STATE OF NEW MEXICO
BEFORE THE WATER QUALITY CONTROL COMMISSION

IN THE MATTER OF THE PETITION FOR A PERMIT REVIEW OF DISCHARGE PERMIT RENEWAL AND MODIFICATION, DP-873	)	
CANNON AIR FORCE BASE (AFB) UNITED STATES AIR FORCE	)	Docket No. WQCC__22-01___
Petitioners.	)	
v.	)	
NEW MEXICO ENVIRONMENT DEPARTMENT	)	
Respondents.	)	

CANNON AFB PETITION
FOR PERMIT REVIEW AND NOTICE OF APPEAL OF THE
ENVIRONMENT PERMIT RENEWAL AND MODIFICATION, DP-873

Pursuant to New Mexico Water Quality Act ("WQA"), NMSA 1978 § 74-6-5 (O) and 20.6.2.3112 of the New Mexico Administrative Code ("NMAC"), the United States Air Force ("Air Force") hereby submits its Petition for Review and Notice of Appeal of New Mexico Environment Department's ("NMED's") December 15, 2021 issuance of Permit number DP-873 to Cannon AFB ("DP-873").

I. Introduction

Cannon AFB operates a Wastewater Treatment Facility ("WWTF") on the installation. This WWTF discharges effluent into groundwater. DP-873 was originally issued to Cannon AFB on December 8, 1994, with the previous iteration having been issued for a five-year term ending in March 2019. In September 2018, Cannon AFB timely submitted a permit renewal application for DP-873. On February 8, 2021, NMED issued a draft permit ("Draft Permit"), and

initiated a public notice and comment period. On May 10, 2021, Petitioner timely submitted extensive comments on the Draft Permit ("Petitioner's Comments") and requested a meeting with NMED. NMED issued the final Permit on December 15, 2021, accompanied by NMED's responses to Petitioner's Comments ("Response to Comments").

NMED's response to comments on the Final Permit do not adequately address Petitioner's comments. NMED claims this permit's objective relates to regulating current and future effluent from the WWTF. But, DP-873 seeks to impose sampling, investigation and abatement requirements for past activities on Cannon AFB that are being assessed and mitigated by the Air Force in a Comprehensive Environmental Response, Compensation, and Liability Act ("CERCLA") response. Petitioner's comments explained that for various reasons under state and federal law, many conditions that seek to impose requirements for past activities at Cannon AFB should be modified, removed from the permit, or otherwise don't apply to Petitioner. Petitioner also explained that the draft permit called for duplication and waste in that it fails to account for actions being performed under other permits and regulatory programs. Yet, NMED improperly found that Petitioner is not exempt from abatement requirements, fails to properly account for actions performed under other permits and regulatory programs and similarly did not remove or otherwise modify requirements based on the legal bases asserted by Petitioner. As such, DP-873's sampling, investigation and abatement requirements concerning PFCs are subject to set-aside on judicial review.

Additionally, DP-873's substantive conditions seek to impose requirements that are improperly based on guidance. DP-873 also improperly seeks to impose financial assurance requirements that fail to recognize Petitioner's status as an instrumentality of the United States.

Similarly, DP-873 seeks to impose conditions and requirements that do not fall under an applicable federal statute or within an applicable waiver of sovereign immunity.

II. Basis for Petition for Review

In accordance with the Commission's Adjudicatory Procedures, 20.1.3.16, NMAC, Petitioner states as follows:

A. Timeliness of Petition

Under the Water Quality Act ("WQA"), a petition for review must be made in writing to the Commission within thirty days from the date notice is given of the permitting action. NMSA 1978, § 74-6-5. DP-873 is dated December 15, 2021. DP-873 is dated twenty-nine days prior to today's date. Therefore, this Petition for Review is timely filed.

B. Identification of Petitioners and Statement of Standing

The Petitioner is Cannon AFB, the permittee for DP-873. Under the WQA, a person who participated in a permitting action before the department, who is adversely affected by the permitting action, may file a petition for review before the Commission. NMSA 1978, § 74-6-5(O) (2009). The petitioner is the applicant for DP-873. Petitioner participated in the permitting action by submitting comments on the Draft Permit and is adversely affected by the permitting action for the reasons discussed in sections D and E below, as well as the comments included in Exhibit 1.

C. Permitting Actions to be Reviewed

Petitioner seeks review of DP-873 issued by NMED on December 15, 2021.

D. Portions of the Permitting Action to Which Petitioner Objects

Petitioner objects to portions of the Introduction and 24 Permit Conditions (Conditions 3, 6, 10, 25, 26, 27, 28, 29, 30, 31, 44, 49, 50, 51, 52, 53, 59, 63, 64, 65, 66, 74, 75, 76). Petitioner's central objections are discussed below.

i) Conditions that Do Not Apply to Due to A Lack of Applicable Federal Statute and/or Waiver of Sovereign Immunity

States may regulate federal facilities only to the extent that such regulation is clearly authorized by Congress through a waiver of sovereign immunity. *United States v. Mitchell*, 445 U.S. 535, 538 (1980) ("[t]he United States, as sovereign, is immune from suit save as it consents to be sued…, and the terms of its consent in any court define that court's jurisdiction to entertain the suit") (quoting *United States v. Sherwood*, 312 U.S. 584, 586 (1941). Any waiver of the federal government's sovereign immunity must be "clear and unambiguous." *Hancock v. Train*, 426 U.S. 167, 179 (1976). Further, waivers must be "construed strictly in favor of the sovereign….and not enlarged…beyond what the language requires." *U.S. Dep't of Energy v. Ohio*, 503 U.S. 607, 615 (1992) *quoting McMahon v. United States*, 342 U.S. 25, 27 (1951) and *Eastern Transportation Co. v. United States*, 272 U.S. 675, 686 (1927).

As discussed below, the WQA is a state statute, not a federal statute. There is no applicable federal environmental statute for which a waiver of sovereign immunity makes the WQA, its regulations or DP-873 applicable to the Air Force, particularly with respect to the conditions to which Petitioner objects. Therefore, New Mexico has exceeded its legal authority by issuing DP-873. As such, the permit is not enforceable against the Air Force despite the Air Force's past participation in the permitting program. Moreover, filing this Petition is not to be construed as consent to DP-873, the WQA, its regulations, or to the jurisdiction of the WQCC.

a) Federal Environmental Law Waivers of Sovereign Immunity Do Not Apply

The CERCLA, 42 U.S.C. § 9601 *et. seq*. limited waiver of sovereign immunity, 42 U.S.C. § 9620, doesn't apply here for various reasons, including that the waiver merely makes instrumentalities of the United States subject to CERCLA liability and other requirements under CERCLA. Further, as is discussed below in more detail, such provisions are unnecessarily duplicative because the Air Force is addressing and mitigating PFCs under CERCLA, and the Air Force is exempt from obtaining a permit for those activities under CERCLA section121(e)(1), 42 U.S.C. § 9621(e)(1). The limited waivers of sovereign immunity in the federal Resource Conservation and Recovery Act, 42 U.S.C. § 6901, *et. seq*, and Safe Drinking Water Act, 42 U.S.C. § 300f *et. seq*, also do not apply for various reasons.

Clean Water Act Does Not Apply

Cannon AFB is not subject to discharge permitting requirements because there is no nexus between the regulated discharge and waters of the United States as identified by the U.S. Army Corps of Engineers, who are vested with the authority to make that determination under the Clean Water Act, 42 U.S.C. § 1251 ("CWA"). As a result, a discharge permit is not required and New Mexico has no legal authority to issue a permit where the discharge does not involve a water of the United States.

If Cannon AFB were located in a CWA jurisdiction, the CWA authorizes the discharge of pollutants to the waters of the United States in accordance with a National Pollutant Discharge Elimination System (NPDES) permit. New Mexico does not have EPA-delegated authority to issue such a permit. Thus, to be enforceable, such a permit would need to be issued by the Environmental Protection Agency (EPA) under Section 402 of the CWA (33 U.S.C. § 1342).

Moreover, there is no applicable waiver of sovereign immunity for groundwater under the CWA. The CWA does not generally require NPDES permits for discharges to groundwater. Courts have unequivocally excluded from the CWA "isolated/tributary groundwaters." *Exxon Corp. v. Train* 554 f.2d 1310 (5th Cir 1997); *see also Idaho Rural Council v. Bosma* 143 F.Supp.2d 1169, 1180 (D. Idaho 2001); *Potter v. ASARCO*, 49 Env't Rep Cas (BNA)1088 (D. Neb. 1999); *Allegany Envt'l Action Coal. v. Westinghouse Corp*, 46 Envt'l Rep Cas (BNA) 1126 (W.D. Pa 1998); *Washington Wilderness Coal. V. Heckla Mining Co.*, 870 F.Supp. 983, 989-90 (E.D. Wash. 1994); *United States v. GAF Corp., 389 F. Supp. 1379* (S.D. Tex. 1975).

Courts have held that a NPDES permit is not required for discharges to groundwater even if those discharges eventually migrate to surface waters. *D.E. Rice v. Harken Exploration Co.* 250 F.3d 264 (5th Cir 2001); *Village of Oconomowoc Lake v. Dayton Hudson Corp*., 24 F.3d 962, 965 (7th Cir. 1994); *Umatilla Water Quality Protection Assn. v. Smith Frozen Foods, Inc*., 962 F.Supp. 1312, 1318 (D.Or. 1997); *Kelly v. United States*, 618 F.Supp 1103 (W.D. Mich. 1985). *In Village of Oconomowoc Lake v. Dayton Hudson Corp*., the Seventh Circuit concluded that "[n]either [the CWA] nor the EPA's definition [of waters of the United States] asserts authority over groundwaters, just because they may be hydrologically connected with surface waters." The Court reached this conclusion based largely on the legislative history of the CWA, as have all other courts that have espoused the same theory. These courts have pointed out that in other provisions of the CWA, Congress clearly included groundwater when it intended to do so, and that Congress considered groundwaters to be a category of waters distinct from "navigable waters." *Umatilla Water Quality Protection Assn*. 962 F. Supp. at 1318.

In sum, there is no applicable federal statute or waiver of sovereign immunity that applies to the WQA, and therefore, NMED exceeded its authority by issuing the DP-873 to Petitioner.

Further, this renders DP-873 unenforceable against Cannon AFB and as such, Petitioner objects to permit conditions 74 and 75.

ii) The Use of DP-873 as a Vehicle to Address Groundwater Impact from Prior Use of Aqueous Film Forming Foam ("AFFF") Containing Perfluorinated Compounds ("PFCs") at Cannon AFB.

Petitioner objects to the following language in the introduction paragraph of the permit: "Data collected from on-site monitoring wells document exceedances of groundwater quality standards for PFCs according to criteria sections 20.6.2.3101 and 20.6.2.3103 NMAC…. requirement, actions, and/or contingencies intended to address the sources of documented groundwater contamination." These requirements include, but are not limited to, "a site investigation work plan [Condition 49] to evaluate the presence of PFCs in soils within the re-use areas, the former sewage lagoons, and the WWTF, and surrounding the North Playa Lake.

Conditions 25, 26, 27, 28, 29, 30, 31, 51, 52 seek to impose detailed and specific requirements for submitting a proposal for NMED approval for installation of four new groundwater monitoring wells, followed by installation of such wells and a professional survey of such wells, call for a groundwater elevation contour map, as well as multiple and specific sampling requirements of new and existing wells in addition to sampling Air Force is already performing under its CERCLA response and are deliverables under Cannon AFB's RCRA Permit.

Condition 49 seeks a soil investigation work plan for evaluation of PFCs in specified areas. Condition 50 seeks to impose requirement for submission of a Corrective Action Plan and associated requirements if groundwater monitoring exceeds a standard in 20.6.2.3103 NMAC. Conditions 53 seeks to impose contingency and Corrective Action Plan requirements if reclaimed

wastewater samples exceed specified screening levels from NMED guidance for its Hazardous Waste program (discussed below).

NMED's Response to Comments claims "[t]he main objective of this Discharge Permit is to monitor the current discharge at [Cannon AFB]," and that purpose is "not to require remediation of existing contamination as a result of previous discharges." Atch 1, Response to Comments at 3. But, the contested language in the Introduction of DP-873 and most other objected provisions demonstrate that Permit seeks to impermissibly regulate *past* releases of AFFF containing PFCs.

Petitioner objects to using DP-873 to address groundwater impact from the prior use of AFFF containing PFCs at Cannon AFB. The Air Force is following the CERCLA process to address suspected releases of types of PFCs.

The Air Force's priority under CERCLA is to protect personnel living and working on our installations and the surrounding communities we have impacted. To that end, the AF has already identified exposures to PFOS/PFOA in drinking water. Where drinking water exceeded the EPA Lifetime Health Advisory ("LHA") of 70 parts per trillion ("ppt") for two types of PFCs, the Air Force provided bottled water and installed point use filtration systems. Additionally, in accordance with CERCLA, a Remedial Investigation ("RI") was awarded in August 2020 and will determine the nature and extent of PFOS/PFOA impacts. A work plan for the RI calls for the installation of 26 to 37 new groundwater monitoring wells; 153 to 209 additional soil borings; 80 to 122 surface soil samples; installation of 12 suction lysimeters at source locations. The Cannon RI also calls for sampling existing irrigation wells off-base that support agricultural/dairy operations to assist in defining the nature and extent of impact. The RI work plan is a public document that can be

retrieved from the Air Force Civil Engineer ("AFCEC") Administrative Record Site, accessible at https://ar.afcec-cloud.af.mil/.[1]

The Air Force is also performing a $16.6 million Engineering Evaluation/Cost Analysis (EE/CA) – Pilot study to address PFOS/PFOA impacts in and around Cannon AFB as part of a CERCLA Non-Time Critical Removal Action (NTCRA) (e.g. an interim action conducted during an ongoing remedial effort).). https://www.cannon.af.mil/Environmental/. The pilot study will be a pump and treatment system to capture PFAS-impacted water. Details about this project have been provided to stakeholders and regulators through quarterly public meetings that are archived and available on Cannon AFB's website, https://www.cannon.af.mil/Environmental/.

The provisions of DP-873 that call for installation of new wells, monitoring of groundwater, soil investigation or potential further investigation and abatement requirements are unnecessary due to the Air Force's CERCLA response and inconsistent with NMED's stated objectives for DP-873. With respect to new wells and soil sampling, the CERCLA investigation is comprehensive. The Air Force is addressing soil and groundwater, and notably, is installing at least 26 new wells. NMED's justifications fail to account for the CERCLA response and focus on groundwater concentrations levels, not effluent concentrations levels. *See e.g.* NMED Response to Comments at 12 (stating that earlier CERCLA response reports indicated concentration levels of PFCs in groundwater were above the EPA LHAs for PFCs). This focus on groundwater concentrations instead of effluent demonstrates how DP-873 seeks to impose requirements related to past activities at Cannon AFB. After all, effluent samples from 2019 demonstrated little to no concentrations of PFCs (ranging from 0 to 17 ppt). NMED Response to Comments at 3. This data is posted on NMED's website. https://www-archive.env.nm.gov/wp-

[1]Select "Cannon AFB, NM" in Installation List. Then enter "2078" in the AR# box.

content/uploads/2019/04/Cannon-PFAS-data-.pdf. NMED's website also contains a press release entitled "Recent Testing Indicates No Exceedences of Federal Health Advisory Levels for PFAS in Cannon Air Force Base Drinking Water." Available at https://www-archive.env.nm.gov/wp-content/uploads/2019/04/Cannon-PFAS-data-.pdf.

NMED claims that Petitioner "has not notified NMED of what actions they are taking under CERCLA and how such actions are in conflict with requirements of DP-873," and that "NMED has not been included in the review and formulation of the [RI] work plan." NMED Response to Comments at 3, 12. Petitioner's Comments on the Draft Permit are replete with discussion on the CERCLA response and how and why the Draft Permit conflicts with the CERCLA response. NMED Response to Comments at pages 3, 4, 6, 7, 8, 9, 10, 11, 12, 13, 14 and 15. As explained above, since that time the CERCLA response has moved into the RI phase and the pilot study to treat groundwater. The CERCLA response reports, work plans and associated materials are on the AFCEC Administrative record website, https://ar.afcec-cloud.af.mil/[2]), many of these were directly provided to NMED. NMED has even commented on work plans. If specific persons at NMED wanted additional information on the CERCLA response, all it needed to do was reach out to Petitioner or schedule a meeting as requested by Petitioner in Petitioner's Comments.[3] If the record filed by NMED doesn't include this correspondence, Petitioner may to move to supplement the record to include this correspondence.

[2] Select "Cannon AFB, NM" in Installation List. CERCLA reports and associated documents may be found by separately entering "1941," "1938," "1904, "1905," "1940," "1941," "2076," "2077," "2078" in the AR# box.

[3] Nevertheless, Petitioner is committed to working with NMED and providing NMED whatever NMED needs to address Petitioner's concerns with the permit.

Similarly, despite Petitioner's comments that DP-873 calls for duplication, waste and potentially conflicting requirements under other permits and regulatory programs, NMED fails to make appropriate changes. NMED Response to Comments at 9. These provisions are duplicative, wasteful and fail to account for actions performed under other permits and regulatory programs. Thus, even if the CERCLA response did not provide a legal basis for removing the disputed conditions and requirements, seeking to impose requirements for additional wells, monitoring, investigation and potential abatement notwithstanding the CERCLA response and what is being done under other permits and regulatory programs is arbitrary, capricious, an abuse of discretion, against the weight of substantial evidence. NMSA 1978 § 74-6-7.B (2009); *Atlixco Coal. v. Maggiore,* 1998-NMCA-134, ¶ 24, 125 N.M. 786, 793, 965 P.2d 370, 377 ("an agency's action is arbitrary and capricious if it provides no rational connection between the facts found and the choices made, or entirely omits consideration of relevant factors or important aspects of the problem at hand").

Additionally, the CERCLA response makes the contested Permit Conditions legally inappropriate for several reasons. CERCLA 121(e)(1) exempts Petitioner from obtaining a permit for activities on-site. 42 U.S.C. § 9621(e)(1). Additionally, if this matter were to ripen into litigation, CERCLA 113(h) serves to bar legal challenges to the CERCLA response action. 42 U.S.C. § 9613(h). The CERCLA response also makes Petitioner exempt from abatement requirements under 20.6.2.4105.A(2) NMAC.

In its response to Comments, NMED claims that Petitioner is not exempt from abatement plan requirements because it claims Petitioner is not "under the authority or oversight of the EPA]." Exhibit 1, NMED Response to Comments at 2-3. CERCLA authorizes the President to respond to releases or threatened releases of pollutants or contaminants that may present an

imminent and substantial threat to the public health and welfare, 42 U.S.C. § 9604(a)(1), and that authority has been further delegated to the Air Force through Executive Orders and implementing guidance. *See* Executive Order 12,580, "Superfund Implementation," 52 Fed. Reg. 2923 (Jan. 23, 1987); Executive order 13,016, "Amendment to Executive Order 12,580," 61 Fed. Reg. 45,871 (Aug. 28, 1996) ("EO 12,580, as amended"); Department of Defense (DOD) Instruction 4715.07, Defense Environmental Restoration Program (DERP) (May 21, 2013, incorporating Change 2, Aug. 31, 2018). CERCLA response actions are conducted pursuant to the National Contingency Plan, 40 C.F.R. Part 300 ("NCP"), which includes communication with and the opportunity for review and comment by federal and state regulators. 10 U.S.C. § 2701(a); DODI 4715.07, Encl. 3; Air Force Instruction ("AFI") 32-7020, Environmental Restoration Program, §§ 1.5, 8.2 (Nov. 5, 2021). Thus, the Air Force has full delegated authority to be the lead agency on the CERCLA response and the Air Force contacts and seeks input from EPA and NMED in accordance with the NCP and DOD and Air Force directives.

NMED's finding that Petitioner is subject to permit requirements notwithstanding the Air Force's CERCLA response in arbitrary, capricious, and abuse of discretion, against the weight of substantial evidence, or otherwise not in accordance with the law. NMSA 1978 § 74-6-7.B (2009).

iii) Permit Conditions that Rely on Unpromulgated Guidance.

Petitioner objects to DP-873's use of screening levels of from Table A-1 in NMED's Risk Assessment Guidance for Site Investigations and Remediation. In Condition 6, DP-873 seeks to impose limits on application of reclaimed wastewater such that it does not exceed levels in the guidance. Conditions 6, 10, 39, 44, 49, and 53 seek to impose specific contingency and corrective action requirements if sampling detects specified substances above the levels in the

guidance. Additionally, NMED appears to claim this guidance may be used to set a numeric standard for PFCs and other substances such as 1, 4-dioxane under 20.6.2.3103.A(2) NMAC.

The use of this guidance is objectionable for a number of reasons. Guidance documents, such as the referenced Risk Assessment Guidance for NMED's Hazardous Waste program are intended to clarify regulations - they are not enforceable rules. The levels referenced in the tables attached to the guidance never went through formal notice and comment rulemaking, and therefore, they are not properly promulgated. Additionally, Petitioner had no involvement in the development of that guidance. Instead, the levels for these Conditions, particularly those that trigger to require response action should be based on appropriately promulgated, scientifically-backed concentration trigger levels under CERCLA/Integrated Risk Information System (IRIS), SDWA, or RCRA. Federal regulations on substances like PFCs are being considered by EPA. At the present time, however, these substances are properly classified as emerging contaminants and are not presently regulated under RCRA, HWA or SDWA. Therefore, the PFC sampling and triggers for response action in DP-873 based on unpromulgated guidance are inconsistent with NMED's stated objective of this permit and are arbitrary, capricious, an abuse of discretion, against the weight of substantial evidence, or otherwise not in accordance with the law. NMSA 1978 § 74-6-7.B (2009).

The guidance documents are also inappropriate insofar as NMED seeks to use this guidance to set numeric standards for PFCs and other substances under 20.6.2.3103.A(2) NMAC. In its Petitioner's Comments on the Draft Permit, Petitioner noted that NMED has not established state-wide or site-specific numeric standards for PFCs under the 'narrative' standard of 20.6.2.3103(A)(2). Instead, NMED references one element of the 'narrative' standard – that it "must be determined by credible scientific data and other evidence" and then claims the risk

assessment guidance "was determined by credible scientific data throughout the development of the document." *See e.g*. NMED Response to Comments at 5. This statement, used repeatedly in NMED's Response to Comments is non-responsive - it doesn't specify who determined exactly what, how, on what basis, and when. Adding to the confusion, NMED then invites Petitioner to submit proposed alternative levels for NMED approval. *See* e.g. Response to Comments at 5, 17.

Although far from clear, it would appear that in DP-873, NMED proposes to set numeric standards for PFCs under 20.6.2.3103.A(2) NMAC based on levels identified in Table A-1 in the guidance. And, that NMED believes that such numeric standards would apply to Petitioner under DP-873 if Petitioner does not propose an alternate numeric standard. This would seem to suggest that NMED's position is that unless Petitioner proposes alternate numeric standards, NMED will apply the levels from the guidance document as numeric standards for PFCs. But, NMED's basis for using this guidance falls short of meeting the requirements of 20.6.2.3103.A(2) NMAC. NMED claims this guidance "was determined by credible scientific data throughout the development of the document." But, credible scientific data is not the only requirement of setting a numeric standard under 20.6.2.3103.A(2) NMAC. And, Petitioner is entitled to be involved in the process. Thus, insofar as NMED's claims that it has established numeric standards for PFCs at the site, or that such a numeric standard is to be based on guidance instead of appropriately promulgated, scientifically-backed concentration trigger levels under CERCLA/IRIS, the federal SDWA, or RCRA, such claims are arbitrary, capricious, an abuse of discretion, against the weight of substantial evidence, or otherwise not in accordance with the law. *See* NMSA 1978, §74-6-7(B).

Without an established standard, it is unclear how NMED could claim "conformity" or "exceedance" of standards or establish appropriate discharge levels (20.6.2.3101 NMAC), let

alone serve as a basis to impose investigation and abatement requirements. Stated simply, NMED cannot claim that WWTF discharge conforms with or exceeds a standard that is not yet established. Also, because there is no legal standard, NMED cannot claim "exceedance."

Moreover, as explained above, considering the little to no concentration levels of PFCs in effluent, even if NMED were to set a numeric standard pursuant to 20.2.6.3103(A)(1) NMAC, the concentration of effluent are far below such levels.[4] This further illustrates that despite NMED's stated objectives of this permit, the requirements are not based on current and future discharges, but past activities. Thus, NMED's claims that investigation and abatement requirements are warranted based on "exceedances" are arbitrary, capricious, an abuse of discretion, against the weight of substantial evidence, or otherwise not in accordance with the law. *See* NMSA 1978, § 74-6-7(B).

iv) Permit Conditions That Require the Air Force to Pay Financial Assurances.

The Permittee objects to Conditions 63-66 of DP-873. Air Force expenditures are subject to Congressional appropriation constraints. Using federal money for unappropriated purposes could result in a violation the Anti-Deficiency Act, 13 USC§ 1341. Further, even if they were permissible, financial assurances are not necessary when dealing with federal facilities. Financial assurances are meant to protect the state from a small business going bankrupt rendering it unable to complete closure and cleanup requirements. However, federal facilities will always have adequate resources to conduct closure and post-closure care. Therefore, NMED cannot impose financial assurance requirements on the Permittee, and even if it could, financial assurances are not necessary in this case. Accordingly condition 63-66 should be removed from DP-873.

[4] And, because the CERCLA response continues to proceed and other measures implemented by the Air Force with respect to PFCs, the current and future levels will likely decrease.

v) Permit timeline conditions that are not feasible for Cannon AFB to achieve given USAF funding cycles.

Condition numbers 25, 26, 27, 28, 51 and 52 of DP-873 as written are not feasible for the Permittee to complete given the requirements of federal funding cycles and contracting processes. The Permittee understands and appreciates that NMED extended some of the condition requirement timelines in DP-873, but those extensions are still inadequate to ensure the Permittee can actually complete the conditions.

The existing contract in place to support Cannon AFB DP-873 does not include the installation of monitoring wells, survey work, preparing a monitoring well completion report, and the new sampling requirements in DP-873. Therefore, obtaining funds for these conditions would require the Air Force to go through the proper funding cycles and acquisition process. There are no funds allotted in the current fiscal year for such an event. In accordance with the Anti-Deficiency Act, 31 USC §1341, in a given fiscal year, the Permittee may only spend amounts which have been appropriated by Congress during that fiscal year. Because of these constraints, the Permittee would need a minimum of 120 to 180 days to obtain project funding, identify the acquisition strategy and secure a contract. NMED's insistence on shorter timelines are unachievable and set the Permittee up for failure to comply with the permit from the start. Thus, the conditions that seek to impose requirements that are not feasible to complete considering funding limitations on Petitioner are arbitrary, capricious, an abuse of discretion, or against the weight of substantial evidence, or otherwise not in accordance with the law. *See* NMSA 1978, § 74-6-7(B).

vi. Miscellaneous Objectionable Permit Conditions

In addition to the objections discussed in detail above, Cannon AFB objects to permit conditions 3, 59, and 76.

Conditions 3 and 59 require the Permittee to measure the thickness of settled solids in the Raw Wastewater Storage Basin and the Treated Wastewater Storage Basin, and if the settled solids measure a certain depth, the Permittee is required to create a Contingency Plan to remove those solids. However, because PFCs are not subject to regulation under RCRA, or the HWA and are not CERCLA "hazardous substances," there is no guidance from the DOD on how these solids, which may contain PFCs, may be disposed.

Petitioner requests that condition 76 be revised as follows: "The requirements in this Discharge Permit are also drafted so as to meet 40 C.F.R Part 264, 20.4.1.200, 500, 501 NMAC groundwater protection requirements. As such, the installation RCRA Permit (NM0030236) is incorporated for reference purposes. Compliance with the portions of the RCRA permit pertaining to groundwater protection shall also be considered to be compliance with this discharge permit."

This revision will help reduce an unnecessary duplication of effort between DP-873 and the base's existing RCRA permit.

E. Comments Submitted by Cannon AFB and Issued Permit Attached

The Permittee hereby incorporates comments provided to NMED during the public comment period to this appeal. Those comments are attached in Exhibit 1 and further outline the Permittee's objections to the permit conditions.

