 13, 2024. See Appendix 3 - Initial Revised Designation Decision and Appendix 4 – Federal Register Notice of Initial Revised Designation Decision. See also Appendix 6 - EPA's Response to Comments on Initial Revised Designation Decision, with Attachment A – EPA's Response to Comments on 2019 Designation Decision.

After careful reconsideration of its 2019 Designation Decision, in addition to additional data and information obtained consistent with the remand order and all comments received, EPA determines that stormwater discharges from small MS4s located in the Los Alamos Urban Area as defined by the latest decennial Census and MS4s located on LANL property within Los Alamos and Santa Fe Counties, New Mexico (the discharges) require NPDES permit coverage because the discharges are contributing to violations of NM WQS in "waters of the United States." See Appendix 8 - Map of Designated Areas. EPA determines that there are insufficient data to support designation of stormwater discharges from MS4s located in the community of White Rock as requiring permit coverage at this time. The designated stormwater discharge area includes MS4s operated by the County, LANL, and NMDOT.

Based on its re-review of data and information underlying its 2019 Designation Decision and its review of additional data and information obtained consistent with the Remand Order and all comments received, EPA has determined that the discharges contribute to WQS violations based on two separate and independently applicable rationales. First, the discharges contribute to WQS violations in the receiving canyon waters identified as jurisdictional (i.e., "waters of the United States") in the *Clean Water Act Jurisdictional Analysis of the Waters of Los Alamos County* because the discharges exceed WQS when they leave the MS4s and enter the canyon waters. Those identified receiving canyon waters are "waters of the United States" because they are tributaries of the Rio Grande, a traditional navigable water, that are relatively permanent, standing, or continuously flowing bodies of water. See Appendix 5: *Clean Water Act Jurisdictional Analysis of the Waters of Los Alamos County*. Those canyon waters are impaired (i.e., they have no remaining assimilative capacity) because they already exceed applicable WQS for some of the same pollutants for which the discharges exceed WQS when they leave the MS4s. Second, in the alternative, the discharges contribute to WQS violations in the Rio Grande because the discharges exceed applicable WQS when they leave the MS4s and enter the

canyons, which serve as discrete conveyances, i.e., point sources, carrying the stormwater to the Rio Grande. The Rio Grande is a “water of the United States” because it is a traditional navigable water. The Rio Grande is impaired for some of the same pollutants for which the discharges exceed WQS when they leave the MS4s. Either of these two alternative bases would be independently sufficient for EPA to determine that the discharges contribute to a WQS violation in a “water of the United States” and thus designate the discharges from the small MS4s operated by LANL, the County, and NMDOT for NPDES permitting.

EPA also finds that the U.S. Supreme Court’s decision in *Maui* is not relevant to this Revised Designation Decision for a number of reasons, including that, as noted above, discharges from the designated MS4s are directly to “waters of the United States” (i.e., the canyon waters identified in Appendix 5) or, in the alternative, to conveyances (i.e., the canyon waters identified in Appendix 5) that discharge directly to “waters of the United States.”³ The discharge at issue in *Maui* was a discharge from a point source indirectly to a “water of the United States” through groundwater. There is thus no need to evaluate whether the discharges from the designated MS4s in this case are the “functional equivalent” of direct discharges under *Maui*.

Background

Polluted stormwater is commonly transported through MS4s and then discharged, untreated, into local water bodies. To prevent pollutants from being washed or dumped into MS4s and then discharged to “waters of the United States,” the CWA and federal implementing regulations require EPA and authorized states to regulate these stormwater discharges through the issuance of NPDES permits to large, medium, and certain small MS4s, as defined under the regulations. See CWA § 402(p) and 40 C.F.R. §§ 122.26 (a)(1), 122.26 (b)(4)(7) & (16) and 122.32. In addition, EPA and authorized states may, under certain circumstances, designate additional stormwater discharges for permitting on a case-by-case basis (often referred to as residual designation authority). See CWA § 402(p)(2)(E) and (6); 40 C.F.R. §122.26(a)(9)(i)(C) and (D). Any person may petition EPA or an authorized state to use its residual designation authority to require an NPDES permit for a stormwater discharge that contributes to a violation of a water quality standard or is a significant contributor of pollutants to “waters of the United States.” See 40 C.F.R. § 122.26(f)(2). In response to the Petition filed in this matter and pursuant to its authority under 40 C.F.R. § 122.26(a)(9)(i)(D), EPA Region 6 is, through this action, designating for NPDES permit coverage stormwater discharges from certain small MS4s in Los Alamos County.

Los Alamos County

Los Alamos County is in north-central New Mexico, approximately 60 miles north-northeast of Albuquerque and 25 miles northwest of Santa Fe.⁴ The main population center is the Los Alamos Townsite, which is delineated as a Census Designated Place (CDP) by the U.S. Census Bureau. A CDP is a statistical geography representing closely settled unincorporated communities that are locally

³ “[D]iscernible, confined and discrete conveyance[s]” are “point sources” under the Act. CWA § 502(14) “[t]he term ‘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, or vessel or other floating craft, from which pollutants are or may be discharged.”

⁴ Los Alamos National Laboratory, Los Alamos National Annual Site Laboratory Environmental Report 2021, 1-4 (2021) (LA-UR-22-29103). (LANL 2021 Site Environmental Report).

recognized and identified by name.⁵ According to the 2020 Census, the population of the Los Alamos CDP is 13,179.⁶ The other densely populated area in Los Alamos County is White Rock, which is also delineated as a CDP, with a population of 5,852.⁷ LANL is also located in Los Alamos County, although a small portion of LANL property extends east into Santa Fe County, New Mexico. The Los Alamos Townsite, White Rock, and LANL all sit on the upland mesas of the Pajarito Plateau, the high tableland that lies between the Jemez Mountains to the west and the Rio Grande to the east. The Pajarito Plateau formed over a million years ago from consolidated ash turf deposited during massive volcanic eruptions. Subsequent erosion has created abrupt, deep canyons separating long, narrow upland mesas. The canyons run from the Plateau's upland mesas east to the Rio Grande below. LANL 2021 Environmental Report, 1-4 and 1-7.

Stormwater from MS4s located in the portion of the Los Alamos Townsite defined as the Los Alamos Urban Area in the 2020 Census, White Rock, and LANL property within Los Alamos and Santa Fe Counties (the MS4s) flows off the Plateau's upland mesas into various canyons leading to the Rio Grande. See Figure 1. Some of the stormwater travels through the waters in the canyons and reaches the Rio Grande below.

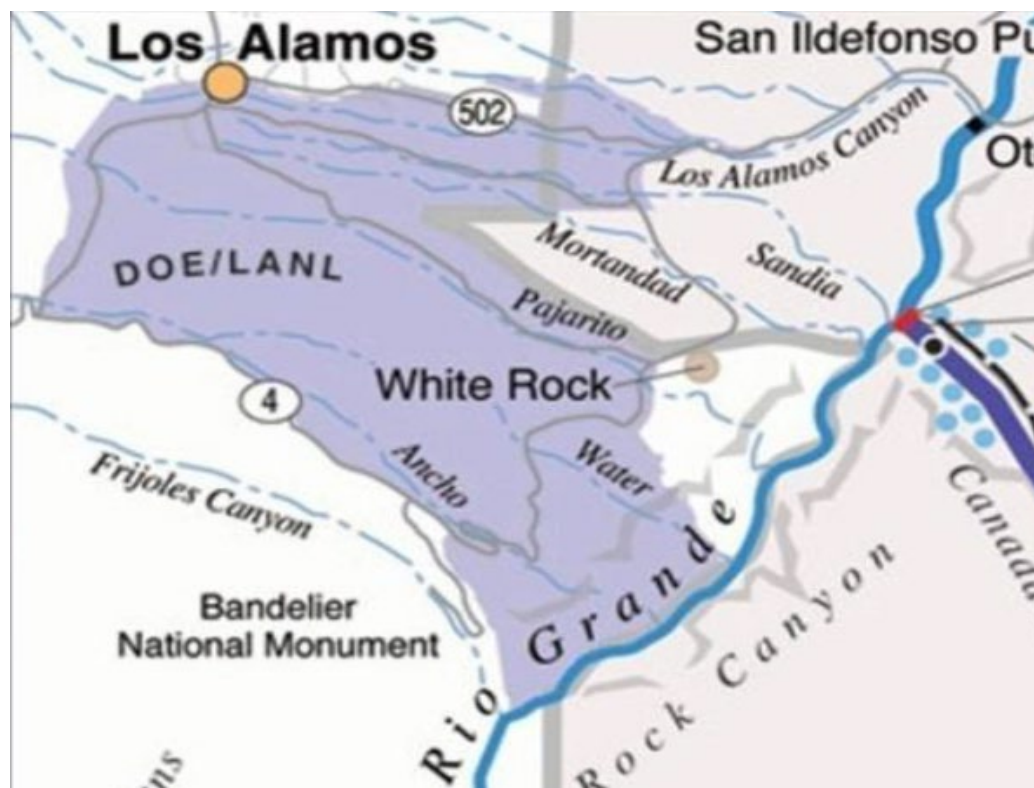


Figure 1 (Source: Inset of Map from *Storm Water Quality Monitoring of Rio Grande at Buckman Direct Diversion, From 2011-2014*, Daniela K. Bowman, Regulatory Compliance Officer, Buckman Direct Diversion, Final rev. 3/3/16, (2011-2014 BDD Report).

⁵ <https://www.census.gov/programs-surveys/bas/information/cdp.html>.

⁶ <https://www.census.gov/quickfacts/fact/table/losalamoscdpnwemexico,US>.

⁷ <https://www.census.gov/quickfacts/fact/table/whiterockcdpnwemexico,US>.

Current Status of Stormwater Discharges in Los Alamos County Regulated under the NPDES Stormwater Program

There are currently no regulated MS4s in Los Alamos County. EPA's Phase I stormwater regulations (55 FR 47990, November 16, 1990) required NPDES permits for large and medium MS4s, as defined at 40 CFR § 122.26(b)(4) and (7). The regulations included a list of incorporated places (cities) and counties that qualified as large or medium MS4s and thus required an NPDES permit. See 40 CFR Part 122, Appendices F through I. No areas of Los Alamos County qualified as a medium or large MS4 under the Phase I regulations.

Any "stormwater discharge associated with industrial activity," as defined at 40 CFR § 122.26(b)(14), is also regulated under EPA's Phase I regulations. LANL has an individual NPDES stormwater permit (NM0030759) that covers certain stormwater discharges from industrial activity, and LANL's remaining stormwater discharges from industrial activity are covered by EPA's Multi-Sector Storm Water General Permit (MSGP). However, the majority of LANL's stormwater discharges do not meet the definition of "stormwater discharge associated with industrial activity," and thus are not currently regulated under the NPDES program.

EPA's Phase II stormwater regulations (64 FR 68722, December 8, 1999) included a requirement to permit stormwater discharges from certain small MS4s,⁸ those that are either located in an "urbanized area" under the latest decennial Census or are otherwise designated by the NPDES permitting authority (40 CFR § 122.32(a)). EPA revised its Phase II stormwater permitting regulations, effective March 2, 2023, to replace the term "urbanized area" with the text "urban areas with a population of 50,000 or more people."⁹ As of the 2020 Decennial Census, Los Alamos County does not have any urban areas with a

⁸ "Small MS4" is defined at 40 CFR § 122.26(b)(16) as "all separate storm sewers that are:

(i) Owned or operated by the United States, a State, city, town, borough, county, parish, district, association, or other public body (created by or pursuant to State law) having jurisdiction over disposal of sewage, industrial wastes, stormwater, or other wastes, including special districts under State law such as a sewer district, flood control district or drainage district, or similar entity, or an Indian tribe or an authorized Indian tribal organization, or a designated and approved management agency under section 208 of the CWA that discharges to "waters of the United States."

(ii) Not defined as 'large' or 'medium' municipal separate storm sewer systems pursuant to paragraphs (b)(4) and (b)(7) of this section, or designated under paragraph (a)(1)(v) of this section.

(iii) This term includes 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.

