3.9 Hydrology/Water Quality

This section provides a description of existing water resources within the VEGA 6 project site and Ramon Substation expansion area, and pertinent local, state, and federal plans and policies. Each subsection includes descriptions of existing hydrology/drainage, existing flooding hazards, and the environmental impacts on hydrology and water quality resulting from implementation of the proposed VEGA project and Ramon Substation expansion, and mitigation measures where appropriate. The impact assessment provides an evaluation of potential adverse effects to water quality based on criteria derived from CEQA Guidelines in conjunction with actions proposed in Chapter 2, Project Description.

3.9.1 Existing Conditions

VEGA 6

Drainage

The VEGA 6 project site is located in the Imperial Valley Planning Area of the Colorado River Basin. The Colorado River Basin Region covers approximately 13 million acres (20,000 square miles) in the southeastern portion of California. It includes all of Imperial County and portions of San Bernardino, Riverside, and San Diego Counties. The Colorado River Basin Region is divided into seven major planning areas on the basis of different economic and hydrologic characteristics (California RWQCB 2019). The VEGA 6 project site is contained within the Brawley Hydrologic Area in the Imperial Hydrologic Unit (HU 723.10). The Imperial Valley is characterized as a closed basin and, therefore, all runoff generated within the watershed discharges into the Salton Sea (California RWQCB 2019).

The VEGA 6 project site and the western portion of the gen-tie transmission line is a part of an alluvial fan system. Alluvial fans occur when stream flow feeds into a system of distributary channels. The alluvial fan drainage system produces ephemeral conditions within the VEGA 6 project site and vicinity following large rain events and contains a network of inactive and active braided channels.

The VEGA 6 project site and the surrounding terrain is generally flat. The VEGA 6 project site is located approximately 0.50-mile west of the Westside Main Canal. The Westside Main Canal divert waters from the All-American Canal located south of the VEGA 6 project site along the U.S.-Mexico border, which brings water from the Colorado River at the Imperial Dam. It then supplies water throughout the Imperial Valley via a network of smaller irrigation channels, which ultimately drain to the Salton Sea.

There are several concrete lined lateral canals, unlined irrigation channels, and stormwater drains that either bisect or run parallel to the VEGA 6 project site throughout most of the gen-tie alignment. The channels are primarily used for agriculture, with some being managed by the IID and others being privately owned by farmland operations. (Appendix E of this EIR).

Flooding

According to the Federal Emergency Management Agency's (FEMA) Flood Insurance Rate Map (FIRM) (Map Number 06025C1000C) (FEMA 2008), the solar energy facility site is located within Zone X (unshaded). The FEMA Zone X (unshaded) designation is an area determined to be outside the 0.2 percent annual chance floodplain. The gen-tie transmission line runs through FEMA Zone A, a special flood hazard zone with 1 percent annual chance of flooding (FEMA 2008).