F. Issues Raised and Relief Sought

Cannon AFB raises the following issues and seeks the following relief through this Petition for Review:

1) Whether Petitioner is lawfully subject to DP-873 considering the lack of an applicable waiver of sovereign immunity.
2) Whether NMED's finding that Petitioner is subject to permit requirements notwithstanding the Air Force's CERCLA response and actions performed under other permits and regulatory programs are arbitrary, capricious, an abuse of discretion, against the weight of substantial evidence, or otherwise not in accordance with the law, as detailed above.
3) Whether DP-873's conditions and requirements that rely on unpromulgated guidance are arbitrary, capricious, an abuse of discretion, against the weight of substantial evidence, or otherwise not in accordance with the law, as detailed above.
4) Insofar as NMED's claims that it has established numeric standards for PFCs at the site, or that such a numeric standard is to be based on guidance, such claims are arbitrary, capricious, an abuse of discretion, against the weight of substantial evidence, or otherwise not in accordance with the law, as detailed above.
5) Whether NMED's claims that investigation and abatement requirements are warranted based on "exceedances" is arbitrary, capricious, an abuse of discretion, against the weight of substantial evidence, or otherwise not in accordance with the law, as detailed above.
6) Whether Petitioner is lawfully subject to financial assurances requirements given that Petitioner is owned and managed by an instrumentality of the United States, and whether conditions requiring such assurances are arbitrary, capricious, an abuse of discretion, against the weight of substantial evidence, or otherwise not in accordance with the law, as detailed above.

7) Whether DP-873 requirements that are not feasible for completion by Petitioner due to fiscal limitations on Petitioner are arbitrary, capricious, an abuse of discretion, or against the weight of substantial evidence, or otherwise not in accordance with the law, as detailed above.

8) The Petitioner requests a hearing in front of the Water Quality Control Commission on this matter.

9) The Petitioner requests that the Water Quality Control Commission grant a stay of the permit conditions during the appeal process, including payment of permit fees as required by condition 79 of the permit.

G. Permitted Actions Attached

The final version of the Permit, with NMED's Response to Comments issued by NMED on December 15, 2021 is attached hereto as Exhibit 1.

H. Affirmation

The affirmation of the truth of the information in this Petition for Review by Cannon AFB is attached hereto as Exhibit 2.

III. Conclusion

Petitioner seeks review of DP-873 issued by NMED on 15 December 2021. Petitioner requests a hearing before the Water Quality Control Commission. Petitioner requests the Commission find that the specified permit conditions are arbitrary, capricious, and not in accordance with the law. Petitioner further requests that the Commission remand DP-873 to NMED with instructions for the agency to amend DP-873 according to the Permittee's comments detailed herein.

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Attachments:
Exhibit 1 – DP-873 with Cannon AFB Comments and NMED Responses, 90 pages
Exhibit 2 – Affirmation of Truth, 1 page

CERTIFICATE OF SERVICE

I hereby certify that a true and correct copy of the foregoing IN THE MATTER OF THE PETITION FOR A PERMIT REVIEW OF DISCHARGE PERMIT RENEWAL AND MODIFICATION, DP-873, was filed with the Hearing Clerk via electronic mail and first class mail on January 13, 2022 with copies provided by electronic mail to the additional parties listed below.

DAVIS.JORDAN.FLETCHER.1453898071

Digitally signed by DAVIS.JORDAN.FLETCHER.1453898071
Date: 2022.01.13 15:57:04 -05'00'

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Assistant Regional Counsel

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CERTIFIED MAIL – RETURN RECEIPT REQUESTED

December 15, 2021

Colonel Robert A. Masaitis, USAF
Cannon Air Force Base
506 North Air Commando Way
Cannon Air Force Base, New Mexico 88103

RE: Discharge Permit Renewal and Modification, DP-873, Cannon Air Force Base

Dear Colonel Masaitis:

The New Mexico Environment Department (NMED) issues the enclosed Discharge Permit Renewal and Modification, DP-873, to Cannon Air Force Base (Permittee) pursuant to the New Mexico Water Quality Act and the New Mexico Ground and Surface Water Protection Regulations, 20.6.2 NMAC.

NMED sent you a draft permit dated February 8, 2021 and also made the draft available to the public for a 30-day comment period. NMED received comments from you. NMED considered the comments and changed some provisions in the draft permit for the reasons described in the enclosed Response to Comments.

NMED will send you an invoice for the Discharge Permit Fee of $8,150.00 under separate cover.

NMED advises you to submit an application for renewal or renewal/modification at least 180 days prior to December 14, 2026, the end of the Discharge Permit term, in order to avoid a lapse in permit coverage which could result in enforcement action.

This approval is issued pursuant to WQCC Regulation 20.6.2.3109 NMAC, and the NMED Delegation Order dated May 24, 2021, through which the Cabinet Secretary has delegated this authority to sign a Discharge Permit to the Chief of the Ground Water Quality Bureau. If you have any questions, please contact Avery Young at (505) 699-8564. Thank you for your cooperation during the application review process.

Sincerely,

Justin Ball Digitally signed by Justin Ball
Date: 2021.12.15 16:13:36 -07'00'

Justin D. Ball, Acting Chief
Ground Water Quality Bureau

JB:AY

Encl: Response to Comments on Draft DP-873
Discharge Permit Renewal and Modification, DP-873
Discharge Permit Summary
Table of 20.6.2.3103 Standards for Ground Water

Ground Water Discharge Permit Conditions for Synthetically Lined Lagoons – Liner Material and Site Preparation, Revision 0.0, May 2007
Ground Water Discharge Permit Monitoring Well Construction and Abandonment Conditions, Revision 1.1, March 2011
Land Application Data Sheet (LADS - https://www.env.nm.gov/forms/)
Fertilizer Log
NMED Ground Water Quality Bureau Guidance: Above Ground Use of Reclaimed Domestic Wastewater

cc: William Chavez, Acting District Manager, NMED District I
John Romero, Office of the State Engineer
John Rhoderick, Acting Director, Water Protection Division, NMED
Chris Atencio, Assistant General Counsel, Office of General Counsel, NMED
Sara Newton, Water Quality Program Manager, Cannon Air Force Base, sara.newton@us.af.mil

RESPONSE TO COMMENTS

Discharge Permit, DP-873

Cannon Air Force Base

December 15, 2021

On February 14, 2021, the New Mexico Environment Department (NMED) published notice of the availability of a draft version of the above-referenced Discharge Permit or "Permit" and invited the public to comment on that Permit. In accordance with 20.6.2.3109.B NMAC, NMED provides the following responses to comments received by Cannon Air Force Base (CAFB).

COMMENTS RECEIVED WITH NMED RESPONSES IN *ITALICS*

General Comments

1. In accordance with 20.1.3 New Mexico Administrative Code (NMAC), it is the Air Force's intent to appeal the terms and conditions of the Draft Discharge Permit 873 (DP-873) issued to CAFB.

   NMED does not have a response to this general statement.

2. CAFB has maintained a state groundwater discharge permit since 1994. This permit, DP-873, regulates future discharges from the on-base wastewater treatment plant (WWTP) and septic tank/leach field systems. New Mexico Environment Department (NMED) states in the Introduction to the draft permit that: "Data collected from on-site monitoring wells document exceedances of groundwater quality standards for PFCs [perfluorinated chemicals] according to the criteria of Sections 20.6.2.3101 and 20.6.2.3103 NMAC…. requirements, actions and/or contingencies intended to address the sources of documented groundwater contamination." These requirements include, but are not limited to, "a site investigation work plan to evaluate the presence of PFCs in soils within the re-use areas, the former sewage lagoons, the WWTP, and surrounding the North Playa Lake".

   The Air Force strongly disagrees that DP-873 is the legally appropriate vehicle for addressing any groundwater impact from the prior use of aqueous film forming foam (AFFF) at CAFB. As NMED is aware, the Air Force follows the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) process to address suspected releases of perfluorooctane sulfonate/perfluorooctanoic acid (PFOS/PFOA) (see Defense Environmental Restoration Program (DERP), 10 U.S.C. Section 2701). Our priority is to address PFOS/PFOA to protect personnel living and working on our installations and the surrounding communities that we have impacted. The 2018 Site Investigation Report identified the presence of PFOS/PFOA in groundwater at CAFB. The initial focus was identifying if there is an exposure through drinking water of PFOS/PFOA above

the U.S. EPA Lifetime Health Advisory (LHA) for drinking water of 70 parts per trillion (ppt). If there is an exposure the Air Force's priority is to provide bottled drinking water. First, alternate drinking water was provided to locations with detections above the LHA, followed by the installation of point of use filtration systems. The Remedial investigation was awarded August 2020 and will determine the nature and extent of the PFOS/PFOA impacts.

In accordance with CERCLA § 121(e)(1), actions under CERCLA do not require a permit for activities on-site. As such, this action would be exempted from permit requirements as the Air Force is assessing and mitigating PFOS and PFOA contamination from past use of AFFF under CERCLA, DERP, and the National Oil and Hazardous Substances Pollution Contingency Plan (NCP). CERCLA Section 120(a) dictates the environmental remediation process for Federal facilities and CERCLA Section 120(a)(4) makes certain State environmental removal and remedial action laws, including enforcement, applicable to Federal facilities. That provision, is not relevant to the GW discharge permit issued because the Ground and Surface Water Protection Regulations are not "removal and remedial action laws."

The general objective of this draft permit seems to be an attempt to regulate in an impermissible fashion prior work (e.g., on PFOS/PFOA) or other emerging contaminants accomplished by the Air Force under CERCLA authority, rather than monitoring current discharges of constituents that have appropriate scientifically backed concentration trigger levels, under, respectively, CERCLA/Integrated Risk Information System (IRIS), the Safe Drinking Water Act (SDWA), or Resource Conservation and Recovery Act (RCRA). With due respect for NMED's need to protect the integrity of its groundwater, the Air Force intends to resist any attempt by the State to implement abatement under the terms of this permit when the same is not supported by sound science or applicable law.

Specifically, NMED is attempting to use the addition of PFCs to the list of toxic pollutants in the 2018 amendment of the Ground and Surface Water Protection regulations as a mechanism to require investigation and abatement for discharges that were compliant with prior versions of DP-873. The permitted wastewater discharges under the prior versions of DP-873 never resulted in the initiation of a Corrective Action Plan or abatement under 20.6.2.4104. The Air Force is exempt from the abatement regulations in 20.6.2.4103 NMAC for the investigation and restoration activities related to PFOS/PFOA because we are following the CERCLA process in accordance with 10 U.S.C. Section 2701. As stated in 20.6.2.4105(A)(2) NMAC: "Except as provided in Subsection B of this Section, Sections 20.6.2.4104 and 20.6.2.4106 NMAC do not apply to a person who is abating water pollution… under the authority of the U.S. Environmental Protection Agency pursuant to either the federal Comprehensive Environmental Response, Compensation and Liability Act, and amendments…".

States may regulate Federal facilities only to the extent that such regulation is clearly authorized by Congress through "waivers of sovereign immunity." Where no waiver of sovereign immunity exists, the Federal government is not subject to State regulation. There is no Federal

environmental statute for which a waiver of sovereign immunity makes the New Mexico Ground and Surface Water Protection Regulations applicable to the Air Force.

With respect to sovereign immunity, the Clean Water Act (CWA) does not specifically address contamination of groundwater resources, but is a subject addressed by provisions in other laws including SDWA; RCRA; and CERCLA. For the SDWA, sovereign immunity is Waived under 42 U.S.C. § 300j-6, for "Each Federal agency . . . engaged in any activity resulting, or which may result in, underground injection which endangers drinking water...shall be subject to, and comply with, all Federal, State, interstate, and local requirements. . .to the same extent as any person is subject to such requirements..." First and foremost, drinking water would need to be implicated for the substantive provisions to be requirements, however, drinking water is not implicated.

The Air Force posits that this permit should focus on the current discharges from the WWTP and septic tank/leach field systems. The effluent samples analyzed for PFOS/PFOA in the fall of 2019 at the request of NMED found little to no PFOS/PFOA concentrations present in the effluent (ranging from 0 ppt to 17 ppt). These concentrations in the effluent are well below the current EPA LHA for drinking water of 70 ppt. These concentrations would not trigger a corrective action plan because corrective action under the 20.6.2.3109(E) require initiating corrective action only if water quality standards under the Rules are exceeded because of a permittee's discharge.

NMED Response: The main objective of this Discharge Permit is to monitor the current discharge at CAFB, which is a discharge that contains PFCs; therefore, the inclusion of conditions to monitor existing discharges that contain PFCs is appropriate. The purpose of this Discharge Permit is not to require remediation of existing contamination as a result of previous discharges. While the Ground and Surface Water Protection Regulations and the Water Quality Act are remedial action laws that require abatement for groundwater contamination, NMED is not currently requiring CAFB to abate groundwater contamination under these authorities.

CAFB is correct that a facility under the authority of the EPA pursuant to CERCLA and amendments are exempt from abatement regulations pursuant to 20.6.2.4104 NMAC. It is NMED's understanding that CAFB is following the CERCLA process but not under the authority nor the oversight of the EPA. CAFB also has not notified NMED of what actions they are taking under CERCLA and how such actions are in conflict with requirements of this Discharge Permit.

3. NMED's use of residential screening levels in DP-873 is inappropriate. In Condition #6 NMED states that "*The Permittee shall apply reclaimed wastewater to re-use areas and for dust control and construction purposes in a manner that does not result in the exceedance of PFCs in soils of the residential, non-cancer soil screening level specified in the most current NMED Risk Assessment Guidance for Site Investigations and Remediation (Risk Assessment Guidance) and the associated soil screening levels for contaminants presented in Table A-1*". The use of this Risk Assessment Guidance as an automatic trigger for investigation and/or abatement is inappropriate for a number of reasons:

a) Although guidance documents, such as the referenced Risk Assessment Guidance, are intended to clarify regulations they are not enforceable. The soil screening levels (SSLs) in Table A-1 never went through notice and comment rulemaking.
b) The residential SSLs referenced by NMED are based on exposure to soil (to depths of zero to 10 feet below ground surface [bgs]) through three exposure pathways: direct ingestion, dermal absorption, and inhalation of volatiles and fugitive dusts. In Appendix E of the Risk Assessment Guidance, NMED acknowledges that there are no promulgated federal regulatory criteria for evaluating the intake via the soil exposure pathway.
c) As stated in the Introduction to this Risk Assessment Guidance "*It is important to note that SSLs do not in themselves represent cleanup standards, and the SSLs [soil screening levels] alone do not trigger the need for a response action or define "unacceptable" levels of contamination in soi*l". As NMED correctly states on pg. 5 of the Risk Assessment Guidance: "*The exceedance of an SSL does not necessarily indicate that current conditions are not safe or that they present an unacceptable risk. Rather, a site risk calculation that exceeds a target value may simply indicate the need for further evaluation or refinement of the exposure model*". NMED is attempting to use screening levels as black and white triggers for initiating corrective action contrary to its own guidance.
d) Finally, these SSLs are unrelated to permitting under the Ground and Surface Water Protection regulations. The SSLs referenced by NMED in Condition #6 are completely unrelated to the assessment of the potential for PFOS/PFOA to migrate from shallow soil to groundwater. As stated above, these SSLs only evaluate three exposure pathways: direct ingestion, dermal absorption, and inhalation of volatiles and fugitive dusts.

*NMED Response: NMED is not using the NMED Risk Assessment Guidance for Site Investigations and Remediations as an automatic trigger for investigations and/or abatement in this context. NMED has included this condition to be protective of groundwater since PFOS, PFOA, and PFHxS do not appear to attenuate in the vadose zone. Per the NMED Risk Assessment Guidance for Site Investigations and Remediations, the screening levels for migration to groundwater are based on NMED-specific tap water screening levels; therefore, NMED has updated the screening level in this condition to the Tap Water, Noncancer level specified in the most current NMED Risk Assessment Guidance for Site Investigations and Remediations. The Tap Water Screening Level identified in Table A-1 of the most current NMED Risk Assessment Guidance for Site Assessments a*nd Investigations *was determined by credible scientific data through the development of the document, which utilizes methodologies developed by the U.S. Environmental Protection Agency; however, if CAFB would like to calculate an alternate screening level for approval by NMED, NMED would consider such a proposal.*

4. As NMED notes in the Introduction to the draft permit, the list of "toxic pollutants" in 20.6.2.7(T)(2) did not include any PFCs (namely PFOS/PFOA) until the Ground and Surface Water Protection rules were amended in 2018. NMED has not formally established numerical standards for PFCs, as stated in 20.6.2.3103(A)(2). NMED acknowledges that there are no federal maximum contaminant levels (MCLs) for any PFCs (which includes PFOS/PFOA). Rather than engaging in the

formal notice and comment rulemaking process that would: (1) facilitate a robust and transparent vetting of the scientific data and (2) allow for public comment, NMED has chosen to use tap water screening levels from the Risk Assessment Guidance as enforceable standards to drive corrective action and possibly abatement. As stated above, guidance documents cannot be treated as rules.

NMED Response: It is appropriate and customary for NMED to implement guidance through permit terms and conditions that are subject to public notice and comment. Per 20.6.2.3103 NMAC, the standard for a toxic pollutant is determined by credible scientific data and other evidence. The Tap Water Screening Level identified in Table A-1 of the most current NMED Risk Assessment Guidance for Site Assessments and Investigations was determined by credible scientific data through the development of the document, which utilizes methodologies developed by the U.S. Environmental Protection Agency; however, if CAFB would like to propose an alternate standard for approval by NMED, NMED would consider such a proposal. In the 2018 Site Investigation Report, CAFB used the EPA's Lifetime Health Advisory of 70 ppt, which is the same number as the Tap Water Screening level identified in Table A-1. In addition, CAFB participated in the rulemaking that led to the updated Ground and Surface Water Protection regulations in 2018, which included a public hearing, public participation, and public comment.

5. The requirement to establish a financial assurance instrument imposed by NMED on Page 3 of the draft permit is unacceptable. The language starting on line 1 of Page 3 with the words: "This Discharge Permit requires…ending with the word, "activities" shall be struck and in substitution add: "*CAFB commits to seeking appropriate funding from Congress to meet the fiscal expenditures required by the tasks determined to be legally applicable to the United States set forth within this Discharge Permit. Nothing in this Discharge Permit shall be interpreted in a manner that will cause the United States Air Force to be in violation of the Anti-Deficiency Act, 31 U.S.C. § 1341*."

   NMED Response: NMED disagrees. 20.6.2.3107.A NMAC requires each groundwater discharge permit to include financial assurance provisions "as the secretary may require." Federal facilities are not excluded from this regulatory provision. However, NMED understands that federal facilities, including CAFB, are subject to Congressional appropriation constraints, and, therefore, NMED has revised DP-873 to address those constraints and to incorporate a portion of CAFB's proposed comment language.

6. In Conditions 3, 8, 28, 29, 37, and 69, the permit uses a combination of periodic monitoring reports or quarterly reporting. In Condition 23 quarterly monitoring reporting is required and a schedule is provided. The Air Force is asking for clarity between periodic monitoring reporting and quarterly reports

   NMED Response: Periodic is equivalent to quarterly in this context; however, NMED agrees to change all references of periodic to quarterly to avoid confusion.

IV Conditions

A. Operational Plan

7. Condition #2, Page 5 - See General Comment #1 above

   NMED Response: This is a standard condition in every discharge permit issued by the Ground Water Quality Bureau since compliance with Sections 20.6.2.3101 and 20.6.2.3103 are the central tenants of a discharge permit. Similar language has been included in previous discharge permits issued to Cannon Air Force Base.

8. Condition #6, Page 6 - See General Comment # 2 above

   NMED Response: See NMED response to Comment #2.

9. Condition #10, Page 8 - Condition 10(b)(vii) should be deleted for the reasons detailed in Comments #1 and #2 above.

   NMED Response: PFCs are toxic pollutants as defined by 20.6.2.3103.A(2) NMAC. The purpose of a discharge permit is to protect human health and the environment. Requiring notification to persons utilizing reclaimed wastewater that contains PFCs is justified and within the scope of this Discharge Permit. CAFB may opt to not use reclaimed wastewater for dust control and construction purposes, and, with appropriate notice, NMED would remove Condition 10 and other related permit language in its entirety.

10. Condition #14, Page 9-10 - The language is confusing as it appears to incorrectly imply that the North Playa Lake is lined. Please clarify.

    NMED Response: NMED agrees and has separated this condition into two conditions: one for lined impoundments and one for the unlined North Playa Lake.

B. Monitoring and Reporting

11. Condition #24, Page 13 - Prior versions of DP-873 limited groundwater sampling to monitoring wells MW-E, MW-F, MW-G, MW-H (annually), MW-N, MW-O, and MW-P (quarterly) for the following monitoring parameters nitrate (NO3), Total Kjeldahl Nitrogen (TKN), chlorine (Cl), and total dissolved solids (TDS). The 2009 permit did not contain any monitoring well sampling requirements. In 2014 the permit required the Air Force to sample monitoring wells MW-Na, MW0Oa, and MW-Pa during the first year of the permit for the 53 constituents then associated with NMAC 20.6.2.3103. The Air Force agrees that these wells are representative of monitoring the performance of the WWTP and septic tank/leach field systems.

As detailed in Comment #1 above, the Air Force opposes the installation of any additional groundwater monitoring wells intended to monitor impact from the prior use of AFFF at CAFB. The investigation of the nature and extent of any groundwater impact from these past activities is being implemented under CERCLA.

NMED Response: 20.6.2.3107.A(2) NMAC authorizes NMED to require the installation and use of monitoring devices for groundwater most likely to be affected by a discharge. The four monitoring wells required to be installed per Condition 26 (previously Condition 25) of the Discharge Permit are intended to improve groundwater monitoring at discharge locations authorized by the Discharge Permit, either by monitoring more directly downgradient of the discharge location, monitoring more proximal to the discharge location, or monitoring locations previously not monitored. Condition 25 (previously Condition 24) does not reference AFFF or PFCs and is not solely in response to prior use of AFFF at CAFB.

12. Condition #25, Page 13 - See Comment #10 above.

    NMED Response: NMED believes that CAFB meant Comment #11 above. See NMED response to Comment #11.

13. Condition #25, Page 13 - Please clarify the following statement: "Unless otherwise noted in this Discharge Permit, the requirement to install a groundwater monitoring well down gradient of a source is not contingent upon construction of the Facility, or discharge of wastewater from the Facility"

    NMED Response: NMED has removed the statement from Condition 26 (previously Condition 25) of the Discharge Permit.

14. Condition #26, Page 14 - See Comment #10 above.

    NMED Response: NMED believes that CAFB meant Comment #11 above. See NMED response to Comment #11.

15. Conditions #24, 25, 26, 27, 50, and 51, Pages 13-14 and 26-27 - The Air Force does not believe that these conditions are applicable (see Comment 1). Even if they were applicable, the timelines associated with them are too short to accommodate the federal contracting process. The existing contract in-place to support the Cannon AFB DP-873 does not include the installation of monitoring wells, survey work, preparing a monitoring well completion report, and the new sampling requirements in this draft permit. Therefore, this would be a new requirement, and would require the Air Force to go through the proper funding cycles and the acquisition process. Part of this process is determining the availability of funds. Since this would be a new requirement within the current fiscal year, there are no funds planned for such an event. In accordance with the Anti-Deficiency Act, 31 U.S.C. § 1341, an agency of the federal government, such as the Air

Force, may only spend in a given fiscal year the amounts which have been properly appropriated to that agency for the needs of that agency during that fiscal year. Additionally, as outlined in the Federal Acquisition Regulation (FAR) 32.702, no officer or employee of the Government may create or authorize an obligation in excess of the funds available, or in advance of appropriations. The length of time that this process takes is related to the dollar amount of the contract. To fulfill a requirement such as the one outlined by this comment would require a minimum of 120 and 180 days to obtain project funding, identify the acquisition strategy, and award a contract.

With this being said, it should be noted that the USAF is currently funding a Remedial Investigation for PFOS/PFOA under the CERCLA process. Installation of these wells and sampling for PFOS/PFOA outside of this process may be considered as waste, and/or abuse as defined by the Office of Inspector General, United States Agency for International Development (https://oig.usaid.gov/node/221).

NMED Response: NMED believes that CAFB meant Comment #2 above. NMED agrees to extend the deadlines for implementation actions associated with the identified conditions and has included the extended timelines in the Discharge Permit. NMED has extended Condition 25 (previously Condition 24) from 60 days to 90 days, Condition 26 (previously Condition 25) from 60 days to 120 days, Condition 27 (previously Condition 26) from 45 days to 60 days, and Condition 28 (previously Condition 27) from 30 days to 60 days. If CAFB needs additional time to comply with these conditions, CAFB may request an extension at the appropriate time. Conditions 24, 25, 26, 27, 50, and 51 are not solely in response to prior use of AFFF at CAFB. Collaboration with other investigations or activities at the Facility is possible to ensure monitoring wells are installed to satisfy multiple purposes. All monitoring wells involved in this type of collaboration would still be required to follow the attached Monitoring Well Guidelines and timelines associated with DP-873.

16. Condition #28, Page 15-16 - See Comment #10 above.

NMED Response: NMED believes that CAFB meant Comment #11 above. See NMED response to Comment #11.

17. Condition #28, Page 15-16 - The Air Force respectfully requests the technical and regulatory justifications for analyzing groundwater for all constituents listed in Section 20.6.2.3103 NMAC and all toxic pollutants listed in the definitions of 20.6.2.7 NMAC. The effluent from the WWTP is well characterized and has been sampled regularly under both DP-873 and the NPDES permit. Groundwater monitoring in this permit should be related to the characteristics of the discharge going forward.

    The combined list of constituents that is required in the first year of the permit includes 151 constituents, formerly 103 constituents. Analyzing them would cost taxpayers approximately $2,000.00 each year, and the additional analysis of PFOS/PFOA (not historically included in the

permit) will increase the cost by approximately $1,300.00 each year. The overall cost increase is approximately $3,300.00 each year.

As NMED is aware, the Air Force samples monitoring wells associated with its CERCLA activities and the corrective action provisions in the RCRA Permit. Under the existing RCRA permit groundwater samples are collected from 11 monitoring wells, and analyzed for volatile organic compounds (VOCs), target analyte list (TAL) metals (including mercury), hexavalent chromium, perchlorate, chloride, nitrate/nitrite, sulfate, ammonia, total organic carbon (TOC), and water quality parameters (pH, dissolved oxygen (DO), specific conductance, turbidity, and temperature). Of the 11 monitoring wells sampled under the RCRA permit, five of them (MW-F, MW-G, MW-Na, MW-Oa, and MW-Pa) have been monitored and sampled under previous permits for nitrate, TKN, Cl, and TDS. Monitoring wells MW-Na, MW-Oa, and MW-Pa have also been sampled once under the 2014 permit requirements for the constituents listed in 20.6.2.3103 NMAC. There is no technical or regulatory basis for such an extensive monitoring list under this permit.

Lastly, as stated in Comment #1 above, the Air Force is addressing the investigation and possible remediation for PFOS/PFOA from the historical use of AFFF under CERCLA.

NMED Response: NMED believes that CAFB meant Comment #2 above. 20.6.2.3107.A(2) NMAC authorizes NMED to require the installation and use of monitoring devices for groundwater most likely to be affected by a discharge. CAFB's January 2020 discharge permit application, Attachment 5, Sources of Discharge, states that the types of sources [of discharge] are similar to what one would find at a small city, including residential wastewater and minor industrial wastewater. It is prudent to completely and continually characterize the groundwater at a facility that has industrial wastewater components and authorizes reuse to various locations. Since CAFB sampled three monitoring wells (MW-Na, MW-Oa, and MW-Pa) for all constituents listed in Section 20.6.2.3103 NMAC in 2014, 14 constituents have been added to Section 20.6.2.3103 NMAC. In addition, in 2014, CAFB did not sample any monitoring wells for all toxic pollutants listed in the definitions of 20.6.7 NMAC. Further, in 2014, CAFB only sampled the three monitoring wells intended to monitor the North Playa Lake and not any monitoring wells intended to monitor other authorized discharge locations. Note, the sampling requirement for Condition 29 (previously Condition 28) is for a one-time sampling event, and, therefore, does not represent an annual cost to taxpayers.

