

Pretreatment Audit Report
Centennial Water and Sanitation District (CWSD)
CO-0037966
Highlands Ranch, Colorado
September 18, 2024 to September 19, 2024



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Pretreatment Audit Summary Table

CWSD Pretreatment Audit Report
CO-0037966
September 18, 2024 to September 19, 2024

Pretreatment Audit Findings	Pretreatment Requirement and Corrective Action
<i>Section 8.0 – Control Mechanism (Permit) Evaluation and Permit Specific Issues</i>	
1. The Pretreatment Regulations at 40 C.F.R. § 403.8(f)(2)(vii) require the District to “Investigate instances of noncompliance with Pretreatment Standards and Requirements, as indicated in the reports and notices required under § 403.12, or indicated by analysis, inspection, and surveillance activities”. The intergovernmental agreement (IGA) for East Cherry Creek Valley (ECCV) was developed to provide service by the District to wastewater generated from its drinking water treatment plant located at 6875 Business Center Drive, Highlands Ranch CO 80130. Section 2.1 of the ECCV intergovernmental agreement establishes the following discharge limits: • Maximum flow rate of 300 gallons per minute with a maximum flow volume of 24,995 gallons per day. • TENORM- 146 pci/g for radium 226 and 228 ECCV provided the required quarterly TSS and annual metals/Ra 226 and 228 reports. However, it is unclear if the District is evaluating compliance with the radium limits established in section 2.1 of the ECCV IGA. The TENORM limit is expressed as 146 pci/g for Ra226 and 228 respectively and the ECCV radium data is reported in pci/L units without conversion to the mass-based limit of 146 pci/g. • TENORM data sampled on 12/26/2023 reported as Ra-226 = 5.9 pci/L; Ra-228 = 6.7 pci/L • TENORM data sampled on 05/16/2024 reported as Ra-226 = 48.6 pci/L; Ra-228 = 42.0 pci/L	<u>Pretreatment Requirements</u> 40 C.F.R. § 403.8(f)(2)(vii) <u>Corrective Action Item</u> Ensure the ECCV reports the radium data in proper pci/g units to evaluate compliance with Section 2.1 of the ECCV IGA. In addition, the District is required to evaluate the data to ensure the discharge complies with the ECCV IGA TENORM limits and provide the EPA the results of this compliance evaluation.

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1.0 Introduction

The U.S. Environmental Protection Agency, Region 8 (EPA) conducted an audit of the Pretreatment program, administered by the Centennial Water and Sanitation District (District or CWSD) located in Highlands Ranch, CO from September 18, 2024 to September 19, 2024. The Pretreatment audit started on September 18, 2024 at 8:00 a.m. with an opening interview. The closing conference was held on September 19, 2024 at 10:00 a.m. during which the EPA presented the preliminary observations, conclusions, and findings from the audit.

Participants in the audit included:

Centennial Water and Sanitation District, CO

Nicholas Tino	Pretreatment Coordinator/Analyst III
Nick Marusin	Laboratory Supervisor
Nick George	Water/Wastewater Superintendent
Nico Flesche	Engineer Associate (Respec Consultant)
Natalie Acosta	Environmental Regulatory Compliance Specialist (Respec Consultant)

EPA

Al Garcia Region 8 Pretreatment Coordinator

The primary purpose of the EPA audit was to evaluate the Pretreatment program administered and implemented by the District. In addition, the audit served as a forum for the EPA and the District to discuss issues related to the implementation of the Pretreatment program, including PFAS requirements in the District's NPDES permit and for the EPA to provide outreach and training to the District.

The EPA Pretreatment audit consisted of an evaluation of the following:

- The District's legal authority codified in its Water and Sanitary Sewer Rules and Regulations.
- Development and implementation of the District's local limits.
- The CWSD's resources to implement the Pretreatment program in its service area.
- Implementation policies and templates developed by the District.
- Review and evaluation of the Pretreatment programmatic activities and records maintained for the permitted Significant Industrial Users (SIUs) and other Industrial Users in the POTW's service area.
- Discussion of the Pretreatment Regulations and implementation.

The following sections of the report highlight the findings, corrective actions, and recommended actions of the audit. The action items to correct program deficiencies and meet regulatory requirements are identified in the Pretreatment Audit Summary Table,

beginning on page 3 of this report. Specific actions to clarify and strengthen program implementation are provided as recommendations within the body of the audit report.

2.0 Publicly Owned Treatment Works (POTW) Information

The District owns and operates the Marcy Gulch Publicly Owned Treatment Works (POTW) located at 8700 South Santa Fe Drive, Highlands Ranch, CO 80125. The POTW serves the boundary of the sanitation district and three outside contributing jurisdictions, Northern Douglas County Water and Sanitation District, East Cherry Creek Valley Water and Sanitation District, Chatfield State Park, and Mirabelle. The service area for the POTW is shown in Figure 1. The current Google Earth View of the District's POTW is shown in Figure 2.

The POTW is currently undergoing significant construction to meet new regulatory requirements and to install or replace processes at the end of its useful life cycle. As a result, a site visit of the POTW was not performed during the audit. The POTW information was gathered from conversations and interviews with the POTW staff during the audit.

About 80% of the collection system is gravity-fed to the District's wastewater treatment plant. The Willow Creek, Big Dry, Hunting Hills, Bluffs, Chatfield, and Mirabelle lift stations pump wastewater from the remaining collection system not designed to be gravity fed. The wastewater from the service area enters the POTW's headworks from a main 36-inch interceptor.

The headworks of the POTW consists of two parallel and automatic step screens sized for 25 MGD. The screenings are collected and deposited into dumpsters to dispose in the landfill; about 5 to 7 yards are disposed weekly. The screened wastewater is sent to a rotating grit cyclone to remove grit, which is then deposited into the headworks dumpster for landfill disposal.

The headworks effluent enters a 36-inch line leading to two primary clarifiers. Primary solids are sent to the digester and the primary effluent enters a splitter box and sent to one of six activated aeration basins. The aeration basins promote the nitrification/denitrification cycles for nutrient removal. The effluent from the aeration basins is sent to the four secondary clarifiers. The secondary effluent is sent to UV disinfection and aeration towers and discharged to Marcy Gulch.

Return activated sludge from the secondary clarifiers is sent to the fermentation reactor and then sent back to the aeration basins. The waste activated sludge is pumped to the two dissolved aeration flotation treatment (DAFT) tanks for thickening. The thickened activated sludge is sent to two parallel digesters to generate sludge with a sludge age target of 25 days. The digested sludge is dewatered and the Class B biosolids are hauled to a site located in the eastern plains of Colorado for land application. Based on information gathered during the audit, the POTW has about four to six days of biosolids storage.

2.1 NPDES Permit

The District's NPDES permit #CO-0037966, issued by the Colorado Department of Public Health and Environment (CDPHE), contains provisions for an EPA-approved Pretreatment program in Part I.B.7. The permit was issued and effective on January 1, 2016 and expired on August 31, 2020. The District's NPDES permit was administratively extended by the CDPHE.

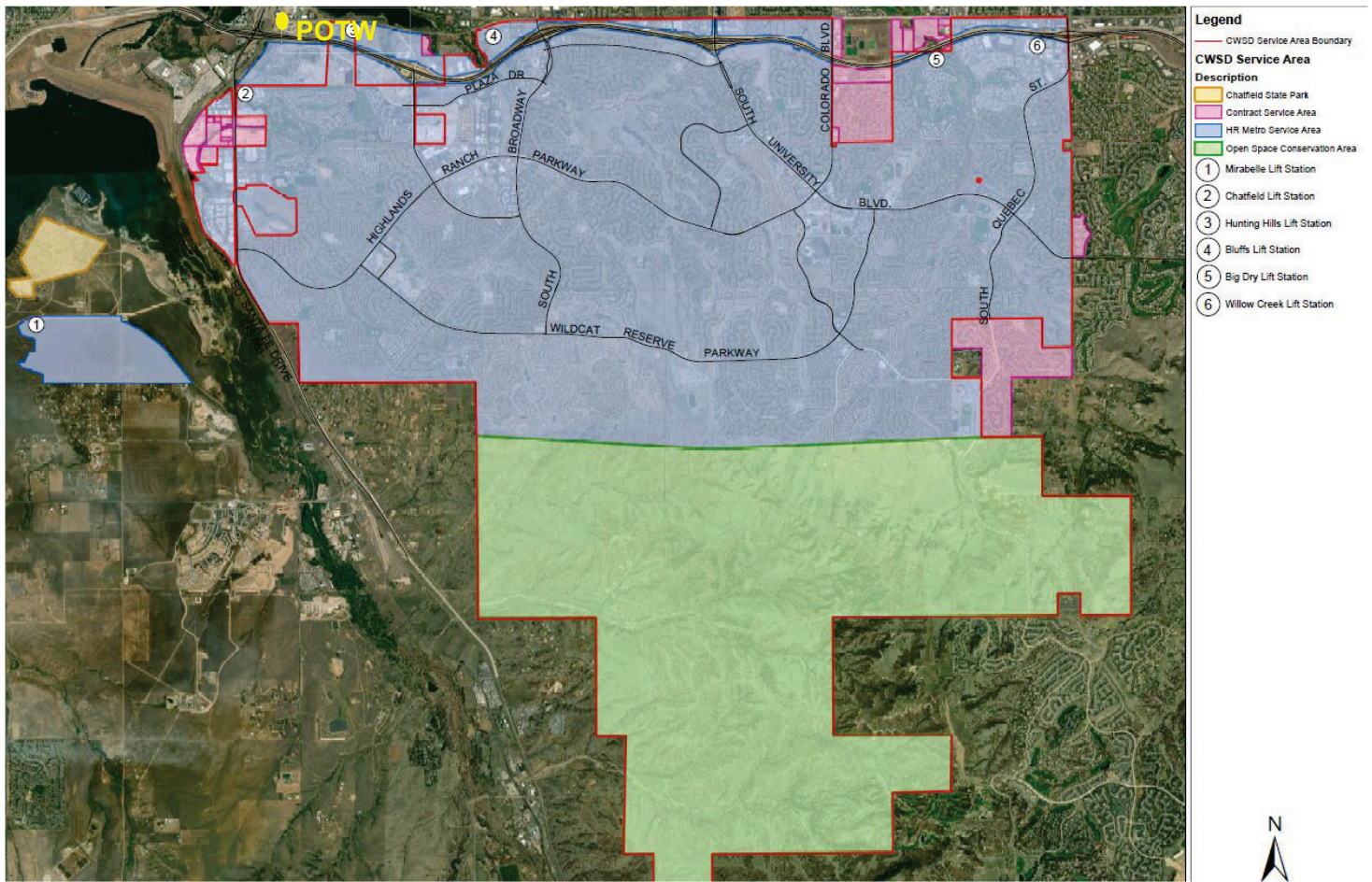


Figure 1 –Centennial Water and Sanitation District POTW Service Area



Figure 2 – Centennial Water and Sanitation District POTW – Current Google Earth View

3.0 Resources

3.1 Resources Regulatory Background

The Pretreatment Regulations found in 40 C.F.R. § 403.8(f)(1-6) include POTW Pretreatment requirements and procedures to implement an approved Pretreatment program. These requirements and procedures include the legal authority and the implementation procedures of the Pretreatment program (permitting, inspections, sampling, industrial waste survey, receipt of IU reporting and notification, record-keeping, slug discharge control, data evaluation and enforcement for non-compliance). In addition, the Pretreatment Regulations found in 40 C.F.R. § 403.8(f)(3) state that the POTW shall have sufficient resources and qualified personnel to carry out the authorities and implementation procedures of the Pretreatment program.

A Pretreatment program, in compliance with the criteria listed in the Pretreatment Regulations, requires adequate and qualified staffing to implement the Pretreatment program in its service area. The resources required for each implementation activity depend largely on the size of the service area, number of IUs/SIUs/sector control programs, and Pretreatment program policies. A compliant program also requires a consistent funding mechanism to ensure the program is adequately funded and equipped to fully implement the program.

