

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD  
CENTRAL VALLEY REGION

ORDER R5-2019-0085

WASTE DISCHARGE REQUIREMENTS

FOR

TEJON-CASTAC WATER DISTRICT AND TEJON RANCHCORP  
TEJON MOUNTAIN VILLAGE WATER RESOURCE RECOVERY FACILITY  
KERN COUNTY

**FINDINGS**

The California Regional Water Quality Control Board, Central Valley Region (Central Valley Water Board) finds that:

**Introduction**

1. On 6 December 2018, Dexter Wilson Engineering, Inc. submitted a Customized Design Report and a Report of Waste Discharge (RWD), on behalf of the Tejon-Castac Water District and the Tejon Ranchcorp, to apply for waste discharge requirements (WDRs) for the proposed Tejon Mountain Village Water Resource Recovery Facility (WRRF or Facility). An updated RWD was submitted on 22 February 2019 and supplemental information for the RWD was provided on 24 June 2019 and 8 July 2019.
2. The Facility will receive and treat domestic wastewater generated from the proposed Tejon Mountain Village. Tejon Mountain Village will be a resort, residential, second home community located in southwestern Kern County and east of the Interstate 5 and Lebec Road interchange as shown in **Attachment A**, which is attached hereto and made part of this Order by reference. Tejon Mountain Village will be about 40 miles south of Bakersfield, and about 60 miles north of Los Angeles. The property comprises approximately 26,400 acres, of which 5,082 acres can be developed with a mix of residential, commercial, and recreational uses.
3. Tejon Ranchcorp currently owns the land on which the Facility or WRRF will be constructed. According to the RWD, Tejon-Castac Water District will take ownership and operation of the Facility upon the completion of the construction of the Facility. Until the change in land ownership is completed and for the purposes of this Order, Tejon Ranchcorp and Tejon-Castac Water District are collectively referred to in singular form as "Discharger." Except as otherwise expressly provided herein, Tejon Ranchcorp and Tejon-Castac Water District are each jointly responsible for compliance with the WDRs prescribed herein. Once Tejon-Castac Water District acquires ownership of the Facility/WRRF, Central Valley Water Board staff will prepare and process a Change of Ownership

request to document that the Facility is solely owned by Tejon-Castac Water District.

4. The proposed Tejon Mountain Village is anticipated to be constructed in six phases, each phase with its own Tentative Tract Map (TTM). The first phase (TTM #1) was approved by Kern County for 752 lots, two clubhouse facilities, a hotel site, and several public facilities. Approximately half of the development and the majority of the non-residential development are anticipated to be constructed in the first 10 years.
5. Tejon Ranchcorp proposes to construct the WRRF adjacent to Interstate 5 along the western property boundary as shown on **Attachment B**, which is attached hereto and made part of this Order by reference. The WRRF will be constructed at an approximate latitude and longitude of 34.82812°, -118.86613°.
6. On 6 December 2018, Dexter Wilson Engineering, Inc., on behalf the Discharger, submitted a Title 22 Engineering Report for the reuse of tertiary-treated effluent to supplement irrigation needs for the project. Due to comments from Central Valley Water Board staff and State Water Resources Control Board's Division of Drinking Water (DDW) staff, Dexter Wilson Engineering, Inc., submitted a revised Title 22 Report on 22 February 2019 and on 8 May 2019. On 18 July 2019, DDW issued a conditional acceptance letter (DDW Conditional Letter) of the revised 8 May 2019 Title 22 Engineering Report.

### **Proposed Facility and Discharge**

7. The WRRF will be designed to produce tertiary-treated disinfected effluent for reuse within the proposed Tejon Mountain Village. The WRRF will have an annual average design treatment capacity of about 0.540 million gallons per day (mgd) at full build out, and Phase 1 will have an annual average design treatment capacity of up to 0.220 mgd. The Discharger has indicated that the WRRF will be built in four phases while the Tejon Mountain Village development will be built in six phases. The estimated volume of wastewater generated in gallons per day (gpd) during each proposed phase of the Tejon Mountain Village development and the treatment capacities for each phase of the WRRF are shown in Table 1.

**Table 1 - Wastewater Generation and Treatment Capacity**

<b>Development Phase</b>	<b>Wastewater Generated (gpd)</b>	<b>Corresponding WRRF Phase</b>	<b>WRRF Capacity (gpd)</b>
TTM-1	143,000	Phase 1	220,000
TTM-2	236,000	Phase 2	330,000
TTM-3	323,400	Phase 3	440,000
TTM-4	368,400	Phase 3	440,000
TTM-5	437,300	Phase 4	540,000
TTM-6	540,000	Phase 4	540,000

8. The overall footprint of the WRRF will comprise about three acres, which will be divided between an access area, an influent pump station and screening area, biological treatment tanks, an effluent processing area, an effluent storage tank, and an emergency storage pond, excluding the winter storage ponds. A process flow diagram for the proposed Tejon Mountain Village WRRF is included as **Attachment C** (incorporated herein). The treatment process will consist of influent pumping, screening, equalization, two-stage aeration tanks, tertiary cloth media filtration, and an ultraviolet light (UV) disinfection system supplemented by chlorination disinfection.
9. A sequencing batch reactor (SBR) system will be constructed to provide secondary biological treatment of the wastewater. Multiple basins will be installed in parallel to allow for continuous processing of the influent flow, and a post-decant equalization tank will further treat the influent following the SBR. The Phase I SBR will consist of two 30-foot by 37-foot SBR reactors with depths of 10 to 14 feet below the ground surface (bgs). Each tank will have an overall depth of 16 feet bgs to allow for a minimum of two feet of freeboard. The tanks will have minimum and maximum operating volumes of 83,000 and 116,240 gallons, and a decant volume of 33,240 gallons per batch. According to the Title 22 Engineering Report, this system will provide both nitrification and denitrification of the wastewater.
10. After the SBR system, effluent will be gravity fed through cloth media filters (up to six at full buildout). The filtered effluent will then be disinfected using an open-channel UV disinfection system.
11. In the event the wastewater quality is not suitable for recycled water use, a 600,000-gallon lined emergency storage basin(s) will be constructed and used to re-route the effluent back through the treatment system for treatment for Phase 1. The project will provide 1.25 million gallons of emergency storage at full build out. According to the Design Report, the emergency storage basins are to be lined with a 45-millimeter polypropylene reinforced geosynthetic liner.

12. During winter months when Facility flows exceed recycled water demand, tertiary-treated disinfected effluent will be stored in lined winter storage basins. The June 2019 RWD notes the winter storage basins were sized for the peak wet year event and, for full buildout, 201 acre-feet or about 114 days of storage is needed. For Phase 1, 84.6 acre-feet of storage is needed.
13. The May 2019 Title 22 Engineering Report includes the sizing criteria for the components of the proposed WRRF, which are summarized in Table 2 below.

**Table 2 - WRRF Treatment Systems**

<b>WRRF Equipment</b>	<b>Phase 1</b>	<b>Phase 2</b>	<b>Phase 3</b>	<b>Phase 4 (Full Buildout)</b>
<b>WRRF Treatment Capacity (Average Daily Flow)</b>	0.22 mgd	0.33 mgd	0.44 mgd	0.54 mgd
<b>Emergency Storage</b>	600,000 gallons	600,000 gallons	1.25 million gallons	1.25 million gallons
<b>Equalization Tank (design capacity)</b>	50,000 gallons (0.4 mgd)	100,000 gallons (0.6 mgd)	150,000 gallons (0.8 mgd)	250,000 gallons (1.0 mgd)
<b>SBR System (Design Capacity)</b>	2 Tanks (0.4 mgd)	3 Tanks (0.6 mgd)	4 Tanks (0.8 mgd)	5 Tanks (1.0 mgd)
<b>Cloth Filters</b>	3	4	5	6
<b>UV Disinfection Banks</b>	3 Banks	4 Banks	5 Banks	5 Banks
<b>Effluent Winter Storage (Acre-Feet)</b>	50.4	123.4	162.5	192.5

14. Source water will be primarily water from the California Aqueduct from the Beartrap Turnout, which will be treated via an onsite water treatment plant. Untreated source water will supplement the Facility's effluent when the irrigation demand exceeds wastewater flows at the Facility. Table 3 below provides a summary of the anticipated quality of the source water.

**Table 3 - Source Water Quality**

<b>Constituent</b>	<b>Concentration</b>
TDS	350 mg/L
EC	588 µmhos/cm
Turbidity	5.2 NTU
TKN	0.75 mg/L

Constituent	Concentration
Ammonia Nitrogen	0.04 mg/L
Nitrate as Nitrogen	0.8 mg/L
Alkalinity	85 mg/L
Calcium	29.5 mg/L
Chloride	77 mg/L
Sodium	71 mg/L
Sulfate	68 mg/L
Arsenic	7 µg/L
Iron	93 µg/L

15. Table 4 summarizes the anticipated influent quality for the WRRF. Loadings are expressed in pounds per day (lbs/day).

**Table 4 - Anticipated Influent Quality and Loading**

Constituent	Concentration (mg/L)	Phase 1 Loading (lbs/day)	Phase 4 Loading (lbs/day)
Total Suspended Solids (TSS)	330	303	764
Biochemical Oxygen Demand (BOD)	320	294	916
Total Kjeldahl Nitrogen (TKN)	50	46	152

16. Table 5 summarizes the anticipated effluent quality for the WRRF. The estimated values for the source water are shown in one column, the tertiary-treated effluent is shown in a second column, and the estimated values of the tertiary-treated effluent blended with source water (California Aqueduct) is shown in another.

**Table 5 - Anticipated Effluent Quality**

Constituent	Units	Source	Treated	Blended
BOD	mg/L	na	<10	<10
TSS	mg/L	na	<10	<10
Nitrate as nitrogen	mg/L	0.80	<10	<10
TKN	mg/L	0.75	<7.5	<5.3
Ammonia Nitrogen	mg/L	0.04	<4.0	<2.8
Total Dissolved Solids (TDS)	mg/L	350	650	475
Electrical Conductivity (EC)	µmhos/cm	588	1,088	797
Alkalinity	mg/L	85	176	123

Constituent	Units	Source	Treated	Blended
Calcium	mg/L	29.5	39	34
Chloride	mg/L	77	110	91
Sodium	mg/L	71	129	95
Sulfate	mg/L	68	88	76
Arsenic	µg/L	7	20	12
Iron	µg/L	93	300	180

17. Tertiary-treated effluent will gravity flow to a pump station to be used for landscape and agricultural areas (Use Areas). During the winter months when effluent flows exceed the irrigation demand, treated effluent will be diverted to winter storage ponds. The Title 22 Reports indicate the Tejon Mountain Village irrigation demand will be 1,447-acre feet per year over 557 acres of land (at full buildout). The May 2019 Title 22 Report included a water balance in Appendix A that summarizes the estimated monthly recycled water use for the project during a 100-year annual average rainfall year. The net irrigation demand listed accounts for rainfall. This information is summarized in Table 6 below.