CAFB does not have to duplicate the sampling required by the Hazardous Waste Bureau of NMED, but rather, CAFB may submit any duplicative data to the GWQB provided the sampling and analytical procedures used to derive that data are consistent with DP-873 requirements.

On March 12, 2019, NMED mailed notification to all entities holding a groundwater discharge permit, including CAFB, of recent amendments to the Ground and Surface Water Protection Regulations (20.6.2 NMAC), including changes to the groundwater numerical standards at 20.6.2.3103 NMAC and the addition of several regulated contaminants. The notice informs

permittees that "[w]hen your groundwater discharge permit is renewed or modified, it may contain specific requirements to sample for specific additional contaminants."

18. Condition #29, Page 16 - As summarized in Comment #1 above, the Air Force is currently monitoring for PFHxS, PFOS, and PFOA that resulted from the past use of AFFF under CERCLA. Therefore, the sampling requirements for these compounds in Condition #29 should be deleted in their entirety.

    NMED Response: NMED believes that CAFB meant Comment #2 above. The presence of PFHxS, PFOS, and PFOA in groundwater below CAFB are well-known and well documented. NMED required CAFB to update its 2018 permit renewal application to include PFC data to inform NMED's development of appropriate permit conditions, which CAFB submitted in January 2020. The New Mexico Ground and Surface Water Protection Regulations (20.6.2 NMAC) lists PFHxS, PFOS, and PFOA as toxic pollutants and, therefore, NMED can require permittees to sample for them. CAFB does not have to duplicate the sampling for the three constituents, but rather, CAFB may submit its CERCLA data associated with the wells listed in Condition 30 (previously Condition 29) provided the sampling and analytical procedures used to derive that data are consistent with DP-873 requirements.

19. Condition #33, Page 18 - NMED identifies six different areas (Treated Wastewater Storage Basin, North Playa Lake, Golf Course Impoundment, driving range, softball fields and dog park) that shall be measured monthly using four totalizing flow meters. CAFB has four totalizers, located at the WWTP that monitor the flow of effluent water to the golf course pond, North Playa, Treated Wastewater Storage Basin, and the contractors fill point for construction water. The remaining areas have supply meters. Cannon AFB fails to see a need to add additional totalizing meters.

    NMED Response: Since the draft Discharge Permit was issued, CAFB has informed NMED that it no longer discharges reclaimed wastewater to the softball fields or dog park. NMED has revised DP-873 accordingly to accurately represent current metering conditions at CAFB.

20. Condition #38, Page 20-21 - Consistent with Comment #1 above, the Air Force is already assessing PFOS/PFOA compounds under the CERCLA authority; therefore, the sampling requirement in Condition #38 should be deleted in its entirety. In addition, as stated in Comment #2 above, NMED cannot use tap water screening levels as effluent criteria.

    NMED Response: NMED believes that CAFB meant Comment #2 above. See NMED response to Comment #2 and #18.

21. Condition #42, Page 22-23 - See Comment #16 above. The effluent from the WWTP is well characterized and has been sampled regularly under both DP-873 and the NPDES permit.

NMED Response: NMED believes CAFB meant Comment #17 above. Condition 43 (previously Condition 42) conforms to the requirement at 20.6.2.3107.A(1) NMAC that a discharge permit provide for the use of effluent monitoring devices. CAFB no longer has a NPDES permit and, therefore, it is not applicable in this context. Influent into and effluent out of a WWTP have temporal components, which allows for the fluctuation of chemical constituents and constituent concentrations in influent and effluent. Although CAFB has characterized the effluent in the past, wastewater requires continued characterization and monitoring. NMED consistently requires industrial facilities discharging wastewater for reuse to adhere to this or a similar requirement.

22. Condition #43, Page 23-24 - See Comment #16 above. The effluent from the WWTP is well characterized and has been sampled regularly under both DP-873 and the NPDES permit.

    NMED Response: See NMED response to Comment #21.

23. Condition #43, Page 23-24 - Consistent with the prior Air Force comment that NMED is inappropriately invoking tap water guidance as an enforceable standard for a 1,4-dioxane screening level; Condition 43 is/should be deleted in its entirety. See Comment #2 above.

    NMED Response: Per 20.6.2.3103 NMAC, the standard for a toxic pollutant is determined by credible scientific data and other evidence. The Tap Water Screening Level identified in Table A-1 of the most current *NMED Risk Assessment Guidance for Site Assessments and Investigations was determined by credible scientific data through the development of the document, which utilizes methodologies developed by the U.S. Environmental Protection Agency; however, if CAFB would like to calculate an alternate screening level for approval by NMED, NMED would consider such a proposal.*

C. Additional Studies Required

24. Condition #48, Page 25 - As detailed in Comment #2 above, this requirement for a soils investigation work plan is unrelated to permitting under the Ground and Surface Water Protection regulations. The SSLs referenced by NMED in the Risk Assessment Guidance are completely unrelated to the assessment of the potential for any constituent to migrate from shallow soil to groundwater. These SSLs only evaluate three exposure pathways: direct ingestion, dermal absorption, and inhalation of volatiles and fugitive dusts.

    In addition and consistent with Comment #1 that the Air Force is already assessing PFOS/PFOA under CERCLA authority; the soils investigation work plan is/should be deleted in its entirety.

    NMED Response: NMED believes that CAFB meant Comment #2 in both paragraphs above.

    NMED requires a soils investigation at Condition 49 (previously Condition 48) to protect groundwater and to protect human health in general. Groundwater sampling at CAFB

demonstrates the ability of PFCs to migrate from the surface, through the vadose zone, to groundwater.

CAFB's Site Inspection of AFFF Release Areas Final Report (SIR) dated August 2018 does and does not do the following:

- *Does not address constituent migration from shallow soil to groundwater. Migration to groundwater is not listed in the SI objectives identified in the SIR Executive Summary.*
- *Does not address PFCs releases at the WWTP (not considered an AFFF Release Area).*
- *Does state in the Executive* Summary:
    - *"PFOS in surface soil was detected above the calculated [Regional Screening Level (RSL)] in AFFF release areas 2, 3, 4, 5 [i.e., Former Sewage Lagoon], 9, and 11. PFOS in subsurface soil was detected above the calculated RSL in AFFF Release Area 5 [i.e., Former Sewage Lagoon]."*
    - *"PFOS was detected in sediments collected at AFFF release areas 6 (North Playa Lake Outfall] and 8 [Golf Course Reuse Areas] at concentrations below the calculated RSL."*
- *Does state at Section 2.3 that "Any wastewater collected at the WWTP containing AFFF therefore has the potential to be released at the golf course."*
- *Does state at Section 3.14.3 that "PFOS, PFOA, and/or PFOS+PFOA in groundwater exceeded the [Health Advisory for Drinking Water or HA or 0.07 ug/L per USEPA] at six monitoring wells at Cannon AFB. The monitoring wells with PFAS detections above the HA include monitoring wells MW-GA and LF25-MWPA located in the east-central portion of the installation, southeast of the sewage lagoon area (AFFF Release Area 5).*
- *Does state at Table 5.0-1 that the Former Sewage Lagoons and the North Playa Lake should advance to an "RI" (Remedial Investigation) and that "no further remedial action" should occur at the Golf Course.*

CAFB's Comment #2 refers to a "Remedial investigation [that] was awarded August 2020 and will determine the nature and extent of the PFOS/PFOA impacts." NMED has not been included in the review and formulation of the "investigation" workplan and has not been provided with the resultant investigation report, assuming the report has been finalized.

*NMED has included this condition to be protective of groundwater since PFOS, PFOA, and PFHxS do not appear to attenuate in the vadose zone. Per the NM*ED *Risk Assessment Guidance for Site Investigations and Remediations*, *the screening levels for migration to groundwater are based on NMED-specific tap water screening levels; therefore, NMED has updated the screening level in this condition to the Tap Water, Non-cancer level specified in the most current NMED Risk Assessment Guidance for Site Investigations and Remediations. The Tap Water Screening Level identified in Table A-1 of the most current NMED Risk Assessment Guidance for Site Assessments and Investigations was determined by credible scientific data through the development of the document, which utilizes methodologies developed by the U.S. Environmental Protection Agency; however, if CAFB would like to calculate an alternate screening level for approval by NMED, NMED would consider such a proposal.*

D. Contingency Plan

25. Condition #49, Page 25-26 - As detailed in Comment #1 above, this permit focuses on the current quality of the treated effluent. Any exceedance in a groundwater well monitored under this permit must be related to the discharge during the pendency of the permit. The corrective action provisions under 20.6.2.3109(E) NMAC require the initiation of corrective action only if water quality standards under the Rules are exceeded because of a permittees' discharge.

    Consistent with Air Force comments that specific compounds identified, as appropriate, by either a 40 CFR Part 264 standard or a SDWA standard (MCL), the Corrective Action Plan (CAP) requirement is/should be deleted in its entirety.

    NMED Response: This is a standard condition that is included in every Discharge Permit issued by NMED that includes monitoring wells. This condition is enacted based on the current monitoring results required by this Discharge Permit. 20.6.2.3107.A(10) NMAC requires the inclusion of contingency plans to cope with the failure of the discharge system, which in this case would be the presence of contamination in groundwater associated with an authorized discharge.

26. Condition #49, Page 26 - As stated in Comment #1 above, the Air Force is exempt under 20.6.2.4105(A)(2) NMAC from the abatement regulations in 20.6.2.4103 NMAC for the investigation and restoration activities related to PFOS/PFOA because we are following the CERCLA process. The Air Force is also exempt under 20.6.2.4105(A)(3) NMAC for groundwater remediation being performed pursuant to the corrective action provisions in the RCRA Hazardous Waste Corrective Actions Only Permit for Cannon AFB (NM EPA ID#NM7572124454).

    NMED Response: NMED believes that CAFB meant Comment #2 above. Not all groundwater standards or toxic pollutants, such as total dissolved solids, are covered under CERCLA or RCRA remediation activities, and, therefore, it is appropriate to cover groundwater exceedances of those constituents in a groundwater discharge permit. Furthermore, NMED believe CAFB's CERCLA and RCRA related activities insufficiently evaluate impacts to environmental media at the DP-873 authorized discharge locations.

27. Condition #50, Page 26 - See Comment #14 above.

    NMED Response: NMED believes CAFB meant Comment #15 above. This is a standard contingency condition that is included in every Discharge Permit issued by NMED that includes monitoring wells. 20.6.2.3107.A(10) NMAC requires the inclusion of contingency plans to cope with the failure of the discharge system, which in this case would be the failure of a monitoring device intended to monitor a discharge location.

28. Condition #51, Page 27 - See Comment #14 above.

NMED Response: NMED believes CAFB meant Comment #15 above. This is a standard contingency condition that is included in every Discharge Permit issued by NMED that includes monitoring wells. 20.6.2.3107.A(10) NMAC requires the inclusion of contingency plans to cope with the failure of the discharge permit, which in this case would be having a monitoring device improperly located and it not being able to fulfill part of the discharge permit's objective of monitoring a discharge.

29. Condition #52, Page 27 - As detailed in Comment #3 above, NMED cannot use tap water screening levels from the Risk Assessment Guidance as enforceable standards to drive corrective action and because guidance documents cannot be treated as rules.

    As stated in Comment #1 above, the Air Force employs the current EPA lifetime health advisory for drinking water of 70 ppt. PFOS/PFOA concentrations below this level would not trigger a corrective action plan because corrective action under the 20.6.2.3109(E) require initiating corrective action only if water quality standards under the Rules are exceeded in groundwater because of a permittees' discharge (not historical discharges).Therefore, the requirements set forth in Condition #52 should be struck in their entirety.

    NMED Response: Per 20.6.2.3103 NMAC, the standard for a toxic pollutant is determined by credible scientific data and other evidence. The Tap Water Screening Level identified in Table A-1 of the most current NMED Risk Assessment Guidance for Site Assessments and Investigations was determined by credible scientific data through the development of the document, which utilizes methodologies developed by the U.S. Environmental Protection Agency; however, if CAFB would like to calculate an alternate screening level for approval by NMED, NMED would consider such a proposal.

30. Condition #52, Page 27 - Conditions #52, 53, 54, and 55 all describe the steps that must be taken if the concentrations of a contaminant in reclaimed wastewater exceeds a specified criteria. Only Conditions #52 and #54 would require an immediate halt to the distribution of reclaimed wastewater and the closure of the WWTP if the effluent standard was exceeded. NMED must be aware that if this action would lead to the potential shutdown of the base and to avoid an imminent threat to National Security, the Air Force will seek to continue to operate the WWTP in accordance with national security procedures. 33 USC §1323.

    NMED Response: These are standard conditions included in every discharge permit issued by NMED that authorizes reuse in order to protect human health and the environment. There are many operational changes or modifications that can be made to a WWTP in order to not exceed reuse standards. In addition, Conditions 54 (previously Condition 53) and 55 (previously Condition 54) do not require the closure of the WWTP for exceedances but require the discharge of reclaimed wastewater to reuse areas to cease. CAFB would still be able to discharge to the North Playa Lake and the Treated Wastewater Storage Basin if that were to be the case.

31. Condition #52, Page 27 - See Comment #3 above.

NMED Response: Per 20.6.2.3103 NMAC, the standard for a toxic pollutant is determined by credible scientific data and other evidence. The Tap Water Screening Level identified in Table A-1 of the most current *NMED Risk Assessment Guidance for Site Assessments and Investigations was determined by credible scientific data through the development of the document, which utilizes methodologies developed by the U.S. Environmental Protection Agency; however, if CAFB would like to calculate an alternate screening level for approval by NMED, NMED would consider such a proposal.*

32. Condition #58, Page 31 - See Comment #14 above.

NMED Response: NMED does not understand the reference to Comment 14. Condition 58 addresses requirements should solids accumulation in impoundments exceed one-third the maximum liquid depth. Comment 14 references Condition 26 and Comment 10. Condition 26 addresses the constituents to be measured in new monitoring wells. Comment 10 references Condition 14 regarding the maintenance of impoundment liners. NMED considers the issues of solids accumulation in impoundments and the maintenance of impoundment liners different and unrelated subjects. CAFB should further explain.

E. Closure Plan

33. Condition #62, Page 33-34 - The following components of the WWTP system and septic tank/leach fields are identified as solid waste management units under the corrective action provisions of CAFB's RCRA Permit: SWMU 102 WWTP Effluent, Discharge Pipe and Inlet Chamber (currently on Table 2 CAC Approved Jan 2015, and Approval with Modifications April 11, 2019).

As such these SWMUs are not subject to the closure or post-closure requirements of this discharge permit. Clearly, it is not the Groundwater Quality Bureau's intent to conflict or supersede the corrective action provisions of the RCRA Permit. These corrective action requirements apply to releases of hazardous constituents listed in 40 CFR Part 261, Appendix VIII or 40 CFR Part 264, Appendix IX.

As detailed in Comment #1 above, Air Force is assessing and mitigating PFOS and PFOA contamination from past use of AFFF under CERCLA, DERP, and NCP. This includes any impacted SWMUs.

NMED Response: NMED believes that CAFB meant Comment #2 above. Comment #33 references SWMU 102, the WWTP Effluent, Discharge Pipe and Inlet Chamber. The Comment further references a Corrective Action Complete determination. The GWQB is unfamiliar with the limits of SWMU designation and will assume it is only includes the discharge pipe and inlet chamber, presumably two locations. CAFB should provide all associated reports to NMED/GWQB regarding the SWMU CAC determination.

As stated in Condition 63 (previously Condition 62), closure under DP-873 involves the step necessary to close, e.g., remove or make unable to discharge, the referenced structures. The RCRA Permit corrective action procedures do not address making a SWMU incapable of causing an unacceptable discharge, but instead evaluates past releases from the SWMUs. Therefore, the Condition 63 closure requirements will remain in the Discharge Permit.

34. Condition #62, Page 33-34 - As stated above, the groundwater monitoring provisions for hazardous constituents listed in 40 CFR Part 261, Appendix VIII or 40 CFR Part 264, Appendix IX also do not apply to any of the SWMUs listed above.

    As detailed in Comment #1 above, Air Force is assessing and mitigating PFOS and PFOA contamination from past use of AFFF under CERCLA, DERP, and NCP. This includes any groundwater monitoring from impacted SWMUs.

    NMED Response: NMED believes that CAFB meant Comment #2 above. Condition 63 (previously Condition 62) does not reference PFCs. The GWQB will require groundwater monitoring for any constituent found associated with the discharge location and included in 20.6.2.3103 NMAC, including the hazardous constituents referenced in CAFB's comment. Therefore, the Condition 63 closure requirements will remain in the Discharge Permit.

35. Condition #62, Page 33-34 - As stated above, NMED cannot impose a financial assurance requirement on the Air Force. The following language should be stricken: "*The Permittee shall ensure the closure plan has sufficient detail to estimate the cost of complete closure of all wastewater related infrastructure and post-closure monitoring for the purpose of establishing and maintaining financial assurance. The detailed closure plan shall provide sufficient detail to estimate the cost of operation and maintenance of the groundwater monitoring system. Inherent in this detail is an estimate of the time (after the cessation of Facility operation) that the groundwater monitoring system will have to remain in place and in operation, i.e., until WQCC groundwater standards or background concentrations have been met for at least eight consecutive quarters*".

    NMED Response: NMED disagrees. See NMED response to Comment #5.

36. Condition #63, Page 34 - As stated above, NMED cannot impose a financial assurance requirement on the Air Force. Therefore Condition #63 should be stricken in its entirety.

    NMED Response: NMED disagrees. See NMED response to Comment #5.

37. Condition #64, Page 34-36 - As stated above, NMED cannot impose a financial assurance requirement on the Air Force. Therefore Condition #64 should be stricken in its entirety.

    NMED Response: NMED disagrees. See NMED response to Comment #5.

38. Condition #65, Page 36-37 - As stated above, NMED cannot impose a financial assurance requirement on the Air Force. Therefore Condition #65 should be stricken in its entirety.

    NMED Response: NMED disagrees. See NMED response to Comment #5.

39. Condition #66, Page 37-38 - The following components of the WWTP system and septic tank/leach fields are identified as solid waste management units under the corrective action provisions of CAFB's RCRA Permit: SWMU 102 WWTP Effluent, Discharge Pipe and Inlet Chamber (currently on Table 2 CAC Approved Jan 2015, and Approval with Modifications April 11, 2019).

    As such these SWMUs are not subject to the closure or post-closure requirements of this discharge permit. Clearly, it is not the Groundwater Quality Bureau's intent to conflict or supersede the corrective action provisions of the RCRA Permit. These corrective action requirements apply to releases of hazardous constituents listed in 40 CFR Part 261, Appendix VIII or 40 CFR Part 264, Appendix IX.

    As detailed in Comment #1 above, Air Force is assessing and mitigating PFOS and PFOA contamination from past use of AFFF under CERCLA, DERP, and NCP. This includes any impacted SWMUs.

    NMED Response: Per 20.6.2.3107.A(11) NMAC, every discharge permit needs to include a closure plan; therefore, the inclusion of this condition is regulatorily required. CAFB needs to comply with the requirements of both the discharge permit and RCRA permit. See NMED Response to Comment #33.

40. Condition #66, Page 37-38 - As detailed in Comments #1, #3, #17, # 19, & #22 above, the Air Force will not test for PFOS/PFOA, or 1, 4-dioxane as no scientific basis exists documenting the need for further sampling or testing. As the Air Force has noted, these chemicals are not hazardous constituents under any of the relevant regulations, such as CERCLA/IRIS or 40 CFR Parts 261 and 264, as adopted in 20.4.1.200, .500, .501 NMAC. No past or current data demonstrates an imminent or substantial endangerment to human health or the environment IAW CERCLA/IRIS standards.

    NMED Response: Per 20.6.2.3103 NMAC, the standard for a toxic pollutant is determined by credible scientific data and other evidence. The Tap Water Screening Level identified in Table A-1 of the most current NMED Risk Assessment Guidance for Site Assessments and Investigations was determined by credible scientific data through the development of the document, which utilizes methodologies developed by the U.S. Environmental Protection Agency; however, if CAFB would like to calculate an alternate screening level for approval by NMED, NMED would consider such a proposal.

41. Condition #66, Page 37-38 - See Comment #14 above. Additionally, the WWTP is a mission essential facility at Cannon AFB. Terminating discharge to the WWTP would shut down the mission.

    NMED Response: This condition does not require terminating discharge to the WWTP, but as stated in the first paragraph, requires specific closure measures "in the event the Facility, or a component of the Facility, is proposed to be permanently closed." A similar condition has been included in past discharge permits issued by NMED to CAFB. Per 20.6.2.3107.A(11) NMAC, every discharge permit must include a closure plan.

F. General Terms and Conditions

42. Condition #74, Page 42 - Clause 74 is to be stricken in its entirety. No fiscal authority exists for New Mexico to assess such penalty under WQA 74-6-10(C) & 74-6-10.1

    NMED Response: This is a standard condition that is included in every discharge permit issued by NMED to conform with Section 74-6-10 of the New Mexico Water Quality Act.

43. Condition #75, Page 42-43 - Clause 75 must be modified by striking all the words in the clause starting with the word, "guilty". The following words in substitution should be added: "*potentially subject to prosecution in a state or federal venue as is determined appropriate at the time under the appropriate federal or state criminal provision*."

    NMED Response: This is a standard condition that is included in every discharge permit issued by NMED to conform with Section 74-6-5.A through 74-6-5.F of the New Mexico Water Quality Act.

44. Condition #76, Page 43 - Strike the language after COMPLIANCE WITH OTHER LAWS and insert in substitution: "*The requirements in this Discharge Permit are also drafted so as to meet 40 CFR Part 264, 20.4.1.200, 500, 501 NMAC groundwater protection requirements. As such, the Installation RCRA permit (NM0030236) is incorporated for reference purposes. Compliance with the portions of the RCRA permit pertaining to groundwater protection shall also be considered to be compliance of this Discharge Permit*."

    NMED Response: This is a standard condition that is included in every discharge permit issued by NMED to conform with Section 74-6-5.L of the New Mexico Water Quality Act.

45. Condition #77, Page 43 - In the second line change "*thirty*" to "*sixty*". After the sentence ending with the words: "*judicial review*". Add: "*The United States expressly reserves the right to file suit in federal court without filing a petition for review before the WQCC*"

    NMED Response: This is a standard condition that is included in every discharge permit issued by NMED to conform with Section 74-6-5.O of the New Mexico Water Quality Act.

46. Condition #79, Page 43-44 - PERMIT FEES Change the “30” to “90”.

NMED Response: This is a standard condition that is included in every discharge permit issued by NMED to conform with Section 74-6-5.K of the New Mexico Water Quality Act. If CAFB requires additional time to pay the permit fee, CAFB can request an extension at the appropriate time.

Discharge Permit Summary

47. Page 1 - There is no irrigation system at Building 777, and the septic systems at Facilities 244, and 2332 are inactive.

NMED Response: The Discharge Permit Summary has been updated to reflect these changes.

48. Page 1-2 - The septic systems on Cannon AFB are independent systems with the average daily flow rate for the septic systems being less than 5,000 GPD. Since these systems are currently less than 5,000 GPD, these systems are exempt from the Underground Injection Control (UIC) provisions. Cannon AFB believes that these independent tanks should be removed from the DP-873, and Cannon AFB will permit these systems separately under 20.7.3 NMAC. Cannon AFB is investigating the dog kennel septic tanks and leach fields and is requesting that they be removed from this permit until there is information indicating they are properly covered under the UIC regulations.

NMED Response: Until the DP-873 permitted septic tank/leachfield systems are permitted by the Environmental Health Bureau of NMED under 20.7.3 NMAC, the systems will continue to be regulated under DP-873. When the systems are permitted under 20.7.3 NMAC, CAFB can request to modify the permit to remove those systems from DP-873.

49. Page 3 - There is an existing well at CAFB identified as MW-Fa

NMED Response: NMED has updated the MW name to MW-BBB throughout the Discharge Permit. Also, NMED has updated the MW name for MW-Ob in the Discharge Permit to MW-CCC and the MW name for MW-Z to MW-DDD. NMED has made these changes so the naming convention for monitoring wells required by the Discharge Permit are not in conflict with the naming conventions for monitoring wells installed at CAFB for other purposes.

50. Page 4 - The Air Force opposes the inclusion of monitoring wells installed under the CERCLA investigation in this permit. As stated in Comment #1 above, the investigation of the nature and extent of any groundwater impact from past use of AFFF is being implemented under CERCLA.

NMED Response: Please see NMED’s response to Comment #12 above.

Well Abandonment Guidelines

51. See Comment #1 above.

Additionally, the requirements appear to be similar but inconsistent with the more stringent well abandonment requirements in CAFB's RCRA corrective action only permit. The Air Force respectfully request that the Groundwater Quality Bureau coordinate with the Hazardous Waste Bureau to ensure there are no conflicts between the Bureaus regarding well abandonment requirements at CAFB.

NMED Response: NMED believes CAFB meant Comment #2. CAFB insufficiently identifies how the well abandonment requirements in the Guidelines are less stringent or conflict with the RCRA permit requirements. The GWQB includes the Guidelines in all discharge permits with monitoring wells issued by NMED.

Monitoring wells required to be installed per the Discharge Permit need to be installed and abandoned per the requirements of the Discharge Permit, which relies on the requirements of the NM Office of the State Engineer.

Furthermore, this Discharge Permit does not currently require the abandonment of a monitoring well; however, if in the future a Discharge Permit required monitoring well is to be abandoned, it will only be a well installed to solely fulfill a purpose of a discharge permit and not the RCRA corrective action permit, unless there is concurrence with the NMED Hazardous Waste Bureau.

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GROUND WATER QUALITY BUREAU
DISCHARGE PERMIT
Issued under 20.6.2 NMAC

Facility Name:	Cannon Air Force Base
Discharge Permit Number:	DP-873
Facility Location:	100 Air Commando Way Cannon Air Force Base, NM
County:	Curry
Permittee: Mailing Address:	Cannon Air Force Base Robert A. Masaitis, Colonel, USAF 506 North Air Commando Way Cannon AFB, NM 88103
Facility Contact: Telephone Number/Email:	Sara Newton, Water Program Manager (575) 904-6735/sara.newton@us.af.mil
Permitting Action:	Renewal/Modification
Permit Issuance Date: **Permit Expiration Date:**	December 15, 2021 December 14, 2026
NMED Permit Contact: Telephone Number/Email:	Avery Young (505) 699-8564/avery.young@state.nm.us

Justin Ball Digitally signed by Justin Ball
Date: 2021.12.15 16:15:24 -07'00'

JUSTIN D. BALL
Acting Chief, Ground Water Quality Bureau
New Mexico Environment Department

Date

Cannon Air Force Base, **DP-873**
Issuance Date: December 15, 2021

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Land Application Data Sheet (LADS - https://www.env.nm.gov/forms/)
Fertilizer Log
Facility Map

Cannon Air Force Base, **DP-873**
Issuance Date: December 15, 2021

NMED Ground Water Quality Bureau Guidance: Above Ground Use of Reclaimed Domestic Wastewater

I. INTRODUCTION

The New Mexico Environment Department (NMED) issues this groundwater Discharge Permit Renewal and Modification (Discharge Permit or DP-873) to Cannon Air Force Base (CAFB or Permittee) pursuant to the New Mexico Water Quality Act (WQA), NMSA 1978 §§74-6-1 through 74-6-17, and the New Mexico Water Quality Control Commission (WQCC) Ground and Surface Water Protection Regulations, 20.6.2 NMAC.

NMED's purpose in issuing this Discharge Permit, and in imposing the requirements and conditions specified herein, is to control the discharge of water contaminants from the CAFB Wastewater Treatment Plant (WWTP) and septic tank/leachfield systems (collectively the "Facility") in order to protect groundwater and those segments of surface water gaining from groundwater inflow for present and potential future use as domestic and agricultural water supply and other uses, and to protect public health. It is NMED's determination in issuing this Discharge Permit that the Permittee has met the requirements of Subsection C of 20.6.2.3109 NMAC. The Permittee is responsible for complying with the terms and conditions of this Discharge Permit pursuant to Section 20.6.2.3104 NMAC; failure to do so may result in enforcement action by NMED (20.6.2.1220 NMAC).

Described below are the activities that produce the discharge, the location of the discharge, and the quantity, quality and flow characteristics.