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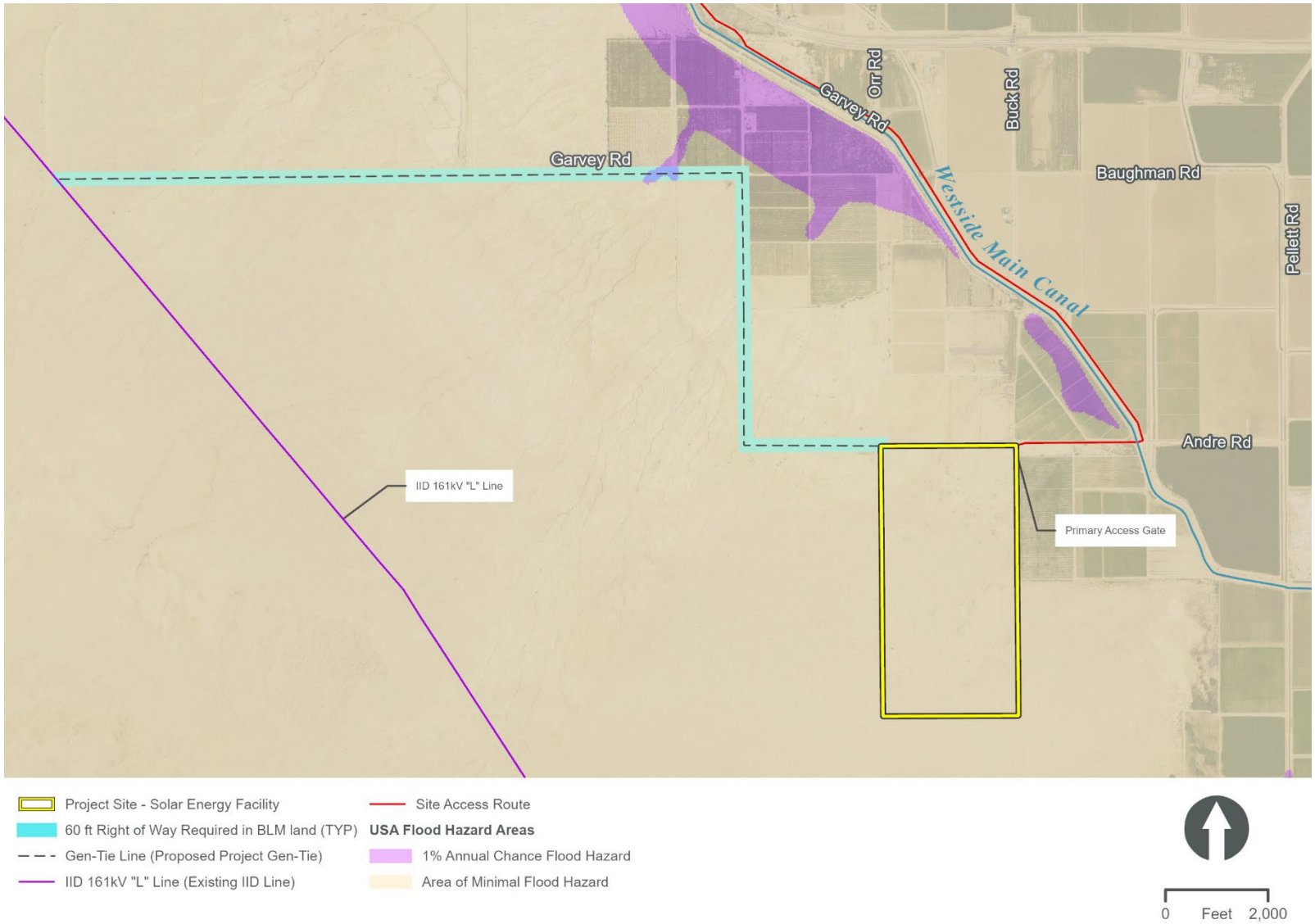
Figure 3.9-1. FEMA Flood Zone



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Surface Water Quality

The surface waters of the Imperial Valley depend primarily on the inflow of irrigation water from the Colorado River via the All-American Canal. Excessive salinity concentrations have long been one of the major water quality problems of the Colorado River, a municipal and industrial water source to millions of people, and a source of irrigation water for approximately 700,000 acres of farmland. The heavy salt load in the Colorado River results from both natural and human activities. Land use and water resources are unequivocally linked. A variety of natural and human factors can affect the quality and use of streams, lakes, and rivers. Surface waters may be impacted from a variety of point and non-point discharges. Examples of point sources may include wastewater treatment plants, industrial discharges, or any other type of discharge from a specific location (commonly a large-diameter pipe) into a stream or water body. In contrast, non-point source pollutant sources are generally more diffuse in nature and connected to a cumulative contribution of multiple smaller sources.