3.2 Evaluation of the District's Resources and Funding

According to the FY24 Pretreatment annual report, the District's resource commitment to the Pretreatment program is 0.83 FTE. However, based on information gathered during the audit, the District commitment is 0.64 FTE, the District's Laboratory Supervisor and Pretreatment Coordinator/Analyst III each spend about 1 day per week implementing the Pretreatment field and office programmatic activities such as the industrial user inventory/characterization, permitting, field activities such as inspections/sampling, compliance evaluation and enforcement. According to information gathered during the audit, the District also hired the Respec consulting firm in 2023 to implement miscellaneous Pretreatment activities including the FOG portion of the Pretreatment program. The District estimates that Respec provided about 500 hours of Pretreatment and FOG implementation in the service area this year.

The District reported in the FY24 annual report that its Pretreatment program is budgeted \$125,437 and is funded by Sewer Use fees that are generated from residential and non-residential users in the service area. The District appears to be adequately equipped to implement the field activities of the Pretreatment program and has portable automatic samplers, sampling equipment, sludge judges for FOG evaluation, confined space entry equipment, a dedicated field truck and personal protective equipment. Based on EPA's review of the District's implementation of its Pretreatment program, it appears that the District's current resources and budget is adequate to implement all programmatic activities of the Pretreatment program, in compliance with 40 C.F.R. § 403.8(f)(3).

3.3 Examples of Available Pretreatment Training/Resources

The EPA recommends the District participate in available Pretreatment training opportunities to acquire the necessary training to ensure its personnel is qualified to implement the Pretreatment program. This is not a comprehensive list of all Pretreatment related training/resources available. The District is encouraged to seek out training and resources that will support its Pretreatment program implementation. The EPA is also available to the District for Pretreatment training opportunities.

The Region 8 Pretreatment workshop provided by Region 8 Pretreatment Association provides training sessions directly related to Pretreatment implementation, updates to upcoming regulations and policies, and networking opportunities. In addition, there is a Pretreatment Coordinators discussion forum to post questions regarding implementation and gather perspectives from peers within programs throughout the U.S. The discussion forum can be found at the following weblink: <https://groups.io/g/Pretreatment/topics>

The EPA provides “Pretreatment 101” webinar training designed to provide consistent national training to local and state Pretreatment programs. The webinar series is located at <https://www.epa.gov/npdes/national-pretreatment-program-training-and-webinars>.

Archived presentations may be downloaded, and a schedule of future training opportunities is located at the website.

4.0 Municipal Ordinance and Intergovernmental Agreements

4.1 Legal Authority Background

40 C.F.R. § 403.8(f)(1) of the Pretreatment Regulations states:

“The POTW shall operate pursuant to legal authority enforceable in Federal, State, or local courts, which authorizes or enables the POTW to apply and to enforce the requirements of sections 307 (b) and (c), and 402(b)(8) of the Clean Water Act (Act) and any regulations implementing those sections. Such authority may be contained in a statute, ordinance, or series of contracts or joint powers agreements which the POTW is authorized to enact, enter into or implement, and which are authorized by State law.

At a minimum, this legal authority shall enable the POTW to:

- i.* Deny or condition new or increased contributions of pollutants, or changes in the nature of pollutants, to the POTW by Industrial Users where such contributions do not meet applicable Pretreatment Standards and Requirements or where such contributions would cause the POTW to violate its NPDES permit.
- ii.* Require compliance with applicable Pretreatment Standards and Requirements by Industrial Users.
- iii.* Control through Permit, order, or similar means, the contribution to the POTW by each Industrial User to ensure compliance with applicable Pretreatment Standards and Requirements. In the case of Industrial Users identified as significant under

§403.3(v), this control shall be achieved through individual permits or equivalent individual control mechanisms issued to each such User...

- iv. Require (A) the development of a compliance schedule by each Industrial User for the installation of technology required to meet applicable Pretreatment Standards and Requirements and (B) the submission of all notices and self-monitoring reports from Industrial Users as are necessary to assess and assure compliance by Industrial Users with Pretreatment Standards and Requirements, including but not limited to the reports required in §403.12.
- v. Carry out all inspection, surveillance and monitoring procedures necessary to determine, independent of information supplied by Industrial Users, compliance or noncompliance with applicable Pretreatment Standards and Requirements by Industrial Users. Representatives of the POTW shall be authorized to enter any premises of any Industrial User in which a Discharge source or treatment system is located or in which records are required to be kept under §403.12(o) to assure compliance with Pretreatment Standards. Such authority shall be at least as extensive as the authority provided under section 308 of the Act.
- vi. (A) Obtain remedies for noncompliance by any Industrial User with any Pretreatment Standard and Requirement. All POTW's shall be able to seek injunctive relief for noncompliance by Industrial Users with Pretreatment Standards and Requirements. All POTWs shall also have authority to seek or assess civil or criminal penalties in at least the amount of \$1,000 a day for each violation by Industrial Users of Pretreatment Standards and Requirements.

(B) Pretreatment requirements which will be enforced through the remedies set forth in paragraph (f)(1)(vi)(A) of this section, will include but not be limited to, the duty to allow or carry out inspections, entry, or monitoring activities; any rules, regulations, or orders issued by the POTW; any requirements set forth in control mechanisms issued by the POTW; or any reporting requirements imposed by the POTW or these regulations in this part. The POTW shall have authority and procedures (after informal notice to the discharger) immediately and effectively to halt or prevent any discharge of pollutants to the POTW which reasonably appears to present an imminent endangerment to the health or welfare of persons. The POTW shall also have authority and procedures (which shall include notice to the affected industrial users and an opportunity to respond) to halt or prevent any discharge to the POTW which presents or may present an endangerment to the environment or which threatens to interfere with the operation of the POTW. The Approval Authority shall have authority to seek judicial relief and may also use administrative penalty authority when the POTW has sought a monetary penalty which the Approval Authority believes to be insufficient.

- vii. Comply with the confidentiality requirements set forth in §403.14.”

The provisions in 40 C.F.R. § 403.8(f)(1)(i-vii) do not provide local Pretreatment programs with legal authority, but they do establish the minimum requirements for the local municipality to implement the Pretreatment program. A POTW’s legal authority is derived

from State law. Therefore, State law must confer the minimum legal authority required by the Pretreatment Regulations on a POTW.

To apply the regulatory authority provided by State law, it is necessary for the POTW to establish local regulations to legally implement and enforce pretreatment requirements. A POTW's legal authority is typically established in a sewer use ordinance as part of the municipality's code, or in the case of a sanitation district, its Rules and Regulations. The EPA's 2007 *Model Pretreatment Ordinance* provides a template for POTWs that are required to develop pretreatment programs and can be found at the following website:

https://www3.epa.gov/npdes/pubs/pretreatment_model_suo.pdf

4.2 Centennial Water and Sanitation District Rules and Regulations

The EPA approved the District's Pretreatment program, including its legal authority and local limits on March 27, 1985. The District provided its Rules and Regulations for the EPA to review during the audit. The Rules and Regulations were recently approved by the EPA on October 31, 2023. The Pretreatment Regulations established in the Water and Sanitary Sewer Rules and Regulations provide the District the framework to implement the Pretreatment Regulations in the POTW's service area.

4.3 Inter-Jurisdictional or Governmental Agreements (IGA)

4.3.1 IGA Regulatory Background

A POTW's authority to implement and enforce its approved Pretreatment program is directly related to its regulatory jurisdiction. The POTW's authority is established in ordinance or Rules and Regulations, which are in effect for its service area. Local entities with connectors, or outside jurisdictions to the service area that contribute wastewater, must establish legally binding mechanisms to ensure that all IUs in these outside contributing jurisdictions are subject to enforceable Pretreatment standards and requirements, as required in §403.8(f)(1).

40 C.F.R. § 403.8(f)(1)(i) states, "The POTW shall operate pursuant to legal authority enforceable in Federal, State or local courts, which authorizes or enables the POTW to apply and to enforce the requirements of sections 307 (b) and (c), and 402(b)(8) of the Act and any regulations implementing those sections. *Such authority may be contained in a statute, ordinance, or series of contracts or joint powers agreements which the POTW is authorized to enact, enter into or implement, and which are authorized by State law.*" [Emphasis added]

The local entity that implements the Pretreatment program must either obtain this authority for itself through an IGA or ensure that the outside contributing jurisdiction has both the authority and the obligation to implement and enforce the Pretreatment Standards and Requirements against every IU that discharges to the POTW.

4.3.2 Evaluation of the District's IGAs with Outside Contributing Jurisdictions

The District has four outside jurisdictions contributing wastewater to the POTW: Northern Douglas County Water and Sanitation District, Chatfield State Park, Mirabelle, and East Cherry Creek Valley. The outside contributing municipal jurisdictions adequately delegate implementation of the Pretreatment program to the District.

The Chatfield State Park IGA allows the District to enforce non-domestic effluent standards and the ECCV agreement provides service for the discharge of wastewater from the ECCV drinking water plant. Based on the EPA's review of the IGAs, the District has established the authority to implement the Pretreatment Regulations to every IU discharging to its POTW.

5.0 Local Limits

5.1 Local Limits Regulatory Background

40 C.F.R. § 403.8(f)(4) of the Pretreatment Regulations require POTWs that are developing pretreatment programs to develop and enforce specific limits on prohibited discharges or demonstrate that the limits are not necessary. 40 C.F.R. § 403.5(c)(1) states, "Each POTW developing a POTW Pretreatment Program pursuant to §403.8 shall develop and enforce specific limits to implement the prohibitions listed in paragraphs (a)(1) and (b) of this section [*general and specific prohibitions*]. Each POTW with an approved pretreatment program shall continue to develop these limits as necessary and effectively enforce such limits." [*Clarification and emphasis added*].

The National Pretreatment Program consists of three types of national pretreatment standards established by regulation that apply to industrial users. These include prohibited discharge standards, categorical standards, and local limits. Prohibited discharge and categorical standards are developed by the EPA to establish nationwide Pretreatment Standards. Prohibited discharge standards, comprised of general and specific prohibitions found in 40 C.F.R. 403.5(a) and (b) of the Pretreatment Regulations, apply to all IUs regardless of the size or type of operation. Categorical standards are uniform, technology-based standards that apply to specific process wastewater discharges from industrial categories. These categorical standards are found at 40 C.F.R. Parts 405 through 471.

The EPA's promulgation of categorical standards does not relieve a POTW from its obligation to evaluate the need for and to develop local limits to meet the general and specific prohibitions in the Pretreatment Regulations. Because specific prohibitions and categorical standards provide only general protection against pass through and interference, local limits based on POTW-specific conditions may be necessary. Local limits are developed by POTWs to enforce the specific and general prohibitions, as well as any state and local regulations.

An EPA-approved Pretreatment program is required to develop local limits that are protective of the POTW, the collection system, and the POTW's site-specific standards.

These site-specific standards may be NPDES permit effluent limits, biosolids limits, environmental criterion, worker health and safety standards or other local standards.

The EPA recommends that POTWs establish their local limits based on the maximum allowable headworks loading (MAHL) calculated for each pollutant of concern. The MAHL approach enables the POTW to calculate local limits considering the portion of the MAHL that is controllable (non-domestic discharges from IUs) from the uncontrollable portion (domestic sources, background concentrations, etc.). A pollutant's MAHL is determined by first calculating its Allowable Headworks Loading (AHL) for each POTW's site-specific standard or environmental criterion. Local limit development uses a mass-balance approach to determine the AHLs for a POTW based on the environmental and treatment plant criteria.

An AHL is the estimated maximum loading of a pollutant that can be received at a POTW's headworks, that should not cause a POTW to violate a treatment plant limit or environmental criterion. An AHL is developed to prevent interference or pass through. An AHL is calculated for each applicable POTW site-specific standard: pass through, sludge contamination, air quality standards, and the various forms of interference (i.e. biological treatment inhibition, sludge digestion inhibition). The AHLs for each pollutant of concern (POC) are calculated based on the various suitable environmental criteria, plant flow rates, and plant removal efficiency. After calculating a series of AHLs for each POC, the lowest AHL is chosen as the MAHL.

MAHLs estimate the maximum combined loadings that can be received at the POTW's headworks from all sources. Maximum allowable industrial loadings (MAIL), developed by the POTW, represent the amount of pollutant loadings the POTW can receive from controlled sources (i.e., industrial users, some commercial sources, and some hauled waste) that the POTW chooses to control through local limits. Local limits can take many forms based on how MAILs are allocated by the POTW. The designation and implementation of these MAILs, including the allocation of loadings to SIUs, are left to each POTW. The POTW should provide a reasonable method of allocating the MAIL to the SIUs while ensuring the implementation procedures do not exceed the calculated MAHL. Typically, the POTWs allocate the MAIL as a uniform concentration-based or a mass limit to each SIU.