⁹ When EPA promulgated the Phase II rule in 1999, it adopted the Census Bureau definition of "urbanized area" as one of the automatic designation criteria for small MS4s. EPA stated in the preamble to the Phase II rule that "[u]nder the Bureau of the Census definition of 'urbanized area,' adopted by EPA for the purposes of this final rule, an 'urbanized area (UA)' comprises a place and the adjacent densely settled surrounding territory that together have a minimum population of 50,000 people." 64 FR 68722 (December 8, 1999). On March 24, 2022, the Census

population of 50,000 or more people, and thus no small MS4s in the County are automatically designated by rule; nor have there been any final designations of small MS4 stormwater discharges in the County on a case-by-case basis.

Authority for Residual Designation of MS4s not Automatically Designated by Rule

CWA §§ 402(p)(2)(E) and 402(p)(6) provide the statutory authority for case-by-case designations of discharges composed entirely of stormwater. Under EPA’s stormwater regulations promulgated pursuant to those statutory sections, small MS4s may be designated for NPDES permits pursuant to the following provisions:

- 40 CFR § 122.26(a)(9)(i)(C) – The Director determines that stormwater controls are needed for the discharge based on wasteload allocations (WLAs) that are part of “total maximum daily loads” (TMDLs) that address the pollutant(s) of concern. Because there are no approved TMDLs with WLAs in the area, EPA is not relying on this authority.
- 40 CFR § 122.26(a)(9)(i)(D) - The Director (here the Regional Administrator) determines that the discharge, or category of discharges within a geographic area, contributes to a violation of a WQS or is a significant contributor of pollutants to “waters of the United States.” EPA’s Revised Designation Decision is based on its authority under 40 CFR 122.26(a)(9)(i)(D).

Jurisdictional Waters under the CWA

The CWA prohibits the unauthorized discharge of any pollutant to “navigable waters.” CWA § 301(a). The Act defines “navigable waters” as “the waters of the United States, including the territorial seas.” CWA § 502(7). EPA’s regulations at 40 C.F.R. § 120.2 define “waters of the United States.” In early 2023, the definition of “waters of the United States” was revised by EPA and the U.S. Department of the Army’s promulgation of the “Revised Definition of ‘Waters of the United States’” rule, which was published in the *Federal Register* on January 18, 2023. The rule took effect on March 20, 2023 (2023 Rule). Following lawsuits challenging that rule, it was enjoined in some states, but not in New Mexico. In May 2023, the U.S. Supreme Court issued a decision in *Sackett v. EPA* addressing the scope of the term “waters of the United States.” *Sackett v. EPA*, 598 U.S. 651, 143 S. Ct. 1322 (2023) (*Sackett*). While the 2023 Rule was not directly before the Court, the Court considered the jurisdictional standards set forth in that rule. On August 28, 2023, EPA and the U.S. Army Corps of Engineers signed a final rule amending the Code of Federal Regulations to conform the definition of “waters of the United States,” to the U.S. Supreme Court decision in *Sackett*. That final rule was published and took effect on September 8, 2023. 88 *Federal Register* 61964 (September 8, 2023). Accordingly, in this action, EPA interprets the phrase

Bureau changed its definitions to no longer identify individual urban areas as either an “urbanized area” or an “urban cluster.” Beginning with the 2020 Census and moving forward, the Census Bureau refers to all areas as “urban areas” regardless of population size. 87 FR 16706 (March 24, 2022). In light of the Census Bureau’s changes, EPA revised its Phase II stormwater permitting regulations, effective March 2, 2023, to replace the now obsolete references to “urbanized areas” with text that incorporates the underlying population threshold associated with that term, specifically “urban areas with a population of 50,000 or more people.” 87 FR 73965 (December 2, 2022).

“waters of the United States” consistent with the 2023 Rule, as amended by the September 8, 2023, conforming rule.

As relevant to this Revised Designation Decision, the term “waters of the United States” includes, *inter alia*, traditional navigable waters and tributaries of traditional navigable waters that are relatively permanent, standing, or continuously flowing bodies of water. 40 C.F.R. § 120.2(a)(1)(i), (3); 88 FR 61984.

Environmental Justice Evaluation for NPDES Determination

Executive Order 13985, *Advancing Racial Equity and Supporting for Underserved Communities through the Federal Government* signed on January 20, 2021, directs each federal agency to “make achieving environmental justice part of its mission by identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects of its programs, policies, and activities.” E.O. 13985 of January 20, 2021, 86 FR 7009. Executive Order 14096, *Revitalizing our Nation’s Commitment to Environmental Justice for All* signed on April 21, 2023, directs each federal agency to “identify, analyze, and address disproportionate and adverse human health and environmental effects (including risks) and hazards of Federal activities, including those related to climate change and cumulative impacts of environmental and other burdens on communities with environmental justice concerns.” E.O. 14096 of April 21, 2023, 88 FR 25251. Consistent with these executive orders, EPA strives to enhance the ability of communities with environmental justice concerns to participate fully and meaningfully in the permitting process for EPA-issued permits, including NPDES permits. Communities with environmental justice concerns can include minority, low-income, tribal, and indigenous populations or communities that potentially experience disproportionate environmental harms and risks. As part of an agency-wide effort, EPA Region 6 considers prioritizing enhanced public involvement opportunities for EPA-issued permits that may involve activities with significant public health or environmental impacts on communities with environmental justice concerns. For more information, please visit <http://www.epa.gov/ejscreen>.

As part of this designation process, EPA conducted a screening analysis to determine whether this NPDES action could affect communities with environmental justice concerns. See Appendix 7 – Summary of EJ Screen. EPA used the Environmental Justice Screening (EJScreen 2.2) tool, a nationally consistent geospatial tool that contains demographic and environmental data for the United States at the Census block group level. This tool helps in efforts to ensure that actions consider the needs of communities most burdened by pollution.

The Environmental Justice study area was Los Alamos County, New Mexico, including the Los Alamos Urban Area as defined by the latest decennial Census and LANL. The population of Los Alamos County aged five and above is 18,976. For the County as a whole, all 13 Environmental Justice Indexes were well below the state and national 80th percentile (80%). Two federally recognized Tribes, San Ildefonso Pueblo and Santa Clara Pueblo, are next to the study area and additional Tribes are located downstream. EPA sought comments from and offered consultation with all interested Tribes on this Designation Decision.

Revised Designation Decision Pursuant to Two Separate, Independent Supporting Bases

After analyzing all the available data, as discussed below, EPA has determined that stormwater discharges from the Los Alamos Urban Area as defined by the most recent decennial Census and LANL

property within Los Alamos and Santa Fe Counties, New Mexico contribute to violations of NM WQS. As noted above, EPA has determined that there are insufficient data about the stormwater discharges from White Rock to establish that stormwater discharges from White Rock contribute to WQS violations. Therefore, pursuant to 40 CFR § 122.26(a)(9)(i)(D), EPA designates for NPDES permitting stormwater discharges from MS4s located in the portion of Los Alamos County, New Mexico within the Los Alamos Urban Area as defined by the latest decennial Census and MS4s located on LANL property within Los Alamos County and Santa Fe County, New Mexico (“the designated MS4s”). See Appendix 8 - Map of Designated Areas.

EPA’s revised designation covers stormwater discharges from MS4s owned or operated by the following entities in the Los Alamos Urban Area and on LANL property in Los Alamos and Santa Fe Counties:

1. LANL, including Triad National Security, LLC (Triad) and the U.S. Department of Energy's National Nuclear Security Administration (NNSA) located within Los Alamos County and Santa Fe County, New Mexico,
2. Los Alamos County, New Mexico, located within the Los Alamos Urban Area as defined by the latest decennial Census,
3. New Mexico Department of Transportation (NMDOT) located within the Los Alamos Urban Area as defined by the latest decennial Census, and
4. NMDOT located within and interconnected with regulated LANL (Triad and NNSA) storm sewer systems in Los Alamos and Santa Fe Counties, New Mexico.

Under an NPDES MS4 permit, dischargers will have permit requirements to reduce pollutants in stormwater discharges to the maximum extent practicable, effectively prohibit non-stormwater discharges into MS4s, and further address water quality impacts as appropriate, thereby addressing concerns that these discharges contribute to violations of NM WQS. See CWA § 402(p)(3)(B)(2)-(3) and 40 CFR § 122.34. EPA anticipates that the designated dischargers will be able to seek permit coverage under a soon-to-be-reissued EPA statewide MS4 general permit for the State of New Mexico. Any stormwater discharges from undeveloped areas within the footprint of the designation that are not discharges from an MS4 are not subject to this designation. For example, LANL has large undeveloped areas within its property and stormwater discharges from those undeveloped areas do not appear to be served by a MS4. If that is correct, then those stormwater discharges are not covered by this designation and do not require NPDES permit authorization. Likewise, stormwater discharges from areas outside the Los Alamos Urban Area as defined by the latest decennial Census do not require NPDES permit authorization under this Revised Designation Decision. See Appendix 8 -- Map of Designation Areas. Further, there is no expectation that this Revised Designation Decision or any resulting NPDES permit will require action by the permittees within the canyons themselves. The aim of this designation is to reduce water quality impacts to “waters of the United States,” i.e., the jurisdictional canyon waters and the Rio Grande, from pollutants in stormwater flowing off the Pajarito Plateau to those downstream waters. Consequently, EPA anticipates that any MS4 permit issued as a result of this revised designation, e.g., the soon-to-be reissued EPA statewide general MS4 permit for New Mexico, will require control measures only at or upstream of the point at which the stormwater flows off the upland Plateau to the canyon waters below.

EPA bases this Revised Designation Decision on two separate, independent bases, either of which is sufficient to designate these small MS4 discharges for NPDES permitting. These two bases are described in detail below.

Basis 1: Stormwater discharges from the designated MS4s contribute to WQS violations in the canyon waters that are “waters of the United States” because they are relatively permanent tributaries of the Rio Grande, a traditional navigable water. Some of these canyon waters are listed as impaired on the NM 303(d) list, and the discharges from the designated MS4s contain some of the same pollutants for which the canyon waters are impaired in concentrations exceeding WQS when they leave the MS4s and enter the canyon waters. As such, those discharges contribute to WQS violations in those canyon waters.

A. The identified canyon waters are “waters of the United States” because they are relatively permanent tributaries of the Rio Grande, a traditional navigable water.

EPA has prepared an evaluation of the Los Alamos County canyons surface waters’ status as “waters of the United States.” Appendix 5: *Clean Water Act Jurisdictional Analysis of the Waters of Los Alamos County*. EPA evaluated the flow permanence of stream reaches in the canyons that drain Los Alamos County under the relatively permanent standard for determining whether a water is jurisdictional under the Clean Water Act. EPA used multiple indicators, data points, and sources of information to determine whether waters in the canyons are tributaries that meet the relatively permanent standard. EPA utilized monitoring data, firsthand observations, and remote sensing-utilized mapping tools to support the evaluation of these stream reaches. Where stream gage data was not available to support the characterization of the canyon stream reaches, EPA relied on other monitoring data, firsthand observations of stream flow permanence indicators, and remote sensing-derived information. In addition, EPA technical field staff collected field data and measurements associated with evidence of water flow and permanence at multiple locations throughout the canyons.

Based on EPA’s analysis of available data and field observations, EPA concludes that certain streams in the canyons draining Los Alamos County, including streams in the Los Alamos Canyon/Pueblo Canyon watershed, the Sandia Canyon watershed, the Mortandad Canyon watershed, Pajarito Canyon watershed, the Water Canyon watershed, and the Ancho Canyon watershed are “waters of the United States” because they are tributaries of the Rio Grande, a traditional navigable water, that are relatively permanent, standing, or continuously flowing bodies of water. The waters identified as relatively permanent tributaries of the Rio Grande in this report are jurisdictional under the agencies’ regulations (the 2023 Rule, as amended), and the assertion of jurisdiction is consistent with *Sackett*. EPA has identified these jurisdictional streams and provided the rationale for the conclusion that they are “waters of the United States” in Appendix 5: *Clean Water Act Jurisdictional Analysis of the Waters of Los Alamos County*. A map of jurisdictional canyon waters is included at Appendix 9.

B. Some of the jurisdictional canyon waters are listed as impaired (no remaining assimilative capacity) on the NM impaired waters (303(d)) list.

