



FACTSHEET
(pursuant to NAC 445A.236)

Permittee Name: NATIONAL PARK SERVICE
601 NEVADA WAY
BOULDER CITY, NV 89005

Permit Number: NS2010506

Permit Type: GROUNDWATER DISCHARGE

Designation: GROUNDWATER

New/Existing: EXISTING

Location: COTTONWOOD COVE WATER TREATMENT PLANT, CLARK
202 RAVEN NEST ROAD, COTTONWOOD COVE, NV 89046
LATITUDE: 35.483611, LONGITUDE: -114.702222
TOWNSHIP: 28 S, RANGE: 65 E, SECTION: 26

Outfall / Well Num	Outfall / Well Name	Location Type	Well Log Num	Latitude	Longitude	Receiving Water
001	MEDIA VESSEL A	External Outfall		35.4830	-114.7010	GROUNDWATER
002	MEDIA VESSEL B	External Outfall		35.4830	-114.7010	GROUNDWATER

Permit History/Description of Proposed Action

The Permittee, U. S. National Park Service, has applied for the renewal of Permit NS2010506 for the Cottonwood Cove Water Treatment Plant (CCWTP), located approximately 13 miles east of Searchlight, at 202 Raven Nest Road, in Cottonwood Cove, Clark County, Nevada. The Permittee proposes to continue to discharge wash water, generated during the monthly filter media maintenance and annual filter media replenishment, into two onsite evaporation basins.

This permit was first issued on April 20, 2010. The most recent permit was issued on August 1, 2017, and expired on July 31, 2022; the permit has been administratively continued since.

Facility Overview

The CCWTP is a water treatment plant that serves the small community and recreation area of Cottonwood Cove, which is composed of eleven permanent residences, an RV park, and convenience store. The plant is designed to treat groundwater containing naturally occurring arsenic. Water used to serve the Cottonwood Cove community is provided by three onsite water supply wells. The water is currently potable except for arsenic levels being above the maximum contaminant level (MCL) of 0.01 mg/L for drinking water as established by the Environmental Protection Agency. Recent water quality data show arsenic concentrations at 0.016 mg/L.

Groundwater (raw water) is first pumped from the three production wells, then piped to the CCWTP and into two adsorptive media vessels, Media Vessel A and Media Vessel B to treat the arsenic. Treatment consists of pre-filtration to remove sand, chlorine injection to oxidize arsenic and disinfect the water supply, adsorptive media filtration to remove arsenic, and additional chemical injection to inhibit corrosion in the

distribution system, and is then pumped into two potable water storage tanks.

Treated water is released from the storage tanks and into the two vessels to be utilized for the maintenance wash processes. The maintenance discharge flow generated consists of one washdown rinse during system start-up, along with washdown activities done during replacement with new media, and/or filter maintenance. These maintenance washdowns function primarily to "fluff" the media, by restoring consistency and eliminating channelization, with the spent filter media from the annual media replenishment being removed off site to an approved landfill. The vessel waste is composed of water from the trench drain, sand separator overflows, vessel overflow, filter to waste, and any vessel drainage. The filter maintenance wash water then flows through a mesh filter with a magnetic iron removal insert and is discharged into one of the two evaporation basins located east of the CCWTP. The two evaporation basins are each approximately 6 feet deep with a minimum freeboard of 2 feet. The basins are sized based on the monthly and annual maintenance media rinse volumes.

A manhole, in the northeast corner of the building housing the two media vessels, serves to capture all process waste flows, allowing no routing or bypass between the vessels and the evaporation basins. Sampling of the discharge is performed with a long-handled sampler, in the manhole, at both Media Vessel A (Outfall 001) and Media Vessel B (Outfall 002), with wash flow discharge then flowing directly, with no other inflow, to the filter media wash outfall and then into the evaporation basins.

The CCTWP's Operation and Maintenance Manual (O&M Manual) was last reviewed and approved by the Division on February 23, 2018. The Technical, Compliance, and Enforcement (TCE) Branch of the Bureau of Water Pollution Control requires O & M manuals be updated every two (2) permit cycles which equates to every ten (10) years. Although current in status, the O & M Manual should be updated to include the third supply well as was noted during the April 28, 2022, compliance inspection performed by the Division's Technical Compliance and Enforcement group.

Outfall Summary

Outfall 001 – This external outfall is to measure levels of Flow Rate, Arsenic, Iron, and Total Dissolved Solids in the filter maintenance wash water discharged from Media Vessel A.

Outfall 002 – This external outfall is to measure levels of Flow Rate, Arsenic, Iron, and Total Dissolved Solids found in the filter maintenance wash water discharged from Media Vessel B.

Effluent Characterization

Nevada State Network Discharge Monitoring Report (NetDMR) data, as reported from July 2019 to July 2024, was reviewed as part of this permit renewal process.