The local limits should be based on the following:

- Sampling of the service area to develop a representative data set collected for local limits (e.g., influent, effluent, biosolids, commercial, residential, industrial, trucked/hauled waste),
- Evaluation of the current POTW standards/criteria (including, but not limited to: NPDES permit limits/conditions, water quality standards, biosolids standards),
- Identification of the POTW removal efficiency and pollutant partitioning,
- Evaluation of data to ensure it is current and representative of current conditions,
- Identification of pollutants of concern,

- Calculations of loadings and determination of MAHL,
- Development of local limits and allocation methods.

5.2 Local Limits Requirements Established in the District's NPDES Permits

The District's NPDES permit expired on December 31, 2020, was administratively extended by the CDPHE, and includes local limit requirements in Part I.B.7.d.

5.3 The EPA Evaluation of the District's Local Limits

5.3.1 Technically-based Local Limits

The District's current local limits were approved by the EPA on July 16, 2016 and are incorporated in section 6.4(D) of the Rules and Regulations. The 2015 local limits were developed by the District using SIU regulated flows located at the permitted monitoring points and are applicable to SIUs. The local limits applicability language in Section 6.4(D) of the Rules and Regulations state the following:

"No Significant Industrial User or other permitted Non-Significant Industrial User shall discharge Wastewater that exceeds the following limits."

Table 1 – Centennial Water and Sanitation District Local Limits-Rules and Regulations, §6.4(D)

Pollutant	Symbol	Daily Maximum (mg/L)
Arsenic, Total	As	0.43
Cadmium, Total	Cd	0.35
Chromium, Total	Cr	4.73
Copper, Total	Cu	1.37
Lead, Total	Pb	0.45
Mercury, Total	Hg	0.021
Molybdenum, Total	Mo	4.51
Nickel, Total	Ni	5.28
Selenium, Total	Se	0.68

Pollutant	Symbol	Daily Maximum (mg/L)
Silver, Total	Ag	0.40
Zinc, Total	Zn	7.1

5.3.2 Numeric Ordinance Limits

In addition to the established technically based limits, the District has incorporated the following numeric limits in its Rules and Regulations:

- Section 6.4(D)(2) – Benzene at 50 µg/L and BTEX at 750 µg/L.
- Section 6.4(B)(3) – specific prohibition; “Any liquids, solids or gases which by reason of their nature or quantity are, or may be, sufficient either alone or by interaction with other substances to cause fire or explosion or be injurious in any other way to the POTW or to the operation of the POTW. At no time shall two successive readings on an explosion hazard meter, at the point of discharge into the system, or at any point in the system, be more than five percent nor any single reading over ten percent of the lower explosive limit (LEL) of the meter.”
- Section 6.4(B)(6) – specific prohibition; “Any Wastewater having a pH lower than 5.0 s.u. or more than 12 s.u., or any other corrosive property capable of causing damage or hazard to structure or equipment of the POTW or to employees of CWSD.”

5.3.3 Dilution Prohibition

The District has incorporated a prohibition on dilution in §6.4(E) of the Rules and Regulations to ensure the IUs are appropriately managing their regulated wastestreams to meet compliance with an applicable Pretreatment Standard or Requirement:

“No User shall ever increase the use of water, or in any way attempt to dilute a discharge as a partial or complete substitute for adequate treatment to achieve compliance with the limitations contained in the Categorical Pretreatment Standards, or in any other specific Pollutant limitation developed by the CWSD or state. The General Manager or designee may impose mass limitations on Users who are using dilution to meet applicable Pretreatment Standards or requirements.”

The dilution prohibition language in §2.5 meets the requirement in 40 C.F.R. Part 403.6(d) of the Pretreatment Regulations.

5.4 Local Limits Technical Evaluation-Regulatory Background

40 C.F.R. § 122.44(j)(2)(ii) of the NPDES regulations require POTWs to provide a written technical evaluation of the need to revise local limits following permit issuance or

reissuance. The technical evaluation is a detailed re-evaluation of data, criteria, conditions, and assumptions on which local limits are based to determine whether any significant changes affecting the local limits have occurred. Chapter 7 of the *Local Limits Development Guidance Manual*, EPA-833-R-04-002A, July 2004 provides guidance on completing the technical evaluation of local limits.

The Annual Pretreatment Reports submitted to the EPA provide the POTW with an opportunity to perform reviews for exceedances of the established MAHL for the POCs, on an annual basis. The POTW compares both the maximum and average influent data for the reporting year against the MAHL to determine if there were any exceedances. In addition, the POTW is required to report biosolids data to determine if there were any changes or concerns with the biosolids loadings. An exceedance of the established MAHL may be indicative of a change in the service area, changes to the POTW operations or changes to domestic or non-domestic loadings and may indicate a need to recalculate the local limits. However, the annual review may not have addressed conditions that can change over time, such as operating conditions, environmental criteria/standards, data, or assumptions that may make local limits no longer appropriate, protective or legally-defensible.

As a follow-up to MAHL exceedances listed on the annual report and as required during a permit reissuance, a POTW should compare its current conditions and requirements with those that existed when the local limits were developed. The EPA recommends that POTWs determine if re-calculating existing local limits, or developing MAHLs for new pollutants of concern, is necessary in response to the following criteria:

1. Removal Efficiencies
 - a. Modification to the POTW or new POTW brought online.
 - b. Changes in POTW processes or operations that have affected the POTW removal efficiencies.
2. Total POTW or IU Loading
 - a. Significant changes to flow to the POTW.
 - b. Significant changes to loadings to the POTW due to new IUs, changes in loadings at existing IUs or significant growth in the service area.
 - c. Significant changes in loadings from SIUs in the service area.
3. Limiting Criteria
 - a. New or revised NPDES permit limits.
 - b. New or revised biosolids standards.
 - c. Changes in EPA or State Criteria (acute and chronic water quality standards for the receiving waters, reuse water quality criteria) at the time of local limit development to existing criteria.
4. Sludge Characteristics or Method of Disposal
 - a. Changes in loadings to biosolids.
 - b. Changes in biosolids disposal methods.
5. Background Concentrations of Pollutants in Receiving Water

5.5 Technical Evaluation of the District's Local Limits

The District's administratively extended NPDES permit and the pending permit that will be renewed by the CDPHE will include the following requirements for a technical evaluation of the local limits:

"The Permittee shall establish and enforce specific local limits to implement the provisions of 40 CFR Section 403.5(a) and (b), as required by 40 CFR Section 403.5(c). The Permittee shall continue to develop these limits as necessary and effectively enforce such limits.

In accordance with EPA policy and with the requirements of 40 CFR sections 403.8(f)(4) and 403.5(c), the Permittee shall determine if technically based local limits are necessary to implement the general and specific prohibitions of 40 CFR sections 403.5(a) and (b).

This evaluation should be conducted in accordance with the latest revision of the "EPA Region VIII Strategy for Developing Technically Based Local Limits", and after review of EPA's "Local Limits Development Guidance" July 2004. Where the Permittee determines that revised or new local limits are necessary, the Permittee shall submit the proposed local limits to the Approval Authority in an approvable form in accordance with 40 CFR Section 403.18."

The reissued permit will require a technical evaluation of the District's 2016 local limits to incorporate current data, current standards, construction or rehab updates to the POTW that result in different removal efficiency, growth in the service area and to incorporate SIU changes in the service area. The District will be required to submit the technical evaluation to the EPA within 12 months of permit reissuance, as a condition of the reissued NPDES permit and update local limits.

The EPA recommends the District develop a service area sampling plan to develop a dataset for loadings in the service to capture current conditions and that is representative of potential seasonal variations. The EPA requires a minimum of 10 data points in the datasets to ensure adequate data to calculate local limits. In addition, the District should ensure it gathers a representative dataset of INF-EFF of new or projected POTW construction updates that may impact the POTW's removal efficiency.

The District should also evaluate the incorporation of adopted ordinance numeric limits during the local limits update and determine the justification for these adopted limits.

5.6 Permit or Site-Specific Limits

Local municipalities implementing the Pretreatment program should have the ability to establish site or permit-specific limits as deemed necessary to be protective of the POTW. This is a beneficial authority because situations or projects may occur in the service area that the municipality may want to provide control to protect the POTW. However, the current limits in the ordinance may not address the pollutant of concern.

The EPA considers the development of any local limit, whether codified in the municipal ordinance/rules and regulations or developed on a site-specific situation (i.e., permits-specific limit) to be a program modification under 40 C.F.R §403.18 (53 FR 40579, Final Rule, General Pretreatment Regulations for Existing and New Sources, October 17, 1988). The development of any local limit is required to follow the approval and public notice provisions, both at the local level and by submitting to the EPA.

40 C.F.R §403.5(c)(3) of the Pretreatment Regulations states, “Specific effluent limits shall not be developed and enforced without individual notice to persons or groups who have requested such notice and an opportunity to respond.” The EPA recommends that POTWs conduct public participation in the local limits process (whether codified in the municipal ordinances/rules and regulations or new limits developed in a permit) as openly as possible. This may involve notifying the SIUs/IUs and other affected parties of the proposed limits or announcing a 30-day public comment period. This would allow sufficient time for the public to participate, which is a fundamental goal of the Clean Water Act in Section 101(e).

The District has established the authority to develop site or permit-specific limits in §6,4(E)(5) of its Rules and Regulations:

“The CWSD reserves the right to establish more stringent limitations or requirements on discharges to the POTW if deemed necessary to comply with the objectives presented herein.”

Based on the EPA’s review of the Pretreatment records, the District has not established site-specific limits in the SIU permits.

6.0 Pretreatment Operating Procedures

6.1 Regulatory Background

40 C.F.R. §403.8(f)(2) of the Pretreatment Regulations states, “The POTW shall *develop and implement* procedures to ensure compliance with the requirements of a Pretreatment Program.” [*emphasis added*] The Pretreatment Regulations identify these minimum procedures in 40 C.F.R. §403.8(f)(2)(i-viii) to include the following **implementation** activities, summarized below:

- Identify and locate all possible IUs that might be subject to the Pretreatment program,
- Obtain information describing the character and volume of wastes discharged by IUs,
- Notify IUs of all applicable Pretreatment standards and other applicable State or Federal standards or requirements,
- Review self-monitoring reports and other notices submitted by IUs,
- Randomly sample and analyze effluents from IUs,
- Evaluate whether each SIU needs a slug discharge control plan,
- Investigate instances of noncompliance with Pretreatment standards and

- requirements,
- Comply with public participation requirements.

The requirements listed in 40 C.F.R. §403.8(f)(2) include the **development** of procedures. Adequate and updated standard operating procedures (SOPs) provide the following benefits to a Pretreatment program:

- Develop the baseline knowledge of the Pretreatment Regulations and establish the framework for program implementation,
- Adequately implement the authorities established in the municipal ordinance and ensure consistency in program implementation,
- Retain institutional and historical knowledge developed within the POTW's program, and
- Provide a valuable training resource for new or inexperienced staff members.

Ultimately, the benefits of valid SOPs to the Pretreatment program are increased efficiency, along with improved data comparability, credibility, and legal defensibility. In addition, the development of written SOPs and templates allow the EPA to determine if the procedures adequately implement the legal authority developed in the municipal ordinance/rules and regulations as required in 40 C.F.R. §403.8(f):

“A POTW Pretreatment program must be based on the following legal authority and include the following procedures. These authorities and procedures shall at all times be fully and effectively exercised and implemented.”

6.2 Standard Operating Procedures (SOPs)

The EPA evaluated the District's procedures and templates during the audit to ensure these meet the requirements listed in 40 C.F.R. § 403.8(f)(2). As previously discussed, developing SOPs are beneficial for the District's Pretreatment program but most importantly, to ensure adequate implementation of the authorities established in the municipal ordinance and ensure consistency in program implementation. The EPA considers the Industrial User Inventory and Characterization, Sampling Plan/QA-QC, and the Enforcement Response Plan to be a priority and required SOPs to ensure consistent implementation of the District's legal authority. The EPA evaluated these priority SOPs and provided comments in the following sections within this audit report:

- Industrial User Inventory and Characterization Procedures (*discussed in §7.0*),
- Sampling Plan, Site-Specific Sampling Protocol, Quality Assurance and Quality Control (*discussed in §10.0*), and
- Enforcement Response Plan and Data Compliance Evaluation (*discussed in §11.0*).

