5.7. Hydrology/Water Quality

This section addresses potential hydrology and water quality impacts that may result from construction, operation, closure and post-closure maintenance of the Desert Valley Company Monofill (DVCM) Expansion Project, Cell 4. The following discussion addresses the existing conditions on the Project site, identifies applicable regulations, identifies and analyzes environmental impacts, and recommends measures to reduce or avoid adverse impacts anticipated from implementation of the proposed Project, as applicable.

Information used in preparing this section and in the evaluation of potential impacts was derived from of the Hydrology and Water Quality Assessment Report prepared by EMKO Environmental, Inc. in 2019 (EMKO, 2019a; Appendix L).

Scoping Issues Addressed

During the scoping period for the Project, a public scoping meeting was conducted, and written comments were received from agencies. The following issues related to hydrology and water quality were raised by the California Department of Fish and Wildlife and are addressed in this section:

- The groundwater hydrology of this groundwater basin is not well understood. The DEIR should thoroughly analyze proposed impacts of installation of the proposed groundwater well within the Ocotillo-Clark Valley Groundwater Basin.
- The DEIR should provide a thorough discussion of Project-related changes on drainage patterns and water quality within, upstream, and downstream of the Project site, including volume, velocity, and frequency of existing and post-Project surface flows; polluted runoff; soil erosion and/or sedimentation in streams and water bodies; and
- The DEIR should provide a thorough discussion of post-Project fate of runoff from the Project site.

Issues Scoped Out

The Imperial County Planning and Development Services Department (County) determined in the Initial Study/Notice of Preparation (IS/NOP), located in Appendix A-1, that the following environmental issue area resulted in no impact and was scoped out of requiring further review in this Draft EIR (DEIR). Please refer to Appendix A-1 of this DEIR for a copy of the NOP/IS and additional information regarding this issue.

- Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater. Soils in the project area support the existing septic system and leach field at the Desert Valley Monofill. This same infrastructure would be used for the proposed Project.
- Is the Project located within a flood hazard, tsunami, or seiche zones such that there is a risk of releasing of pollutants from Project inundation? The Project site is not located within a flood

hazard, tsunami, or seiche zone. There are no risks of releasing pollutants from Project inundation.

5.7.1 Environmental Setting

The environmental setting consists of the existing hydrologic conditions in the region and at the Project site. Existing conditions are described below for both surface water and groundwater, and for water quality, which define the baseline for the evaluation of potential environmental impacts

Surface Water

This section describes the environmental setting, or existing conditions, related to surface water, including both surface water occurrence and surface water quality.

Regional Conditions

The Project site is located in an arid, desert environment. Rainfall data from five stations ranging from 18 miles to 42 miles from the Project site indicate that the average annual rainfall varies from 2.47 inches to 2.86 inches (EMKO Environmental, 2019a; Appendix L). Peak annual rainfall ranges from 5.73 inches to 10.16 inches for the five stations (ibid). At each station, there have been years when very little or no rainfall occurred. The estimated total rainfall from a 100-year, 24-hour storm event is 2.88 inches, and the pan evaporation rate is reported to range from 87 inches per year to 117 inches per year.

The nearest perennial drainage to the Project site is San Felipe Creek, located approximately 3.5 miles to the northwest. Groundwater from a shallow aquifer zone may discharge to this drainage to maintain the surface flows (EMKO Environmental, 2019a; Appendix L). Other drainages in the region are ephemeral and only experience surface flows during or after major storm events. As a result, there may be several years between flow events within the ephemeral drainages.

The Salton Sea is located four miles to the northeast. The Salton Sea is a major inland water body with no outlet, which results in highly saline conditions.

Site-Specific Conditions

Surface drainages that are classified as jurisdictional under California Department of Fish and Wildlife (CDFW) criteria have been mapped by Hernandez Environmental Services (2018). The jurisdictional drainages in the Project vicinity are shown on **Figure 5.2-3**. A total of 35.2 acres of CDFW jurisdictional drainages are present in Section 33 (See **Table 5.2-2**) The surface drainages at the Project site are ephemeral and may only experience flow after major storm events. There may be multiple years between periods when surface water flows occur in the drainages.

According to the Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map (Firm) Panel Number 060065-0400 B, there are no areas within any part of Section 33 that are within

a flood hazard zone. The FEMA Firm Panel is available at http://www.icpds.com/CMS/Media/19-FEMA-400.pdf.

Estimates of stormwater flows within the drainages have been performed by McDowell & Associates (2002) for the design of the existing diversion berm along the south side of Cell 3 and the west side of Cells 1, 2, and 3. Peak stormwater flows were estimated based on a Probable Maximum Precipitation of 13.3 inches of rain over 24 hours, with an estimated maximum intensity of 4.03 inches per hour. The estimated peak runoff from the jurisdictional drainages to the south (upstream) of Cells 1, 2, and 3 is 101.1 cubic feet per second (cfs). To prevent flooding and erosion of the existing facility, a three-foot high berm along with a 1.5-foot deep swale along the outer edge of the berm are present around the south and west side of Cell 3. The berm and swale were designed based on the Probable Maximum Precipitation of 13.3 inches in a 24-hour period, which is a protection level equivalent to that required for a Class I landfill.

Additional evaluations of the runoff from several jurisdictional drainages west of Cell 3 were also calculated to estimate the appropriate size for drainage crossings along the access road north of the facility along the west side of Section 27, based on the same Probable Maximum Precipitation and maximum rainfall intensity used to design the Cell 3 berm and swale (EMKO Environmental, 2019a; Appendix L). Two of the jurisdictional drainages west of Cell 3 pass through the area in which Cell 4 is proposed to be constructed. For these two drainages, the peak runoff ranges from 275 cfs to 290 cfs. Because the total drainage area evaluated in the McDowell & Associates (2002) calculations extends northward (downslope) to the access road for the facility, those watershed areas are approximately twice the area that would provide runoff from upslope of the south edge of the proposed Cell 4. Thus, the peak runoff approaching the south edge of the Cell 4 area may be approximately one-half of the peak runoff for the entire drainage area extending to the access road, or approximately 300 cfs.