Under the CWA, states identify waters that do not or are not expected to meet applicable WQS with current pollution control technologies alone. See CWA §303(d); 40 CFR § 130.7. States, including New Mexico, often provide this information in an integrated report known as the 303(d)/305(b) Report. See <https://www.epa.gov/tmdl/integrated-reporting-guidance-under-cwa-sections-303d-305b-and-314>. EPA reviewed water quality impairment information from the State of New Mexico § 303(d)/305(b) Reports for the years 2012-2014¹⁰, 2014-2016,¹¹ 2016-2018¹², 2018-2020,¹³ 2020-2022¹⁴ and 2022-2024¹⁵ for the surface waters of jurisdictional canyons identified in Basis 1.A. above that receive stormwater discharges from the designated MS4s. Based on this review, the record indicates that some of the jurisdictional canyon waters are listed as impaired for the pollutants on the NM impaired waters list.

¹⁰ *State of New Mexico Water Quality Control Commission, 2012-2014 State of New Mexico Clean Water Act 303d/305b Integrated Report, Appendix A (NM 2012-2014 303d/305b Report)*. Available at: <https://www.env.nm.gov/wp-content/uploads/sites/25/2019/10/AppendixA-USEPA-Approved303dList.pdf>.

¹¹ *State of New Mexico Water Quality Control Commission, 2014-2016 State of New Mexico Clean Water Act 303d/305b Integrated Report, Appendix A (NM 2014-2016 303d/305b Report)*. Available at: <https://www.env.nm.gov/wp-content/uploads/sites/25/2019/10/2014-2016NMList.pdf>.

¹² *State of New Mexico Water Quality Control Commission, 2016-2018 State of New Mexico Clean Water Act 303d/305b Integrated Report, Appendix A (NM 2016-2018 303d/305b Report)*. Available at: <https://www.env.nm.gov/wp-content/uploads/sites/25/2019/04/EPA-APPROVED2016APPA-IntegratedList.pdf>.

¹³ *State of New Mexico Water Quality Control Commission, 2018-2020 State of New Mexico Clean Water Act 303d/305b Integrated Report, Appendix A (NM 2018-2020 303d/305b Report)*. Available at: <https://www.env.nm.gov/wp-content/uploads/sites/25/2018/03/Appendix-A-Integrated-List.pdf>.

¹⁴ *State of New Mexico Water Quality Control Commission, 2020-2022 State of New Mexico Clean Water Act 303d/305b Integrated Report, Appendix A (NM 2020-2022 303d/305b Report)*. Available at: https://www.env.nm.gov/wp-content/uploads/sites/25/2018/03/2020-2022-IR-Appendix-A-Integrated-List_012221.pdf.

¹⁵ *State of New Mexico Water Quality Control Commission, 2022-2024 State of New Mexico Clean Water Act 303d/305b Integrated Report, Appendix A (NM 2022-2024 303d/305b Report)*. Available at: <https://www.env.nm.gov/surface-water-quality/wp-content/uploads/sites/18/2022/03/2022-2024-IR-Appendix-A-303d-305b-Integrated-List.pdf>.

- **Los Alamos Canyon:** New Mexico identified pollutants in 303(d)/305(b) reports as causing impairments in the “waters of the United States” in Los Alamos Canyon. These impairments are summarized below in Table 1.

Table 1. Pollutants listed as causing impairments in Los Alamos Canyon 303(d)/305(b) Reports						
Pollutants	303(d)/305(b) Report Year					
	2012-2014	2014-2016	2016-2018	2018-2020	2020-2022	2022-2024
Gross alpha, adjusted*	X	X	X	X	X	X
Polychlorinated Biphenyls (PCBs)	X	X	X	X	X	X
Aluminum	X	X	X			
Copper	X					
Mercury			X	X	X	X
Cyanide				X	X	X
Selenium				X	X	X

*A measurement of overall radioactivity referred to as “gross alpha” herein

- **Sandia Canyon:** New Mexico identified pollutants in 303(d)/305(b) reports as causing impairments in the “waters of the United States” in Sandia Canyon. They are summarized below in Table 2.

Table 2. Pollutants listed as causing impairments in Sandia Canyon 303(d)/305(b) Reports						
Pollutants	303(d)/305(b) Report Year					
	2012-2014	2014-2016	2016-2018	2018-2020	2020-2022	2022-2024
Gross alpha, adjusted*	X	X	X	X	X	X
Polychlorinated Biphenyls (PCBs)	X	X	X	X	X	X
Aluminum	X	X	X	X	X	X
Copper	X	X	X		X	
Mercury	X	X	X	X	X	X
Thallium		X	X			

*A measurement of overall radioactivity referred to as “gross alpha” herein

- **Pajarito Canyon:** New Mexico identified pollutants in 303(d)/305(b) reports as causing impairments in the “waters of the United States” in Pajarito Canyon. They are summarized below in Table 3.

Table 3. Pollutants listed as causing impairments in Pajarito Canyon 303(d)/305(b) Reports						
Pollutants	303(d)/305(b) Report Year					
	2012-2014	2014-2016	2016-2018	2018-2020	2020-2022	2022-2024
Gross alpha, adjusted*	X	X	X	X	X	X
Polychlorinated Biphenyls (PCBs)	X	X	X	X	X	X
Aluminum	X	X	X	X		X
Copper	X	X	X			
Arsenic		X	X			
Selenium		X	X			
Mercury				X	X	X
Cyanide					X	X

*A measurement of overall radioactivity referred to as “gross alpha” herein

- **Canada del Buey:** New Mexico identified pollutants in 303(d)/305(b) reports as causing impairments in the “waters of the United States” in Canada del Buey. They are summarized below in Table 4.

Table 4. Pollutants listed as causing impairments in Canada del Buey 303(d)/305(b) Reports						
Pollutants	303(d)/305(b) Report Year					
	2012-2014	2014-2016	2016-2018	2018-2020	2020-2022	2022-2024
Gross alpha, adjusted*	X	X	X	X	X	X
Polychlorinated Biphenyls (PCBs)	X	X	X	X	X	X
Aluminum	X		X	X		

*A measurement of overall radioactivity referred to as “gross alpha” herein

- **DP Canyon:** New Mexico identified pollutants in 303(d)/305(b) reports as causing impairments in the “waters of the United States” in DP Canyon. These impairments are summarized below in Table 5.

Table 5. Pollutants listed as causing impairments in DP Canyon 303(d)/305(b) Reports						
Pollutants	303(d)/305(b) Report Year					
	2012-2014	2014-2016	2016-2018	2018-2020	2020-2022	2022-2024
Gross alpha, adjusted*	X	X	X	X	X	X
Polychlorinated Biphenyls (PCBs)	X	X	X	X	X	X
Aluminum	X	X	X	X	X	X
Copper	X				X	X

*A measurement of overall radioactivity referred to as “gross alpha” herein

- **Canon de Valle:** New Mexico identified pollutants in 303(d)/305(b) reports as causing impairments in the “waters of the United States” in Canyon de Valle. These impairments are summarized below in Table 6.

Table 6. Pollutants listed as causing impairments in Canon de Valle Canyon 303(d)/305(b) Reports						
Pollutants	303(d)/305(b) Report Year					
	2012-2014	2014-2016	2016-2018	2018-2020	2020-2022	2022-2024
Gross alpha, adjusted*	X	X	X	X	X	X
Polychlorinated Biphenyls (PCBs)	X	X	X	X	X	X
Aluminum	X	X	X			
Copper	X					

*A measurement of overall radioactivity referred to as “gross alpha” herein

- **Arroyo de la Delfe:** New Mexico identified pollutants in 303(d)/305(b) reports as causing impairments in the “waters of the United States” in Arroyo de la Delfe. These impairments are summarized below in Table 7.

Table 7. Pollutants listed as causing impairments in Arroyo de la Delfe 303(d)/305(b) Reports						
Pollutants	303(d)/305(b) Report Year					
	2012-2014	2014-2016	2016-2018	2018-2020	2020-2022	2022-2024
Gross alpha, adjusted*	X	X	X	X	X	X
Polychlorinated Biphenyls (PCBs)			X	X	X	X
Aluminum	X	X		X	X	X
Copper				X	X	X
Mercury	X					
Selenium				X		

*A measurement of overall radioactivity referred to as “gross alpha” herein

- **Acid Canyon:** New Mexico identified pollutants in 303(d)/305(b) reports as causing impairments in the “waters of the United States” in Acid Canyon. These impairments are summarized below in Table 8.

Table 8. Pollutants listed as causing impairments in Acid Canyon 303(d)/305(b) Reports						
Pollutants	303(d)/305(b) Report Year					
	2012-2014	2014-2016	2016-2018	2018-2020	2020-2022	2022-2024
Gross alpha, adjusted*	X	X	X	X	X	X
Polychlorinated Biphenyls (PCBs)		X	X	X	X	X
Aluminum	X	X	X	X	X	X
Copper		X	X	X	X	
Mercury	X					
Selenium						

*A measurement of overall radioactivity referred to as “gross alpha” herein

- **Pueblo Canyon:** New Mexico identified pollutants in 303(d)/305(b) reports as causing impairments in the “waters of the United States” in Pueblo Canyon. These impairments are summarized below in Table 9.

Table 9. Pollutants listed as causing impairments in Pueblo Canyon 303(d)/305(b) Reports						
Pollutants	303(d)/305(b) Report Year					
	2012-2014	2014-2016	2016-2018	2018-2020	2020-2022	2022-2024
Gross alpha, adjusted*	X	X	X	X	X	X
Polychlorinated Biphenyls (PCBs)		X	X	X	X	X
Aluminum	X	X	X	X	X	X
Copper				X	X	X
Mercury	X					
Selenium				X	X	X

*A measurement of overall radioactivity referred to as “gross alpha” herein

- The “waters of the United States” in Effluent Canyon have not been assessed.
- None of the State’s Integrated Reports dating back to 2012 show the receiving streams within the community of White Rock to be impaired.

In the 2012-2014 303(d)/305(b) Report, NMED listed the source of water quality impairments in the surface waters of Sandia, Mortandad, Pajarito, and Pueblo Canyons as urban stormwater-related causes, with impervious surfaces, parking lots, and construction and development listed as probable sources of the impairment. However, NMED changed its approach for listing causes of impairment following the submittal of the 2012-2014 Report. Thus, while the 2014-2016 through the current 2022-2024 303(d)/305(b) Reports list the probable sources of impairments in these canyon waters as “Source Unknown,” this does not mean that any potential source has been confirmed or ruled out. NMED explained this change in approach in its 2014-2016 303(d)/305(b) Report (See Footnote 47 at 56):

The approach for identifying “Probable Sources of Impairment” was modified by the SWQB starting with the 2012 listing cycle. Any new impairment listings are assigned a probable source of “Source Unknown.” For the 2014 listing cycle, SWQB removed previously reported non-TMDL Probable Source listings from the Report List and replaced them with “Source Unknown” for consistency throughout the list with respect to this approach. Therefore, all reported Probable Source lists on the Integrated List now have been through the TMDL process.

NM 2014-2016 303d/305b Report at 56.

As a result, EPA based this Revised Designation Decision on its independent analysis of stormwater quality data and receiving water impairment lists rather than on the probable source listings in the older NMED 303(d)/305(b) Reports. Based on the above, the record shows that the levels of the pollutants of

concern exceed applicable WQS in at least some of the “waters of the United States” that receive stormwater discharges from the designated MS4s.

C. The stormwater discharges from the designated MS4s contain some of the same pollutants for which the jurisdictional canyon waters are impaired in concentrations exceeding WQS when they leave the MS4s and enter the jurisdictional canyon waters.

EPA examined available data from two existing reports concerning pollutants in urban stormwater flowing off the Pajarito Plateau, including from the Los Alamos Urban Area and LANL, to the canyon waters that lead from the Plateau to the Rio Grande. The two reports EPA reviewed were: (1) LANL’s May 2012 Report on Polychlorinated Biphenyls in Precipitation and Stormwater within the Upper Rio Grande Watershed¹⁶; and (2) LANL’s 2013 Report on Background Metals Concentrations and Radioactivity in Storm Water on the Pajarito Plateau, Northern New Mexico.¹⁷ In addition, EPA reviewed the report submitted to EPA by the County as part of the County’s comments on EPA’s Initial Revised Designation decision entitled “2022-2023 Sampling Summary, Los Alamos County Urban Stormwater Sampling Program” prepared by Daniel B. Stephens & Associates, Inc. (DBS&A) and dated February 28, 2024 (“2022-2023 Sampling Report”), See Appendix 11 – 2022-2023 Sampling Report.

The LANL PCB Report Demonstrates that Stormwater Discharges from the Pajarito Plateau exceed NM WQS for PCBs, a Pollutant for Los Alamos Canyon, Sandia Canyon, Mortandad Canyon, Pajarito Canyon and Canada del Buey Canyon are Impaired.

