

**CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
LAHONTAN REGION**

**MEETING OF MAY 11, 2022
SOUTH LAKE TAHOE, CA**

ITEM 5
*Closure and Post-Closure Waste Discharge Requirements for Trogon Development, LLC, Coolwater Generating Station, San Bernardino County

CHRONOLOGY	
October 26, 1972	Board Order No. 6-72-72 established the first Waste Discharge Requirements (WDRs) for the Coolwater Generating Station (Facility).
April 1, 1981	Board Order No. 6-81-30 revised WDRs to authorize wastewater discharges to clay-lined surface impoundments and rescinded Board Order No. 6-72-72.
April 14, 1983	Board Order No. 6-83-53 revised WDRs to authorize the discharge of waste from the Coal Gasification Plant to a Waste Pile and rescinded Board Order No. 6-81-30.
March 13, 1984	Board Order No. 6-84-29 revised the WDRs to authorize the discharge of waste from the Luz (SEGS-1) Solar Power Plant to the surface impoundments and rescinded Board Order No. 6-83-53.
July 17, 1997	Board Order No. 6-97-83 revised WDRs to incorporate the requirements of California Code of Regulations (CCR), title 23, chapter 15, article 5 (Chapter 15), to add requirements for post-closure maintenance of the Waste Pile, and rescinded Board Order No. 6-84-29.
September 2, 1998	Board Order No. 6-98-54 revised WDRs to update requirements based on then current site conditions and operations, to formally approve the existing clay liner system as an engineered alternative to the prescriptive standard for the surface impoundments, to end the post-closure monitoring period for the former Waste Pile, and rescinded Board Order No. 6-97-83.

BACKGROUND

The Southern California Edison Company (SCE) constructed and operated the Facility from 1961 through 1998, which initially consisted of two steam power plants and two combined-cycle power plants. From 1961 to 1973, wastewater was discharged for percolation to the Mojave River channel. In 1973, SCE constructed five surface impoundments (Ponds 1 through 5) that had a combined evaporation surface area of 130 acres. From 1981 to 1997, various changes in site operations occurred, which included the addition of discharge of wastes from coal gasification and solar power generation processes. In 1988, the Facility was purchased by Alta Power Generation, LLC. By 1989, the Coal Gasification Plant had ceased operation. In 1995, Solar I was modified, becoming known as Solar II (SEGS II), and continued to discharge wastewater to the surface impoundments up through 1999. The surface impoundments continued to receive waste discharges until the Facility ceased to operate January 1, 2015. Since then, groundwater has been discharged to the surface impoundments to maintain integrity of the clay liners and to mitigate for dust and the potential for windblown deposition of waste outside of the surface impoundments. GenOn California South, LP acquired the Facility in 2010.

On September 17, 2021, GenOn California South, LP submitted a complete Final Closure and Post Closure Maintenance Plan (FCPCMP) for the five onsite surface impoundments. The FCPCMP constitutes a complete amended Report of Waste Discharge and contains the applicable information required by CCR, title 27. On November 23, 2021, Trogon Development, LLC, executed an Asset Purchase Agreement to accept all obligations associated with the land and fixtures comprising the Facility, and for purposes of the Closure and Post-Closure WDRs, is referred to as the "Discharger."

The Water Board will be rescinding Board Order No. 6-98-54 and issuing these Closure and Post-Closure WDRs to: (1) approve the proposed closure method for the surface impoundments; (2) establish the post-closure maintenance and monitoring requirements for the onsite closed waste management unit (WMU); and (3) provide general updates to the WDRs and Monitoring and Reporting Program (MRP) based on current site conditions, in compliance with CCR, title 27.

ISSUES

Should the Water Board adopt Closure and Post-Closure WDRs and associated MRP requirements for the Facility?

DISCUSSION

This Order will approve the FCPCMP, dated September 17, 2021, which describes the proposed manner of closure for the surface impoundments and the proposed monitoring and maintenance during the post-closure period. The Discharger proposes to clean-close Ponds 1, 2, 3, 4, and a portion of Pond 5 by removing all wastes (including sludges, precipitates, settled solids, and liner/containment materials contaminated by waste) and consolidating that waste material in the eastern portion of Pond 5; the consolidated waste in the eastern portion of Pond 5 will then be closed as the Pond 5 Landfill pursuant to CCR, title 27, section 21090.

The Pond 5 Landfill will be in the east most 10-acres of Pond 5. The bottom clay liner of this portion of the surface impoundment will remain intact and will serve as the bottom liner of the landfill. The Discharger proposes an engineered alternative final cover for the Pond 5 Landfill, specifically an evapotranspirative (ET) soil cover, which will be the primary containment system for the closed WMU. The Discharger will perform maintenance and monitoring on a periodic basis to maintain, as designed, the final ET cover of the Pond 5 Landfill throughout the post-closure period. This Order approves the engineered alternative final cover system.

Pursuant to CCR, title 27, section 21400(b)(1), a discharger must clean-close a surface impoundment unless it can be demonstrated, and the Water Board finds, that it is infeasible to attempt clean-closure. In cases where clean-closure is infeasible, CCR, title 27, section 21400(b)(2) allows closure as a landfill provided that (1) closure is carried out pursuant to the requirements of CCR, title 27, section 21090; (2) the closed unit meets the applicable construction standards for landfills pursuant to CCR, title 27, 20240 et seq.; and (3) the moisture content of the residual wastes does not exceed the moisture holding capacity of the waste either before or after closure. Finding 19 of the Order provides sufficient justification for the Water Board to find that clean closure of all five surface impoundments is infeasible, and that waste consolidation onsite and closure as a landfill is appropriate pursuant to CCR, title 27, section 21400(b)(2).

Successful clean closure of Ponds 1, 2, 3, 4, and a portion of Pond 5 must be demonstrated to and accepted by the Executive Officer for those units to be no longer subject to the Water Board-promulgated requirements of CCR, title 27.

Upon successful clean closure, the Pond 5 Landfill will be the only WMU Facility subject to the post-closure maintenance period. The post-closure maintenance period is expected to end in 2053 for planning purposes pursuant to CCR, title 27, section 21769(c)(2)(a). However, the post-closure maintenance period may be extended if measurably significant evidence of release is detected from the closed WMU, or shortened if the Discharger demonstrates that the waste in Pond 5 Landfill no longer poses a threat to water quality and that the WMU has been in continuous compliance with its water quality protection standard for a period of three consecutive years as specified in CCR, title 27, section 20410(c).

SUSTAINABLE GROUNDWATER MANAGEMENT ACT

The Sustainable Groundwater Management Act (SGMA) requires the formation of a Groundwater Sustainability Agency (GSA) to develop a Groundwater Sustainability Plan (GSP) for basins designated as medium to high priority at this time. The priority set by the California Department of Water Resources for the Lower Mojave River Valley Groundwater Basin is seen in the table below. Based on this designation, neither a GSA nor GSP are required at this time.

Priority	Groundwater Basin in Inyo County
Very Low	Lower Mojave River Valley Groundwater Basin (6-040)

Source: <https://gis.water.ca.gov/app/bp2018-dashboard/p1/>

PUBLIC OUTREACH/INPUT

The Tentative Order was distributed for public comment on January 31, 2022, and no comments were received.

RECOMMENDATION

Adoption of Order as proposed.

ENCLOSURE	ITEM	BATES NUMBER
1	Board Order No. R6V-2022-PROPOSED	5-5

ENCLOSURE 1

**CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
LAHONTAN REGION**

**BOARD ORDER NO. R6V-2022-PROPOSED
WDID NO. 6B362036002**

CLOSURE AND POST-CLOSURE WASTE DISCHARGE REQUIREMENTS

FOR

**TROGON DEVELOPMENT, LLC
COOLWATER GENERATING STATION**

San Bernardino County

The California Regional Water Quality Control Board, Lahontan Region (Water Board) finds:

1. Discharger

GenOn California South, LP owned and operated the Coolwater Generating Station (Facility). On September 17, 2021, GenOn California South, LP submitted a complete Final Closure and Post Closure Maintenance Plan (FCPCMP) for the five onsite surface impoundments. The FCPCMP constitutes a complete amended Report of Waste Discharge and contains the applicable information required by the California Code of Regulations (CCR), title 27. On November 23, 2021, Trogon Development, LLC executed an Asset Purchase Agreement to accept all obligations associated with the land and fixtures comprising the Facility. For purposes of this Order, Trogon Development, LLC is referred to as the "Discharger."

2. Location

The Facility is located at 37000 Santa Fe Street, approximately four miles east of the community of Daggett in San Bernardino County, within Township 9 North, Range 1 East, Sections 14 and 23 of the San Bernardino Baseline and Meridian. Attachment A of this Order shows the Facility location.

3. Facility

When operating, the Facility consisted of power generating facilities and five evaporation ponds (Ponds 1, 2, 3, 4, and 5; hereafter referred to as surface impoundments) that were authorized to receive wastewater generated by the power generating plants. The power generating facilities were deactivated in 2015 and waste discharges to the surface impoundments ceased. Since 2015, groundwater has been discharged to the surface impoundments to maintain integrity of the clay liners and to mitigate for dust and the potential for windblown deposition of waste outside of the surface impoundments.

This Order approves the FCPCMP dated September 2021. The Discharger proposes to clean-close Ponds 1, 2, 3, 4, and a portion of Pond 5 and consolidate all waste

materials, including waste impacted liner materials and windblown wastes discharged outside the surface impoundments, within the east most 10-acres of Pond 5 and then close that waste management unit (WMU) as a landfill (Pond 5 Landfill). Upon closure, the Pond 5 Landfill will be the only WMU at the Facility. For purposes of this Order, the Pond 5 Landfill is also referred to as "closed WMU." Attachment B of this Order is a layout of the existing surface impoundments and of the proposed closed WMU (Pond 5 Landfill).

4. Reason for Action

The Water Board is issuing these Closure and Post-Closure Waste Discharge Requirements (WDRs) and updating the Monitoring and Reporting Program (MRP) to: (1) approve the proposed closure method for the surface impoundments; (2) establish the post-closure maintenance and monitoring requirements for the closed WMU; and (3) provide general updates to the WDRs and MRP based on current site conditions, in compliance with CCR, title 27.

5. Order History

- a. Board Order No. 6-72-72 was adopted on October 26, 1972, establishing the first WDRs for the Facility.
- b. Board Order No. 6-81-30 was adopted on April 1, 1981, establishing revised WDRs to authorize wastewater discharges to clay-lined surface impoundments and rescinded Board Order No. 6-72-72.
- c. Board Order No. 6-83-53 was adopted on April 14, 1983, establishing revised WDRs to authorize the discharge of waste from the Coal Gasification Plant to a Waste Pile and rescinded Board Order No. 6-81-30.
- d. Board Order No. 6-84-29 was adopted on March 13, 1984, establishing revised WDRs to authorize the discharge of waste from the Luz (SEGS-1) Solar Power Plant to the surface impoundments and rescinded Board Order No. 6-83-53.
- e. Board Order No. 6-97-83 was adopted on July 17, 1997, establishing revised WDRs to incorporate the requirements of CCR, title 23, chapter 15, article 5 (Chapter 15), to add requirements for post-closure maintenance of the Waste Pile, and rescinded Board Order No. 6-84-29.
- f. Board Order No. 6-98-54 was adopted on September 2, 1998, establishing revised WDRs to update requirements based on then current site conditions and operations, to formally approve the existing clay liner system as an engineered alternative to the prescriptive standard for the surface impoundments, to end the post-closure monitoring period for the former Waste Pile, and rescinded Board Order No. 6-97-83.

6. Facility History

The Southern California Edison Company (SCE) constructed and operated the Facility from 1961 through 1998, which initially consisted of two steam power plants and two combined-cycle power plants. From 1961 to 1973, wastewater was discharged for percolation to the Mojave River channel. In 1973, SCE constructed five surface impoundments (Ponds 1 through 5) that had a combined evaporation surface area of 130 acres. The surface impoundments were constructed with a 12-inch-thick bentonite clay liner (sourced from Troy [Dry] Lake), with a 12-inch-thick layer of sand placed below and above the clay. Waste streams authorized to be discharged to the surface impoundments consisted of cooling tower blowdown, boiler blowdown, demineralizer regeneration water, boiler cleaning wastewater, and minor amounts of storm drain wastewater, clarifier sludge, and wastewater from the water softening units.

From 1981 to 1997, various changes in site operations occurred. In 1981, SCE constructed a Solar Power Pilot Project (SPPP), and waste streams from the SPPP were authorized to be discharged to the surface impoundments. A Coal Gasification Plant was constructed in 1983, and solid waste from the coal gasification process was discharged to a new waste pile and liquid wastes were discharged to the surface impoundments. The Luz (SEGS-1) Solar Power Plant was constructed in 1984 on leased property from SCE. Waste streams from SEGS-1 were authorized to discharge to the surface impoundments under Board Order 6-84-29. In 1988, the Facility was purchased by Alta Power Generation, LLC. By 1989, the Coal Gasification Plant had ceased operation and the Waste Pile was closed. In 1995, Solar I was modified, becoming known as Solar II (SEGS II), and continued to discharge wastewater to the surface impoundments up through 1999.

The surface impoundments continued to receive waste discharges until the Facility ceased to operate January 1, 2015. Since then, groundwater has been discharged to the surface impoundments to maintain integrity of the clay liners and to mitigate for dust and the potential for windblown deposition of waste outside of the surface impoundments. The surface impoundments are eligible for closure since wastewaters are no longer generated or being discharged.

7. Final Closure and Post-Closure Maintenance Plan

This Order approves the FCPCMP dated September 17, 2021, which describes the proposed manner of closure for the surface impoundments and the proposed monitoring and maintenance during the post-closure period. The Discharger proposes to clean-close Ponds 1, 2, 3, 4, and a portion of Pond 5 by removing all wastes (including sludges, precipitates, settled solids, and liner/containment materials contaminated by waste) and consolidating that waste material in the eastern portion of Pond 5; the consolidated waste in the eastern portion of Pond 5 will then be closed as the Pond 5 Landfill pursuant to CCR, title 27, section 21090. Following clean-closure of the surface impoundments, any liner materials that are found to be unimpacted by waste may be reused onsite or left in place, and any berms not used as part of the Pond 5 Landfill containment will be removed (regraded onsite). Additionally, windblown wastes

deposited on the ground surface outside of the surface impoundments (primarily north and east in the direction of prevailing winds) will be collected and consolidated in the Pond 5 Landfill as part of the closure. Attachment B of this Order is a layout of the existing surface impoundments and of the proposed closed WMU (Pond 5 Landfill).

The Pond 5 Landfill will be in the east most 10-acres of Pond 5. The bottom clay liner of this portion of the surface impoundment will remain intact and will serve as the bottom liner of the landfill (hydraulic conductivity of 1×10^{-6} centimeters per second [cm/s]). A final cover will be constructed overtop the Pond 5 Landfill to isolate the waste from precipitation and minimize the potential to generate leachate. The final cover will be the primary containment system for the closed WMU. Attachment C of this Order is a schematic of the proposed closed WMU showing the base liner and final cover liner systems.

The Discharger proposes an engineered alternative final cover for the Pond 5 Landfill, specifically an evapotranspirative (ET) soil cover. The constructed ET cover will consist, from top to bottom, of the following components:

- 9-inch thick vegetated (erosion resistant) silty-sand layer;
- 6-inch thick fine-grained, low-hydraulic conductivity layer;
- 12-inch thick sandy soil layer; and
- 24-inch thick foundation layer.

The main concept of this type of landfill cover is to store moisture between the soil particles during the rainy season and release that moisture during the dry season through plant uptake and evaporation. The Discharger will perform maintenance and monitoring on a periodic basis to maintain, as designed, the final ET cover of the Pond 5 Landfill throughout the post-closure period.

8. Engineered Alternative to Prescriptive Landfill Cover Design

CCR, title 27, section 20080, subsection (b), allows for an engineered alternative provided that the Discharger demonstrates that construction to the prescriptive standard is not feasible and that an engineered alternative is consistent with the performance goal of the prescriptive standard and affords equivalent protection against water quality impairment. For landfills, the performance goal for closure is to minimize the infiltration of water into the waste, thereby minimizing the production of leachate and landfill gas pursuant to CCR, title 27, section 20950, subsection (a)(2)(A)1.

Based on the results of the alternative final cover performance evaluation, as provided in the FCPCMP, the engineered alternative final cover system consisting of an ET cover with a vegetated erosion-resistant layer is protective of water quality and meets the requirements of CCR, title 27, section 20080, subsection (b). This Order approves the engineered alternative final cover system.