The WWTP is designed to receive and treat domestic and industrial wastewater at a volume of up to 1.5 million gallons per day (MGD). A four-acre synthetically lined impoundment adjacent to the WWTP stores wastewater prior to treatment (i.e., the Raw Wastewater Storage Basin). The WWTP consists of three sequencing batch reactor basins, a sludge drying bed, and a chlorine contact chamber. The WWTP discharges at a volume up to 900,000 gallons per day (gpd) of reclaimed wastewater to a four-acre synthetically lined impoundment adjacent to the WWTP (i.e., the Treated Wastewater Storage Basin), a synthetically lined impoundment at the golf course (i.e., the Golf Course Impoundment), and the North Playa Lake. From the Golf Course Impoundment, reclaimed wastewater is land applied by sprinkler irrigation to the re-use area. The re-use area consists of 108 acres of golf course turf and 7.5 acres of golf driving range turf. Oil/water separators at select facilities generating hydraulic oil process industrial wastes prior to discharging wastewater to the WWTP. Eleven facilities utilize grease trap/interceptors prior to discharging wastewater to the WWTP. The Facility uses reclaimed wastewater for dust control and construction purposes.

Fourteen septic tank/leachfield (STLF) systems and two holding tanks receive and treat domestic wastewater at a volume of up to 7,500 gpd from buildings at CAFB not connected to the WWTP.

Sources of wastewater influent to the WWTP include residential and industrial wastewater. More specifically, sources of discharge to the WWTP include, but are limited to, aircraft maintenance facilities, aircraft wash racks, aircraft corrosion control facilities, vehicle

maintenance facilities, RV dump station for trailers, multi-family housing units, and two Child Development Centers.

The discharge may contain water contaminants or toxic pollutants elevated above the standards of Section 20.6.2.3103 NMAC and is not subject to the exemption at Subsection 20.6.2.3105.A NMAC. The Discharge Permit modification consists of a change in the quality of the wastewater discharged from the WWTP due to the presence of perfluorinated chemicals, which NMED began regulating in December 2018.

The Permittee's 2018 Site Investigation Report and 2020 groundwater discharge permit application (Application) document the presence of perfluorinated chemicals (PFCs) at the Facility and in the reclaimed wastewater. Data collected from on-site monitoring wells document exceedances of groundwater quality standards for PFCs according to the criteria of Sections 20.6.2.3101 and 20.6.2.3103 NMAC attributed to one or more sources at the Facility. This Discharge Permit contains requirements, actions and/or contingencies intended to address the sources of documented groundwater contamination. This Discharge Permit requires the Permittee to submit a site investigation workplan to evaluate the presence of PFCs in soils within the re-use areas, the former sewage lagoons, the WWTP, and surrounding the North Playa Lake. The Permittee may be subject to the requirements of an abatement plan for water pollution in excess of standard and requirements at CAFB set forth in 20.6.2.4103 NMAC pursuant to 20.6.2.4104.A NMAC.

All discharge locations are within the boundaries of CAFB on the south and north sides of Highway 60/84. The Facility is located approximately seven miles west of Clovis along Highway 60/84, in Sections 18, 19, 20, and 24, Township 02N, Range 35E and in Sections 12, 13, 24, 25, and 30, Township 02N, Range 34E, in Curry County. A discharge at the Facility is most likely to affect groundwater at a depth of approximately 312 feet and having a total dissolved solids (TDS) concentration of approximately 300 milligrams per liter.

NMED issued the original Discharge Permit to the Permittee on December 8, 1994 and subsequently renewed the Permit on December 22, 2000, renewed and modified the Permit on January 30, 2009, amended the Permit on April 17, 2009, and renewed and modified the Permit on March 31, 2014. The Application (i.e., discharge plan) associated with this Discharge Permit consists of the materials submitted by the Permittee dated January 15, 2020 and materials contained in this Discharge Permit's administrative record prior to issuance of this Discharge Permit.

The Permittee shall manage the discharge in accordance with all conditions and requirements of this Discharge Permit.

With regard to the Permittee's responsibility to fund closure, post-closure and corrective action requirements of this Discharge Permit and Closure Plan at the Facility, Department of Defense (DOD) owns and operates Cannon Air Force Base, and, therefore, closure, post-closure, and

corrective action requirements under this Discharge Permit are the legal obligations of the government of the United States of America. The costs to perform all closure, post-closure and corrective action requirements of this Discharge Permit are funded by the government of the United States of America through the DOD, subject to Congressional appropriations.

NMED reserves the right to require a Discharge Permit modification in the event NMED determines that the Permittee is or may be violating, or is likely to violate in the future, the requirements of 20.6.2 NMAC or the standards of Section 20.6.2.3103 NMAC. NMED reserves this right pursuant to Section 20.6.2.3109 NMAC. An NMED requirement to modify the Discharge Permit may result from a determination by NMED that structural controls and/or management practices approved under this Discharge Permit are insufficiently protective of groundwater quality and human health. NMED reserves the right to require the Permittee implement abatement of water pollution and remediate groundwater quality.

NMED issuance of this Discharge Permit does not relieve the Permittee of the responsibility to comply with the WQA, WQCC Regulations, and any other applicable federal, state and/or local laws and regulations, such as zoning requirements and nuisance ordinances.

This Discharge Permit may use the following acronyms and abbreviations.

Abbreviation	Explanation		Abbreviation	Explanation
BOD_5	biochemical oxygen demand (5-day)		NMSA	New Mexico Statutes Annotated
CFR	Code of Federal Regulations		NO_3-N	nitrate-nitrogen
CFU	colony forming unit		NTU	nephelometric turbidity units
Cl	chloride		PFCs	Perfluorinated chemicals
EPA	United States Environmental Protection Agency		QA/QC	Quality Assurance/Quality Control
gpd	gallons per day		TDS	total dissolved solids
LAA	land application area		TKN	total Kjeldahl nitrogen
LADS	Land Application Data Sheet(s)		total nitrogen	= TKN + NO_3-N
mg/L	milligrams per liter		TRC	total residual chlorine
mL	milliliters		TSS	total suspended solids
MPN	most probable number		WQA	New Mexico Water Quality Act
NMAC	New Mexico Administrative Code		WQCC	Water Quality Control Commission
NMED	New Mexico Environment Department		WWTF	Wastewater Treatment Facility

II. FINDINGS

In issuing this Discharge Permit, NMED finds the following.

1. The Permittee is discharging effluent or leachate from the Facility so that such effluent or leachate may move into groundwater of the State of New Mexico that has an existing TDS concentration of 10,000 mg/L or less, within the meaning of Subsection A of 20.6.2.3101 NMAC, without exceeding standards of 20.6.2.3103 NMAC for any water contaminant.

2. This Discharge Permit allows the Permittee to discharge effluent or leachate from the Facility directly or indirectly into groundwater pursuant to this Discharge Permit and Sections 20.6.2.3000 through 20.6.2.3114 NMAC.

3. The discharge from the Facility is not subject to any of the exemptions of Section 20.6.2.3105 NMAC.

III. AUTHORIZATION TO DISCHARGE

The Permittee is responsible for ensuring that discharges authorized by this Discharge Permit are consistent with the terms and conditions herein pursuant to 20.6.2.3104 NMAC.

This Discharge Permit authorizes the Permittee to receive and treat up to 1.5 MGD of domestic and industrial wastewater at the WWTP. This Discharge Permit authorizes the Permittee to store wastewater in the Raw Wastewater Storage Basin. This Discharge Permit authorizes the Permittee to discharge reclaimed wastewater at a volume of up to 900,000 gpd to the Treated Wastewater Storage Basin, to the North Playa Lake, and to the Golf Course Impoundment prior to discharging the reclaimed wastewater to 115.5 acres of turf (i.e., re-use area). This Discharge Permit authorizes the Permittee to use reclaimed wastewater at the Facility on a temporary basis for dust control and construction purposes.

This Discharge Permit authorizes the Permittee to discharge up to 7,500 gpd of domestic wastewater from buildings at CAFB that are not connected to the WWTP to fourteen septic tank/leachfield systems and two holding tanks.

[20.6.2.3104 NMAC, Subsection C of 20.6.2.3106 NMAC, Subsection D of 20.6.2.3109 NMAC]

IV. CONDITIONS

NMED issues this Discharge Permit for the discharge of water contaminants subject to the following conditions.

A. OPERATIONAL PLAN

#	Terms and Conditions
1.	The Permittee shall implement the following operational plan to ensure compliance with Title 20, Chapter 6, Parts 2 and 4 NMAC.

#	Terms and Conditions
	[Subsection C of 20.6.2.3109 NMAC]
2.	The Permittee shall operate in a manner that does not violate standards and requirements of Sections 20.6.2.3101 and 20.6.2.3103 NMAC. [20.6.2.3101 NMAC, 20.6.2.3103 NMAC, Subsection C of 20.6.2.3109 NMAC]

Operational Actions with Implementation Deadlines

#	Terms and Conditions
3.	Within 60 days following the issuance date of this Discharge Permit (**by February 13, 2022**), the Permittee shall measure the thickness of the settled solids in the Raw Wastewater Storage Basin and the Treated Wastewater Storage Basin. The Permittee shall measure the thickness of settled solids in accordance with the following procedure. a) The division of the total surface area of the treatment impoundment into nine equal sub-areas. b) One measurement (to the nearest half foot) using a settled solids measurement device (e.g., core sampler) per sub-area. c) Calculation of the average of the nine settled solids measurements. In the event that the average measured settled solids exceed one-third of the maximum liquid depth in the impoundment, the Permittee shall implement the Contingency Plan set forth in this Discharge Permit. The Permittee shall report the results of the solids thickness measurements to NMED in the next required quarterly monitoring report. [Subsection A of 20.6.2.3107 NMAC, Subsection C of 20.6.2.3109 NMAC]

Operating Conditions

#	Terms and Conditions
4.	The Permittee shall ensure that reclaimed wastewater discharged from the chlorine contact chamber does not exceed the following discharge limit. **Total Nitrogen: 10 mg/L** [Subsection C of 20.6.2.3109 NMAC]

<table>
<tr><th>#</th><th>Terms and Conditions</th></tr>
<tr><td>5.</td><td>The Permittee shall ensure that reclaimed wastewater discharged from the chlorine contact chamber does not exceed the following discharge limits, consistent with the water quality requirements for Class 1B reclaimed wastewater set forth in NMED GWQB Guidance: Above Ground Use of Reclaimed Domestic Wastewater.

<table>
<tr><th>Test</th><th>30-day Average</th><th>Maximum</th></tr>
<tr><td>E. coli bacteria</td><td>63 CFU/100 mL</td><td>126 CFU/100 mL</td></tr>
<tr><td>BOD_5</td><td>30 mg/L</td><td>45 mg/L</td></tr>
<tr><td>TSS</td><td>30 mg/L</td><td>45 mg/L</td></tr>
<tr><td>TRC</td><td>Monitor Only</td><td>Monitor Only</td></tr>
</table>

[Subsections B and C of 20.6.2.3109 NMAC, NMSA 1978, § 74-6-5.D]</td></tr>
<tr><td>6.</td><td>The Permittee shall apply reclaimed wastewater to re-use areas and for dust control and construction purposes in a manner that does not result in PFCs in soils exceeding a hazard index of 1.0. The Permittee shall utilize the residential, non-cancer soil screening level specified in the most current NMED Risk Assessment Guidance for Site Investigations and Remediation and the associated soil screening levels for PFCs presented in Table A-1, or the Permittee shall develop a pathway specific soil screening level for each reuse area as specified in the Risk Assessment Guidance and shall submit the proposed screening level together with the development procedure to NMED for approval.

[Subsection C of 20.6.2.3109 NMAC]</td></tr>
<tr><td>7.</td><td>The Permittee shall apply reclaimed wastewater evenly throughout the entire re-use area such that the amount of total nitrogen applied does not exceed 200 pounds per acre in any rolling 12-month period. The Permittee shall not adjust nitrogen content to account for volatilization or mineralization processes. Condition 45 requires the Permittee to track nitrogen loading utilizing a Land Application Data Sheet (LADS).

[Subsection C of 20.6.2.3109 NMAC]</td></tr>
<tr><td>8.</td><td>The Permittee shall ensure adherence to the following general requirements for above-ground use of reclaimed wastewater.
a) The Permittee shall install and maintain signs in English and Spanish at all re-use areas such that they are visible and legible for the term of this Discharge Permit. The Permittee shall post signs at the entrance to re-use areas and at other locations where public exposure to reclaimed domestic wastewater may occur. The signs shall state: NOTICE: THIS AREA IS IRRIGATED WITH RECLAIMED WASTEWATER - DO NOT DRINK. AVISO: ESTA ÁREA ESTÁ REGADA CON AGUAS NEGRAS RECOBRADAS - NO TOMAR. The Permittee may submit alternate wording and/or graphics to NMED for approval.</td></tr>
</table>

#	Terms and Conditions
	b) Reclaimed wastewater systems shall have no direct or indirect cross connections with public water systems or irrigation wells pursuant to the latest revision of the New Mexico Plumbing Code (14.8.2 NMAC) and New Mexico Mechanical Code (14.9.2 NMAC). c) Above-ground use of reclaimed wastewater shall not result in excessive ponding of wastewater and shall not exceed the water consumptive needs of the crop. The Permittee shall not discharge reclaimed wastewater at times when the re-use area is saturated or frozen. d) The Permittee shall confine the discharge of reclaimed wastewater to the re-use area. e) The Permittee shall not discharge reclaimed wastewater to crops used for human consumption. f) Water supply wells within 200 feet of a re-use area shall have adequate wellhead construction pursuant to 19.27.4 NMAC. g) Existing and accessible portions of the reclaimed wastewater distribution system (with the exception of application equipment such as sprinklers or pivots) shall be colored purple or clearly labeled as being part of a reclaimed domestic wastewater distribution system. Piping, valves, outlets, and other plumbing fixtures shall be purple pursuant to the latest revision of the New Mexico Plumbing Code (14.8.2 NMAC) and New Mexico Mechanical Code (14.9.2 NMAC) to differentiate piping or fixtures used to convey reclaimed wastewater from those intended for potable or other uses. h) Valves, outlets, and sprinkler heads used in reclaimed wastewater distribution systems shall be accessible only to authorized personnel. The Permittee shall demonstrate adherence to these requirements by submitting documentation consisting of narrative statements and date-stamped photographs as appropriate. The Permittee shall submit the documentation to NMED once during the term of this Discharge Permit in the next required quarterly monitoring report after the issuance of the Discharge Permit. [Subsections B and C of 20.6.2.3109 NMAC, NMSA 1–78, § 74-6–5.D]
9.	The Permittee shall meet the following setbacks, access restrictions and equipment requirements for spray irrigation using Class 1B reclaimed wastewater. a) The Permittee shall maintain a minimum 100-foot setback between any dwellings or occupied establishments and the edge of the re-use area. b) The Permittee shall postpone irrigation using reclaimed wastewater at times when wind conditions may result in drift of reclaimed wastewater outside the re-use area. c) The Permittee shall apply reclaimed wastewater at times and in a manner that minimizes public contact.

#	Terms and Conditions
	d) The Permittee shall limit the spray irrigation system to low trajectory spray nozzles. [Subsections B and C of 20.6.2.3109 NMAC, NMSA 1–78, § 74-–-5.D]
10.	The Permittee shall meet the following requirements for the above-ground use of reclaimed wastewater for dust control and construction purposes. a) The Permittee shall restrict access to the reclaimed wastewater distribution system (i.e., standpipe). Transfer of reclaimed wastewater to other users shall be only by the Permittee or its designee. The Permittee shall prohibit public access to the reclaimed wastewater system. b) The Permittee shall notify all recipients of reclaimed wastewater in writing of the following. i. Reclaimed wastewater is approved only for construction activities; soil compaction; mixing of mortars, slurries or cement; dust control on roads and construction sites; animal watering; and irrigation of non-food crops. ii. The recipients shall discharge reclaimed wastewater by gravity flow or under low pressure in a manner that minimizes misting and does not result in excessive standing or ponding of wastewater. iii. If the discharge method results in misting, the area(s) receiving the reclaimed domestic wastewater must be 100 feet from areas accessible to the public. iv. The area receiving the discharge must be 300 feet from potable water supply wells. v. Transport vehicles and storage tanks containing reclaimed domestic wastewater shall have signs, in English and Spanish, identifying the contents as non-potable water and advising against consumption. vi. The recipients shall not apply reclaimed wastewater at times when the receiving area is saturated or frozen. vii. Reclaimed wastewater contains PFCs and include the most recent PFC laboratory data analysis required by Condition 39. The Permittee shall retain a copy of these notifications with the name of the recipient and the date of the notification included on the document. The Permittee shall maintain a log of all recipients of reclaimed wastewater that includes the recipient's name, the date of receipt, the volume discharged, and the recipients use of the wastewater including the placement location. The Permittee shall provide the log to NMED upon request. [20.6.2.3109 NMAC]
11.	The Permittee shall institute a backflow prevention method to protect wells and public water supply systems from contamination by reclaimed wastewater prior to discharging

#	Terms and Conditions
	to the re-use area. Backflow prevention shall be achieved by a total disconnect (physical air gap separation between the discharge pipe and the liquid surface at least twice the diameter of the discharge pipe), or by a reduced pressure principal backflow prevention assembly (RP) installed on the line between the fresh water supply wells or public water supply and the reclaimed wastewater delivery system. The Permittee shall maintain backflow prevention at all times. The Permittee shall have RP devices inspected and tested by a certified backflow prevention assembly tester at the time of installation, repair or relocation and at least on an annual basis thereafter. The backflow prevention assembly tester shall have successfully completed a 40-hour backflow prevention course based on the University of Southern California's Backflow Prevention Standards and Test Procedures, and obtained certification demonstrating completion. The Permittee shall have all malfunctioning RP devices repaired or replaced within 30 days of discovery. The Permittee shall ensure the supply lines associated with the RP device are not utilized until repair or replacement of a malfunctioning RP device has been completed. The Permittee shall maintain copies of inspection and maintenance records and test results for each RP device associated with the backflow prevention program. The documents shall identify the date of the action, the name of the person responsible for the action, any findings, and shall be maintained at a location available for inspection by NMED. [Subsection C of 20.6.2.3109 NMAC]
12.	The Permittee shall maintain fences around the WWTP to restrict access by the general public and animals. The fences shall consist of a minimum of six-foot chain link or field fencing and locking gates. The Permittee shall maintain the fences to serve the stated purpose throughout the term of this Discharge Permit. [Subsections B and C of 20.6.2.3109 NMAC, NMSA 1978, § 74-6-5.D]
13.	The Permittee shall maintain signs indicating that the wastewater at the WWTP is not potable. The Permittee shall post signs at the WWTP entrance and other areas where there is potential for public contact with wastewater. The signs shall be printed in English and Spanish and shall remain visible and legible for the term of this Discharge Permit. [Subsections B and C of 20.6.2.3109 NMAC, NMSA 1978, § 74-6-5.D]
14.	The Permittee shall maintain the impoundment liners to avoid conditions that could affect the liner or the structural integrity of the impoundments. Characterization of such conditions may include the following: • erosion damage;

#	Terms and Conditions
	• animal burrows or other damage; • the presence of vegetation including aquatic plants, weeds, woody shrubs or trees growing within five feet of the top inside edge of a sub-grade impoundment, within five feet of the toe of the outside berm of an above-grade impoundment, or within the impoundment itself; • the presence of large debris or large quantities of debris in the impoundment; • evidence of seepage; or • evidence of berm subsidence. The Permittee shall routinely control vegetation growing around the impoundments by mechanical removal that is protective of the impoundment liner. The Permittee shall visually inspect the impoundments and surrounding berms on a monthly basis to ensure proper maintenance. In the event that inspection reveals any evidence of damage that threatens the structural integrity of an impoundment berm or liner, or that may result in an unauthorized discharge, the Permittee shall implement the Contingency Plan set forth in this Discharge Permit. The Permittee shall create and maintain a log of all impoundment inspections which describes the date of the inspection, any findings and repairs and the name of the person responsible for the inspection. The Permittee shall make the log available to NMED upon request. [Subsection A of 20.6.2.3107 NMAC, Subsection C of 20.6.2.3109 NMAC]
15.	The Permittee shall maintain the North Playa Lake to avoid conditions that could affect the structural integrity of the impoundment. Characterization of such conditions may include the following: • erosion damage; • animal burrows or other damage; • the presence of vegetation including aquatic plants, weeds, woody shrubs or trees growing within five feet of the top inside edge of a sub-grade impoundment, within five feet of the toe of the outside berm of an above-grade impoundment, or within the impoundment itself; • the presence of large debris or large quantities of debris in the impoundment; • evidence of seepage; or • evidence of berm subsidence. The Permittee shall control vegetation growing around the impoundment by mechanical removal that is protective of the impoundment.

#	Terms and Conditions
	The Permittee shall visually inspect the impoundment and surrounding berms on a monthly basis to ensure proper maintenance. In the event that inspection reveals any evidence of damage that threatens the structural integrity of an impoundment berm, or that may result in an unauthorized discharge, the Permittee shall implement the Contingency Plan set forth in this Discharge Permit. The Permittee shall create and maintain a log of all impoundment inspections which describes the date of the inspection, any findings and repairs and the name of the person responsible for the inspection The Permittee shall provide the log to NMED upon request. [Subsection A of 20.6.2.3107 NMAC, Subsection C of 20.6.2.3109 NMAC]
16.	The Permittee shall preserve a minimum of two feet of freeboard in the wastewater impoundments, i.e., the liquid level in the impoundment and the elevation of the lowest-most top of the impoundment liner or the top of the impoundment berm. In the event that the Permittee determines that it cannot preserve two feet of freeboard in an impoundment, the Permittee shall implement the Contingency Plan set forth in this Discharge Permit. [Subsection A of 20.6.2.3107 NMAC, Subsection C of 20.6.2.3109 NMAC]
17.	The Permittee shall visually inspect the area above the leachfields (i.e., septic tank disposal systems) semi-annually to ensure proper maintenance. The Permittee shall correct any conditions that indicate damage to the disposal systems. The Permittee shall ensure conditions corrected include erosion damage, animal activity/damage, woody shrubs, evidence of seepage, or any other condition indicating improper construction or damage. The Permittee shall keep a log of the inspections that includes a date of the inspection, any findings and repairs, and the name of the inspector. The Permittee shall make the log available to NMED upon request. In the event of a failure of a disposal system, the Permittee shall implement the Contingency Plan set forth in this Discharge Permit. [Subsections A and D of 20.6.2.3107 NMAC, Subsection C of 20.6.2.3109 NMAC]
18.	The Permittee shall properly manage all solids generated by the WWTP to maintain effective operation of the system by removing solids as necessary and in accordance with associated equipment manufacturer's specifications. The Permittee shall contain,

#	Terms and Conditions
	transport and dispose of solids removed from the treatment system in accordance with all local, state, and federal regulations and report to NMED as required in Condition 47. [Subsection A of 20.6.2.3107 NMAC, Subsection C of 20.6.2.3109 NMAC]
19.	The Permittee shall inspect the septic tanks semi-annually for the accumulation of scum and solids. In the event that the scum layer exceeds three inches or the settled solids occupy 30% or more of the tank volume, the contents of the tanks shall be pumped by a septage pumper meeting the qualification requirements identified in Subsection D of 20.7.3.904 NMAC, Liquid Waste Disposal and Treatment Regulations. The Permittee shall create and maintain a log of all septic tank inspections which describes the findings, repairs and removals, the date of the inspection, and the name of the person responsible for the inspection. The Permittee shall make the log available to NMED upon request. The Permittee shall maintain a record of solids removal and disposal, including the name of the septage hauler, date of off-site shipment, volume of solids removed, disposal method, and disposal location. [Subsection A of 20.6.2.3107 NMAC, Subsection C of 20.6.2.3109 NMAC]
20.	The Permittee shall inspect the oil/water separators and grease trap/interceptors on a monthly basis and remove accumulated oil, grease, and settled solids as needed to prevent them from exiting the unit. The Permittee shall create and maintain a log of all oil/water separator and grease trap/interceptor inspections which describes all findings, repairs, removals, the date of the inspection, and the name of the person responsible for the inspection. The Permittee shall make the log available to NMED upon request. The Permittee shall maintain a record of oil/solids and grease/solids removal and disposal, including date, volume of oil/solids and grease/solids removed, disposal method and disposal location. [Subsection A of 20.6.2.3107 NMAC, Subsection C of 20.6.2.3109 NMAC]
21.	The Permittee shall utilize operators, certified by the State of New Mexico at the appropriate level pursuant to 20.7.4 NMAC, to operate the wastewater collection, treatment and disposal systems. A certified operator or a direct supervisee of a certified operator shall perform the operations and maintenance of all or any part of the wastewater system.

#	Terms and Conditions
	The Permittee shall notify the NMED within 24 hours if at any time the Permittee no longer has an operator certified to the appropriate level maintaining the system. [Subsection C of 20.6.2.3109 NMAC, 20.7.4 NMAC]

B. MONITORING AND REPORTING

#	Terms and Conditions
22.	The Permittee shall conduct the monitoring, reporting, and other requirements listed below in accordance with the monitoring requirements of this Discharge Permit. [Subsection A of 20.6.2.3107 NMAC, Subsection C of 20.6.2.3109 NMAC]
23.	METHODOLOGY – Unless otherwise specified by this Discharge Permit, or approved in writing by NMED, the Permittee shall use sampling and analytical techniques that conform with the references listed in Subsection B of 20.6.2.3107 NMAC. [Subsection B of 20.6.2.3107 NMAC]
24.	Quarterly monitoring - The Permittee shall perform monitoring and other Permit required actions during the following periods and shall submit quarterly reports to NMED by the following due dates: • January 1st through March 31st – **due by May 1st;** • April 1st through June 30th – **due by August 1st;** • July 1st through September 30th – **due by November 1st; and** • October 1st through December 31st – **due by February 1st.** [Subsection A of 20.6.2.3107 NMAC]

Monitoring Actions with Implementation Deadlines

#	Terms and Conditions
25.	Within 90 days following the issuance date of this Discharge Permit (**by March 15, 2022**), the Permittee shall submit a written groundwater monitoring well location proposal for NMED review and approval. The proposal shall designate the installation locations of the monitoring wells required by Condition 26 of this Discharge Permit. The proposal shall include, at a minimum, the following information. a) A map showing the proposed location of the monitoring wells in relation to the boundary of the source it intends to monitor.

