

**ATTACHMENT J - HUMBOLDT COUNTY RESORT IMPROVEMENT DISTRICT NO. 1
INDIVIDUAL REQUIREMENTS**

1. FACILITY INFORMATION.

1.1. The Humboldt County Resort Improvement District (hereinafter Permittee or District) is the owner and operator of the Shelter Cove Wastewater Treatment Facility (hereinafter Facility), a Publicly-Owned Treatment Works (POTW). The following table summarizes administrative information related to the facility.

Table J-1. Facility Information

WDID	1B84086OHUM
Permittee	Humboldt County Resort Improvement District No. 1
Name of Facility	Shelter Cove Wastewater Treatment Facility
Facility Address	Lower Pacific Drive at Wave Drive Shelter Cove Road, Whitehorn, CA 95589 Humboldt County
Facility Contact, Title and Phone	Christopher Christianson, General Manager/CPO, (707) 223-8910 Travis Thompson, Superintendent, (707) 223-2061
Authorized Person to Sign and Submit Reports	Christopher Christianson, General Manager/CPO, (707) 223-8910 Travis Thompson, Superintendent, (707) 223-2061
Mailing Address	9126 Shelter Cove Road, Whitehorn, CA 95589
Billing Address	Same
Type of Facility	POTW
Major or Minor Facility	Minor
Threat to Water Quality	2
Complexity	B
Pretreatment Program	No
Recycled Water Production Authorized	Yes
Land Discharge Authorized	No
Facility Permitted Flow	0.17 mgd (average dry weather flow) 0.77 mgd (average wet weather flow)

Facility Design Flow	0.17 mgd (average dry weather treatment capacity) 0.77 mgd (average wet weather treatment capacity)
Permitted Initial Dilution Factor (Dm)	50:1
Instream Waste Concentration	2%
Watershed	Cape Mendocino Hydrologic Unit
Receiving Water	Pacific Ocean
Receiving Water Type	Ocean Waters

2. FACILITY DESCRIPTION

The Permittee owns and operates the Facility, a domestic wastewater collection, treatment, water recycling, and disposal facility that serves a population of approximately 693 within the Humboldt County Resort Improvement District, No. 1 in Shelter Cove, California.

2.1. Description of Wastewater and Biosolids Treatment and Controls

The Facility treats domestic and commercial wastewater and has an average dry weather design treatment capacity of 0.17 mgd, an average wet weather treatment capacity of 0.27 mgd, and a peak daily wet weather treatment capacity of 0.77 mgd. The Facility is an extended aeration, activated sludge system comprised of two oxidation ditches, two clarifiers, chlorine contact chamber, and sodium bisulfite dechlorination.

The Facility also includes a tertiary treatment filtration system for effluent reused for irrigation of the Shelter Cove Golf Course. For this process, disinfected wastewater from the chlorine contact chamber is dosed with a polymer for coagulation then routed to the filter building for filtration through either of two continuous backwash up-flow silica sand media filters. Filtered wastewater is stored in the building clearwell and then chlorinated prior to discharging to the golf course irrigation storage pond (90,000 gallons).

This Order includes requirements for the production of recycled water but does not permit the use of recycled water at this time. The Permittee must complete tasks that include completion of a tracer study on the chlorine contact basin and potentially upgrade the Facility to meet recycled water requirements in title 22 of the California Code of Regulations. In addition, the Permittee needs to develop a Recycled Water Irrigation Management Plan that also includes an agronomic rate analysis for the recycled water use. After the Permittee receives approval from the State Water Board Division of Drinking Water (DDW) to resume the use of recycled water, the Permittee will need to enroll under the Statewide Recycled Water General Order. Any conditions for the production and use of recycled water

included in the DDW acceptance letter will need to be incorporated into the District's enrollments.