9. Closure as a Landfill

Pursuant to CCR, title 27, section 21400(b)(1), a discharger must clean-close a surface impoundment unless it can be demonstrated, and the Water Board finds, that it is infeasible to attempt clean-closure. In cases where clean-closure is infeasible, CCR, title 27, section 21400(b)(2) allows closure as a landfill provided that (1) closure is carried out pursuant to the requirements of CCR, title 27, section 21090; (2) the closed unit meets the applicable construction standards for landfills pursuant to CCR, title 27, 20240 et seq.; and (3) the moisture content of the residual wastes does not exceed the moisture holding capacity of the waste either before or after closure. The Water Board finds that clean closure of all five surface impoundments is infeasible, and that waste consolidation onsite and closure as a landfill is appropriate pursuant to CCR, title 27, section 21400(b)(2), as detailed below.

a. Demonstration of Infeasibility of Clean-Closure of Surface Impoundments

The wastes remaining within the surface impoundments are classified as designated wastes requiring disposal in a Class II WMU. There is approximately 450,000 to 500,000 cubic yards of waste (45,500 to 50,500 truckloads of material) that would need to be removed and disposed of offsite at a Class II landfill to achieve full clean closure of all five surface impoundments. The closest Class II disposal facility is more than 200 miles away (400 miles roundtrip) and located outside of the Lahontan Region. Hauling the waste to a Class II landfill would produce air emissions of approximately 35-40 tons of hydrocarbons, 37-40 tons of particulates, and 45,000-60,500 tons of carbon monoxide, nitric oxide, and carbon dioxide. The Discharger estimates that it would cost approximately \$39,000,000 for offsite disposal. Based on this information, the Water Board finds the potential air pollution impacts and the cited high financial costs associated with offsite disposal demonstrate that clean closure of all five surface impoundments is impractical and, therefore, infeasible.

b. Closed Unit will Meet Applicable Standards of Title 27

The Pond 5 Landfill will be closed and maintained during the post-closure period in accordance with the requirements of CCR, title 27, section 21090, as described in the FCPCMP and as required by this Order. Additionally, the closed WMU will meet the applicable siting and construction standards for a new Class II non-municipal solid waste landfill pursuant to CCR, title 27, 20240 et seq., as outlined below.

1. There will be at least a 5-foot separation between the bottom of the closed WMU and highest anticipation elevation of underlying groundwater (CCR, title 27, section 20240[c]).
2. The base liner system of the closed WMU will have a hydraulic conductivity of not more than 1×10^{-6} cm/s (CCR, title 27, section 20250(b)[3]).

3. The closed WMU will not be located within a known 100-year floodplain, therefore design considerations to prevent inundation or washout due to floods with a 100-year return period are not applicable (CCR, title 27, section 20250[c]).
4. The closed WMU is not located within 200 feet of a known Holocene-active fault (CCR, title 27, section 20250[d]).
5. Slope stability and liquefaction analyses were performed, and the closed WMU has been designed and will be constructed and maintained to preclude containment failure due to rapid geologic change (CCR, title 27, section 20250[e]).
6. CCR, title 27, section 20250(c) specifies that clay liners for a Class II WMU be a minimum of 2-feet thick, unless an engineered alternative is approved by the Regional Board in accordance with CCR, title 27, section 20080(b). Board Order No. 6-98-54 approved the following engineered alternative base liner system for the surface impoundments: 12 inches of subgrade; overlain by 12 inches of clay with a hydraulic conductivity of 1×10^{-6} cm/s; overlain by 12 inches of a sandy cover layer. The engineered alternative base liner system was sufficient to contain the liquid wastes during active life of the surface impoundments and is expected to perform equally as well to contain solid wastes in the landfill during the post-closure period.
7. For Class II landfills, a leachate collection and removal system (LCRS) is required unless the Discharger demonstrates, based on climatic and hydrogeologic conditions, that leachate will not be formed in, or migrate from the unit (CCR, title 27, section 20340[a]). Waste discharged to the Pond 5 Landfill will be solid wastes that are not expected to decompose and generate leachate post-closure. Also, the final cover system is designed to prevent precipitation from infiltrating the waste and generating leachate. Additionally, the engineered alternative base liner system was sufficient to contain the liquid wastes during active life of the surface impoundments and is expected to perform equally as well to contain solid wastes in the landfill during the post-closure period. It has been demonstrated that leachate will likely not be formed in or migrate from the closed WMU, and therefore a LCRS is not required for the Pond 5 Landfill.
8. The closed WMU precipitation and drainage control facilities will be designed to manage the 1000-year, 24-hour precipitation event (CCR, title 27, 20365[f]).
9. The closed WMU has been designed to withstand the maximum credible earthquake without damage to the foundation or to the structures which control leachate, surface drainage, or erosion, or gas (CCR, title 27, section 20370[a]).

c. Moisture Content Not to Exceed Moisture Holding Capacity

Prior to clean-closure, liquids in the surface impoundments will be evaporated such that no free liquids are present. Wastes generated during clean-closure and discharged to the Pond 5 Landfill are not expected to exceed 50 percent moisture content. The moisture holding capacity of the wastes is relatively high given their fine-grained texture, and the consolidated wastes in the closed WMU are not expected to exceed their moisture holding capacity after closure. Also, the final cover system is designed to store precipitation and release the stored precipitation to the vegetated cover and is not expected to allow precipitation to infiltrate the cover system and come in contact with the wastes.

10. Post-Closure Maintenance Period

The post-closure maintenance period means the period after closure of a WMU during which the waste in the unit could have an adverse effect on the quality of the waters of the state. Upon closure, the Pond 5 Landfill will be the only WMU at the Facility subject to the post-closure maintenance period. The post-closure period for the Pond 5 Landfill (closed WMU) will extend as long as the wastes pose a threat to water quality pursuant to CCR, title 27, section 20950 (a)(1). The post-closure maintenance period is expected to end in 2053 for planning purposes pursuant to CCR, title 27, section 21769(c)(2)(a). However, the post-closure maintenance period may be extended if measurably significant evidence of release is detected from the closed WMU, or shortened if the Discharger demonstrates that the waste in Pond 5 Landfill no longer poses a threat to water quality and that the WMU has been in continuous compliance with its WQPS for a period of three consecutive years as specified in CCR, title 27, section 20410(c).

Ponds 1, 2, 3, 4, and a portion of Pond 5 will be clean-closed, and the wastes consolidated in the Pond 5 Landfill. Successful clean closure must be demonstrated to and accepted by the Executive Officer for the units to be no longer subject to the SWRCB-promulgated requirements of title 27.

11. Waste Classification

The residual solids, sludge, and evaporite material remaining in the surface impoundments, including any waste-impacted liner or containment materials, is classified as a solid designated waste (i.e., Class II waste).

12. Waste Management Unit Classification and Authorized Disposal Site

Pursuant to CCR, title 27, section 20250, the Pond 5 Landfill is classified as a Class II landfill (non-municipal solid waste) and is the only authorized waste disposal site within the Facility boundary for disposal of solid wastes generated during clean-closure of the surface impoundments.

13. Land Uses

Historically, adjacent properties have been used for training of SCE personnel, along with agricultural and solar energy purposes. The Facility and adjacent properties are located within an area designated for regional industrial use by San Bernardino County.

14. Site Topography

The Facility is situated within the Mojave Valley in the western Mojave Desert at an approximate elevation of 1,971 feet above mean sea level. Topography is generally flat with a slight downward slope to the northeast towards the Mojave River. The existing topography of the Facility is shown on Attachment A.

15. Climate

The Mojave Valley, in which the Facility is located, has an arid climate characterized by infrequent rainfall, cold winters and hot summers, and low relative humidity. The mean annual temperature is 67 degrees (°) Fahrenheit (F); area temperature ranges from a high of 104° F in the summer to a low of 35° F in the winter. Liquid precipitation in the vicinity of the Facility averages 3.83 inches annually. The expected precipitation for the 24-hour, 1000-year frequency design storm event is 0.146 inches per hour or approximately 3.41 inches in 24 hours. The annual average evaporation rate is approximately 74 inches per year.

16. Site Geology

The Facility is located within the western Mojave Desert of the Mojave Desert geologic province, a wedge-shaped block bounded by the Garlock fault to the north, the San Andreas fault to the south, and the Eastern Sheer zone to the east. More specifically, The Facility is situated on a gently northeast sloping alluvial plain, approximately 2.8 miles (4.5 kilometers) east of the Mitchell Mountains, approximately 5.5 miles (8.9 kilometers) south of the Calico Mountains, and 2.1 miles (3.3 kilometers) northwest of the Newberry Mountains. The closest faults active during the Holocene are the Harper fault zone located approximately 4.2 miles (6.8 kilometers) to the west and the Calico-Hidalgo fault zone located approximately 5.3 miles (8.6 kilometers) to the northeast of the Facility. The underlying geology consists of undifferentiated Holocene alluvial deposits consisting of silty sand, sand, gravelly sand, with interbedded lenses of silt and clay to depths of up to several hundred feet below ground surface.

17. Hydrogeology and Groundwater Quality

The Facility is situated within the Lower Mojave River Valley Groundwater Basin. The average depth to groundwater is approximately 175 feet below the ground surface. Based on groundwater data collected for the Facility, groundwater flow direction is to the southeast with a flow rate estimated at 1 foot per day and a hydraulic gradient of 0.0007 feet per foot.

The Discharger has been monitoring groundwater at the Facility since 1983. Based on data collected from three groundwater monitoring wells installed at the Facility, groundwater quality beneath the site has not been affected by waste discharges. Groundwater sampling of these wells shows concentrations of total dissolved solids that range from 290 to 1000 milligrams per liter (mg/L), sodium concentrations that range from 62 to 110 mg/L, nitrate concentrations that range from 2.0 to 3.3 mg/L (as nitrogen [N]), chloride concentrations that range from 74 to 230 mg/L, and sulfate concentrations that range from 53 to 200 mg/L.

18. Hydrology

The Facility is located within the Lower Mojave Hydrologic Area of the Mojave Hydrologic Unit, approximately 850 feet south of the Mojave River. Onsite surface drainage flows to the north-northeast towards the Mojave River.

19. Site Storm Water Management

Storm water protection at the Facility is primarily accomplished through drainage control based on the following objectives: protection from run-on; minimize infiltration of precipitation into the waste; minimize exposure of pollutants to precipitation; manage runoff to minimize erosion and sedimentation; and minimize off-site migration of storm water. To achieve these objectives, the Discharger implements structural and non-structural Best Management Practices to mitigate potential pollution of storm water discharges and performs site compliance inspections to evaluate the effectiveness of the Best Management Practices. The Discharger will continue to implement Best Management Practices and perform inspections throughout the post-closure period of the Facility.

20. Lahontan Basin Plan

The Water Board adopted a *Water Quality Control Plan for the Lahontan Region* (Basin Plan) that became effective on March 31, 1995. This Order implements the Basin Plan, as amended.

21. Receiving Waters

The receiving waters are the groundwaters of the Lower Mojave River Valley Groundwater Basin (Department of Water Resources, Groundwater Basin No. 6-40; Basin Plan, Plate 2B) and minor surface waters of the Lower Mojave Hydrologic Area (628.50) of the Mojave Hydrologic Unit (628.00; Basin Plan, Plate 1B).

22. Beneficial Uses

The present and probable future beneficial uses of the groundwaters of the Lower Mojave River Valley Groundwater Basin (DWR No. 6-40), as set forth and defined in the Basin Plan are:

- a. Municipal and Domestic Supply (MUN);
- b. Agricultural Supply (AGR);
- c. Industrial Service Supply (IND);
- d. Freshwater Replenishment (FRSH);
- e. Aquaculture (AQUA).

The present and probable beneficial uses of minor surface waters of the Lower Mojave Hydrologic Area No. 628.50, as set forth and defined in the Basin Plan are:

- a. Municipal and Domestic Supply (MUN);
- b. Agricultural supply (AGR);
- c. Ground Water Recharge (GWR);
- d. Water Contact Recreation (REC-1);
- e. Non-contact Water Recreation (REC-2);
- f. Commercial and Sportfishing (COMM);
- g. Warm Freshwater Habitat (WARM); and
- h. Wildlife Habitat (WILD).

23. Water Quality Protection Standard (WQPS)

The WQPS consists of constituents of concern (COCs), concentrations limits, monitoring points, and the point of compliance. The COCs, monitoring points, and point of compliance for groundwater and unsaturated zone monitoring are described in MRP No. R6V-2022-PROPOSED, which is made part of this Order. The WQPS applies over the active life of the waste management units, closure and post-closure maintenance period, and the compliance period of the Facility in accordance with CCR, title 27, section 20410(a).

24. Statistical and Non-Statistical Methods

Statistical and non-statistical analyses of monitoring data are necessary for the earliest possible detection of measurably significant evidence of a release of waste from the WMU. CCR, title 27, section 20415, subdivision (e)(7), requires statistical data analyses to determine when there is "measurably significant" evidence of a release from the WMU. CCR, title 27, section 20415, subdivision (e)(8) allows non-statistical data analysis methods that can achieve the goal of the monitoring program at least as well as the most appropriate statistical method. The monitoring parameters listed in MRP No. R6V-2022-PROPOSED are used as indicators of a release from the closed WMU.

25. Detection Monitoring Program

Pursuant to CCR, title 27, section 20420, the Discharger is implementing a Detection Monitoring Program (DMP) for the Facility. The DMP monitors groundwater and the unsaturated zone for evidence of waste constituent migration that may threaten groundwater quality. The DMP is specified in MRP No. R6V-2022-PROPOSED.

26. Evaluation Monitoring Program

An Evaluation Monitoring Program (EMP) may be required, pursuant to CCR, title 27, section 20385 and section 20420, subdivision (k)(5-6), whenever there is “measurably significant” evidence of a release during a DMP or whenever there is significant physical evidence of a release. The Discharger must delineate the nature and extent of the release and develop a suite of proposed corrective action measures within 90 days of initiating an EMP, unless the Discharger proposes and substantiates a longer time period for implementing the EMP. If the EMP confirms measurably significant evidence and/or significant physical evidence of a release, then the Discharger must submit an Engineering Feasibility Study report proposing corrective action measures pursuant to CCR, title 27, section 20425 (k)(6), and MRP No. R6V-2022-PROPOSED.

27. Corrective Action Program

A corrective action program (CAP) to remediate releases from the Facility may be required pursuant to CCR, title 27, section 20430 if results of an EMP confirm measurably significant evidence of a release or significant physical evidence of a release from the WMU.

28. Discharge of Monitoring Well Purge Water

As part of the regularly scheduled groundwater sampling events, groundwater monitoring wells are purged until parameters of dissolved oxygen, electrical conductivity, pH, temperature, and turbidity are sufficiently stabilized to ensure collection of a representative sample. Purged groundwater is currently discharged to the ground onsite and allowed to evaporate. To protect surface waters and groundwater, the discharge to the ground of purge water is prohibited from containing concentrations of COCs and monitoring parameters that exceed the WQPS, as described in MRP No. R6V-2022-PROPOSED.

29. Financial Assurance

The Discharger has provided documentation that a financial assurance fund has been established for closure and post-closure maintenance and potential future corrective action requirements. This Order requires the Discharger to report annually the amount of money available in the fund. This Order also requires the Discharger to demonstrate, in an annual report, that the amount of financial assurance is adequate or to increase the amount of financial assurance, as appropriate, for inflation.

30. Waste Management Strategy

The Water Board has determined that the proposed waste discharges to the Pond 5 Landfill are consistent with a waste management strategy that prevents the pollution or contamination of the water of the state, during the closure and post-closure period of the WMU.

31. California Water Code, Section 13241 Considerations

Pursuant to California Water Code (CWC), section 13241, the requirements of this Order take into consideration:

- a. Past, present, and probable future beneficial uses of water. This Order identifies existing groundwater quality and past, present, and probable future beneficial uses of water, as described in Finding No. 17 and 22, respectively. The proposed discharge will not adversely affect present or probable future beneficial uses of water, including municipal and domestic supply, agricultural supply, industrial service supply, and freshwater replenishment, because there has been no indication of a release from the surface impoundments, the current discharge is authorized only to the Pond 5 Landfill, and monitoring is required to assess water quality.
- b. Environmental characteristics of the hydrographic unit under consideration including the quality of water available thereto. Finding No. 17 describes the environmental characteristics and quality of water available.
- c. Water quality conditions that could reasonably be achieved through the coordinated control of all factors that affect water quality in the area. Compliance with the requirements of this Order will protect groundwater quality. The Water Board will use its existing authority and these WDRs to ensure protection of water quality from these discharges.
- d. Economic considerations. Water Quality Objectives established in the Basin Plan for the Lower Mojave River Valley Groundwater Basin do not subject the Discharger to economic disadvantage as compared to other similar discharges in the Region. This Order will require the Discharger to submit proposals compliant with the requirements of CCR, title 27, and is reasonable.
- e. The need for developing housing within the region. The Discharger is not responsible for developing housing within the region.
- f. The need to develop and use recycled water. The Discharger does not propose the use of recycled water at this Facility, as there is no locally available source.

32. Human Right to Safe, Clean, Affordable, and Accessible Water

CWC, section 106.3 establishes a state policy that every human being has the right to safe, clean, affordable, and accessible water adequate for human consumption, cooking, and sanitary purposes and directs state agencies to consider this policy when adopting regulations pertinent to those uses of water. This Order promotes that policy by requiring storm water and drainage controls, monitoring to assess water quality, and corrective action to address impacts to water quality.