The EPA recommends the District evaluate the need to develop Pretreatment procedures for programmatic activities to ensure consistent and compliant implementation of the Pretreatment program.

6.3 Templates

Templates and checklists are also critical to a Pretreatment program to ensure consistent and appropriate implementation of the Pretreatment regulations. The District has developed a permit application for discharging facilities, permit standard conditions and a zero-discharge permit template. The evaluation of the permit template is included in §8.4 of this audit report.

6.4 Records and Data Management

6.4.1 Regulatory Background

The recordkeeping requirements of the Pretreatment program are established in 40 C.F.R. §403.12(o)(1-3):

“(1) Any Industrial User and POTW subject to the reporting requirements established in this section shall maintain records of all information resulting from any monitoring activities required by this section, including documentation associated with Best Management Practices. Such records shall include for all samples:

- (i) The date, exact place, method, and time of sampling and the names of the person or persons taking the samples.
- (ii) The dates analyses were performed.
- (iii) Who performed the analyses.
- (iv) The analytical techniques/methods use; and
- (v) The results of such analyses.

(2) Any Industrial User or POTW subject to the reporting requirements established in this section (including documentation associated with Best Management Practices) shall be required to retain for a minimum of 3 years, any records of monitoring activities and results (whether or not such monitoring activities are required by this section) and shall make such records available for inspection and copying by the Director and the Regional Administrator (and POTW in the case of an Industrial User). This period of retention shall be extended during the course of any unresolved litigation regarding the Industrial User or POTW or when requested by the Director or the Regional Administrator.

(3) Any POTW to which reports are submitted by an Industrial User pursuant to paragraphs (b), [baseline monitoring reports] (d), [90-day compliance reports] (e), [categorical industrial user monitoring reports] and (h) [significant industrial user monitoring reports] of this section shall retain such reports for a minimum of 3 years and shall make such reports available for inspection and copying by the Director and the Regional Administrator. This period of retention shall be extended during the course of any unresolved litigation regarding the discharge of pollutants by the Industrial User or the operation of the POTW Pretreatment Program or when requested by the Director or the Regional Administrator.”

6.4.2 Recordkeeping and Data Management

Based on information gathered during the audit, the SIU permit and IU records are located in the Pretreatment offices and are maintained for at least three years. The Pretreatment records for the single permitted IU, IU inventory, FOG program and dental records appear to be well organized.

6.5 *Receipt of Discharge Monitoring Reports and Notifications*

The Pretreatment regulations in 40 C.F.R. §403.8(f)(2)(vii) require a POTW to “Investigate instances of noncompliance with Pretreatment Standards and Requirements, as indicated in the reports and notices required under §403.12 [IU compliance reports], or indicated by analysis, inspection, and surveillance activities [control authority monitoring].” This requires the POTW to ensure adequate receipt and tracking of self-monitoring reports and notifications, have procedures to evaluate the data and information contained within these reports and notices, and determine compliance with the Pretreatment standards (e.g., permit limits and conditions).

The self-monitoring reports, notifications and other reports submitted are date stamped by hand as received. The District ensures the reports/notifications are complete, received by the due date and evaluates compliance, based on its review of the information in the reports and notifications.

6.6 *Management of Confidential Records*

40 C.F.R. § 403.14 of the Pretreatment Regulations establishes the public availability of the Pretreatment records and the provisions to establish confidential business information (CBI). The District has incorporated the public availability and confidentiality requirements in Section 6.11 of the Rules and Regulations:

“A. All records, reports, data or other information supplied by any person or Industrial User as a result of any disclosure required by this Article or information and data from inspections shall be available for public inspection except as otherwise provided in this Section, 40 CFR Section 403.14 and the Colorado Open Records Act (C.R.S. 24-72-201, et. seq.).

B. These provisions shall not be applicable to any information designated as a trade secret by the person supplying such information. Materials designated as a trade secret may include, but shall not be limited to, processes, operations, style of work or apparatus or confidential commercial or statistical data. Any information and data submitted by the Industrial User which is desired to be considered a trade secret shall have the words, "Confidential Business Information," stamped on each page containing such information. The Industrial User must demonstrate to the satisfaction of CWSD that the release of such information would divulge information, processes or methods of production entitled to protection as trade secrets of the Industrial User.

Information designated as a trade secret pursuant to this Section shall remain confidential and shall not be subject to public inspection. Such information shall be available only to

officers, employees or authorized representatives of CWSD charged with implementing and enforcing the provisions of this Article and properly identified representatives of the U.S. Environmental Protection Agency and the Colorado Department of Public Health and Environment.

Effluent data from any Industrial User whether obtained by self-monitoring, monitoring by CWSD or monitoring by any state or federal agency, shall not be considered a trade secret or otherwise confidential. All such effluent data shall be available for public inspection.”

According to information gathered during the audit, the District has not received confidential business information.

7.0 Industrial User Inventory and Characterization

7.1 Regulatory Background

The Pretreatment Regulations state in 40 C.F.R. § 403.8(f)(2)(i-iii) that a POTW shall develop and implement procedures to ensure compliance with requirements of a Pretreatment Program. [These requirements are summarized after the regulation language in **bold** and *italics* font].

- i. “Identify and locate all possible Industrial Users which might be subject to the POTW Pretreatment Program. Any compilation, index or inventory of Industrial Users made under this paragraph shall be made available to the Regional Administrator or Director upon request.” ***This requires a POTW to develop and maintain an inventory of IUs in the service area.***
- ii. “Identify the character and volume of pollutants contributed to the POTW by the Industrial Users identified under paragraph (f)(2)(i) of this section. This information shall be made available to the Regional Administrator or Director upon request.” ***This requires a POTW to characterize the IUs in the inventory of the service area.***
- iii. “Notify Industrial Users identified under paragraph (f)(2)(i) of this section, of applicable Pretreatment Standards and any applicable requirements under sections 204(b) and 405 of the Act and subtitles C and D of the Resource Conservation and Recovery Act. Within 30 days of approval pursuant to 40 C.F.R. 403.8(f)(6), of a list of significant industrial users, notify each significant industrial user of its status as such and of all requirements applicable to it as a result of such status.” ***These procedures must include the notification of IUs of applicable Pretreatment Standards and other applicable requirements.***

The Pretreatment Regulations at 40 C.F.R. § 403.8(f)(6) state, “The POTW shall prepare and maintain a list of its non-domestic or Industrial Users meeting the criteria in §403.3(v)(1). The list shall identify the criteria in §403.3(v)(1) applicable to each Industrial User and, where applicable, shall also indicate whether the POTW has made a determination pursuant to §403.3(v)(2) that such Industrial User should not be considered a Significant Industrial User. The initial list shall be submitted to the Approval Authority pursuant to §403.9 or as a non-substantial modification pursuant to §403.18(d).”

Approved Pretreatment programs are required by the Pretreatment Regulations to understand their service area and outside contributing jurisdictions, by developing and maintaining an inventory of IUs. In addition, the Pretreatment Regulations require a Pretreatment program to characterize the IUs listed on the inventory and notify the IU of their status under the Pretreatment program. For example, the following characterizations may apply to an IU, based on information received from questionnaires, drive-by or facility inspections:

- The IU is not characterized as significant, based on volume and characteristic of the discharged wastewater.
- The IU is characterized as significant and issued a permit.
- The IU is not characterized as significant, but loadings need to be controlled using BMPs in a source control program.
- The IU is generating wastewaters that are significant but is characterized as a zero-discharging facility.

The **Industrial Waste Inventory and Characterization** or industrial waste survey (IWS)/IU inventory procedures are an important component to an effective Pretreatment program because this is a POTW's first exposure to the IUs, allows the POTW to determine if an IU is significant, notify the IU of its status under the Pretreatment regulations, and determine the appropriate type of control mechanisms for these facilities to protect the POTW and collection system.

7.2 Industrial User Identification and Characterization Procedure

40 C.F.R. §403.8(f)(2) of the Pretreatment Regulations require the District to “develop and implement procedures” that “enable the POTW” to comply with these Pretreatment Program requirements found in 40 C.F.R. § 403.8(f)(2)(i-iii). The District has not developed an IU Inventory guidance to comply with the Federal Pretreatment Regulations. The EPA recommends the District develop an IU Inventory guidance that describes the methods the District uses to identify, characterize, classify IUs and notify these IUs of applicable Pretreatment Standards, the IU Inventory Guidance should also describe procedures the District uses to identify IUs in collaboration with the Planning, Engineering, and Building departments, as well as various inspection programmatic activities.

The District contracted with Respec in 2022 to update and maintain the IU inventory. The consultant gathers information by using Google search to identify changes of IUs in the POTW's service area. The District works with the Engineering department to identify new businesses that come into the service area and to send out an IU questionnaire with the building permit application. According to the District, it relies more on field work than information received from the Douglas County building department that covers portions of the POTW's service area because of collaboration challenges with the County offices. The District also evaluates an annual water usage report to evaluate IUs that discharge above 25,000 gpd.

The EPA recommends the District establish a working relationship and collaborate with the Fire Department in the POTWs service area because Fire Departments also inspect IUs in the service area for fire protection/conditions and may provide additional information to the District regarding potential for significant process/wastewater generation or spill/slug potential in the service area based on their observations during these inspections.

7.3 Industrial User Database of the District's Service Area

The Pretreatment Regulations at 40 C.F.R. § 403.8(f)(2)(i-iii) require the District to identify and locate all IUs in its service area, identify the character and volume of pollutants contributed by these IUs based on current information, and notify these IUs of applicable Pretreatment Standards and Requirements.

Based on the EPA's review of the CWSD's IU inventory, it consists of 556 IUs and appears to be current of the POTW's service area. The IU inventory also includes information in the IU Inventory workbook to characterize the IUs in the inventory.

The EPA currently provides "Pretreatment 101" webinar training, and a training for "Industrial User Waste Survey Procedures," provided in September 2010, is archived at the following website:

<https://www.epa.gov/npdes/national-pretreatment-program-events-training-and-publications#pretreat101>

8.0 Control Mechanism (Permit) Evaluation and Permit Specific Issues

8.1 Regulatory Background

POTWs are required to issue control mechanisms to IUs identified through IU Inventory and Characterization procedures as SIUs. Individual permits or general control mechanisms authorize the discharge of wastewater to a POTW upon condition that the discharger complies with the permit limitations and conditions. An SIU permit is effective for only a limited period and should be revocable by the issuing authority at any time for just cause. In addition, the POTW's legal authority will typically include a provision that forbids the discharge of industrial wastewater from a SIU without a current permit.

The Pretreatment Regulations establish the required permit conditions in 40 C.F.R. § 403.8(f)(1)(iii)(B)(1-6) that include the following minimum elements:

1. Statement of duration (in no case more than five years);
2. Statement of non-transferability without, at a minimum, prior notification to the POTW and provision of a copy of the existing control mechanism to the new owner or operator;
3. Effluent limits, including Best Management Practices, based on applicable general Pretreatment Standards, categorical Pretreatment Standards, local limits, and State and local law;

4. Self-monitoring, sampling, reporting, notification and recordkeeping requirements, including an identification of the pollutants to be monitored, sampling location, sampling frequency, and sample type, based on the applicable general Pretreatment Standards, categorical Pretreatment Standards, local limits, and State and local law;
5. Statement of applicable civil and criminal penalties for violation of Pretreatment Standards and requirements, and any applicable compliance schedule. Such schedules may not extend the compliance date beyond applicable federal deadlines;
6. Requirements to control Slug Discharges, if determined by the POTW to be necessary.