**Table 6 - Irrigation Use and Storage Summary (Full Buildout)**

Month	Effluent Production (acre-feet)	Irrigation Demand (acre-feet)	Net Irrigation Demand (acre-feet)	Maximum Amount in Storage (acre-feet)
October	51.4	92.6	47.8	25.7
November	49.7	60.1	48.1	30.8
December	51.4	43.0	25.0	58.9
January	51.4	53.1	15.4	101.2
February	46.4	70.5	5.0	156.5
March	51.4	116.5	33.8	172.0
April	49.7	143.6	52.6	188.1
May	51.4	154.1	69.6	182.1
June	49.7	192.0	192.0	142.2
July	51.4	186.5	186.5	0
August	51.4	159.81	159.8	0
September	49.7	96.33	96.3	0
<b>Totals</b>	<b>605.0</b>	<b>1447.0</b>	<b>931.9</b>	<b>N/A</b>

### **Site-Specific Conditions**

18. The project falls within the Tehachapi Mountains with elevations that range from about 2,500 to 5,400 feet above mean sea level (MSL). The area around the proposed WRRF is relatively flat with an elevation of about 3,600 feet above MSL with a slight slope to the east.
19. Based on the 26 September 2008 Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map (Map No. 06029C3878E) the 3.7 acres that contain the WRRF is in a Special Flood Hazard Area (100-year flood plain). The WRRF and adjacent areas will be protected by an earthen levee required by a Conditional Letter of Map Revision processed with FEMA. Upon construction of the levee, and prior to operation of the WRRF, a final Letter of Map Revision will be provided to amend the Flood Insurance Rate Map and remove the WRRF site and adjacent areas from the Special Flood Hazard Area.
20. Areal soils consist of unconsolidated alluvial deposits of interbedded layers of sand, gravel, silt, sandy clay, clay and localized cobble zones. According to the Web Soil Survey published by the United States Department of Agriculture, Natural Resources Conservation Service, soils in the vicinity of the WRRF were not surveyed as access to the area was denied. The soils in the area of the TTM-1 development consist primarily of the Walong sandy loam, with lesser amounts of the Tunis Walong complex, and the Steuber sandy loam. The parent material for the Tunis-Walong complex and Walong and Steuber sandy loams is weathered from gneiss and granite bedrock, which is found at about 18 to 22 inches bgs. The soil is somewhat excessively drained with moderately high to high saturated conductivity and very low available water storage.
21. The Lebec area is characterized as semi-arid with hot dry summers and cool winters. Annual precipitation in the vicinity of the WRRF averages approximately 12.8 inches of rain and 5.7 inches of snow. The 100-year annual precipitation is 30.48 inches per year. The reference evapotranspiration is approximately 60 inches per year.
22. The surrounding land use is primarily undeveloped open space that is used for cattle grazing and ranching. Interstate 5 is present along the western site boundary and the community of Lebec is about 0.75 miles north of the proposed WRRF. The Tejon Ranch Equestrian Center will be adjacent and east of the WRRF. The Northbound Lebec Roadside Rest Area and its sewage disposal ponds will be about 2,000 feet southwest of WRRF. Castac Lake will be about 1 mile east of the proposed WRRF.

### Groundwater Conditions

23. The Discharger collected groundwater samples in June 2018 from seven groundwater monitoring wells. Four of the wells are within the Development Phase 1 area (TTM #1), while the other three are downgradient of the proposed Development Phase 4 area and downstream of the Castac Lake outlet. The depth to groundwater ranged from 14 to 59 feet bgs. The averages of the June 2018 groundwater sampling event are shown in Table 7 with the range of detections shown below in parentheses. The ranges of detections were not provided for arsenic, boron, total chromium, and manganese, so only the average results are shown for these constituents.

**Table 7 - Groundwater Quality Data**

Constituent	Units	Result
EC	µmhos/cm	866 (624 – 948)
TDS	mg/L	580 (420 – 650)
Nitrate (as N)	mg/L	3.69 (0.03 – 6.8)
TKN	mg/L	Not detected
Chloride	mg/L	24 (16 – 29)
Sulfate	mg/L	108 (43 – 160)
Sodium	mg/L	55 (20 – 77)
Calcium	mg/L	80 (71 – 99)
Magnesium	mg/L	25 (12 – 37)
Bicarbonate	mg/L	331 (270 – 380)
Alkalinity (as CaCO <sub>3</sub> )	mg/L	271 (220 – 310)
Hardness	mg/L	304 (230 – 350)
Arsenic	µg/L	3.0
Iron	µg/L	243
Manganese	µg/L	3.9



24. The maximum values for EC and TDS exceed applicable recommended secondary maximum contaminant levels (MCLs) of 900  $\mu\text{mhos/cm}$  and 500 mg/L, respectively. Arsenic and manganese concentrations in groundwater are less than the applicable primary MCL of 10  $\mu\text{g/L}$  for arsenic and the recommended secondary MCL of 50  $\mu\text{g/L}$  for manganese.

### **Basin Plan, Beneficial Uses, and Regulatory Considerations**

25. The operative *Water Quality Control Plan for the Tulare Lake Basin, 3rd Ed.* (Basin Plan) designates beneficial uses, establishes water quality objectives (WQOs), contains implementation plans and policies for protecting waters of the basin, and incorporates, by reference, plans and policies adopted by the State Water Resources Control Board (State Water Board). In accordance with Water Code section 13263, subdivision (a), these WDRs implement the Basin Plan.
26. The Tejon Mountain Village and the associated WRRF are in the Grapevine Hydrologic Unit (No. 556.00), specifically in the San Emigdio Hydrologic Area (No. 556.30), as depicted on hydrologic maps prepared by the State Water Board in August 1986. The discharge will be to lined ponds and then used for irrigation of green scape areas, where drainage is expected to be contained onsite. Natural surface drainage is by sheet flow to Grapevine Creek, which discharges to the South Valley Floor Hydrologic Unit (No. 557.00). The designated beneficial uses of Valley Floor Waters are agricultural and industrial service and process supply; water contact and non-contact water recreation; wildlife and warm freshwater habitat; groundwater recharge; and preservation and enhancement of rare, threatened, and endangered species.
27. The Tejon Mountain Village is in the Castac Lake Valley Satellite Basin, which is south of Detailed Analysis Unit (DAU) No. 261 of the Kern County Basin. The Basin Plan designated the beneficial uses of groundwater in Castac Lake Valley Satellite Basin as municipal and domestic supply (MUN), agricultural supply (AGR), and industrial service supply (IND).
28. The Basin Plan establishes narrative WQOs for chemical constituents, tastes and odors, and toxicity in groundwater. It also sets forth a numeric WQO for total coliform organisms.
29. The Basin Plan's numeric WQO for bacteria requires the most probable number (MPN) of coliform organisms over any seven-day period shall be less than 2.2 per 100 mL in MUN-designated groundwater.
30. The Basin Plan identifies the greatest long-term problem facing the entire Tulare Lake Basin is the increase in salinity in groundwater, which has accelerated due to the intensive use of soil and water resources by irrigated agriculture. The Basin Plan establishes several salt management requirements, including:

- a. The incremental increase in salts from use and treatment must be controlled to the extent possible. The maximum electrical conductivity (EC) in the discharge shall not exceed the EC of the source water plus 500  $\mu\text{mhos/cm}$ . When the source water is from more than one source, the EC shall be a weighted average of all sources.
  - b. Discharges to areas that may recharge good quality groundwater shall not exceed an EC of 1,000  $\mu\text{mhos/cm}$ , a chloride content of 175 mg/L, or a boron content of 1.0 mg/L.
31. The Basin Plan's narrative WQOs for chemical constituents, at a minimum, require MUN-designated waters to meet the MCLs specified in Title 22. The Basin Plan recognizes that the Central Valley Water Board may apply limits more stringent than MCLs to ensure that waters do not contain chemical constituents in concentrations that adversely affect beneficial uses.
  32. The narrative toxicity objective requires that groundwater be maintained free of toxic substances in concentrations that produce detrimental physiological responses in human, animal, plant, or aquatic life associated with designated beneficial uses.
  33. Quantifying a narrative WQO requires a site-specific evaluation of those constituents that have the potential to impact water quality and beneficial uses. The Basin Plan states that when compliance with a narrative objective is required to protect specific beneficial uses, the Central Valley Water Board will, on a case-by-case basis, adopt numerical limitations in order to implement the narrative objective.
  34. In the absence of specific numerical water quality limits, Basin Plan methodology is to consider any relevant published criteria. General salt tolerance guidelines, such as *Water Quality for Agriculture* by Ayers and Westcot and similar references indicate that yield reductions in nearly all crops are not evident when irrigation water has an electrical conductivity (EC) less than 700  $\mu\text{mhos/cm}$ . There is, however, an eight- to ten-fold range in salt tolerance for agricultural crops, and the appropriate salinity values to protect agriculture in the Central Valley are considered on a case-by-case basis. It is possible to achieve full yield potential with waters having EC up to 3,000  $\mu\text{mhos/cm}$  if the proper leaching fraction is provided to maintain soil salinity within the tolerance of the crop.

### **SALT AND NITRATE CONTROL PROGRAMS**

35. The Central Valley Water Board adopted Basin Plan amendments incorporating new programs for addressing ongoing salt and nitrate accumulation in the Central Valley at its 31 May 2018 Board Meeting (Salt and Nitrate Control Programs or SNCP). These programs, once effective, could change how the

Central Valley Water Board permits discharges of salt and nitrate. For nitrate, dischargers that are unable to comply with stringent nitrate requirements will be required to take on alternate compliance approaches that involve providing replacement drinking water to persons whose drinking water is affected by nitrates. Dischargers could comply with the new nitrate program either individually or collectively with other dischargers. For salinity, dischargers that are unable to comply with stringent salinity requirements would instead need to meet performance-based requirements and participate in a basin-wide effort to develop a long-term salinity strategy for the Central Valley. This Order may be amended or modified to incorporate any newly applicable requirements.

36. The stakeholder-led Central Valley Salinity Alternatives for Long-Term Sustainability (CV-SALTS) has been coordinating efforts to implement new salt and nitrate management strategies. The Board expects dischargers that may be affected by new salt and nitrate management policies to coordinate with the CV-SALTS initiative.

#### **Antidegradation Analysis**

37. The State Water Board's *Statement of Policy with Respect to Maintaining High Quality Waters in California*, Resolution 68-16 (Antidegradation Policy), prohibits degradation of groundwater unless it is demonstrated that such degradation:
  - a. Will not unreasonably affect present and anticipated beneficial uses;
  - b. Will not result in water quality less than that prescribed in state and regional policies (including violation of one or more WQOs);
  - c. Will be minimized by the discharger through best practicable treatment or control (BPTC) to minimize degradation; and
  - d. Will be consistent with the maximum benefit to the people of the State.
38. Effluent will be blended with source water for use as irrigation water. Prior to blending, treated effluent will be stored in synthetically lined pond(s). The June 2019 Title 22 Report included an analysis of the anticipated results after the blending of effluent with the source water. Table 8 below presents the anticipated blended effluent source water concentrations alongside of treated effluent, source water, and groundwater results.

**TABLE 8 – EFFLUENT AND GROUNDWATER RESULTS**

Constituent	Units	Treated Effluent	Blended Effluent	Groundwater	Water Quality Objectives
Total Nitrogen	mg/L	<10	<10	3.3	10
TKN	mg/L	7.5	<5.3	---	---
Ammonia Nitrogen	mg/L	4.0	<2.8	ND	---
TDS	mg/L	650	475	580	500
EC	µmhos/cm	1,088	797	866	900
Alkalinity	mg/L	176	123	271	---
Calcium	mg/L	39	34	80	---
Chloride	mg/L	110	91	24	250
Sodium	mg/L	129	95	55	---
Sulfate	mg/L	88	76	108	250
Arsenic	µg/L	20	12	3	10
Iron	µg/L	300	180	243	---

39. Based on the data presented above, the constituents of concern that have the potential to degrade groundwater underlying the proposed Tejon Mountain Village and the WRRF include salinity (EC, TDS, sodium, chloride) and arsenic as discussed below.
- a. **Salinity (EC, TDS, Sodium, and Chloride).** The average EC and TDS concentration in the treated effluent exceeds the recommended secondary MCLs for electrical conductivity (900 µmhos/cm) and total dissolved solids (500 mg/L) and is higher than the average results for EC and TDS in groundwater. The average chloride concentrations in both the treated and blended effluent exceeds the concentrations in the underlying groundwater. While the chloride concentration may degrade the quality of the underlying groundwater, the estimated effluent concentrations are well below the recommended secondary MCL of 250 mg/L as well as the Basin Plan limit of 175 mg/L. Therefore, any potential degradation should not cause chloride concentrations in groundwater to exceed the water quality objectives. An MCL has not been established for sodium, but the values presented do not appear to cause a significant threat to the underlying groundwater quality.
  - b. **Arsenic.** The average arsenic concentrations in the groundwater monitoring wells is reported to be 3.0 micrograms per liter (µg/L) and the average arsenic concentration reported for the source water is 7.0 µg/L. However, the June 2019 Title 22 Report indicate the effluent concentration of arsenic will be 20 µg/L (as shown in Table 8), which is twice the MCL of 10 µg/L (0.01 mg/L). The source for the information is noted to be, *Wastewater Engineering Treatment and Reuse, Metcalf and Eddy, 2003*. Table 4-2 of

the June 2019 Title 22 Report estimates the arsenic concentration in recycled water to be 12 µg/L. Both values exceed the primary MCL of 10 µg/L. However, the reported values are based on references as no effluent data is currently available.