33. California Environmental Quality Act

These Closure and Post-Closure WDRs govern an existing waste disposal facility and is therefore exempt from the provisions of the California Environmental Quality Act (CEQA), Public Resources Code, section 21000 et seq., in accordance with CCR, title 14, section 15301, Existing Facility (CEQA Exemptions).

34. Antidegradation Analysis

State Water Board Resolution No. 68-16 ("Statement of Policy with Respect to Maintenance of High Quality Waters in California") requires that whenever the existing quality of water is better than the quality established in policies as of the date on which such policies become effective, such existing high quality must be maintained. Any change in the existing high quality is allowed by that policy only if it has been demonstrated to the Regional Water Board that any change will be consistent with maximum benefit to the people of the state, will not unreasonably affect present and anticipated beneficial use of such water, and will not result in water quality less than that prescribed in the policies. The policy further requires that Dischargers meet the waste discharge requirements which will result in the best practicable treatment or control of the discharge necessary to assure that pollution or nuisance will not occur and that the highest water quality consistent with maximum benefit to the people of the state will be maintained.

Adequate containment systems, which comply with CCR, title 27 requirements, are needed to prevent an unauthorized release to groundwater and this WDR is expected to prevent degradation of water quality as a result of waste discharges. A monitoring and maintenance program is required to ensure that waste discharges are contained within the closed WMU at the Facility. As a result, degradation is not expected.

35. Technical and Monitoring Reports

CWC, section 13267(b) provides that: "In conducting an investigation specified in subdivision (a), the Regional Board may require that any person who has discharged, discharges, or is suspected of having discharge or discharging, or who proposed to discharge within its region, or any citizen or domiciliary, or political agency or entity of this state who had discharged, discharges, or is suspected of having discharged or discharging, or who proposed to discharge waste outside of its region that could affect the quality of the waters of the state within its region must furnish, under penalty of perjury, technical or monitoring program reports which the board requires. The burden, including costs of these reports, must bear a reasonable relationship to the need for the reports and the benefits to be obtained from the reports."

Technical reports are necessary to assure compliance with this Order and to assess any water quality impacts due to discharges from the Facility. Therefore, the burden, including costs, of these reports bears a reasonable relationship to the need for the report and the benefits to be obtained from the reports.

36. Notification of Interested Parties

The Water Board notified the Discharger and interested agencies and persons of its intent to adopt WDRs for closure and post-closure maintenance and monitoring and has provided the public with an opportunity to submit written comments.

37. Right to Petition

Any person aggrieved by this action of the Water Board may petition the State Water Board to review the action in accordance with CWC, section 13320, and CCR, title 23, sections 2050 et. seq. The State Water Board must receive the petition by 5:00 p.m., 30 days after the date of this Order, except that if the thirtieth day following the date of this Order falls on a Saturday, Sunday, or state holiday, the petition must be received by the State Water Board by 5:00 p.m. on the next business day. Copies of the law and regulations applicable to filing petitions may be found on the internet at http://www.waterboards.ca.gov/public_notices/petitions/water_quality, or will be provided in hard copy or electronic format upon request.

38. Consideration of Public Comments

The Water Board, in a public meeting held on May 11, 2022, heard and considered all comments pertaining to the discharge.

IT IS HEREBY ORDERED, pursuant to CWC sections 13263 and 13267, that the Discharger must comply with the following:

I. RECEIVING WATER LIMITATIONS

- A. The Discharger must not cause the presence of the following substances or conditions in groundwaters of the Lower Mojave River Valley Groundwater Basin.
1. Bacteria – Groundwaters designated as MUN, the median concentration of coliform organisms, over any seven-day period, must be less than 1.1 Most Probable Number per 100 milliliters (MPN/100 mL).
 2. Chemical Constituents – Groundwaters designated as MUN shall not contain concentrations of chemical constituents in excess of the Primary Maximum Contaminant Level (MCL) or Secondary MCL based upon drinking water standards specified in the following provisions of CCR, title 22: Table 64431-A of section 64431 (Inorganic Chemicals), Table 64444-A of section 64444 (Organic Chemicals), Table 64449-A of section 64449 (Secondary MCLs – Consumer Acceptance Contaminant Levels), and Table 64449-B of section 64449 (Secondary MCLs – Consumer Acceptance Contaminant Level Ranges). This incorporation-by-reference is prospective including future changes to the incorporated provisions as the changes take effect. Groundwaters must not contain concentrations of chemical constituents that adversely affect the water for beneficial uses.

3. Radioactivity – Radionuclides must not be present in concentrations that are deleterious to human, plant, animal, or aquatic life, or that result in the accumulation of radionuclides in the food chain to an extent that it presents a hazard to human, plant, animal, or aquatic life. Groundwater designated MUN must not contain concentrations of radionuclides in excess of limits specified in CCR, title 22, section 64442, Table 64442, and section 64443, Table 64443, including future changes as the changes take effect.
 4. Taste and Odors – Groundwaters must not contain taste or odor-producing substances in concentrations that cause a nuisance or that adversely affect beneficial uses. For groundwaters designated as MUN, at a minimum, concentrations must not exceed adopted Secondary MCLs as specified in CCR, title 22, section 64449, Table 64449-A (Secondary MCLs – Consumer Acceptance Contaminant Level) and Table 64449-B (Secondary MCLs – Consumer Acceptance Contaminant Levels Ranges) including future changes as the changes take effect.
- B. The discharger must not cause the presence of the following substances or conditions in surface waters of the Lower Mojave Hydrologic Area.
1. Ammonia – The neutral, un-ionized ammonia species (NH_3) is highly toxic to freshwater fish. The fraction of toxic NH_3 to total ammonia species ($\text{NH}_4^+ + \text{NH}_3$) is a function of temperature and pH. Tables 3-1 to 3-4 from the Basin Plan were derived from US Environmental Protection Agency (USEPA) ammonia criteria for freshwater. Ammonia concentrations must not exceed the values listed for the corresponding conditions in these tables. For temperature and pH values not explicitly in these tables, the most conservative value neighboring the actual value may be used or criteria can be calculated from numerical formulas available on page 3-4 of the Basin Plan.
 2. Bacteria – Waters must not contain concentrations of coliform organisms attributable to anthropogenic sources, including human and livestock wastes. The fecal coliform concentration during any 30-day period must not exceed a log mean of 20/100 mL, nor shall more than 10 percent of all samples collected during any 30-day period exceed 40/100 mL. The USEPA recommends that the log mean should ideally be based on a minimum of not less than five samples collected as evenly spaced as practicable during any 30-day period. However, a log mean concentration exceeding 20/100 mL for any 30-day period shall indicate violation of this objective even if fewer than five samples were collected.
 3. Biostimulatory Substances – Waters must not contain biostimulatory substances in concentrations that promote aquatic growths to the extent

that such growths cause nuisance or adversely affect the water for beneficial uses.

4. Chemical Constituents – Waters designated as MUN must not contain concentrations of chemical constituents in excess of the MCL or secondary MCL based upon drinking water standards specified in CCR, title 22, chapter 15, article 1, section 64400 et. seq. Waters designated as AGR must not contain concentrations of chemical constituents in amounts that adversely affect the water for beneficial uses (i.e., agricultural purposes). Waters must not contain concentrations of chemical constituents in amounts that adversely affect the water for beneficial uses.
5. Chlorine, Total Residual – For the protection of aquatic life, total chlorine residual must not exceed either a median value of 0.002 mg/L or a maximum value of 0.003 mg/L. Median values must be based on daily measurements taken within any six-month period.
6. Color – Waters must be free of coloration that causes nuisance or adversely affects the water for beneficial uses.
7. Dissolved Oxygen – The dissolved oxygen concentration, as percent saturation, must not be depressed by more than 10 percent, nor shall the minimum dissolved oxygen concentration be less than 80 percent of saturation. The minimum dissolved oxygen concentration must not be less than 4.0 mg/L as a daily minimum, 5.0 mg/L as a 7-day mean, and 6.5 mg/L as a 30-day mean.
8. Floating Materials – Waters must not contain floating material, including solids, liquids, foams, and scum, in concentrations that cause nuisance or adversely affect the water for beneficial uses. For natural high-quality waters, the concentrations of floating material must not be altered to the extent that such alterations are discernible at the 10 percent significance level.
9. Oil and Grease – Waters must not contain oils, greases, waxes or other materials in concentrations that result in a visible film or coating on the surface of the water or on objects in the water, that cause nuisance, or that otherwise adversely affect the water for beneficial uses. For natural high-quality waters, the concentration of oils, greases, or other film or coat generating substances must not be altered.
10. Nondegradation of Aquatic Communities and Populations – All waters must be free from substances attributable to wastewater or other discharges that produce adverse physiological responses in humans, animals, or plants; or which lead to the presence of undesirable or nuisance aquatic life. All waters must be free from activities that would

substantially impair the biological community as it naturally occurs due to physical, chemical, and hydrologic processes.

11. pH – Changes in normal ambient pH levels must not exceed 0.5 pH units. The pH must not be depressed below 6.5 nor raised above 8.5. Compliance with the pH objective for these waters will be determined on a case-by-case basis.
12. Radioactivity – Radionuclides must not be present in concentrations which are deleterious to human, plant, animal, or aquatic life nor which result in the accumulation of radionuclides in the food web to an extent which presents a hazard to human, plant, animal, or aquatic life. Waters designated as MUN must not contain concentrations of radionuclides in excess of the limits specified in CCR, title 22.
13. Sediment – The suspended sediment load and suspended sediment discharge rate of surface waters must not be altered in such a manner as to cause nuisance or adversely affect the water for beneficial uses.
14. Settleable Materials – Waters must not contain substances in concentrations that result in deposition of material that causes nuisance or that adversely affects the water for beneficial uses. For natural high-quality waters, the concentration of settleable materials must not be raised by more than 0.1 milliliter per liter.
15. Suspended Materials – Waters must not contain suspended materials in concentrations that cause nuisance or that adversely affect the water for beneficial uses. For natural high-quality waters, the concentration of total suspended materials must not be altered to the extent that such alterations are discernible at the 10 percent significance level.
16. Taste and Odor – Waters must not contain taste or odor-producing substances in concentrations that impart undesirable tastes or odors to fish or other edible products of aquatic origin, that cause nuisance, or that adversely affect the water for beneficial uses. For naturally high-quality waters, the taste and odor must not be altered.
17. Temperature – The natural receiving water temperature of all waters must not be altered unless it can be demonstrated to the satisfaction of the Water Board that such an alteration in temperature does not adversely affect the water for beneficial uses. For waters designated WARM, water temperature must not be altered by more than five degrees Fahrenheit (5° F) above or below the natural temperature. For waters designated COLD, the temperature must not be altered.

18. Toxicity – All waters must be maintained free of toxic substances in concentrations that are toxic to, or that produce detrimental physiological responses in human, plant, animal, or aquatic life. Compliance with this objective will be determined by use of indicator organisms, analyses of species diversity, population density, growth anomalies, bioassays of appropriate duration and/or other appropriate methods as specified by the Water Board (or the Executive Officer or his/her designee). The survival of aquatic life in surface waters subjected to a waste discharge, or other controllable water quality factors, must not be less than that for the same water body in areas unaffected by the waste discharge, or when necessary, for other control water that is consistent with the requirements for “experimental water” as defined in *Standard Methods for the Examination of Water and Wastewater* (American Public Health Association, et al. 1998).
19. Turbidity – Waters must be free of changes in turbidity that cause nuisance or adversely affect the water for beneficial uses. Increases in turbidity must not exceed natural levels by more than 10 percent.

II. REQUIREMENTS AND PROHIBITIONS

A. General

1. The discharge must not cause or threaten to cause a condition of pollution or nuisance as defined in CWC, section 13050.
2. The discharge of waste, as defined in CWC, section 13050, subdivision (d), must not cause an exceedance of any Water Quality Objective (WQO) contained in the Basin Plan.
3. Where any numeric or narrative WQO contained in the Basin Plan is already being violated, any discharge which causes further degradation or pollution is prohibited.
4. The discharge of pesticides to surface waters or groundwater is prohibited.
5. The discharge of waste, except to the Pond 5 Landfill (closed WMU), is prohibited.
6. Water used for dust control must be limited to a minimal amount. A "minimal amount" is defined as that amount which will not result in run-off.
7. The discharge of solid or liquid waste, leachate, or any other deleterious material to surface waters or groundwater is prohibited, except for the discharge of purge water to the ground that does not exceed MCLs.

8. The discharge of waste that contains liquid in excess of the moisture-holding capacity of the Pond 5 Landfill is prohibited.
9. The Pond 5 Landfill must be protected from inundation, washout, or erosion of wastes and erosion of covering materials resulting from a 24-hour, 1000-year storm or a flood having a 1000-year return period.
10. The Discharger must notify the Water Board within one business day of any flooding, slope failure or other change in site conditions that could impair the integrity of the Pond 5 Landfill or of precipitation and drainage control structures. The Discharger must correct any failure that threatens the integrity of the Pond 5 Landfill, after approval of the method, in accordance with a schedule established by the Water Board as specified in CCR, title 27, section 21710, subdivision (c)(2).
11. Surface drainage from off-site areas and internal site drainage from surface or subsurface sources, must not contact or percolate through solid wastes discharged at the Pond 5 Landfill.
12. The exterior surfaces of the Pond 5 Landfill must be graded to promote lateral run-off of precipitation and to prevent ponding.
13. The Discharger must maintain in good working order any control system or monitoring device installed to achieve compliance with these WDRs.
14. The Discharger must at all times maintain adequate and viable financial assurances acceptable to the Water Board Executive Officer for costs associated with closure and post-closure maintenance and monitoring and for corrective action for all known or reasonably foreseeable releases.
15. The Discharger must comply with CCR, title 27, section 20950, closure and post-closure maintenance, general standards for all WMUs.
16. The Discharger must comply with CCR, title 27, section 21090, requirements for closure and post-closure maintenance and design requirements for solid waste landfills except where engineered alternatives to the requirements in CCR, title 27, section 21090 have been approved by the Water Board pursuant to CCR, title 27, section 20080.
17. The Pond 5 Landfill is the only authorized disposal location at the Facility. The only waste authorized to be disposed in the Pond 5 Landfill are waste and impacted liner materials from Ponds 1, 2, 3, 4, and the non-landfill portion of Pond 5, and windblown wastes on the ground surface outside of the surface impoundments.

B. Surface Impoundment Clean-Closure

1. The surface impoundments (Ponds 1, 2, 3, 4, and a portion of Pond 5) will be clean closed in accordance with the FCPCMP, the requirements in this Order, and with CCR, title 27, section 21400(b)(1).
2. Free liquids will be allowed to evaporate prior to residual solids, sludge, and evaporite material, as well as waste-impacted liner material being removed and discharged to the Pond 5 Landfill.
3. Confirmation sampling and analyses are necessary to verify clean closure of the surface impoundments. A minimum of five individual samples of the exposed clay liner materials and/or underlying soil exposed within each surface impoundment (following removal of residual solids, sludge, evaporite material, and waste-impacted liner material) must be collected and analyzed individually for CCR, title 22 metals. The surface impoundments will be considered clean closed if the concentrations of metals reported for each individual sample are consistent with the concentrations of constituents in the clay liner source materials and/or background soil concentrations previously determined for the site and included in the FCPCMP. The results of the confirmation sampling must be included in the final Construction Quality Assurance Report, as required by Section V.C of this Order.
4. Any liner materials that are found to be unimpacted by waste may be reused onsite or left in place, and any berms not used as part of the Pond 5 Landfill containment will be removed or regraded onsite.
5. All closure activities must be under the direct supervision of a California professional civil engineer or California certified engineering geologist pursuant to CCR, title 27, section 20950(b).
6. Successful clean closure must be demonstrated to and accepted by the Executive Officer for the units to be no longer subject to the SWRCB-promulgated requirements of title 27.

C. Pond 5 Landfill Construction and Closure Requirements

1. The Pond 5 Landfill will be constructed and closed in accordance with the FCPCMP and with the specifications contained in CCR, title 27, 20240 et seq.
2. The erosion-resistant vegetative layer must be established during closure and maintained during the post-closure period in accordance with the FCPCMP and with CCR, title 27, section 21090(4)(D).

3. All closure activities must be under the direct supervision of a California professional civil engineer or California certified engineering geologist pursuant to CCR, title 27, section 20950(b).

D. Electronic Submittal of Information

Pursuant to CCR, title 23, section 3890, the Discharger must submit all reports, including soil and water data, prepared for the purpose of investigation or remediation of a discharge of waste to land subject to CCR, title 27, Division 2, electronically over the internet to the State Water Board's GeoTracker system. This requirement is in addition to, and not superseded by, any other applicable reporting requirement.

III. QUALITY MONITORING AND RESPONSE PROGRAMS

A. Detection Monitoring Program

The Discharger must maintain a DMP as required in CCR, title 27, section 20420.

B. Evaluation Monitoring Program

The Discharger must establish an EMP whenever there is measurably significant evidence or significant physical evidence of a release from a WMU pursuant to CCR, title 27, section 20425. Within 90 days of initiating an EMP, the Discharger must delineate the nature and extent of the release, as well as develop, propose, and support corrective action measures to be implemented in a corrective action program.