Common non-point source contaminants within the VEGA 6 project area may include, but are not limited to: sediment, nutrients (phosphorous and nitrogen), trace metals (e.g., lead, zinc, copper, nickel, iron, cadmium, and mercury), oil and grease, bacteria (e.g., coliform), viruses, pesticides and herbicides, organic matter, and solid debris/litter. Vehicles account for most of the heavy metals, fuel and fuel additives (e.g., benzene), motor oil, lubricants, coolants, rubber, battery acid, and other substances. Nutrients result from excessive fertilizing of agricultural areas, while pesticides and herbicides are widely used in agricultural fields and roadway shoulders for keeping right-of-way (ROW) areas clear of vegetation and pests. Surface waters mostly drain towards the Salton Sea. The Westside Main Canal, along with the New and Alamo Rivers (located north and east of the project area), convey agricultural irrigation drainage, surface runoff, and some treated municipal waste from the Imperial Valley. The flow in the New River also contains agricultural drainage, treated and untreated sewage, and industrial waste discharges from Mexicali, Mexico (California RWQCB 2019).

Based on the 2020-2022 Integrated Report prepared by the Colorado River Basin RWQCB, the surface water features within the Brawley Hydrologic Area include the Imperial Valley Drains (Westside Main Canal) and the Salton Sea (California RWQCB 2022). Specific impairments listed for each of these water bodies (or Category 5) are identified below:

- Imperial Valley Drains: Impaired for ammonia, chlordane, chlorpyrifos dichlorodiphenyldichloroethylene (DDE), dichlorodiphenyltrichloroethane (DDT), dieldrin, disulfoton, imidacloprid, PCBs, sedimentation/siltation, selenium, toxaphene, and toxicity.
- Salton Sea: Impaired for ammonia, arsenic, chloride, chlorpyrifos, DDE, DDT, enterococcus, low dissolved oxygen, nutrients, salinity, and toxicity (California RWQCB 2022).
- (California RWQCB 2022).

Groundwater Hydrology

The VEGA 6 project site is located within the northwestern part of the Imperial Valley Groundwater Basin. The Imperial Valley Groundwater Basin is bounded on the east by the Sand Hills and on the west by the igneous and metamorphic rocks of the Fish Creek and Coyote Mountains. The northern boundary is the Salton Sea while the southern boundary is the international border with Mexico. The groundwater basin has an area of approximately 1,200,000 acres, or 1,870 square miles. The Basin has not been adjudicated (Appendix K of this EIR).

Groundwater occurs within two major aquifers, separated at depth by a semi-permeable aquitard that averages 60 feet thick and reaches a maximum thickness of 280 feet. The aquifers consist mostly of

alluvial deposits of late Tertiary and Quaternary age that have eroded from the adjacent mountains and filled the valley. The upper aquifer has an average thickness of approximately 200 feet with a maximum thickness of 450 feet. The lower aquifer averages approximately 380 feet thick with a maximum thickness of 1,500 feet (Appendix K of this EIR).

The majority of the Imperial Valley Groundwater Basin area consists of irrigated agriculture (refer to Figure 4 in Appendix K of this EIR). Surface water from the Colorado River provides almost all of the irrigation and municipal water supply, through IID. Ninety-seven percent of IID's 3.1-million-acre-foot entitlement is used to irrigate almost 500,000 acres of farmland (Appendix K of this EIR). The remaining three percent of IID's allocation supplies municipal, commercial, industrial, and rural domestic needs.

Ramon Substation Expansion

The Ramon Substation expansion area is located in the Coachella Valley Planning Area of the Colorado River Basin. The expansion area is located within the Thousand Palms Hydrologic Subarea in the Whitewater Hydrologic Unit. The Upper Whitewater River watershed, approximately 201,200 acres in size, is located within the larger Whitewater River Hydrologic Unit. The major surface water within the watershed includes the Whitewater River and originates within the summit of Mount San Gorgonio in the San Bernardino Mountains. The river travels southeast joining with three other tributaries before ultimately draining into the Salton Sea at the southeastern end of the Coachella Valley (Appendix E2 of this EIR).

Flooding

According to FEMA's FIRM (Map Number 06065C105G) (FEMA 2008), the Ramon Substation expansion area is located within Zone AO. The FEMA Zone AO designation is an area of special flood hazard, with flood depths of 1 to 3 feet.

Surface Water Quality

Based on the 2020-2022 Integrated Report prepared by the Colorado River Basin RWQCB, the Whitewater River is not listed as an impaired water body (California RWQCB 2022).