The Desert Valley Company Monofill operates in accordance with an active Industrial Storm Water Pollution Prevention Plan (I-SWPPP), WDID [(1)] 7 13I00458 to comply with the terms of the General Permit for Storm Water Discharges Associated with Industrial Activity Order 2014-0057-DWQ, National Pollutant Discharge Elimination System General Permit #CAS000001. The SWRCB received and processed the most recent Notice of Intent (NOI) for the Monofill's coverage under the General Permit on May 18, 2021.

The existing I-SWPPP identifies appropriate best management practices (BMPs) to prevent erosion and the mobilization of pollutants in stormwater runoff, defines primary and alternative sampling locations, and describes on-going monitoring and maintenance requirements. In 2018, the existing stormwater management system was enhanced with additional erosion control measures, including

[1] WDID = Waste Discharger Identification Number

construction of an earthen drainage swale around the perimeter of Cell 3 (EMKO, 2019a; Appendix L).

Leachate from Cells 1 and 2 is collected within a pair of lined basins to the north of those two former disposal cells. Leachate from active Cell 3, and any rain that falls within the perimeter of the cell, is collected in a lined basin at the northeast corner of Cell 3. Any leachate that accumulates in these lined basins eventually evaporates and there is no discharge to any of the surface drainages.

Existing Surface Water Quality

Storm water runoff from qualifying storm events is monitored in accordance with the current I-SWPPP. Except for rain that falls within the active Cell 3 area, storm water is not retained onsite, but is discharged through several designated discharge points. The results of stormwater monitoring are presented on **Table 5.7-1**.

TABLE 5.7-1: RESULTS OF STORMWATER MONITORING, QUALIFIED STORM EVENT (JANUARY 15, 2019)

Parameter	Qualifying Storm Event (QSE) Results – Jan. 15, 2019 *	Reporting Units	Annual	NAL	Method
Iron (FE), Total	2.04	mg/L	1.0	N/A	EPA 200.7
pH	6.28	pH Units	NA	<6.00 - >9.0	A4500-H+B
Total Suspended Solids (TSS)	17	mg/L	100	400	SM 2540-D
Total Oil & Grease (O&G)	<5.0	mg/L	15	25	EPA 1664B

Note: (*) Alternative Sampling Location for DP 5 & 6.
Source: EMKO Environmental, 2019a; Appendix L

Since adoption of the 2015 Industrial General Permit, the iron annual numeric action level was exceeded in January 2016. Phase 1 and Phase 2 Exceedance Response Action (ERA) evaluations were conducted and enhancements to the stormwater best management practices (BMPs) were implemented in 2017 (Yorke, 2016; CalEnergy, 2017 and 2018). However, the sampling results from a qualifying storm event (QSE) on January 15, 2019 indicate that iron still exceeds its annual numeric action level (EMKO Environmental, 2019a; Appendix L). The results of the January 15, 2019 QSE sampling are shown in **Table 5.7-1**. Evaluation of iron concentrations in onsite and offsite soils, and of iron in windblown dust entering the site), suggests that the source of the iron may be naturally-occurring levels in the native soils and windblown dust, and is not a result of waste disposal activities at Cell 3.

Table 5.7-2 presents the leachate monitoring data for the fourth quarter of 2018.

TABLE 5.7-2: FOURTH QUARTER 2018 LEACHATE MONITORING RESULTS

Cell No.	Volume (gallons)	pH	Conductivity (µmhos/cm)
1	215	6.8	101,900
2	14,033	4.9	208,100
3	0	NA	NA

Source: EMKO Environmental, 2019a; Appendix L

Groundwater

This section describes the environmental setting, or existing conditions, related to groundwater, including both groundwater occurrence and groundwater quality.

Regional Conditions

The DVC Monofill Facility is located within the Ocotillo-Clark Valley Groundwater Basin (Basin Number 7-25), as defined by DWR (2004), as shown on **Figure 5.7-1**. The basin is bounded by the Santa Rosa Mountains to the north and northeast, Coyote Creek and Superstition Mountain faults to the west and south, and the Salton Sea and surface drainage divides to the east. The total surface area is approximately 223,000 acres (348 square miles), while the estimated groundwater storage capacity of the Ocotillo Valley part of the groundwater basin is 5,800,000 acre-feet (DWR, 2004). However, the actual volume of groundwater currently in storage is unknown.

Clark Valley drains toward Clark Dry Lake, to the northeast of Borrego Springs (see **Figure 5.7-1**). The eastern part of the groundwater basin drains toward the Salton Sea. The basin is an alluvial filled valley of stream, alluvial fan, lake and aeolian deposits[2] (DWR, 2004). Recharge occurs due to runoff from the mountains along the north and west sides of the basin and is estimated to be 1,200 acre-feet per year for the Clark Valley part of the basin and 1,100 acre-feet per year for the Ocotillo Valley part of the basin (DWR, 2004).

Two aquifers are present within the Ocotillo Valley area of the groundwater basin. Northwest of San Felipe Creek, shallow groundwater is encountered at depths ranging from 40 feet to 90 feet below ground surface, with depths generally increasing toward the west. The depth to groundwater in the lower aquifer is approximately 100 feet deeper than that in the shallow aquifer. Thus, in the area west of San Felipe Creek, the shallow groundwater zone is generally unconfined and perched, while the lower aquifer is confined. Groundwater from the shallow zone may discharge at springs along Fish Creek and San Felipe Creek, suggesting that groundwater flow is toward the east-southeast in

[2] Aeolian deposits are those that are transported and deposited by wind, such as dune sands and wind-blown silt deposits.

the western area of the Ocotillo Valley part of the groundwater basin. Groundwater from all areas of the Ocotillo Valley part of the groundwater basin ultimately discharge to the Salton Sea.