#	Terms and Conditions
	b) A written description of the specific location proposed for the monitoring wells including the distance (in feet) and direction of the monitoring wells from the edge of the source it intends to monitor. Examples include: 35 feet north-northwest of the northern berm of the synthetically lined impoundment; 45 feet due south of the leachfield; and 30 feet southeast of the re-use area 150 degrees from north. c) A statement describing the groundwater flow direction beneath the Facility, and documentation and/or data supporting the determination. The Permittee must obtain NMED's approval of all groundwater monitoring well locations prior to their installation. [Subsection A of 20.6.2.3107 NMAC]
26.	Within 120 days of the NMED approval of the monitoring well proposal required in Condition 25 of this Discharge Permit, the Permittee shall install the following new groundwater monitoring wells. a) One monitoring well (MW-AAA) located 20 to 50 feet hydrologically downgradient of the golf course. b) One monitoring well (MW-BBB) located 20 to 50 feet hydrologically downgradient of the Raw Wastewater Storage Basin. c) One monitoring well (MW-CCC) located 20 to 50 feet hydrologically downgradient of the North Playa Lake. d) One monitoring well (MW-DDD) located 20 to 50 feet hydrologically downgradient of the Golf Course Impoundment. The Permittee shall complete the wells in accordance with the attached *Monitoring Well Guidance*. [Subsection A of 20.6.2.3107 NMAC]
27.	Following the installation of the groundwater monitoring wells required by this Discharge Permit, the Permittee shall sample groundwater in the wells and analyze the samples for TKN, NO_3-N, TDS, Cl, PFHxS, PFOS, and PFOA. The Permittee shall perform groundwater sample collection, preservation, transport and analysis according to the following procedure. a) Measure the depth-to-most-shallow groundwater from the top of the well casing to the nearest hundredth of a foot. b) Submerge a groundwater extraction pump approximately 2 to 3 feet below the groundwater potentiometric surface. c) Pump the groundwater to the surface at a slow rate of approximately 300 milliliters per minute and measure pH, dissolved oxygen (DO), and specific conductance every

#	Terms and Conditions
	30 minutes. d) When the pH, DO, and specific conductance measurement vary by less than 10% of the previous two measurements, obtain samples from the well to be analyzed. e) Properly prepare, preserve and transport samples. f) Analyze samples in accordance with the methods authorized in this Discharge Permit. Within 60 days of the installation of the groundwater monitoring wells the Permittee shall submit a well completion report to NMED. A well completion report shall at a minimum include: the Office of the State Engineer permit, well construction and lithologic logs, depth-to-most-shallow groundwater measurements, analytical results including the laboratory QA/QC summary report, and a facility layout map showing the location and number of each well. The Permittee shall ensure the well completion report addresses each numbered item in the General Drilling and Well Specifications in the attached *Monitoring Well Guidance*. [Subsection A of 20.6.2.3107 NMAC]
28.	Within 60 days following the installation of the monitoring wells required in Condition 26, the Permittee shall perform a professional survey of all new groundwater monitoring wells approved by NMED for Discharge Permit monitoring purposes. The survey shall be tied or referenced to a U.S. Geological Survey (USGS) or other permanent benchmark and shall be tied to other nearby, existing groundwater monitoring wells. Survey data shall include northing, easting and elevation to the nearest one-hundredth of a foot or shall be in accordance with the "Minimum Standards for Surveying in New Mexico" (12.8.2 NMAC). The survey shall bear the seal and signature of a licensed New Mexico professional surveyor (pursuant to the New Mexico Engineering and Surveying Practice Act and the rules promulgated under that authority). The Permittee shall utilize the survey to establish an elevation at the top-of-casing, with a permanent marking indicating the point of elevation. Depth-to-most-shallow groundwater shall be measured to the nearest one-hundredth of a foot in all surveyed wells and referenced to mean sea level, and the data shall be used to develop a groundwater elevation contour, i.e., potentiometric surface, map showing the location of all monitoring wells and the direction and gradient of groundwater flow in the uppermost aquifer below the Facility. The Permittee shall submit the data and groundwater elevation contour map to NMED within 30 days of survey completion. [Subsection A of 20.6.2.3107 NMAC, NMSA 1978, §§ 61-23-1 through 61-23-32]

Groundwater Monitoring Conditions

#	Terms and Conditions
29.	The Permittee shall perform groundwater sampling once during the first year of the Discharge Permit term (**by December 15, 2022**) in the following monitoring wells and analyze the samples for all constituents listed in Section 20.6.2.3103 NMAC and all toxic pollutants listed in the definitions of 20.6.2.7 NMAC: a) MW-E, located approximately 300 feet west of the WWTP and hydrologically upgradient of the storage basins. b) MW-F, located approximately 150 feet east of the southeastern corner of the storage basins and hydrologically downgradient of the storage basins. c) MW-G, located southeast of the raw wastewater storage basin and located hydrologically downgradient of the previous sewage lagoons. d) MW-Na, located approximately 350 feet northeast of the North Playa Lake and hydrologically upgradient of the playa lake. e) MW-Pa, located approximately 300 feet west of the North Playa Lake and intended to be located hydrologically cross-gradient of the playa lake. f) MW-Ra, located approximately 1,000 feet northwest of the North Playa Lake and hydrologically upgradient of the playa lake. g) MW-V, located in the northwest corner of the softball fields and hydrologically upgradient of the re-use areas. h) MW-Y, located approximately 800 feet southwest of the North Playa Lake and cross-gradient of the playa lake. i) MW-AAA, located 20 to 50 feet hydrologically downgradient of the golf course. j) MW-BBB, located 20 to 50 feet hydrologically downgradient of the Raw Wastewater Storage Basin. k) MW-CCC, located 20 to 50 feet hydrologically downgradient of the North Playa Lake. l) MW-DDD, located 20 to 50 feet hydrologically downgradient of the Golf Course Impoundment. The Permittee shall perform groundwater sample collection, preservation, transport and analysis according to the following procedures. a) Measure the depth-to-most-shallow groundwater from the top of the well casing to the nearest hundredth of a foot. b) Submerge a groundwater extraction pump approximately 2 to 3 feet below the groundwater potentiometric surface. c) Pump the groundwater to the surface at a slow rate of approximately 300 milliliters per minute and measure pH, dissolved oxygen (DO), and specific conductance every 30 minutes. d) When the pH, DO, and specific conductance measurement vary by less than 10% of the previous two measurements, obtain samples from the well to be analyzed.

#	Terms and Conditions
	e) Properly prepare, preserve and transport samples. f) Analyze samples in accordance with the methods authorized in this Discharge Permit. The Permittee shall submit the depth-to-most-shallow groundwater measurements and the laboratory analytical data results including the laboratory QA/QC summary report for each well, and a Facility layout map showing the location and number of each well to NMED in the subsequent quarterly monitoring report. [Subsection A of 20.6.2.3107 NMAC]
30.	The Permittee shall perform semi-annual groundwater sampling in the following groundwater monitoring wells and analyze the samples for TKN, NO_3-N, TDS, Cl, PFHxS, PFOS, and PFOA. a) MW-E; b) MW-F; c) MW-G; d) MW-Na; e) MW-Pa; f) MW-Ra; g) MW-V; h) MW-Y; i) MW-AAA; j) MW-BBB; k) MW-CCC; and l) MW-DDD. See Condition 29 for descriptions of monitoring well locations. The Permittee shall perform groundwater sample collection, preservation, transport and analysis according to the following procedures. a) Measure the depth-to-most-shallow groundwater from the top of the well casing to the nearest hundredth of a foot. b) Submerge a groundwater extraction pump approximately 2 to 3 feet below the groundwater potentiometric surface. c) Pump the groundwater to the surface at a slow rate of approximately 300 milliliters per minute and measure pH, dissolved oxygen (DO), and specific conductance every 30 minutes. d) When the pH, DO, and specific conductance measurement vary by less than 10% of the previous two measurements, obtain samples from the well to be analyzed. e) Properly prepare, preserve and transport samples. f) Analyze samples in accordance with the methods authorized in this Discharge Permit.

#	Terms and Conditions
	The Permittee shall submit the depth-to-most-shallow groundwater measurements and the laboratory analytical data results including the laboratory QA/QC summary report for each well, and a Facility layout map showing the location and number of each well to NMED in the monitoring reports due by February 1st and August 1st each year. [Subsection A of 20.6.2.3107 NMAC]
31.	The Permittee shall develop a groundwater elevation contour map, i.e., potentiometric surface map, on a semi-annual basis using the top of casing elevation data from the monitoring well survey and the most recent depth-to-most-shallow groundwater measurements, referenced to mean sea level, obtained during the groundwater sampling required by this Discharge Permit. The groundwater elevation contour map shall depict the groundwater flow direction based on the groundwater elevation contours. The Permittee shall estimate groundwater elevations between monitoring well locations using common interpolation methods. The Permittee shall use a contour interval appropriate to the data, but shall not be greater than two feet. Groundwater elevation contour maps shall use arrows to depict the groundwater flow direction based on the orientation of the groundwater elevation contours and shall locate and identify each monitoring well and contaminant source. The Permittee shall submit to NMED a groundwater elevation contour map in the monitoring reports due by February 1st and August 1st each year. [Subsection A of 20.6.2.3107 NMAC]
32.	NMED shall have the option to perform downhole inspections of all groundwater monitoring wells identified in this Discharge Permit. NMED shall establish the inspection date and provide at least a 60-day notice to the Permittee by certified mail. The Permittee shall remove any existing dedicated pumps at least 48 hours prior to NMED inspection to allow adequate settling time of sediment agitated from pump removal. Should the Permittee decide to install a pump in a monitoring well without a dedicated pump, the Permittee shall notify NMED at least 90 days prior to pump installation so that NMED can schedule a downhole well inspection(s) prior to pump placement. [Subsections A and D of 20.6.2.3107 NMAC]

Facility Monitoring Conditions

#	Terms and Conditions
33.	The Permittee shall measure the total monthly volume, calculate the daily average volume, and record the daily peak volume of wastewater received by the WWTP each month using a primary measuring device (equipped with head sensing, totalizing and chart recording/data logging mechanisms) located at the WWTP headworks. The Permittee shall submit the totalized, average daily and peak daily influent volumes for each month to NMED in the quarterly monitoring reports. [Subsection A of 20.6.2.3107 NMAC, Subsections C and H of 20.6.2.3109 NMAC]
34.	The Permittee shall on a monthly basis measure the reclaimed wastewater effluent volume discharged to the Treated Wastewater Storage Basin, North Playa Lake, Golf Course Impoundment, and driving range using four totalizing flow meters. The Permittee shall maintain a log that records the dates that discharges occur to *each* location and the monthly totalizing meter readings and units of measurement. The Permittee shall use the log to calculate the total monthly volume of reclaimed wastewater discharged to *each* location. The Permittee shall also use the monthly volume discharged to *each* location on the LADS (Land Application Data Sheet, copy enclosed) to calculate nitrogen loading. The Permittee shall submit a copy of the log to NMED in the quarterly monitoring reports. [Subsection A of 20.6.2.3107 NMAC, Subsections C and H of 20.6.2.3109 NMAC]
35.	The Permittee shall measure and record the volume of reclaimed wastewater conveyed from the Treated Wastewater Storage Basin or the standpipe for temporary use. The Permittee shall measure the volume on a monthly basis using a totalizing flow meter located on the transfer line at the point of transfer. The Permittee shall submit a summary of the monthly discharge volumes to NMED in the quarterly monitoring reports. [Subsection A of 20.6.2.3107 NMAC, Subsections C and H of 20.6.2.3109 NMAC]
36.	The Permittee shall on a monthly basis estimate the volume of wastewater discharged to the septic tank/leachfield systems by recording meter readings associated with each system's water supply on a monthly basis and by calculating monthly and average daily usage volumes. To determine the estimated daily discharge volume for each septic tank/leachfield system, the Permittee shall use the formula below*. estimated monthly volume ÷ number of days between readings = average daily volume

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	Each month, the Permittee shall make note of any significant uses of the water (e.g., irrigation, evaporative cooling, or leaks) that do not contribute to the volume of wastewater discharged to a specific septic tank/leachfield system. The Permittee shall submit the monthly meter readings, estimated monthly and average daily discharge volumes, and notes and estimated volume of significant uses to NMED in the quarterly monitoring reports. *Should more than one flow meter exist for the system's water supply, the Permittee shall calculate the estimated monthly volume for the system by adding the estimated monthly volume for each meter. This summation should be completed prior to calculating the average daily volume for the system. [Subsection A of 20.6.2.3107 NMAC, Subsections C and H of 20.6.2.3109 NMAC]
37.	All flow meters shall be capable of having their accuracy verified under working (i.e., real-time, in-the-field) conditions. The Permittee shall develop a field verification method for each flow meter and shall utilize that method to check the accuracy of each respective meter. The Permittee shall perform field calibrations upon repair or replacement of a flow measurement device and, at a minimum, on an annual basis. The Permittee shall ensure each flow meter is calibrated to its manufacturer's recommended specification, which shall be no less accurate than plus or minus 10 percent of actual flow, as measured under field conditions. An individual knowledgeable in flow measurement shall perform field calibration and the installation/operation of the device in use. The Permittee shall prepare a flow meter calibration report for each flow measurement device calibration event. The flow meter calibration report shall include the following information. a) The location and meter identification. b) The method of flow meter field calibration employed. c) The measured accuracy of each flow meter prior to adjustment indicating the positive or negative offset as a percentage of actual flow as determined by an in-field calibration check. d) The measured accuracy of each flow meter following adjustment, if necessary, indicating the positive or negative offset as a percentage of actual flow of the meter. e) Any flow meter repairs made during the previous year or during field calibration. f) The name of the individual performing the calibration and the date of the calibration. The Permittee shall maintain records of flow meter calibration(s), including the date of the calibration and all significant findings, at a location accessible for review by NMED during Facility inspections. [Subsection A of 20.6.2.3107 NMAC, Subsections C and H of 20.6.2.3109 NMAC]

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38.	The Permittee shall visually inspect flow meters on a monthly basis for evidence of malfunction. The Permittee shall maintain a log of the inspections that includes a date of the inspection, findings and repairs, and the name of the inspector. The Permittee shall make the log available to NMED upon request. If a visual inspection indicates a flow meter is not functioning as required by this Discharge Permit, the Permittee shall repair or replace the meter within 30 days of discovery. For *repaired* meters, the Permittee shall submit a report to NMED with the next quarterly monitoring report following the repair that includes a description of the malfunction; a statement verifying the repair; and a flow meter field calibration report completed in accordance with the requirements of this Discharge Permit. For *replacement* meters, the Permittee shall submit a report to NMED with the next quarterly monitoring report following the replacement that includes a design schematic for the device and a flow meter field calibration report completed in accordance with the requirements of this Discharge Permit. [Subsection A of 20.6.2.3107 NMAC, Subsection C of 20.6.2.3109 NMAC]
39.	The Permittee shall sample reclaimed wastewater for the presence of perfluorinated chemicals (PFCs). The Permittee shall collect a single grab sample following the chlorine contact chamber on a monthly basis. The Permittee shall analyze the sample for the following PFCs: • perfluorohexane sulfonic acid (PFHxS) (CAS 355-46-4) • perfluorooctane sulfonate (PFOS) (CAS 1763-23-1) • perfluorooctanoic acid (PFOA) (CAS 335-67-1) The Permittee shall properly collect, prepare, preserve, transport, and analyze the sample in accordance with ASTM D7979-17, or an equivalent method that uses liquid chromatography and tandem mass spectrometry (LC/MS/MS). The reporting limit shall be low enough to identify whether the combined concentration of the perfluorinated chemicals is less than the Tap Water Screening Level identified in Table A-1 of the most current *NMED Risk Assessment Guidance for Site Assessments and Investigations.* The Permittee shall take appropriate measures to avoid cross contamination while collecting and transporting the sample, including adhering to any guidance provided by the selected laboratory to ensure sample integrity. The Permittee shall submit a copy of the laboratory report, including analytical results, the QA/QC summary, and the Chain of Custody to NMED in the quarterly monitoring reports. When analytical results from three consecutive months of wastewater sampling do not exceed the Tap Water Screening Level identified in Table A-1, the Permittee is authorized

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	to conduct the required sampling on a quarterly monitoring frequency for the duration of the permit unless otherwise directed by NMED. [Subsection H of 20.6.2.3109 NMAC, Subsection A of 20.6.2.3107 NMAC]
40.	The Permittee shall collect samples of reclaimed wastewater following the chlorine contact chamber on a quarterly basis and analyze the samples for: • TKN; • NO_3-N; • TDS; and • Cl. The Permittee shall ensure the samples are properly prepared, preserved, transported and analyzed in accordance with the methods authorized in this Discharge Permit. The Permittee shall submit the laboratory analytical data results, including the QA/QC summary and Chain of Custody, to NMED in the subsequent quarterly monitoring report. [Subsection A of 20.6.2.3107 NMAC, Subsections C and H of 20.6.2.3109 NMAC]
41.	During any week that the discharge of reclaimed wastewater occurs, the Permittee shall analyze wastewater samples collected following the chlorine contact chamber using the following sampling method and frequency: • E. coli bacteria: grab sample at peak daily flow once per week; • BOD_5: six-hour composite sample once per two weeks; • TSS: six-hour composite sample once per two weeks; and • TRC concentrations: record whenever collecting bacteria samples. The Permittee shall ensure the samples are properly prepared, preserved, transported and analyzed in accordance with the methods authorized in this Discharge Permit. The Permittee shall submit the laboratory analytical data results, including the QA/QC summary and Chain of Custody, and a copy of the log of TRC concentrations to NMED in the subsequent quarterly monitoring report. [Subsection A of 20.6.2.3107 NMAC, Subsections B, C and H of 20.6.2.3109 NMAC, NMSA 1978, § 74-6-5.D]
42.	The Permittee shall sample wastewater in the septic tanks on an annual basis for TKN. The Permittee shall collect four individual wastewater samples from four septic tanks each year, rotating among the fourteen septic tank/leachfield systems. The Permittee shall ensure the samples are properly prepared, preserved, transported and analyzed in accordance with the methods authorized in this Discharge Permit. The

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	Permittee shall submit the laboratory analytical data results, including the QA/QC summary and Chain of Custody, to NMED in the monitoring report due by February 1st each year. [Subsection A of 20.6.2.3107 NMAC, Subsection C and H of 20.6.2.3109 NMAC]
43.	On an annual basis, the Permittee shall collect a 24-hour flow weighted composite sample (except as noted for pH) of reclaimed wastewater following the chlorine contact chamber and analyze the sample for the following inorganic contaminants (dissolved fraction, except as noted): • aluminum (CAS 7429-90-5) • antimony (CAS 7440-36-0) • arsenic (CAS 7440-38-2) • barium (CAS 7440-39-3) • beryllium (CAS 7440-41-7) • boron (CAS 7440-42-8) • cadmium (CAS 7440-43-9) • chromium (CAS 7440-47-3) • cobalt (CAS 7440-48-4) • copper (CAS 7440-50-8) • cyanide (CAS 57-12-5) • fluoride (CAS 16984-48-8) • iron (CAS 7439-89-6) • lead (CAS 7439-92-1) • manganese (CAS 7439-96-5) • molybdenum (CAS 7439-98-7) • total mercury (nonfiltered) (CAS 7439-97-6) • pH (instantaneous) • nickel (CAS 7440-02-0) • radioactivity: combined radium-226 & radium-228 (CAS 15262-20-1) • selenium (CAS 7782-49-2) • silver (CAS 7440-224) • sulfate (CAS 14808-79-8) • thallium (CAS 7440-28-0) • uranium (CAS 7440-61-1) • zinc (CAS 7440-66-6) The Permittee shall properly collect, prepare, preserve, transport and analyze the sample in accordance with the methods authorized in this Discharge Permit. The Permittee shall analyze the sample using methods with reporting limits that are less than the corresponding numerical groundwater standards identified in 20.6.2.3103 NMAC. The Permittee shall submit a summary of measured concentrations compared with the corresponding groundwater standards, a copy of the laboratory report including the laboratory analytical data results, the QA/QC summary and the Chain of Custody, to NMED in the monitoring reports due by August 1st each year. [Subsection A of 20.6.2.3107 NMAC, Subsections C and H of 20.6.2.3109 NMAC]
44.	On an annual basis, the Permittee shall collect a grab sample of reclaimed wastewater following the chlorine contact chamber and analyze the non-filtered sample for the following organic contaminants:

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	• atrazine (CAS 1912-24-9) • benzene (CAS 71-43-2) • benzo-a-pyrene (CAS 50-32-8) • carbon tetrachloride (CAS 56-23-5) • chloroform (CAS 67-66-3) • 1,2-dichlorobenzene (CAS 95-50-1) • 1,4-dichlorobenzene (CAS 106-46-7) • 1,1-dichloroethane (CAS 75-34-3) • 1,2-dichloroethane (EDC, CAS 107-06-2) • 1,1-dichloroethene (1,1-DCE, CAS 75-35-4) • cis-1,2-dichloroethene (CAS 156-59-2) • trans-1,2-dichloroethene (CAS 156-60-5) • 1,2-dichloropropane (PDC, CAS 78-87-5) • 1,4-dioxane (CAS 123-91-1) (using EPA Method 8270D- SIM) • ethylbenzene (CAS 100-41-4) • ethylene dibromide (EDB, CAS 106-93-4) • methylene chloride (CAS 75-09-2) • PAHs: total naphthalene (CAS 91-20-3) plus monomethylnaphthalenes • phenols (CAS 108-95-2) • polychlorinated biphenyls (PCBs, CAS 1336-36-3) • pentachlorophenol (CAS 87-86-5) • toluene (CAS 108-88-3) • styrene (CAS 100-42-5) • 1,1,2,2-tetrachloroethane (CAS 79-34-5) • tetrachloroethene (PCE, CAS 127-18-4) • 1,2,4-trichlorobenzene (CAS 120-82-1) • 1,1,1-trichloroethane (1,1,1-TCA, CAS 71-55-6) • 1,1,2-trichloroethane (CAS 79-00-5) • trichloroethene (TCE, CAS 79-01-6) • vinyl chloride (CAS 75-01-4) • total xylenes (CAS 1330-20-7) The Permittee shall properly collect, prepare, preserve, transport and analyze the sample in accordance with the methods authorized in this Discharge Permit. The Permittee shall analyze samples using methods with reporting limits that are less than the corresponding numerical groundwater standards identified in 20.6.2.3103 NMAC. The reporting limit for 1,4-dioxane shall be less than the Tap Water Screening Level for 1,4-dioxane identified in Table A-1 of the most current *NMED Risk Assessment Guidance for Site Assessments and Investigations*. The Permittee shall submit a summary of measured concentrations compared with the corresponding groundwater standards, and a copy of the laboratory report including the laboratory analytical data results, the QA/QC summary and the Chain of Custody to NMED in the monitoring reports due by August 1st each year. [Subsection A of 20.6.2.3107 NMAC, Subsections C and H of 20.6.2.3109 NMAC]
45.	The Permittee shall complete LADS on a monthly basis that document the amount of nitrogen applied to *each* location of the re-use area during the most recent 12 months.

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	The LADS shall reflect the total nitrogen concentration from the most recent wastewater analysis and the measured discharge volumes to *each* location within the re-use area for each month. The Permittee shall complete the LADS with the information above or include a statement that application of wastewater did not occur. The Permittee shall submit copies of the LADS to NMED in the subsequent quarterly monitoring report. [Subsection A of 20.6.2.3107 NMAC, Subsection C of 20.6.2.3109 NMAC]
46.	The Permittee shall keep a Fertilizer Log (copy enclosed) of all additional nitrogenous fertilizer applied to *each* location within the re-use area. The Log shall contain the date of fertilizer application, the type (organic or inorganic) and form (granular or liquid), nitrogen concentration (in percent), the amount of fertilizer applied (in pounds per acre), and the amount of nitrogen applied (in pounds per acre) for each location. The Permittee shall submit a copy of the log, or a statement that application of fertilizer did not occur, to NMED in the subsequent quarterly monitoring report. [Subsection A of 20.6.2.3107 NMAC]
47.	The Permittee shall submit records of solids disposal, including a copy of all Discharge Monitoring Reports (i.e., DMRs) required by the EPA pursuant to 40 CFR 503, for the previous calendar year, to NMED annually in the monitoring report due by August 1st each year. [Subsection A of 20.6.2.3107 NMAC]
48.	The Permittee shall submit all records of solids, grease, and oil removal from septic tanks, grease trap/interceptors, and oil/water separators and disposal to NMED in the quarterly monitoring reports. The records shall identify the name of the hauler, the date of off-site shipment, the volume of solids removed, the disposal method, and disposal location. [Subsection A of 20.6.2.3107 NMAC]

C. ADDITIONAL STUDIES REQUIRED

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49.	Within six months following the issuance date of this Discharge Permit (**by June 15, 2022**), the Permittee shall submit for NMED approval a Soils Investigation Workplan to evaluate the presence of PFCs in soils in the re-use areas, the former sewage lagoons, the WWTP, and surrounding the North Playa Lake. The Soils Investigation Workplan shall include an implementation schedule. The Permittee shall implement the site soils investigation upon NMED approval of the Workplan and shall submit a completed Site

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	Soils Investigation Report by the deadline established by NMED in the Workplan approval letter. NMED may require the Permittee to take corrective actions pursuant to 20.6.2.4103 NMAC if soils present at the Facility exceed the residential, non-cancer soil screening level for PFCs, either individually or collectively, identified in the most current *NMED Risk Assessment Guidance for Site Investigations and Remediation* and the associated soil screening levels for contaminants presented in Table A-1. [20.6.2.3107 NMAC, 20.6.2.4103 NMAC]

D. CONTINGENCY PLAN

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50.	In the event that groundwater monitoring indicates that groundwater exceeds a standard identified in Section 20.6.2.3103 NMAC, the Permittee shall collect a confirmatory sample from the monitoring well within 15 days of receipt of the initial sampling results to confirm the initial sampling results. Within 60 days of confirmation of groundwater contamination, the Permittee shall submit to NMED a Corrective Action Plan (CAP) that proposes, at a minimum, contaminant source control measures and an implementation schedule. Immediately following NMED approval, the Permittee shall implement the approved CAP. Once this groundwater exceedance response condition is invoked, whether during the term of this Discharge Permit or after the term of this Discharge Permit and prior to the completion of the Discharge Permit closure plan requirements, this condition shall apply until the Permittee has fulfilled the requirements of this condition and groundwater monitoring confirms for a minimum of eight (8) consecutive quarterly samples that groundwater does not exceed the standards of Section 20.6.2.3103 NMAC. Continued violation of a groundwater standard beyond 180 days after the confirmation of groundwater contamination may result in NMED requiring the Permittee to abate water pollution consistent with the requirements and provisions of Section 20.6.2.4101, Section 20.6.2.4103, Subsections C and E of 20.6.2.4106, Section 20.6.2.4107, Section 20.6.2.4108 and Section 20.6.2.4112 NMAC. [Subsection A of 20.6.2.3107 NMAC, Subsection E of 20.6.2.3109 NMAC]
51.	In the event that information available to NMED indicates that a groundwater monitoring well is not constructed in a manner consistent with the attached *Monitoring Well*

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	Guidance; contains insufficient water to effectively monitor groundwater quality; or is otherwise not completed in a manner that is protective of groundwater quality, the Permittee shall install a replacement well(s) within 120 days following notification from NMED. The Permittee shall survey the replacement monitoring well(s) within 30 days following well completion. The Permittee shall install replacement wells at locations approved by NMED prior to installation and shall complete replacement wells in accordance with the attached *Monitoring Well Guidance*. The Permittee shall submit well construction and lithologic logs survey data and a groundwater elevation contour map to NMED within 60 days following well completion. The Permittee shall properly plug and abandon a groundwater monitoring well requiring replacement upon completion of the replacement monitoring well. The Permittee shall complete the well plugging and abandonment, and shall document the abandonment procedures, in accordance with the attached *Monitoring Well Guidance* and all applicable local, state, and federal regulations. The Permittee shall submit a copy of the well abandonment documentation to NMED within 60 days following the replacement well completion. [Subsection A of 20.6.2.3107 NMAC]
52.	In the event that groundwater flow information obtained pursuant to this Discharge Permit indicates that a monitoring well is not appropriately located, e.g., hydrologically downgradient of the discharge location it is intended to monitor, the Permittee shall install a replacement well within 120 days following notification from NMED. The Permittee shall survey the replacement monitoring well within 30 days following well completion. The Permittee shall install replacement wells at locations approved by NMED prior to installation and shall complete replacement wells in accordance with the attached *Monitoring Well Guidance*. The Permittee shall submit construction and lithologic logs, survey data and a groundwater elevation contour map within 60 days following well completion. [Subsection A of 20.6.2.3107 NMAC]
53.	In the event that analytical results of a reclaimed wastewater sample indicate an exceedance of the Tap Water Screening Level for PFCs identified in Table A-1 of the most current *NMED Risk Assessment Guidance for Site Assessments and Investigations*, for

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	three consecutive sampling events, pursuant to the frequency requirement of Condition 39, the Permittee shall implement the following Contingency Plan of this Condition. a) Within seven (7) days of the third sample analysis date indicating exceedance of the Tap Water Screening Level for PFCs, the Permittee shall: i) notify NMED that the Permittee is implementing this Condition of the Contingency Plan; and ii) submit a copy of the analytical results indicating the exceedances to NMED. b) The Permittee shall immediately cease distribution of the reclaimed wastewater. c) The Permittee shall examine the operation and maintenance log, required by the Record Keeping conditions of this Discharge Permit, for improper operational procedures. d) The Permittee shall submit a Corrective Action Plan (CAP) to NMED for approval proposing to modify operational procedures and/or install a treatment process to effectively treat perfluorinated chemicals in the wastewater. The CAP shall include a schedule for completion of corrective actions. The Permittee shall submit the CAP within 90 days of receipt of the analytical results of the third sample exceeding the Tap Water Screening Level in Table A-1. Immediately following NMED approval, the Permittee shall implement the approved CAP. [Subsection A of 20.6.2.3107 NMAC, Subsection C of 20.6.2.3109 NMAC]
54.	In the event that analytical results of a reclaimed wastewater sample indicate an exceedance of the total nitrogen discharge limit (Condition 4) set in this Discharge Permit, the Permittee shall collect and submit for analysis a second sample within 48 hours of the receipt of the initial sampling results. In the event the second sample results indicate an exceedance of the discharge limit, the Permittee shall implement the following contingencies. a) Within seven (7) days of the second sample analysis date indicating exceedance of the discharge limit, the Permittee shall: i) notify NMED that the Permittee is implementing the Contingency Plan; and ii) submit a copy of the first and second analytical results indicating an exceedance to NMED. b) The Permittee shall increase the frequency of total nitrogen wastewater sampling and analysis of reclaimed wastewater to once per month. c) The Permittee shall examine the operation and maintenance log, required by the Record Keeping conditions of this Discharge Permit, for improper operational procedures. d) The Permittee shall conduct a physical inspection of the treatment system to detect abnormalities. The Permittee shall correct any abnormalities discovered. The Permittee shall submit a report to NMED detailing the corrections within 30 days of correction. e) In the event that any analytical results from monthly wastewater sampling indicate

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	an exceedance of the total nitrogen discharge limit, the Permittee shall submit a Corrective Action Plan (CAP) to NMED for approval proposing to modify operational procedures and/or upgrade the treatment process to achieve the total nitrogen limit. The Permittee shall submit the CAP including a schedule for completion of corrective actions and within 90 days of receipt of the analytical results of the second sample indicating that the discharge limit is continuing to be exceeded. Immediately following NMED approval, the Permittee shall implement the approved CAP. When analytical results from three consecutive months of wastewater sampling do not exceed the discharge limit, the Permittee may request NMED authorize a return to a quarterly monitoring frequency. [Subsection A of 20.6.2.3107 NMAC, Subsection C of 20.6.2.3109 NMAC]
55.	In the event that analytical results of a reclaimed wastewater sample indicate an exceedance of any of the maximum discharge limits for BOD_5, TSS, or E. coli bacteria set by this Discharge Permit, the Permittee shall collect and submit for analysis a second sample within 24 hours after becoming aware of the exceedance. In the event the second sample results confirm the exceedance of the maximum discharge limits, the Permittee shall implement the Contingency Plan below. **AND / OR** In the event that analytical results of a reclaimed wastewater sample indicate an exceedance of any of the 30-day average discharge limits for BOD_5, TSS, or E. coli bacteria (Condition 5) set by this Discharge Permit (i.e., confirmed exceedance), the Permittee shall implement the contingencies below. a) Within 24 hours of becoming aware of a confirmed exceedance (as identified above), the Permittee shall: i) notify NMED that the Permittee is implementing this Condition of the Contingency Plan; and ii) submit copies of the recent analytical results indicating an exceedance to NMED. b) The Permittee shall immediately cease discharging reclaimed domestic wastewater to the re-use area if the E. coli bacteria maximum limit is exceeded. c) The Permittee shall examine the operation and maintenance log, required by the Record Keeping conditions of this Discharge Permit, for improper operational procedures. d) The Permittee shall conduct a physical inspection of the treatment system to detect abnormalities and shall correct any abnormalities discovered. The Permittee shall submit a report detailing the corrections made to NMED within 30 days following correction.