The Monitoring and Reporting Program (MRP) will include arsenic influent and effluent monitoring to better characterize arsenic concentrations at the Facility. Considering the treatment and control measures listed in Finding 40, including lining of the effluent storage ponds, blending of effluent with source water, and reuse of effluent for irrigation at agronomic rates, it unlikely that the effluent will significantly impact underlying groundwater quality.

40. The Discharger proposes or will provide as required by this Order, the following treatment and control of the discharge that incorporates:
  - a. Tertiary-treatment and denitrification of effluent to less than 10 mg/L for total nitrogen.
  - b. Disinfection of effluent using UV;
  - c. Effluent storage in lined ponds (emergency and winter storage);
  - d. Recycling of disinfected tertiary-treated effluent at agronomic rates on landscape and agricultural areas; and
  - e. Solids/sludge will be transported offsite for further treatment to a nearby wastewater treatment facility operated by TCWD.
  
41. Generally, limited degradation of groundwater by some of the typical waste constituents of concern (e.g., EC and nitrate) discharged from a municipal wastewater utility, after effective source control and treatment, is consistent with maximum benefit to the people of the State. The technology, energy, water recycling, and waste management advantages of municipal utility service far exceed any benefits derived from a community otherwise reliant on numerous concentrated individual wastewater systems, and the impacts on water quality will be substantially less. Economic prosperity of valley communities and associated industry is of maximum benefit to the people of the State, and, therefore, sufficient reason to accommodate growth and some groundwater degradation provided terms of the Basin Plan are met. Generally, the degradation will not unreasonably affect present and anticipated beneficial uses of groundwater or result in water quality less than WQOs.

### **Water Recycling Considerations**

42. Undisinfected domestic wastewater contains human pathogens that are typically measured using total or fecal coliform organism as indicator organisms. DDW, which has primary statewide responsibility for protecting water quality and the public health, has established statewide criteria for the use of recycled water. (See Title 22, § 60301 et seq.)
43. On 3 February 2009, the State Water Board adopted Resolution 2009-0011, *Adoption of a Policy for Water Quality Control for Recycled Water* (Recycled Water Policy), which promotes the use of recycled water to achieve sustainable local water supplies and reduces greenhouse gases. The Recycled Water Policy was amended in 2013 by State Water Board Resolution 2013-0003 and then in 2018 by State Water Board Resolution 2018-0057.
44. On 23 April 2009, the Central Valley Water Board adopted Resolution R5-2009-0028, *In Support of Regionalization, Reclamation, Recycling and Conservation for Wastewater Treatment Plants*. Resolution R5-2009-0028 encourages water recycling, water conservation, and regionalization of wastewater treatment facilities. It requires the municipal wastewater treatment agencies to document:
  - a. Efforts to promote new or expanded wastewater recycling opportunities and programs;
  - b. Water conservation measures; and
  - c. Regional wastewater management opportunities and solutions (e.g., regionalization).

Recycling of the WRRF's tertiary-treated effluent is consistent with the intent of State Water Board Resolution 2009-0011 and Central Valley Water Board Resolution R5-2009-0028.

45. The Discharger proposes to recycle tertiary-treated effluent to approximately 557 acres of landscaped and agricultural areas. The May 2019 Title 22 Engineering Report for reuse of disinfected tertiary-treated effluent was conditionally approved by DDW in an 18 July 2019 letter. This Order does not include reclamation requirements pursuant to Title 22. Per Provision H.11, prior to recycling effluent from the Facility, the Discharger must apply for and receive coverage under State Water Board Order WQ 2016-0068-DDW, *Water Reclamation Requirements for Recycled Water Use* (Reclamation General Order).

## CEQA

46. In accordance with the California Environmental Quality Act (CEQA), Public Resources Code section 21000 et seq., Kern County, as Lead Agency, certified a final Environmental Impact Report (EIR) for the proposed Tejon Mountain Village in October 2009 for the construction of the proposed Tejon Mountain Village and the associated WRRF. Central Valley Water Board staff participated in the development of this EIR as a Responsible Agency under CEQA. Accordingly, no further environmental review is required at this time.

## Other Regulatory Considerations

47. Pursuant to Water Code section 106.3, subdivision (a), it is “the established policy of the state that every human being has the right to safe, clean, affordable, and accessible water adequate for human consumption, cooking, and sanitary purposes.” Although this Order is not necessarily subject to Water Code section 106.3 because it does not revise, adopt or establish a policy, regulation or grant criterion (see § 106.3, subd. (b)), it nevertheless promotes that policy by requiring discharges to meet MCLs designed to protect human health and ensure that water is safe for domestic use.
48. Based on the threat and complexity of the discharge, the Facility is determined to be classified as 2B as defined below:
- a. Category 2 threat to water quality: “Those discharges of waste that could impair the designated beneficial uses of the receiving water, cause short-term violations of water quality objectives, cause secondary drinking water standards to be violated, or cause a nuisance.”
  - b. Category B complexity, defined as: “Any discharger not included in Category A that has physical, chemical, or biological treatment systems (except for septic systems with subsurface disposal) or any Class 2 or Class 3 waste management units.”
49. This Order, which prescribes WDRs for discharges of sewage and wastewater, is exempt from Title 27 of the California Code of Regulations, title 27 (Title 27) requirements for the treatment, storage, processing, and disposal of solid waste. (See Title 27, § 20090, subds. (a)-(b).)
50. All storm water runoff will be retained onsite in the emergency storage ponds.
51. On 2 May 2006, the State Water Board adopted Statewide General WDRs for Sanitary Sewer Systems, General Order 2006-0003-DWQ (SSO General Order). The SSO General Order requires all public agencies that own or operate sanitary sewer systems greater than one mile in length to comply with the General Order.

The Discharger's collection system exceeds one mile in length and the Discharger will have to enroll under the SSO General Order.

52. Water Code section 13267, subdivision (b)(1) provides as follows:

[T]he regional board may require that any person who has discharged, discharges, or is suspected of having discharged or discharging, or who proposes to discharge waste within its region ... shall furnish, under penalty of perjury, technical or monitoring program reports which the regional board requires. The burden, including costs, of these reports shall bear a reasonable relationship to the need for the report and the benefits to be obtained from the reports. In requiring those reports, the regional board shall provide the person with a written explanation with regard to the need for the reports and shall identify the evidence that supports requiring that person to provide the reports.

The technical reports required by this Order and the attached Monitoring and Reporting Program (MRP) **R5-2019-0085** are necessary to ensure compliance with these waste discharge requirements. The Tejon Ranchcorp currently owns the property, while the Tejon-Castac Water District will operate the WRRF that discharges the waste subject to this Order.

53. The California Department of Water Resources (DWR) sets standards for the construction and destruction of groundwater wells (DWR Well Standards), as described in *California Well Standards Bulletin 74-90* (June 1991) and *Water Well Standards: State of California Bulletin 74-81* (December 1981). These standards, and any more stringent standards adopted by the state or county pursuant to Water Code section 13801, apply to all monitoring wells used to monitor the impacts of wastewater storage or disposal governed by this Order.
54. The USEPA-promulgated biosolids reuse regulations, codified as 40 C.F.R. part 503 (*Standard for the Use or Disposal of Sewage Sludge*), establishes management criteria for protection of ground and surface waters, sets application rates for heavy metals, and establishes stabilization and disinfection criteria. These regulations are used as guidelines in this Order, as the Central Valley Water Board is not the implementing agency under 40 C.F.R. part 503. The Discharger may have separate and/or additional compliance, reporting, and permitting responsibilities to the USEPA.
55. Pursuant to Water Code section 13263, subdivision (g), discharge is a privilege, not a right, and adoption of this Order does not create a vested right to continue the discharge.



### Public Notice

56. The Discharger and interested agencies and persons have been notified of the Central Valley Water Board's intent to prescribe waste discharge requirements for this discharge, and they have been provided an opportunity to submit written comments and an opportunity for a public hearing.
57. All comments pertaining to the discharge were heard and considered in a public hearing.
58. All the above and the supplemental information and details in the attached Information Sheet, which is incorporated by reference herein, were considered in establishing the following conditions of discharge.

### REQUIREMENTS

**IT IS HEREBY ORDERED** that, pursuant to Water Code sections 13263 and 13267, Tejon-Castac Water District and Tejon Ranchcorp (collectively, Discharger), their respective agents, successors, and assigns, in order to meet the provisions contained in Division 7 of the Water Code and regulations promulgated thereunder, shall comply with the following:

#### A. Discharge Prohibitions

1. Discharge of wastes to surface waters or surface water drainage courses is prohibited.
2. Discharge of waste classified as "hazardous," as defined in Title 22, section 66261.1 et seq., is prohibited.
3. Treatment system bypass of untreated or partially treated waste is prohibited, except as allowed by Standard Provision E.2 of the *Standard Provisions and Reporting Requirements for Waste Discharge Requirements*, dated 1 March 1991 (SPRRs), the entirety of which is incorporated herein.
4. Discharge of waste at a location or in a manner different from that described in the Findings is prohibited.
5. The Discharger shall not allow toxic substances to be discharged into the wastewater treatment system such that biological treatment mechanisms are disrupted.

**B. Flow Limitations**

1. **Discharge Point Eff-001.** The monthly average discharge of tertiary-treated effluent to the onsite effluent storage pond(s) and/or the Use Areas shall not exceed:
  - a. **0.220 mgd** (Effective upon compliance with Provision H.12 and until compliance with Provision H.13.);
  - b. **0.330 mgd** (Effective upon compliance with Provision H.13 and until compliance with Provision H.14.);
  - c. **0.440 mgd** (Effective upon compliance with Provision H.14 and until compliance with Provision H.15.); and
  - d. **0.540 mgd** (Effective upon compliance with Provision H.15).

**C. Effluent Limitations**

1. **Discharge Point Eff-001.** Treated effluent discharged from the WRRF to the onsite effluent storage ponds and/or the Use Areas shall not exceed the following limits:

**Table 1 - Effluent Limitations**

<b>Constituent</b>	<b>Units</b>	<b>Monthly Average</b>	<b>Daily Maximum</b>
BOD <sub>5</sub>	mg/L	10	20
Total Suspended Solids (TSS)	mg/L	10	20
Nitrate (as N)	mg/L	10	--

2. The arithmetic mean of BOD<sub>5</sub> and TSS in effluent samples collected over a monthly period shall not exceed 10 percent of the arithmetic mean of BOD<sub>5</sub> and TSS in influent samples collected at approximately the same time during the same period (90 percent removal).
3. The median concentration of total coliform bacteria in the disinfected tertiary recycled water shall not exceed any of the following:
  - a. 2.2 most probably number (MPN) per 100 mL as a 7-day median;
  - b. 23 MPN/100 mL more than once in any calendar month; and
  - c. 240 MPN/100 mL at any time.