Historically, the largest groundwater user in the basin was Allegretti Farms, located approximately 10 miles west-northwest of the Project site. From the 1950s into the 2010s, irrigation for agricultural production occurred on land areas ranging from 320 acres up to 2,000 acres. The estimated groundwater pumping ranged from over 10,000 acre-feet per year in 1978, decreasing to 2,800 acre-feet per year, on average, from 1996 to 2009. In 2010 and 2011, groundwater pumping decreased to 208 acre-feet and 224 acre-feet per year, respectively. The Seville Solar Farm has largely supplanted agricultural use of the Allegretti Farms property (Ericsson-Grant, 2014). Estimated annual water demand for the property now ranges from 140 acre-feet to 300 acre-feet.

Groundwater levels have been monitored by the U.S. Geological Survey in a lower- aquifer well at Allegretti Farms since 1953. The data demonstrate that from 1953 to 2001, groundwater levels decreased from a depth of approximately -75 feet relative to the 1988 North American Vertical Datum (ft NAVD88) to about -240 ft NAVD88. However, since 2001 the groundwater level has recovered by approximately 35 feet.

As described above, the estimated rate of recharge in the Ocotillo Valley part of the groundwater basin is 1,100 acre-feet per year (DWR, 2004). Thus, pumping at rates in excess of this amount would result in overdraft and declining groundwater levels. The more recent groundwater pumping rates reported by Todd Engineers (2013) at the Allegretti Farms/Seville Solar Farm property are less than the estimated recharge rate, and may account for the slow recovery in groundwater levels. Based on the maximum projected water use for the Seville Solar Farm of 300 acre-feet per year (Todd Engineers, 2013), up to 800 acre-feet of groundwater per year are available for other users in the Ocotillo Valley part of the groundwater basin, without causing further overdraft.

A series of three bills passed by the California legislature were signed by Governor Brown on September 16, 2014. These three bills, Assembly Bill (AB) 1739, SB 1168, and SB 1319, together comprise the Sustainable Groundwater Management Act of 2014 (SGMA). SGMA provides a structure under which local agencies are to develop a sustainable groundwater management program. SGMA focuses on basins or subbasins designated by DWR as high- or medium priority basins, and those with critical conditions of overdraft.

The Ocotillo-Clark Valley Groundwater Basin (DWR Basin 7-25) is classified as a very low priority basin with no significant declining groundwater levels (i.e., no evidence of critical conditions of overdraft), according to the SGMA Basin Prioritization Dashboard (https://gis.water.ca.gov/app/bp2018-dashboard/p1/, accessed February 20, 2019). As such, the general requirements of SGMA do not apply to the basin. The Ocotillo-Clark Valley Groundwater Basin has not been adjudicated.

Site-Specific Conditions

At the Project site, groundwater has been encountered in both the shallow aquifer zone and in the lower aquifer. Shallow groundwater is present at depths ranging from 50 feet to 60 feet below ground surface. Sixteen shallow zone wells have been drilled at the Project site. Shallow zone groundwater occurs within eight separate geologic layers within the Pleistocene Brawley Formation. These layers represent ancient lake bed deposits that range from clay lenses to fine-grained sand units. The geologic layers dip toward the north at a slope of five to eight percent, or about two to five degrees. Due to the sloping layers, wells that are drilled to the same depth in the shallow aquifer zone in different parts of the Project site are often not completed within the same geologic layer.

From 1991 to 2002, the groundwater level varied by no more than two to three feet in the onsite shallow aquifer zone wells. Shallow groundwater flows toward the northeast with a hydraulic gradient of approximately 0.0164 foot/foot and at a velocity of approximately 3.86 feet per year (EMKO Environmental, 2019a; Appendix L).

In 2005, DVC installed a new water supply well into the lower aquifer for operation of Cell 3. The information provided below for the supply well is from UCM (2005). The well was drilled to a total depth of 605 feet and completed with 5-inch Schedule 80 PVC casing. The screened interval extends from 490 feet to 600 feet below ground surface, but the filter pack sand extends from 340 feet to 605 feet below ground surface. The static water level is approximately 44 feet below ground surface, indicating that the lower aquifer is under confined conditions. Since there is only one lower aquifer zone well onsite, it is not possible to estimate the slope of the groundwater surface or rate of flow within this aquifer zone.

After installation of the lower aquifer supply well, a series of pumping tests were conducted with a temporary pump set at various depths to identify the optimal placement of a permanent pump. Based on these tests, a three-horsepower, three- phase submersible pump was installed at a depth of 461 feet. The pump provides up to 38 gallons per minute of groundwater from the lower aquifer zone. Two 5,000-gallon water tanks are used to store pumped groundwater before use onsite.

The water well attachment to CUP 05-0020 allows up to 8.5 acre-feet of groundwater per year to be produced from the supply well. Over the past decade, the maximum annual water use reported by DVC was 8.02 acre-feet in 2010. Since 2012, the peak annual water use has been 5.57 acre-feet while the minimum annual water use has been 3.58 acre-feet. The median water use over the past seven years has been 5.45 acre-feet per year.

Groundwater Quality

The groundwater quality throughout the Ocotillo Valley area of the groundwater basin is generally poor. For example, in the area of the basin west of San Felipe Creek, the total dissolved solids (TDS)

content of the deeper groundwater ranges from 1,200 milligrams per liter (mg/L) to 1,800 mg/L, while the TDS in the shallow groundwater is reported to be three to four times higher.