C. Corrective Action Program

The Discharger must implement a corrective action program as specified in CCR, title 27, section 20385(a)(4) and 20430(c), following completion of an EMP.

D. Water Quality Protection Standard

1. The WQPS consists of COCs, concentration limits, monitoring points, and the point of compliance. The COCs, concentration limits, monitoring points, and point of compliance for groundwater and unsaturated zone monitoring are described in MRP No. R6V-2022-PROPOSED.
2. The Discharger must propose to the Water Board any new constituents of concern proposed for discharge to the Facility at least 180 days before discharge. Before a new discharge commences, the Discharger must estimate the concentrations for such constituents within the waste stream and submit written statistical method(s) in order to detect a release of such constituents.

3. At any given time, the concentration limit for each COC must be equal to the background data set of that constituent unless a concentration limit greater than background has been established. The background data set for each monitoring point/constituent pair should be comprised of at least eight data points, collected quarterly.
4. If the Discharger or Water Board Executive Officer determines that concentration limits were or are exceeded, the Discharger must immediately institute verification procedures upon such determination as specified in Section III. F of this Order or, within 90 days of such determination, submit a technical report pursuant CWC, section 13267, subdivision (b), proposing an EMP meeting the provisions of CCR, title 27. Within 90 days of the Water Board authorizing the EMP, the Discharger must complete the delineation, develop a suite of proposed corrective action measures, and submit a revised ROWD with a proposed CAP for adoption by the Water Board.
5. Monitoring of the groundwater and unsaturated zone must be conducted to obtain background data and to provide the best assurance of the early detection of any new releases from the WMUs.

E. Data Analysis

Within 45 days of receipt of laboratory results, the Discharger must determine at each Monitoring Point whether there is measurably significant evidence and/or significant physical evidence of a release from the Pond 5 Landfill. The analysis must consider all monitoring parameters and COCs. The Executive Officer may also make an independent finding that there is measurably significant evidence and/or significant physical evidence of a release.

1. To determine whether there is "measurably significant" (as defined in CCR, title 27, section 20164) evidence of a release from the Pond 5 Landfill, the Discharger must use approved statistical data analysis methods to evaluate point of compliance groundwater data, as required by CCR, title 27, section 20415, subdivision (e).
2. To determine whether there is significant physical evidence of a release from the Pond 5 Landfill, the Discharger must use non-statistical methods. Significant physical evidence may include, but is not limited to, unexplained volumetric changes in the Pond 5 Landfill, unexplained stress in biological communities, unexplained changes in soil characteristics, visible signs of leachate migration, unexplained water table mounding beneath or adjacent to the Facility, and/or any other change in the environment that could be reasonably be expected to be the result of a new release from the Pond 5 Landfill. Other non-statistical evidence of a

release may include trends of increasing concentrations of one or more constituents over time.

3. If there is measurably significant evidence and/or significant physical evidence of a release, the Discharger must immediately notify the Water Board verbally by telephone or email as to the monitoring points and constituent(s) or parameters involved followed by written notification sent certified mail within seven days (see "Unscheduled Reports to be Filed with the Water Board," MRP No. R6V-2022-PROPOSED). The Discharger must initiate the verification procedures, as specified in section III.F below.

F. Verification Procedures

Whenever there is a determination by the Discharger or Executive Officer that there is measurably significant evidence or significant physical evidence of a release, the Discharger must initiate verification procedures as specified below.

1. The Discharger must either conduct a composite retest using data from the initial sampling event with all data obtained from the resampling event or must conduct a discrete retest in which only data obtained from the resampling event must be analyzed to verify evidence of a release. Alternatively, the Discharger may perform a pass 1-of-3 retesting approach using quarterly samples, as an engineered alternative.
2. The verification procedure need only be performed for the constituent(s) that has shown a measurably significant evidence of a release and must be performed at each Monitoring Point for which a release is indicated.
3. Within seven days of receiving the results of the last laboratory analyses for the retest, the Discharger must report to the Water Board, by certified mail, the results of the verification procedure, as well as all data collected for use in the retest.
4. If the Discharger or Executive Officer verifies that there is or was evidence of a release, the Discharger is required to submit a technical report to the Water Board within 90 days of such a determination, pursuant to California Water Code, section 13267, subdivision (b). The report must propose an evaluation monitoring program (see section III.C above) or make a demonstration to the Water Board that there is a source other than the Pond 5 Landfill that caused evidence of a release (see "Unscheduled be Filed with the Water Board," MRP No. R6V-2022-PROPOSED).
5. If the Discharger declines to conduct verification procedures, the Discharger must submit a technical report, as specified in Section III.G below.

G. Technical Report Without Verification Procedures

If the Discharger chooses not to initiate verification procedures after there has been a determination made for evidence of a release, a technical report must be submitted pursuant to CWC, section 13267, subdivision (b). The report must propose an EMP or attempt to demonstrate that the release did not originate from the Facility.

H. Monitoring and Reporting

1. Pursuant to CWC, section 13267, subdivision (b), the Discharger must comply with the monitoring and reporting requirements as established in the attached MRP No. R6V-2022-PROPOSED, and as specified by the Executive Officer. The MRP may be modified by the WaterBoard Executive Officer.
2. The Discharger must comply with the "General Provisions for Monitoring and Reporting," dated September 1, 1994, which is attached to and made part of MRP No. R6V-2022-PROPOSED.

IV. PROVISIONS

A. Rescission of Waste Discharge Requirements

Board Order No. 6-98-54 and MRP No. 98-54 are hereby rescinded.

B. Standard Provisions

The Discharger must comply with the "Standard Provisions for Waste Discharge Requirements," dated September 1, 1994, in Attachment D, which is attached to and made part of this Order.

C. Final Closure and Post-Closure Maintenance Plan Approval

This Order provides Water Board approval of the FCPCMP. The Discharger must submit a report to the Water Board on or before **March 30, 2023**, and by **March 30** every year thereafter, indicating that existing site monitoring and maintenance conditions are in conformance with the FCPCMP or provide an updated FCPCMP, if site conditions warrant. Any changes to the FCPCMP must be approved by the Water Board.

D. Financial Assurance

The Discharger must submit to the Water Board a financial assurance report on or before **March 30** every year following adoption of this Order, providing evidence that adequate financial assurances has been provided for post-closure maintenance and for corrective action of all known and reasonably foreseeable

releases. Evidence must include the total amount of money available in the fund developed by the Discharger. In addition, the Discharger must either provide evidence that the amount of financial assurance is still adequate or increase the amount of financial assurance by an appropriate amount. An increase may be necessary due to inflation, change(s) in regulatory requirements, change(s) in the approved closure plan, or other unforeseen events.

V. TIME SCHEDULE

A. Monitoring Systems Installation Work Plan

No later than 60 days following the adoption of this Order, the Discharger must submit for Water Board review and acceptance a work plan for the installation of two new groundwater monitoring wells, establishing a groundwater monitoring network to adequately monitor the point of compliance downgradient of the closed WMU, and for the installation of at least one unsaturated zone monitoring point along the perimeter of the closed WMU. The work plan must be certified by a California professional civil engineer or a California professional geologist.

B. Monitoring Systems Installation Report

No later than 30 days following the construction completion of a monitoring system or monitoring system component, the Discharger must submit a technical report discussing the installation of the monitoring systems or monitoring system component for the closed WMU. The report must summarize all work activities associated with the installation of the groundwater and unsaturated zone monitoring systems. The report must be certified by a California professional civil engineer or a California professional geologist. It must contain sufficient information to verify that the construction was in accordance with State and/or County standards.

C. Final Construction Quality Assurance Report

No later than 90 days following clean-closure and the construction completion of the closed WMU, a Final Construction Quality Assurance (CQA) Report, required by CCR, title 27, section 20324, subdivision (d)(1)(C), must be submitted to the Water Board for review and acceptance by the Executive Officer. The report must be certified by a California professional civil engineer or a California certified engineering geologist. The report must contain sufficient information and test results to verify clean closure and to verify construction specifications with respect to the accepted engineered alternative to the prescriptive standards and with performance goals of CCR, title 27.

D. Sampling and Analysis Plan

No later than 90 days following the construction completion of the closed WMU, the Discharger must submit for Water Board review and acceptance a Sampling and Analysis Plan (SAP) for the closed WMU, including procedures for monitoring, sampling, and analysis of the groundwater and unsaturated zone monitoring systems. The SAP must include soil moisture background values for the unsaturated zone monitoring program and propose soil moisture action limits for which unsaturated zone monitoring data will be compared to determine physical evidence of a release.

E. Financial Assurances

No later than 30 days following the Water Board acceptance of the Final CQA Report required in section V.C above, the Discharger must submit Instruments of Financial Assurance acceptable to the Water Board.

1. A Financial Assurance Instrument providing adequate funding for the post-closure monitoring and maintenance activities, as described in the accepted FCPCMP, must be submitted to the Water Board, pursuant to CCR, title 27, section 22212.
2. A Financial Assurance Instrument providing adequate funding for corrective action of a known and reasonably foreseeable release must be submitted to the Water Board, pursuant to CCR, title 27, section 22222.

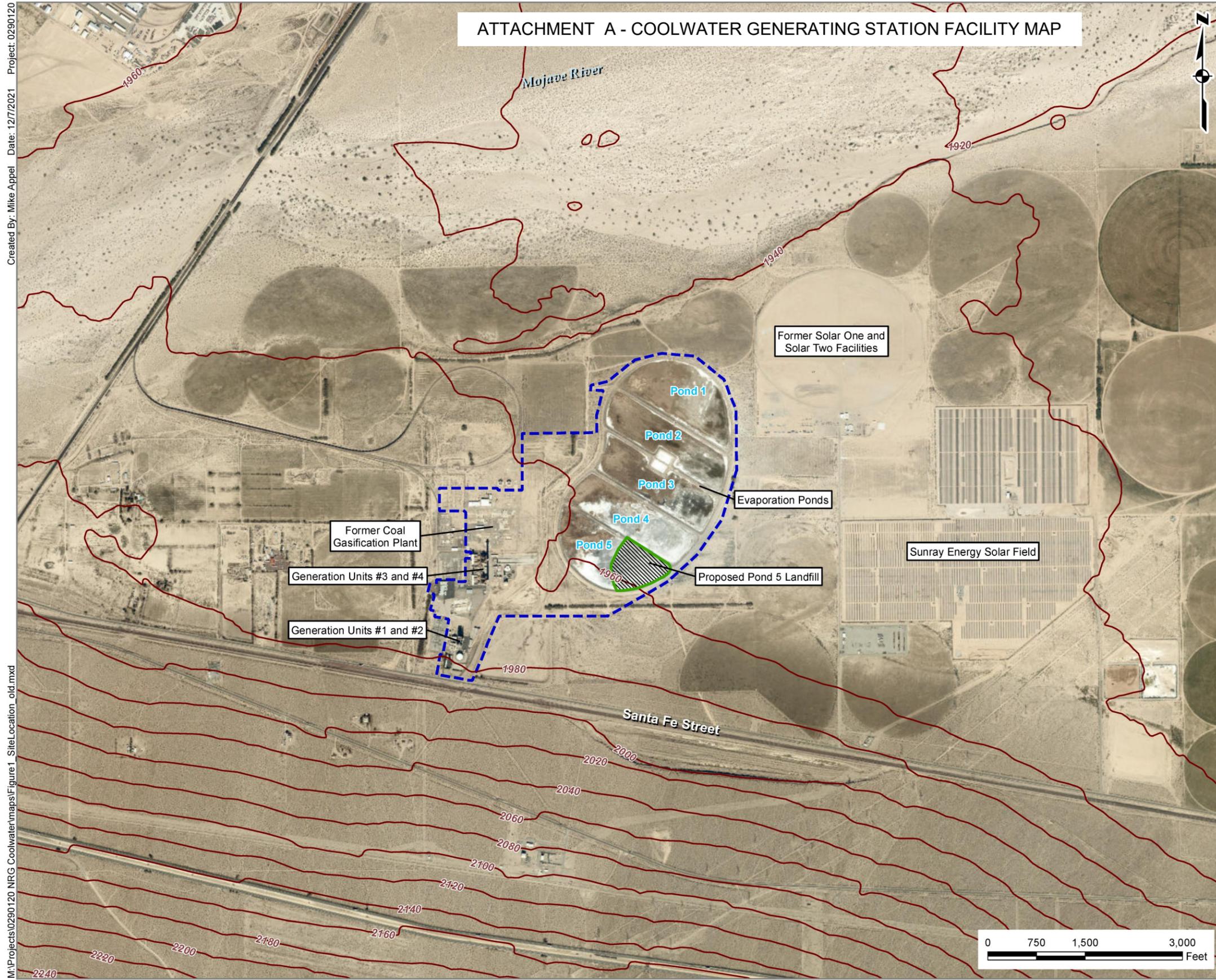
I, Michael R. Plaziak, Executive Officer, do hereby certify that the foregoing is a full, true, and correct copy of an Order adopted by the California Regional Water Quality Board, Lahontan Region, on May 11, 2022.

MICHAEL R. PLAZIAK, PG
EXECUTIVE OFFICER

- Attachments:
- A. Coolwater Generating Station Facility Map
 - B. Site Layout for Surface Impoundments and Pond 5 Landfill
 - C. Details of Pond 5 Landfill Liner Systems
 - D. Standard Provisions for Waste Discharge Requirements

Created By: Mike Appel Date: 12/7/2021 Project: 0290120

M:\Projects\0290120 NRG Coolwater\maps\Figure1_SiteLocation_old.mxd



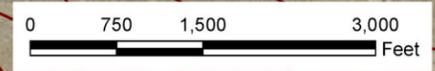
ATTACHMENT A - COOLWATER GENERATING STATION FACILITY MAP



Legend

-  Proposed Pond 5 Landfill
-  USGS Topographic Contour
-  Coolwater Generating Station Property Boundary

Notes:
Parcel Boundary from San Bernadino County GIS.



Coolwater Generating Station
Daggett, California

Environmental Resources Management
www.erm.com



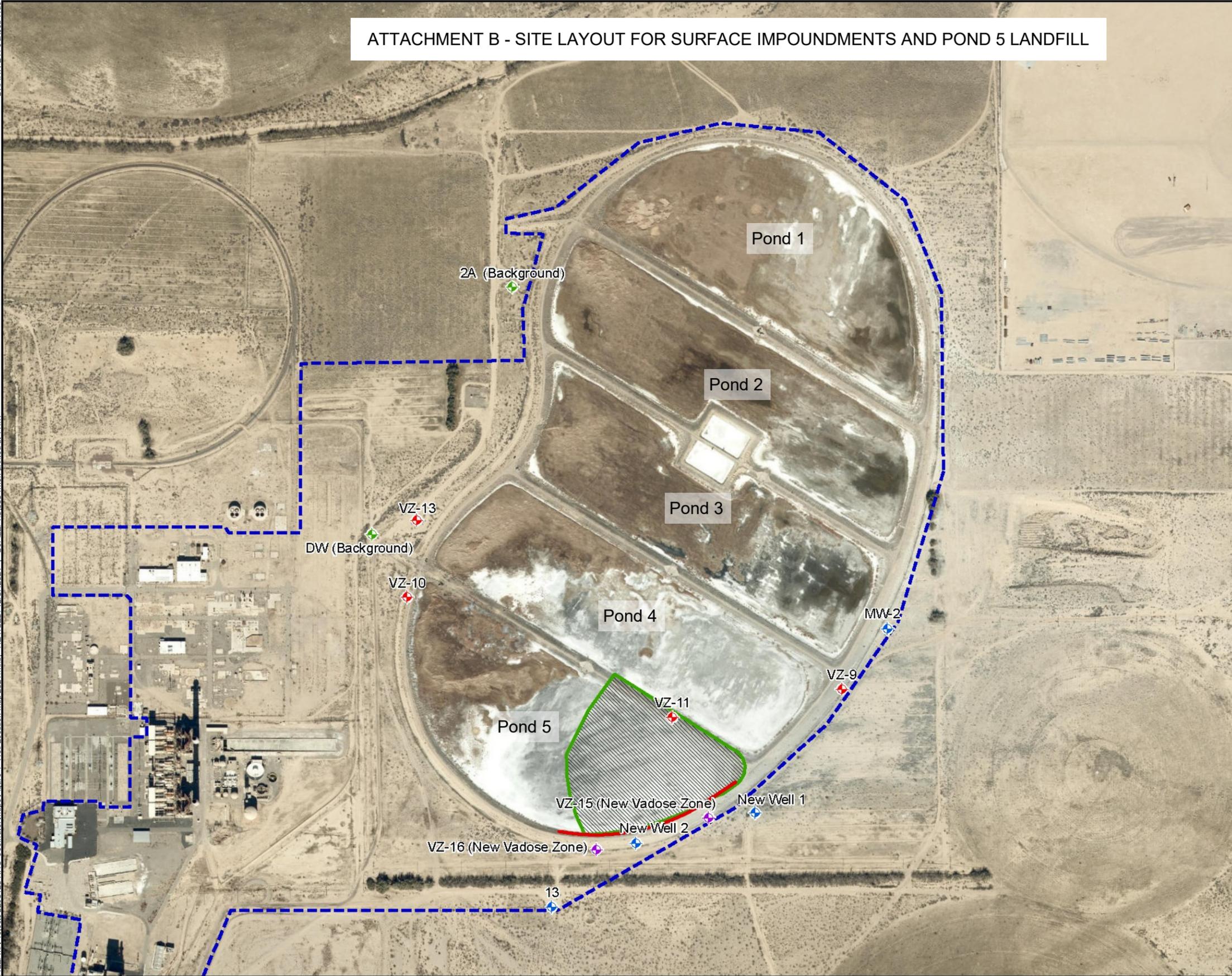
Source: ESRI World Imagery Webservice, July 4, 2014. USDA (NAIP) 1 meter per pixel NAD 1983 StatePlane California V FIPS 0405 Feet