During the winter period, all of the secondary treated effluent is discharged through Discharge Point 001 into the surf zone of the Pacific Ocean within the King Range National Conservation Area. During the spring, summer, and fall, some or all of the treated effluent has been discharged through Discharge Point 002 to a storage pond that supplies a spray irrigation system on the Shelter Cove Golf Course, a nine-hole golf course.

Digested stabilized sludge is dewatered using a proprietary 12-bag sludge drying unit. Sludge from the clarifiers is mixed with a polymer and placed in filter bags that allow the liquid to escape while retaining the solids. The filtrate is returned to the secondary treatment process, and dried sludge is taken to the Humboldt County solid waste transfer station for landfill disposal.

2.2. Discharge Points and Receiving Waters

Treated wastewater is discharged at Discharge Point 001 at 40° 01' 58" N latitude and 124° 04' 47" W longitude to the Pacific Ocean. The outfall consists of approximately 260 feet of 12-inch polyvinyl chloride (PVC) pipe, including three access manholes for inspection and cleaning, and one final manhole at the discharge point. The outfall itself is a pipe opening on a cliff face above the ocean surface. There is no submerged diffuser pipe connected to the outfall pipeline.

The receiving water for Discharge Point 001 (near waters of the King Range National Conservation Area) was designated by the State Water Resources Control Board (State Water Board) as an Area of Special Biological Significance (ASBS) on March 21, 1974. The California Ocean Plan prohibits waste discharges to ASBS; however, in 1983, the Regional and State Water Boards conducted public hearings regarding the discharge of treated effluent through the Permittee's outfall into the ASBS. With the concurrence of U.S. EPA, the Regional and State Water Boards found that (1) the discharge of treated wastewater was not resulting in water quality impacts, and (2) there was no practical alternative to the continued discharge of treated and disinfected wastewater to the ASBS. The agencies determined that continued discharge into the ASBS should be permitted as long as no water quality impacts occur.

Resolution No. 83-81 was adopted on October 5, 1983, and allowed an exception for the Facility's discharge to the ASBS provided that: (1) The effluent is dechlorinated prior to discharge, (2) the discharge is limited to the [then] current design capacity, (3) effluent monitoring is performed; and (4) periodic evaluations of the marine environment are conducted.

On September 20, 2007, the Regional Water Board requested that the Permittee conduct an evaluation of the marine environment. Resolution No. 83-81 did not provide any specific guidance as to the requirements of the periodic evaluations;

therefore, the September 20, 2007, letter included directives from the Regional Water Board. These directives were, in part, based upon a study conducted by the Permittee in 1983 which demonstrated that the Permittee was not impacting the marine environment. The Regional Water Board requested that a report be submitted which required effluent monitoring for Ocean Plan Table 3 pollutants, acute toxicity effluent analysis, a photographic survey of intertidal flora and fauna, an analysis of influent flow and treatment capacity, and an analysis of chlorination practices. The requested report was submitted by the Permittee in a September 2008 (2008 Report).

Based on the findings of the 2008 Report, the Regional Water Board determined that the requirements to allow the exception for the Facility’s discharge to the ASBS had been satisfied. Those findings continue to be satisfied based on the following current information:

- 2.2.1. Prior to discharge to the ocean, the effluent is dechlorinated using sodium bisulfite. During the term of the 2022 permit, chlorine residual was not detected in the effluent at a detection level of 0.05 mg/L based on daily monitoring data collected between January 2021 and December 2025. An effluent limit of 0.05 mg/L for chlorine residual is included within this enrollment to ensure that the treated wastewater is fully dechlorinated prior to discharge.
- 2.2.2. A comparison of the permittee’s annual influent flow and treatment system design capacity flows for the period of 2021-2025 demonstrates that the discharge flow remains within the design capacity of the Facility. The comparison is detailed in Table J-2 below:

Table J-2. Facility Design Criteria and Actual Discharge Flows

Flow	Units	Design	Actual 2021	Actual 2022	Actual 2023	Actual 2024	Actual 2025
Average Dry Weather	mgd	0.17	0.098	0.098	0.073	0.082	0.059
Peak Dry Weather	mgd	0.46	0.192	0.213	0.197	0.172	0.161
Average Wet Weather	mgd	--	0.134	0.141	0.174	0.155	0.066
Peak Wet Weather	mgd	0.77	0.552	0.541	0.537	0.509	0.710

- 2.2.3. During the term of the 2022 permit, settleable solids were not detected in the effluent at a detection level of 0.1 ml/L, based on daily monitoring data collected between January 2021 and December 2025. The average monthly effluent limit (AMEL) of 0.1 mg/L and Maximum daily effluent limit (MDEL) of 0.2 ml/L for settleable solids will remain applicable to this enrollment to ensure efficient operation of the treatment facility in addition to ensuring protection of aquatic life from adverse impacts of settleable material in the discharge.

2.3. Compliance Summary

The Permittee reported exceedances of effluent limitations while discharging to the Pacific Ocean during the term of Order No. R1-2022-0002, including one total coliform, one BOD₅, and one instantaneous minimum pH violations.

2.4. Planned Changes

The Permittee is also investigating the possibility of converting sections of the oxidation ditches into anoxic denitrification zones in order to remove nitrate from the effluent if this is necessary for water recycling.

The Permittee is in the process of replacing the V-notch overflow weirs on both of the secondary clarifiers and installing and programming a new SCADA system for the wastewater treatment plant and collection system.

Prior to being permitted to use recycled water, the Permittee must complete a nutrient agronomic analysis of its recycled water in order to determine whether the concentrations of nitrogen in the recycled water are within the nutrient agronomic needs of the turf at the Shelter Cove Golf or whether nitrogen concentrations in the recycled water need to be reduced.

3. REASONABLE POTENTIAL ANALYSIS (RPA)

Procedures for performing an RPA are described in section 5.3.3.1 of the Fact Sheet. A summary of the RPA results is included in Table J-3 below. The RPA for the effluent was conducted using effluent monitoring data generated from Ocean Plan Table 3 parameter monitoring and routine monitoring events conducted between January 2021 through December 2025.

Table J-3. Facility RPA Summary

Pollutant	Units	Qualifier	MEC ¹	No. Samples	No. ND ²	Co ³	Cs ⁴	X-obs ⁵	Endpoint ⁶
Arsenic	µg/L	<	5.0	2	2	8	3	<3.0	3
Cadmium	µg/L	<	5.0	2	2	1	0	<0.0980	3
Chromium VI	µg/L	<	5.0	2	2	2	0	<0.0980	3
Copper	µg/L	=	19	2	2	3	2	2.3	3
Lead	µg/L	<	5.0	2	2	2	0	<0.0980	3
Mercury	µg/L	<	1.0	2	2	0.04	0.0005	<0.0201	3
Nickel	µg/L	<	5.0	2	2	5	0	<0.0980	3
Selenium	µg/L	<	10	2	2	15	0	<0.1961	3
Silver	µg/L	<	1.0	2	2	0.7	0.16	<0.18	3
Zinc	µg/L	=	45	2	2	20	8	8.7	3
Cyanide	µg/L	<	5.00	2	2	1	0	<0.098	3
Total Chlorine Residual	µg/L	<	0.05	1369	1369	2	0	0.001	2
Ammonia (as N)	µg/L	=	120	17	16	600	0	2.35	2
Phenolic Compounds (non-chlorinated)	µg/L	<	9.6	2	2	30	0	<0.1882	3
Chlorinated Phenolics	µg/L	<	9.6	2	2	1	0	<0.1882	3
Endosulfan	µg/L	<	0.0095	2	2	0.009	0	<0.0002	3
Endrin	µg/L	<	0.0019	2	2	0.002	0	<0.0001	3
HCH	µg/L	<	0.0048	2	2	0.004	0	<0.0001	3
Acrolein	µg/L	<	2.0	2	2	220	0	<0.0392	3