The LANL PCB Report summarizes the findings of a multi-year cooperative investigation conducted by the U.S. Department of Energy (DOE), NMED, and LANL to characterize PCBs in certain surface waters located in the upper Rio Grande watershed, and in areas in and around LANL. The stated objectives of the study were to establish (1) baseline levels of PCB concentrations in precipitation and snowpack near Los Alamos, New Mexico; (2) baseline levels of PCB concentrations in stormwater in northern New Mexico streams and arroyos that are tributaries of the Rio Grande and Rio Chama; (3) the range of PCB concentrations found in the Rio Grande during base-flow (dry weather flow) and storm-flow conditions; (4) baseline levels of PCBs in stormwater from undeveloped watersheds of the Pajarito Plateau and the northeast flank of the Jemez Mountains near Los Alamos, New Mexico (referred to as the Pajarito Plateau); (5) the concentrations of PCBs in urban runoff from the Los Alamos Townsite neighboring LANL; and (6) how these findings may be used to target significant sources of PCBs. LANL PCB Report at 1. The Report stated that the findings would “assist in identifying PCBs in surface waters originating from local industrial and urban sources versus global atmospheric deposition.” *Id.* at iii.

Geographically, the investigation included the Los Alamos Townsite, LANL watersheds, remote watersheds on the Pajarito Plateau, and the Rio Grande upstream and downstream of LANL. *Id.* at 2. To measure PCB concentrations in locations representing stormwater runoff from the relatively small urban environment, stormwater sampling was conducted in the vicinity of the Los Alamos Townsite, with samplers placed around the edge of the urban development. Most of the samplers were located to collect stormwater samples from housing developments, schools, and a golf course. No urban runoff samplers were placed below any known areas of concentrated contamination. In addition to the sampling of the

¹⁶ *Polychlorinated Biphenyls in Precipitation and Stormwater within the Upper Rio Grande Watershed*, Los Alamos National Laboratory, LA-UR-12-1081, May 2012, EP2012-0047 (LANL PCB Report).

¹⁷ *Background Metals Concentrations and Radioactivity in Storm Water on the Pajarito Plateau, Northern New Mexico*, Los Alamos National Laboratory, LA-UR-13-22841, April 2013, EP2013-0037 (LANL Metals Report).

Townsite perimeter, sampling was also conducted downstream from the administrative offices of LANL. *Id.* at 59.

The LANL PCB Report found that PCB concentrations in stormwater samples collected from remote locations were similar to the NM WQ criteria for total PCBs in surface waters and that PCB concentrations in stormwater samples collected at locations affected by industrial and urban activities were at or above the NM WQ criteria. *Id.* at 1. The Report based its findings on the applicable NM WQ criteria for total PCBs, which are 0.64 ng/L for the protection of human health and 14 ng/L for the protection of wildlife habitat. The WQ criteria for acute and chronic protection of aquatic life are 14 ng/L and 2 µg/L, respectively. Except for the chronic life criterion, which only applies under stable conditions, these criteria apply to all surface waters, whether base flow, storm flow, or storm runoff. *Id.* See also NM WQS for PCBs, 20.6.4.114 NMAC and 20.6.4.900 NMAC.

According to the LANL PCB Report (see Footnote 13):

Under base-flow conditions, results show the water column contained nearly universally low PCB concentrations in the Rio Grande, Rio Chama, and groundwater-fed tributaries. In contrast, surface waters during storm runoff generally contained PCB concentrations above 5 ng/L and substantially above the New Mexico WQS for protection of human health. Such concentrations were measured even in the most remote parts of the watershed and can be attributed to the increased concentrations of suspended soils and sediments carried by surface water during storm runoff. **Heightened PCB concentrations above 100 ng/L were measured in Los Alamos County urban runoff, presumably from the increase in diffuse sources in urban environments commonly reported in scientific literature.**

Id. at iii (emphasis added).

The LANL PCB Report also noted that LANL's 2010 NPDES permit for stormwater discharges from industrial activity¹⁸ required monitoring for PCBs in stormwater and included an action level for total PCBs of 0.64 ng/L (micrograms per liter) based on the NM WQ criterion for human health. Although the action level was not itself an effluent limitation, the permit requires corrective action when an average of stormwater sample results exceeds this value for a particular location. *Id.* at 1. Action levels for PCBs equivalent to the NM WQ criterion were also included in the LANL Industrial Stormwater Permit when it was updated and reissued in 2022.¹⁹

In two 2013 Requests for Alternative Compliance submitted by LANL to EPA under LANL's Industrial Stormwater Permit, LANL argued that the cause of its exceedances of the permit's action level for PCBs, which was equivalent to the NM water quality criterion, was urban stormwater runoff from sources such as motor oil accumulation on parking lots, brake pad and tire material released on pavement, galvanized fencing, culverts, and other building materials.²⁰ LANL's 2021 Annual Site Environmental Report stated that sampling under LANL's Industrial Stormwater Permit in 2021 continued to show PCB concentrations

¹⁸ NPDES Permit No. NM 0030759, issued February 13, 2009, modified September 30, 2010. NPDES Permit No. NM 0030759 was updated and reissued on June 29, 2022, with an effective date of August 1, 2022 (LANL 2010 Industrial Stormwater Permit).

¹⁹ NPDES Permit No. NM 0030759 was updated and reissued on June 29, 2022, with an effective date of August 1, 2022 (LANL 2022 Industrial Stormwater Permit).

²⁰ Alternative Compliance Request for S-SMA-2, LA-UR-13-22840, EP2013-0070, LANL, April 2013, Section 7.0; Alternative Compliance Request for S-SMA-0.25, LA-UR-13-22842, EP2013-00069, LANL, April 2013, Section 7.0 (LANL 2013 Alternative Compliance Requests).

above the permit’s action level for PCBs in six out of seven samples collected that were analyzed for PCBs. LANL 2021 Site Environmental Report at 6-36.

The LANL PCB Report included information on sampling and analysis methods and quality assurance/quality control measures. EPA reviewed this information and determined the data collected by LANL and NMED to be of good quality. EPA analyzed the data from the LANL PCB Report and determined that they show that at least some of the stormwater discharges from MS4s in the Los Alamos Urban Area and on LANL property have maximum or median sampling results exceeding NM’s WQS for PCBs, which is a pollutant listed as a cause of impairment for one or more of the jurisdictional canyon waters on the State’s CWA section 303(d) list. Section 303(d) of the CWA requires states to identify and submit to EPA a list of waters that do not or are not expected to meet applicable WQS with current pollution control technologies alone, and these lists of impaired waterbodies are referred to as the State’s CWA section 303(d) lists. Waterbodies listed on a state’s 303(d) list as impaired for a pollutant or parameter have no remaining assimilative capacity for that pollutant or parameter at levels exceeding WQS because levels of the pollutant(s) or parameter(s) in the waterbody are already above WQS. Any addition of that pollutant or parameter in any amount above WQS will contribute to the exceedance of WQS. Therefore, maximum or median stormwater discharge sampling results showing an exceedance of the State’s WQS for one or more of the same pollutants for which a waterbody is listed as impaired indicates that the discharge is contributing to a violation of that WQS.

EPA’s review of the data in the LANL PCB Report confirmed that heightened PCB concentrations above 100 ng/L were measured in Los Alamos County urban stormwater discharges, which flow off the upland mesas of the Pajarito Plateau to canyon waters. All but one (40 out of 41 or 98%) of the urban stormwater samples were above the NM Human Health water quality criterion for PCBs and 19 out of 41 (46%) were above the NM wildlife habitat water quality criterion. See Table 10 below.

Table 10. Summary of Total PCB Concentrations in Upper Rio Grande Watershed

Category	Median (ng/L)	UTL (ng/L)	Max Conc. (ng/L)	Percentage of Results Greater Than NM Health Standard (0.64 ng/L)	Percentage of Results Greater Than NM Wildlife Standard (14 ng/L)
Precipitation	0.12	0.68	0.61	0	0
Snowpack	0.14	0.7	0.65	8	0
Rio Grande/Rio Chama					
Base flow	0.01	—*	1.36	6	0
Stormwater (runoff)	0.24	—	51.4	39	3
Northern New Mexico Tributaries Stormwater	5.5	24	30.6	91	22
Baseline Pajarito Plateau Stormwater					
Reference Sites (Flows originating on Pajarito Plateau)	0.4	11.7	11.6	28	0

Category	Median (ng/L)	UTL (ng/L)	Max Conc. (ng/L)	Percentage of Results Greater Than NM Health Standard (0.64 ng/L)	Percentage of Results Greater Than NM Wildlife Standard (14 ng/L)
Western Boundary Sites (Flows Originating in Jemez Mountains)	2.1	19.5	20.7	78	17
Reference and Western Boundary Combined	0.97	13	20.7	56	10
Urban Runoff Los Alamos Townsite	12	98	144	98	46

*— = Not available.

Source: LANL PCB Report, Table 16.

Based on EPA's review of the data included in the LANL PCB Report and LANL's 2013 Requests for Alternative Compliance, EPA determined that stormwater discharges to the canyon waters from MS4s in the Los Alamos Urban Area and LANL are exceeding NM WQS for PCBs, a pollutant for which Los Alamos Canyon, Sandia Canyon, Mortandad Canyon, Pajarito Canyon, and Canada del Buey Canyon are impaired.

The LANL Metals Report Demonstrates that Stormwater Discharges from the Pajarito Plateau exceed NM WQS for Aluminum, Selenium, Gross Alpha, Copper and/or Mercury, pollutants for which one or more of the Jurisdictional Canyon Waters are Impaired.

The LANL Metals Report presents the results of an investigation conducted by LANL to understand the chemical composition of stormwater runoff in developed and undeveloped areas at LANL and the Los Alamos Townsite. As stated in the Report, the principal objectives of the study were to (1) determine background concentrations in reference watersheds and western boundary locations and baseline concentrations in urban runoff for metals and radioactivity, and (2) determine the baseline concentrations of metals and radioactivity in urban runoff from the Los Alamos Townsite and developed landscapes within LANL. Runoff from legacy contamination at LANL and surrounding sites was not considered in the study. LANL Metals Report at 1. The study was initiated to measure background levels of metals and radioactivity in stormwater on the Pajarito Plateau unaffected by laboratory activities and baseline levels of metals and radioactivity in stormwater running off developed urban landscapes containing buildings, roads, parking lots, and associated infrastructure. Sampling locations distant from developed landscapes and laboratory activities were selected to avoid any known contamination and to provide reasonable estimates of baseline concentrations. Urban sampling locations were selected to avoid any laboratory legacy contamination, but to represent a developed environment and contaminants associated with structures and activities within that environment. *Id.* Locations were also selected based on their spatial relationship to drainages from LANL and developed areas within Los Alamos County. *Id.* at 2.

The LANL Metals Report states that stormwater samples were collected in the vicinity of the Los Alamos Townsite and the developed areas of LANL to measure metals concentrations and radioactivity in locations representing stormwater runoff from urban environments on the Pajarito Plateau. According to the Report, samplers were placed around the edge of the urban development and no urban runoff samplers were placed below any known areas of contamination. Most samplers were located to collect stormwater runoff samples from housing developments, schools, and a golf course. In addition to monitoring

stormwater at the Townsite perimeter, sampling was also conducted in drainage channels downstream from the LANL administrative offices. *Id.* at 5.

EPA analyzed the information contained in the LANL Metals Report and found that at least some of the stormwater discharges from MS4s in the Los Alamos Urban Area and LANL have maximum or median sampling results exceeding one or more of NM's WQS for aluminum, selenium, gross alpha, copper and/or mercury. EPA found that the mean of the urban runoff samples from the Los Alamos Urban Area and LANL exceeded at least one NM WQS for aluminum, cadmium, copper, or zinc. Also, the maximum urban runoff sample value for discharges from these MS4s exceeded at least one NM WQS for aluminum, cadmium, copper, and zinc. The mean of the urban runoff samples exceeded the mean of the background reference site samples for aluminum, cadmium, copper, and zinc. The LANL Metals Report ties these pollutants to the urban areas of the Pajarito Plateau. See Table 11 below.