At the Project site, the TDS in the shallow groundwater ranges from 2,000 mg/L to 11,000 mg/L EMKO, 2019a; Appendix L). The TDS is comprised primarily of sodium, chloride, and sulfate. The TDS levels vary appreciably within the eight different geologic layers described above under "Site-Specific Conditions". For example, in one layer within the Quaternary Brawley Formation (Qb), referred to as Qb3, the TDS ranges from 7,000 mg/L to 11,000 mg/L, whereas in layers Qb6 and Qb4 the TDS ranges from 3,500 mg/L to 5,000 mg/L respectively. In the southernmost upgradient well at the Project site, which is completed within the lowest geologic layer, referred to as Qb8, the TDS level is 2,000 mg/L.

Groundwater monitoring is conducted in accordance with the Monitoring and Reporting Program (MRP) that is a part of Waste Discharge Requirements Order No. R7-2016- 0016 (the "WDRs"). A summary of the groundwater monitoring results for the first quarter of 2019 is provided in Appendix A of the Hydrology Study and Water Quality Report (Appendix L).

Due to the variation in TDS levels in the different geologic layers that make up the shallow aquifer zone, there is not a valid upgradient background well for assessing potential effects of the existing DVC Monofill cells on groundwater quality. However, a trend analysis determined that within each individual well the water quality has remained relatively consistent over time (EMKO, 2019a; Appendix L).). Therefore, evaluation of changes in water quality and verification of compliance with the WDRs are based on intra-well comparisons. To date, there has not been a verified excursion that would indicate the potential for leakage from existing Cells 1, 2, and 3 at the DVC Monofill Facility.

The produced water from the existing deep, onsite supply well has a TDS level of 1,200 mg/L, a pH of 7.9, and a temperature of 95 degrees F (35 degrees C).

5.7.2 Regulatory Setting

Federal

Federal Emergency Management Agency

Imperial County is a participant in the National Flood Insurance Program (NFIP), a federal program administered by the Federal Emergency Management Agency (FEMA). Participants in the NFIP must satisfy certain mandated floodplain management criteria. The National Flood Insurance Act of 1968 has adopted, as a desired level of protection, an expectation that developments should be protected from floodwater damage of the Intermediate Regional Flood (IRF). The IRF is defined as a flood that has an average frequency of occurrence on the order of one in 100 years, although such a flood may occur in any given year. Imperial County is occasionally audited by the Department of

Water Resources (DWR) to ensure the proper implementation of FEMA floodplain management regulations.

State

The Porter-Cologne Water Quality Control Act

In the State of California, the State Water Resources Control Board (SWRCB) and local Regional Water Quality Control Boards (RWQCBs) have assumed the responsibility of implementing the US EPA's NPDES Program and other programs under the CWA such as the Impaired Waters Program and the Antidegradation Policy. The primary water quality control law in California is the Porter-Cologne Water Quality Act (Water Code Sections 13000 et seq.). Under Porter-Cologne, the SWRCB issues joint federal NPDES Storm Water permits and state Waste Discharge Requirements (WDRs) to operators of municipal separate storm sewer systems (MS4s), industrial facilities, and construction sites to obtain coverage for the storm water discharges from these operations.

State Water Resources Control Board

In the State of California, the State Water Resources Control Board (SWRCB) and the local Regional Water Quality Control Boards (RWQCBs) have assumed the responsibility of implementing the US EPA's NPDES Program and other programs under the CWA such as the Impaired Waters Program and the Antidegradation Policy. The primary water quality control law in California is the Porter-Cologne Water Quality Act (Water Code Sections 13000 et seq.). Under Porter-Cologne, the SWRCB issues joint federal NPDES Storm Water permits and state Waste Discharge Requirements (WDRs) to operators of municipal separate storm sewer systems (MS4s), industrial facilities, and construction sites to obtain coverage for the storm water discharges from these operations.

Basin Plan Requirement

In addition to its permitting programs, the SWRCB, through its nine RWQCBs, developed Regional Water Quality Control Plans (or Basin Plans) that designate beneficial uses and water quality objectives for California's surface waters and groundwater basins, as mandated by both the CWA and the state's Porter-Cologne Water Quality Control Act. Water quality standards are thus established in these Basin Plans and provide the foundation for the regulatory programs implemented by the state. The Colorado River Basin RWQCB Basin Plan, which covers the Project Area, designates beneficial uses for surface waters and ground waters.

Construction General Permit

The Construction General Permit, (Order 2009-0009-DWQ as modified by Order 2010-0014-DWQ, NPDES Permit No. CAS000002), issued by the SWRCB, regulates storm water and non-storm water discharges associated with construction activities disturbing one acre or greater of soil. Construction sites that qualify must submit a Notice of Intent (NOI) with the SWRCB to gain permit coverage or otherwise be in violation of the CWA and California Water Code.

The Construction General Permit requires the development and implementation of a Storm Water Pollution Prevention Plan (SWPPP) for each individual construction project greater than or equal to 1 acre of disturbed soil area. The SWPPP must list Best Management Practices (BMPs) that the discharger will use to control sediment and other pollutants in storm water and non-storm water runoff. The CGP requires that the SWPPP is prepared by a Qualified SWPPP Developer (QSD) and implemented at the site under the review/direction of a Qualified SWPPP Practitioner (QSP).

The Project includes over one acre of grading, and is therefore subject to the storm water discharge requirements of the Construction General Permit. The Project will submit a NOI and prepare a SWPPP prior to the commencement of soil disturbing activities. In the Colorado River Basin Region, where the project resides, the SWRCB is the permitting authority, while the County of Imperial and Colorado River Basin RWQCB provide local oversight and enforcement of the CGP.