ATTACHMENT B - SITE LAYOUT FOR SURFACE IMPOUNDMENTS AND POND 5 LANDFILL

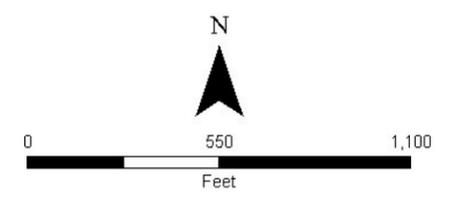
DRAWN BY: Carissa True

FILE: M:\Projects\0290120 NRG Coolwater\maps\Figure 4 Well Location Map 2021.mxd, REVISED: 12/07/2021, SCALE: 1:6,000 when printed at 11x17

Source: ESRI Aerial Imagery Webservice June 2016; NAD 1983 StatePlane California V FIPS0405 Feet



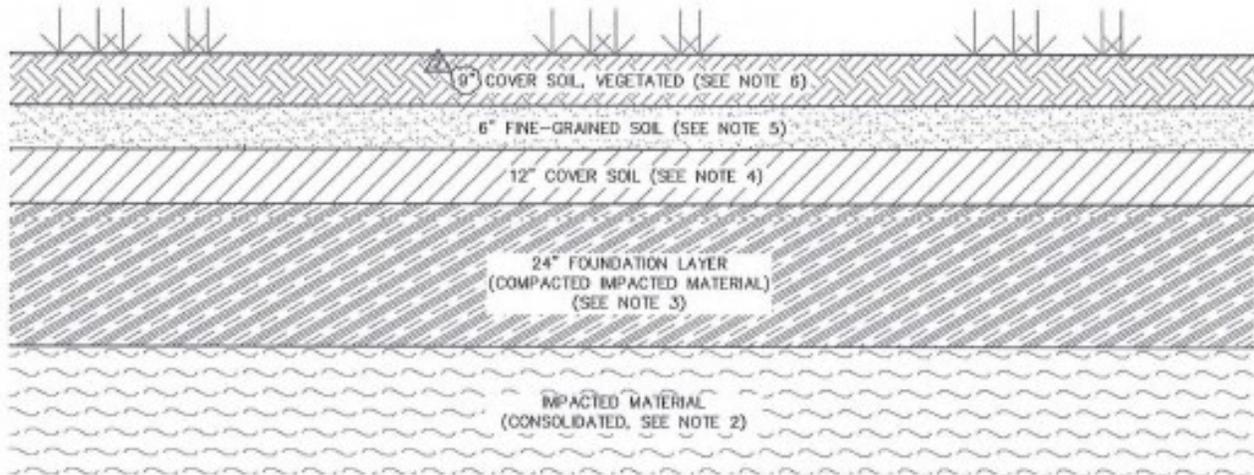
- Legend**
- ◆ Background Monitoring Well
 - ◆ Monitoring Well
 - ◆ Vadose Zone Monitoring Well
 - ◆ New Vadose Zone Monitoring Well
 - Point of Compliance Line
 - Coolwater Generating Station
 - Property Boundary
 - Proposed Pond 5 Landfill



Coolwater Generating Station
Daggett, California



ATTACHMENT C - DETAILS OF POND 5 LANDFILL LINER SYSTEMS



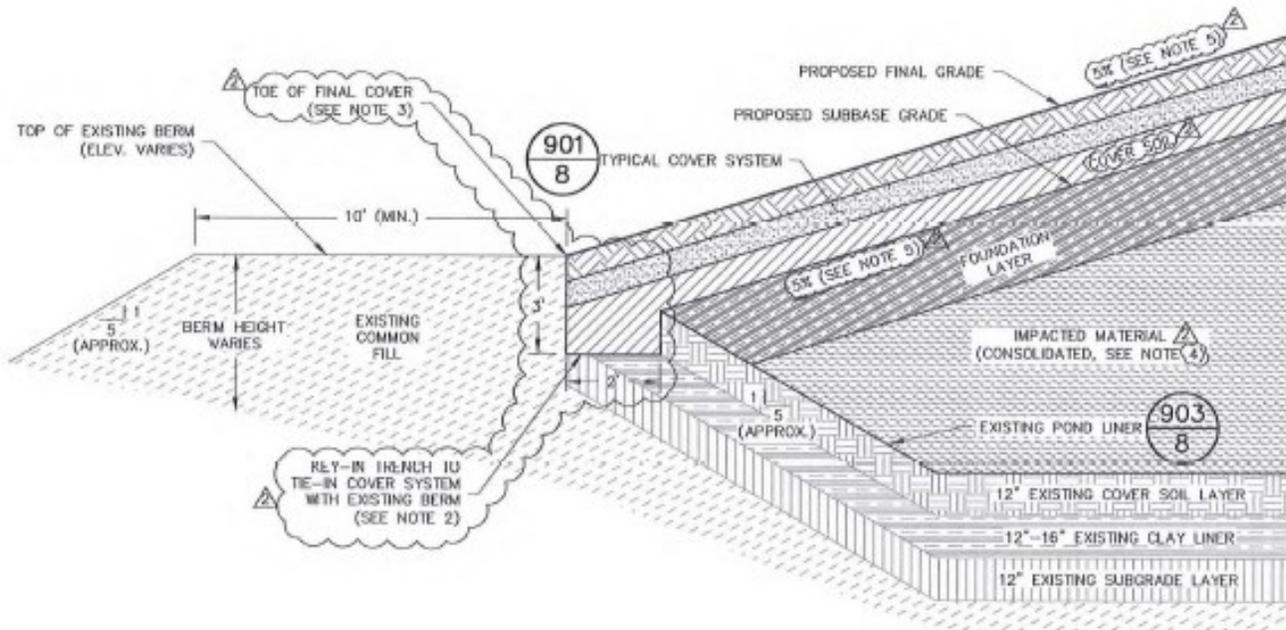
901 TYPICAL COVER SYSTEM DETAIL
8 NOT TO SCALE

NOTES

1. THE CONTOURS OF THE FINAL GRADING PLAN FOR THE CONSOLIDATED AREA (SHEET 78) REPRESENT THE TOP SURFACE OF THE 9" VEGETATED SOIL LAYER. WHEREAS, THE CONTOURS OF THE SUBBASE GRADING PLAN (SHEET 6) REPRESENT THE TOP SURFACE OF THE 24" FOUNDATION LAYER.
2. THE TOP SURFACE OF THE IMPACTED MATERIAL SHALL BE GRADED AT 5% SLOPE FOR THE ENTIRE FOOTPRINT OF CONSOLIDATION AREA TO ESTABLISH THE PROPOSED GRADE OF THE FINAL COVER SYSTEM. SEE DETAIL 902 FOR NOTES ON PREPARATION OF IMPACTED MATERIAL. SEE SHEET 6 NOTE 5 FOR FIELD ADJUSTMENT REQUIREMENTS.
3. THE 24" FOUNDATION LAYER, OR TOP 24" OF IMPACTED MATERIAL, ENHANCED BY 90% COMPACTION (UNLESS OTHERWISE APPROVED BY ENGINEER), SHALL BE GRADED AT 5% SLOPE WITH SMOOTH TRANSITIONS AND INSPECTED PRIOR TO INSTALLATION OF OVERLAYING MATERIALS TO BE FREE OF ROCKS, VEGETATION, AND OTHER DEBRIS IN ACCORDANCE WITH TECHNICAL SPECIFICATION Q2200. ANY OBSERVABLE MATERIAL SHALL BE REMOVED.
4. THE 12" OF COVER SOIL SHALL BE PREPARED AND INSTALLED IN ACCORDANCE WITH THE TECHNICAL SPECIFICATION Q2200, INCLUDING, BUT NOT LIMITED TO COMPACTION TO 85% AND INSPECTION AND REMOVAL OF DEBRIS.
5. THE 6" OF FINE-GRAINED SOIL SHALL BE PREPARED AND INSTALLED IN ACCORDANCE WITH TECHNICAL SPECIFICATION Q2200, INCLUDING, BUT NOT LIMITED TO COMPACTION TO 85%.
6. THE 9" VEGETATED SOIL LAYER SHALL BE PREPARED IN ACCORDANCE WITH TECHNICAL SPECIFICATION Q2200 AND THE CQA PLAN. THIS PREPARATION SHALL ENSURE THAT THE VEGETATIVE LAYER CONTAIN NO WASTE, IS HYDRO-SEEDED OR SEEDED WITH EQUIVALENT METHOD, CONDITIONED TO AND CAPABLE OF SUSTAINING NATIVE PLANT GROWTH, IS GRADED TO PROMOTE POSITIVE DRAINAGE AND IS RESISTANT TO FORESEEABLE EROSION EFFECTS BY WIND-SCOUR, RAINDROP IMPACT, AND RUNOFF.
7. SEE SHEET 1 FOR GENERAL NOTES, ABBREVIATIONS AND LEGEND.
8. IT IS THE CONTRACTOR'S RESPONSIBILITY TO FIELD VERIFY ACTUAL SITE CONDITIONS PRIOR TO START OF ANY WORK. THERE IS NO WARRANTY OR GUARANTEE ON THE COMPLETENESS OF CORRECTNESS OF THE EXISTING CONDITION INFORMATION. ANY DISCREPANCY FOUND SHALL BE BROUGHT TO THE IMMEDIATE ATTENTION OF THE ENGINEER/OWNER PRIOR TO THE START OF THE WORK.

SOURCE: GENON CALIFORNIA SOUTH LP EVAPORATION PONDS 1-5
CLOSURE, SHEET 9 (ERM, MAY 7, 2021)

ATTACHMENT C - DETAILS OF POND 5 LANDFILL LINER SYSTEMS



902/8 TYPICAL TRANSITION OF FINAL COVER TO EXISTING BERM DETAIL

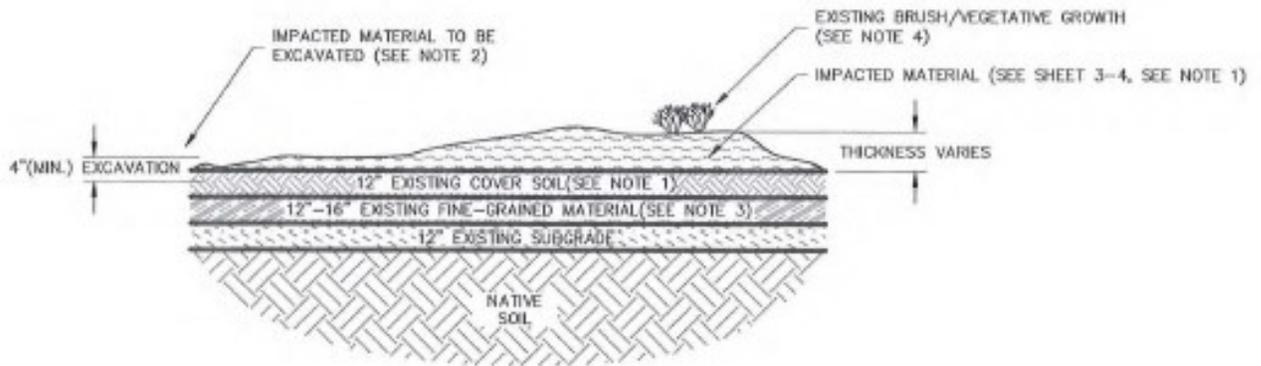
NOT TO SCALE

NOTES

1. THE IMPACTED MATERIAL SHALL BE LOCATED IN THE APPROXIMATE FOOTPRINT OF THE CONSOLIDATION AREA ACCORDING TO THE SUBBASE GRADING PLAN. THE EXISTING BOTTOM CLAY LINER SYSTEM SHALL REMAIN UNDISTURBED AND COMPLETELY INTACT, WHERE THE IMPACTED MATERIAL IS PLACED FOR CONSOLIDATION. SEE SHEET 5 SUBBASE GRADING PLAN FOR ASSOCIATED NOTES.
2. A KEY-IN TRENCH SHALL BE INSTALLED BEYOND THE LIMITS OF CONSOLIDATION OF IMPACTED MATERIAL TO TIE-IN THE FINAL COVER SYSTEM TO THE EXISTING POND BOTTOM LINER SYSTEM. THE WIDTH OF THE EXISTING BERM SHALL NOT BE REDUCED FOR THE INSTALLATION OF THE KEY-IN TRENCH. THE DEPTH OF THE KEY-IN TRENCH SHALL BE THREE (3) FEET, AS MEASURED FROM THE TOE OF THE SLOPE OF VEGETATED LAYER OF THE FINAL COVER SYSTEM IN-PLACE.
3. THE OUTBOARD SIDE OF THE KEY-IN TRENCH SHALL BE COMMENSURATE WITH THE TOE OF SLOPE OF THE FINAL COVER.
4. IMPACTED MATERIAL SHALL BE PLACED IN MAXIMUM COMPACTED 12-INCH LIFTS. COMPACTION SHALL BE ACCOMPLISHED BY A MINIMUM FOUR (4) PASSES IN ORTHOGONAL DIRECTIONS WITH A MINIMUM 40,000 POUNDS LOADED TANDEM. VISUAL INSPECTION OF THE COMPACTION SHALL ENSURE THAT RUTS ARE NO GREATER DEPTH THAN 1.5-INCHES.
5. CONTOURS OF THE FINAL GRADING PLAN FOR THE CONSOLIDATED AREA (SHEET 7B) REPRESENT THE TOP SURFACE OF THE 9" VEGETATED SOIL LAYER. THE FINAL GRADE SHALL BE SLOPED AT 5%, UNLESS OTHERWISE DETERMINED BY ENGINEER. IF THE QUANTITY OF IMPACTED MATERIAL IS NOT SUFFICIENT TO ACHIEVE THE SUBBASE GRADING PLAN AS DESIGNED HEREIN, THEN ENGINEER SHALL APPROVE A NEW GRADING PLAN. SEE SHEET 6 SUBBASE GRADING PLAN FOR ASSOCIATED NOTES.
6. THE TOP SURFACE OF THE 9" VEGETATED SOIL LAYER SHALL MEET THE EXISTING TOP OF BERM ELEVATION. ADDITIONAL FILL OF VEGETATED SOIL IS PERMITTED TO MEET TOP OF BERM ELEVATIONS.

SOURCE: GENON CALIFORNIA SOUTH LP EVAPORATION PONDS 1-5
CLOSURE, SHEET 9 (ERM, MAY 7, 2021)

ATTACHMENT C - DETAILS OF POND 5 LANDFILL LINER SYSTEMS



903 8 TYPICAL EXISTING BOTTOM LINER SYSTEM DETAIL

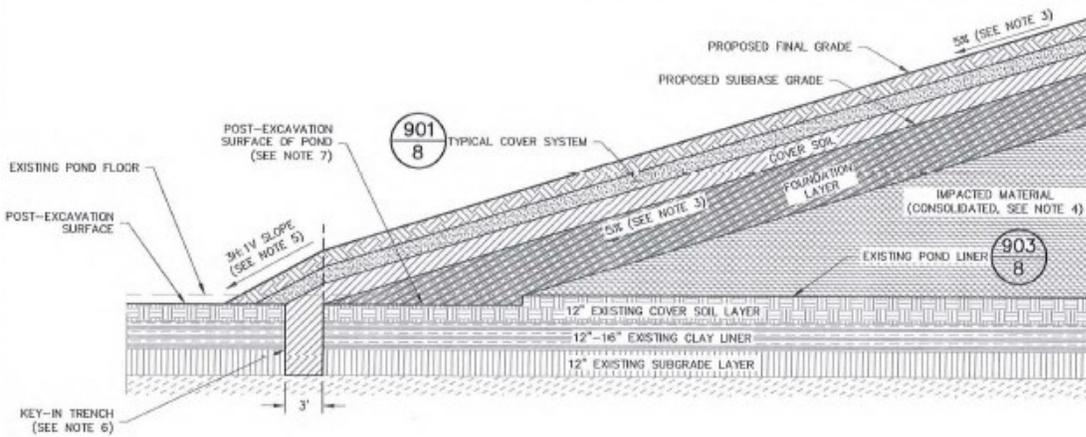
NOT TO SCALE

NOTES

1. THE IMPACTED MATERIAL TO BE EXCAVATED SHALL BE FREE OF LIQUIDS PRIOR TO EXCAVATION.
2. IT IS ANTICIPATED THAT PORTIONS OF THE 12" COVER SOIL LAYER OF THE BOTTOM EXISTING LINER SYSTEM MAY BE REMOVED DURING THE EXCAVATION PROCESS OF IMPACTED MATERIAL, ACCORDING TO THE EXCAVATION PLANS. ANY REMAINING CLEAN EXISTING SOIL COULD BE USED FOR THE CAP.
3. THE 12-16 INCHES OF EXISTING SOIL FROM THE CLAY BOTTOM LINER SYSTEM SHALL BE EXCAVATED AS REQUIRED FOR THE 6" THICK FINE-GRAINED SOIL CAP LAYER. FROM WHEREVER THIS FINE-GRAINED MATERIAL IS EXCAVATED, THE OVERLAYING COVER SOIL LAYER OF THE EXISTING SYSTEM SHALL BE COMPLETELY REMOVED IN ORDER TO ACCESS A CLEAN LAYER OF FINE-GRAINED MATERIAL.
4. VEGETATION SHALL BE PROPERLY DISPOSED OF ACCORDING TO SPECIFICATION 02110 SITE CLEARING AND PREPARATION.