The reporting and notification requirements in permit condition #4 above are found in 40 C.F.R. § 403.12 of the Pretreatment Regulations and include the following:

- Baseline Monitoring Reports – 403.12(b)
- Compliance Schedule Progress Reports – 403.12(c)
- 90-Day Compliance Reports – 403.12(d)
- CIU Periodic Compliance Reports – 403.12(e)
- Notice of Potential Problems, including Slug Loading – 403.12(f)
- Notification of Changes Affecting Slug Discharge Potential – 403.8(f)(2)(vi)
- 24-Hour Non-Compliance Notification – 403.12(g)
- SIU Periodic Compliance Reports – 403.12(h)
- Notification of Changed Discharge – 403.12(j)
- Notification of Hazardous Waste Discharge – 403.12(p)
- Notification of Bypass – 403.17

Under general principles of administrative law, permit applicants and other interested parties may challenge the POTW's permit decisions, including the permit limitations and conditions and the POTW's authority to issue the permit. The POTW must ensure that it has the requisite legal authority to impose Pretreatment Standards and Requirements in SIU permits and that it exercises its authority in a consistent and non-arbitrary manner. The local ordinance must clearly provide the POTW with the following authorities to support the permit requirements found in 40 C.F.R. § 403.8(f)(1)(iii):

- Authority to regulate all Industrial Users contributing wastewater to the POTW.
- Authority to require and issue permits, orders, or other control mechanisms, including:
 - Authority to require Industrial Users to submit all data that the POTW deems relevant to permit decisions and provisions for public access to data.
 - Authority to enter, inspect, and sample to verify information supplied by the Industrial User as well as to assess the Industrial User's compliance status.
 - Authority to incorporate local limits, including BMPs (if applicable).
 - Authority to incorporate federal and state Pretreatment Standards and Requirements.
 - Authority to require self-monitoring, record keeping, reporting, and notifications by the permittee.
 - Authority to develop other appropriate permit conditions.

- Authority to enforce sewer use ordinance and discharge permit violations.
- Authority to require the development of a slug discharge control plan.

The POTW is required to establish the legal authority to require an IU to complete and file a permit application, with current information, to receive an initial or reissued permit. A permit application enables the POTW to obtain the information necessary to characterize the facility, to evaluate the quality and quantity of wastewater discharged, or projected to be discharged for a new facility, and to determine the applicable Pretreatment Standards and controls. The permit application serves as the formal request from the IU to discharge to the POTW and is required to be signed by a responsible corporate officer of the IU, as defined in 40 C.F.R. § 403.12(l) of the Pretreatment Regulations. In addition to the permit application, the POTW should evaluate, if available, historic IU effluent data, compliance reports, previous inspection reports, Safety Data Sheets, etc.

Throughout the permit drafting process, the POTW should carefully and thoroughly document each step in a permit rationale or statement of basis. A statement of basis is a document that provides a justification of the permit conditions and limits based on a characterization of the IU, its wastewater discharge, and the applicable Pretreatment Standards and Requirements. The statement of basis should include a description of the facility's production, process(es), wastewater generation/management, and discharge locations to adequately characterize the facility. The statement of basis should also identify the appropriate Federal, State, and Local Pretreatment Standards, based on the IU's characterization; and should provide justification for permit conditions and requirements, such as pollutants of concern, monitoring/reporting frequencies, representative sampling types, notification requirements, slug discharge control, operation and maintenance requirements, etc.

The statement of basis facilitates defending any challenges that the permit terms and conditions were developed arbitrarily or capriciously and provides the required documentation in the permit record of any relief from otherwise applicable requirements (i.e., pollutants not expected to be present, equivalent limits, decisions on general control mechanisms, decisions on Non-Significant Categorical Industrial User (NSCIU) classification, and decisions on reduced monitoring requirements). In addition, the statement of basis can serve as a resident document to preserve institutional knowledge and continuity for new or different staff members.

The EPA updated the IU Permitting Guidance Manual, 833-R-12-0001A in September 2012. This guidance manual supports the implementation of the permit conditions found in 40 C.F. R. § 403.8(f)(1)(iii)(B)(1-6) of the Pretreatment Regulations. The guidance manual is intended to provide both new and experienced permit writers with conceptual support and specific examples to strengthen their permit development expertise. The guidance manual references technical guidance developed by the EPA regarding local limits, enforcing Pretreatment Standards and Requirements, controlling hauled waste, information regarding compliance inspections and sampling, and BMPs.

The IU Permitting Guidance Manual can be found at the following website:

8.2 *The EPA's Evaluation of the District's Permitting Legal Authority*

The EPA evaluated the District's Rules and Regulations to ensure it provides an adequate framework to require permit coverage, to deny or condition non-domestic wastewater contributions and to establish adequate permit conditions.

- Section 6.6(C) –establishes the requirement for SIUs and CIUs to obtain a wastewater discharge permit.
- Section 6.6(D) –establishes the authority to issue general permits.
- Section 6.6 (B and F) – establishes the requirements for SIUs to submit a permit application and establishes the permit application contents.
- Sections 6.3(C) and 6.5(B and C) – establishes the authority for the District to deny or conditions wastewaters discharged to the public sewers.
- Section 6.7 – establishes the permit conditions to prevent Passthrough or Interference and to protect the POTW, worker health and safety, biosolids and the receiving stream water quality.

8.3 *Permit Template Overview*

The District only has one zero-discharging IU and has not developed a discharge permit template.

8.4 *Specific Permit Record Findings*

The District has identified one IU in the service area that is issued a zero discharging permit under the Pretreatment program. Findings from the EPA's review of the Pretreatment records, including the facility inspection report, statement of basis, permit, compliance evaluation, and enforcement records are listed below:

8.4.1 Tru-Green

1. The Pretreatment Regulations at 40 C.F.R. § 403.8(f)(2)(ii) require the District to "Identify the character and volume of pollutants contributed to the POTW." The SIU inspection reports include minimal descriptions of the facility's unit operations. The Tru-Green inspection report provides adequate detail regarding the facility's chemical storage/handling/transfer, process/unit operations, wastestream generation from these unit operations, wastestream management or wastewater treatment, including zero-discharge methods. This information is important to capture current conditions and determine if control such as an SIU permit or BMPs are necessary or if modifications to existing control mechanism or control plans such as slug discharge control plans or spill plans are necessary.
 - a. The EPA recommends the District gather digital photos during the Tru-Green facility inspections to provide current photos of areas relevant to the zero-discharge permit, including but not limited to floor drains, unit

operations, raw material/chemical storage, applicable chemical handling equipment, wastestreams, zero-discharge equipment/process.

2. Based on the EPA's review of the Pretreatment records, it appears that the District is adequately evaluating self-monitoring reports for compliance. It appears that the District helps the zero-discharge permitted IU comply with completing and submitting the quarterly zero-discharge report required by the permit. The EPA recommends the District ensure the permitted IU is aware of its compliance responsibilities required in the permit, such as maintaining its zero-discharge status and submitting complete reports by the due date.

8.4.2 East Cherry Creek Valley (ECCV)

1. The IGA for ECCV was developed to provide service by the District to wastewater generated from the ECCV drinking water treatment plant located at 6875 Business Center Drive, Highlands Ranch CO 80130. The ECCV IGA establishes the following discharge limits in Section 2.1:
 - a. Maximum flow rate of 300 gallons per minute with a maximum flow volume of 24,995 gallons per day.
 - b. TENORM- 146 pci/g for radium 226 and 228
2. The water plant has provided the required quarterly TSS and annual metals/Ra 226 and 228 reports. It is unclear if the CWSD is evaluating compliance with the radium limits established in section 2.1 of the ECCV IGA. The Tenorm limit is expressed as 146 pci/g for Ra226 and 228 respectively and the ECCV reports in pci/L.
 - a. 12/26/2023 – Ra-226 = 5.9 pci/L; Ra-228 = 6.7 pci/L
 - b. 05/16/2024 – Ra-226 = 48.6 pci/L; Ra-228 = 42.0 pci/L
3. The District is required to ensure the ECCV reports the radium data in proper pci/g units. In addition, the District is required to evaluate the data to ensure the discharge is in compliance with the ECCV IGA TENORM limits and provide the EPA the results of this compliance evaluation.

9.0 Significant Industrial User Facility Inspections

9.1 Regulatory Background

The General Pretreatment Regulations at 40 C.F.R. § 403.8(f)(1)(v) states that the POTW shall have the legal authority to:

“Carry out all inspection, surveillance and monitoring procedures necessary to determine, independent of information supplied by Industrial Users, compliance or noncompliance with applicable Pretreatment Standards and Requirements by Industrial Users. Representatives of the POTW shall be authorized to enter any premises of any Industrial User in which a Discharge source or treatment system is located or in which records are required to be kept under §403.12(o) to assure compliance with Pretreatment Standards. Such authority shall be at least as extensive as the authority provided under section 308 of

the Act;”

40 C.F.R. § 403.8(f)(2)(v) of the Pretreatment Regulations requires the POTW to inspect its SIUs at least once per year. 40 C.F.R. § 403.8(f)(2)(ii) require the District to “Identify the character and volume of pollutants contributed to the POTW.” 40 C.F.R. § 403.8(f)(2)(vii) establishes the standard of evidence collection during sampling or inspection activities:

“Investigate instances of noncompliance with Pretreatment Standards and Requirements, as indicated in the reports and notices required under §403.12, or indicated by analysis, inspection, and surveillance activities described in paragraph (f)(2)(v) of this section. Sample taking and analysis and the collection of other information shall be performed with sufficient care to produce evidence admissible in enforcement proceedings or in judicial actions.”

Typically, an inspector is the only representative from the POTW that regularly appears at the IU’s facility and significantly represents the POTW’s role as a responsible public agency, observing the actions and evaluating the performance of the regulated industry.

9.2 Right of Entry

The District has established the authority for right of entry in §6.15 of the Rules and Regulations:

“A. Whenever it shall be necessary for the purposes of this Article, CWSD may enter upon any Industrial User’s facility, property, or premises subject to this Article that is located or conducted or where records are required to be kept for the purposes of:

1. Performing all inspection, surveillance and monitoring procedures necessary to determine, independent of information supplied by Industrial Users, compliance or noncompliance with applicable Pretreatment Standards and Requirements by an Industrial User including the taking of photographs. Compliance monitoring and inspection shall be conducted at a frequency as determined by CWSD and may be announced or unannounced.
2. Examining and copying any records required to be kept under the provisions of this Article or of any other local, state or federal regulation.
3. Inspecting any monitoring equipment or method, pretreatment system equipment and/or operation.
4. Sampling any discharge of Wastewater into POTW; and/or
5. Inspecting any production, manufacturing, fabricating or storage area where Pollutants, regulated under this Article, could originate, be stored, or be discharged to the POTW.

B. The occupant of such property or premises shall render all proper assistance in such activities. Where an Industrial User has security measures in place which require proper identification and clearance before entry into its premises, the Industrial User shall make necessary arrangements with its security personnel so that authorized representatives of CWSD will be permitted to enter without delay to perform their specified functions.

C. The General Manager and other duly authorized agents and employees of CWSD are entitled to enter all private properties through which CWSD or any connecting jurisdiction holds an easement.

D. Failure to allow entry or unreasonable delays: In the event CWSD or other duly authorized representative of CWSD is refused admission or unreasonably delayed, may result in enforcement action as allowed for under this Article or termination of the Wastewater discharge.”

The Rules and Regulations adequately establishes the right of entry authority for the District, as required in 40 C.F.R. § 403.8(f)(1)(v) of the Pretreatment Regulations.

9.3 Facility Inspection Records – Background

40 C.F.R. § 403.8(f)(2)(vii) of the Pretreatment Regulations requires the POTW to meet the criterion for evidence collection “with sufficient care to produce evidence admissible in enforcement proceedings or in judicial actions.” This is performed during facility inspections by adequate documentation in the inspection report of the observations, surveillance, inspections, sampling performed, and analysis gathered during facility inspections. A complete and well-developed inspection report that provides a current characterization of the facility will benefit the POTW’s Pretreatment program for programmatic decisions such as categorical determinations, slug discharge/spill potential, changes at the facility that may affect the current permit conditions, sampling frequencies, etc.

As discussed in §2.11.2 of the *Industrial User Inspection and Sampling Manual for POTWs*, EPA-831B17001, January 2017, the inspection report generated from the facility inspections should accomplish the following three objectives: 1) organize and coordinate all information in a comprehensive, usable manner for use by the POTW’s compliance personnel; 2) identify areas that may require follow-up activity; and 3) provide significant background information on the facility that can be reviewed prior to conducting subsequent inspections at the facility. The quality of this documentation will, to a large degree, determine how effective these follow-up activities will be at the facility. The information in the inspection report must be presented in a clear, concise, and well-organized manner.