Industrial Stormwater Discharges

The Statewide General Permit for Stormwater Discharges Associated with Industrial Activities, Order 2014-0057-DWQ (Industrial General Permit),as amended by Orders 2015- 0122-DWQ and the 2018 Amendment, implements the federally required stormwater regulations in California for stormwater associated with industrial activities discharging to waters of the United States. The Industrial General Permit regulates discharges associated with nine (9) federally defined categories of industrial activities.

The State Water Resources Control Board and Regional Water Quality Control Boards (collectively, Water Boards) regulate runoff of storm water from industrial, construction and municipal sources in California through with National Pollutant Discharge Elimination System (NPDES) permits. Storm water is historically perceived as a nuisance because it mobilizes pollutants such as motor oil, heavy metals, and trash which can then flow into water bodies either directly or via storm sewer systems, threatening aquatic life and public health.

On November 6, 2018, the State Water Board amended the Industrial General Permit to incorporate the following additional requirements, which become effective on July 1, 2020.

- Required “Facility Operators” to use test methods that can detect and quantify pollutants at or below the applicable water quality criteria, action levels, or effluent limitations.
- Required “Facility Operators” to collect industrial storm water samples for Total Maximum Daily Load (TMDL) -related pollutants and comply with applicable requirements if the facility discharges industrial storm water and/or authorized non-storm water discharges to certain impaired waterbodies and the discharge contains the identified TMDL-related pollutants associated with the impaired receiving waterbody.

The Industrial General Permit requires the development of a site-specific stormwater pollution prevision plan (I-SWPPP) and monitoring plan, and requires the Discharger to submit a Notice of Intent (NOI) to obtain regulatory coverage. The I-SWPPP must include the information needed to

demonstrate compliance with the requirements of the Industrial General Permit. The SWPPP must be submitted electronically via the States' Storm Water Multiple Application And Report Tracking System (SMARTS) and a copy of it must be kept at the facility. The Industrial General Storm Water Permit also requires the implementation of Best Available Technology Economically Achievable (BAT) and BCT to achieve performance standards. The Industrial General Storm Water Permit also requires the development of a Storm Water Pollution Prevention Plan (SWPPP)

The proposed expansion of the monofill will require coverage under the General Industrial Stormwater permit.

Water Quality Control Plan Colorado River – Region 7

The Project site is within the jurisdiction of the Colorado River RWQCB, which is responsible for the preparation and implementation of the water quality control plan for the Colorado River Region (RWQCB, 2019). *The Water Quality Control Plan - Colorado River Basin Plan* (Basin Plan) was prepared by the RWQCB-7, and establishes beneficial uses in the Colorado River Basin. The Basin Plan also identifies water quality objectives that protect the beneficial uses of surface water and groundwater; describes an implementation plan for water quality management in the Colorado River Region; and describes measures designed to ensure compliance with statewide plans and policies. Overall, the Basin Plan provides comprehensive water quality planning in Region 7 which encompasses all of Imperial County as well as portions of San Bernardino, Riverside and San Diego Counties (RWQCB- 2019).

Colorado River Regional Water Quality Control Board Basin Plan

The *Water Quality Control Plan for the Colorado River Basin Region* (Basin Plan) defines the beneficial uses, The Basin Plan contains specific numeric water quality objectives that apply to certain water bodies or portions of water bodies. Objectives have been established for aesthetic qualities, tainting substances, toxicity, temperature, pH, dissolved oxygen, suspended and settleable solids, total dissolved solids, bacteria, biostimulatory substances, sediment, turbidity, radioactivity, and chemical constituents. Numerous narrative water quality objectives have also been established.

Clean Water Act (CWA) Section 303(d)

Section 303(d) of the CWA deals with Water Quality Standards and Implementation Plans. Specifically, Section (d) addresses the stringency of effluent limitations for state waters and whether the limitations are stringent enough to implement any water quality standard applicable to such waters. Section 303(d) requires each state to establish a priority ranking for such waters taking into account the severity of the pollution and the uses to be made of such waters. In addition, Section 303(d) requires each state to identify those waters or parts thereof within its boundaries for which controls on thermal discharges under Section 301 are not stringent enough to assure protection and propagation of a balanced indigenous population of shellfish, fish and wildlife. For the specific purpose of developing information, each state shall identify the total maximum daily load with seasonal variations and margins of safety for those pollutants which the Administrator identifies

under Section 204(a)(2) as suitable for such calculation and for thermal discharges at a level that would assure protection and propagation of a balanced indigenous population of fish, shellfish and wildlife. Section 303(d) also identifies Limitations on Revision of Certain Effluent Limitations and addresses instances where the standard is Not Attained as well as instances where the Standard is attained.

Clean Water Act (CWA) Section 401

Section 401 of the CWA, water quality certification, provides states and authorized tribes with an effective tool to help protect water quality, by providing an opportunity to address the aquatic resource impacts of federally issued permits and licenses. Under Section 401, a federal agency cannot issue a permit or license for an activity that may result in a discharge to waters of the U.S. until the state or tribe where the discharge would originate has granted or waived section 401 certification. The central feature of CWA section 401 is the state or tribe's ability to grant, grant with conditions, deny or waive certification. Granting certification, with or without conditions, allows the federal permit or license to be issued consistent with any conditions of the certification. Denying certification prohibits the federal permit or license from being issued. Waiver allows the permit or license to be issued without state or tribal comment. States and tribes make their decisions to deny, certify, or condition permits or licenses based in part on a proposed Project's compliance with EPA-approved water quality standards. In addition, states and tribes consider whether the activity leading to the discharge will comply with any applicable effluent limitations guidelines, new source performance standards, toxic pollutant restrictions, and other appropriate requirements of state or tribal law.