Groundwater Hydrology

The Ramon Substation expansion area is located within the Coachella Valley Groundwater Basin – Indio Subbasin. Indio Subbasin is located northwest of the Salton Sea and receives low precipitation, averaging about 6 inches per year, and a wide range of temperatures. The Banning fault bounds the subbasin on the north and the semi-permeable rocks of the Indio Hills mark the northeast boundary. Impermeable rocks of the San Jacinto and Santa Rosa Mountains bound the subbasin on the south. A bedrock constriction separates the Indio Subbasin from the San Gorgonio Pass Subbasin on the northwest. The Salton Sea is the eastern boundary and the subbasin's primary discharge area. A low drainage divide forms a short boundary with the West Salton Sea Groundwater Basin in the southeast. The Indio Subbasin is drained by the Whitewater River and its tributaries. The Whitewater River rarely flows throughout the year and flow in tributaries such as San Gorgonio River is intermittent. Surface flow is southeastward to the Salton Sea. The Colorado River Aqueduct and the Coachella Branch of the All-American Canal convey imported surface water into the Coachella Valley which overlies the subbasin (DWR 2004).

Primary water-bearing materials in the subbasin are unconsolidated late Pleistocene and Holocene alluvial deposits. These deposits consist of older alluvium and the Ocotillo Conglomerate Formation, a thick sequence of poorly bedded coarse sand and gravel. The Ocotillo Conglomerate is greater than 1,000 feet thick in many places and is the primary water-bearing unit in the subbasin. In the upper part of the subbasin, groundwater is unconfined, whereas to the south and southeast groundwater is mostly confined except on the edges of the subbasin where unconfined conditions are found. Depth to groundwater varies widely in the southeast part of the subbasin and some wells historically delivered artesian flow. Confinement begins near Point Happy and continues south to the Salton Sea (DWR 2004).

3.9.2 Regulatory Setting

This section identifies and summarizes federal, state, and local laws, policies, and regulations that are applicable to the project.

Federal

CLEAN WATER ACT

The U.S. EPA is the lead federal agency responsible for managing water quality. The CWA of 1972 is the primary federal law that governs and authorizes the U.S. EPA and the states to implement activities to control water quality. The various elements of the CWA that address water quality and that are applicable to the project are discussed below. Wetland protection elements administered by the USACE under Section 404 of the CWA, including permits for the discharge of dredged and/or fill material into waters of the United States, are discussed in Section 3.4, Biological Resources.

Under federal law, the U.S. EPA has published water quality regulations under Volume 40 of the CFR. Section 303 of the CWA requires states to adopt water quality standards for all surface waters of the U.S. As defined by the CWA, water quality standards consist of two elements: (1) designated beneficial uses of the water body in question; and (2) criteria that protect the designated uses. Section 304(a) requires the U.S.EPA to publish advisory water quality criteria that accurately reflect the latest scientific knowledge on the kind and extent of all effects on health and welfare that may be expected from the presence of pollutants in water. Where multiple uses exist, water quality standards must protect the most sensitive use. The U.S. EPA is the federal agency with primary authority for implementing regulations adopted under the CWA. The U.S.EPA has delegated the State of California the authority to implement and oversee most of the programs authorized or adopted for CWA compliance through the Porter-Cologne Water Quality Control Act of 1969 (Porter-Cologne Act), described below.

Under CWA Section 401, applicants for a federal license or permit to conduct activities that may result in the discharge of a pollutant into waters of the U.S. must obtain a water quality certification from the SWRCB in which the discharge would originate or, if appropriate, from the interstate water pollution control agency with jurisdiction over affected waters at the point where the discharge would originate.

CWA Section 402 establishes the National Pollution Discharge Elimination System (NPDES) permit program to control point source discharges from industrial, municipal, and other facilities if their discharges go directly to surface waters. The 1987 amendments to the CWA created a new section of the CWA devoted to regulating storm water or nonpoint source discharges (Section 402[p]). The U.S.EPA has granted California primacy in administering and enforcing the provisions of the CWA and the NPDES program through the SWRCB. The SWRCB is responsible for issuing both general and individual permits for discharges from certain activities. At the local and regional levels, general and individual permits are administered by RWQCBs.