**D. Discharge Specifications**

1. No waste constituent shall be released, discharged, or placed where it will cause a violation of the Groundwater Limitations of this Order.
2. Wastewater treatment, storage, and disposal shall not cause a condition of pollution or nuisance as defined by Water Code section 13050.
3. The discharge shall remain within the permitted waste treatment/containment structures and recycled water Use Areas at all times.
4. The Operator shall operate all systems and equipment to optimize the quality of the discharge.
5. All conveyance, treatment, storage, and disposal systems shall be designed, constructed, operated, and maintained to prevent inundation or washout due to floods with a 100-year return frequency.
6. Public contact with wastewater at the Facility shall be prevented through such means as fences, signs, or acceptable alternatives.
7. Objectionable odors as a result of operation of the Facility shall not be perceivable beyond the limits of the Facility property at an intensity that creates or threatens to create nuisance conditions.
8. As a means of discerning compliance with Discharge Specification D.7, dissolved oxygen (DO) content in the upper one foot of any wastewater treatment or storage pond shall not be less than 1.0 mg/L for three consecutive sampling events. If DO in any single pond is below 1.0 mg/L for three consecutive sampling events, the Operator shall report the findings to the Central Valley Water Board in writing within 10 days and shall include a specific plan to resolve the low DO results within 30 days.
9. The Operator shall operate and maintain all ponds sufficiently to protect the integrity of containment dams and berms and prevent overtopping and/or structural failure. Unless a California-registered civil engineer certifies (based on design, construction, and conditions of operation and maintenance) that less freeboard is adequate, the operating freeboard in any pond shall never be less than two feet (measured vertically from the lowest possible point of overflow). As a means of management and to discern compliance with this requirement, the Operator shall install and maintain in each pond a permanent staff gauge with calibration marks that clearly show the water level at design capacity and enable determination of available operational freeboard.

10. Wastewater treatment, storage, and disposal ponds or structures shall have sufficient capacity to accommodate allowable wastewater flow, design seasonal precipitation, and ancillary inflow and infiltration during the winter while ensuring compliance with all requirements of this Order. Design seasonal precipitation shall be based on total annual precipitation using a return period of 100 years, distributed monthly in accordance with historical rainfall patterns.
11. By **1 October** of each year, available capacity shall at least equal the volume necessary to comply with Discharge Specifications D.9 and D.10.
12. All ponds and open containment structures shall be managed to prevent breeding of mosquitoes. Specifically:
  - a. An erosion control program shall be implemented to ensure that small coves and irregularities are not created around the perimeter of the water surface.
  - b. Weeds shall be minimized through control of water depth, harvesting, or herbicides.
  - c. Dead algae, vegetation, and debris shall not accumulate on the water surface.
  - d. The Operator shall consult and coordinate with the local Mosquito Abatement District to minimize the potential for mosquito breeding as needed to supplement the above measures.
13. Newly constructed or rehabilitated berms or levees (excluding internal berms that separate ponds or control the flow of water within a pond) shall be designed and constructed under the supervision of a California Registered Civil Engineer.
14. Wastewater contained in any unlined pond shall not have a pH less than 6.0 or greater than 9.0.

**E. Ultraviolet Light (UV) Disinfection System Operating Specifications**

The following specifications are based on the disinfection system cited in the May 2019 Title 22 Engineering Report and conditionally accepted by DDW in its 18 July 2019 Conditional Acceptance letter. No equivalents or substitutions will be accepted without DDW and the Central Valley Water Board Executive Officer approval of equivalent disinfection performance. The Operator shall comply with the following ultraviolet light (UV) disinfection system specifications at the WRRF when recycling disinfected tertiary-treated wastewater unless otherwise approved by DDW and the Central Valley Water Board Executive Officer:

1. Filtered effluent turbidity shall not exceed any of the following:
  - i. 2.0 Nephelometric Turbidity Units (NTUs), within a 24-hour period;
  - ii. 5.0 NTUs more than 5 percent of the time of a 24-hour period; or
  - iii. 10 NTUs at any time.
2. The minimum UV dose shall be 100 millijoules per square centimeter (mJ/cm<sup>2</sup>) at all times.
3. The minimum UV transmittance (at 254 nanometers) in the wastewater shall not fall below 55%.
4. Flow meters, UV intensity sensors, and UV transmittance monitors must be properly calibrated to ensure proper disinfection.
5. The WRRF's UV system should be operated in accordance with an approved operations plan, which specifies clearly the operational limits and responses required for critical alarms. A copy of the approved operations plan should be maintained at the WRRF and be readily available to operations personnel and regulatory agencies. A quick reference operations data sheet should be posted at the WRRF and include the following information:
  - a. The alarm set points for flow, UV dose, UV intensity, and UV transmittance;
  - b. The values of flow, UV dose, UV intensity, and UV transmittance when effluent must be diverted to waste;
  - c. The required frequency of verification and calibration for all meters/analyzers measuring flow, UV intensity, and UV transmittance;
  - d. The required frequency of mechanical cleaning and equipment inspection;
  - e. The UV lamp hour tracking procedures and replacement intervals.

**F. Groundwater Limitations**

Release of waste constituents from any portion of the Facility, including but not limited to any treatment, reclamation, or storage component associated with the discharge of treated wastewater from the Facility, shall not cause or contribute to groundwater:

1. Containing constituent concentrations in excess of the concentrations specified below or in excess of natural background quality, whichever is greater:
  - a. Nitrate (as nitrogen) of 10 mg/L.
  - b. Total coliform organisms level of 2.2 MPN/100 mL for any 7-day period.
  - c. For constituents identified in Title 22, the MCLs quantified therein.
2. Containing taste or odor-producing constituents, toxic substances, or any other constituents in concentrations that cause nuisance or adversely affect beneficial uses.

**G. Solids Disposal Specifications**

For the purposes of this Order, “sludge” means the solid, semisolid, and liquid residues removed during primary, secondary, or advanced wastewater treatment processes; “solid waste” refers to grit and screenings generated during preliminary treatment; “residual sludge” means sludge that will not be subject to further treatment at the WRRF; and “biosolids” refers to sludge that has been treated and tested and shown to be capable of being beneficially used as a soil amendment for agriculture, silviculture, horticulture, and land reclamation activities pursuant to federal and state regulations.

1. Sludge and solid waste shall be removed from screens, sumps, ponds, and clarifiers as needed to ensure optimal plant operation.
2. Any handling and storage of residual sludge, solid waste, and biosolids at the Facility shall be temporary (i.e., no longer than six months) and controlled and contained in a manner that minimizes leachate formation and precludes infiltration of waste constituents into soils in a mass or concentration that will violate the groundwater limitations of this Order.
3. Residual sludge, biosolids, and solid waste shall be disposed of in a manner approved by the Executive Officer and consistent with Title 27. Removal for further treatment, disposal, or reuse at disposal sites (i.e., landfills, wastewater treatment facilities, composting sites, soil amendment sites) operated in accordance with valid waste discharge requirements issued by a regional water board will satisfy this specification.
4. Use of biosolids as a soil amendment shall comply with valid WDRs issued by a Regional Water Quality Control Board or the State Water Board, except in cases where a local (e.g., county) program has been

authorized by a regional water board. In most cases, this will mean the General Biosolids Order (State Water Board Order 2004-0012-DWQ, *General Waste Discharge Requirements for the Discharge of Biosolids to Land for Use as a Soil Amendment in Agricultural, Silvicultural, Horticultural, and Land Reclamation Activities*). For a biosolids use project to be covered by Order 2004-0012-DWQ, the Operator must file a complete Notice of Intent (NOI) and receive a Notice of Applicability (NOA) for each project.

5. Use and disposal of biosolids shall comply with the self-implementing federal regulations of 40 C.F.R. part 503 (subject to USEPA enforcement), not the Central Valley Water Board. If during the life of this Order, the State accepts primacy for implementation of part 503, the Central Valley Water Board may also initiate enforcement where appropriate.
6. The Discharger proposes that waste activated sludge will be stored and thickened at the WRRF, but not treated. The thickened sludge will then be transported offsite to a nearby wastewater treatment facility operated by TCWD for treatment. Any proposed change in sludge use or disposal practice shall be reported in writing to the Executive Officer at least **90 days** in advance of the change.

## H. Provisions

1. The Discharger shall comply with the Standard Provisions and Reporting Requirements for Waste Discharge Requirements, dated 1 March 1991, (SPRRs) which are part of this Order. This attachment and its individual paragraphs are referred to as Standard Provisions.
2. The Discharger shall comply with MRP **R5-2019-0085** (incorporated herein), and any revisions thereto as ordered by the Executive Officer. The submittal dates of self-monitoring reports shall be no later than the submittal dates specified in the MRP.
3. The Discharger shall keep at the WRRF a copy of this Order, including its MRP, Information Sheet, attachments, and Standard Provisions, for reference by operating personnel. Key operating personnel shall be familiar with its contents.
4. The Discharger shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) that are installed or used by the Discharger to achieve compliance with the conditions of this Order. Proper operation and maintenance also includes adequate laboratory controls and appropriate quality assurance procedures. This provision requires the operation of back-up or auxiliary

facilities or similar systems that are installed by the Discharger when the operation is necessary to achieve compliance with the conditions of this Order.

5. All technical reports required herein that involve planning, investigation, evaluation, or design, or other work requiring interpretation and proper application of engineering or geologic sciences, shall be prepared by or under the direction of persons registered to practice in California pursuant to Business and Professions Code sections 6735, 7835, and 7835.1. To demonstrate compliance with sections 415 and 3065 of California Code of Regulations, title 16 (Title 16), all technical reports must contain a statement of the qualifications of the responsible registered professional(s). As required by these laws, completed technical reports must bear the signature(s) and seal(s) of the registered professional(s) in a manner such that all work can be clearly attributed to the professional responsible for the work.
6. The Discharger shall comply with all conditions of this Order, including timely submittal of technical and monitoring reports. On or before each report due date, the Discharger shall submit the specified document to the Central Valley Water Board or, if appropriate, a written report detailing compliance or noncompliance with the specific schedule date and task. If noncompliance is being reported, then the Discharger shall state the reasons for such noncompliance and provide an estimate of the date when the Discharger will be in compliance. The Discharger shall notify the Central Valley Water Board in writing when it returns to compliance with the time schedule. Violations may result in enforcement action, including Central Valley Water Board or court orders requiring corrective action or imposing civil monetary liability, or in revision or rescission of this Order.
7. In the event of any change in control or ownership of the Facility, the Discharger must notify the succeeding owner or operator of the existence of this Order by letter, a copy of which shall be immediately forwarded to the Central Valley Water Board.
8. To assume coverage under this Order, the succeeding owner or operator must apply in writing to the Executive Officer requesting transfer of the Order. The request must contain the requesting entity's full legal name, the state of incorporation if a corporation, the name and address and telephone number of the persons responsible for contact with the Central Valley Water Board, and a statement. The statement shall comply with the signatory paragraph of Standard Provision B.3 of the SPRRs and state that the new owner or operator assumes full responsibility for compliance with this Order. Failure to submit the request shall be considered a discharge without requirements, a violation of the Water Code. If approved



by the Executive Officer, the transfer request will be submitted to the Central Valley Water Board for its consideration of transferring the ownership of this Order at one of its regularly scheduled meetings.

9. The Discharger shall provide certified wastewater treatment plant operators in accordance with Title 23, division 3, chapter 26.
10. The Discharger shall submit the technical reports and workplans required by this Order for consideration by the Executive Officer and incorporate comments the Executive Officer may have in a timely manner, as appropriate. Unless expressly stated otherwise in this Order, the Discharger shall proceed with all work required by the foregoing provisions by the due dates specified.
11. Prior to recycling effluent from the Facility, the Discharger shall submit a Notice of Intent (NOI) for coverage under the State Water Board Order WQ 2016-0068-DDW, *Water Reclamation Requirements for Recycled Water Use* (Reclamation General Order). No reclamation of effluent shall occur until coverage under the Reclamation General Order is granted by the Central Valley Water Board Executive Officer.
12. Upon completing the construction of the WRRF and at least **120 days** prior to operation of the WRRF (**Phase 1**), the Discharger shall submit a report for Executive Officer approval certifying that the WRRF was constructed as proposed in the June 2019 RWD and has the treatment and disposal capacity (described in Findings 7 and 13) to treat and dispose of 0.220 mgd of domestic wastewater. The Report shall include final design and construction drawings for the WRRF and shall also be submitted to DDW. Upon Executive Officer approval of the report, the Discharger shall comply with **Flow Limitations B.1.a** and begin monitoring in accordance to the requirements in MRP R5-2019-0085.
13. Upon completion of **Phase 2 of the WRRF** (described in Findings 7 and 13), the discharger shall submit a report certifying that the WRRF Phase 2 upgrades are completed and that the WRRF has sufficient treatment, storage, and disposal capacity to comply with the terms and conditions of this Order. This provision will be considered satisfied following written approval from the Executive Officer.
14. Upon completion of **Phase 3 of the WRRF** (described in Findings 7 and 13), the discharger shall submit a report certifying that the WRRF Phase 3 upgrades are completed and that the WRRF has sufficient treatment, storage, and disposal capacity to comply with the terms and conditions of this Order. This provision will be considered satisfied following written approval from the Executive Officer.