Clean Water Act (CWA) Section 404

CWA Section 404 establishes a program to regulate the discharge of dredged and fill material into waters of the United States (WUS), including wetlands. Responsibility for administering and enforcing Section 404 is shared by the U.S. Army Corps of Engineers (USACE) and EPA. USACE administers the day- to-day program, including individual permit decisions and jurisdictional determinations; develops policy and guidance; and enforces Section 404 provisions. EPA develops and interprets the environmental criteria used in evaluating permit applications, identifies activities that are exempt from permitting, review/comments on individual permit applications, enforces Section 404 provisions, and has authority to veto USACE permit decisions. With EPA approval and oversight, states and tribes can assume administration of the Section 404 permit program in certain "non-navigable" waters within their jurisdiction.

As noted in Section 5.2.1.4 of this EIR (Jurisdictional Waters), a delineation of jurisdictional waters was conducted by Hernandez Environmental Services in 2018. None of the ephemeral streams found on and near the Project Site are considered Waters of the U.S. and thus are not jurisdictional under Section 404 of the Clean Water Act (HES, 2018, Appendix G-2).

California Toxic Rule

Under the California Toxic Rule (CTR), the USEPA has proposed water quality criteria to priority toxic pollutants for inland surface waters, enclosed bays, and estuaries. These federally promulgated criteria create water quality standards for California waters. The CTR satisfies CWA requirements and protects public health and the environment. The USEPA and the SWRCB have the authority to enforce these standard, which are incorporated into the NPDES permits that regulate the current discharges in the study areas.

Local

The Imperial County General Plan contains goals, objectives, policies and programs created to ensure water resources are preserved and protected. **Table 5.7-3** identifies applicable General Plan goals, objectives, policies and programs from the Conservation and Open Space Element for water quality and flood hazards that are relevant to the Project. In addition, one policy and two programs from the Water Element that directly relate to the Project are also analyzed. While this EIR analyzes the Project's consistency with the General Plan pursuant to CEQA Guidelines Section 15125(d), the Imperial County Board of Supervisors ultimately determines consistency with the General Plan.

TABLE 5.7-3 CONSISTENCY WITH GENERAL PLAN WATER AND HYDROLOGY GOALS AND OBJECTIVES

General Plan Policies	Consistency	Analysis
Water Element (WE)		
WE Goal 1: The County will secure the provision of safe and healthful sources and supplies of domestic water adequate to assure the implementation of the County General Plan and the long-term continued availability of this essential resource.	Yes	The only domestic water source that would be used to supply water to the Project would be drinking water for on-site personnel that would continue to be provided by a water delivery service and stored in an existing aboveground water storage tank. Construction and operational water would be obtained from a new groundwater well (for dust control, and for mixing the acrylic polymer stabilization/sealant for use on the monofill working surface) and for the closure and capping of Cell 3. The maximum demand for groundwater is 11 acre-feet per year. Groundwater use at the DVC has ranged from 3.58 acre-feet/year to 8.02 acre-feet/ year.
WE Goal 2: Long-term viability of the Salton Sea, Colorado River, and other surface waters in the County will be protected for sustaining wildlife and a broad range of ecological communities.	Yes	The Project includes mitigation measures HWQ-1, HWQ-2 and HWQ -3 that will ensure that water quality of the Salton Sea and other surface waters in the vicinity would not be impacted.
Goal 4: The County will adopt and implement ordinances, policies, and guidelines that	Yes	The County's comprehensive Groundwater Management Ordinance is intended to preserve

TABLE 5.7-3 CONSISTENCY WITH GENERAL PLAN WATER AND HYDROLOGY GOALS AND OBJECTIVES

General Plan Policies	Consistency	Analysis
assure the safety of County ground and surface waters from toxic or hazardous materials and wastes.		and manage groundwater resources within the County The Groundwater Ordinance provides the County with various regulatory tools The existing groundwater well at the DVC Monofill Facility is permitted and regulated by an attachment to CUP 05-0020. Issuance of a CUP for the proposed new water well will also be required.
Protection of Surface Waters Policy: Preservation of riparian and ruderal habitats as important biological filters, and as breeding and foraging habitats for native and migratory birds and animals.		The Project includes mitigation measures HWQ-1, HWQ-2 and HWQ -3 that will ensure that water quality of the Salton Sea and other surface waters in the vicinity would not be impacted.
Conservation and Open Space Element (COSE)		
COSE Goals 6: The County will conserve, protect, and enhance water resources in the County. • **COSE Objective 6.1**: Ensure the use and protection of all the rivers, waterways, and groundwater sources in the County for use by future generations. • **COSE Objective 6.2**: Ensure proper drainage and provide accommodation for storm runoff from urban and other developed areas in manners compatible with requirements to provide necessary agricultural drainage. • COSE Objective 6.3: Protect and improve water quality and quantity for all water bodies in Imperial County. • COSE Objective 6.4: Eliminate potential surface and groundwater pollution through regulations as well as educational programs.	Yes	The proposed Project will comply with the General Stormwater Construction Permit and the General Industrial Stormwater Permit to ensure that water runoff from the site would not pollute surface or groundwater resources
• COSE Objective 6.7: Prohibit the inappropriate siting of solid or hazardous waste facilities next to water bodies or over sources of potable groundwater or recharge basins.	Yes	The proposed expansion of the DVM would be located adjacent to the existing monofill. It is not located over a potable groundwater or recharge basin. The water body nearest the Project site is San Felipe Creek, located approximately 3.5 miles to the northwest.