CLEAN WATER ACT SECTION 303(D) IMPAIRED WATERS LIST

CWA Section 303(d) requires states to develop lists of water bodies that will not attain water quality standards after implementation of minimum required levels of treatment by point-source dischargers. Section 303(d) requires states to develop a total maximum daily load (TMDL) for each of the listed pollutants and water bodies. A TMDL is the amount of loading that the water body can receive and still be in compliance with applicable water quality objectives and applied beneficial uses. TMDLs can also act as a planning framework for reducing loadings of a specific pollutant from various sources to achieve compliance with water quality objectives. TMDLs prepared by the state must include an allocation of allowable loadings to point and nonpoint sources, with consideration of background loadings and a margin of safety. The TMDL must also include an analysis that shows links between loading reductions and the attainment of water quality objectives.

NATIONAL FLOOD INSURANCE PROGRAM

The Federal Emergency Management Agency (FEMA) administers the National Flood Insurance Program (NFIP) to provide subsidized flood insurance to communities that comply with FEMA regulations that limit development in floodplains. FEMA also issues Flood Insurance Rate Maps (FIRM) that identify which land areas are subject to flooding. These maps provide flood information and identify flood hazard zones in the community. The design standard for flood protection covered by the FIRM is established by FEMA, with the minimum level of flood protection for new development determined to be the 1-in-100 (0.01) annual exceedance probability) (i.e., the 100-year flood event).

State

PORTER-COLOGNE WATER QUALITY CONTROL ACT

The Porter-Cologne Water Quality Control Act, also known as the California Water Code, is California's statutory authority for the protection of water quality. Under this act, the state must adopt water quality policies, plans, and objectives that protect the state's waters. The act sets forth the obligations of the State Water Resources Control Board (SWRCB) and RWQCBs pertaining to the adoption of Water Quality Control Plans and establishment of water quality objectives. Unlike the CWA, which regulates only surface water, the Porter-Cologne Act regulates both surface water and groundwater.

WATER QUALITY CONTROL PLAN FOR THE COLORADO RIVER BASIN

The Water Quality Control Plan for the Colorado River Basin (or Basin Plan) prepared by the Colorado River RWQCB (Region 7) identifies beneficial uses of surface waters within the Colorado River Basin region, establishes quantitative and qualitative water quality objectives for protection of beneficial uses, and establishes policies to guide the implementation of these water quality objectives.

Water bodies that have beneficial uses that may be affected by construction activity and post-construction activity include the Imperial Valley Drains Salton Sea, and the Whitewater River. Table 3.9-1 identifies the designated beneficial uses established for the project site's receiving waters. The following are definitions of the applicable beneficial uses:

- Aquaculture (AQUA) – Uses of water for aquaculture or mariculture operations including, but not limited to, propagation, cultivation, maintenance, or harvesting of aquatic plants and animals for human consumption or bait purposes.
- Groundwater Recharge (GWR) - Uses of water for natural or artificial recharge of ground water for purposes of future extraction, maintenance of water quality, or halting salt water intrusion into fresh water aquifers.