Pollutant	Units	Qualifier	MEC ¹	No. Samples	No. ND ²	Co ³	Cs ⁴	X-obs ⁵	Endpoint ⁶
Antimony	µg/L	<	5.0	2	2	1,200	0	<0.0980	3
Bis(2-chloroethoxy) methane	µg/L	<	9.6	2	2	4.4	0	<0.1882	3
Bis(2-chloroisopropyl) ether	µg/L	<	24	2	2	1,200	0	<0.4706	3
Chlorobenzene	µg/L	<	1.0	2	2	570	0	<0.0196	3
Chromium (III)	µg/L	<	10	2	2	190,000	0	<0.1961	3
Di-n-butyl Phthalate	µg/L	<	9.6	2	2	3,500	0	<0.1882	3
Dichlorobenzenes	µg/L	<	1.0	2	2	5,100	0	<0.0196	3
Diethyl Phthalate	µg/L	<	9.6	2	2	33,000	0	<0.1882	3
Dimethyl Phthalate	µg/L	<	9.6	2	2	820,000	0	<0.1882	3
4,6-dinitro-2-methylphenol	µg/L	<	48	2	2	220	0	<0.9412	3
2,4-dinitrophenol	µg/L	<	48	2	2	4	0	<0.9412	3
Ethylbenzene	µg/L	<	1.0	2	2	4,100	0	<0.0196	3
Fluoranthene	µg/L	<	9.6	2	2	15	0	<0.1882	3
Hexachlorocyclopentadiene	µg/L	<	24	2	2	58	0	<0.4706	3
Nitrobenzene	µg/L	<	24	2	2	4.9	0	<0.4706	3
Thallium	µg/L	<	5.0	2	2	2	0	<0.0980	3
Toluene	µg/L	<	1.00	2	2	85,000	0	<0.0196	3
Tributyltin	µg/L	<	2.9	2	2	0.0014	0	<0.0569	3
1,1,1-trichloroethane	µg/L	<	1.0	2	2	540,000	0	<0.0196	3
Acrylonitrile	µg/L	<	2.0	2	2	0.1	0	<0.0392	3

Pollutant	Units	Qualifier	MEC ¹	No. Samples	No. ND ²	Co ³	Cs ⁴	X-obs ⁵	Endpoint ⁶
Aldrin	µg/L	<	0.0048	2	2	0.000022	0	<0.000094	3
Benzene	µg/L	<	1.0	2	2	5.9	0	<0.0196	3
Benzidine	µg/L	<	48	2	2	0.000069	0	<0.9412	3
Beryllium	µg/L	<	1.0	2	2	0.033	0	<0.0196	3
Bis(2-chloroethyl) Ether	µg/L	<	24	2	2	0.045	0	<0.4706	3
Bis(2-ethylhexyl) Phthalate	µg/L	<	9.6	2	2	3.5	0	<0.1882	3
Carbon Tetrachloride	µg/L	<	1.0	2	2	0.9	0	<0.0196	3
Chlordane	µg/L	<	0.048	2	2	0.000023	0	<0.0009	3
Chlorodibromomethane	µg/L	=	3.4	2	2	8.6	0	0.067	3
Chloroform	µg/L	=	76.1	2	2	130	0	1.49	3
DDT	µg/L	<	0.0095	2	2	0.00017	0	<0.00019	3
1,4-Dichlorobenzene	µg/L	<	1.0	2	2	18	0	<0.0196	3
3,3'-Dichlorobenzidine	µg/L	<	9.6	2	2	0.0081	0	<0.1882	3
1,2-Dichloroethane	µg/L	<	1.0	2	2	28	0	<0.0196	3
1,1-Dichloroethylene	µg/L	<	1.0	2	2	0.9	0	<0.0196	3
Dichlorobromomethane	µg/L	<	1.0	2	2	6.2	0	<0.0196	2
Dichloromethane	µg/L	<	2.0	2	2	450	0	<0.0392	3
1,3-Dichloropropene	µg/L	<	1.0	2	2	8.9	0	<0.0196	3
Dieldrin	µg/L	<	0.0048	2	2	0.00004	0	<0.00009	3
2,4-Dinitrotoluene	µg/L	<	9.6	2	2	2.6	0	<0.1882	3
1,2-Diphenylhydrazine	µg/L	<	9.6	2	2	0.16	0	<0.1882	3