Table 11. EPA Analysis of LANL Metals Report Data

Pollutants	Urban runoff metal Con.	Urban runoff metal Con.	95% confidence level ($\mu\text{g/L}$)	NMWQS (Hardness as CaCO_3 , dissolved (40mg/L)				Mean Background/ Reference area runoff metal Con.		Does Max, Mean, or 95% Confidence level from urban runoff exceed One or More NMWQS?	Does Max, /Mean, or /95% Confidence level from Background/Reference runoff exceed One or More of the NMWQS	Total number of samples with pollutants detected	Number of samples with pollutant level exceeded the NMWQS
				LW	WH	Aquatic Life		Max	Mean				
						Acute	Chronic						
Aluminum, Total	22700	5179	17,700			975	391	11600	33888	Yes	No	51	41
Aluminum, Dissolved	309	98.98	245					2620	536.7	No			
Arsenic total	7.3	3.183	5.32					24	7.85	No			
Arsenic, Dissolved	3.53	2.376	2.55	200		340	150	6.2	2.617	No	No		
Cadmium, Total	.495	.303	1.25					6.7	3.293	No			
Cadmium Dissolved	.894	.334	.36	50		.76	.23	.28	.28	Yes	No	53	7
Copper, Total	142	30.49	84					104	24.81		No		
Copper, Dissolved	31.8	10.17	32.3	500		6	4	4.1	1.72	Yes	No	54	47
Gross Alpha, Total ((pCi/L)	71	10.43	32.5	15		N/A	N/A	1090	288.4	Yes	Yes	32	5
Gross Alpha, Dissolved	n/a	n/a	n/a					n/a	n/a				
Mercury, Total	0.286	0.218	n/a	10				.21	.145				
Mercury, Dissolved	n/a	n/a	n/a			1.4	.77	n/a	n/a	No	No		
Nickel, Total	33.9	6.95	21.2					120	42.87				
Nickel, Dissolved	9.13	2.848	7.57			220	24	3.4	1.736	No	No		
Selenium, Total	n/a	n/a	n/a		5	20	5	4.8	2.45	No	No		
Selenium, Dissolved	1.68	1.68	n/a	50				n/a	n/a				
Thallium, Dissolved													
Zinc, Total	2290	450.6	1617					1150	240.4				
Zinc, Dissolved	882	181	1120	2500		70	53	170	11.9	Yes	Yes	53	49

Notes: Unit is $\mu\text{g/L}$ unless otherwise indicated.

The LANL Metals Report included information on sampling and analysis methods and quality assurance/quality control measures. EPA reviewed this information and determined the data collected by LANL and NMED to be of good quality. EPA’s review of the data included in the LANL Metals Report confirmed that stormwater discharges from MS4s in the Los Alamos Urban Area and LANL to the canyons leading to the Rio Grande exceed NM WQS for aluminum, selenium, gross alpha, copper and/or mercury, pollutants for which one or more of the jurisdictional canyon waters are impaired.

In addition, in two 2013 Requests for Alternative Compliance submitted to EPA under LANL’s 2010 Industrial Stormwater Permit, LANL argued that the cause of its exceedances of the permit’s action levels for zinc and copper, which were equivalent to NM water quality criteria, was urban runoff from sources

such as motor oil accumulation on parking lots, brake pad and tire material released on pavement, galvanized fencing, culverts, and other building materials.²¹

The County’s 2022-2023 Sampling Report Does Not Contradict EPA’s Finding that Stormwater Discharges from the Los Alamos Urban Area exceed NM WQS. Rather, the 2022-2023 Sampling Report shows that Stormwater Discharges from the Los Alamos Urban Area exceed NM WQS for Copper, Aluminum, and PCBs, pollutants for which one or more of the Jurisdictional Canyon Waters are Impaired.

EPA reviewed the 2022-2023 Sampling Report, as well as the monitoring data provided with the Report. The Report provides a summary and analysis of stormwater sampling data collected on behalf of the County by DBS&A from six locations (the High School, the Nature Center, Columbus, Orange Street, the Smart House, Walnut Canyon) in 2022 and 2023. The analytical results from the collected stormwater samples are summarized in Table 3 of the 2022-2023 Sampling Report, which compares the sample results to applicable surface WQS found in Section 20.6.4 of the New Mexico Administrative Code (NMAC). The values that exceed an applicable New Mexico WQS are bolded. 2022-2023 Sampling Report, pg. 3. The parameters detected above the WQS are summarized in Table 4 of the 2022 -2023 Sampling Report. *Id.* See also Table 3. Analytical Results and Table 4. Exceedance Summary, 2022-2023 Sampling Report. Table 4 from the County’s 2022-2023 Sampling Report is included below for reference as Table 12 of EPA’s Revised Designation Decision.

Table 12. Exceedance Summary (Source: 2022-2023 Sampling Report, Table 4)

Location	Sample Date	Concentration (µg/L)			
		Dissolved Copper	Dissolved Zinc	Total Aluminum	Estimated Total PCBs
<i>Aquatic Life Standard (acute)</i>		<i>HB</i>	<i>HB</i>	<i>HB</i>	<i>2.0</i>
<i>Aquatic Life Standard (chronic)</i>		<i>HB</i>	<i>HB</i>	<i>HB</i>	<i>0.014</i>
<i>Human Health Criteria</i>		—	—	—	<i>0.00064</i>
<i>Drinking Water Standard</i>		—	—	—	<i>0.5</i>
Knights of Columbus	8/18/2022	5.7	83	3,100	0.002
	5/18/2023	7	93	1,800	0.002
	8/24/2023	7.4	110	3,000	0.137
High School	7/27/2022	2	80	9,000	0.022
	8/3/2022	4.5	88	1,800	0.006
	6/6/2023	5.8	46	1,700	0.005

²¹ LANL 2013 Alternative Compliance Requests, Section 7.0.

Nature Center	8/8/2022	2.5	26	2,200	0.001
	8/16/2022	4.9	67	4,900	0.002
	5/18/2023	7.7	170	2,100	0.001
	6/2/2023	4.2	68	2,200	0.001
Orange Street	8/20/2022	4.3	110	1,400	0.002
	8/22/2022	5.4	34	2,900	0.004
Walnut Canyon	10/15/2022	9.2	140	1,100	0.002
	5/16/2023	12	24	1,800	0.001
	5/17/2023	11	46	5,800	0.002

Bold indicates that value exceeds 20.6.4.900 NMAC water quality standard.

µg/L = Micrograms per liter

PCBs = Polychlorinated biphenyls

HB = Hardness-based standard

— = No standard

The 2022-2023 Sampling Report found that five out of six sampling locations had concentrations above NM WQS for total aluminum, dissolved copper, and/or dissolved zinc, with the Smart House location the only location with no WQS exceedances for any of these pollutants. Id., pg. 3. The Report stated that “the collected stormwater samples commonly contained dissolved copper and dissolved zinc at concentrations above the New Mexico WQS” and noted that heavy metals such as copper and zinc are found in high concentrations on paved roads and parking lots due to vehicle emissions. They are also deposited during construction and other industrial activities. Id., pgs. 3-4. The Report also stated that PCBs were detected at concentrations above WQS at two County sampling locations. Id., pgs. 3 and 8.

Tables 3 and 4 of the 2022-2023 Sampling Report illustrate that the 2022-2023 stormwater sampling performed on behalf of the County found levels of pollutants in the County’s stormwater at concentrations above the applicable NM WQS. EPA has summarized the findings below in Table 13.

Table 13. Summary of Pollutants with Concentrations Exceeding Applicable NM WQS in Los Alamos County 2022-2023 Stormwater Sampling

Copper	<ul style="list-style-type: none"> Copper was detected at concentrations above the applicable NM acute and chronic aquatic life WQSs at five sampling locations (86 percent of locations).
Zinc	<ul style="list-style-type: none"> Dissolved zinc was detected at concentrations above the applicable NM acute and chronic aquatic life WQSs at five out of the six sampling locations (86 percent of locations).

Polychlorinated Biphenyls (PCBs)	<ul style="list-style-type: none"> PCBs were detected at concentrations above the applicable NM chronic aquatic life WQS at two sampling locations, the High School and Knights of Columbus.
Aluminum	<ul style="list-style-type: none"> Total aluminum was detected above the applicable NM acute and chronic aquatic life WQS at five out of the six sampling locations (86 percent of locations).

Based on its review of the County’s 2022-2023 Sampling Report, EPA does not believe the County’s monitoring data supports the County’s view that designation of the County’s small MS4 located within the Los Alamos Urban Area is inappropriate. Some of the pollutants for which WQS are exceeded in the County’s stormwater discharge samples are the same pollutants for which downstream “waters of the United States” are impaired. As detailed in Basis 1, subparagraph B, above, several of the receiving canyon waters identified as jurisdictional in Appendix 5 are listed on the State of New Mexico’s 303(d) list as impaired for one or more of copper, aluminum, and/or PCBs. As also explained under that section, waters that are impaired for a particular pollutant have no remaining assimilative capacity for that pollutant. Thus, any discharge to an impaired water body of a pollutant for which the water body is impaired in concentrations exceeding WQS contributes to the water body’s impairment (i.e., WQS violation). Because the County’s MS4 discharges stormwater from the Los Alamos Urban Area containing pollutants in concentrations above WQS into “waters of the United States”, i.e., canyon waters identified as jurisdictional in Appendix 5, that are already impaired for those same pollutants, discharges from the County’s MS4 are contributing to the impairments in those waters.

The County does not dispute that its stormwater sampling shows pollutants in stormwater runoff from the Los Alamos Urban Area in concentrations above WQS for one or more of the same pollutants for which downstream receiving water are impaired. Instead, the County argues that stormwater discharges from the County’s MS4 should not be designated for NPDES permit coverage because the 2022-2023 Sampling Report indicates that discharges from the County’s MS4 are not the primary source of the downstream water quality impairments, primarily because the concentrations of some of the pollutants of concern were either below or comparable to background levels of those pollutants. The County’s analysis is incorrect.

Discharges from the Townsite do not have to be the primary cause of water quality impairments to warrant designation. Under CWA §§ 402(p)(2)(E) and (p)(6) and EPA’s stormwater regulations at 40 CFR § 122.26(a)(9)(i)(D), EPA may designate stormwater discharges as requiring NPDES permit coverage if it determines that the discharge, or category of discharges within a geographic area, **contributes** to a violation of a WQS. EPA has determined that stormwater discharges from MS4s located in the Los Alamos Urban Area, including the MS4 operated by the County in that location, contribute to violations of NM WQS.

Further, the County’s stormwater sampling results showed concentrations of pollutants of concern in the County’s stormwater that were above both NM WQS and background levels for those pollutants. As discussed above, the County’s monitoring results showed concentrations of copper and PCBs above state WQS. The County acknowledged that the “[c]opper concentration exceeded the background value in 42 percent of the samples” and “PCB concentrations exceeded the background value in 12 percent of the samples.” County’s Comments, pg. 13. The County also acknowledged that “[t]he exceedances above background imply contributions from urban sources for these constituents.” *Id.* Several of the jurisdictional waters to which the County’s MS4 discharges are listed on the State’s 2024 303(d) list as impaired for

copper and/or PCBs, including Los Alamos Canyon (PCBs and Copper), DP Canyon (PCBs and Copper), Acid Canyon (PCBs) and Pueblo Canyon (PCBs and Copper).

Based on our analysis of the above data and information, EPA determines that stormwater discharges to “waters of the United States” (i.e., the canyon waters identified as jurisdictional “waters of the United States” in Appendix 5) from MS4s in the Los Alamos Urban Area and LANL exceed NM WQS for PCBs, a pollutant for which Los Alamos Canyon, Sandia Canyon, Mortandad Canyon, Pajarito Canyon, and Canada del Buey Canyon are impaired, and thus contribute to WQS violations in those waters.

In addition, EPA determines that at least some of the stormwater discharges from MS4s in the Los Alamos Urban Area and LANL exceed one or more of NM’s WQS for aluminum, selenium, gross alpha, copper, and/or mercury, pollutants for which one or more “waters of the United States” (i.e., the canyon waters identified as jurisdictional in Appendix 5) are listed as impaired on the State’s CWA section 303(d) list, i.e., those discharges contribute to WQS violations in those waters.