- Freshwater Replenishment (FRSH) – Uses of water for natural or artificial maintenance of surface water quantity or quality.
- Industrial Service Supply (IND) – Uses of water for industrial activities that do not depend primarily on water quality including, but not limited to, mining, cooling water supply, hydraulic conveyance, gravel washing, fire protection, and oil well repressurization.
- Water Contact Recreation (REC I) – Uses of water for recreational activities involving body contact with water, where ingestion of water is reasonably possible. These uses include, but are not limited to, swimming, wading, water-skiing, skin and scuba diving, surfing, white water activities, fishing, and use of natural hot springs.
- Non-contact Water Recreation (REC II) – Uses of water for recreational activities involving proximity to water, but not normally involving contact with water where ingestion of water is reasonably possible. These uses include, but are not limited to, picnicking, sunbathing, hiking, beachcombing, camping, boating, tide pool and marine life study, hunting, sightseeing, or aesthetic enjoyment in conjunction with the above activities.
- Warm Freshwater Habitat (WARM) – Uses of water that support warm water ecosystems including, but not limited to, preservation or enhancement of aquatic habitats, vegetation, fish, or wildlife, including invertebrates.
- Wildlife Habitat (WILD) – Uses of water that support terrestrial ecosystems including, but not limited to, the preservation and enhancement of terrestrial habitats, vegetation, wildlife (e.g., mammals, birds, reptiles, amphibians, invertebrates), or wildlife water and food sources.
- Preservation of Rare, Threatened, or Endangered Species (RARE) – Uses of water that support habitats necessary, at least in part, for the survival and successful maintenance of plant or animal species established under state or federal law as rare, threatened or endangered.

Table 3.9-1. Beneficial Uses of Receiving Waters

Beneficial Uses	Imperial Valley Drains	Salton Sea	Whitewater River
AQUA	--	X	--
FRSH	X	--	X
GWR			X
IND	--	P	--
REC I	X	X	--
REC II	X	X	X
WARM	X	X	X
WILD	X	X	X
RARE	X	X	--

Source: RWQCB 2019

AQUA=aquaculture; FRSH=freshwater replenishment; GRW = Ground water recharge; IND=industrial service supply; P=Potential Uses; RARE=Preservation of Rare, Threatened, or Endangered Species; REC 1= water contact recreation; REC II=non-contact water recreation; WARM=Warm Freshwater Habitat; WILD=Wildlife Habitat; X=existing beneficial uses

NATIONAL POLLUTION DISCHARGE ELIMINATION SYSTEM GENERAL INDUSTRIAL AND CONSTRUCTION PERMITS

The NPDES General Industrial Permit requirements apply to the discharge of stormwater associated with industrial sites. The permit requires implementation of management measures that will achieve the performance standard of the best available technology economically achievable and best conventional pollutant control technology. Under the statute, operators of new facilities must implement industrial BMPs in the projects' SWPPP and perform monitoring of stormwater discharges and unauthorized non–stormwater discharges.

Construction activities are regulated under the NPDES General Permit for Discharges of Storm Water Runoff Associated with Construction Activity (General Construction Permit) which covers stormwater runoff requirements for projects where the total amount of ground disturbance during construction exceeds 1 acre. Coverage under a General Construction Permit requires the preparation of a SWPPP and submittal of a Notice of Intent (NOI) to comply with the General Construction Permit. The SWPPP includes a description of BMPs to minimize the discharge of pollutants from the sites during construction. Typical BMPs include temporary soil stabilization measures (e.g., mulching and seeding), storing materials and equipment to ensure that spills or leaks cannot enter the storm drain system or stormwater, and using filtering mechanisms at drop inlets to prevent contaminants from entering storm drains. Typical post-construction management practices include street sweeping and cleaning stormwater drain inlet structures. The NOI includes site-specific information and the certification of compliance with the terms of the General Construction Permit.

Local

IMPERIAL COUNTY GENERAL PLAN

The Water Element and the Conservation and Open Space Element of the General Plan contain policies and programs, created to ensure water resources are preserved and protected. Table 3.9-2 identifies the General Plan policies and programs for water quality and flood hazards that are relevant to the VEGA 6 project and summarizes the project's consistency with the General Plan. While this EIR analyzes the VEGA 6 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 3.9-2. Consistency with Applicable General Plan Policies

General Plan Policies	Consistency with General Plan	Analysis
Conservation and Open Space Element		
Goal 6: The County will conserve, protect, and enhance water resources in the County.	Consistent	The proposed VEGA 6 project would protect water quality during construction through compliance with Imperial County design and detention requirements and the NPDES General Construction Permit, as well as preparation and implementation of project-specific SWPPP, which will incorporate the requirements referenced in the State Regulatory Framework, design features, and BMPs.