The reported levels of contaminants at the sampling locations/outfalls are detailed below:

Outfall 001 (Media Vessel A):

Arsenic (mg/L): 7 (one instance), below/no detection (two instances)
 Iron (mg/L): below/no detection (four instances, annualized reporting)
 Total Dissolved Solids (TDS) (mg/L): 646 (two instances, averaged)

Outfall 002 (Media Vessel B):

Arsenic (mg/L): below/no detection (three instances)
 Iron (mg/L): below/no detection (four instances, annualized reporting)
 Total Dissolved Solids (TDS) (mg/L): 780 (two instances, averaged)

Pollutants of Concern

Pollutants of concern are any pollutants or parameters that are believed to be present in the discharge and

could affect or alter the physical, chemical, or biological condition of the receiving water. Common pollutants of concern for the filter maintenance wash water are Arsenic, Iron, and Total Dissolved Solids.

Receiving Water

The receiving water is groundwater of the State. Depth to groundwater in the area is 300 feet below ground surface. No adverse effects are expected with discharge of this wastewater. Water quality is generally good except for elevated Arsenic levels.

Compliance History

The facility was in substantial compliance during the July 2019 to July 2024 reporting period.

Proposed Effluent Limitations

The discharge shall be limited and monitored by the Permittee as specified below.

NS OTHER - Discharge Limitations Table for Sample Location 001 (External Outfall) To Be Reported Quarterly

Discharge Limitations				Monitoring Requirements			
Parameter	Base	Quantity	Concentration	Monitoring Loc	Sample Loc	Measurement Frequency	Sample Type
Solids, total dissolved	Daily Maximum		M&R Milligrams per Liter (mg/L)	Effluent Gross ^[1]	001	Quarterly ^[2]	DISCRT
Arsenic, total (as As)	Daily Maximum		M&R Milligrams per Liter (mg/L)	Effluent Gross ^[1]	001	Quarterly ^[2]	DISCRT
Flow rate	Quarterly Average	M&R Million Gallons per Quarter (Mgal/qtr)		Effluent Gross	001	Daily When Discharging	METER
Flow rate	Daily Maximum	<= 0.035 Million Gallons per Quarter (Mgal/qtr)		Effluent Gross	001	Daily When Discharging	METER

Notes (NS OTHER - Discharge Limitations Table):

1. Collection manhole.
2. Sample when filter is maintenance washed (generally monthly, but may vary).

NS OTHER - Discharge Limitations Table for Sample Location 001 (Media Vessel A) To Be Reported Annually

Discharge Limitations				Monitoring Requirements			
Parameter	Base	Quantity	Concentration	Monitoring Loc	Sample Loc	Measurement Frequency	Sample Type
Iron, total (as Fe)	Daily Maximum		M&R Milligrams per Liter (mg/L)	Effluent Gross ^[1]	001	Annual ^[2]	DISCRT
Flow rate	Annual Total	<= 0.072 Million Gallons per Year (Mgal/yr)		Effluent Gross	001	Annual	CALCTD ^[3]

Notes (NS OTHER - Discharge Limitations Table):

1. Collection manhole.
2. Sample as filter media is replenished and rinsed (generally once per year, but may vary).
3. Record flow as annual media replenishment maintenance wash occurs.

NS OTHER - Discharge Limitations Table for Sample Location 002 (External Outfall) To Be Reported Quarterly

Discharge Limitations				Monitoring Requirements			
Parameter	Base	Quantity	Concentration	Monitoring Loc	Sample Loc	Measurement Frequency	Sample Type
Solids, total dissolved	Daily Maximum		M&R Milligrams per Liter (mg/L)	Effluent Gross ^[1]	002	Quarterly ^[2]	DISCRT
Arsenic, total (as As)	Daily Maximum		M&R Milligrams per Liter (mg/L)	Effluent Gross ^[1]	002	Quarterly ^[2]	DISCRT
Flow rate	Daily Maximum	<= 0.035 Million Gallons per Day (Mgal/d)		Effluent Gross ^[1]	002	Daily When Discharging	METER
Flow rate	Quarterly Average	M&R Million Gallons per Day (Mgal/d)		Effluent Gross	002	Daily When Discharging	METER

Notes (NS OTHER - Discharge Limitations Table):

1. Collection manhole.
2. Sample when filter is maintenance washed (generally monthly, but may vary).

NS OTHER - Discharge Limitations Table for Sample Location 002 (Media Vessel B) To Be Reported Annually

Discharge Limitations				Monitoring Requirements			
Parameter	Base	Quantity	Concentration	Monitoring Loc	Sample Loc	Measurement Frequency	Sample Type
Iron, total (as Fe)	Daily Maximum		M&R Milligrams per Liter (mg/L)	Effluent Gross ^[1]	002	Annual ^[2]	DISCRT
Flow rate	Annual Total	<= 0.072 Million Gallons per Year (Mgal/yr)		Effluent Gross	002	Annual	CALCTD ^[3]

Notes (NS OTHER - Discharge Limitations Table):

1. Collection manhole.
2. Sample as filter media is replenished and rinsed (generally once per year, but may vary).
3. Record flow as annual media replenishment maintenance wash occurs.