15. Upon completion of **Phase 4 of the WRRF** (described in Findings 7 and 13) the discharger shall submit a report certifying that the WRRF Phase 4 upgrades are completed and that the WRRF has sufficient treatment, storage, and disposal capacity to comply with the terms and conditions of this Order. This provision will be considered satisfied following written approval from the Executive Officer.
16. **Within 6 months of satisfying Provision H.12**, the Discharger shall comply with the requirements of the Statewide General WDRs for Sanitary Sewer Systems, Water Quality Order 2006-0003, and the Revised General WDRs MRP, Water Quality Order 2013-0058-EXEC, and any subsequent revisions thereto (collectively, SSO General Order). The SSO General Order requires the Discharger to notify the Central Valley Water Board and take remedial action upon the reduction, loss, or failure of the sanitary sewer system resulting in a sanitary sewer overflow.
17. **Prior to the construction/lining of the effluent storage ponds**, the Discharger shall submit a Construction Quality Assurance (CQA) Plan that shall specify the final design of the proposed emergency and winter storage ponds, distribution system, and liner systems, including complete pond geometry, liner materials, liner thickness, seaming methods, and details of anchorage. The CQA Plan shall describe the specific construction quality assurance procedures and test methods that the District proposes to ensure and verify that the liner subgrade preparation, installation and seaming will comply with the specifications.
18. **Within 6 months of satisfying Provision H.12**, Discharger shall submit an **Operation and Maintenance Plan (O&M) Plan** for the WWTF. A copy of the O&M Plan shall be kept at the facility for reference by operating personnel. Key personnel shall be familiar with its contents. The O&M Plan shall provide the following:
  - a. Operation and Control of Wastewater Treatment:
    - Description of the wastewater treatment equipment
    - Operational controls; treatment requirements/effluent limitations
    - Flow diagrams including valve/gate locations
    - Operation of the treatment systems during start-up, normal operation, by-pass, shutdown, and draining procedures
    - Potential operational problems including a troubleshooting guide.

- b. Sludge Handling:
  - A description of the biosolids handling equipment, operational controls, control tests and observations related to process control
  - Potential operational problems including a troubleshooting guide
  - Disposal procedures
  
- c. Operation and Control of Recycled Water Distribution System
  - A description of the recycled water distribution system
  - Operational controls
  - Flow diagrams including valve/gate locations
  - Potential operational problems including a troubleshooting guide
  - Backflow and cross-connection controls.
  
- d. Personnel
  - Recommended staffing requirements, staff qualifications, training requirements and schedule, and operator certification requirements
  
- e. Maintenance
  - Maintenance procedures
  - Equipment record system
  - Scheduling and use of the maintenance record system, inventory system, special tools, warranty provisions and expiration dates,
  - Maintenance cost and budgeting system,
  - Maintenance schedule of all equipment.
  
- f. Emergency Response
  - A description of the vulnerability analysis including emergencies such as power outage, severe weather, or flooding
  - An equipment and telephone list for emergency personnel and equipment vendors
  - Coordination procedures with fire, police, and health department personnel, and an emergency operating plan.

- g. Safety
    - A general discussion of the hazards of collection systems, mechanical equipment, explosion, pathogens, oxygen deficiencies, chemical and electrical hazards, etc.
  - h. Appendices
    - Flow diagrams
    - Valve/gate locations
    - Copy of WDRs and Title 22 Engineering Report
    - Miscellaneous form samples,
    - Manufacturers' manuals
    - List of reference materials
19. **Within 12 months of satisfying Provision H.12**, the Operator shall submit a **Salinity Reduction Study Workplan**. The Operator shall prepare and implement a Salinity Reduction Study Workplan to identify and address sources of salinity to and from the Facility. The Salinity Reduction Study Workplan shall at a minimum include the following:
- i. Data on current influent and effluent salinity concentrations;
  - ii. Identification of known salinity sources;
  - iii. Description of current plans to reduce/eliminate known salinity sources;
  - iv. Preliminary identification of other potential sources;
  - v. A proposed schedule for evaluating sources; and
  - vi. A proposed schedule for identifying and evaluating potential reduction, elimination, and prevention methods.

Implementation progress of the Salinity Reduction Study Workplan shall be reported each year in the Annual Monitoring Report required pursuant to MRP R5-2019-0085.

20. In the event that the Discharger reports toxic chemical release data to the State Emergency Response Commission (SERC) pursuant to section 313 of the Emergency Planning and Community Right to Know Act (42 U.S.C. § 11023), the Discharger shall also report the same information to the Central Valley Water Board within 15 days of the report to the SERC.

21. If the Central Valley Water Board determines that waste constituents in the discharge have reasonable potential to cause or contribute to an exceedance of an objective for groundwater, this Order may be reopened for consideration of addition or revision of appropriate numerical effluent or groundwater limitations for potential constituents.
22. The Central Valley Water Board will review this Order periodically and will revise requirements when necessary.

If, in the opinion of the Executive Officer, the Discharger fails to comply with the provisions of this Order, the Executive Officer may refer this matter to the Attorney General for judicial enforcement, may issue a complaint for administrative civil liability, or may take other enforcement actions. Failure to comply with this Order may result in the assessment of Administrative Civil Liability of up to \$10,000 per violation, per day, depending on the violation, pursuant to the Water Code, including sections 13268, 13350 and 13385. The Central Valley Water Board reserves its right to take any enforcement actions authorized by law.

Any person aggrieved by this Central Valley Water Board action may petition the State Water Board for review in accordance with Water Code section 13320 and Title 23, section 2050 et seq. The State Water Board must receive the petition by 5pm on the 30th day after the date of this Order; if the 30th day falls on a Saturday, Sunday, or state holiday, the petition must be received by the State Water Board by 5 pm on the next business day. [Copies of the law and regulations applicable to filing petitions](#) are available on the State Water Board's website ([http://www.waterboards.ca.gov/public\\_notices/petitions/water\\_quality](http://www.waterboards.ca.gov/public_notices/petitions/water_quality)).

I, PATRICK PULUPA, Executive Officer, do hereby certify that the foregoing is a full true, and correct copy of an Order adopted by the California Regional Water Quality Control Board, Central Valley Region, on 5 December 2019.



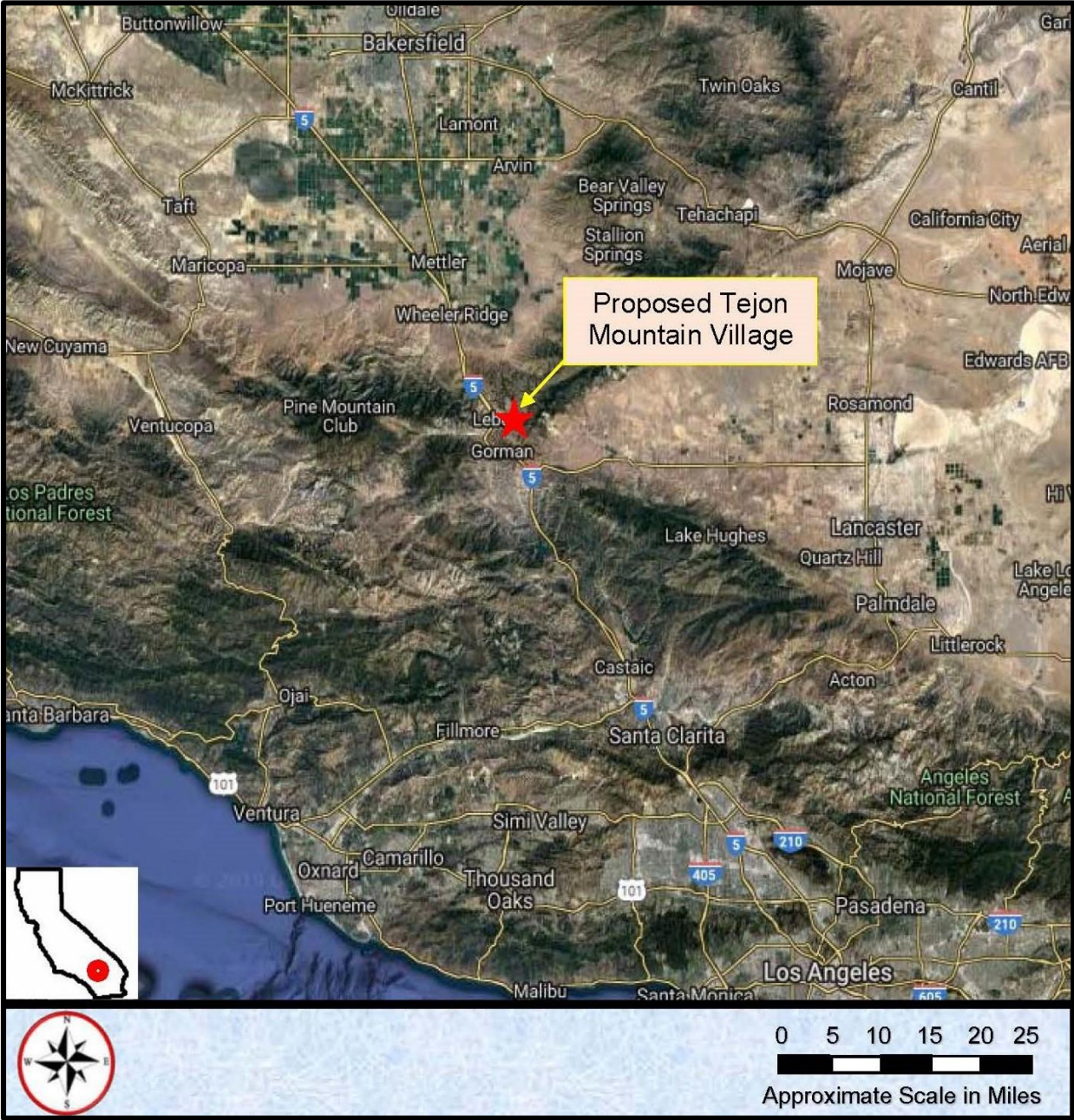
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PATRICK PULUPA, Executive Officer

Order Attachments:

- Attachment A – Site Location Map
- Attachment B – Use Area and WRRF Map
- Attachment C – Process Flow Diagram
- Monitoring and Reporting Program R5-2019-0085
- Information Sheet
- SPRRs (1 March 1991)