Basis 2: The stormwater discharges from the designated MS4s contribute to WQS violations in the Rio Grande, an impaired traditional navigable water. The Rio Grande is impaired for Adjusted Gross Alpha, Temperature, Turbidity, Selenium, Total Recoverable Polychlorinated Biphenyls (PCBs), Mercury (Fish Consumption Advisory), and Total Recoverable Aluminum, meaning the river has no remaining assimilative capacity for discharges of these pollutants that exceed WQS. The discharges from the designated MS4s contain some of these same pollutants in concentrations exceeding WQS when they leave the MS4s and when they enter the canyons leading to the Rio Grande. The canyons serve as discrete conveyances, i.e., point sources, that carry these pollutants to the Rio Grande, where they contribute to violations of WQS in the river.

A. The Rio Grande is a water of the United States because it is a traditional navigable water.

For purposes of this Revised Designation Decision, “the Rio Grande” refers to that section of the river designated by NMED as AU ID NM-2111_00, Rio Grande (Cochiti Reservoir to San Ildefonso bend). The canyon waters running from the Pajarito Plateau’s upland mesas, on which the Los Alamos Urban Area and LANL sit, connect to this section of the Rio Grande. See https://mywaterway.epa.gov/waterbody-report/21NMEX/NM-2111_00/2022.

EPA’s regulations at 40 C.F.R. § 120.2(a)(1)(i) define “waters of the United States” to include “all waters which are currently used, or were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters which are subject to the ebb and flow of the tide.” 40 C.F.R. § 120.2(a)(1)(i). Waters subject to jurisdiction under section (a)(1)(i) of the regulation are commonly referred to as “traditional navigable waters.” Traditional navigable waters include all of the “navigable waters of the United States,” defined in 33 C.F.R. Part 329 and by numerous decisions of the federal courts, plus all other waters that are navigable-in-fact (e.g., the Great Salt Lake, UT and Lake Minnetonka, MN).²² As detailed in Appendix 5: *Clean Water Act Jurisdictional Analysis of the Waters of Los Alamos County*, EPA conducted a case-specific analysis of the facts for AU ID NM-2111_00, Rio

²² EPA and Corps Guidance entitled “Waters that Qualify as ‘Traditional Navigable Waters’ Under Section (a)(1) of the Agencies’ Regulations.” This guidance was originally included as Appendix D to the May 30, 2007, COE Jurisdictional Handbook and is still commonly referred to as “Appendix D.”

https://www.epa.gov/system/files/documents/2022-12/Water%20that%20Qualify%20as%20TNWs_Final_0.pdf

Grande (Cochiti Reservoir to San Ildefonso bend) and found it to be a “traditional navigable water” as a navigable-in-fact water under 40 C.F.R. §120.2(a)(1). See Appendix 5: *Clean Water Act Jurisdictional Analysis of the Waters of Los Alamos County*.

B. The Rio Grande is impaired for Adjusted Gross Alpha, Temperature, Turbidity, Selenium, Total Recoverable Polychlorinated Biphenyls (PCBs), Mercury (Fish Consumption Advisory), and Total Recoverable Aluminum, meaning the river has no assimilative capacity for discharges of these pollutants at levels exceeding WQS.

The Rio Grande (Cochiti Reservoir to San Ildefonso bend) is listed on the NM 2022-2024 303(d)/305(b) Report list of impaired waters as not meeting state WQS for Adjusted Gross Alpha, Temperature, Turbidity, Selenium, Total Recoverable Polychlorinated Biphenyls (PCBs), Mercury (Fish Consumption Advisory), and Total Recoverable Aluminum.²³ The impairment listings are based on available water quality data. For this reach of the Rio Grande, NMED states in a comment to its 2022-2024 303(d)/305(b) Report (see Footnote 11) that:

Some of the impairment listings are based solely on stormwater data. Procedures are in place, under the purview of the Buckman Direct Diversion Board, that are intended to not allow public water supply withdrawal from the Buckman Diversion during significant storm events. Fish Tissue Advisory listings are based on NM’s current fish consumption advisories for this water body. Per USEPA guidance, these advisories demonstrate non-attainment of CWA goals stating that all waters should be “fishable.”²⁴ Therefore, the impaired designated use is the associated aquatic life [use] even though human consumption of the fish is the actual concern.

NM 2022-2024 303(d)/305(b) Report at 192.

The fact that the Rio Grande is impaired for Adjusted Gross Alpha, Temperature, Turbidity, Selenium, Total Recoverable Polychlorinated Biphenyls (PCBs), Mercury (Fish Consumption Advisory), and Total Recoverable Aluminum means the river has no remaining assimilative capacity for discharges of these pollutants above criteria levels. Any discharge of these pollutants in concentrations exceeding state WQS adds to the impairment in the Rio Grande (i.e., it contributes to the WQS violations).

C. Stormwater discharges from the designated MS4s contain some of the same pollutants for which the Rio Grande is impaired in concentrations exceeding NM WQS when they are discharged from the MS4s to canyon waters and conveyed to the Rio Grande.

EPA examined available data from two existing reports concerning pollutants in the stormwater being discharged from MS4s on the Pajarito Plateau to the canyon waters that lead from the Plateau to the Rio Grande, specifically the LANL PCB Report and the LANL Metals Report. For a detailed discussion of

²³NM 2022-2024 303d/305b Report.

²⁴ EPA considers fish or shellfish consumption advisories and supporting fish tissue data to be existing and readily available data demonstrating non-attainment of the Clean Water Act §101(a) goal that waters be fishable. *Guidance for 2006 Assessment, Listing and Reporting Requirements Pursuant to Sections 303(d), 305(b) and 314 of the Clean Water Act*, EPA, July 29, 2005. New Mexico lists all waterbodies included in fish advisories based on mercury as impaired for mercury except waterbodies where available fish tissue data are below the New Mexico water quality criterion of 0.3 mg/kg methylmercury. NM 2022-2024 303(d)/305(b) Report at 27.

EPA's analysis of the LANL PCB Report and the LANL Metals Report, See Basis 1, subparagraph C above.

EPA's review of the data included in the LANL PCB Report and the LANL Metals Report confirmed that stormwater discharges from MS4s in the Los Alamos Urban Area and LANL to the canyon waters leading to the Rio Grande exceed NM WQS for PCBs, aluminum, selenium, gross alpha and mercury, pollutants for which the Rio Grande is impaired.

EPA also reviewed two 2013 Requests for Alternative Compliance submitted by LANL to EPA under LANL's Industrial Stormwater Permit, in which LANL argued that the cause of its exceedances of the permit's action level for PCBs, which was equivalent to NM water quality criteria, was urban stormwater runoff from sources such as motor oil accumulation on parking lots, brake pad and tire material released on pavement, galvanized fencing, culverts, and other building materials.²⁵ LANL's 2021 Site Environmental Report stated that sampling under LANL's Industrial Stormwater Permit in 2021 continued to show PCB concentrations above the permit's action level for PCBs in six out of seven samples collected that were analyzed for PCBs. LANL 2021 Site Environmental Report at 6-36.

In the two 2013 Requests for Alternative Compliance submitted to EPA under LANL's 2010 Industrial Stormwater Permit, LANL also argued that the cause of its exceedances of the permit's action levels for zinc and copper, which were equivalent to NM water quality criteria, was urban runoff from sources such as motor oil accumulation on parking lots, brake pad and tire material released on pavement, galvanized fencing, culverts, and other building materials.²⁶

EPA also reviewed the 2022-2023 Sampling Report submitted to EPA as part of the County's comments on EPA's Initial Revised Designation Decision, along with the stormwater sampling data included with the Report. For a detailed discussion of EPA's analysis of the 2022-2023 Sampling Report and the County's data, see Basis 1, subparagraph C above. Based on its review of the Report, EPA determined that the County's data does not contradict EPA's determination that stormwater discharges from the Los Alamos Urban Area contribute to exceedances of NM WQS in the Rio Grande, a water of the United States. Rather, the County's data confirms that stormwater discharges from the Los Alamos Urban Area exceed NM WQS for PCBs and aluminum, pollutants for which the Rio Grande is impaired.

Therefore, based on its analysis of the available information in the LANL PCB Report, the LANL Metals Report, LANL's 2013 Requests for Alternative Compliance, and the County's 2022-2023 Sampling Report, EPA has determined that stormwater discharges from the designated MS4s contain some of the same pollutants for which the Rio Grande is impaired in concentrations exceeding applicable NM WQS when they leave the MS4s and discharge to the canyons leading to the Rio Grande.

D. The canyons serve as discrete conveyances, i.e., point sources, that carry stormwater containing pollutants of concern from MS4s in the Los Alamos Urban Area and LANL to the Rio Grande.

A Jurisdictional Assessment performed by EPA Technical Field Staff found that the Canyons are Conveyances through which Pollutants are discharged to the Rio Grande.

²⁵ LANL 2013 Alternative Compliance Requests, Section 7.0

²⁶ LANL 2013 Alternative Compliance Requests, Section 7.0.

CWA § 502(14) defines “point source” as “any discernable, confined and discrete conveyance, including but not limited to any pipe, ditch, channel, tunnel, conduit, well, discreet fissure, container, rolling stock, concentrated animal feeding operation or vessel or other floating craft, from which pollutants are or may be discharged.”

On September 21-22, 2022, EPA technical field staff conducted site visits to the canyons that lead from the upland mesas of the Pajarito Plateau to the Rio Grande, including the canyons leading from the 2020 Census-defined Los Alamos Urban Area and developed areas of LANL property, to the river below. EPA technical field staff also collected field data and measurements associated with evidence of water flow and permanence at multiple locations throughout the canyons. Based on the EPA’s analysis of available data and field observations, EPA finds that the canyons are conveyances that receive and convey stormwater (and the pollutants in it) from the Plateau, including from the Los Alamos Urban Area and the developed areas of LANL, to the Rio Grande.

EPA observed indicators in the field and has evaluated evidence from remote sensing data that establish that the canyons draining Los Alamos County, including the Los Alamos Canyon/Pueblo Canyon watershed, are discrete conveyances of stormwater (and the pollutants in it) to the Rio Grande, a downstream traditional navigable water. EPA reviewed and analyzed relevant remote sensing data and imagery for the Los Alamos Area to gather additional information about the landscape and hydrology of the area. Some of the primary remote sensing datasets EPA used for this analysis were the U.S. Geological Survey’s (USGS) Light Detection and Ranging (LIDAR) data and Digital Elevation Models (DEM), as well as color-infrared aerial photography. This type of remote sensing data is based on measuring the spectral signatures of different materials and is primarily captured by sensors on satellites or aircraft. EPA also incorporated geospatial datasets into the analysis like the USGS National Hydrography Dataset Plus High Resolution (NHDPlus HR). See Appendix 5: *Clean Water Act Jurisdictional Analysis of the Waters of Los Alamos County*.

The connectivity maps in Appendix 5 demonstrate that the representative conveyances identified by EPA during the September 2022 site visit discharge directly or through other conveyances to “waters of the United States.” *Id.* A map showing the canyons that serve as conveyances is included at Appendix 10.

LANL Surface Water Data, 2011-2020, Demonstrate that Stormwater flowing off the Pajarito Plateau to the Canyons connected to the Rio Grande sometimes reaches the Rio Grande.

LANL routinely collects surface water monitoring data for various parameters from as many as 50 gage stations covering most of LANL’s property and publishes the data collected in its annual Surface Water Data reports. LANL samples surface water in all major canyon waters and tributaries on current or former LANL lands and maintains 37 stream gage stations on or near LANL, all of which are equipped with automated samplers that activate at the start of stormwater runoff events. Stormwater samples are also collected at eight additional stream channel locations that do not have active gage stations. Although the number of gage stations and stream channel sampling locations remains fairly constant over time, the number of locations with samples varies from year to year because not all gage stations or channel sampling locations experience stormwater flow in any given year.²⁷ Locations of stream gage stations for which monitoring data were collected for the 2020 LANL Surface Water Data report are shown below in Figure 2.

²⁷ LANL 2021 Site Environmental Report at 6-13.