Pollutant	Units	Qualifier	MEC ¹	No. Samples	No. ND ²	Co ³	Cs ⁴	X-obs ⁵	Endpoint ⁶
Halomethanes	µg/L	<	2.0	2	2	130	0	<0.0392	3
Heptachlor	µg/L	<	0.0019	2	2	0.00005	0	<0.00004	3
Heptachlor Epoxide	µg/L	<	0.0095	2	2	0.00002	0	<0.00019	3
Hexachlorobenzene	µg/L	<	9.6	2	2	0.00021	0	<0.1882	3
Hexachlorobutadiene	µg/L	--	9.6	2	2	14	0	<0.1882	3
Hexachloroethane	µg/L	<	9.6	2	2	2.5	0	<0.1882	3
Isophorone	µg/L	<	9.6	2	2	730	0	<0.1882	3
N-Nitrosodimethylamine	µg/L	<	9.6	2	2	7.3	0	<0.1882	3
N-Nitrosodi-N-Propylamine	µg/L	<	9.6	2	2	0.38	0	<0.1882	3
N-Nitrosodiphenylamine	µg/L	<	9.6	2	2	2.5	0	<0.1882	3
PAHs	µg/L	<	10	2	2	0.0088	0	<0.1961	3
PCBs	µg/L	<	0.095	2	2	0.000019	0	<0.0019	3
TCDD equivalents	µg/L	<	0.64E-06	2	2	3.9E-09	0	1.3E-08	3
1,1,2,2-Tetrachloroethane	µg/L	<	1.0	2	2	2.3	0	<0.0196	3
Tetrachloroethylene	µg/L	<	1.0	2	2	2	0	<0.0196	3
Toxaphene	µg/L	<	0.095	2	2	0.00021	0	<0.00186	3
Trichloroethylene	µg/L	<	1.0	2	2	27	0	<0.0196	3
1,1,2-Trichloroethane	µg/L	<	1.0	2	2	9.4	0	<0.0196	3
2,4,6-Trichlorophenol	µg/L	<	9.6	2	2	0.29	0	<0.1882	3
Vinyl Chloride	µg/L	<	1.0	2	2	36	0	<0.0196	3

Pollutant	Units	Qualifier	MEC ¹	No. Samples	No. ND ²	Co ³	Cs ⁴	X-obs ⁵	Endpoint ⁶
<u>Table Notes</u>									
1. MEC = Maximum Effluent Concentration									
2. ND = Non-Detected									
3. Co = The concentration (water quality objective) to be met at the completion of initial dilution (from Table 3 of the 2019 Ocean Plan).									
4. Cs = The background seawater concentrations (from Table 5 of the 2019 Ocean Plan).									
5. X-obs = The maximum concentration after complete mixing, calculated according to Step 4 of Appendix VI of the Ocean Plan using the permitted dilution ratio (Dm) of 50 as follows: $X\text{-obs} = (C_e + D_m * C_s) / (D_m + 1)$, unless otherwise noted.									
6. RPA Results:									
Endpoint 1 = An effluent limitation must be developed for the pollutant. Monitoring is required.									
Endpoint 2 = An effluent limitation is not required for the pollutant. Monitoring may be required as appropriate.									
Endpoint 3 = RPA is inconclusive. Less than 3 detects or greater than 80% ND.									

3.1. Water Quality-Based Effluent Limitations

Based on results of the RPA, performed in accordance with methods of the Ocean Plan for discharges to the Pacific Ocean, the Regional Water Board is not establishing WQBELs for any additional Ocean Plan Table 3 pollutants.