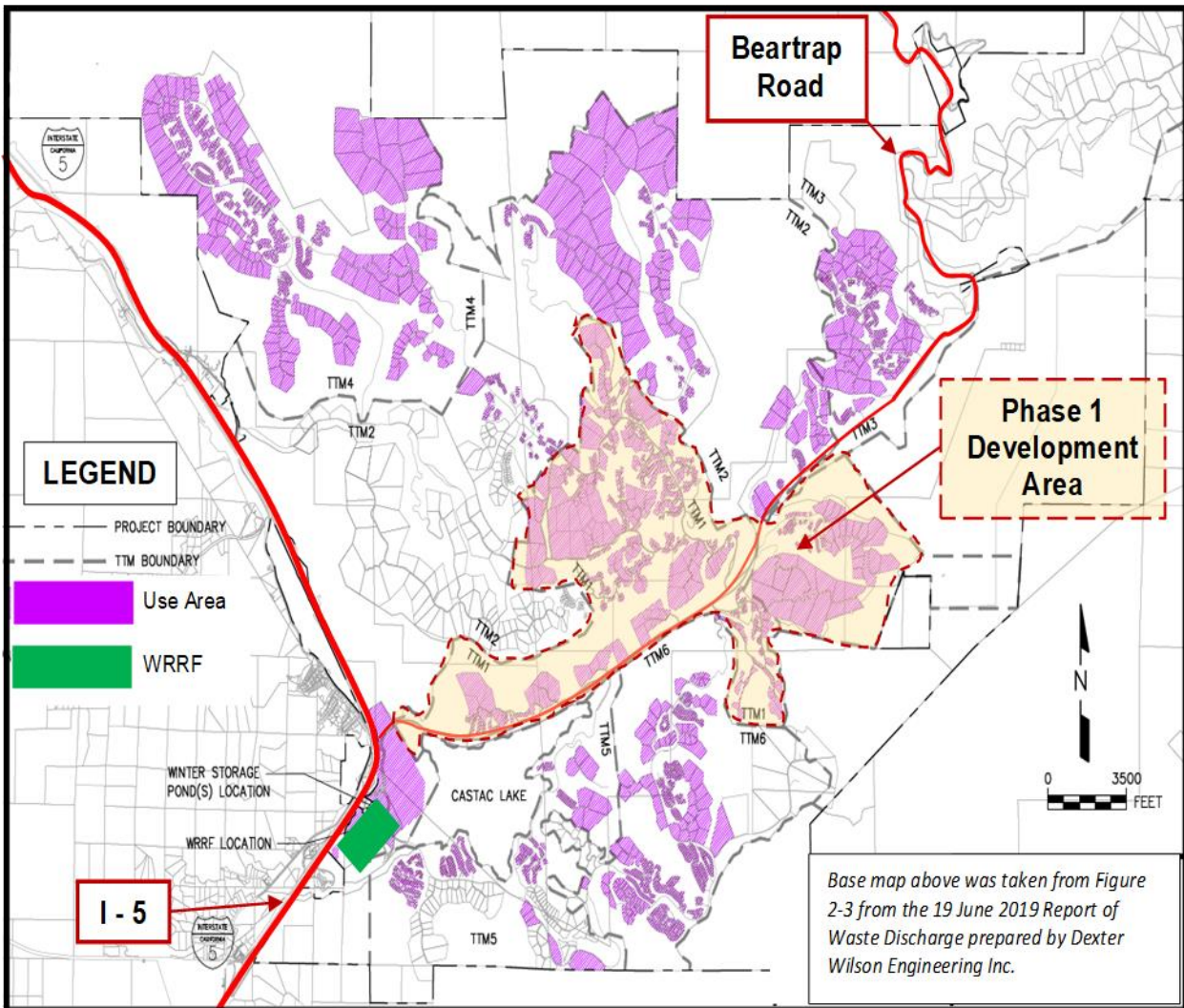
WASTE DISCHARGE REQUIREMENTS ORDER R5-2019-0085  
TEJON-CASTAC WATER DISTRICT AND TEJON RANCHCORP  
TEJON MOUNTAIN VILLAGE WATER RESOURCE RECOVERY FACILITY  
KERN COUNTY



**ATTACHMENT A – SITE LOCATION MAP**

TEJON-CASTAC WATER DISTRICT AND TEJON RANCHCORP  
TEJON MOUNTAIN VILLAGE WATER RESOURCE RECOVERY FACILITY

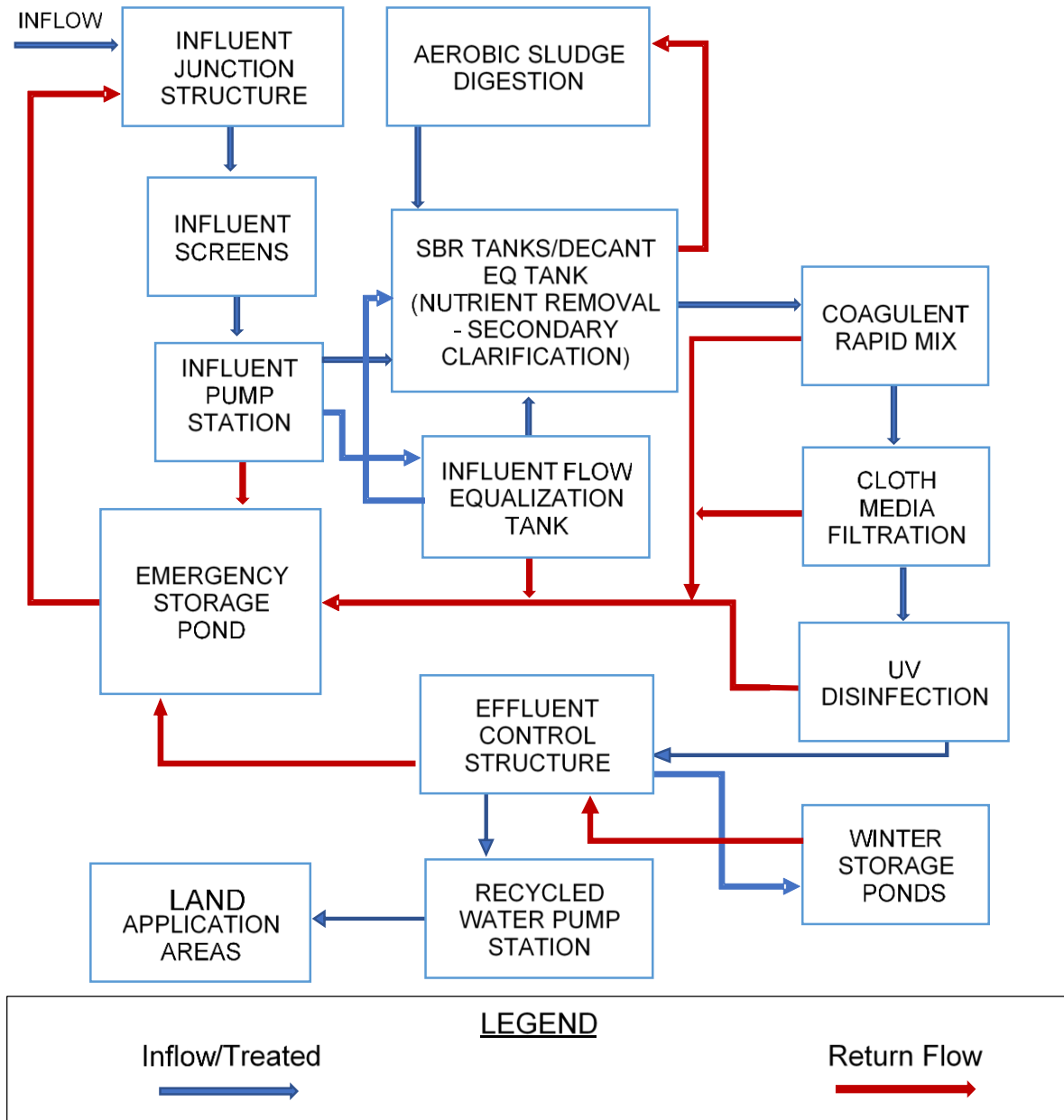
ORDER R5-2019-0085  
KERN COUNTY



## ATTACHMENT B – USE AREA AND FACILITY MAP

TEJON-CASTAC WATER DISTRICT AND TEJON RANCHCORP  
TEJON MOUNTAIN VILLAGE WATER RESOURCE RECOVERY FACILITY

ORDER R5-2019-0085  
KERN COUNTY



**ATTACHMENT C – PROCESS FLOW DIAGRAM**

TEJON-CASTAC WATER DISTRICT AND TEJON RANCHCORP  
 TEJON MOUNTAIN VILLAGE WATER RESOURCES RECOVERY FACILITY

ORDER R5-2019-0085  
 KERN COUNTY



CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD  
CENTRAL VALLEY REGION

MONITORING AND REPORTING PROGRAM R5-2019-0085

FOR

TEJON-CASTAC WATER DISTRICT AND TEJON RANCHCORP  
TEJON MOUNTAIN VILLAGE WATER RESOURCE RECOVERY FACILITY  
KERN COUNTY

This Monitoring and Reporting Program (MRP) is issued by the Central Valley Regional Water Quality Control Board (Central Valley Water Board) pursuant to Water Code section 13267, subd. (b)(1), which provides in pertinent part as follows:

[T]he regional board may require that any person who has discharged, discharges, or is suspected of having discharged or discharging, or who proposes to discharge waste within its region ... shall furnish, under penalty of perjury, technical or monitoring program reports which the regional board requires. The burden, including costs, of these reports shall bear a reasonable relationship to the need for the report and the benefits to be obtained from the reports. In requiring those reports, the regional board shall provide the person with a written explanation with regard to the need for the reports and shall identify the evidence that supports requiring that person to provide the reports.

The Tejon-Castac Water District and the Tejon Ranchcorp (collectively, Discharger) are each responsible for compliance with this MRP and shall not implement any changes without written approval from the Central Valley Water Board or its Executive Officer in the form of a revised MRP. The reports required under this MRP are necessary to verify the Discharger's compliance with the operative waste discharge requirements (WDRs). As stated in Finding 3 of the WDRs, Tejon-Castac Water District will take ownership and operation of the Tejon Mountain Village Water Resource Recovery Facility (Facility) upon completing construction of the Facility. Once ownership is transferred from Tejon Ranchcorp to Tejon-Castac Water District, the WDRs and this MRP will be revised to reflect Tejon-Castac Waste District as the sole owner and operator of the Facility. Once the modification is made to WDRs and this MRP, Tejon-Castac Water District will be solely responsible for compliance with this MRP.

Pursuant to Water Code section 13268, subdivisions (a)(1) and (b)(1), failure to furnish the reports required under this MRP (and also under the operative WDRs), or falsifying information submitted in such reports, constitutes a misdemeanor and may result in the imposition of up to \$10,000 in administrative civil liability for each day of noncompliance.

A glossary of terms used in this MRP is included on the last page.

**I. GENERAL MONITORING REQUIREMENTS**

**A. Flow Monitoring**

Hydraulic flow rates shall be measured at the monitoring points specified in this MRP. Central Valley Water Board Executive Officer shall approve any proposed changes to flow monitoring locations prior to implementation of the change. All flow monitoring systems shall be appropriate for the conveyance system (i.e., open channel flow or pressure pipeline) and liquid type. Unless otherwise specified, each flow meter shall be equipped with a flow totalizer to allow reporting of cumulative volume as well as instantaneous flow rate. Flow meters shall be calibrated at the frequency recommended by the manufacturer; typically, at least once per year and records of calibration shall be maintained for review upon request.

**B. Monitoring and Sampling Specifications**

Samples shall be obtained at the monitoring points specified in this MRP. Central Valley Water Board staff shall approve any proposed changes to sampling locations prior to implementation of the change.

The Discharger shall monitor the following locations to demonstrate compliance with the requirements of this Order:

**Table 1 - Monitoring Location Designations**

<b>Monitoring Location</b>	<b>Monitoring Location Description</b>
<b>INF-01</b>	Location where a representative sample of the influent into the Facility can be collected prior to any plant return flows or treatment processes
<b>EFF-01</b>	Tertiary-treated effluent, prior to discharge to the storage ponds and/or the Use Areas, where representative of the effluent (i.e., prior to or after the ultraviolet light disinfection system)
<b>UVS-01</b>	Ultraviolet light disinfection system
<b>ESP-01, ESP-02, WSP-01, &amp; WSP-01</b>	Onsite emergency storage ponds (ESP-01 and ESP-02) and winter storage ponds (WSP-01 and WSP-02 )
<b>BIO-01</b>	Sludge monitoring
<b>SPL-01</b>	Source water supply monitoring

### **C. Sampling and Sample Analysis**

All samples shall be representative of the volume and nature of the discharge or matrix of material sampled. Except as specified otherwise in this MRP, grab samples will be considered representative of water, wastewater, soil, solids/sludges and groundwater.

The time, date, and location of each sample shall be recorded on the sample chain of custody form. All analyses shall be performed in accordance with the *Standard Provisions and Reporting Requirements for WDRs*, dated 1 March 1991 (SPRRs).