Summary of Changes From Previous Permit

An additional public water supply well, being an alternative and backup in nature, was brought online on November 17, 2022, and is now serving the Cottonwood Cove community. The well was added to the facility description and an O & M Manual update will be required.

Removed Outfall 001 – This external outfall is for filter media wash discharged into the evaporation basin, and updated remaining outfalls accordingly. Now Outfall 001 and Outfall 002 are based on measuring location being at the drain location thus eliminating the need for the separate outfall. Flow Rate parameters, both monthly and yearly, were added to Vessel A and Vessel B outfalls due to this being a sequence process. with flow usually going through Vessel A first, then Vessel B but can be reversed as needed.

Reporting has been changed to a quarterly time period due to the evaporation ponds now being double-lined.

Technology Based Effluent Limitations

Technology based effluent limitations are not applicable to this permit.

Water Quality Based Effluent Limitations

Water quality based effluent limitations are not applicable to this permit.

Proposed Water Quality Based Effluent Limits (monthly/weekly/daily)

Water quality based effluent limitations are not applicable to this permit.

Rationale for Permit Requirements

The flow is measured to verify permit limitations are not being exceeded and to determine when design capacity is being approached. Arsenic, iron, and TDS are monitored to assess the level of treatment being provided.

TDS and arsenic are monitored on a monthly basis due to the impact they can have on disposal alternatives, along with insuring the plant is not generating waste that is hazardous.

Iron is required to be measured on an annual basis due to the levels being below the level of detection,

negating the need for quarterly reporting.

Monitoring is also required to gain information on supernatant quality should a catastrophic leak in the drying bed occur.

Anti-backsliding

The proposed permit limit was changed to a less restrictive one, as compared to the previous permit. Based on the low level of discharges done by the facility, the reporting requirement was changed from monthly to quarterly for the outfalls.

Antidegradation

The Division has developed an antidegradation regulation that is applied on a statewide basis, and which meets the statutory requirements of Nevada's water pollution control law found at Nevada Revised Statute (NRS) 445A.520 and NRS 445A.565 and is consistent with the federal antidegradation policy found at Title 40 in the Code of Federal Regulations (CFR) § 131.12. The objective of the Division's antidegradation regulation is to prevent degradation of Nevada's surface waters and maintain the unique attributes and special characteristics and water quality associated with high-quality waters.

As this permit is for discharges to groundwater, and not surface water, the new antidegradation rule is not applicable.

Special Conditions

See Special Approvals/Conditions Table below.

SA – Special Approvals / Conditions Table

There are no Special Approval / Condition items

Discharges From Future Outfalls/ Planned Facility Changes

The Permittee does not anticipate discharges from any future outfalls or planned facility changes.

Corrective Action Sites

There are no active Bureau of Corrective Action (BCA) sites located within a one-mile radius of the discharge location.

Wellhead Protection Program

The nearest Public Water Supply (PWS) well is located approximately 5,200 feet to the northeast of the outfalls. There is another PWS well located to the northeast of the outfalls. The outfalls are not located within a Wellhead Protection Area, which represents an approximate 10-year capture zone of a well, or within a Drinking Water Protection Area, which is defined by a 3,000 foot radius around a PWS well.

Schedule of Compliance:

SOC – Schedule of Compliance Table

Item #	Description	Due Date
1	The Permittee shall submit two copies of an updated Operation and Maintenance (O&M) Manual to the Division. The O&M Manual shall be prepared in accordance with guidance document WTS-2: <i>Minimum Information Required for an Operation and Maintenance Manual for a Wastewater Treatment Plant.</i>	4/28/2025

Deliverable Schedule:

DLV– Deliverable Schedule for Reports, Plans, and Other Submittals

Item #	Description	Interval	First Scheduled Due Date
1	Quarterly DMRs	Quarterly	4/28/2025
2	Annual DMRs	Annually	1/28/2026
3	Annual Report	Annually	1/28/2026

Procedures for Public Comment:

The Notice of the Division's intent to issue a permit authorizing the facility to discharge to groundwater of the State of Nevada subject to the conditions contained within the permit, is being mailed to interested persons on our mailing list and will be posted on our website at <https://ndep.nv.gov/posts>. Anyone wishing to comment on the proposed permit can do so in writing until 5:00 P.M. **1/18/2025**, a period of 30 days following the date of the public notice. The comment period can be extended at the discretion of the Administrator.

A public hearing on the proposed determination can be requested by the applicant, any affected State, any affected interstate agency, the Regional Administrator of EPA Region IX or any interested agency, person or group of persons. The request must be filed within the comment period and must indicate the interest of the person filing the request and the reasons why a hearing is warranted. Any public hearing determined by the Administrator to be held must be conducted in the geographical area of the proposed discharge or any other area the Administrator determined to be appropriate. All public hearings must be conducted in accordance with NAC 445A.238.

The final determination of the Administrator may be appealed to the State Environmental Commission pursuant to NRS 445A.605.

Proposed Determination:

The Division has made the tentative determination to issue/re-issue the proposed 5-year permit.

Prepared by: **Melissa Marr**

Date: **12/13/2024**

Title: **Staff II Engineer**