3.2. Facility Specific Effluent Limitation Summary

Effluent limitations applicable to the Shelter Cove Wastewater Treatment Facility, for discharges from Discharge Point 001 (Monitoring Location EFF-001) are as follows:

Table J-4. Facility Specific Effluent Limitations – Discharge Point EFF-001

Parameter	Units	Average Monthly	Average Weekly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum	Six-Month Median
Biochemical Oxygen Demand 5-day @ 20°C (BOD ₅)	mg/L	30	45	--	--	--	--
Total Suspended Solids (TSS)	mg/L	30	45	--	--	--	--
pH	s.u.	--	--	--	6.0	9.0	--
Oil and Grease	mg/L	25	40	--	--	75	--
Turbidity	NTU	75	100	--	--	225	--
Settleable Solids	mL/L	0.1	--	0.2	--	--	--
Total Residual Chlorine ¹	mg/L	--	--	0.05	--	--	--

Table Notes

1. There shall be no detectable levels of chlorine in effluent discharged to the Pacific Ocean through Discharge Point 001 using the spectrophotometric DPD method 4500-CL G, or equivalent. See section 8.13 of this General Order regarding compliance with chlorine residual effluent limitations.

3.2.1. **Percent Removal:** The average monthly percent removal of BOD₅ and total suspended solids shall not be less than 85 percent. Percent removal shall be determined from the monthly average value of influent wastewater concentration in comparison to the monthly average value of effluent concentration for the same constituent over the same time period as measured at Monitoring Locations INF-001 and EFF-001, respectively.

3.2.2. **Disinfection.** Disinfected effluent discharged from the Facility through Discharge Point 001 to the Pacific Ocean shall not contain bacteria exceeding the following concentrations, as measured at Monitoring Location EFF-001:

3.2.2.1. **Enterococci**

3.2.2.1.1. The 6-week rolling geometric mean of enterococci shall not exceed 30 colony forming units (CFU) per 100 mL; and

3.2.2.1.2. Not more than 10 percent of the samples collected in a calendar month exceed an MPN of 110 per 100 mL.

3.2.2.2. **Total Coliform Bacteria**

3.2.2.2.1. The median value of total coliform bacteria shall not exceed an MPN of 70 per 100 mL in a calendar month; and

3.2.2.2.2. Not more than 10 percent of the samples collected in a calendar month exceed an MPN of 230 per 100 mL.

3.2.2.3. **Fecal Coliform**

3.2.2.3.1. The 30-day geometric mean of fecal coliform density not to exceed 200 per 100 mL;

3.2.2.3.2. No sample shall exceed an MPN of 400 per 100 mL.

3.2.3. **Whole Effluent Toxicity (WET)**

There are two types of WET tests – acute and chronic. An acute toxicity test is conducted over a short time period and measures mortality. A chronic test is conducted over a longer period of time and may measure mortality, reproduction, and/or growth. The in-stream waste concentration for chronic toxicity for the Shelter Cove Wastewater Treatment Plant is 2 percent effluent. The adjusted chronic toxicity value unit for the City of Crescent City is 51.

Compliance with the accelerated monitoring and TRE provisions shall constitute compliance with the chronic aquatic toxicity requirements, as specified in the MRP (Attachment E, sections 5.1 and 5.2).

4. **RECYCLED WATER PRODUCTION**

The Shelter Cove Wastewater Treatment Plant is not authorized to produce recycled water under this General Order until the Permittee receives approval of a title 22 Recycled Water Engineering Report from the State Water Board Division of Drinking Water (DDW) and completes the permitting process for the use of recycled water through enrollment under State Water Board Order WQ 2016-0068-DDW, Water

Reclamation Requirements for Recycled Water Use (Recycled Water General Order).

LAND DISCHARGE SPECIFICATIONS

The Shelter Cove Wastewater Treatment Plant is not authorized to discharge to land under this General Order.