TABLE 5.7-3 CONSISTENCY WITH GENERAL PLAN WATER AND HYDROLOGY GOALS AND OBJECTIVES

General Plan Policies	Consistency	Analysis
• COSE Objective 6.8: Discourage the use of hazardous materials in areas of the County where significant water pollution could pose hazards to humans or biological resources.		The proposed Project would preserve ground and surface water quality from toxic or hazardous materials and/or wastes during construction, operation and closure activities. The proposed Project would protect water quality during construction through compliance with NPDES General Construction Permit, SWPPP, which will incorporate the requirements referenced in the State Regulatory Framework and BMPs. The proposed project will be designed to include site design, source control, and treatment control BMPs. The use of source control, site design, and treatment BMPs would result in a decrease potential for storm water pollution. A post-closure plan and post-closure monitoring plan shall be prepared for the Project, to ensure the monofill is maintained and water resources are protected.
Program: Structural development normally shall be prohibited in the designated floodways. Only structures which comply with specific development standards (Flood Drainage Prevention Regulation, Division 6) should be permitted in the floodplain.	Yes	According to the FEMA Firm Panel Number 060065-0400 B, the Project site is not within a flood hazard zone.

Sources: County of Imperial, 2016.
County of Imperial, 2019.

Imperial County Groundwater Management Ordinance

In 1998, the County adopted, and in 2015 amended, a comprehensive Groundwater Management Ordinance to preserve and manage groundwater resources within the County (Imperial County, 1998). The Groundwater Ordinance, codified as Division 22 of Title 9 of the Imperial County Code, is implemented by the Planning Commission acting upon the direction of the Board of Supervisors. The Groundwater Ordinance provides the County with various regulatory tools that are designed to avoid or minimize the impact of existing and proposed groundwater extraction activities on groundwater resources and other users, such as overdraft or excessive drawdown. The Groundwater Ordinance requires that existing extraction facilities be permitted and registered with the County.

The existing groundwater well at the DVC Monofill Facility is permitted and regulated by an attachment to CUP 05-0020, which restricts operational groundwater use to non-potable dust control and sanitary use at a maximum of 8.5 acre-feet per year.

5.7.3 Analysis of Project Effects and Significance Determination

Guidelines for Determination of Significance

A project would be considered to have a significant impact if it would:

1. Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality?
2. Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?
3. Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces in a manner which would result in substantial erosion or siltation on- or off-site?
4. Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces in a manner which would substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?
5. Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces in a manner which would create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional resources of polluted runoff?
6. In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?
7. Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?

Impact 5.7-1: Violation of water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality.

The proposed Project is an expansion of existing activities at the site. While the disturbance area would change, the same waste disposal, management, and monitoring practices have been conducted at the site for many years. The current facility operates under WDRs that require compliance with applicable water quality standards. The WDRs are intended to prevent degradation of surface water and groundwater quality.

Stormwater monitoring conducted in February 2019 indicated that the facility meets the numeric action levels for pH, suspended solids, and oil & grease. The total iron concentration exceeded the annual average value for the numeric action level, despite implementation of Level 2 Exceedance Response Actions. It is unknown whether additional qualifying storm events this year could bring

the annual average iron level into compliance. The source of the elevated iron is unknown but may be related to naturally-occurring concentrations in soils in the site vicinity and/or windblown dust. In either case, the iron does not appear to be related to waste disposal activities in Cell 3. Significant impacts surface water quality impacts related to the exceedance of iron limits in surface water would be reduced to below significance with implementation of mitigation measure **HWQ-1**.

The stormwater sample collected during the qualifying storm event for January 15, 2019 (EMKO Environmental, 2019a; Appendix L) exceeded the annual numeric action level for iron. The reported concentration of iron was 2.04 mg/ while the action level is 1.0 mg/L. BMP enhancements had previously been installed as part of Level 2 Exceedance Response Actions. It is unclear based on the available data whether the January 15, 2019 result was an anomaly, whether the overall results could average out over the year to be less than the action level, whether the iron is a natural component of the soils and sediments at the site, or whether there is a source of iron from the site. Based on these uncertainties, an adaptive management approach is recommended.

The 2016 trend analysis and 2018 groundwater monitoring results (EMKO Environmental, 2019a; Appendix L) demonstrate that current operations do not result in any violations of water quality standards in groundwater. Overall, construction of the disposal cells 1, 2 and 3 to Class I standards has been shown to be effective in containing the waste material and preventing impacts to groundwater quality.

Impact 5.7-2: Substantial decrease in groundwater supplies or substantial interfere with groundwater recharge.

Groundwater use at the monofill has ranged from 3.58 acre-feet/year to 8.02 acre- feet/year. The proposed Project would have an ongoing maximum demand for groundwater of 11 acre-feet per year. In addition to the ongoing operational water demand, short term demands for construction of Cell 4A and Cell 4B and closure of Cell 3 would also occur. Construction of Cell 4A would require approximately 75 to 100 acre-feet during its two year construction period. Closure of Cell 3 would require approximately 30 to 40 acre-feet over a six-month period. Construction of Cell 4B in the future is anticipated to require the same amount of water over the same duration as construction of Cell 4A since they would be comparable in size. Closure of Cell 4A and closure of Cell 4A are each anticipated to require a comparable amount of water over a similar duration as closure of Cell 3 due to their similar sizes and capacities.

The Ocotillo-Clark Valley Groundwater Basin has an estimated capacity of 5,800,000 acre-feet of water, with annual recharge in the Ocotillo Valley part of the Basin of 1,100 AFY. Other groundwater users in the Ocotillo Valley pump a maximum of 300 AFY, resulting in a remaining sustainable yield of 800 AFY. The maximum water demand for the Project during construction, operations, closure and post-closure maintenance is well below this value. Therefore, while the Project would require more water than is currently used at the site, the Water Supply Assessment

(EMKO, 2019b; Appendix L) concluded that there is more than adequate groundwater in the Basin to supply the Project needs during normal, single dry, and multiple dry year periods.