The Industrial User Inspection and Sampling Manual for POTWs describes the information necessary to characterize a facility in §§2.10.3 and 2.12. The manual also discusses the records to review at a facility to help determine the facility’s compliance in §2.10.8. It is important for Pretreatment programs to capture the following information during facility inspections to characterize the facility, and document facility changes to ensure the SIU’s permit addresses current conditions:

- Chemical storage areas, including potential spill concerns during chemical receiving and transfer/handling.
- Process tanks or processing areas – detailed descriptions of the process including tank contents, capacities.
- Wastestream generation from the process areas and disposal/discharge practices – frequency of discharge rinse water tanks, whether spent chemical solutions tanks

- discharged to the POTW or hauled off site, proximity to floor/trench drains, slug discharge control and spill containment measures, etc.
- Wastestream management (treatment, recycling, hauling off site, evaporation, etc.).
- Waste treatment system.
- Wastestream or hazardous waste storage areas, including potential spill concerns.
- Discharge monitoring points.
 - Evaluation of the sampling/monitoring protocols to determine if these are appropriate to provide representative data of the wastewaters regulated by the permit.

A facility inspection of a permitted SIU should include a review of relevant records used to support compliance with the permit conditions and that may not be reported in the self-monitoring compliance reports such as pH and continuous flow monitoring records, tank change out logs, analytical reports, waste manifests, operation and maintenance logs, etc. A detailed facility inspection report with descriptions of tank contents, capacities, generated wastestreams, plumbing, and management of the wastestreams will benefit the POTW to establish the baseline for the year and to determine if any changes will impact the permit conditions/limits or associated documents such as the slug discharge control plan, spill plan, treatment system operation manual or sampling protocol.

9.4 Evaluation of the District's Inspection Reports/Records

The EPA evaluated the inspection reports and other records related to the facility inspection for the SIU annual facility inspection. As discussed in § 8.4.1(1) of this audit report, the SIU inspection reports provide adequate characterization of the facility and includes information regarding the facility's chemical storage/handling, process, (sources, flow volume and types of discharges) wastewater generation, slug discharge potential, waste treatment methods, zero discharge procedures, and review of records in the annual inspection report. The inspection reports should also include digital photos to further support information gathered during the inspection. The EPA recommends the District gather digital photos during SIU inspections to provide current photos of areas relevant to the Pretreatment permit, including but not limited to floor drains, unit operations, raw material/chemical storage, applicable chemical handling equipment, wastestreams, treatment.

9.5 Notification of Applicable Pretreatment Standards

The Pretreatment Regulations at 40 C.F.R. § 403.8(f)(2)(iii) require the District to notify IUs of applicable Pretreatment Standards and Requirements. As discussed in § 8.4.1(1) of this audit report, it appears the District is providing adequate notification to the SIUs regarding the applicable Pretreatment Standards and applicable corrective action items as a follow-up to the facility inspections.

10.0 Control Authority Compliance Monitoring

10.1 Regulatory Background

40 C.F.R. § 403.8(f)(1)(v) of the Pretreatment Regulations requires the POTW to have the legal authority to “Carry out all inspection, surveillance, and monitoring procedures necessary to determine, independent of information supplied by Industrial Users, compliance or noncompliance with applicable Pretreatment Standards and requirements.” Further, 40 C.F.R. § 403.8(f)(2)(v) require a POTW to “Randomly sample and analyze the effluent from Industrial Users and conduct surveillance activities in order to identify, independent of information supplied by Industrial Users, occasional and continuing noncompliance with Pretreatment Standards. Inspect and sample the effluent from each Significant Industrial User at least once a year.”

The standard to which POTWs are held for purposes of evidence collection during a Control Authority monitoring event is outlined in 40 C.F.R. § 403.8(f)(2)(vii): “Sample taking and analysis and the collection of other information shall be performed with sufficient care to produce evidence which is admissible in enforcement proceedings or judicial actions.”

In addition, a POTW is required to ensure the Control Authority monitoring events are based on representative conditions at the monitoring point, to ensure that these sampling events are legally defensible and of the same quality as required for self-monitoring events. 40 C.F.R. § 403.12(g)(3) of the Pretreatment Regulations require, “The reports ... must be based upon data obtained through appropriate sampling and analysis performed during the period covered by the report, which data are representative of conditions occurring during the reporting period.”

An enforceable sample must be representative of the nature and character of the discharges during the reporting period and is required to be representative in composition to that in the larger volume of wastewater being discharged. A POTW is required to implement a Control Authority monitoring program that meets the compliance monitoring requirements of the Pretreatment Regulations, provides representative data for compliance determinations, and that would be legally defensible in court, if such an enforcement action is taken by the POTW. In addition, representative and legally defensible data helps the POTW support other program objectives such as local limits evaluation, and permit development or reissuance.

10.2 Sampling Plan and Protocols

As required in 40 C.F.R. § 403.8(f)(2), the POTW shall “develop and implement procedures to ensure compliance with the requirements of a Pretreatment Program.” The development and implementation of a sampling plan or procedures ensures the POTW is appropriately and consistently performing sampling or monitoring events, as well as providing enforceable data that is representative of the discharge conditions at the facility. The sampling plan should include the following:

- purpose and objective of the sampling program,
- specific sampling protocols at each facility sampling location to ensure representative sampling, and
- appropriate QA/QC procedures to ensure legally defensible data.

10.2.1 Site-Specific Sampling Protocols

The sampling protocols must include specific procedures used at each facility to ensure adequate and representative sampling protocols. The development of the sampling protocols will ensure the sampling events are performed in accordance with appropriate standards and procedures and produce quality data that is legally defensible.

At a minimum, the specific sampling protocols at each sampling location should include the following:

- Sampling locations – should include all monitoring points included in the SIU’s permit, including the use of digital photos for each monitoring point.
- Type of sample – the POTW is required to ensure the sampling event is representative of the SIU’s discharge, as required by 40 C.F.R. §403.12(g)(3). The type of sample will be dependent on the parameter to be sampled and discharge characteristics. The type of sample could include specifications for use of automatic samplers (including programming to provide representative sampling) or manual sampling techniques.
- Type of Flow Measurement – if applicable
- Parameters for Analysis – based on the SIU’s permit
- Sample Volume
- Type of Sample Containers
- Sample Preservation Techniques
- Sample Identification and Chain of Custody Procedures
- QA/QC Procedures

10.2.2 Quality Assurance/Quality Control (QA/QC)

QA and QC are tools which are necessary in a sampling program to maintain a level of quality, such as legally defensible data, in the measurement, documentation, and interpretation of sampling data. The QA/QC procedures are used to obtain data that are both precise (degree of closeness between two or more samples) and accurate (degree of closeness between the results obtained from the sample analysis and the true value that should have been obtained). Proper implementation of QA/QC procedures will result in an increase in the POTW’s confidence in the validity of the reported analytical data.

The QA/QC procedures used to ensure data collected is valid and legally defensible include, but are not limited to the following:

- equipment maintenance/calibration,
- proper sampling bottles, proper sampling techniques that are adequate and representative of the discharge from the facility,

- field blanks, equipment blanks, method blanks, standards, blind duplicates, and
- ensuring sampling personnel are adequately trained.

10.3 The EPA Evaluation of the District's Control Authority Monitoring

10.3.1 SOPs

The District only has a zero-discharge permitted facility in its service area and does not sample the permitted facility.

11.0 Enforcement

11.1 Regulatory Background

The EPA establishes the regulatory requirement to develop and implement an Enforcement Response Plan (ERP) in 40 C.F.R. § 403.8(f)(5)(i-iv) of the Pretreatment Regulations. The regulations state:

“The POTW shall develop and implement an enforcement response plan. This plan shall contain detailed procedures indicating how a POTW will investigate and respond to instances of industrial user noncompliance. The plan shall, at a minimum:

- (i) Describe how the POTW will investigate instances of noncompliance.
- (ii) Describe the types of escalating enforcement responses the POTW will take in response to all anticipated types of industrial user violations and the time periods within which responses will take place.
- (iii) Identify (by title) the official(s) responsible for each type of response.
- (iv) Adequately reflect the POTW's primary responsibility to enforce all applicable pretreatment requirements and standards.”

The development and implementation of an ERP is an important component of an effective Pretreatment Program. Although a successful Pretreatment program should provide outreach to facilities in the service area regarding the applicability of the Pretreatment Standards and compliance with these standards, in many situations, enforcement is the necessary driving force that makes the Pretreatment program functional.

The ERP establishes a framework for POTWs to formalize procedures for investigating and responding to instances of IU noncompliance and to ensure that POTWs enforce against IUs objectively, consistently, and equitably. A well-developed ERP should help the POTW decide what resources are needed to enforce the Pretreatment Standards/Requirements and assist in dealing with IU violations. In addition, the ERP will provide notice to the IUs regarding the POTW's responsibility to respond to violations of Pretreatment Standards/Requirements.

11.2 Enforcement Legal Authority

The EPA evaluated the District's enforcement authority and remedies found in its Rules

and Regulations.

1. Enforcement Response Plan incorporated in §6.18(A)
2. Civil/Criminal penalties established in §6.18(D)(2 and 4).
3. Injunctive relief provisions established in §6.18(D)(1).
4. Authority to enforce against falsification/tampering established in §6.9(D and E).
5. Notice of violations authority established in §6.18(C)(1)..
6. Compliance orders authority established in §6.18(C)(4).
7. Consent Orders authority established in §6.18(C)(4).
8. Cease and Desist Order authority established in §6.18(C)(3).
9. Administrative penalty authority established in §6.18(C)(6).
10. Show cause hearing provisions in §6.18(C)(5).
11. Suspensions of service provisions in §6.18(C)(2).
12. Permit termination provisions established in §6.18(C)(2).
13. Publication of IUs in significant noncompliance in §6.18(B).

11.3 Enforcement Response Plan

The District submitted its Enforcement Response Plan (ERP) to the EPA for review, prior to the audit. The ERP was approved by the EPA on October 31, 2023. The District's ERP meets the requirements established in the Pretreatment regulations at 40 C.F.R. § 403.8(f)(5)(i-iv) and incorporated in the District's Rules and Regulations.

11.4 Compliance Evaluation

Based on EPA's review of the Pretreatment records described in §§8.4.1 and 8.4.2 of the audit report, the District needs to ensure it adequately evaluates compliance for the received reports and notifications. For example, the District should ensure Tru-Green is meeting its zero discharge reporting requirements, including meeting the due date. In addition, the District needs to ensure ECCV is adequately reporting its TENORM data in the proper mass-based units to evaluate compliance with the TENORM limits established in section 2.1 of the ECCV IGA.

11.5 SNC Calculations and Public Participation

40 C.F.R. § 403.8(f)(2)(viii) of the Pretreatment Regulations require a POTW to comply with the public participation requirements in the enforcement of National Pretreatment Standards. These procedures shall include a provision for at least annual public notification in a newspaper of general circulation, that provides meaningful public notice within the jurisdictions served by the POTW, of IUs which, at any time during the previous 12 months, were in SNC with applicable Pretreatment requirements. The SNC determinations are both calculation of numeric Pretreatment Standards, as listed in 40 C.F.R. § 403.8(f)(2)(viii)(A-D) and determination of violations of the narrative Pretreatment Standards, as listed in 40 C.F.R. § 403.8(f)(2)(viii)(E-H). The District needs to ensure that it properly evaluates compliance with the Pretreatment Standards, including SNC as applicable.

12.0 Trucked and Hauled Waste

12.1 Regulatory Background

In addition to receiving wastes through the collection system, many POTWs accept trucked and hauled wastes. As stated in 40 C.F.R. § 403.1(b)(1), pollutants from nondomestic sources that are transported to the POTW by truck or rail are also subject to the Pretreatment Regulations. They may also be subject to categorical Pretreatment Standards. Therefore, hauled wastes from CIUs or hauled waste that otherwise qualifies the discharger as an IU must be regulated in accordance with the requirements of the Pretreatment Regulations, including any applicable requirements for permitting and inspecting the generating facility. Hauled wastes, like wastes received through the collection system, have the potential to negatively affect the POTW, making regulatory control of the wastes necessary.