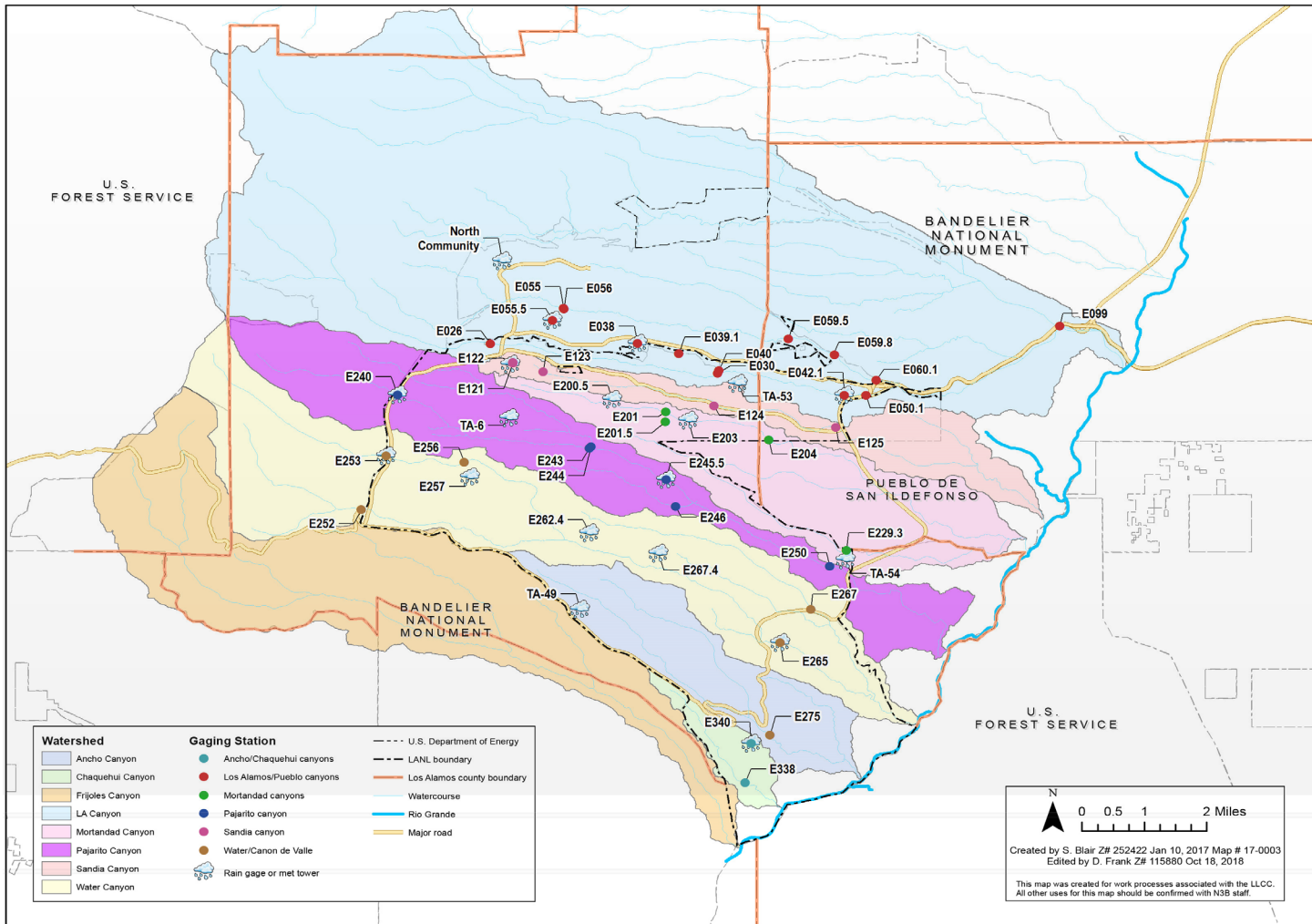


Figure 2 (Source: LANL Surface Water Data, Water Year 2020)

For purposes of this Designation Decision, EPA reviewed LANL Surface Water Data for Water Years (September-October) 2011-2020.^{28,29,30,31,32,33,34,35,36} (See Table 14 below.) Because the Los Alamos Townsite, the community of White Rock, and the developed areas of LANL are located in the Los Alamos Canyon/Pueblo Canyon watershed, EPA focused its review of LANL's surface water data on monitoring samples collected from this watershed, specifically on water samples collected from three LANL gage stations: E050.1 (Los Alamos Canyon below Low Head Weir), E060.1 (Pueblo Canyon below Grade Control Structure Location), and E109.9 (Los Alamos Canyon above Rio Grande).

The Los Alamos Canyon/Pueblo Canyon watershed is located at the northern end of Los Alamos County and LANL property. The watershed extends on U.S. Forest Service land to the west and northwest of LANL and extends eastward from the headwaters across the Pajarito Plateau to its confluence with the Rio Grande. The Los Alamos Canyon/Pueblo Canyon watershed includes the waters located in Los Alamos, Pueblo, and DP Canyons. The waters located in Bayo, Guaje, Rendija, and Barrancas Canyons are tributary canyon waters in the watershed. The tributary located in Pueblo Canyon is located on the north side of the Los Alamos Townsite and extends from the Jemez Mountains to its confluence with the tributary located in Los Alamos Canyon, approximately 4.5 miles east of the Los Alamos Townsite at the intersection of NM 502 and NM 4. Los Alamos Canyon is the southernmost canyon in the watershed. LANL Surface Water Data, Water Year 2012 at 12.

²⁸ *Surface Water Data at Los Alamos National Laboratory, Water Year 2011*, Los Alamos National Laboratory, LA-UR-12-23350, July 2012, EP2012-0154 (LANL Surface Water Data, Water Year 2011).

²⁹ *Surface Water Data at Los Alamos National Laboratory, Water Year 2012*, Los Alamos National Laboratory, LA-UR-13-21951, April 2013, EP2013-0028 (LANL Surface Water Data, Water Year 2012).

³⁰ *Surface Water Data at Los Alamos National Laboratory, Water Year 2013*, Los Alamos National Laboratory, LA-UR-15-21267, March 2015, EP2015-0037 (LANL Surface Water Data, Water Year 2013).

³¹ *Surface Water Data at Los Alamos National Laboratory, Water Year 2014*, Los Alamos National Laboratory, LA-UR-18-20700, February 2018, EP2018-0036 (LANL Surface Water Data, Water Year 2014).

³² *Surface Water Data at Los Alamos National Laboratory, Water Year 2015*, Los Alamos National Laboratory, December 2018, EM2018-0088 (LANL Surface Water Data, Water Year 2015).

³³ *Surface Water Data at Los Alamos National Laboratory, Water Year 2016*, Los Alamos National Laboratory, March 2020, EM2020-0006 (LANL Surface Water Data, Water Year 2016).

³⁴ *Surface Water Data at Los Alamos National Laboratory, Water Year 2017*, Los Alamos National Laboratory, June 2020, EM2020-0094 (LANL Surface Water Data, Water Year 2017).

³⁵ *Surface Water Data at Los Alamos National Laboratory, Water Years 2018-2019*, Los Alamos National Laboratory, June 2020, EM2020-0220 (LANL Surface Water Data, Water Years 2018-2019).

³⁶ *Surface Water Data at Los Alamos National Laboratory, Water Year 2020*, Los Alamos National Laboratory, LA-UR-13-21951, June 2021, EM2021-0220 (LANL Surface Water Data, Water Year 2020).

Table 14. Summary of Discharges from Stream Monitoring Stations for Water Years 2011-2020^{37,38,39,40,41,42,43,44,45,46}

Year	E050.1 Los Alamos Canyon below Low Head Weir			E060.1 Pueblo Canyon below Grade Control Structure			E109.9 Los Alamos [Canyon] above Rio Grande		
	Estimated Days with Flow	Total Volume (acre-ft)	Instantaneous Maximum Discharge (ft ³ /sec)	Estimated Days with Flow	Total Volume (acre-ft)	Instantaneous Maximum Discharge (ft ³ /sec)	Estimated Days with Flow	Total Volume (acre-ft)	Instantaneous Maximum Discharge (ft ³ /sec)
2011	24	73	188	84	61	17	186	72	632
2012	46	43	168	9	3.5	1.1	170	369	678
2013	34	339	740	9	186	1400	323	1125	5000
2014	32	67	214	23	27	54	No Data	No Data	No Data
2015	50	201	43	15	7.2	12	No Data	No Data	No Data
2016	7	8.3	25	21	6.3	3.8	No Data	No Data	No Data
2017	31	41	56	19	0.36	0.58	No Data	No Data	No Data
2018	8	19	35	2	0.7	1.1	No Data	No Data	No Data
2019	103	733	71	19	41	51	No Data	No Data	No Data
2020	5	0.73	0.53	14	0.06	0.22	No Data	No Data	No Data

³⁷ LANL Surface Water Data, Water Year 2011

³⁸ LANL Surface Water Data, Water Year 2012

³⁹ LANL Surface Water Data, Water Year 2013

⁴⁰ LANL Surface Water Data, Water Year 2014

⁴¹ LANL Surface Water Data, Water Year 2015

⁴² LANL Surface Water Data, Water Year 2016

⁴³ LANL Surface Water Data, Water Year 2017

⁴⁴ LANL Surface Water Data, Water Year 2018

⁴⁵ LANL Surface Water Data, Water Year 2019

⁴⁶ LANL Surface Water Data, Water Year 2020

The LANL Surface Water Data show high flows in gage stations E050.1 and E060.1 in both 2013 and 2019. The data also show high flows in gage station E109.9 in 2013, but data from gage station E109.9 were unavailable for 2019 because E109.9 was damaged by a high-flow event in 2013 and was not rebuilt. LANL Surface Water Data, Water Year 2013 at 10. A summary of Pajarito Plateau flow data provided to EPA by LANL in March of 2022 stated that E109.9 was located in Los Alamos Canyon tributary near the confluence with the Rio Grande and that “due to its close proximity to the river, flows recorded at E109.9 indicate dates when upstream discharges reach the Rio Grande.”⁴⁷ Based on a comparison of daily peak discharge data between E109.9 and gage stations at locations further upstream in waters throughout the Los Alamos Canyon/Pueblo Canyon watershed, LANL concluded that stormwater discharged from areas around LANL and the Los Alamos Townsite reached the Rio Grande. In support of this conclusion, LANL noted that in September 2011, flows were recorded at E109.9 and at all Los Alamos Canyon and DP Canyon gage stations and in August 2012, flows were recorded at E109.9 and at all Los Alamos Canyon gage stations. In September 2013, flows were recorded at all gage stations. *Id.* at 5. Although E109 has not been operational since 2013, NMED provided EPA with sampling data from NMED gage station E110 (Los Alamos Canyon above confluence with Rio Grande), which is in Los Alamos Canyon in close proximity to the non-operational E109.9.⁴⁸ The NMED data show a high flow event in gage station E110 on July 25, 2019, with a flow of 527.347 ft³/sec. *Id.*

Based on EPA’s analysis of LANL Surface Water Data and the additional flow data provided by NMED, EPA finds that stormwater discharges flowing off the Pajarito Plateau from the Los Alamos Urban Area and LANL to the canyons leading to the Rio Grande sometimes reach the river. Evidence of high flows at gage stations E109.9 and E110, which are each located in Los Alamos Canyon less than a mile upstream of the canyon waters’ confluence with the Rio Grande, makes it reasonable to conclude that these flows continue the short distance downstream and discharge to the river. The fact that the high flows in tributaries measured at gage stations E109.9 and E110 coincide with high flows in tributaries measured at gage stations further upstream in the canyons leading from the Pajarito Plateau to the Rio Grande further support this conclusion.

The Buckman Direct Diversion (BDD) Water Quality Monitoring Program Demonstrates that Stormwater from the MSAs Carries Pollutants through the Canyons to the Rio Grande.

The BDD was designed to divert surface water from the Rio Grande, treat it, and provide drinking water to the City and County of Santa Fe, New Mexico. The point of diversion (BDD Intake) is on the east bank of the Rio Grande approximately 15 miles northwest of the City of Santa Fe and about three miles downstream from where NM Route 502 crosses the river at Otowi Bridge. At approximately the same location, 3.5 miles upgradient from the BDD near the Otowi Bridge, the Los Alamos Canyon/Pueblo Canyon watershed flows into the Rio Grande.⁴⁹ The Pueblo Canyon connects with and flows into the Los Alamos Canyon above the Rio Grande, and thus the Los Alamos Canyon carries flow from the combined Los Alamos Canyon/Pueblo Canyon watershed downstream to the river. Based on the understanding that

⁴⁷ *Los Alamos Pajarito Plateau Flow Data Summary*, received by EPA from LANL via email dated March 17, 2022.

⁴⁸ 2019 Flow Data for Gage Station E110 (E110 Flow Data.xlsx) received by EPA from NMED via email dated April 18, 2022.