SOURCE: GENON CALIFORNIA SOUTH LP EVAPORATION PONDS 1-5
CLOSURE, SHEET 9 (ERM, MAY 7, 2021)

ATTACHMENT C - DETAILS OF POND 5 LANDFILL LINER SYSTEMS



905 TYPICAL TRANSITION OF FINAL COVER TO EXISTING POND FLOOR DETAIL
78,8 NOT TO SCALE

NOTES

1. THE IMPACTED MATERIAL SHALL BE LOCATED IN THE APPROXIMATE FOOTPRINT CONSOLIDATION AREA OF THE SUBBASE GRADING PLAN. THE EXISTING BOTTOM CLAY LINER SYSTEM SHALL REMAIN UNDISTURBED AND COMPLETELY INTACT, WHERE THE IMPACTED MATERIAL IS PLACED FOR CONSOLIDATION. SEE SHEET 5 SUBBASE GRADING PLAN FOR ASSOCIATED NOTES.
2. IMPACTED MATERIAL SHALL BE PLACED IN MAXIMUM COMPACTED 12-INCH LIFTS. COMPACTION SHALL BE ACCOMPLISHED BY A MINIMUM FOUR (4) PASSES IN ORTHOGONAL DIRECTIONS WITH A MINIMUM 40,000 POUNDS LOADED TANDEM. VISUAL INSPECTION OF THE COMPACTION SHALL ENSURE THAT RUTS ARE NO GREATER DEPTH THAN 1.5-INCHES.
3. CONTOURS OF THE FINAL GRADING PLAN FOR THE CONSOLIDATED AREA (SHEET 78) REPRESENT THE TOP SURFACE OF THE 9" VEGETATED SOIL LAYER. THE FINAL GRADE SHALL BE SLOPED AT 5%, UNLESS OTHERWISE DETERMINED BY ENGINEER. IF THE QUANTITY OF IMPACTED MATERIAL IS NOT SUFFICIENT TO ACHIEVE THE SUBBASE GRADING PLAN AS DESIGNED HEREIN, THEN ENGINEER SHALL APPROVE A NEW GRADING PLAN. SEE SHEET 6 SUBBASE GRADING PLAN FOR ASSOCIATED NOTES.
4. THE TOP SURFACE OF THE 9" VEGETATED SOIL LAYER SHALL MEET THE EXISTING POND FLOOR ELEVATION. ADDITIONAL HILL OF VEGETATED SOIL IS PERMITTED TO MEET POND FLOOR ELEVATIONS.
5. BEYOND THE TOE OF THE FOUNDATION LAYER, THE COVER SYSTEM SHALL TRANSITION FROM A 5% SLOPE TO A 3H:1V SLOPE.
6. A KEY-IN TRENCH SHALL BE INSTALLED BEYOND THE LIMITS OF CONSOLIDATION OF IMPACTED MATERIAL TO TIE-IN THE FINAL COVER SYSTEM TO THE EXISTING POND BOTTOM LINER SYSTEM. THE KEY-IN TRENCH SHALL BE DEEP ENOUGH TO REACH THE BOTTOM OF THE EXISTING SUBGRADE LAYER OF THE EXISTING POND LINER SYSTEM AND SHALL BE VERIFIED IN THE FIELD. THE WIDTH OF THE KEY-IN TRENCH SHALL BE THREE (3) FEET AS MEASURED FROM THE TOE OF THE SLOPE OF FOUNDATION LAYER OF THE FINAL COVER SYSTEM IN-PLACE.
7. EXCAVATED AREAS OF POND 5 BOTTOM LINER SHALL BE BACKFILLED WITH CLEAN SOIL TO ENSURE THAT, ALONG THE TRANSITION ALIGNMENT, THE FOUNDATION LAYER IS PLACED ON A UNIFORM 12" POND BOTTOM LINER COVER SOIL.

SOURCE: GENON CALIFORNIA SOUTH LP EVAPORATION PONDS 1-5
CLOSURE, SHEET 9 (ERM, MAY 7, 2021)

Attachment D

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD LAHONTAN REGION

STANDARD PROVISIONS FOR WASTE DISCHARGE REQUIREMENTS

1. Inspection and Entry

The Discharger shall permit Regional Board staff:

- a. to enter upon premises in which an effluent source is located or in which any required records are kept;
- b. to copy any records relating to the discharge or relating to compliance with the Waste Discharge Requirements (WDRs);
- c. to inspect monitoring equipment or records; and
- d. to sample any discharge.

2. Reporting Requirements

- a. Pursuant to California Water Code 13267(b), the Discharger shall immediately notify the Regional Board by telephone whenever an adverse condition occurred as a result of this discharge; written confirmation shall follow within two weeks. An adverse condition includes, but is not limited to, spills of petroleum products or toxic chemicals, or damage to control facilities that could affect compliance.
- b. Pursuant to California Water Code Section 13260 (c), any proposed material change in the character of the waste, manner or method of treatment or disposal, increase of discharge, or location of discharge, shall be reported to the Regional Board at least 120 days in advance of implementation of any such proposal. This shall include, but not be limited to, all significant soil disturbances.
- c. The Owners/Discharger of property subject to WDRs shall be considered to have a continuing responsibility for ensuring compliance with applicable WDRs in the operations or use of the owned property. Pursuant to California Water Code Section 13260(c), any change in the ownership and/or operation of property subject to the WDRs shall be reported to the Regional Board. Notification of applicable WDRs shall be furnished in writing to the new owners and/or operators and a copy of such notification shall be sent to the Regional Board.
- d. If a Discharger becomes aware that any information submitted to the Regional Board is incorrect, the Discharger shall immediately notify the Regional Board, in writing, and correct that information.

- e. Reports required by the WDRs, and other information requested by the Regional Board, must be signed by a duly authorized representative of the Discharger. Under Section 13268 of the California Water Code, any person failing or refusing to furnish technical or monitoring reports, or falsifying any information provided therein, is guilty of a misdemeanor and may be liable civilly in an amount of up to one thousand dollars (\$1,000) for each day of violation.
 - f. If the Discharger becomes aware that their WDRs (or permit) are no longer needed (because the project will not be built or the discharge will cease) the Discharger shall notify the Regional Board in writing and request that their WDRs (or permit) be rescinded.
3. Right to Revise WDRs

The Regional Board reserves the privilege of changing all or any portion of the WDRs upon legal notice to and after opportunity to be heard is given to all concerned parties.
 4. Duty to Comply

Failure to comply with the WDRs may constitute a violation of the California Water Code and is grounds for enforcement action or for permit termination, revocation and re-issuance, or modification.
 5. Duty to Mitigate

The Discharger shall take all reasonable steps to minimize or prevent any discharge in violation of the WDRs which has a reasonable likelihood of adversely affecting human health or the environment.
 6. Proper Operation and Maintenance

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 WDRs. Proper operation and maintenance includes adequate laboratory control, where appropriate, and appropriate quality assurance procedures. This provision requires the operation of backup or auxiliary facilities or similar systems that are installed by the Discharger, when necessary to achieve compliance with the conditions of the WDRs.
 7. Waste Discharge Requirement Actions

The WDRs may be modified, revoked and reissued, or terminated for cause. The filing of a request by the Discharger for waste discharge requirement modification, revocation and re-issuance, termination, or a notification of planned changes or anticipated noncompliance, does not stay any of the WDRs conditions.

8. Property Rights

The WDRs do not convey any property rights of any sort, or any exclusive privileges, nor does it authorize any injury to private property or any invasion of personal rights, nor any infringement of federal, state or local laws or regulations.

9. Enforcement

The California Water Code provides for civil liability and criminal penalties for violations or threatened violations of the WDRs including imposition of civil liability or referral to the Attorney General.

10. Availability

A copy of the WDRs shall be kept and maintained by the Discharger and be available at all times to operating personnel.

11. Severability

Provisions of the WDRs are severable. If any provision of the requirements is found invalid, the remainder of the requirements shall not be affected.

12. Public Access

General public access shall be effectively excluded from treatment and disposal facilities.

13. Transfers

Providing there is no material change in the operation of the facility, this Order may be transferred to a new owner or operation. The owner/operator must request the transfer in writing and receive written approval from the Regional Board's Executive Officer.

14. Definitions

a. "Surface waters" as used in this Order, include, but are not limited to, live streams, either perennial or ephemeral, which flow in natural or artificial water courses and natural lakes and artificial impoundments of waters. "Surface waters" does not include artificial water courses or impoundments used exclusively for wastewater disposal.

b. "Ground waters" as used in this Order, include, but are not limited to, all subsurface waters being above atmospheric pressure and the capillary fringe of these waters.

15. Storm Protection

All facilities used for collection, transport, treatment, storage, or disposal of waste shall be adequately protected against overflow, washout, inundation, structural damage or a significant reduction in efficiency resulting from a storm or flood having a recurrence interval of once in 100 years.

**CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
LAHONTAN REGION**

**MONITORING AND REPORTING PROGRAM
NO. R6V-2022-PROPOSED
WDID NO. 6B362036002**

FOR

**TROGON DEVELOPMENT, LLC
COOLWATER GENERATING STATION**

San Bernardino County

This Monitoring and Reporting Program (MRP) No. R6V-2022-PROPOSED is issued to Trogon Development, LLC (Discharger) for the Coolwater Generating Station (Facility) pursuant to California Water Code (CWC), section 13267 and incorporates closure and post-closure requirements for groundwater and unsaturated zone monitoring and reporting; facility monitoring, maintenance, and reporting; and financial assurances reporting contained in California Code of Regulations (CCR), title 27, section 20005, et seq. The technical reports required by Board Order R6V-2022-PROPOSED and MRP No. R6V-2022-PROPOSED are necessary to assure compliance with these Waste Discharge Requirements (WDRs). Therefore, the burden, including costs, of these reports bears a reasonable relationship to the need for the report and the benefits to be obtained from the reports.

I. WATER QUALITY PROTECTION STANDARD

A Water Quality Protection Standard (WQPS) is required by CCR, title 27, sections 20390 through 20410, to assure the earliest possible detection of a release from a waste management unit (WMU) to the underlying soil and/or groundwater. The WQPS shall consist of all constituents of concern (COCs), the concentration limits for each COC, the point of compliance, and all water quality monitoring points. The Water Board shall review and approve the WQPS, or any modification thereto, for each monitored medium.

The Discharger is implementing a detection monitoring program (DMP) to monitor the groundwater and the unsaturated zone. A WQPS is necessary during the closure and post-closure period to provide the best assurance of the earliest detection of any releases from the WMU.

A. Constituents of Concern

The COCs include all the waste constituents, their reaction products, and hazardous constituents that are reasonably expected to be in or derived from waste contained in a WMU. The COCs for each monitored medium are listed in Attachment A, which is made part of this MRP. The Discharger must monitor

all COCs at the sampling frequency and reporting frequency listed in Attachment A.

B. Monitoring Parameters

Monitoring parameters are those COCs that provide a reliable indication of a release from the WMUs. The monitoring parameters for each monitored medium are listed in this MRP, Attachment A. The Discharger must monitor all monitoring parameters at the sampling frequency and reporting frequency listed in Attachment A.

C. Concentration Limits

Concentration limits are established for each COC and are intended to reflect background ambient conditions of surface and subsurface media that are unaffected by a release from the waste management units. At any given time, the concentration limit for each COC must be equal to the background data set of that constituent unless a concentration limit greater than background (CLGB) has been established. CCR, title 27, section 20415 allows for various options to determine concentration limits including statistical interwell and intrawell methods and non-statistical methods.

1. The Discharger is using the following methodologies to determine concentration limits for the groundwater monitoring program.
 - a. Interwell Comparisons – The Discharger is using historical water quality data from the upgradient groundwater monitoring well to develop concentration limits for inorganic COCs. Because there is no indication of a release to groundwater, interwell comparisons are appropriate.
 - b. Non-Statistical Comparisons – For inorganic COCs either not detected in background wells or only detected at trace concentrations and for man-made organic COCs, the concentration limit has been set at the method detection limit (MDL) for the analytical method used. For the DMP, the MDL is selected as the concentration limit, as this will allow for early detection of a release from a WMU.

If subsequent sampling of the background monitoring point(s) indicates significant water quality changes due to either seasonal fluctuations or other reasons unrelated to waste discharge activities at the Facility, the Discharger may request modification of the WQPS concentration limits to provide season-specific concentration limits (background data sets) for each COC at each monitoring point.

D. Final Closure and Post-Closure Maintenance Plan

Board Order No. R6V-2022-PROPOSED approves the Final Closure and Post-Closure Maintenance Plan (FCPCMP) dated September 17, 2021. The Discharger will clean close Ponds 1, 2, 3, 4, and a portion of Pond 5 and consolidate all waste materials, including all windblown wastes discharged outside the surface impoundments, within the east most 10-acres of Pond 5 and closed as a landfill (Pond 5 Landfill). Upon closure, the Pond 5 Landfill will be the only waste management unit (WMU) at the Facility. For purposes of this MRP, the Pond 5 Landfill is also referred to as “closed WMU.”

E. Point of Compliance and Monitoring Points

The point of compliance and monitoring points for the groundwater and unsaturated zone monitoring systems for the closed WMU are shown in Attachment B of this MRP. The point of compliance is a vertical surface located at the hydraulically downgradient limit of the closed WMU that extends through the uppermost aquifer underlying the WMU. Board Order No. R6V-2022-PROPOSED, Section V.A, requires the Discharger to submit a work plan(s) for the installation of additional groundwater monitoring wells to monitor the point of compliance and for the installation of additional unsaturated zone monitoring points around the perimeter of the closed WMU. The Discharger may add monitoring points, as needed, to comply with the DMP, evaluation monitoring program (EMP), and corrective action program requirements contained in Board Order No. R6V-2022-PROPOSED and this MRP, and as approved by the Water Board.

F. Post-Closure Maintenance Period

The post-closure maintenance period means the period after closure of a WMU during which the waste in the unit could have an adverse effect on the quality of the waters of the state. Upon closure, the Pond 5 Landfill will be the only WMU at the Facility subject to the post-closure maintenance period. The post-closure period for the Pond 5 Landfill (closed WMU) will extend as long as the wastes pose a threat to water quality pursuant to CCR, title 27, section 20950 (a)(1). The post-closure maintenance period is expected to end in 2053 for planning purposes pursuant to CCR, title 27, section 21769(c)(2)(a). However, the post-closure maintenance period may be extended if measurably significant evidence of release is detected from the closed WMU, or shortened if the Discharger demonstrates that the waste in Pond 5 Landfill no longer poses a threat to water quality and that the WMU has been in continuous compliance with its WQPS for a period of three consecutive years as specified in CCR, title 27, section 20410(c).

II. MONITORING

The Discharger must comply with the monitoring requirements outlined below. All monitoring and inspecting activities must be documented, and all sampling must be conducted in accordance with an approved Sampling and Analysis Plan (SAP) that includes quality assurance and quality control standards and procedures, as described in the General Provisions for Monitoring and Reporting (Attachment C of this MRP). Board Order No. R6V-2022-PROPOSED, Section V.D, requires the Discharger to submit a SAP following construction of the closed WMU.

The Discharger must operate and maintain a detection monitoring system that complies with the DMP monitoring provisions contained in CCR, title 27, sections 20385 through 20420. Monitoring of the groundwater and unsaturated zone must be conducted to provide the best assurance of the early detection of any new releases from the WMU. Changes to the existing monitoring system must be designed and certified by a California-licensed professional geologist or professional civil engineer as meeting the requirements of CCR, title 27, section 20415(e)(1). The Discharger must collect, preserve, and transport samples in accordance with the SAP.