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	When the analytical results from samples of reclaimed wastewater, sampled as required by this Discharge Permit, no longer indicate an exceedance of any of the maximum discharge limits, the Permittee may resume discharging reclaimed wastewater to the re-use area. If a Facility is required to implement the Contingency Plan more than two times in a 12-month period, the Permittee shall propose to modify operational procedures and/or upgrade the treatment process to achieve consistent compliance with the maximum and 30-day average discharge limits by submitting a Corrective Action Plan (CAP) for NMED approval. The Permittee shall ensure the CAP includes a schedule for completion of corrective actions. The Permittee shall submit the CAP within 60 days following receipt of the analytical results confirming the exceedance. Immediately following NMED approval, the Permittee shall implement the approved CAP. NMED may require, prior to recommencing discharge to the re-use area, additional sampling of any stored reclaimed wastewater. [Subsection A of 20.6.2.3107 NMAC, Subsection C of 20.6.2.3109 NMAC]
56.	In the event that the LADS show that the amount of nitrogen in wastewater applied in any 12-month period exceeds 200 pounds per acre, the Permittee shall propose the reduction of nitrogen loading to the re-use areas by submitting a Corrective Action Plan (CAP) to NMED for approval. The Permittee shall ensure the CAP includes a schedule for completion of corrective actions. The Permittee shall submit the CAP within 90 days following the end of the monitoring period in which the exceedance occurred. Immediately following NMED approval, the Permittee shall implement the approved CAP. [Subsection A of 20.6.2.3107 NMAC, Subsection C of 20.6.2.3109 NMAC]
57.	In the event that an inspection conducted by the Permittee pursuant to Conditions 14 and 15 reveals significant damage has occurred or is likely to affect the structural integrity of an impoundment or liner or their ability to contain contaminants, the Permittee shall propose the repair or replacement by submitting a Corrective Action Plan (CAP) to NMED for approval. The Permittee shall submit the CAP to NMED within 30 days after discovery of the damage or following notification from NMED that significant damage is evident. The Permittee shall ensure the CAP includes a schedule for completion of corrective actions. Immediately following NMED approval, the Permittee shall implement the approved CAP. [Subsection A of 20.6.2.3107 NMAC, Subsection C of 20.6.2.3109 NMAC]
58.	In the event that the Permittee cannot preserve a minimum of two feet of freeboard in an impoundment, the Permittee shall take actions to restore the required freeboard as

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	authorized by this Discharge Permit and all applicable local, state, and federal regulations. In the event that the Permittee cannot restore two feet of freeboard within a period of 72 hours following discovery, the Permittee shall propose actions to restore two feet of freeboard by submitting a short-term Corrective Action Plan (CAP) to NMED for approval. Examples of short-term corrective actions include the pumping and hauling of excess wastewater from the impoundment or reducing the volume of wastewater discharged to the impoundment. All short-term corrective actions must comply with the applicable terms and conditions of this Discharge Permit. The Permittee shall ensure the CAP includes a schedule for completion of corrective actions. The Permittee shall submit the CAP within 15 days following the date the Permittee or the NMED discover the exceedance. Immediately following NMED approval, the Permittee shall implement the approved CAP. In the event that the short-term corrective actions fail to restore two feet of freeboard, the Permittee shall submit to NMED a proposal for permanent corrective actions in a long-term CAP. The Permittee shall submit the long-term CAP within 90 days following failure of the short-term CAP. Examples of corrective actions include the installation of an additional storage impoundment or a significant and permanent reduction in the volume of wastewater discharged to the impoundment. The Permittee shall ensure the long-term CAP includes a schedule for completion of corrective actions. Immediately following NMED approval, the Permittee shall implement the approved CAP. [Subsection A of 20.6.2.3107 NMAC]
59.	In the event the average solids accumulation exceeds one-third of the maximum liquid depth in the impoundments, the Permittee shall propose a plan for the removal and disposal of the solids. The Permittee shall submit the solids removal and disposal plan to NMED for approval within 120 days following the issuance date of this Discharge Permit (**by April 14, 2022**). The solids removal and disposal plan shall include the following information. a) A method for removal of the solids to a depth of less than six inches throughout the treatment impoundment in a manner that is protective of the impoundment liner. b) A description of how the Permittee will contain, transport, and dispose of the solids in accordance with all local, state, and federal regulations, including 40 CFR Part 503. c) A schedule for completion of the solids removal and disposal project. Immediately following NMED approval, the Permittee shall implement the approved CAP. [Subsection A of 20.6.2.3107 NMAC, Subsection C of 20.6.2.3109 NMAC]

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60.	In the event that the Permittee identifies failure of a leachfield, such as surfacing wastewater, the Permittee shall implement the following Contingency Plan. a) Within 24 hours following the discovered failure, the Permittee shall: i) Notify NMED of the failure in accordance with the notification requirements described in the Contingency Plan for unauthorized discharges; and ii) Restrict public access to the area. b) The Permittee shall conduct a physical inspection of the treatment and disposal system to identify additional potential failures and record them in the inspection log. c) The Permittee shall propose actions to address the failure and methods of correction by submitting a Corrective Action Plan (CAP) to NMED for approval within 15 days following the discovered failure. The Permittee shall ensure the CAP includes a schedule for completion of corrective actions. Immediately following NMED approval, the Permittee shall implement the approved CAP. [Subsection A of 20.6.2.3107 NMAC, Subsection C of 20.6.2.3109 NMAC]
61.	In the event that a release occurs that is not authorized under this Discharge Permit (commonly known as a "spill"), the Permittee shall take measures to mitigate damage from the unauthorized discharge and initiate the notifications and corrective actions required in Section 20.6.2.1203 NMAC and summarized below. Within <u>24 hours</u> following discovery of the unauthorized discharge, the Permittee shall verbally notify NMED and provide the following information. a) The name, address, and telephone number of the person or persons in charge of the Facility, as well as of the owner and/or operator of the Facility. b) The name and address of the Facility. c) The date, time, location, and duration of the unauthorized discharge. d) The source and cause of unauthorized discharge. e) A description of the unauthorized discharge, including its estimated chemical composition. f) The estimated volume of the unauthorized discharge. g) Any actions taken to mitigate immediate damage from the unauthorized discharge. Within <u>one week</u> following discovery of the unauthorized discharge, the Permittee shall submit written notification to NMED providing the information listed above and any pertinent updates. Within <u>15 days</u> following discovery of the unauthorized discharge, the Permittee shall submit a Corrective Action Plan (CAP) to NMED describing any corrective actions previously taken and corrective actions to be taken relative to the unauthorized discharge. The CAP shall include the following information.

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	a) A description of proposed actions to mitigate damage from the unauthorized discharge. b) A description of proposed actions to prevent future unauthorized discharges of this nature. c) A schedule for completion of proposed actions. Immediately following NMED approval, the Permittee shall implement the approved CAP. In the event that the unauthorized discharge causes or may with reasonable probability cause water pollution in excess of the standards and requirements of Section 20.6.2.4103 NMAC, and the water pollution will not be abated within 180 days after notice is required to be given pursuant to Paragraph (1) of Subsection A of 20.6.2.1203 NMAC, NMED may require the Permittee to abate water pollution pursuant to Sections 20.6.2.4000 through 20.6.2.4115 NMAC. The Permittee shall not construe anything in this condition as relieving them of the obligation to comply with all requirements of Section 20.6.2.1203 NMAC. [20.6.2.1203 NMAC]
62.	In the event that NMED or the Permittee identifies any failures of the discharge plan, i.e., the Application, or this Discharge Permit not specifically noted herein, NMED may require the Permittee to submit a Corrective Action Plan and a schedule for completion of corrective actions to address the failure(s). Additionally, NMED may require a discharge permit modification to achieve compliance with 20.6.2 NMAC. [Subsection A of 20.6.2.3107 NMAC, Subsection E of 20.6.2.3109 NMAC]

E. CLOSURE PLAN

Closure Actions with Implementation Deadlines

#	Terms and Conditions
63.	Within nine (9) months of the issuance date of this Discharge Permit (**by September 15, 2022**), the Permittee shall submit a detailed closure plan for NMED's approval to prevent the exceedance of standards of 20.6.2.3103 NMAC in groundwater after the cessation of operation. The closure plan shall include: a description of closure measures, maintenance and monitoring plans, post-closure maintenance and monitoring plans, and other measures necessary to prevent or abate such contamination.

#	Terms and Conditions
	The Permittee shall ensure that the closure plan is sufficiently detailed to address the steps necessary to close the WWTP, associated impoundments, irrigation infrastructure, septic tank/leachfield systems, and any other wastewater related infrastructure. Further, the detailed closure plan shall address sludge de-watering (as necessary), characterization of wastes to be disposed on-site and off-site, restoration of vegetation, and ongoing maintenance for all impoundments, irrigation infrastructure, any other wastewater related infrastructure, all post-closure activities, and the plugging and abandonment of monitoring wells. The Permittee shall ensure that the closure plan addresses post-closure care, including the continued groundwater monitoring required under the Discharge Permit. All closure and post-closure activities are considered "complete closure." The Permittee shall ensure the closure plan has sufficient detail to estimate the cost of complete closure of all wastewater related infrastructure and post-closure monitoring for the purpose of establishing and maintaining financial assurance. The detailed closure plan shall provide sufficient detail to estimate the cost of operation and maintenance of the groundwater monitoring system. Inherent in this detail is an estimate of the time (after the cessation of Facility operation) that the groundwater monitoring system will have to remain in place and in operation, i.e., until WQCC groundwater standards or background concentrations have been met for at least eight consecutive quarters. [Subsection A of 20.6.2.3107]
64.	Within 90 days from the date of NMED's approval of the closure plan, the Permittee shall submit a detailed cost estimate (Estimate) for NMED's approval based on the detailed closure plan for complete closure required by Condition 63. The Estimate shall be based on the cost of hiring a third party to conduct complete closure. The Estimate shall include direct costs associated with all third-party implementation of the closure plan, contingency costs in the amount of 15 percent of the direct costs, the cost of an independent project manager and contract administration, and NMED oversight and administration costs, including indirect costs. The Estimate shall forecast the worst-case scenario for complete closure over the five-year period of this Discharge Permit; if a new permit is not issued after five years, the Estimate for the worst-case scenario shall be updated annually each year after five years and any financial responsibility shall be adjusted accordingly. The Permittee shall adjust the Estimate for inflation over the five-year period for complete closure and shall project the amount needed for each of the five years for the worst-case scenario for all activities included in complete closure. [Subsection A of 20.6.2.3107]

#	Terms and Conditions
65.	The Permittee shall ensure that the costs of closure, post-closure, and corrective action required under this Discharge Permit and Closure Plan by Condition 63 are adequately funded as necessary to ensure the timely completion of required activities in all applicable DOD budget requests. For purposes of this condition, financial responsibility requirements apply to all closure and post-closure requirements under the Closure Plan, including the requirements of Conditions 66 and 67, and potential abatement required under Condition 49. Nothing in this condition shall be interpreted to require obligation or payment of funds in violation of the Anti-Deficiency Act, 31 U.S.C. § 1341. The following requirements will provide a basis for DOD to develop appropriate and timely annual budgetary requests for adequate federal funding. a) All closure and post-closure requirements, including groundwater monitoring under this Discharge Permit shall be timely and subject to enforceable milestones. b) All corrective action requirements for the Facility units and systems with contaminant releases to groundwater—which are not solid waste management units (SWMUs) or areas of concern (AOCs) regulated under other permitting or remediation actions—shall be timely and subject to enforceable milestones. c) DOD shall evaluate compliance with this Discharge Permit as part of the annual process to develop the President's Budget Request. Budget requests for DOD must be timely submitted to seek adequate funding to allow the Facility to execute closure, post-closure or corrective action requirements under this Discharge Permit, and DOD shall notify NMED regarding these activities through closure and post-closure quarterly status reports. d) Annually, within fourteen business days after the President submits the Fiscal Year Budget Request to Congress, DOD shall provide to NMED the relevant portion of the annual Budget Request along with detailed information regarding how DOD calculated the request, e.g., the cost estimate, that is part of the public record. DOD will provide an opportunity for NMED to discuss the budget request with DOD upon request by NMED and through closure and post-closure quarterly status reports. [NMSA 1978, § 74-6-5.D, Subsection A of 20.6.2.3107 NMAC]

Permanent Facility Closure Conditions

#	Terms and Conditions
66.	The Permittee shall perform the following closure measures in the event the Facility, or a component of the Facility, is proposed to be permanently closed.

#	Terms and Conditions
	Within 90 days of ceasing to discharge to the treatment system, the Permittee shall complete the following closure measures. a) Plug the line leading to and from the system(s) so that a discharge can no longer occur. b) Evaporate wastewater in the system components and storage impoundments, or drained and disposed of in accordance with all local, state, and federal regulations, or discharged from the system to the re-use area as authorized by this Discharge Permit. The Permittee shall prohibit discharge of accumulated solids (sludge) to the re-use area. c) Contain, transport, and dispose of solids removed from the treatment system in accordance with all local, state, and federal regulations, including 40 CFR Part 503. The Permittee shall maintain a record of all solids transported for off-site disposal. Within 180 days of ceasing to discharge to the treatment system (or unit), the Permittee shall complete the following closure measures. a) Remove all lines leading to and from the treatment system(s), or permanently plug and abandon them in place. b) Remove or demolish all treatment system components, and re-grade the areas with suitable fill to blend with surface topography, promote positive drainage and prevent ponding. c) Perforate or remove the storage impoundment liners; fill the impoundments with suitable fill; and re-grade the impoundment sites to blend with surface topography, promote positive drainage and prevent ponding. The Permittee shall continue groundwater monitoring until the Permittee meets the requirements of this condition and groundwater monitoring confirms for a minimum of eight consecutive quarterly groundwater sampling events that groundwater does not exceed the standards of Section 20.6.2.3103 NMAC. This period is referred to as "post-closure." If at any time monitoring results show an exceedance of a groundwater quality standard in Section 20.6.2.3103 NMAC, the Permittee shall implement the Contingency Plan required by this Discharge Permit. Following notification from NMED that the Permittee may cease post-closure monitoring, the Permittee shall plug and abandon the monitoring well in accordance with the attached *Monitoring Well Guidance*. When the Permittee has met all closure and post-closure requirements and verified appropriate actions with date stamped photographic evidence or an associated NMED

#	Terms and Conditions
	inspection, the Permittee may submit to NMED a written request, including photographic evidence, for termination of the Discharge Permit. [Subsection A of 20.6.2.3107 NMAC, Subsection D of 20.6.2.4103 NMAC, 40 CFR Part 503]
67.	The Permittee shall perform the following closure measures in the event the Facility, or a component of the Facility, is proposed to be permanently closed, and upon ceasing discharge. Within 90 days of ceasing discharge to the septic tank leachfield systems (or closed system components), the Permittee shall complete the following closure measures: a) Plug all lines leading to and from the closed systems so that a discharge can no longer occur. b) Wastewater, septage, and grease interceptor waste shall be pumped from the system components (e.g., septic tanks, grease trap/interceptors, lift stations, dosing chambers, distribution boxes) and it shall be contained, transported, and disposed of in accordance with all local, state, and federal regulations, including 40 CFR Part 503. The Permittee shall maintain a record of all wastes transported for off-site disposal. Within 180 days of ceasing discharge to the septic tank leachfield systems (or closed system components), the Permittee shall complete the following closure measures: a) Remove all lines leading to and from the closed systems or permanently plug them and abandon them in place. b) Remove or demolish all closed septic tanks, grease trap/interceptors, lift stations, dosing chambers, distribution boxes or other systems components (with the exception of leachfields) and re-grade the area with suitable fill to blend with surface topography to promote positive drainage and prevent ponding. The Permittee shall continue groundwater monitoring until the Permittee meets the requirements of this condition and groundwater monitoring confirms for a minimum of eight consecutive quarterly groundwater sampling events that groundwater does not exceed the standards of Section 20.6.2.3103 NMAC. This period is referred to as "post-closure." If at any time monitoring results show an exceedance of a groundwater quality standard in Section 20.6.2.3103 NMAC or the total nitrogen concentration is greater than 10 mg/L in groundwater, the Permittee shall implement the Contingency Plan required by this Discharge Permit. Following notification from NMED that the Permittee may cease post-closure monitoring, the Permittee shall plug and abandon the monitoring wells in accordance with the attached *Monitoring Well Guidance*.

#	Terms and Conditions
	When the Permittee has met all closure and post-closure requirements and verified appropriate actions with date stamped photographic evidence or an associated NMED inspection, the Permittee may submit to NMED a written request, including photographic evidence, for termination of the Discharge Permit. [Subsection A of 20.6.2.3107 NMAC, 40 CFR Part 503

F. GENERAL TERMS AND CONDITIONS

#	Terms and Conditions

68.	RECORD KEEPING - The Permittee shall maintain a written record of the following:
	• Information and data used to complete the Application for this Discharge Permit;
	• Information, data, and documents demonstrating completion of closure activities;
	• Any releases (commonly known as "spills") not authorized under this Discharge Permit and reports submitted pursuant to 20.6.2.1203 NMAC;
	• The operation, maintenance, and repair of all facilities/equipment used to treat, store or dispose of wastewater;
	• Facility record drawings (plans and specifications) showing the actual construction of the Facility and bear the seal and signature of a licensed New Mexico professional engineer;
	• Copies of logs, inspection reports, manifests, and monitoring reports completed and/or submitted to NMED pursuant to this Discharge Permit;
	• The volume of wastewater or other wastes discharged pursuant to this Discharge Permit;
	• Groundwater quality and wastewater quality data collected pursuant to this Discharge Permit;
	• Copies of construction records (well log) for all sampled groundwater monitoring wells pursuant to this Discharge Permit;
	• The maintenance, repair, replacement or calibration of any monitoring equipment or flow measurement devices required by this Discharge Permit; and
	• Data and information related to field measurements, sampling, and analysis conducted pursuant to this Discharge Permit, including:
	  ○ the dates, location and times of sampling or field measurements;
	  ○ the name and job title of the individuals who performed each sample collection or field measurement;
	  ○ the sample analysis date of each sample
	  ○ the name and address of the laboratory, and the name of the signatory authority for the laboratory analysis;

#	Terms and Conditions
	○ the analytical technique or method used to analyze each sample or collect each field measurement; ○ the results of each analysis or field measurement, including raw data; ○ the results of any split, spiked, duplicate or repeat sample; and ○ a copy of the laboratory analysis chain-of-custody as well as a description of the quality assurance and quality control procedures used. The Permittee shall maintain the written record at a location accessible to NMED during a Facility inspection for the lifetime of the Discharge Permit. The Permittee shall make the record available to NMED upon request. [Subsections A and D of 20.6.2.3107 NMAC]
69.	SUBMITTALS – The Permittee shall submit both a paper copy and an electronic copy of all notification and reporting documents required by this Discharge Permit, e.g., quarterly monitoring reports. The paper and electronic documents shall be submitted to the NMED Permit Contact identified on the Permit cover page. [Subsection A of 20.6.2.3107 NMAC]
70.	INSPECTION and ENTRY – The Permittee shall allow NMED to inspect the Facility and its operations that are subject to this Discharge Permit and the WQCC regulations. NMED may upon presentation of proper credentials, enter at reasonable times upon or through any premises in which a water contaminant source is located or in which any maintained records required by this Discharge Permit, the regulations of the federal government, or the WQCC are located. The Permittee shall allow NMED to have access to and reproduce for their use any copy of the records, and to perform assessments, sampling or monitoring during an inspection for the purpose of evaluating compliance with this Discharge Permit and the WQCC regulations. No person shall construe anything in this Discharge Permit as limiting in any way the inspection and entry authority of NMED under the WQA, the WQCC Regulations, or any other local, state or federal regulations. [Subsection D of 20.6.2.3107 NMAC, NMSA 1978, §§ 74-6-9.B and 74-6-9.E]
71.	DUTY to PROVIDE INFORMATION - The Permittee shall, upon NMED's request, allow for NMED's inspection/duplication of records required by this Discharge Permit and/or furnish to NMED copies of such records. [Subsection D of 20.6.2.3107 NMAC]

#	Terms and Conditions
72.	MODIFICATIONS and/or AMENDMENTS – In the event the Permittee proposes a change to the Facility or the Facility's discharge that would result in a change in the volume discharged; the location of the discharge; or in the amount or character of water contaminants received, treated or discharged by the Facility, the Permittee shall notify NMED prior to implementing such changes. The Permittee shall obtain NMED's approval (which may require modification of this Discharge Permit) prior to implementing such changes. [Subsection C of 20.6.2.3107 NMAC, Subsections E and G of 20.6.2.3109 NMAC]
73.	PLANS and SPECIFICATIONS – In the event the Permittee proposes to construct a wastewater system or change a process unit of an existing system such that the quantity or quality of the discharge will change substantially from that authorized by this Discharge Permit, the Permittee shall submit construction plans and specifications of the proposed system or process unit to NMED for approval prior to the commencement of construction. In the event the Permittee implements changes to the wastewater system authorized by this Discharge Permit that result in only a minor effect on the character of the discharge, the Permittee shall report such changes (including the submission of record drawings where applicable) to NMED prior to implementation. [Subsections A and C of 20.6.2.1202 NMAC, NMSA 1978, §§ 61-23-1 through 61-23-32]
74.	CIVIL PENALTIES - Any violation of the requirements and conditions of this Discharge Permit, including any failure to allow NMED staff to enter and inspect records or facilities, or any refusal or failure to provide NMED with records or information, may subject the Permittee to a civil enforcement action. Pursuant to WQA 74-6-10(A) and (B), such action may include a compliance order requiring compliance immediately or in a specified time, assessing a civil penalty, modifying or terminating the Discharge Permit, or any combination of the foregoing; or an action in district court seeking injunctive relief, civil penalties, or both. Pursuant to WQA 74-6-10(C) and 74-6-10.1, civil penalties of up to $15,000 per day of noncompliance may be assessed for each violation of the WQA 74-6-5, the WQCC Regulations, or this Discharge Permit, and civil penalties of up to $10,000 per day of noncompliance may be assessed for each violation of any other provision of the WQA, or any regulation, standard, or order adopted pursuant to such other provision. In any action to enforce this Discharge Permit, the Permittee waives any objection to the admissibility as evidence of any data generated pursuant to this Discharge Permit. [20.6.2.1220 NMAC, NMSA 1978, §§ 74-6-10 and 74-6-10.1]
75.	CRIMINAL PENALTIES – No person shall:

#	Terms and Conditions
	• Make any false material statement, representation, certification or omission of material fact in an application, record, report, plan or other document filed, submitted or maintained under the WQA; • Falsify, tamper with or render inaccurate any monitoring device, method or record maintained under the WQA; or • Fail to monitor, sample or report as required by a permit issued pursuant to a state or federal law or regulation. Any person who knowingly violates or knowingly causes or allows another person to violate the requirements of this condition is guilty of a fourth-degree felony and shall be sentenced in accordance with the provisions of NMSA 1978, § 31-18-15. Any person who is convicted of a second or subsequent violation of the requirements of this condition is guilty of a third-degree felony and shall be sentenced in accordance with the provisions of NMSA 1978, § 31-18-15. Any person who knowingly violates the requirements of this condition or knowingly causes another person to violate the requirements of this condition and thereby causes a substantial adverse environmental impact is guilty of a third-degree felony and shall be sentenced in accordance with the provisions of NMSA 1978, § 31-18-15. Any person who knowingly violates the requirements of this condition and knows at the time of the violation that he is creating a substantial danger of death or serious bodily injury to any other person is guilty of a second degree felony and shall be sentenced in accordance with the provisions of NMSA 1978, § 31-18-15. [20.6.2.1220 NMAC, NMSA 1978, §§ 74-6-10.2.A through 74-6-10.2.F]
76.	COMPLIANCE with OTHER LAWS - Nothing in this Discharge Permit shall be construed in any way as relieving the Permittee of the obligation to comply with any other applicable federal, state, and/or local laws, regulations, zoning requirements, nuisance ordinances, permits or orders. [NMSA 1978, § 74-6-5.L]
77.	RIGHT to APPEAL - The Permittee may file a petition for review before the WQCC on this Discharge Permit. Such petition shall be in writing to the WQCC within thirty days of the receipt of postal notice of this Discharge Permit and shall include a statement of the issues raised and the relief sought. Unless the Permittee files a timely petition for review, the decision of NMED shall be final and not subject to judicial review. [20.6.2.3112 NMAC, NMSA 1978, § 74-6-5.O]
78.	TRANSFER of DISCHARGE PERMIT - Prior to the transfer of any ownership, control, or possession of this Facility or any portion thereof, the Permittee shall:

#	Terms and Conditions
	• Notify the proposed transferee in writing of the existence of this Discharge Permit; • Include a copy of this Discharge Permit with the notice; and • Deliver or send by certified mail to NMED a copy of the notification and proof that the proposed transferee has received such notification. The Permittee shall continue to be responsible for any discharge from the Facility, until both ownership and possession of the Facility have been transferred to the transferee. [20.6.2.3111 NMAC]
79.	PERMIT FEES – The Permittee shall be aware that the payment of permit fees is due at the time of Discharge Permit approval. The Permittee may pay the permit fees in a single payment or they may pay the fee in equal installments on a yearly basis over the term of the Discharge Permit. The Permittee shall remit single payments to NMED no later than 30 days after the Discharge Permit issuance date. The Permittee shall remit initial installment payments to NMED no later than 30 days after the Discharge Permit issuance date; with subsequent installment payments remitted to NMED no later than the anniversary of the Discharge Permit issuance date. Permit fees are associated with <u>issuance</u> of this Discharge Permit. No person shall construe anything in this Discharge Permit as relieving the Permittee of the obligation to pay all permit fees assessed by NMED. A Permittee that ceases discharging or does not commence discharging from the Facility during the term of the Discharge Permit shall pay all permit fees assessed by NMED. NMED shall suspend or terminate an approved Discharge Permit if the Permittee fails to remit an installment payment by its due date. [Subsection F of 20.6.2.3114 NMAC, NMSA 1978, § 74-6-5.K]

New Mexico Environment Department Ground Water Quality Bureau

Discharge Permit Summary

Facility Information

Facility Name Cannon Air Force Base
Discharge Permit Number DP-873

Legally Responsible Party

Cannon Air Force Base and
Colonel Robert A. Masaitis
100 S Air Commando Way, Suite 100
Cannon AFB, NM 88103-5214
(575) 784-2727

Treatment, Disposal and Site Information

Primary Waste Type Domestic and Industrial
Facility Type FED-Dept of Defense

Treatment Methods

Type	Designation	Description & Comments
Wastewater Treatment System	WWTP	Domestic and industrial wastewater from Cannon Air Force Base is treated at the Base's Sequencing Batch Reactor (SBR) Wastewater Treatment Plant (WWTP). The WWTP consists of an influent headworks with grit and grease collection and removal, three SBR basins, an aerobic sludge digester basin, a chlorine (sodium hypochlorite) contact chamber, a dechlorination (sodium bisulfite) chamber, a 190,000-gallon treated wastewater storage tank, ten asphalt-lined sludge drying beds, and two asphalt-lined sludge stock piling areas.