Groundwater recharge occurs primarily due to runoff from the mountains along the north and west sides of the groundwater basin. The Project site is not located within these primary recharge areas. However, some recharge may occur through the soils and existing jurisdictional drainages on the Project site. The total area to be covered by the impermeable soil cover for Cell 4 and the leachate pond is less than 50 acres, which is an extremely small fraction (less than 0.02 percent) of the 233,000-acre Basin area.

Therefore, during construction, operation, closure and post-closure maintenance, the proposed Project would not interfere with or measurably reduce groundwater recharge. Impacts would not be significant and no mitigation would be required.

The Ocotillo-Clark Valley Groundwater Basin is classified as a very low priority basin by DWR, with no evidence of critical conditions of overdraft, for the purposes of the Sustainable Groundwater Management Act. Thus, there are no state-mandated sustainable groundwater management requirements for the Basin. However, Imperial County's comprehensive Groundwater Management Ordinance provides the County with various regulatory tools designed to avoid or minimize the impact of existing and proposed groundwater extraction on groundwater resources and other users. The existing groundwater well at the Facility is permitted in accordance with the County Ordinance. Any new extraction wells installed for the Project would also need to be permitted and comply with the Ordinance.

Impact 5.7-3: Substantial alteration of the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces in a manner which would result in

- **a) substantial erosion or siltation on- or off-site;**
- **b) flooding on- or off-site;**
- **c) substantial increase of surface runoff;**
- **d) exceedance of stormwater drainage system capacity;**
- **e) impede or redirect flood flows**

During construction, expansion of the monofill would result in the permanent loss of up to approximately 7.52 acres of jurisdictional drainages (e.g. waters of the State). During the operational and post-closure phases, stormwater runoff and floodwaters flowing northward toward the Project site would be diverted around Cell 4 by a proposed berm and drainage swale, similar to those that are currently present along the south and west sides of Cell 3. The berm would be designed to prevent overtopping, thus preventing erosion of Cell 4. The swale would be sized so that it could convey the peak flows from a Probable Maximum Precipitation event at velocities that would not result in erosion of the underlying soils.

While the proposed Project would result in an increase in impermeable surfaces, these areas would be small enough that they would not significantly increase the rate or amount of surface runoff, or that would exceed the capacity of the downstream jurisdictional drainages. Implementation of BMPs and compliance with the C-SWPPP and I-SWPPP would prevent erosion and minimize the potential for erosion and the generation of sediment-laden runoff.

While flood flows within the disrupted jurisdictional drainages would be redirected around Cell 4, the constructed drainage swale would be designed to convey the floodwaters without increasing flooding depths and without causing erosion.

Within Section 33, flood flows directed around Cell 4 would be returned to the disrupted jurisdictional drainages on the downstream (north) side of the Project site. These drainages have sufficient capacity to convey the redirected flood flows since they are currently functioning in that manner under the existing environmental setting.

Impact 5.7-4: Would the project conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?

The current WDRs were issued in accordance with and to help implement the Water Quality Control Plan for the Colorado River Basin. Updated or new WDRs for the Project would also be required for the Proposed project, which must demonstrate consistency with the Water Quality Control Plan for the Colorado River Basin. Thus, the proposed Project would be consistent with, and not conflict with or obstruct implementation of, a water quality control plan.

The Ocotillo-Clark Valley Groundwater Basin does not fall within the basin classification that requires implementation of a sustainable groundwater management plan (also known as a groundwater sustainability plan, or GSP, under the Sustainable Groundwater Management Act definitions). However, the County's Groundwater Management Ordinance is intended to minimize the impact of existing and proposed groundwater extraction. The monofill's current operations are consistent with the Ordinance by way of an attachment to the current CUP that limits the amount of water that can be produced from the existing well. The new CUP would also include an attachment, as required by the Ordinance, to maintain sustainable conditions within the groundwater basin. Impacts would be less than significant.

5.7.4 Mitigation Measures

The following Mitigation Measures would reduce impacts to below a level of significance.

Mitigation Measure HWQ -1: Water Quality Monitoring for Iron

> The Applicant shall monitor for iron in qualifying storm events at Cell 4 after initiation of the Project, as required under the Industrial General Permit. If iron

concentrations exceed the annual numeric action level for two successive years, DVC shall implement an investigation program that consists of the following:

- Analyze the stormwater samples for both total and dissolved iron.

If the stormwater analysis indicates that the iron is primarily in suspended (i.e. total iron result) form, then additional BMPs should be installed to minimize the amount of fine sediment present in the qualifying storm event samples, and the I-SWPPP should be revised accordingly.

If the stormwater analysis indicates that the iron is primarily dissolved, then DVC shall conduct the following additional testing:

- Analyze soils samples for soluble iron using a deionized water leach (e.g. DI-WET). Samples should be collected from the stormwater swale within the facility boundary, from the liner/cap material at the perimeter of Cell 4, from the stormwater diversion berm installed along the south and west sides of Cell 4, and from the waste material.

Based on the results of the additional testing, DVC shall propose measures to minimize stormwater contact with the specific soil or waste medium that is leaching iron. These measures may include use of a different soil material, where applicable, or covering of the source soils with soils that do not leach iron. These measures should be submitted to the County and to the Regional Water Quality Control Board for review and approval before implementation.

To assist the County in verifying compliance with Mitigation Measure H-1, the qualifying storm event sampling results should be submitted not only to the State Water Resources Control Board's Storm Water Multiple Application and Report Tracking System (SMARTS) but also to the County for review.

The actions required under this mitigation measure would be in addition to, but could supplement, any requirements for Exceedance Response Actions associated with the industrial stormwater permit.

Level of Significance After Mitigation

Impacts would be less than significant.

SOURCE: EMKO, 2019.

Ocotillo-Clark Valley Groundwater Basin
Desert Valley Company Monofill Expansion Project, Cell 4
Figure 5.7-1

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