All samples collected in accordance with this MRP, except for field parameters, are to be analyzed by a California state-certified laboratory using United States Environmental Protection Agency (USEPA) analytical methods or the most recently approved SW-846 USEPA method or other equivalent USEPA method. An alternate method may be used if acceptable to the Executive Officer.

A. Groundwater

The groundwater monitoring program monitors the quality of groundwater that passes through the point of compliance as well as monitors the quality of groundwater upgradient, cross-gradient, and downgradient of the WMU through the collection of groundwater samples for laboratory analyses and field measurement of water quality parameters.

1. Monitoring Points

Groundwater monitoring points are shown on MRP, Attachment B.

2. Depth to Groundwater

Prior to purging and sampling, the Discharger must measure and record the depth below the ground surface of the static groundwater elevation (feet below ground surface [bgs]) in all groundwater monitoring wells. The measurements must be accurate to the nearest 0.01 foot.

3. Groundwater Purging and Sampling

Prior to sampling, all groundwater monitoring wells must be purged using either standard or low-flow techniques until dissolved oxygen (DO), electrical conductivity, pH, temperature, and turbidity of extracted well water have stabilized. These parameters will be considered stable in accordance with procedures specified in the accepted SAP.

4. Constituents of Concern and Monitoring Parameters

The Discharger shall monitor, at each groundwater monitoring well, all COCs and monitoring parameters in accordance with the frequencies listed in Attachment A. Should any non-monitoring parameter COC exceed their respective concentration limit by a measurably significant amount at any given monitoring point, that non-monitoring parameter COC must become a monitoring parameter at that monitoring point.

5. Field Parameters

The Discharger shall monitor the groundwater in all groundwater monitoring wells for the field parameters in accordance with the frequencies listed in Attachment A.

6. Aquifer Characteristics

The Discharger must calculate, and illustrate on a site plan and/or aerial photograph, the following aquifer characteristics: the depth to groundwater (feet bgs) in each groundwater monitoring well; the static water level (feet above mean sea level) in each groundwater monitoring well; the slope of the groundwater gradient (feet/feet); the direction of the groundwater gradient beneath and around the WMU; the velocity of groundwater flow (feet/year); and the current groundwater isocontours for that monitoring period.

7. Calibration Documentation

The Discharger must submit documentation of instrument calibration and performance checks to verify proper operation of the field monitoring equipment.

B. Unsaturated Zone Monitoring

The unsaturated zone monitoring program monitors for the variances in soil-pore moisture within the unsaturated zone.

1. Monitoring Points

The unsaturated zone for the WMU is monitored for soil-pore moisture using time domain reflectometry devices. Unsaturated zone monitoring points are shown on MRP, Attachment B.

2. Field Parameters

The time domain reflectometry devices measure soil moisture, and the results must be compared to previously determined background/baseline soil moisture content.

- a. The Discharger must establish background soil moisture content following construction completion of the closed WMU and include the soil moisture background value and the soil moisture action limit in the SAP as required by Board Order No. R6V-2022-PROPOSED, Section V.D.
- b. If moisture content is detected above the soil moisture action limit, field verification testing must be performed and the Discharger must notify the Water Board and report physical evidence of a release, in accordance with MRP, Section IV.C.1.a. Field verification testing will be required and may include a combination of additional time domain reflectometry analyses and soil sampling to verify a release.

3. Calibration Documentation

The Discharger must submit documentation of instrument calibration and performance checks to verify proper operation of the field monitoring equipment.

C. Facility Inspections

The following elements must be monitored annually and reported to the Water Board in accordance with the schedule specified in this MRP, Section IV.B.2. Maintenance and repairs must be performed in a timely manner following discovery of the problem in accordance with the procedures outlined in the approved FCPCMP.

1. Annual Inspection

Annually, prior to the anticipated rainy season, but no later than **September 30**, the Discharger must conduct an inspection of the Facility. The inspection must assess damage to the cover system, the drainage control system, groundwater monitoring equipment (including wells, etc.), and must include adequate observations to assess the

Landfill condition. Any necessary construction, maintenance, or repairs must be completed by **October 31** of the same year. The Discharger must document the inspection and the repair measures implemented, including photographs of the problem and of the repairs; this inspection documentation must be included in the annual report.

2. Storm Events

The Discharger must inspect all precipitation, diversion, and drainage facilities for damage **within 10 days** following major storm events. Necessary repairs must be completed **within 30 days** of the inspection. The Discharger must document the inspection(s) and the repair measures implemented, including photographs of the problem and of the repairs; these inspection documents must be included in the annual report.

D. Final Cover Integrity Monitoring and Maintenance Program

The Discharger will install an engineered alternative final cover over the Pond 5 Landfill, specifically an evapotranspirative (ET) cover as described in Board Order R6V-2022-PROPOSED. The cover will be graded to prevent leachate formation due to storm water infiltration, promote lateral runoff, prevent ponding, sustain native vegetation, and promote evapotranspiration. Pursuant to CCR, title 27, section 21090, the Discharger must monitor the condition of the cover system as outlined in the FCPCMP. The purpose of this monitoring is to ensure the integrity of the cover and to evaluate the cover's capability to promote runoff and prevent ponding.

The following elements must be monitored annually and reported to the Water Board in accordance with the schedule specified in this MRP, Section IV.B.3.a. Maintenance and repairs to the cover must be performed in a timely manner following discovery of the problem in accordance with the procedures outlined in the approved FCPCMP.

1. An evaluation of the condition of the ET cover surface, including areas requiring replanting/reseeding, if needed.
2. Eroded portions of the cover surface requiring regrading, repair, or (for areas where the problem persistently reoccurs) installation of additional erosion control measures.
3. An evaluation of the ability of the cover to promote runoff and prevent ponding.
4. Areas where there is evidence of ponding or lacking free drainage.

5. An evaluation of the cover thickness, including areas requiring regrading and additional soil cover, to maintain the as-built final cover over the entire surface of the closed WMU.
6. Areas of the cover surface damaged by equipment operation.
7. Localized areas identified in the five-year iso-settlement survey as having sustained repeated or severe differential settlement.
8. Prior to conducting periodic grading repairs and maintenance of the cover surface, the Discharger must note on a map of the closed WMU the approximate location and outline of any areas where differential settlement is visually obvious. Map notations and delineations made pursuant to this paragraph need not be surveyed, so long as all areas where differential settlement was visually identifiable prior to regrading can be relocated. Such notation and delineation must be made by, or under the supervision of, a California-licensed professional geologist or civil engineer.

III. DATA ANALYSES

All data analysis methods (statistical and non-statistical) must meet the requirements of CCR, title 27, sections 20415, subdivisions (e)(8) and (9).

A. Site-Specific Statistical Analysis Methods

To determine whether there is "measurably significant" evidence of a new release from the WMU, evaluation of data will be conducted using statistical methods. For detection monitoring, the Discharger must use statistical methods to analyze COCs and monitoring parameters that exhibit concentrations that equal or exceed their respective concentration limit. The Discharger may propose and use any data analyses that meets the requirements of CCR, title 27, section 20415, subdivision (e)(7). *Statistical Analysis of Groundwater Monitoring Data at RCRA Facilities, Unified Guidance* (USEPA, 2009) or subsequent versions may also be used to select the statistical test to use for comparing detection monitoring data to background monitoring data.

B. Non-Statistical Analysis Methods

To determine if any new releases have occurred from the WMU, evaluation of data will also be conducted using non-statistical methods. Non-statistical analyses shall be as follows.

1. Physical Evidence

Physical evidence can include, but is not limited to, unexplained stress in biological communities such as vegetation loss, soil discoloration, or groundwater mounding. Each semi-annual and annual report must comment on such physical elements.

2. Time-Series Plots

Non-statistical evidence of a release may include trends of increasing concentrations of one or more constituents over time, as depicted in time-series plots. Each semi-annual and annual report must include these time-series plots. Time-series plots are not required for COCs that have never been detected above their MDL (as specified by the applicable USEPA method).

IV. REPORTING REQUIREMENTS

The Discharger must comply with the following reporting requirements.

A. Submittal of Electronic Laboratory Data

All laboratory data collected during the corresponding reporting period (Table 1), must be submitted electronically to the Water Board by uploading to the State Water Board’s GeoTracker system, per the following schedule. The laboratory data must be uploaded in Electronic Data Format (EDF).

Table 1. Laboratory Reporting Schedule

Sampling and Reporting Period	EDF Upload Due Date
January 1 – June 30	July 30
July 1 – December 31	January 30

B. Scheduled Reports to be Filed with the Water Board

The following periodic reports, including all water, soil, unsaturated zone, and monitoring data collected during the corresponding reporting period, must be submitted electronically to the Water Board by uploading to the State Water Board’s GeoTracker system, per the schedule presented in Table 2.

Table 2. Monitoring and Reporting Schedule

MONITORING REPORTING SCHEDULE		
Report Name	Sampling and Reporting Period	Report Due Date¹
First Semi-Annual Monitoring Report	January 1 – June 30	July 30
Second Semi-Annual DMP Monitoring Report	July 1 – December 31	January 30
Annual Monitoring Report	January 1 – December 31	March 30
Annual Cover Performance Report	January 1 – December 31	March 30
Five-Year Iso-Settlement Map ²	January 1 – December 31	March 30
Five-Year Constituent of Concern Monitoring Report ³	January 1 – June 30 July 1 – December 31	July 30 January 30

Notes:

¹ Reports with same due dates may be combined.

² The first five-year iso-settlement map is due March 30, 2027.

³ Sampling and reporting period will alternate between January 1 through June 30 for one five-year sampling event and July 1 through December 31 for the next five-year sampling event. The July 30 report due date corresponds to the January 1 through June 30 sampling and reporting period; the January 30 report due date corresponds to the July 1 through December 31 sampling and reporting period. The first five-year COC report is due January 30, 2023.

1. Semi-Annual Monitoring Reports

Each semi-annual report must include, but not be limited to, the following information.

- a. All data collected during the reporting period in accordance with the accepted SAP for the monitoring systems described in MRP, Section II.A and II.B.
- b. Tabulated results of sampling and laboratory analyses for each groundwater monitoring point, including historical (last five years at minimum) and current reporting period data, as well as the concentration limit for each monitoring parameter and an identification of each sample that exceeds its respective concentration limit by a measurably significant amount at any given monitoring point. Tabulated results of sampling for each unsaturated zone monitoring point, including historical (last five years at minimum) and current reporting period data.

- c. A map and/or aerial photograph showing the Facility's perimeter and ancillary facilities as well as the locations of the WMU, monitoring points, observation stations, and the surface trace of the point of compliance.
- d. Calculate and illustrate on a map and/or aerial photograph the static groundwater surface elevation (feet above mean sea level) in each groundwater monitoring well, the groundwater gradient (feet/feet) and the direction of the groundwater gradient, the velocity of groundwater flow (feet/year), and the current groundwater isocontours for that monitoring period.
- e. Copies of all field monitoring and well sampling data sheets.
- f. Time-series plots of the analytical results from the groundwater monitoring at each monitoring point for each COC detected during the monitoring period as well as available historical data (minimum of last ten years of data). Time-series plots must include, as lines, the COCs concentration limit as derived in accordance with the WQPS, as well as the PQL and MDL for the analytical method used.
- g. A letter transmitting the essential points of each report, including a discussion of any violations found since the last report was submitted and describing actions taken or planned for correcting those violations.
 - i. If the Discharger has previously submitted a detailed time schedule for correcting violations, a reference to the correspondence transmitting this schedule will suffice.
 - ii. If no violations have occurred since the last submittal, this must be stated in the letter of transmittal.

2. Annual Monitoring Reports

Annual monitoring reports must be submitted to the Water Board no later than **March 30** of each year. The report must include the items described in the General Provisions for Monitoring and Reporting (Attachment C to this MRP), and the following information.

- a. All data collected in accordance with this MRP, Section II.C.
- b. A list of all monitoring point/monitoring parameter pairs (pairs), by medium, which have exhibited a verified measurably significant increase, together with the respective date (for each) when that increase occurred. Any pairs that have shown an increase within that (prior) year shall be bold-underlined. In addition, by medium, list any non-monitoring parameter COCs

- that, during testing that year (tested every five years), have exceeded their respective concentration limit by a measurably significant amount and, as a result, have become monitoring parameters, together with the date when the transition occurred.
- c. Two maps, one for each semi-annual monitoring period of the last reporting year, showing the groundwater isocontours determined for that monitoring period, the WMU and all ancillary facilities, all groundwater and unsaturated zone monitoring points, and the surface trace of the point of compliance.
 - d. Calibration methods and any discrepancies of any meters used or field parameter evaluations after calibration is performed.
 - e. An evaluation of the effectiveness of both the groundwater and unsaturated zone monitoring programs and any proposed modifications necessary to improve the DMP.
 - f. A brief chronological summary of dates of any operational problems and maintenance activities that may impact water quality at the site.
 - g. The compliance record and the corrective actions taken or planned, which may be needed to bring the Facility into full compliance with the discharge requirements.
 - h. Evidence that adequate financial assurance for post-closure maintenance and corrective action is still in effect. Evidence may include a copy of the renewed financial instrument or a copy of the receipt for payment of the financial instrument.
 - i. Evidence that the financial assurance amount is adequate or increase the amount of financial assurance by an appropriate amount if necessary, due to inflation, a change in the approved closure plan, or other unforeseen events.
 - j. The Discharger must review the FCPCMP annually to determine if significant changes in the maintenance of the Facility warrant an update to the plan. Any proposed changes to the FCPCMP must be outlined in the annual report. Any changes to the FCPCMP must be approved by the Regional Board.

3. Final Cover Performance Reports

a. Annual Cover Performance Reports

Annual cover performance reports must be submitted to the Water Board no later than **March 30** of each year. Annual cover performance reports must include, but not be limited to, the following information.

- i. All data collected in accordance with this MRP, Section II.D.
- ii. A description of the condition of the final cover materials and a discussion regarding any settlement or soil cover erosion, which have occurred, and the capability of the cover to promote runoff and prevent ponding.
- iii. Where settlement, erosion, or other damage to the cover is noted, the report must indicate the actions taken to repair the cover material, the date(s) those actions were taken, and what actions are being taken to prevent reoccurrence.

b. Five-Year Iso-Settlement Map

Pursuant to CCR, title 27, 21090(e)(2), at least once every five years, the Discharger must prepare and submit to the Water Board an iso-settlement map accurately depicting the estimated total change in elevation of the final cover surface. The five-year iso-settlement map must be submitted to the Water Board no later than **March 30** of the year in which it is due and should be included with the annual cover performance report due that same reporting year. The first five-year iso-settlement map is to be submitted to the Water Board by **March 30, 2027**. The map must include, at minimum, the following information.

- i. The total lowering of the surface elevation of the final cover, relative to the baseline topographic map prepared at the time of closure (as-built condition).
- ii. Indicate all areas where repeated and severe differential settlement has occurred since closure.
- iii. The map shall be drawn to the same scale and contour interval as the baseline as-built topographic map but show the current topography of the final cover and include overprinted isopleths indicating the total settlement to-date.

4. Five-Year Constituent of Concern Monitoring and Reporting Program

Pursuant to CCR, title 27, section 20420, subdivision (g), every five years the Discharger must sample for COCs. Groundwater samples must be collected and submitted for laboratory analyses at all monitoring points once every five years for all monitoring parameters and COCs listed in Appendix I and Appendix II, Title 40, Code of Federal Regulations (40 CFR), Part 258 (Attachment A). Successive monitoring

efforts must be carried out alternately during January 1 through June 30 of one five-year COC sampling event and July 1 through December 31 of the next five-year COC sampling event, and every fifth year, thereafter. The five-year COC sampling event must be reported no later than 90 days following the monitoring period. The first five-year sampling event will occur in second half of 2022 and be reported to the Water Board no later than **January 30, 2023**.

C. Unscheduled Reports to be Filed with the Water Board

The following reports must be submitted to the Water Board as specified below.

1. Notice of Tentative Release from the Landfill

Should the statistical or non-statistical data analyses indicate, for a given COC, that a new release is tentatively identified, the Discharger must follow these requirements.

a. Physical or Measurably Significant Evidence of a Release from the Landfill

The Discharger must immediately notify the Water Board verbally whenever a determination is made that there is significant physical or “measurably significant” evidence of a release from the WMU. This verbal notification must be followed by written notification via certified mail within seven days of such determination. Upon such notification, the Discharger may initiate verification procedures or demonstrate that another source other than the WMUs caused evidence of a release in accordance with this MRP, Section IV.C.1.b. The notification must include the following information:

- i. The potential source of the release;
- ii. General information including the date, time, location, and cause of the release;
- iii. An estimate of the flow rate and volume of waste involved;
- iv. A procedure for collecting samples and description of laboratory tests to be conducted;
- v. Identification of any water body or water-bearing media affected or threatened;
- vi. A summary of proposed actions; and
- vii. For a physical evidence of a release – the physical factors that indicate evidence of a release; or

viii. For a measurably significant evidence of a release – the monitoring parameters and/or COCs that are involved in the measurably significant evidence of a release from the Landfill.

b. Other Source That May Cause Evidence of a Release from the WMU

The Discharger may make a demonstration that a source other than the WMU caused evidence of a release. For this case, the Discharger must notify the Water Board of the intention to make this demonstration. The notification must be sent to the Water Board by certified mail within seven days of determining physical or measurably significant evidence of a release.