Discharge Locations

Type	Designation	Description & Comments
Irrigation system	Facility 777 Greywater	Up to 250 gallons per day of greywater from the Consolidated Communications Facility (Bldg 777) will be stored in four storage tanks. Inactive.
Injection Well / UIC	Facility 244 STLF	SABER Contractor's Administrative Trailer septic tank/leachfield system (up to 60 gallons per day). 1000-gallon septic tank; leachfield area is 300 square feet. Inactive.
Injection Well / UIC	Facility 1398 STLF	Golf Course Restroom and Snack Shack septic tank/leachfield system (up to 200 gallons per day). 1000-gallon septic tank; leachfield area square feet is unknown.
Injection Well / UIC	Facility 2304 STLF	South Portales Guard Gate House septic tank/leachfield system (up to 50 gallons per day). 1,000-gallon septic tank; leachfield area square feet is unknown.

Injection Well / UIC	Facility 2315 STLF	Small Arms Training Facility septic tank/leachfield system (up to 1200 gallons per day). 2000-gallon septic tank followed by a distribution box and two 124-foot infiltrator leachlines and two 128-foot infiltrator leachlines, for a total leachfield area of 1008 square feet.
Injection Well / UIC	Facility 2317 STLF	Trap and Skeet Range septic tank/leachfield system (up to 300 gallons per day). 1500-gallon septic tank; leachfied area is 304 square feet.
Injection Well / UIC	Facility 2320 STLF	Communications Package Facility septic tank/leachfield system (up to 100 gallons per day). 1250-gallon septic tank; leachfield area is 154 square feet.
Injection Well / UIC	Facility 2327 STLF	Warehouse Facility and Recycling Center septic tank/leachfield system (up to 375 gallons per day). 1250-gallon septic tank; leachfield area is 300 square feet.
Injection Well / UIC	Facility 2328 STLF	Communications Facility septic tank/leachfield system (up to 900 gallons per day). 5000-gallon septic tank; leachfield area is 4,200 square feet.
Injection Well / UIC	Facility 2306 STLF	Transit Warehouse septic tank/leachfield system. 5,000-gallon septic tank; leachfield area square feet is unknown.
Injection Well / UIC	Facility 2332 STLF	C-130 Fuselage Training Facility septic tank/leachfield system (up to 240 gallons per day). 1050-gallon septic tank; leachfield area is 480 square feet. Inactive.
Injection Well / UIC	Facility 2348 STLF	Readiness and Emergency Management Facility septic tank/leachfield system (up to 520 gallons per day). 1,500-gallon septic tank; leachfield area is 982 square feet.
Holding Tank	Facility 2348 A STLF	Readiness and Emergency Management Facility restrooms. Regularly pumped out by a septic pumper when in use.
Holding Tank	Facility 2348 B STLF	Readiness and Emergency Management Facility restrooms. Regularly pumped out by a septic pumper when in use.
Injection Well / UIC	Facility 2370 and 2372 STLF	MWD veterinary clinic and admin building septic tank/ leachfield system (up to 420 gallons per day). 1000-gallon septic tank followed by a distribution box and three 80-foot infiltrator leachlines, for a total leachfield area of 480 sq feet.
Injection Well / UIC	Facility 2371 STLF	MWD kennel septic tank/leachfield system (up to 450 gallons per day). 1000-gallon septic tank followed by a distribution box and three 80-foot infiltrator leachlines, for a total leachfield area of 480 square feet.
Injection Well / UIC	Facility 2379 STLF	Unmanned Aerial Vehicle septic tank/leachfield system (up to 200 gallons per day). 1000-gallon septic tank followed by a distribution box and two 50-foot infiltrator leachlines, for a total leachfield area of 200 square feet.

Injection Well / UIC	Facility 9982 STLF	Recreation Park Doc Stewart Picnic Pavilion septic tank/leachfield system (up to 150 gallons per day). 2000-gallon septic tank; leachfield area is 660 square feet.
Injection Well / UIC	Facility 9991 STLF	Doc Stewart Recreation Park septic tank/leachfield system (up to 600 gallons per day). 1500-gallon septic tank; leachfield area is 720 square feet.
Impoundment	Golf course impoundment	One out of two synthetically lined golf course impoundments that stores treated wastewater. The second golf course impoundment does not store treated wastewater.
Impoundment	Raw wastewater storage basin	Four-acre synthetically lined impoundment adjacent to the WWTP. The impoundment stores raw wastewater.
Impoundment	Treated wastewater storage basin	Four-acre synthetically lined impoundment adjacent to the WWTP. The impoundment will store treated effluent and has the ability to send effluent back through the WWTP for further treatment.
Land Application	Golf Course	108 acres of turf at the Base's golf course is irrigated with reclaimed domestic wastewater and stormwater from the golf course impoundment.
Land Application	Softball fields	1.5 acres of turf at the baseball fields is irrigated with reclaimed domestic wastewater and stormwater from the golf course impoundment.
Land Application	Dog Park	0.17 acres of turf at the dog park is irrigated with reclaimed domestic wastewater and stormwater from the golf course impoundment.
Land Application	Driving Range	7.5 acres of turf at the Base's golf course driving range is irrigated with reclaimed domestic wastewater and stormwater from the golf course impoundment.
Watercourse	North Playa Lake	Treated wastewater is discharged to an unlined playa lake located on the Base.

Flow Metering Locations

Type	Designation	Description & Comments
Primary Measurement Device and Totalizing Flow Meter	Influent meter	Parshall flume and totalizing meter at headworks of WWTP
Totalizing Flow Meter	Playa Lake Meter	Totalizing meter to Playa Lake
Totalizing Flow Meter	Golf Course Lagoon Meter	Totalizing meter to Golf Course impoundment
Totalizing Flow Meter	Driving Range Meter	Totalizing meter to Driving Range

Supply Meter (14)	Facility #### Supply Meter	Each ST/LF system and holding tank listed above has a supply meter. Currently there are 16 existing supply meters.

Ground Water Monitoring Locations

Type	Designation	Description & Comments
Monitoring Well	MW-E	Located approximately 300 feet west of the WWTP and intended to be located hydrologically upgradient of the storage basins.
Monitoring Well	MW-F	Located approximately 150 feet east of the southeastern corner of the storage basins and intended to be located hydrologically downgradient of the storage basins.
Monitoring Well	MW-G	Located southeast of the raw wastewater storage basin and intended to by located hydrologically downgradient of the previous sewage lagoons.
Monitoring Well	MW-Na	Located approximately 350 feet northeast of the North Playa Lake and intended to be located hydrologically upgradient of the playa lake.
Monitoring Well	MW-Pa	Located approximately 300 feet west of the North Playa Lake and intended to be located hydrologically cross-gradient of the playa lake.
Monitoring Well	MW-Ra	Located approximately 1,000 feet northwest of the North Playa Lake and intended to be hydrologically upgradient of the playa lake.
Monitoring Well	MW-V	Located in the northwest corner of the softball fields and intended to be located hydrologically upgradient of the re-use areas.
Monitoring Well	MW-Y	Located approximately 800 feet southwest of the North Playa Lake and intended to be cross-gradient of the playa lake.
Monitoring Well	MW-AAA	To be located 20 to 50 feet hydrologically downgradient of the golf course.
Monitoring Well	MW-BBB	To be located 20 to 50 feet hydrologically downgradient of the Raw Wastewater Storage Basin.
Monitoring Well	MW-CCC	To be located 20 to 50 feet hydrologically downgradient of the North Playa Lake.
Monitoring Well	MW-DDD	To be located 20 to 50 feet hydrologically downgradient of the Golf Course Impoundment.

Depth-to-Ground Water 312 feet
Total Dissolved Solids (TDS) 300 mg/L

Permit Information

Original Permit Issued	December 8, 1994
Permit Renewal	December 22, 2000
Permit Renewal and Modification	January 30, 2009
Permit Amendment	April 17, 2009
Permit Renewal and Modification	March 31, 2014
Current Action	**Renewal and Modification**
Application Received	January 15, 2020
Public Notice Published	February 14, 2021
Permit Issued (Issuance Date)	December 15, 2021
Permitted Discharge Volume	1,500,000 gallons per day to the mechanical treatment plant 7,500 gallons per day to 16 septic tank leachfield systems

NMED Contact Information

Mailing Address	Ground Water Quality Bureau P.O. Box 5469 Santa Fe, New Mexico 87502-5469
GWQB Telephone Number	(505) 827-2900
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New Mexico Environment Department
Ground Water Quality Bureau
20.6.2.3103 STANDARDS FOR GROUNDWATER

This table lists the numeric ground water standards in 20.6.2.3103 NMAC, effective as of December 21, 2018. It does not list the "toxic pollutants" for which Subsection A of 20.6.2.3103 NMAC establishes a narrative standard. The list of "toxic pollutants" can be found in Subsection T of 20.6.2.7 NMAC. The standards with an asterisk (*) take effect on July 1, 2020 for past and current water discharges occurring as of July 1, 2017. For full details, please refer to the Ground and Surface Water Protection Regulations, 20.6.2 NMAC.

Contaminant (Abbreviation) (CAS Number)	Standard
Numerical Standards (mg/l unless otherwise noted)	
Antimony (Sb) (CAS 7440-36-0)	0.006
Arsenic (As) (CAS 7440-38-2)	0.01*
Barium (Ba) (CAS 7440-39-3)	2.0
Beryllium (Be) (CAS 7440-41-7)	0.004
Cadmium (Cd) (CAS 7440-43-9)	0.005*
Chromium (Cr) (CAS 7440-47-3)	0.05
Cyanide (CN) (CAS 57-12-5)	0.2
Fluoride (F) (CAS 16984-48-8)	1.6
Lead (Pb) (CAS 7439-92-1)	0.015*
Total Mercury (Hg) (CAS 7439-97-6)	0.002
Nitrate (NO_3 as N) (CAS 14797-55-8)	10.0
Nitrite (NO_2 as N) (CAS 10102-44-0)	1.0
Selenium (Se) (CAS 7782-49-2)	0.05
Silver (Ag) (CAS 7440-224)	0.05
Thallium (Tl) (CAS 7440-28-0)	0.002
Uranium (U) (CAS 7440-61-1)	0.03
Radioactivity: Combined Radium-226 (CAS 13982-63-3) and Radium-228 (CAS 15262-20-1)	5 pCi/l*
Benzene (CAS 71-43-2)	0.005*
Polychlorinated biphenyls (PCB's) (CAS 1336-36-3)	0.0005*
Toluene (CAS 108-88-3)	1.0
Carbon Tetrachloride (CAS 56-23-5)	0.005*
1,2-dichloroethane (EDC) (CAS 107-06-2)	0.005*
1,1-dichloroethylene (1,1-DCE) (CAS 75-35-4)	0.007
tetrachloroethylene (PCE) (CAS 127-18-4)	0.005*
trichloroethylene (TCE) (CAS 79-01-6)	0.005*
ethylbenzene (CAS 100-41-4)	0.7*
total xylenes (CAS 1330-20-7)	0.62
methylene chloride (CAS 75-09-2)	0.005*
chloroform (CAS 67-66-3)	0.1
1,1-dichloroethane (CAS 75-34-3)	0.025
ethylene dibromide (EDB) (CAS 106-93-4)	0.00005*
1,1,1-trichloroethane (CAS 71-55-6)	0.2
1,1,2-trichloroethane (CAS 79-00-5)	0.005*
1,1,2,2-tetrachloroethane (CAS 79-34-5)	0.01
vinyl chloride (CAS 75-01-4)	0.002
PAHs: total naphthalene (CAS 91-20-3) plus monomethylnaphthalenes	0.03
benzo-a-pyrene (CAS 50-32-8)	0.0002*
cis-1,2-dichloroethene (CAS 156-59-2)	0.07
trans-1,2-dichloroethene (CAS 156-60-5)	0.1
1,2-dichloropropane (PDC) (CAS 78-87-5)	0.005

styrene (CAS 100-42-5)	0.1
1,2-dichlorobenzene (CAS 95-50-1)	0.6
1,4-dichlorobenzene (CAS 106-46-7)	0.075
1,2,4-trichlorobenzene (CAS 120-82-1)	0.07
pentachlorophenol (CAS 87-86-5)	0.001
atrazine (CAS 1912-24-9)	0.003
Other Standards for Domestic Water Supply	
Chloride (Cl) (CAS 16887-00-6)	250
Copper (Cu) (CAS 7440-50-80	1.0
Iron (Fe) (CAS 7439-89-6)	1.0
Manganese (Mn) (CAS 7439-96-5)	0.2
Phenols	0.005
Sulfate (SO_4) (CAS 14808-79-8)	600
Total Dissolved Solids (TDS)	1000
Zinc (Zn) (CAS 7440-66-6)	10
pH	6-9
Methyl tertiary-butyl ether (MTBE) (CAS 1634-04-4)	0.1
Standards for Irrigation Use	
Aluminum (Al) (CAS 7429-90-5)	5.0
Boron (B) (CAS 7440-42-8)	0.75
Cobalt (Co) (CAS 7440-48-4)	0.05
Molybdenum (Mo) (CAS 7439-98-7)	1.0
Nickel (Ni) (CAS 7440-02-0)	0.2

Groundwater Discharge Permit Guidance for Synthetically Lined Lagoons – Liner Material and Site Preparation

This guidance document represents minimum liner material and site preparation requirements for wastewater treatment, storage and evaporation lagoons. These requirements do not apply to lagoons storing hazardous wastes or high strength waste. The Ground Water Quality Bureau may impose additional requirements (e.g., double-lined lagoons with leak detection) for facilities discharging hazardous or high strength waste to lagoons through the development of specific Discharge Permit conditions for such facilities.

Liner Material Requirements:

1. The liner shall be chemically compatible with any material that will contact the liner.
2. The liner material shall be resistant to deterioration by sunlight if any portion of the liner will be exposed.
3. Synthetic liner material shall be of sufficient thickness to have adequate tensile strength and tear and puncture resistance. Under no circumstances shall a synthetic liner material less than 40 mils in thickness be accepted. Any liner material shall be certified by a licensed New Mexico professional engineer and approved by the New Mexico Environment Department (NMED) prior to its installation.

Lagoon Design and Site Preparation Requirements:

1. The system shall be certified by a licensed New Mexico professional engineer and approved by NMED prior to installation.
2. Inside slopes shall be a maximum of 3 (horizontal): 1 (vertical), and a minimum of 4 (horizontal); 1 (vertical).
3. Lagoon volume shall be designed to allow for a minimum of 24 inches of freeboard.
4. The liner shall be installed with sufficient liner material to accommodate shrinkage due to temperature changes. Folds in the liner are not acceptable.
5. To a depth of at least six inches below the liner, the sub-grade shall be free of sharp rocks, vegetation and stubble. In addition, liners shall be placed on a sub-grade of sand or fine soil. The surface in contact with the liner shall be smooth to allow for good contact between liner and sub-grade. The surface shall be dry during liner installation.
6. Sub-grade shall be compacted to a minimum of 90% of standard proctor density.
7. The minimum dike width shall be eight feet to allow vehicle traffic for maintenance.
8. The base of the pond shall be as uniform as possible and shall not vary more than three inches from the average finished elevation.
9. Synthetic liners shall be anchored in an anchor trench in the top of the berm. The trench shall be a minimum of 12 inches wide, 12 inches deep and shall be set back at least 24 inches from the inside edge of the berm.
10. If the lagoon is installed over areas of decomposing organic materials or shallow groundwater, a liner vent system shall be installed.
11. Any opening in the liner through which a pipe or other fixture protrudes shall be properly sealed. Liner penetrations shall be detailed in the construction plans and record drawings.
12. A synthetic liner shall not be installed in temperatures below freezing.
13. The liner shall be installed or supervised by an individual that has the necessary training and experience as required by the liner manufacturer.
14. All manufacturer's installation and field seaming guidelines shall be followed.
15. All synthetic liner seams shall be field tested by the installer and verification of the adequacy of the seams shall be submitted to NMED along with the record drawings.
16. Concrete slabs installed on top of the synthetic liner for operational purposes shall be completed in accordance with manufacturer and installer recommendations to ensure liner integrity.

NEW MEXICO ENVIRONMENT DEPARTMENT
GROUND WATER QUALITY BUREAU
MONITORING WELL CONSTRUCTION AND ABANDONMENT GUIDELINES

Purpose: These guidelines identify minimum construction and abandonment details for installation of water table monitoring wells under groundwater Discharge Permits issued by the NMED's Ground Water Quality Bureau (GWQB) and Abatement Plans approved by the GWQB. Proposed locations of monitoring wells required under Discharge Permits and Abatement Plans and requests to use alternate installation and/or construction methods for water table monitoring wells or other types of monitoring wells (e.g., deep monitoring wells for delineation of vertical extent of contaminants) must be submitted to the GWQB for approval prior to drilling and construction.

General Drilling Specifications:

1. All well drilling activities must be performed by an individual with a current and valid well driller license issued by the State of New Mexico in accordance with 19.27.4 NMAC. Use of drillers with environmental well drilling experience and expertise is highly recommended.
2. Drilling methods that allow for accurate determinations of water table locations must be employed. All drill bits, drill rods, and down-hole tools must be thoroughly cleaned immediately prior to the start of drilling. The borehole diameter must be drilled a minimum of 4 inches larger than the casing diameter to allow for the emplacement of sand and sealant.
3. After completion, the well should be allowed to stabilize for a minimum of 12 hours before development is initiated.
4. The well must be developed so that formation water flows freely through the screen and is not turbid, and all sediment and drilling disturbances are removed from the well.

Well Specifications (see attached monitoring well schematic):

5. Schedule 40 (or heavier) polyvinyl chloride (PVC) pipe, stainless steel pipe, carbon steel pipe, or pipe of an alternate appropriate material that has been approved for use by NMED must be used as casing. The casing must have an inside diameter not less than 2 inches. The casing material selected for use must be compatible with the anticipated chemistry of the groundwater and appropriate for the contaminants of interest at the facility. The casing material and thickness selected for use must have sufficient collapse strength to withstand the pressure exerted by grouts used as annular seals and thermal properties sufficient to withstand the heat generated by the hydration of cement-based grouts. Casing sections may be joined using welded, threaded, or mechanically locking joints; the method selected must provide sufficient joint strength for the specific well installation. The casing must extend from the top of the screen to at least one foot above ground surface. The top of the casing must be fitted with a removable cap, and the exposed casing must be protected by a locking steel well shroud. The shroud must be large enough in diameter to allow easy access for removal of the cap. Alternatively, monitoring wells may be completed below grade. In this case, the casing must extend from the top of the screen to 6 to 12 inches below the ground surface; the monitoring wells must be sealed with locking, expandable well plugs; a flush-mount, watertight well vault that is rated to withstand traffic loads must be emplaced around the wellhead; and the cover must be secured with at least one bolt. The vault cover must indicate that the wellhead of a monitoring well is contained within the vault.
6. A 20-foot section (maximum) of continuous-slot, machine slotted, or other manufactured PVC or stainless steel well screen or well screen of an alternate appropriate material that has been approved for use by NMED must be installed across the water table. Screens created by cutting slots into solid casing with saws or other tools must not be used. The screen material selected for use must be compatible with the anticipated chemistry of the ground water and appropriate for the contaminants of interest at the facility. Screen sections may be joined using welded, threaded, or mechanically

locking joints; the method selected must provide sufficient joint strength for the specific well installation and must not introduce constituents that may reasonably be considered contaminants of interest at the facility. A cap must be attached to the bottom of the well screen; sumps (i.e., casing attached to the bottom of a well screen) should not be installed. The bottom of the screen must be installed no more than 15 feet below the water table; the top of the well screen must be positioned not less than 5 feet above the water table. The well screen slots must be appropriately sized for the formation materials and should be selected to retain 90 percent of the filter pack. A slot size of 0.010 inches is generally adequate for most installations.

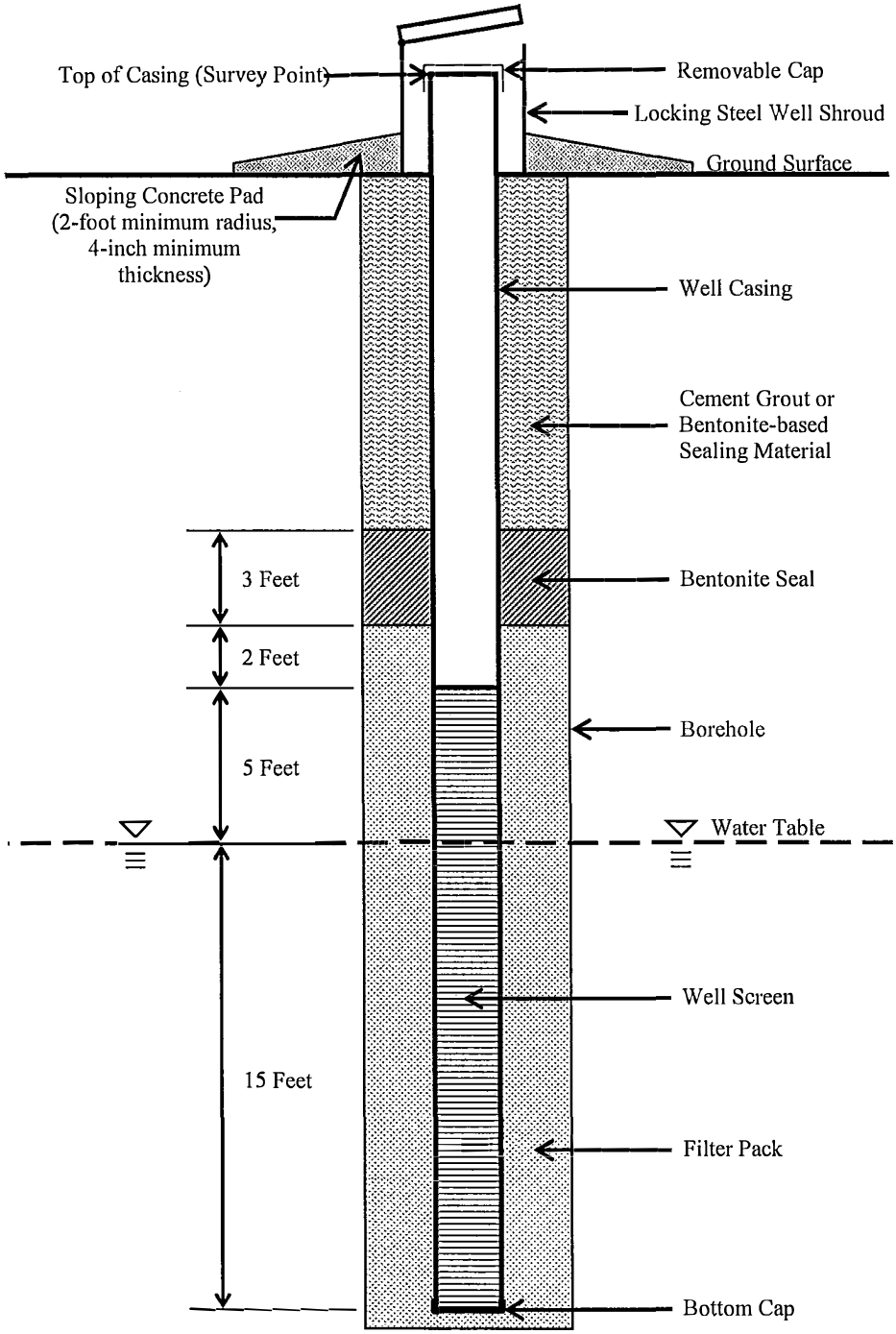
7. Casing and well screen must be centered in the borehole by placing centralizers near the top and bottom of the well screen.
8. A filter pack must be installed around the screen by filling the annular space from the bottom of the screen to 2 feet above the top of the screen with clean silica sand. The filter pack must be properly sized to prevent fine particles in the formation from entering the well; clean medium to coarse silica sand is generally adequate as filter pack material for 0.010-inch slotted well screen. For wells deeper than 30 feet, the sand must be emplaced by a tremmie pipe. The well should be surged or bailed to settle the filter pack and additional sand added, if necessary, before the bentonite seal is emplaced.
9. A bentonite seal must be constructed immediately above the filter pack by emplacing bentonite chips or pellets (3/8-inch in size or smaller) in a manner that prevents bridging of the chips/pellets in the annular space. The bentonite seal must be 3 feet in thickness and hydrated with clean water. Adequate time should be allowed for expansion of the bentonite seal before installation of the annular space seal.
10. The annular space above the bentonite seal must be sealed with cement grout or a bentonite-based sealing material acceptable to the State Engineer pursuant to 19.27.4 NMAC. A tremmie pipe must be used when placing sealing materials at depths greater than 20 feet below the ground surface. Annular space seals must extend from the top of the bentonite seal to the ground surface (for wells completed above grade) or to a level 3 to 6 inches below the top of casing (for wells completed below grade).
11. For monitoring wells finished above grade, a concrete pad (2-foot minimum radius, 4-inch minimum thickness) must be poured around the shroud and wellhead. The concrete and surrounding soil must be sloped to direct rainfall and runoff away from the wellhead. The installation of steel posts around the well shroud and wellhead is recommended for monitoring wells finished above grade to protect the wellhead from damage by vehicles or equipment. For monitoring wells fmished below grade, a concrete pad (2-foot minimum radius, 4-inch minimum thickness) must be poured around the well vault and wellhead. The concrete and surrounding soil must be sloped to direct rainfall and runoff away from the well vault.

Abandonment:

12. Approval for abandonment of monitoring wells used for ground water monitoring in accordance with Discharge Permit and Abatement Plan requirements must be obtained from NMED prior to abandonment.
13. Well abandonment must be accomplished by removing the well casing and placing neat cement grout, bentonite-based plugging material, or other sealing material approved by the State Engineer for wells that encounter water pursuant to 19.27.4 NMAC from the bottom of the borehole to the ground surface using a tremmie pipe. If the casing cannot be removed, neat cement grout, bentonite-based plugging material, or other sealing material approved by the State Engineer must be placed in the well using a tremmie pipe from the bottom of the well to the ground surface.
14. After abandonment, written notification describing the well abandonment must be submitted to the NMED. Written notification of well abandonment must consist of a copy of the well plugging record submitted to the State Engineer in accordance with 19.27.4 NMAC, or alternate documentation containing the information to be provided in a well plugging record required by the State Engineer as specified in 19.27.4 NMAC.