⁴⁹ *Storm Water Quality Monitoring of Rio Grande at Buckman Direct Diversion, From 2011-2014*, Daniela K. Bowman, Regulatory Compliance Officer, Buckman Direct Diversion, Final rev. 3/3/16, (2011-2014 BDD Report) at 1.

the Los Alamos and Pueblo Canyons and their tributaries have been impacted by contamination originating from discharges of waste from LANL operations into the canyons on the Pajarito Plateau that drain to the Rio Grande, the BDD entered into a Memorandum of Understanding (MOU) with DOE/LANL in 2010 to monitor water quality in the Los Alamos Canyon and Pueblo Canyon and the Rio Grande in order to evaluate water quality at the BDD Intake during storm events. *Id.* at 5.

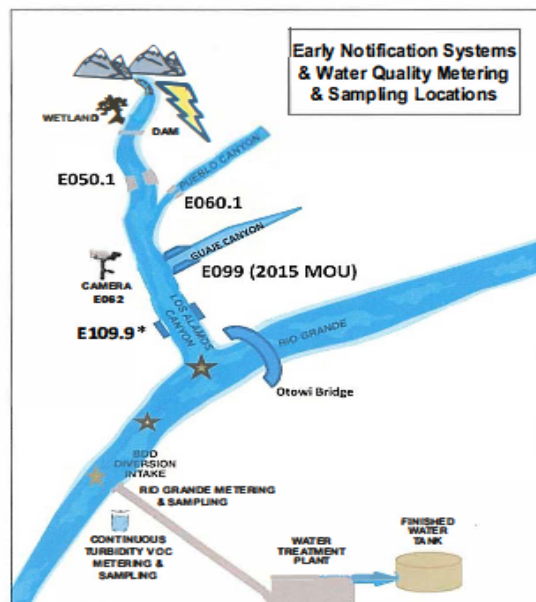
The 2010 MOU established an Early Notification System (ENS) to deliver real-time data from the streams located in Los Alamos and Pueblo Canyons during storm events. The system was designed to warn the BDD when discharges of stormwater flowing in the canyon waters exceeded a designated threshold (set at 5 cfs), above which the canyon waters' flow might reach the Rio Grande and transport contaminants to the river. See 2011-2014 BDD Report at 6. When storm-related flows exceed five cubic feet per second (cfs) combined at the LANL gage stations, the BDD is notified and no river water is pumped for 10-12 hours, or until the storm event has subsided. *Id.* at 10. Under the ENS, the Los Alamos and Pueblo Canyons watershed was monitored at gage stations E050.1 (Los Alamos Canyon above the Pueblo Canyon Confluence), E060.1 (Pueblo Canyon), and E109.9 (Los Alamos Canyon 0.7 miles above the Rio Grande). Gage station E109.9 was used as the trigger for the BDD to stop diverting water from the Rio Grande until September 2013, when E109.1 was buried by sediment carried by a major storm event. *Id.* at 9. In 2014, E050.1 and E060.1 became the ENS triggers. See Figures 3 and 4 below.

Early Notification System



❖ The Los Alamos Canyon flows were monitored by E050.1, E060.1, and E109.9*. (*Non-operational since Sep 2013)

❖ E109.9 was a trigger to stop diverting. In 2014 – E050.1 & E060.1 became the triggers.



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Figure 3 (Source: BDD PowerPoint on *Storm Water Quality Monitoring of Rio Grande at Buckman Direct Diversion*, 2011-2014 Report, 2010 Memorandum of Understanding, Slide 5)

In a report summarizing the results of the sampling performed from 2011-2014 under the 2010 MOU, the BDD stated that it sampled a total of 24 storm events occurring in Los Alamos Canyon, Pueblo Canyon, and the Rio Grande watershed, with many taking place during the 2011 Los Conchas fire. 2011-2014 BDD Report at i. NMED also collected stormwater data at the diversion under an unrelated program. In its report, the BDD used analytical data collected by the BDD and NMED without distinction. *Id.* at ii.

In summary, in the 2011-2014 BDD Report, the monitoring results confirmed that LANL legacy contaminants were being transported by stormwater through the canyons to the BDD in the Rio Grande. The Report also found that the 2011 Las Conchas fire played an important role in mobilizing contaminants in the Los Alamos Canyon/Pueblo Canyon watershed and transporting them to the BDD and that the water quality effects of this fire to the Rio Grande watershed from Otowi Bridge to BDD were significant. *Id.* at iii. A revised MOU was signed in 2015, which called for continued water quality sampling, and the BDD produced a second report in 2016 summarizing the additional three years of monitoring results.⁵⁰ Under the 2015 MOU, gage station E099 (Guaje Canyon above the confluence of Guaje Canyon and Los Alamos Canyon) was added to replace station E109.9, which was buried by sediment after a major storm event in 2013 and not repaired. 2015 BDD Report at 2.

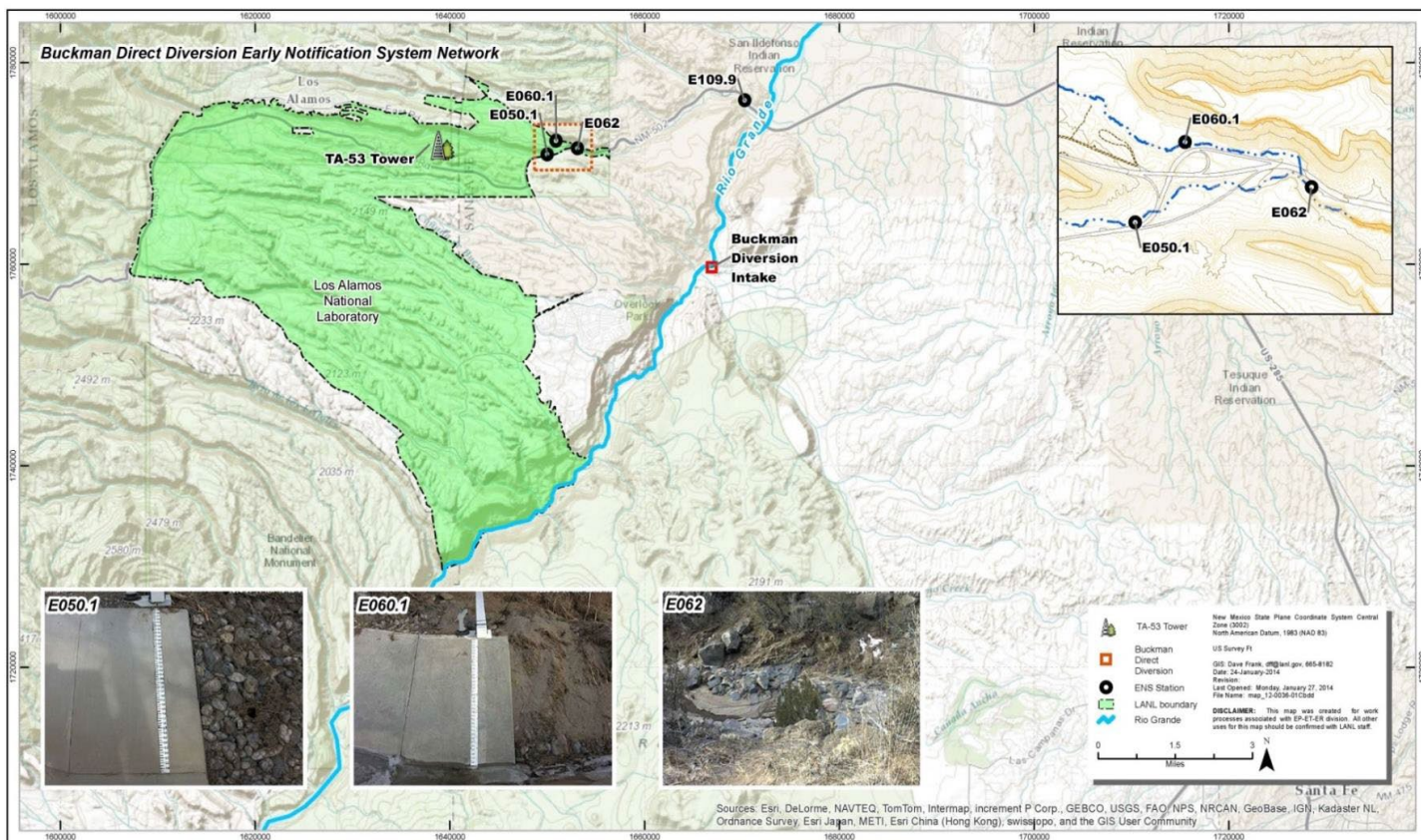


Figure 4 (Source: BDD 2015 Annual Report)

⁵⁰ Storm Water Quality Monitoring of Rio Grande at Buckman Direct Diversion, 2015, Daniela K. Bowman, rev. 11/2016 (2015 BDD Report).

The water quality sampling results detailed in the 2011-2014 and 2015 BDD Reports provide evidence of stormwater flows from the Pajarito Plateau traveling through the Los Alamos and Pueblos Canyons to the Rio Grande. The sampling results from storm events during the 2011 Las Conchas fire are particularly strong evidence of pollutants from the Pajarito Plateau reaching the river. The Las Conchas fire, the largest wildfire in New Mexico history, started on the Pajarito Plateau about 5.5 miles west of the Bandelier National Monument and burned a total of 154,349 acres, threatening the Los Alamos Townsite and LANL.⁵¹ As discussed above, the 2011-2014 BDD Report found that the fire on the Plateau played an important role in mobilizing contaminants in the Los Alamos Canyon/Pueblo Canyon watershed and transporting them through the Pueblo and Los Alamos Canyons to the Rio Grande and the BDD diversion, and that the water quality effects of this fire to the Rio Grande watershed were significant. Because the Los Alamos and Pueblo Canyons and their tributaries are discrete conveyances carrying pollutants from the MS4s to the Rio Grande, the canyons are point sources.

In conclusion, based on EPA's field observations on September 21-22, 2022, including its analysis of remote sensing data, and its analysis of LANL Surface Water Data, the BDD Reports, and flow data provided by NMED, EPA finds that the canyons leading from the Pajarito Plateau to the Rio Grande serve as discrete conveyances, i.e., point sources, that carry stormwater containing pollutants of concern from MS4s in the Los Alamos Urban Area and LANL to the Rio Grande. Because those stormwater discharges exceed applicable WQS for certain pollutants of concern when they are discharged by the MS4s to the canyons, and the Rio Grande is a traditional navigable water (i.e., water of the US) impaired for some of the same pollutants of concern, EPA finds that those stormwater discharges contribute to WQS violations.

Designation Decision

Based on the above, EPA determines that stormwater discharges from MS4s located in the Los Alamos Urban Area as defined by the latest decennial Census⁵² and on LANL property within Los Alamos and Santa Fe Counties contribute to violations of NM WQS. Therefore, under the authority of CWA § 402(p)(2)(E), (p)(6), and 40 C.F.R. § 122.26(a)(9)(i)(D), EPA designates these stormwater discharges for NPDES permit coverage. EPA finds there are insufficient data to determine that discharges of stormwater from the community of White Rock contribute to any violations of NM WQS. Therefore, EPA is not designating those discharges as requiring NPDES permit coverage.



Earthea Nance, Ph.D., P.E.

Regional Administrator

EPA, Region 6

Dated:

12/09/2024

⁵¹ <https://www.nps.gov/band/learn/nature/lasconchas.htm>.

⁵² Because the boundary of the Los Alamos Urban Area will update with each decennial Census, EPA is designating the Los Alamos Urban Area based on the latest decennial Census. This approach, under which future changes to the Los Alamos Urban Area are included in this Designation, is consistent with the approach used by EPA for automatic designation of small MS4s under 40 CFR 122.32(a)(1), as well as with the CWA 402(p)(6) requirement that EPA designate stormwater discharges, other than those discharges designated by regulation "to protect water quality."

Appendix 1: Petition

Appendix 2: Remand Order

Appendix 3: Initial Revised Designation Decision

Appendix 4: Federal Register Notice of Initial Revised Designation Decision

Appendix 5: Clean Water Act Jurisdictional Analysis of the Waters of Los Alamos County

Appendix 6: EPA's Response to Comments on Initial Revised Designation Decision, with Attachment A – EPA's Response to Comments on 2019 Designation Decision

Appendix 7: Summary of EJ Screen

Appendix 8: Map of Designated Areas

Appendix 9: Map of Jurisdictional Canyon Waters

Appendix 10: Map of Canyons that Serve as Conveyances

Appendix 11: 2022-2023 Sampling Report