2. Evaluation Monitoring

The Discharger must, within 90 days of verifying a release, submit a technical report and amended report of waste discharge to establish an EMP pursuant to CWC, section 13267, subdivision (b), proposing an EMP meeting the provisions of CCR, title 27, section 20420, subdivision (k)(5). If the Discharger decides not to conduct verification procedures or decides not to make a demonstration that a source other than the WMU is responsible for the release, the release will be considered verified. The EMP must include the following information:

- a. COC Concentrations – the maximum concentration of each COC at each monitoring point as determined during the most recent COC sampling event (i.e., under CCR, title 27, section 20420, subdivision (g) or (k)[1]). Any COC that exceeds its concentration limit is to be retested at that monitoring point. Should the results of the retest verify that the COC is above the concentration limit, then that COC will become a monitoring parameter at that monitoring point;
- b. Proposed Monitoring System Changes – any proposed changes to the groundwater and unsaturated zone monitoring systems necessary to meet the provisions of CCR, title 27, section 20425;
- c. Proposed Monitoring Changes – any proposed additions or changes to the monitoring frequency, sampling and analytical procedures or methods, or statistical methods necessary to meet the provisions of CCR, title 27, section 20425; and
- d. Proposed Delineation Approach – a detailed description of the measures to be taken by the Discharger to assess the nature and extent of the release from the WMU.

3. Engineering Feasibility Study Report

Within 180 days of verifying the existence of any new release, the Discharger must submit a revised Engineering Feasibility Study report meeting CCR, title 27, section 20420, subdivision (k)(6), proposing corrective action measures that could be taken to achieve background concentrations for all COCs involved in the release. This report will be the basis for a later expanded Engineering Feasibility Study submitted under the EMP, as specified in CCR, title 27, section 20425, subdivision (c).

4. Monitoring Well Logs

All monitoring wells (including groundwater and unsaturated zone monitoring wells) and all other borings installed to satisfy the requirements of this MRP must be drilled by a licensed drilling contractor and must be logged during drilling under the direct supervision of either a California-licensed professional geologist or civil engineer with expertise in stratigraphic well logging, as indicated in CCR, title 27, section 20415, subdivision (e)(2). Such logs must be submitted to the Water Board within 90 days following completion of fieldwork.

5. Significant Earthquake Event

After a significant¹ or greater earthquake event at or near the Facility, the Discharger shall notify the Water Board within 48 hours, and within 45 days submit to the Water Board a detailed written post-earthquake report describing any physical damages to the containment features or groundwater and/or unsaturated zone monitoring systems or to report no damage to the Facility was sustained. The Discharger must closely examine the WMUs and appurtenant piping, inspect the slope conditions, drainage control system, and surface grading for signs of cracking or depressed/settled areas following the earthquake event. If cracking or depressed areas are identified, the Discharger must make repairs to those areas within 30 days from the date of the earthquake event. Repairs and maintenance must be consistent with Board Order No. R6V-2022-PROPOSED.

¹ A significant earthquake is a seismic event classified according to the United States Geological Survey (USGS) Earthquake Hazard Program as a moderate earthquake measuring between 5 and 5.9 on the Richter scale, or higher. The Discharger may use the Modified Mercalli Intensity Scale VI or higher for equivalent ground shaking generated by a significant earthquake of Richter magnitude 5.0 or higher as contained with the USGS Earthquake Hazard Program Magnitude/Intensity Comparison chart found at <https://earthquake.usgs.gov>.

D. General Provisions

The Discharger must comply with Attachment C, "General Provisions for Monitoring and Reporting," dated September 1, 1994, which is attached to and made part of this MRP.

E. Failure to Furnish Reports

Any person failing or refusing to furnish technical or monitoring reports or falsifying any information provided therein is guilty of a misdemeanor and may be liable civilly in an amount of up to one thousand dollars (\$1,000) for each day of violation pursuant to CWC, section 13268.

F. Violations

If monitoring data indicate a violation of a specific requirement in these WDRs, the Discharger must report the violation in the scheduled report for the corresponding reporting period and provide information indicating the cause of violation(s) and the action taken or planned to bring the discharge into compliance.

G. Electronic Reporting Requirements

Pursuant to CCR, title 23, section 3890, the Discharger must submit reports, including soil, soil-gas, and water data, prepared for the purpose of subsurface investigation or remediation of a discharge of waste to land subject to CCR, title 27, Division 2, electronically over the internet to the State Water Resources Control Board's GeoTracker system. This requirement is in addition to, and not superseded by, any other applicable reporting requirement. The Discharger must provide the monitoring report to the Water Board, as specified in this MRP, and upload the full monitoring report into GeoTracker, as stipulated by CCR, title 23.

Ordered by: _____ Dated: _____.

MICHAEL R. PLAZIAK, PG
EXECUTIVE OFFICER

Attachments: A. Water Quality Monitoring Program
B. Monitoring Network, Coolwater Generating Station
C. General Provisions for Monitoring and Reporting,
September 1, 1994

ATTACHMENT A – WATER QUALITY MONITORING PROGRAM¹

GROUNDWATER				
Parameter		Units	Sampling Frequency	Reporting Frequency
Field Parameters				
Depth to Groundwater		feet below ground surface	Semi-Annual	Semi-Annual
Groundwater Elevation		feet above mean sea level	Semi-Annual	Semi-Annual
Dissolved Oxygen		milligrams/Liter	Semi-Annual	Semi-Annual
Electrical Conductivity		µmhos/cm	Semi-Annual	Semi-Annual
pH		pH units	Semi-Annual	Semi-Annual
Temperature		degrees Fahrenheit or	Semi-Annual	Semi-Annual
Turbidity		NTU	Semi-Annual	Semi-Annual
Constituents of Concern				
Monitoring Parameters	Chloride	milligrams/Liter	Semi-Annual	Semi-Annual
	Sodium	milligrams/Liter	Semi-Annual	Semi-Annual
	Sulfate	milligrams/Liter	Semi-Annual	Semi-Annual
	Total Dissolved Solids	milligrams/Liter	Semi-Annual	Semi-Annual
	Arsenic	milligrams/Liter	Semi-Annual	Semi-Annual
Antimony		milligrams/Liter	5 year	5 year
Arsenic		milligrams/Liter	5 year	5 year
Barium		milligrams/Liter	5 year	5 year
Beryllium		milligrams/Liter	5 year	5 year
Cadmium		milligrams/Liter	5 year	5 year
Chromium		milligrams/Liter	5 year	5 year
Cobalt		milligrams/Liter	5 year	5 year
Copper		milligrams/Liter	5 year	5 year
Lead		milligrams/Liter	5 year	5 year
Mercury		milligrams/Liter	5 year	5 year
Molybdenum		milligrams/Liter	5 year	5 year
Nickel		milligrams/Liter	5 year	5 year
Selenium		milligrams/Liter	5 year	5 year
Silver		milligrams/Liter	5 year	5 year
Thallium		milligrams/Liter	5 year	5 year
Vanadium		milligrams/Liter	5 year	5 year
Zinc		milligrams/Liter	5 year	5 year
Volatile Organic Compounds ²		micrograms/Liter	5 year	5 year
Semi-volatile Organic Compounds ³		micrograms/Liter	5 year	5 year
Chlorophenoxy Herbicides ³		micrograms/Liter	5 year	5 year
Organophosphorus Compounds ³		micrograms/Liter	5 year	5 year
Organochlorine Pesticides ³		micrograms/Liter	5 year	5 year
Polychlorinated Biphenyls ³		micrograms/Liter	5 year	5 year

Notes:

NTU - Nephelometric Turbidity Units

µmhos/cm - micromhos per centimeter

¹ Laboratory analytical data is uploaded to GeoTracker in accordance with the sampling frequency.

² As defined in Appendix I, 40 Code of Federal Regulations (CFR), part 258.

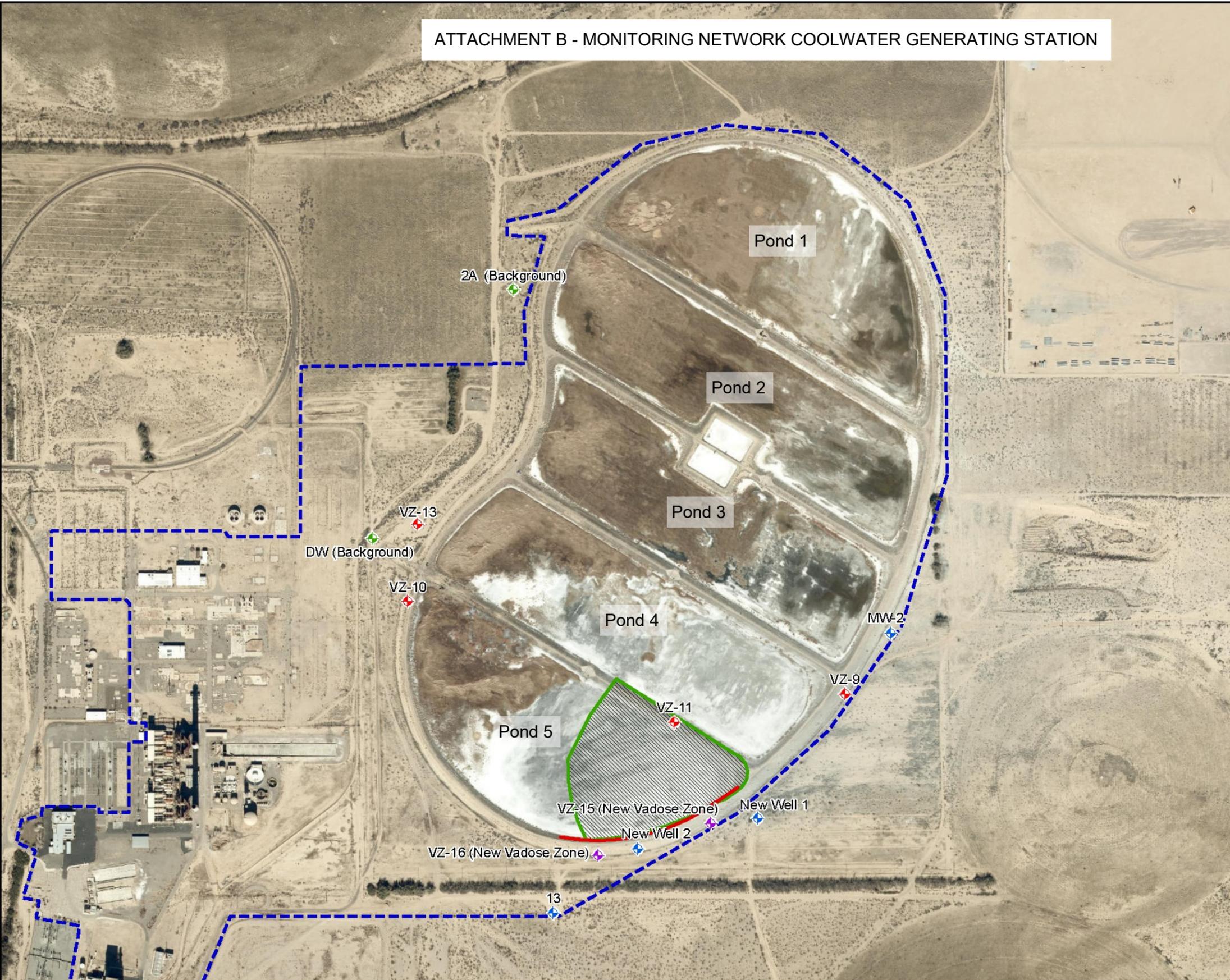
³ As defined in Appendix II, 40 CFR, part 258.

ATTACHMENT B - MONITORING NETWORK COOLWATER GENERATING STATION

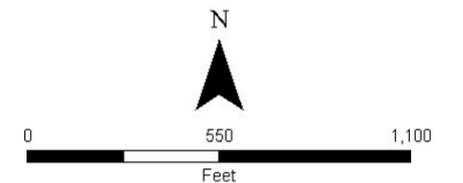
DRAWN BY: Carissa True

FILE: M:\Projects\0290120 NRG Coolwater\maps\Figure 4 Well Location Map 2021.mxd, REVISED: 12/07/2021, SCALE: 1:6,000 when printed at 11x17

Source: ESRI Aerial Imagery Webservice June 2016; NAD 1983 StatePlane California V FIPS0405 Feet



- Legend**
- ◆ Background Monitoring Well
 - ◆ Monitoring Well
 - ◆ Vadose Zone Monitoring Well
 - ◆ New Vadose Zone Monitoring Well
 - Point of Compliance Line
 - Coolwater Generating Station
 - Property Boundary
 - Proposed Pond 5 Landfill



Coolwater Generating Station
Daggett, California



CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
LAHONTAN REGION

GENERAL PROVISIONS
FOR MONITORING AND REPORTING

1. **SAMPLING AND ANALYSIS**

- a. All analyses shall be performed in accordance with the current edition(s) of the following documents:
 - i. Standard Methods for the Examination of Water and Wastewater
 - ii. Methods for Chemical Analysis of Water and Wastes, EPA
- b. All analyses shall be performed in a laboratory certified to perform such analyses by the California State Department of Health Services or a laboratory approved by the Regional Board Executive Officer. Specific methods of analysis must be identified on each laboratory report.
- c. Any modifications to the above methods to eliminate known interferences shall be reported with the sample results. The methods used shall also be reported. If methods other than EPA-approved methods or Standard Methods are used, the exact methodology must be submitted for review and must be approved by the Regional Board prior to use.
- d. The Discharger shall establish chain-of-custody procedures to insure that specific individuals are responsible for sample integrity from commencement of sample collection through delivery to an approved laboratory. Sample collection, storage, and analysis shall be conducted in accordance with an approved Sampling and Analysis Plan (SAP). The most recent version of the approved SAP shall be kept at the facility.
- e. The Discharger shall calibrate and perform maintenance procedures on all monitoring instruments and equipment to ensure accuracy of measurements, or shall insure that both activities will be conducted. The calibration of any wastewater flow measuring device shall be recorded and maintained in the permanent log book described in 2.b, below.
- f. A grab sample is defined as an individual sample collected in fewer than 15 minutes.
- g. A composite sample is defined as a combination of no fewer than eight individual samples obtained over the specified sampling period at equal intervals. The volume of each individual sample shall be proportional to the discharge flow rate at the time of sampling. The sampling period shall equal the discharge period, or 24 hours, whichever period is shorter.

2. OPERATIONAL REQUIREMENTS

a. Sample Results

Pursuant to California Water Code Section 13267(b), the Discharger shall maintain all sampling and analytical results including: strip charts; date, exact place, and time of sampling; date analyses were performed; sample collector's name; analyst's name; analytical techniques used; and results of all analyses. Such records shall be retained for a minimum of three years. This period of retention shall be extended during the course of any unresolved litigation regarding this discharge, or when requested by the Regional Board.

b. Operational Log

Pursuant to California Water Code Section 13267(b), an operation and maintenance log shall be maintained at the facility. All monitoring and reporting data shall be recorded in a permanent log book.

3. REPORTING

- a. For every item where the requirements are not met, the Discharger shall submit a statement of the actions undertaken or proposed which will bring the discharge into full compliance with requirements at the earliest time, and shall submit a timetable for correction.
- b. Pursuant to California Water Code Section 13267(b), all sampling and analytical results shall be made available to the Regional Board upon request. Results shall be retained for a minimum of three years. This period of retention shall be extended during the course of any unresolved litigation regarding this discharge, or when requested by the Regional Board.
- c. The Discharger shall provide a brief summary of any operational problems and maintenance activities to the Board with each monitoring report. Any modifications or additions to, or any major maintenance conducted on, or any major problems occurring to the wastewater conveyance system, treatment facilities, or disposal facilities shall be included in this summary.
- d. Monitoring reports shall be signed by:
 - i. In the case of a corporation, by a principal executive officer at least of the level of vice-president or his duly authorized representative, if such representative is responsible for the overall operation of the facility from which the discharge originates;
 - ii. In the case of a partnership, by a general partner;
 - iii. In the case of a sole proprietorship, by the proprietor; or

- iv. In the case of a municipal, state or other public facility, by either a principal executive officer, ranking elected official, or other duly authorized employee.
- e. Monitoring reports are to include the following:
 - i. Name and telephone number of individual who can answer questions about the report.
 - ii. The Monitoring and Reporting Program Number.
 - iii. WDID Number.
- f. Modifications

This Monitoring and Reporting Program may be modified at the discretion of the Regional Board Executive Officer.

4. NONCOMPLIANCE

Under Section 13268 of the Water Code, any person failing or refusing to furnish technical or monitoring reports, or falsifying any information provided therein, is guilty of a misdemeanor and may be liable civilly in an amount of up to one thousand dollars (\$1,000) for each day of violation under Section 13268 of the Water Code.

x:PROVISIONS WDRS

file: general pro mrp