Deviation from Monitoring Well Construction and Abandonment Requirements: Requests to construct water table monitoring wells or other types of monitoring wells for groundwater monitoring under groundwater Discharge Permits or Abatement Plans in a manner that deviates from the specified requirements must be submitted in writing to the GWQB. Each request must state the rationale for the proposed deviation from these requirements and provide detailed evidence supporting the request. The GWQB will approve or deny requests to deviate from these requirements in writing.

MONITORING WELL SCHEMATIC
(Not to Scale)



Land Application Data Sheet (LADS)
Treated Domestic Wastewater

New Mexico Environment Department
Ground Water Quality Bureau

DATE: _____ **MONITORING REPORT DUE DATE:** _____

FACILITY NAME: _____ **REPORTING PERIOD (i.e., from ___ to ___):** _____

DP#: _____ **FIELD / ZONE ID:**[1] _____ **# ACRES IN FIELD / ZONE**[2]**:** _____

MONTH & YEAR OF DISCHARGE[3]	A MEASURED VOLUME OF WASTEWATER DISCHARGED[4] gallons	B WASTEWATER QUALITY DATA[5] (TKN + NO3-N) mg/L	C WASTEWATER DISCHARGED (A ÷ 1,000,000) million gallons (MG)	D TOTAL NITROGEN DISCHARGED (B x C x 8.34 lb/gal) lbs N	E NITROGEN LOADING (D ÷ # acres) lbs N/acre	NOTES[6]
example assuming a 150-acre field: *MM - YY*	*4,887,750 gal*	*4.2 mg/L TKN + 15.1 mg/L NO3-N = 19.3 mg/L*	*4,887,750 gal / 1,000,000 = 4.89 MG*	*19.3 mg/L x 4.89 MG x 8.34 lb/gal = 787 lbs N*	*787 lbs / 150 acres = 5.2 lb N/ac*	*flood application*
			TOTALS			

[1]One LADS form should be used for *each* field/zone (may include subsurface irrigation area, leachfield, golf course, field within a re-use area, etc.).

[2]For leachfields with an absorportion area in square-feet, 1 acre = 43,560 ft^2.

[3]Each form must reflect the *most recent* 12 months of wastewater discharge.

[4]Direct meter readings in gallons; or acre-ft multiplied by 325,850.

[5]This information should be obtained from the *most recent* laboratory analysis. When sampling quarterly, record the same data for the three months of that monitoring quarter.

[6]In the event discharge did not occur, please report "no discharge" in the NOTES column.

The use of additional fertilizers is required to be reported. Please complete the "Fertilizer Log" form and attach it to the LADS.

Last Updated: September 22, 2011

Fertilizer Log

New Mexico Environment Department
Ground Water Quality Bureau

DATE: _____ MONITORING REPORT DUE DATE: _____

FACILITY NAME: _____ REPORTING PERIOD (i.e., from ____ to ____): _____

DP#: _____ FIELD:[1] _____ # ACRES IN FIELD: _____

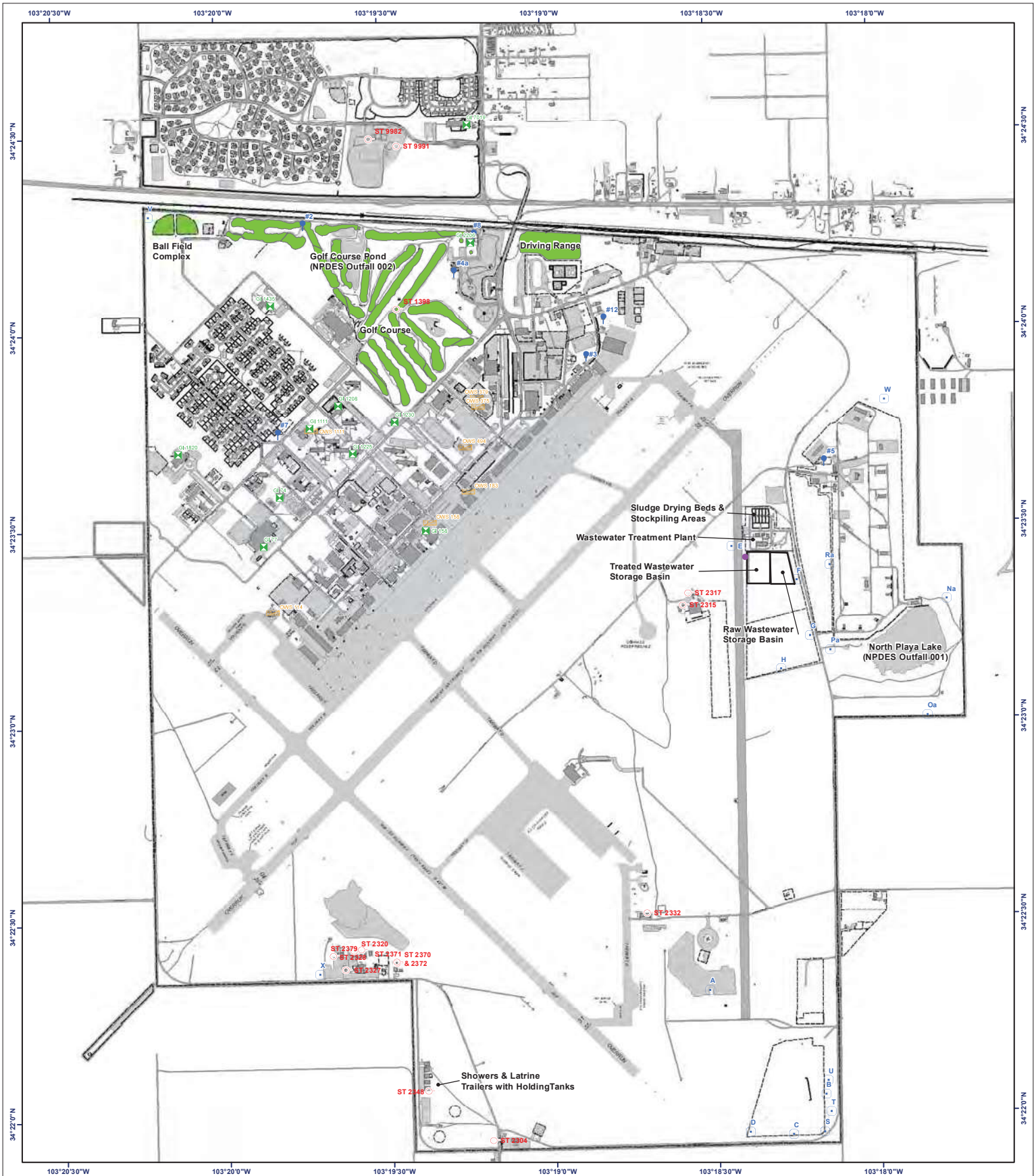
DAY, MONTH & YEAR OF APPLICATION[2]	A TYPE organic = O inorganic = I	B FORM granular = G liquid = L	C NITROGEN CONCENTRATION %	D FERTILIZER: TOTAL AMOUNT APPLIED lbs	E NITROGEN: TOTAL AMOUNT APPLIED lbs/acre (C X D) / # acres	NOTES[3]
DD - MM - YY	*I*	*G*	*10*	*200*	5 (field size 4 acres)	
			TOTALS			

[1]One Fertlizer Log form should be used for *each* field.

[2]Each form must reflect the *most recent* 12 months of fertilizer application.

[3]In the event application did not occur, please report "no application" in the NOTES column.

Last Updated: November 22, 2017



1 inch = 1,000 FEET

0 125 250 500 750 1,000 Meters

0 375 750 1,500 2,250 3,000 Feet

This map is for reference only. Although every effort has been made to ensure the accuracy of information, errors and conditions originating from physical sources used to develop the database may be reflected on this map. GeoBase shall not be liable for any errors, omissions, or damages that result from inappropriate use of this document.

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CANNON AIR FORCE BASE, NEW MEXICO
INSTALLATION LAYOUT

Path: S:\CEPTO_Work_Requests\4_27MSG-MDG\SOCES\CEAI\CEAN\Ground Water Well Locations\Wastewater Processing Locations.mxd

Legend

- Septic Tank / Leach Field
- Grease Interceptor
- Monitoring Well
- Potable Drinking Well
- Oil/Water Separator

REV	DATE	DESCRIPTION	INITIAL

DEPARTMENT OF THE AIR FORCE

AIR FORCE SPECIAL OPERATIONS COMMAND
BASE COMPREHENSIVE PLAN
INSTALLATION LAYOUT

CANNON AIR FORCE BASE, NEW MEXICO

DESIGN	DRAWN	CHECKED	APPROVED
DATE	DATE	DATE	DATE
SCALE: 1 INCH = 1,000 FEET		FILE NAME:	C-1

NMED GROUND WATER QUALITY BUREAU GUIDANCE:

ABOVE GROUND USE OF RECLAIMED DOMESTIC WASTEWATER

January 2007

PURPOSE

This document provides guidance for the above ground use of reclaimed domestic wastewater necessary to ensure protection of public health and the environment. The New Mexico Environment Department (NMED) has developed this guidance document to promote the safe use of reclaimed wastewater to offset the use of limited potable water resources in the State. This guidance document is intended to provide direction for any person seeking to submit an application for a Ground Water Discharge Permit that includes the above ground use of reclaimed wastewater. This document is used by NMED technical staff to ensure consistency in the application review process and in the development of permit requirements. This guidance document will also be made available to the regulated community and their consultants to provide a basis for future facility planning.

Ground Water Discharge Permit applications for above ground use of reclaimed domestic wastewater that follow this guidance document will be approved. However, applicants may make alternative demonstrations to NMED that the existing or proposed discharge of reclaimed domestic wastewater at a specific facility is protective of public health and the environment. NMED encourages the development and implementation of new processes and equipment, and will favorably consider them on a case by case basis.

The generator of the reclaimed wastewater is responsible for discharges of reclaimed wastewater unless this responsibility is assumed by a separate entity pursuant to an approved Ground Water Discharge Permit. Implementation of the requirements for existing dischargers will be determined on an individual facility basis at the time of permit renewal and/or modification.

Finally, the discharge of reclaimed wastewater may also be regulated by the New Mexico Construction Industries Division (CID). For example, the use of reclaimed wastewater for indoor plumbing (e.g., toilet flushing, fire suppression) requires approval from CID.

DEFINITIONS

The following definitions are used in this guidance document:

Agronomic Rate: the rate of application of nutrients to plants that is necessary to satisfy the plants' nutritional requirements while strictly minimizing the amount of nutrients that run off to surface waters or which pass below the root zone of the plants.

Class 1A Reclaimed Wastewater: the highest quality reclaimed wastewater described in this guidance document and can be most broadly utilized except for direct consumption. [approved uses listed in Table 1]

Class 1B Reclaimed Wastewater: the second highest quality reclaimed wastewater described in this guidance document and is suitable for uses in which public exposure is likely. [approved uses listed in Table 1]

Class 2 Reclaimed Wastewater: reclaimed wastewater suitable for uses in which public access and exposure is restricted. [approved uses listed in Table 1]

Class 3 Reclaimed Wastewater: reclaimed wastewater suitable for uses in which public access and exposure is prohibited. [approved uses listed in Table 1]

Domestic wastewater: wastewater containing human excreta and water-carried waste from typical residential plumbing fixtures and activities, including but not limited to wastes from toilets, sinks, bath fixtures, clothes or dishwashing machines and floor drains.

Dwelling unit: a structure which contains bedrooms.

Establishment: a structure used as a place of business, education, or assembly.

Flood Irrigation: land application of reclaimed wastewater by ditches, furrows, pipelines, low flow emitters and other non-sprinkler methods.

Food Crops: any crop intended for human consumption.

Grab Sample: an individual sample collected in less than 15 minutes.

Major WWTP: any treatment plant with a maximum design capacity of 1,000,000 gallons or more per day.

Minor WWTP: any treatment plant with a maximum design capacity of less than 1,000,000 gallons per day.

Monthly Geometric Mean: value calculated by taking the sum of the logarithms (sum log x) of each of the data points from the previous calendar month, dividing the sum by the number of data points and then taking the anti-logarithm of the result (10^y = anti-logarithm of 'y').

NTU: nephelometric turbidity units, measured by a nephelometer.

Occupied establishment: any establishment that is occupied regularly at the time of irrigation.

Peak hourly flow: the highest hourly flow rate within a 24 hour period.

Reclaimed wastewater: domestic wastewater that has been treated to the specified levels for the defined uses set forth in this guidance document and other applicable local, state, or federal regulations.

Spray Irrigation: land application of reclaimed wastewater by dispersing it in the air utilizing equipment which provides a low trajectory application and which minimizes misting of the reclaimed wastewater.

3-hour Composite Sample: three effluent portions collected no closer together than one hour (collected between 8:00 am and 4:00 pm) and composited in proportion to flow.

6-hour Composite Sample: six effluent portions collected no closer together than one hour (collected between 8:00 am and 4:00 pm) and composited in proportion to flow.

24-hour Composite Sample: twenty-four effluent portions collected no closer together than one hour and composited in proportion to flow.

30-day Average:

> *For fecal coliform bacteria*: the geometric mean of the values for all effluent samples collected during a calendar month.
>
> *For other than for fecal coliform bacteria*: the arithmetic mean of the daily values for all effluent samples collected during a calendar month, calculated as the sum of all daily discharges measured during a calendar month divided by the number of daily discharges measured during that month.

BACKGROUND

This guidance document supersedes the New Mexico Environmental Improvement Division (NMEID) 1985 Policy for the Use of Domestic Wastewater Effluent for Irrigation and NMED's 2003 Policy for the Above Ground Use of Reclaimed Domestic Wastewater. This guidance document establishes reclaimed wastewater quality levels, site restrictions, management practices, and uses for different categories of reclaimed wastewater that are approvable by NMED. Unless an alternative demonstration is proposed by the applicant and accepted by NMED, NMED will propose Ground Water Discharge Permit conditions for above ground discharges of reclaimed wastewater based on the recommendations set forth in this guidance document. While the requirements set forth in this guidance document are deemed protective of public health and the environment, the guidance document does not prevent communities from adopting more stringent requirements.

WASTEWATER TREATMENT PROCESSES

The specified quality levels for Class 1B, Class 2, and Class 3 assume a minimum of conventional secondary wastewater treatment plus disinfection. Class 1A assumes treatment to remove colloidal organic matter, color, and other substances that interfere with disinfection, thereby allowing for the use of the reclaimed wastewater for urban landscaping adjacent to dwelling units or occupied establishments.

GENERAL ABOVE GROUND USE PERMIT CONDITIONS

A. ALL APPROVED USES

1. Whenever reclaimed wastewater is used for any use approved in this guidance document, the wastewater should meet the minimum requirements set forth in this guidance document, unless a demonstration is made that an alternate requirement offers an equivalent protection of public health. The burden of proof for an alternative demonstration rests upon the discharger.
2. Whenever reclaimed wastewater other than Class 1A is used in areas with public access, it should be applied at times and in a manner that minimizes public contact.
3. Whenever reclaimed wastewater is used in areas with restricted public access, the public should be excluded from entering the area.
4. Reclaimed wastewater should only be used for soil compaction or dust control in construction areas where application procedures minimize aerosol drift to public areas.
5. Reclaimed wastewater quality requirements should be measured at the discharge point of the wastewater treatment plant.
6. Signs (in English and Spanish) should be placed at the entrance to areas receiving reclaimed wastewater, and other locations where public access may occur stating: "**NOTICE – THIS AREA IS IRRIGATED WITH RECLAIMED WASTEWATER – DO NOT DRINK**"; "**AVISO – ESTA ÁREA ESTÁ REGADA CON AGUAS NEGRAS RECOBRADAS – NO TOMAR**". Alternate wording may be approved by NMED.
7. All piping, valves and outlets should be color-coded in purple pursuant to the latest revision of the New Mexico Plumbing and Mechanical Code to differentiate piping or fixtures used to convey reclaimed wastewater from piping or fixtures used for potable or other water. All valves, outlets, and sprinkler heads used in reclaimed wastewater systems should be of a type that can only be operated by authorized personnel. Those

portions of reclaimed wastewater systems that are underground and were installed prior to the adoption of this guidance document are exempt from the purple color-coding requirement if all accessible portions of the reclaimed wastewater system are colored purple or clearly labeled as being part of a reclaimed wastewater distribution system.

8. Reclaimed wastewater systems should have no direct or indirect cross connections with potable water systems pursuant to the latest revision of the New Mexico Plumbing and Mechanical Code. For reclaimed wastewater systems that were installed prior to the adoption of this guidance document, the absence of cross connections may be demonstrated via hydrostatic testing or as-built drawings, supported by an affidavit under oath that no cross connection exists.
9. Above ground use of reclaimed wastewater should not result in excessive standing or pooling of wastewater, and should be applied at the appropriate agronomic rate. Irrigation should not be conducted at times when the receiving area is saturated or frozen.
10. The discharge of reclaimed wastewater should be confined to the area designated and approved for receiving the wastewater. Irrigation should be postponed at times when windy conditions may result in drift of reclaimed wastewater outside the designated area of application.
11. Treatment facilities that provide reclaimed wastewater to parks, golf courses, schools and other areas where human exposure is likely must have an emergency storage pond or alternate disposal method where reclaimed wastewater can be diverted during periods when conditions are unfavorable for approved uses or when the quality requirements defined in this guidance document cannot be met.

B. IRRIGATION OF FOOD CROPS

1. Reclaimed wastewater should not be used for the spray irrigation of food crops.
2. Reclaimed wastewater should not be used for surface irrigation of food crops except where there is no contact between the edible portion of the crop and the wastewater, and the wastewater should have a level of quality no less than Class 1B Reclaimed Wastewater (Table 2).

C. IRRIGATION OF FODDER, FIBER AND SEED CROPS

1. Reclaimed wastewater used for the irrigation of pasture to which milking cows or goats have access should have a level of quality no less than Class 2 Reclaimed Wastewater (Table 2).
2. Except pasture for milk-producing animals, reclaimed wastewater used for the irrigation of fodder, fiber and seed crops should have a level of quality no less than Class 3 Reclaimed Wastewater (Table 2).

D. IRRIGATION OF LANDSCAPES

1. Reclaimed wastewater used for irrigation should be applied such that direct and windblown spray is confined to the area designated and approved for application.
2. Reclaimed wastewater used for the irrigation of freeway landscapes and landscapes in other areas where the public has similarly limited access or exposure should have a level of quality no less than Class 2 Reclaimed Wastewater (Table 2). Public access to the irrigation site must be restricted during the period of application.

3. Reclaimed wastewater used for the irrigation of parks, playgrounds, schoolyards, golf courses, cemeteries and other areas where the public has similarly open access should have a level of quality no less than Class 1B Reclaimed Wastewater (Table 2), and the irrigation system should have low trajectory spray nozzles. *Areas which are spray irrigated and located within 100 feet of a dwelling unit or occupied establishment should only receive Class 1A Reclaimed Wastewater* (Tables 2 & 3).

CLASSIFICATION AND USES OF RECLAIMED WASTEWATER

This guidance document identifies four classes of reclaimed wastewater (Class 1A, Class 1B, Class 2, and Class 3) based on reclaimed wastewater quality and the likelihood of public exposure. Table 1 presents the approved uses.

Table 1. Approved Uses for Reclaimed Wastewater by Class

Class of Reclaimed Wastewater	Approved Uses
Class 1A	All Class 1 uses. *No setback limit* to dwelling unit or occupied establishment.
	Backfill around potable water pipes
	Irrigation of food crops[1]
Class 1B	Impoundments (recreational or ornamental)
	Irrigation of parks, school yards, golf courses [2]
	Irrigation of urban landscaping [2]
	Snow making
	Street cleaning
	Toilet flushing
	Backfill around non-potable piping
Class 2	Concrete mixing
	Dust control
	Irrigation of fodder, fiber, and seed crops for milk-producing animals
	Irrigation of roadway median landscapes
	Irrigation of sod farms
	Livestock watering
	Soil compaction
Class 3	Irrigation of fodder, fiber, and seed crops for non-milk-producing animals
	Irrigation of forest trees (silviculture)

[1] Irrigation of food crops should only be allowed for food crops when there is no contact between the edible portion of the crop and the wastewater. Spray irrigation is prohibited for food crops.

[2] If reclaimed wastewater is applied using spray irrigation, the setback limitation of Table 3 "Spray Irrigation" should be observed.

Class 1A reclaimed wastewater may be used for any purpose except direct consumption, food handling and processing, and spray irrigation of food crops. Class 1B reclaimed wastewater may be used where public exposure is likely, and where the appropriate setback requirements are met (Table 3, page 9). Class 2 and Class 3 reclaimed wastewater may be used where public access is restricted with correspondingly less stringent requirements for treatment and disinfection. Any reclaimed wastewater treated to higher quality than the lower classes may be used for the purposes established for the lower classes. *Other uses of reclaimed wastewater not included in Table 1 will be evaluated on a case by case basis by NMED to determine the appropriate water quality classification for the given use.*

WASTEWATER QUALITY LEVELS AND MONITORING PROTOCOL

This section identifies minimum wastewater quality levels and monitoring frequencies for the various classes of reclaimed wastewater. The frequency of wastewater quality monitoring is patterned after U.S. Environmental Protection Agency (USEPA) requirements for discharges of treated and disinfected wastewater to surface waters. Monitoring requirements are dependent on the quality of reclaimed wastewater produced at the treatment plant and the design capacity of the treatment plant. For example, a "major" wastewater treatment plant (having a maximum design capacity of 1 million gallons or more per day) producing Class 1A Reclaimed Wastewater has the most stringent monitoring requirements. The wastewater quality levels and monitoring frequencies for the various classes of reclaimed wastewater are presented in Table 2. In the event that a facility proposes alternative wastewater quality levels and/or monitoring frequencies, it is the responsibility of the facility owner/operator to demonstrate that the alternative proposal provides an equivalent measure of public health protection as the measures set forth in this guidance document.

Table 2. Wastewater Quality Requirements and Monitoring Frequencies by Class of Reclaimed Wastewater

Class of Reclaimed Wastewater	Wastewater Quality Parameter	Wastewater Quality Requirements		Wastewater Monitoring Requirements	
		30-Day Average	Maximum	Sample Type	Measurement Frequency
Class 1A	BOD_5	10 mg/l	15 mg/l	Minimum of 6-hour composite	3 tests per week for major WWTP[1]; 1 test per 2 weeks for minor WWTP
	Turbidity	3 NTU	5 NTU	Continuous	Continuous
	Fecal Coliform	5 per 100 ml	23 per 100 ml	Grab sample at peak flow	3 tests per week for major WWTP; 1 test per week for minor WWTP
	TRC or UV Transmissivity	Monitor Only	Monitor Only	Grab sample or reading at peak flow	Record values at peak hourly flow when Fecal Coliform samples are collected
Class 1B	BOD_5	30 mg/l	45 mg/l	Minimum of 6-hour composite	3 tests per week for major WWTP[1]; 1 test per 2 weeks for minor WWTP
	TSS	30 mg/l	45 mg/l	Minimum of 6-hour composite	3 tests per week for major WWTP[1]; 1 test per 2 weeks for minor WWTP
	Fecal Coliform	100 organisms per 100 ml	200 organisms per 100 ml	Grab sample at peak flow	3 tests per week for major WWTP; 1 test per week for minor WWTP
	TRC or UV Transmissivity	Monitor Only	Monitor Only	Grab sample or reading at peak flow	Record values at peak hourly flow when Fecal Coliform samples are collected

Table 2. Wastewater Quality Requirements and Monitoring Frequencies by Class of Reclaimed Wastewater (continued)

Class of Reclaimed Wastewater	Wastewater Quality Parameter	Wastewater Quality Requirements		Wastewater Monitoring Requirements	
		30-Day Average	Maximum	Sample Type	Measurement Frequency
Class 2	BOD_5	30 mg/l	45 mg/l	Minimum of 6-hour composite for major WWTP; Grab sample for minor WWTP	1 test per week for major WWTP; 1 test per month for minor WWTP
	TSS	30 mg/l	45 mg/l	Minimum of 6-hour composite for major WWTP; Grab sample for minor WWTP	1 test per week for major WWTP; 1 test per month for minor WWTP
	Fecal Coliform	200 organisms per 100 ml	400 organisms per 100 ml	Grab sample at peak hourly flow	1 test per week for major WWTP; 1 test per month for minor WWTP
	TRC or UV Transmissivity	Monitor Only	Monitor Only	Grab sample or reading at peak hourly flow	Record values at peak hourly flow when Fecal Coliform samples are collected
Class 3	BOD_5	30 mg/l	45 mg/l	Minimum of 3-hour composite for major WWTP[5]; Grab sample for minor WWTP	1 test per week for major WWTP; 1 test per month for minor WWTP
	TSS	75 mg/l	90 mg/l	Minimum of 3-hour composite for major WWTP; Grab sample for minor WWTP	1 test per week for major WWTP; 1 test per month for minor WWTP
	Fecal Coliform	1,000 organisms per 100 ml	5,000 organisms per 100 ml	Grab sample at peak hourly flow	1 test per week for major WWTP; 1 test per month for minor WWTP
	TRC or UV Transmissivity	Monitor Only	Monitor Only	Grab sample or reading at peak hourly flow	Record values at peak hourly flow when Fecal Coliform samples are collected

Note: *E.* coli may be used in place of Fecal Coliform as an indicator organism, once an equivalency has been established.

ACCESS RESTRICTIONS AND SET-BACK REQUIREMENTS

Table 3 presents the access controls and setback distances necessary to minimize direct and indirect public exposure to reclaimed wastewater. Setback distances recommended in this guidance document are in all cases the distance from the edge of any area receiving reclaimed wastewater to well casings, dwelling units, or occupied establishments.

In addition to the setbacks described in Table 3, all water supply wells within 200 feet of a wetted irrigation area must be evaluated for adequate well head construction and irrigation practices to ensure protection of ground water. NMED may impose additional setbacks as needed to make certain that the application of reclaimed wastewater does not threaten ground water resources.

Table 3. Access Restrictions and Set Back Requirements

Class of Reclaimed Wastewater	Spray Irrigation	Flood Irrigation and Surface Drip Irrigation
Class 1A	• No access control • No setback to dwelling unit or occupied establishment • Low pressure/low trajectory irrigation system only	• No access control
Class 1B	• No access control; irrigate at times when public exposure is unlikely • 100 ft set-back from dwelling unit or occupied establishment • Low pressure/low trajectory irrigation system only	• No access control; irrigate at times when public exposure is unlikely
Class 2	• Access restricted by perimeter fencing using 4-strand barbed wire and locking gate or other NMED approved access controls • 100 ft set-back from dwelling unit or occupied establishment • Low pressure/low trajectory irrigation system only	• Access restricted by perimeter fencing using 4-strand barbed wire and locking gate, or other NMED approved access controls
Class 3	• Access restricted by perimeter fencing using 4-strand barbed wire and locking gate • 500 ft set-back from dwelling unit or occupied establishment • Low pressure/low trajectory irrigation system only	• Access restricted by perimeter fencing using 4-strand barbed wire and locking gate • 100 ft set-back to dwelling unit or occupied establishment.

STATE OF NEW MEXICO
BEFORE THE WATER QUALITY CONTROL COMMISSION

IN THE MATTER OF THE PETITION FOR A PERMIT REVIEW OF DISCHARGE PERMIT RENEWAL AND MODIFICATION, DP-873	)	Docket No. WQCC_____
CANNON AIR FORCE BASE (AFB) UNITED STATES AIR FORCE	)	
Petitioners.	)	
v.	)	
NEW MEXICO ENVIRONMENT DEPARTMENT	)	
Respondents.	)	

AFFIRMATION BY THE UNITED STATES AIR FORCE

In accordance with the regulations at 20.1.3.16.A(1)(g) NMAC, I hereby affirm under penalty of perjury that the information contained in the foregoing PETITION FOR A PERMIT REVIEW OF DISCHARGE PERMIT RENEWAL AND MODIFICATION DP-873, dated 13 January 2022, to which this document is appended, is true and correct to the best of my knowledge.

13Jan2022

LINDSAY DUNAHEE, 27 SOCES/CEIE

Environmental Element Chief, GS-13

Exhibit 2