Most wastewaters hauled or trucked to a POTW are domestic septage, typically from homes outside the POTW's service area, but compatible in nature. Because such discharges are predominantly compatible wastes, treatment at a POTW is the most appropriate disposal method. The biosolids regulations at 40 C.F.R. § 503.9(f) define domestic septage as the liquid or solid material removed from a septic tank, cesspool, portable toilet, Type III marine sanitation device, or similar system that holds only domestic sewage. Domestic septage does not include liquid or solid material removed from any system that receives either commercial wastewater or industrial wastewater, and it does not include grease removed from a restaurant grease trap.

The POTW cannot know for certain the nature and concentration of the trucked wastes and the impact on the POTW without implementing some type of control or surveillance program. Unlike discharges from IUs directly connected to the POTW, the makeup of a load of hauled waste is virtually unknown without some type of monitoring, be it visual or analytical. Even compatible loads of domestic septage can cause problems for a POTW due to high strength or discharge rate. Domestic septage can be partially digested, higher in metals concentrations than normal domestic wastes, or contain small amounts of household contaminants (e.g., cleaners). Similarly, disinfectants used in portable toilets have the potential to affect POTW operations.

Receipt of hauled hazardous waste (as defined in Resource Conservation and Recovery Act (RCRA)) might not only affect POTW operations but also could subject the POTW to additional reporting requirements. The Domestic Sewage Exclusion, specified in 40 C.F.R. § 261.4(a)(1)(ii), provides that hazardous wastes mixed with domestic sewage and under control of the Pretreatment program are exempt from the RCRA waste regulations. However, hazardous wastes received by truck or rail (or dedicated pipe) at the treatment plant are not exempt from the regulations. POTWs that accept hazardous wastes from those sources are subject to *permit by rule* status under RCRA [40 C.F.R. § 270.60(c)] provided that certain requirements are met. The POTW must be in compliance with all its NPDES permit requirements and the waste must comply with all federal, state, and local pretreatment requirements.

12.2 Legal Authority

The District has adopted the Federal specific discharge prohibitions for trucked and hauled wastes found in 40 C.F.R. § 403.5(b)(8) of the Pretreatment Regulations. This is incorporated in §6.4(B)(9) of the District's Rules and Regulations:

“Any trucked or hauled Pollutants, including but not limited to, commercial, industrial or domestic generated wastes, except at discharge points designated by CWSD.”

According to information gathered during the audit, The District does not accept trucked or hauled waste but has an RV disposal station at the Chatfield State Park. According to information gathered during the audit, the Chatfield RV dump station is controlled by either registration during camping at the site or by acquiring an RV dump permit. The Chatfield RV dump station is shown in Figures 3 and 4.



Figure 3 - Chatfield State Park - RV Dump Station



Figure 4 - Chatfield RV Dump Station Sign

13.0 Best Management Practices – Sector Control Programs

13.1 Regulatory Background

BMPs are defined in 40 C.F.R. § 403.3(e) as “schedules of activities, prohibitions of practices, maintenance procedures, and other management practices to implement the prohibitions listed in 40 C.F.R. § 403.5(a)(1) [General Prohibitions] and (b) [Specific Prohibitions]. BMPs also include treatment requirements, operating procedures, and practices to control plant site runoff, spillage or leaks, sludge or waste disposal, or drainage from raw materials storage.”

40 C.F.R. § 403.5(c)(4) states, “POTWs may develop Best Management Practices (BMPs) to implement paragraphs (c)(1) [develop limits to implement the general/specific prohibitions] and (c)(2) [develop and enforce specific effluent limits for industrial users that contribute pollutants that may result in Interference and Pass-Through] of this section. Such BMPs shall be considered local limits and Pretreatment Standards for the purposes of this part and section 307(d) of the Act.” The regulations establish that BMPs are enforceable Pretreatment Standards.

13.2 Authority in Rules and Regulations

The District established the authority to implement BMPs in its municipal ordinance as follows:

- BMP definition in §2.1.
- BMPs established as Pretreatment Standards in §6.4(E)(1).
- BMPs established as a permit condition in §6.7(D).
- BMP recordkeeping requirements in §6.10.
- BMPs established as an SNC criterion in §2.1(F).

13.3 Dental Amalgam BMP Sector Control Program

The Dental Amalgam Rule, found in 40 C.F.R. Part 441, was promulgated as a final rule with new source dental facilities required to be in compliance with the Pretreatment Standards as of July 14, 2017, and existing source dental facilities required to be in compliance as of June 14, 2020. Compliance with the rule requires the installation of an ISO1143 amalgam separator or equivalent device, and compliance with the following two BMPs:

- Prohibition on the use of oxidizing or chlorine-containing line cleaners; and
- Ensuring all amalgam process wastewater including chair-side traps, screens, vacuum pump filters, dental tools, cuspidors or collection devices are treated through the amalgam separator.

In addition, the new and existing dental facilities are required in 40 C.F.R. § 441.50 of the Dental Amalgam Rule to provide a report that characterizes the dental facility and certifies compliance. The new source dental facilities are required to be in compliance upon discharge and submit a one-time compliance report within 90 days of startup.

The District has identified 31 dental offices in its industrial waste survey and has received one-time compliance reports within the deadline required by the Rule. Based on the EPA’s review of the one-time compliance records, all one-time compliance reports are in compliance, as required in 40 C.F.R. § 441.50 of the Dental Amalgam Rule:

- Aspen Park Dental, located at 200 Plaza Drive, Suite 220, Highlands Ranch, CO 80129: Section C – operation and maintenance of amalgam separator certification box not checked. The District is required to ensure the Aspen Park one-time compliance report is complete and provides adequate information to determine compliance with the Dental Amalgam Rule.
 - Note: The District uploaded a corrected and complete one-time compliance report from Aspen Park Dental on 10/28/2024.

13.4 FOG Sector Control Program

The CWSD has developed a BMP-based FOG sector control program for food establishments (FSE) in the service area. The FSEs are required to install an adequately sized interceptor, maintain the interceptor on a quarterly basis and provide waste manifests within 90 days of the pump event.

14.0 PFAS Roadmap and Implementation

Harmful per- and poly-fluoroalkyl substances (PFAS) are an urgent public health and environmental issue facing communities across the United States. PFAS have been manufactured and used in a variety of industries in the United States and around the globe since the 1940s, and they are still being used today. Because of the duration and breadth of use, PFAS can be found in surface water, groundwater, soil, and air—from remote rural areas to densely-populated urban centers. A growing body of scientific evidence shows that exposure at certain levels to specific PFAS can adversely impact human health and other living things. Despite these concerns, PFAS are still used in a wide range of consumer products and industrial applications. Every level of government—federal, Tribal, state, and local—needs to exercise increased and sustained leadership to accelerate progress to clean up PFAS contamination, prevent new contamination, and make game-changing breakthroughs in the scientific understanding of PFAS.

14.1 2021 EPA PFAS Strategic Roadmap

On October 18, 2021, the EPA developed the **Agency’s PFAS Strategic Roadmap** — laying out a whole-of-agency approach to addressing PFAS. The roadmap sets timelines by which EPA plans to take specific actions and commits to policies designed to safeguard public health, protect the environment, and hold polluters accountable. The PFAS Strategic Roadmap may be found at the following link: <https://www.epa.gov/pfas/pfas-strategic-roadmap-epas-commitments-action-2021-2024>

The EPA’s integrated approach to PFAS is focused on three central directives:

1. **Research.** Invest in research, development, and innovation to increase understanding of PFAS exposures and toxicities, human health and ecological effects, and effective interventions that incorporate the best available science.
2. **Restrict.** Pursue a comprehensive approach to proactively prevent PFAS from entering air, land, and water at levels that can adversely impact human health and the environment.
3. **Remediate.** Broaden and accelerate the cleanup of PFAS contamination to protect human health and ecological systems.

The EPA’s approach is shaped by the unique challenges to addressing PFAS contamination. The EPA cannot solve the problem of “forever chemicals” by tackling one route of exposure or one use at a time. Rather, the EPA understood that it needed to take a lifecycle approach to PFAS to make meaningful progress. PFAS pollution is not a legacy issue—these chemicals remain in use in U.S. commerce.

The risks posed by PFAS demand that the Agency attack the problem on multiple fronts at the same time. In the 2021 PFAS Roadmap, the EPA is leveraging the full range of statutory authorities to confront the human health and ecological risks of PFAS:

- Water – Clean Act (CWA)
- Solid Waste – Resource Conservation and Recovery Act (RCRA)
- Land – Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA)
- Air – Clean Air Act (CAA)
- Chemical Safety and Pollution Prevention – Toxic Substances Control Act (TSCA)

For purposes of this audit, the EPA is addressing the initiatives used in the Office of Water under the Safe Drinking Water Act, the Clean Water Act, the NPDES Permitting program and associated programs under the NPDES regulatory umbrella. The specific PFAS Roadmap commitments and updates may be found at the following link: <https://www.epa.gov/pfas/pfas-strategic-roadmap-epas-commitments-action-2021-2024#ow>

14.1.1 Office of Water

14.1.1.1 Undertake nationwide monitoring for PFAS in drinking water

The Safe Drinking Water Act (SDWA) establishes a data-driven and risk-based process to assess drinking water contaminants of emerging concern. Under SDWA, the EPA requires water systems to conduct sampling for unregulated contaminants every five years. The fifth Unregulated Contaminant Monitoring Rule (UCMR 5) was published on December 27, 2021. UCMR 5 requires sample collection for 30 chemical contaminants between 2023 and 2025 from drinking water systems using analytical methods developed by EPA and

consensus organizations. This action provides the EPA and other interested parties with scientifically valid data on the national occurrence of these contaminants in drinking water. Going forward, the EPA will continue to prioritize additional PFAS for inclusion in UCMR 6 and beyond, as techniques to measure these additional substances in drinking water are developed and validated.

14.1.1.2 Establish a national primary drinking water regulation for PFOA and PFOS

Under the SDWA, the EPA has the authority to set enforceable National Primary Drinking Water Regulations (NPDWRs) for drinking water contaminants and require monitoring of public water supplies. To date, the EPA has regulated more than 90 drinking water contaminants but has not established national drinking water regulations for any PFAS. In March 2021, the EPA published the Fourth Regulatory Determinations, including a final determination to regulate Perfluorooctanoic acid (PFOA) and Perfluorooctane sulfonic acid (PFOS) in drinking water.

On March 14, 2023, the EPA announced the proposed National Primary Drinking Water Regulation (NPDWR) for six PFAS including perfluorooctanoic acid (PFOA), perfluorooctane sulfonic acid (PFOS), perfluorononanoic acid (PFNA), hexafluoropropylene oxide dimer acid (HFPO-DA, commonly known as GenX Chemicals), perfluorohexane sulfonic acid (PFHxS), and perfluorobutane sulfonic acid (PFBS). The proposed PFAS NPDWR does not require any actions until it is finalized. EPA anticipates finalizing the regulation by the end of 2023. The EPA expects that if fully implemented, the rule will prevent thousands of deaths and reduce tens of thousands of serious PFAS-attributable illnesses.

14.1.1.3 Publish the final toxMWR assessment for GenX and five additional PFAS

On June 15, 2022, the EPA issued final health advisories (HAs) for these two per- and polyfluoroalkyl substances (PFAS): 1) hexafluoropropylene oxide (HFPO) dimer acid and its ammonium salt (referred to as “GenX chemicals”); and 2) perfluorobutane sulfonic acid and its potassium salt (PFBS). In chemical and product manufacturing, GenX chemicals are considered a replacement for perfluorooctanoic acid (PFOA), and PFBS is considered a replacement for perfluorooctane sulfonic acid (PFOS). GenX chemicals have been found in surface water, groundwater, drinking water, rainwater, and air emissions. GenX chemicals are known to impact human health and ecosystems. Scientists have observed liver and kidney toxicity, immune effects, hematological effects, reproductive and developmental effects, and cancer in animals exposed to GenX chemicals.

The Office of Research and Development is also currently developing toxMWR assessments for five other PFAS—PFBA, PFHxA, PFHxS, PFNA, and PFDA.