Field test instruments (such as those used to measure pH, temperature, electrical conductivity, dissolved oxygen, wind speed, and precipitation) may be used provided:

1. The operator is trained in proper use and maintenance of the instruments;
2. The instruments are field calibrated at the frequency recommended by the manufacturer; and
3. The instruments are serviced and/or calibrated by the manufacturer or by the Discharger's authorized and qualified staff at the recommended frequency.

Laboratory analytical procedures shall comply with the methods and holding times specified in the following (as applicable to the medium to be analyzed):

- *Methods for Organic Chemical Analysis of Municipal and Industrial Wastewater* (USEPA);
- *Test Methods for Evaluating Solid Waste* (USEPA);
- *Methods for Chemical Analysis of Water and Wastes* (USEPA);
- *Methods for Determination of Inorganic Substances in Environmental Samples* (USEPA);
- *Standard Methods for the Examination of Water and Wastewater* (APHA/AWWA/WEF); and
- *Soil, Plant and Water Reference Methods for the Western Region* (WREP 125).

Approved editions shall be those that are approved for use by the United States Environmental Protection Agency (USEPA) or the State Water

Resources Control Board (State Water Board), Division of Drinking Water’s Environmental Laboratory Accreditation Program (ELAP). The Discharger may propose alternative methods for approval by the Executive Officer. Where technically feasible, laboratory reporting limits shall be lower than the applicable water quality objectives for the constituents to be analyzed.

If monitoring consistently shows no significant variation in a constituent concentration or parameter after at least 24 months of monitoring, the Discharger may request this MRP be revised to reduce monitoring frequency. The proposal must include adequate technical justification for reduction in monitoring frequency.

**II. SPECIFIC MONITORING REQUIREMENTS**

**A. Influent Monitoring**

The Discharger shall monitor the influent to the Facility at Monitoring Location INF-01. At a minimum, influent shall be monitored as specified in Table 2 below.

**Table 2 - Influent Monitoring**

Constituent/Parameter	Units	Sample Type	Monitoring Frequency
Flow	mgd	Meter	Continuous
pH	pH Units	Meter	Continuous
EC	µmhos/cm	24-hour composite	Weekly
BOD <sub>5</sub>	mg/L	24-hour composite	Weekly
TSS	mg/L	24-hour composite	Weekly

**B. Effluent Monitoring**

The Discharger shall monitor tertiary-treated wastewater effluent from the Facility at Monitoring Location EFF-01. The Discharger shall calculate the average EC and TDS using a 12-month rolling average. At a minimum, effluent shall be monitored as specified in Table 3 below.

**Table 3 - Effluent Monitoring**

Constituent/Parameter	Units	Sample Type	Monitoring Frequency
Flow	mgd	Meter	Continuous
pH	pH Units	Grab	Daily
EC	µmhos/cm	24-hour composite	Twice Weekly
BOD	mg/L	24-hour composite	Weekly

Constituent/Parameter	Units	Sample Type	Monitoring Frequency
TSS	mg/L	24-hour composite	Weekly
Ammonia (as N)	mg/L	24-hour composite	Monthly
Nitrate (as N)	mg/L	24-hour composite	Monthly
Nitrite (as N)	mg/L	24-hour composite	Monthly
TKN (as N)	mg/L	24-hour composite	Monthly
Total Nitrogen (as N)	mg/L	24-hour composite	Monthly
TDS	mg/L	24-hour composite	Monthly
Arsenic	µg/L	24-hour composite	Monthly
Standard Minerals	Various	24-hour composite	Quarterly

**C. Ultraviolet Light Disinfection System Monitoring**

The Dischargers shall monitor the ultraviolet light (UV) disinfection system at UVS-01 as shown in Table 4. UV Intensity and UV Dose results are presented in milliwatts per square centimeter (mW/cm<sup>2</sup>) and millijoules per square centimeter (mJ/cm<sup>2</sup>).

**Table 4 - Ultraviolet Light Disinfection System Monitoring**

Constituent/Parameter	Units	Sample Type	Monitoring Frequency
Flow	mgd	Meter	Continuous
UV Transmittance	Percent (%)	Meter	Continuous
UV Power Setting	Percent (%)	Meter	Continuous
UV Intensity	mW/cm <sup>2</sup>	Meter	Continuous
UV Dose	mJ/cm <sup>2</sup>	Calculated	Continuous

**D. Pond Monitoring**

All storage ponds (emergency and winter storage) shall be monitored at Monitoring Locations ESP-01 (Phase 1) and ESP-02 (Phases 2, 3 and 4), and WS-01 (Phase 1) and WS-02 (Phases 2, 3 and 4) as specified below. Samples shall be collected opposite the pond inlet at a depth of one foot and freeboard shall be measured vertically from the surface of the pond water to the lowest elevation of the surrounding berm and shall be measured to the nearest 0.25 feet.

**Table 5 - Pond Monitoring**

<b>Constituent/Parameter</b>	<b>Units</b>	<b>Sample Type</b>	<b>Monitoring Frequency</b>
Dissolved Oxygen	mg/L	Grab	Weekly
pH	Standard units	Grab	Weekly
Freeboard	Nearest ¼ Foot	Measurement	Weekly
Odors	--	Observation	Weekly
Berm condition	--	Observation	Weekly

The Discharger shall conduct additional monitoring in each pond where odors are detected at and that have dissolved oxygen less than 1.0 mg/L. The ponds shall be monitored daily for pH and dissolved oxygen until the dissolved oxygen is greater than 1.0 mg/L.

In addition, the Discharger shall inspect the condition of the ponds once per week and document visual observations. Notations shall include observations of:

- a. Accumulations of dead algae, vegetation, scum, or debris on the pond surface and
- b. Condition of the pond liner.

**E. Sludge/Biosolids Monitoring**

Sludge shall be sampled for the following constituents:

Arsenic	Copper	Nickel
Cadmium	Lead	Selenium
Molybdenum	Mercury	Zinc

Monitoring shall be conducted using the methods in “Test Methods for Evaluating Solid Waste, Physical/Chemical Methods” (SW-846) and updates thereto, as required in Title 40 of the Code of Federal Regulations (40 CFR), Part 503.8(b)(4). The constituents listed above shall be monitored at the following frequency, depending on the volume generated.

**Table 6 - Biosolids Monitoring**

<b>Volume Generated (dry metric tons/year)</b>	<b>Frequency</b>
0 to 290	Annually
290 to 1,500	Quarterly
1,500 to 15,000	Bimonthly (6 samples/year)
Greater than 15,000	Monthly

The Discharger shall demonstrate that treated sludge (i.e., biosolids) meets Class A or Class B pathogens reduction levels by one of the methods listed in 40 CFR, Part 503.32. The Discharger shall track and keep records of the operational parameters used to achieve Vector Attraction Reduction requirements in 40 CFR, Part 503.33(b).

**F. Water Supply Monitoring**

The Discharger shall monitor the public water supply at Monitoring Location SPL-01.

**Table 7 - Water Supply Monitoring**

<b>Constituent/Parameter</b>	<b>Units</b>	<b>Monitoring Frequency</b>
Total Dissolved Solids	mg/L	Quarterly
Electrical Conductivity	µmhos/cm	Quarterly
Standard Minerals	various	Annually

**III. Reporting Requirements**

All monitoring reports should be converted to a searchable Portable Document Format (PDF) and submitted electronically. Documents that are less than 50MB should be emailed to: [CentralValleyFresno@waterboards.ca.gov](mailto:CentralValleyFresno@waterboards.ca.gov)

Documents that are 50 MB or larger should be transferred to a CD, DVD, or flash drive and mailed to the following address:

Central Valley Regional Water Quality Control Board  
 1685 "E" Street  
 Fresno, California 93706

To ensure that your submittal is routed to the appropriate staff person, the following information should be included in any email used to transmit documents to this office:

**Program:** Non-15;  
**WDID:** 5C15NC00247;  
**Facility:** Tejon-Castac Water District and Tejon Ranchcorp, Tejon Mountain Village Water Resource Recovery Facility;  
**Order:** R5-2019-0085  
**Place ID:** 739154

**A transmittal letter shall accompany each monitoring report.** The letter shall include a discussion of all violations of the WDRs, including this MRP, during the reporting period and actions taken or planned for correcting each violation. If the Discharger has previously submitted a report describing corrective actions taken and/or a time schedule for implementing the corrective actions, reference to the previous correspondence will be satisfactory. Pursuant to Section B.3 of the SPRRs, the transmittal letter shall contain a statement by the Discharger, or the Discharger's duly authorized representative, certifying under penalty of perjury that the report is true, accurate, and complete to the best of the signer's knowledge.

In reporting monitoring data, the Discharger shall arrange the data in tabular form so that the date, sample type (e.g., effluent, pond, etc.), and reported analytical result for each sample are readily discernible. The data shall be summarized in such a manner to clearly illustrate compliance with WDRs and spatial or temporal trends, as applicable. The results of any monitoring done more frequently than required at the locations specified in the Monitoring and Reporting Program shall be reported in the next scheduled monitoring report.

All laboratory analysis reports shall be included in the monitoring reports. For a Discharger conducting any of its own analyses, reports must also be signed and certified by the chief of the laboratory.

In addition to the requirements of Standard Provision C.3 of the SPRRs, monitoring information shall include the method detection limit (MDL) and the Reporting limit (RL) or practical quantitation limit (PQL). If the regulatory limit for a given constituent is less than the RL (or PQL), then any analytical results for that constituent that are below the RL (or PQL) but above the MDL shall be reported and flagged as estimated.

All monitoring reports that involve planning, investigation, evaluation or design, or other work requiring interpretation and proper application of engineering or geologic sciences, shall be prepared by or under the direction of persons registered to practice in California pursuant to Business and Professions Code sections 6735, 7835, and 7835.1.



## **A. Quarterly Monitoring Reports**

Quarterly Monitoring Reports shall be submitted to the Central Valley Water Board by the **1<sup>st</sup> day of the second month after the quarter** (i.e., the January-March quarterly report is due by May 1st). Each Quarterly Monitoring Report shall include the following:

1. Results of the **Influent Monitoring** (Section II.A. of the MRP).
2. Results of the **Effluent Monitoring** (Sections II.B of the MRP).
3. The average EC and TDS results calculated using a 12-month rolling average.
4. Results of the **Ultraviolet Light Disinfection System Monitoring** (Sections II.C of the MRP)
5. Results of the **Pond Monitoring** (Section II.D of the MRP), including:
  - i. A map of the Facility's ponds with each pond labeled using the naming convention ESP-01, WSP-02, etc. The map (or a separate list) shall indicate which ponds were in use during the quarter.
  - ii. A summary of the weekly visual observations of the ponds
6. Data presented in a tabular format.
7. A comparison of monitoring data to the flow limitations, effluent limitations and discharge specifications and an explanation of any violation of those requirements.
8. Copies of the laboratory analytical reports.
9. A copy of calibration log page(s) verifying calibration of all hand-held monitoring instruments performed during the quarter.

## **B. Annual Monitoring Reports**

An Annual Monitoring Report shall be submitted by **1 February of each year** (the annual monitoring report may be submitted as part of the 4<sup>th</sup> quarterly monitoring reported) and shall include the following:

1. The average monthly wastewater flows (influent and effluent) for each month of the year.
2. A summary of all biosolids/sludge analytical data and verification of compliance with the biosolids/sludge monitoring requirements.
3. The WRRF's annual sludge production in dry tons and percent solids.
4. A summary of information on the disposal of sludge and/or solid waste during the calendar year.
5. Analytical results for any water supply monitoring conducted.
6. An evaluation of the performance of the Facility, including discussion of capacity issues, infiltration and inflow rates, nuisance conditions, and a forecast of the flows anticipated in the next year, as described in Standard Provision E.4 of the SPRRs.
7. A discussion of compliance with the WDRs and MRP and the corrective actions taken, as well as any planned or proposed actions needed to bring the discharge into full compliance with the WDRs.
8. A copy of the certification for each certified wastewater treatment plant operator working at the Facility and a statement about whether the Discharger is in compliance with Title 23, Division 3, Chapter 26.
9. Monitoring equipment maintenance and calibration records, as described in Standard Provision C.4 of the SPRRs.
10. A statement of when the wastewater treatment system Operation and Maintenance Manual was last reviewed for adequacy and a description of any changes made during the year.
11. A discussion of any data gaps and potential deficiencies or redundancies in the monitoring system or reporting program.