14.1.1.4 Publish health advisories for GenX and PFBS

PFAS contamination has impacted drinking water quality across the country, including in underserved rural areas and communities of color. SDWA authorizes EPA to develop non-enforceable and non-regulatory drinking water health advisories to help Tribes, states, and

local governments inform the public and determine whether local actions are needed to address public health impacts in these communities. Health advisories offer a margin of protection by defining a level of drinking water concentration at or below which lifetime exposure is not anticipated to lead to adverse health effects. They include information on health effects, analytical methodologies, and treatment technologies and are designed to protect all lifestages.

On June 15, 2022, the EPA issued interim updated drinking water health advisories for PFOA and PFOS that replace those EPA issued in 2016. In addition, EPA published health advisories for GenX and PFBS chemicals. These updated health advisories levels, which are based on new science, will remain in place until the EPA establishes a National Primary Drinking Water Regulation. (As identified above the proposed National Primary Drinking Water Regulations were proposed on March 14, 2023.

14.1.1.5 Restrict PFAS discharges from industrial sources through a multi-faceted Effluent Limitations Guidelines program

Effluent Limitations Guidelines (ELGs) are a powerful tool to limit pollutants from entering the nation's waters. ELGs establish national technology-based regulatory limits on the level of specified pollutants in wastewater discharged into surface waters and into municipal sewage treatment facilities. EPA has been conducting a PFAS multi-industry study to inform the extent and nature of PFAS discharges. Based on this study, EPA is taking a proactive approach to restrict PFAS discharges from multiple industrial categories. EPA plans to make significant progress in its ELG regulatory work by the end of 2024. EPA has established timelines for action—whether it is data collection or rulemaking—on the nine industrial categories in the proposed PFAS Action Act of 2021, as well as other industrial categories such as landfills. EPA's multi-faceted approach entails:

- Undertake rulemaking to restrict PFAS discharges from industrial categories where EPA has the data to do so, including the guidelines for organic chemicals, plastics and synthetic fibers (OCPSF), metal finishing, and electroplating. Proposed rule is expected in the Fall 2024 for OCPSF and Summer 2025 for metal finishing and electroplating.
- Launch detailed studies on facilities where EPA has preliminary data on PFAS discharges, but the data are currently insufficient to support a potential rulemaking. These include electrical and electronic components, textile mills, and landfills. EPA expects these studies to be complete by Fall 2022 to inform decision making about a future rulemaking by the end of 2023.
- Initiate data reviews for industrial categories for which there is little known information on PFAS discharges, including leather tanning and finishing, plastics molding and forming, and paint formulating. The EPA expects to complete these data reviews by Winter 2024 to inform whether there are sufficient data to initiate a potential rulemaking.
- Monitor industrial categories where the phaseout of PFAS is projected by 2024, including pulp, paper, paperboard, and airports.

- The EPA is conducting a POTW Influent PFAS Study to collect and analyze nationwide data on industrial discharges of PFAS to POTWs, as well as PFAS in POTW influent, effluent, and sewage sludge. The EPA will require, through an Information Collection Request (ICR), a subset of large POTWs across the United States to complete a questionnaire and collect and analyze wastewater and sewage sludge samples.

14.1.1.6 Leverage NPDES permitting to reduce PFAS discharges to waterways

The National Pollutant Discharge Elimination System (NPDES) program interfaces with many pathways by which PFAS travel and are released into the environment and ultimately impact people and water quality.

On December 5, 2022, the EPA issued the **Addressing PFAS Discharges in NPDES Permits and Through the Pretreatment Program and Monitoring Programs Memo** to the U.S. States to proactively use existing NPDES authorities to reduce discharges of PFAS at the source and obtain more comprehensive information through monitoring on the sources of PFAS and quantity of PFAS discharged by these sources. This memorandum provides EPA’s guidance to states and updates the April 28, 2022 guidance to EPA Regions for addressing PFAS discharges when they are authorized to administer the NPDES permitting program or Pretreatment program. The memo provides the following recommendations for POTW NPDES permits and Pretreatment programs:

- POTW NPDES Permits:
 - Quarterly Effluent, Influent and biosolids monitoring using EPA Method 1633
 - Recommended biosolids assessment, based on biosolids monitoring and a PFAS source reduction for IUs in the POTW’s service area, if necessary
 - Public notice of downstream drinking systems that are potentially affected by the POTW effluent when the POTW’s NPDES permit is renewed or issued.
- Pretreatment Programs:
 - Source Identification: Update IU inventory to include PFAS sources
 - Source Control: Utilize BMPS and pollution prevention to address PFAS discharges to the POTW
 - Update IU permits to required quarterly PFAS monitoring
 - Develop IU BMPS or local limits for PFAS, where authority exists through the NPDES permit limits or PFAS ELG promulgation.

14.1.1.7 Publish multi-laboratory validated analytical method for 40 PFAS

In September 2021, EPA (in collaboration with the Department of Defense) published a single-laboratory validated method to detect PFAS. The method can measure up to 40 specific PFAS compounds in eight environmental matrices (including wastewater, surface water and biosolids) and has numerous applications, including NPDES compliance

monitoring. EPA and DOD are continuing this collaboration to complete a multi-laboratory validation of the method. In response to stakeholder requests to update the method with multi-laboratory validation data as soon as practical, the EPA is releasing multiple revisions of the draft method. These revisions (past, present, and future) are outlined below. It should be noted that none of these revisions significantly changed (or are anticipated to change) the procedure.

- August 2021: EPA posted the initial draft of Method 1633 at this website using the data from the single laboratory validation.
- June 2022: Second draft of Method 1633 included clarification on several issues that the laboratories participating in the multi-laboratory validation thought were vague or confusing.
- December 2022: Third draft of Method 1633 included some multi-laboratory validation data for the wastewater matrix, which added required QC criteria for the wastewater matrix. This revision had some additional clarifications and flexibilities that were responsive to formal comments received from multiple parties.
- July 2023: Fourth draft of Method 1633 incorporates the QC acceptance criteria for all aqueous matrices (surface water, ground water, and wastewater), derived from the multi-lab validation study. A multi-laboratory validation study report (published by DoD) is available below that summarizes the results of the multi-laboratory study for these aqueous matrices.
- The Final version of EPA Method 1633 was published on January 31, 2024, and is a validated analytical method to test for 40 PFAS in wastewater, surface water, groundwater, soil, biosolids, sediment, leachate and fish tissue. The method, while final, will not be required until the EPA formally adopts it through rulemaking.

In addition, on April 8, 2022, the EPA published a new *Adsorbable Organic Fluorine (AOF)* method 1621 that can broadly screen for the presence of PFAS in water at the part per billion level. The new AOF Method 1621 provides an aggregate measurement of chemical substances that contain carbon-fluorine bonds. PFAS are a common source of organofluorines in wastewater. This new method is especially useful for understanding the presence and forms of PFAS in wastewater when used in conjunction with methods that target individual PFAS. EPA's Draft Method 1621 has successfully completed single laboratory validation.

14.1.1.8 Publish updates to PFAS analytical methods to monitor drinking water

Expected Fall 2024 SDWA requires the EPA to use scientifically robust and validated analytical methods to assess the occurrence of contaminants of emerging concern, such as an unidentified or newly detected PFAS chemical. The EPA will update and validate analytical methods to monitor additional PFAS. First, the EPA will review reports of PFAS of concern and seek to procure certified reference standards that are essential for accurate and selective quantitation of emerging PFAS of concern in drinking water samples. The

EPA will evaluate analytical methods previously published for monitoring PFAS in drinking water (EPA Methods 533 and 537.1) to determine the efficacy of expanding the established target PFAS analyte list to include any emerging PFAS. Upon conclusion of this evaluation, the EPA will complete multi-laboratory validation studies and peer review and publish updated EPA PFAS analytical methods for drinking water, making them available to support future drinking water monitoring programs.

14.1.1.9 Publish final recommended ambient water quality criteria for PFAS

Tribes and states use EPA recommended water quality criteria to develop water quality standards to protect and restore waters, issue permits to control PFAS discharges, and assess the cumulative impact of PFAS pollution on local communities. On April 28, 2022, the EPA published proposed national recommended ambient water quality criteria for PFAS to protect aquatic life.

The EPA is proposing the first Clean Water Act aquatic life criteria for perfluorooctanoic acid (PFOA) and perfluorooctane sulfonic acid (PFOS)—two of the most well-studied chemicals in this group. The criteria are intended to protect aquatic life in the United States from short-term and long-term toxic effects of PFOA and PFOS. Following the comment period, EPA intends to issue final PFOA and PFOS recommended criteria, considering public comments and any new toxicity data. States and Tribes may consider adopting the final criteria into their water quality standards or can adopt other scientifically defensible criteria that are based on local or site-specific conditions.

14.1.1.10 Monitor fish tissue for PFAS from the nation's lakes and evaluate human biomarkers for PFAS

States and Tribes have highlighted fish tissue data in lakes as a critical information need. Food and water consumption are important pathways of PFAS exposure, and PFAS can accumulate in fish tissue. In fact, EPA monitoring to date shows the presence of PFAS, at varying levels, in approximately 100 percent of fish tested in the Great Lakes and large rivers. In Summer 2022, EPA will collect fish tissue in the National Lakes Assessment for the first national study of PFAS in fish tissue in U.S. lakes. This will provide a better understanding of where PFAS fish tissue contamination is occurring, which PFAS are involved, and the severity of the problem. The new data will complement the EPA's analyses of PFAS in fish tissue and allow then EPA to better understand unique impacts on subsistence fishers, who may eat fish from contaminated waterbodies in higher quantities. EPA's preliminary analysis on whether concentrations of certain PFAS compounds in human blood could be associated with eating fish using the Centers for Disease Control and Prevention's National Health and Nutrition Examination Survey (NHANES) data found a positive correlation. Completing this analysis will help make clear the importance of the fish consumption pathway for protecting communities. EPA will continue to pursue collaboration with Tribal and federal partners to investigate this issue of mutual interest.

14.1.1.11 Finalize list of PFAS for use in fish advisory programs

The EPA will publish a list of PFAS for state and Tribal fish advisory programs that are either known or thought to be in samples of edible freshwater fish in high occurrence nationwide. This list will serve as guidance to state and Tribal fish tissue monitoring and advisory programs so that they know which PFAS to monitor and how to set fish advisories for PFAS that have human health impacts via fish consumption. This information will encourage more robust data collection from fish advisory programs and promote consistency of fish tissue PFAS monitoring results in EPA's publicly accessible Water Quality Portal. By issuing advisories for PFAS, state and Tribal programs can provide high-risk populations, including communities and individuals who depend on subsistence fishing, with more information about how to protect their health.

14.1.1.12 Finalize risk assessment for PFOA and PFOS in biosolids

Biosolids, or sewage sludge, from wastewater treatment facilities can sometimes contain PFAS. When spread on agricultural fields, the PFAS can contaminate crops and livestock. The CWA authorizes the EPA to set pollutant limits and monitoring and reporting requirements for contaminants in biosolids if sufficient scientific evidence shows that there is potential harm to human health or the environment. A risk assessment is key to determining the potential harm associated with human exposure to chemicals. The EPA will complete the risk assessment for PFOA and PFOS in biosolids by the end of 2024. The risk assessment will serve as the basis for determining whether regulation of PFOA and PFOS in biosolids is appropriate. If the EPA determines that a regulation is appropriate, biosolids standards would improve the protection of public health and wildlife health from health effects resulting from exposure to biosolids containing PFOA and PFOS.

14.2 Impact of the NPDES Initiatives on the District's Pretreatment Program

The analytical tools, rules, procedures, and methods developed by the EPA in the PFAS Strategic Roadmap and identified in §§14.1.1.1 through 14.1.1.12 are currently recommendations to identify and control non-domestic or IU sources in a POTW's service area. The requirement to control IUs will occur either when the EPA promulgates categorical Pretreatment Standards for specific IU sectors such as OCPSF, Metal Finishers or other future rulemakings, as identified in §14.1.1.5 or when the State of Colorado adopts the EPA National Water Quality Criteria for PFAS and PFOS, identified in §14.1.1.9 as State water quality standards and begin implementing these as NPDES permit limits. However, the EPA recommends the District evaluate these recommendations and determine proactive measures to identify PFAS non-domestic sources in its service area and determine appropriate level of control or compliance assistance.