A letter transmitting the self-monitoring reports shall accompany each report. The letter shall include a discussion of requirement violations found during the reporting period, and actions taken or planned for

correcting noted violations, such as operation or facility modifications. If the Discharger has previously submitted a report describing corrective actions and/or a time schedule for implementing the corrective actions, reference to the previous correspondence will be satisfactory. The transmittal letter shall contain a statement by the Discharger, or the Discharger's authorized agent, under penalty of perjury, that to the best of the signer's knowledge the report is true, accurate and complete, as described in the Section B.3 of the SPRRs.

The Discharger shall implement the above monitoring program on the first day of the month following satisfying Provision H.12 of Order R5-2019-0085.

I, PATRICK PULUPA, Executive Officer, do hereby certify the forgoing is a full, true and correct copy of a Monitoring and Reporting Program issued by the California Regional Water Quality Control Board, Central Valley Region, on 5 December 2019.



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PATRICK PULUPA, Executive Officer

## GLOSSARY

BOD <sub>5</sub>	Five-day biochemical oxygen demand
CaCO <sub>3</sub>	Calcium carbonate
DO	Dissolved oxygen
EC	Electrical conductivity at 25° C
NTU	Nephelometric turbidity unit
TKN	Total Kjeldahl nitrogen
TDS	Total dissolved solids
TSS	Total suspended solids
Continuous	The specified parameter shall be measured by a meter continuously.
24-hr Composite	Samples shall be a flow-proportioned composite consisting of at least eight aliquots over a 24-hour period.
Daily	Samples shall be collected every calendar day.
Twice Weekly	Samples shall be collected at least two times per week on non-consecutive days.
Weekly	Samples shall be collected at least once per week on non-consecutive days
Monthly	Samples shall be collected at least once per month.
Quarterly	Samples shall be collected at least once per calendar quarter. Unless otherwise specified or approved, samples shall be collected in January, April, July, and October.
Annually	Samples shall be collected at least once per year. Unless otherwise specified or approved, samples shall be collected in October.
mg/L	Milligrams per liter
µg/L	Micrograms per liter
µmhos/cm	Micromhos per centimeter
gpd	Gallons per day
mgd	Million gallons per day
MPN/100 mL	Most probable number [of organisms] per 100 milliliters
General Minerals Analysis	Analysis for General Minerals shall include at least the following:
	Aluminum                  Iron                          Potassium
	Boron                        Magnesium                Sodium
	Calcium                     Manganese                Sulfate
	Chloride                    Phosphorus                Total Alkalinity (including alkalinity series)

WASTE DISCHARGE REQUIREMENTS ORDER R5-2019-0085  
TEJON-CASTAC WATER DISTRICT  
AND  
TEJON RANCHCORP  
TEJON MOUNTAIN VILLAGE WATER RESOURCE RECOVERY FACILITY  
FRESNO COUNTY

**INFORMATION SHEET**

**Background**

The Tejon-Castac Water District and the Tejon Ranchcorp (collectively called Discharger) are proposing to build the Tejon Mountain Village Water Resource Recovery Facility (WRRF) to serve the needs of the proposed Tejon Mountain Village development in the Tehachapi Mountains south of Bakersfield in Kern County.

The proposed Tejon Mountain Village will be a resort, residential, second home community located in southwestern Kern County. Tejon Mountain Village will be about 40 miles south of Bakersfield and 60 miles north of Los Angeles, and east of Interstate 5 near the unincorporated community of Lebec. Tejon Mountain Village will comprise about 26,400 acres, of which about 5,082 acres are to be developed in up to six phases with a mix of residential, commercial and recreational uses. Phase 1 was approved by Kern County for 752 lots, two clubhouse facilities, a hotel site, and several public facilities. Approximately one half of the development and the majority of the non-residential development are anticipated to be constructed in the first 10 years.

The Discharger submitted Reports of Waste Discharge and Title 22 Engineering Reports for the proposed reuse of tertiary-treated wastewater from the WRRF on landscape and agricultural areas within the Tejon Mountain Village development (Use Areas). Division of Drinking Water (DDW) staff issued a conditional acceptance letter on 18 July 2019 for the proposed reuse of tertiary-treated wastewater from the WRRF. These waste discharge requirements (WDRs) do not include Title 22 Reclamation Requirements. The Discharger must submit a Notice of Intent (NOI) for coverage under the State Water Resources Control Board Order WQ 2016-0068-DDW, *Water Reclamation Requirements for Recycled Water Use* (Reclamation General Order). Reuse of treated wastewater from the WRRF on Use Areas shall not occur until reclamation requirements are issued for the WRRF. An Environmental Impact Report (EIR) for the Tejon Mountain Village project, State Clearing House #2005101018, was approved by the Kern County Board of Supervisors on October 9, 2009.

**Proposed WRRF**

According to the Title 22 Report and the RWD, the Tejon-Castac Water District will own and operate the WRRF after it is constructed. The WRRF will produce disinfected tertiary water that will be used to irrigate Use Areas. Phase I will include only landscape irrigation. The WRRF is reported to have an annual average design treatment capacity of 540,000 gallons per day (gpd) at full build out. Phase 1 will have an annual average

design treatment capacity of 220,000 gpd. The WRRF will be built in four phases and is proposed to have the treatment capacities as shown in the following table.

**Table 1 - WRRF Capacity**

<b>WRRF Phase</b>	<b>Total Average Daily Capacity (gallons per day)</b>
Phase 1	220,000
Phase 2	330,000
Phase 3	440,000
Phase 4	540,000

The treatment process will consist of influent pumping, screening, equalization, two-stage aeration tanks, tertiary cloth media filtration, and an ultra-violet light (UV) disinfection system supplemented by chlorination disinfection. A sequencing batch reactor (SBR) system will be constructed to provide secondary biological treatment of the wastewater.

In the event the wastewater quality is not suitable for recycled water use, the May 2019 Title 22 Report indicates that for Phase 1 a 600,000-gallon lined emergency storage basin(s) will be constructed and used to re-route the effluent back through the treatment system for treatment. The project will provide 1.25 million gallons of emergency storage at full build out. According to the Design Report, the emergency storage basins are to be lined with a 45-millimeter polypropylene reinforced geosynthetic liner.

Tertiary-treated disinfected effluent will be stored during the winter months in lined winter storage basins when WRRF flows exceed the recycled water demand. The June 2019 RWD notes the winter storage basins were sized for the peak wet year event and, for full buildout, 201 acre-feet or about 114 days of storage is needed. For Phase 1, based on the flow of 220,000 gpd, 84.6 acre-feet of lined winter storage is required.

### **Reclamation of Tertiary-Treated Disinfected Effluent**

The May 2019 Title 22 Report indicates the project at full build out will produce about 605-acre feet per year of tertiary-treated disinfected effluent that will be discharged to about 557 acres of land (Use Area). The following is the summary of the Facility's nitrogen and salt loading to the proposed Use Area.

#### Nitrogen Loading

Total nitrogen in the tertiary-treated effluent will be less than 10 milligrams per liter (mg/L) according to the RWD and Title 22 Engineering Report. The projected nitrogen loading rates per year for three different total nitrogen concentrations of 6, 10, and 20 mg/L were included in the Title 22 Engineering Report. These WDRs specify a monthly average nitrate (as N) effluent limitation of 10 mg/L. Assuming a nitrogen

effluent concentration of 10 mg/L, the approximate nitrogen loading to the Use Area is 36 pounds per acre per year (lbs/ac/yr) at full build out.

### Salt Loading

According to the Title 22 Report, the estimated EC and TDS results in the recycled effluent (797  $\mu$ mhos/cm and 475 mg/L, respectively) are less than the EC and TDS of the underlying groundwater (813  $\mu$ mhos/cm and 543 mg/L). Central Valley Water Board staff estimated salt loading for the full build out of the project using the estimated TDS concentration of 475 mg/L in effluent and 557 acres of land available for irrigation. The estimated salt loading of the discharge is about 1,400 lbs/acre/year.

### Biochemical Oxygen Demand (BOD) Loading

BOD loading to the Use Areas will be low. Central Valley Water staff used 20 mg/L as the BOD recycled water concentration. At full build out with 557 acres of Use Area, the calculated BOD loading will be about 0.2 pounds per acre per day (lbs/acre/day) and approximately 72 lbs/acre/year.

### Stormwater

The Design Report notes that storm water at the WRRF property will be routed to the emergency storage basins. The emergency storage capacity in Phase 1 will be 600,000 gallons, but the emergency storage basins were designed to contain 435,000 gallons of effluent storage, leaving a volume of 165,000 gallons that can be used to collect storm water. Storm water from the surrounding development will be collected in storm drains and routed to the retention ponds that are not connected to the WRRF.

### **Sludge/Biosolids**

The WRRF will produce waste activated sludge that will be stored and thickened at the WRRF. The sludge will be stored in a 50,000-gallon aerobic sludge storage tank. The Title 22 Reports indicate the Phase 1 WRRF will produce about 2,700 gpd of waste activated sludge per day and will result in the generation of about 11,500 gallons of thickened sludge per week. The thickened sludge is to be hauled offsite for final dewatering. The Title 22 Reports indicate sludge may be dried on site in the future. The Site Plan included in the May 2019 Title 22 Report shows a solar drying facility and indicates it will be built in the future.

### **Source Water:**

Source water for the Facility is from the California Aqueduct sourced from the Beartrap Turnout, which will be treated via an onsite water treatment plant to potable standards for domestic use. Untreated raw water will also supplement Tejon Mountain Village's irrigation demand during peak demand periods when treated wastewater is not enough for irrigation needs.

## **Salt and Nitrate Control Program Considerations**

The Central Valley Water Board adopted Basin Plan amendments incorporating new programs for addressing ongoing salt and nitrate accumulation in the Central Valley at its 31 May 2018 Board Meeting. On 16 October 2019, the State Water Resources Control Board adopted a resolution approving the Central Valley Water Board Basin Plan amendments and also directed the Central Valley Water Board to make targeted revisions to the Basin Plan amendments within one year from the approval of the Basin Plan amendments by the Office of Administrative Law.

These programs once effective, could change how the Central Valley Water Board permits discharges of salt and nitrate. The Salinity Control Program currently being developed would subject dischargers that do not meet stringent salinity numeric values (700  $\mu\text{mhos/cm}$  EC as a monthly average to protect the AGR beneficial use and 900  $\mu\text{mhos/cm}$  as an annual average to protect the MUN beneficial use) to performance-based salinity requirements and would require these dischargers to participate in a Basin-wide Prioritization and Optimization Study to develop a long-term strategy for addressing salinity accumulation in the Central Valley.

The level of participation required of dischargers whose discharges do not meet stringent salinity requirements will vary based on factors such as the amount of salinity in the discharge, local conditions, and type of discharge. The Central Valley Water Board anticipates that the Salt and Nitrate Control Program initiative will result in regulatory changes that will be implemented through conditional prohibitions and modifications to many WDRs region-wide, including the WDRs that regulate discharges from the Facility. More information regarding this regulatory planning process can be found on the [Central Valley Water Board CV-SALTS website](https://www.waterboards.ca.gov/centralvalley/water_issues/salinity/) ([https://www.waterboards.ca.gov/centralvalley/water\\_issues/salinity/](https://www.waterboards.ca.gov/centralvalley/water_issues/salinity/)).

### **Reopener**

The conditions of discharge in the proposed Order were developed based on currently available technical information and applicable water quality laws, regulations, policies, and plans, and are intended to assure conformance with them. It may be appropriate to reopen the Order if new technical information is provided or if applicable laws and regulations change.