General Plan Policies	Consistency with General Plan	Analysis
Objective 6.3: Protect and improve water quality and quantity for all water bodies in Imperial County.	Consistent	The proposed VEGA 6 project would protect water quality during construction through compliance with the NPDES General Construction Permit, SWPPP, and BMPs. Implementation of Mitigation Measure HYD-2 would require the project to incorporate post-construction BMPs into the project's drainage plan. The proposed VEGA 6 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.
Program: Structural development normally shall be prohibited in the designated floodways. Only structures which comply with specific development standards should be permitted in the floodplain.	Consistent	The VEGA 6 project does not contain a residential component, nor would it place housing or other structures within a 100-year flood hazard area.
Water Element		
Policy: Adoption and implementation of ordinances, policies, and guidelines which assure the safety of County ground and surface waters from toxic or hazardous materials and/or wastes.	Consistent	The VEGA 6 project would preserve ground and surface water quality from hazardous materials and wastes during construction, operation and decommissioning activities. The proposed VEGA 6 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. Implementation of Mitigation Measure HYD-2 would require the project to incorporate post-construction BMPs into the project's drainage plan. The proposed VEGA 6 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. It is anticipated that project decommissioning activities would be subject to similar, or more stringent ground and surface water regulations than those currently required.

General Plan Policies	Consistency with General Plan	Analysis
Program: The County of Imperial shall make every reasonable effort to limit or preclude the contamination or degradation of all groundwater and surface water resources in the County.	Consistent	Mitigation measures will require that the applicant of the VEGA 6 project prepare a site-specific drainage plan and water quality management plan to minimize adverse effects to local water resources.
Program: All development proposals brought before the County of Imperial shall be reviewed for potential adverse effects on water quality and quantity and shall be required to implement appropriate mitigation measures for any significant impacts.	Consistent	See response for Water Element Policy above.

Source: County of Imperial 2016, County of Imperial 1997b

COUNTY OF IMPERIAL LAND USE ORDINANCE, TITLE 9

The County's Ordinance Code provides specific direction for the protection of water resources. Applicable ordinance requirements are contained in Division 10, Building, Sewer and Grading Regulations, and summarized below.

Chapter 10 – Grading Regulations. Section 91010.02 of the Ordinance Code outlines conditions required for issuance of a Grading Permit. These specific conditions include:

1. If the proposed grading, excavation or earthwork construction is of irrigatable land, said grading will not cause said land to be unfit for agricultural use.
2. The depth of the grading, excavation or earthwork construction will not preclude the use of drain tiles in irrigated lands.
3. The grading, excavation or earthwork construction will not extend below the water table of the immediate area.
4. Where the transition between the grading plane and adjacent ground has a slope less than the ratio of 1.5 feet on the horizontal plane to 1 foot on the vertical plane, the plans and specifications will provide for adequate safety precautions.

IMPERIAL COUNTY ENGINEERING DESIGN GUIDELINES MANUAL FOR THE PREPARATION AND CHECKING OF STREET IMPROVEMENT, DRAINAGE AND GRADING PLANS WITHIN IMPERIAL COUNTY

Based on the guidance contained in the County's Engineering Guidelines Design Guidelines Manual for the Preparation and Checking of Street Improvement, Drainage and Grading Plans within Imperial County (2008), the following drainage requirements would be applicable to the project.

III A. GENERAL REQUIREMENTS

1. All drainage design and requirements are recommended to be in accordance with the IID "Draft" Hydrology Manual or other recognized source with approval by the County Engineer and based on full development of upstream tributary basins. Another source is the Caltrans I-D-F curves for the Imperial Valley.
3. Permanent drainage facilities and ROW, including access, shall be provided from development to point of satisfactory disposal.

4. Retention volume on retention or detention basins should have a total volume capacity for a three (3) inch minimum precipitation covering the entire site with no C reduction factors. Volume can be considered by a combination of basin size and volume considered within parking and/or landscaping areas. There is no guarantee that a detention basin outletting to an IID facility or other storm drain system will not back up should the facility be full and unable to accept the project runoff. This provides the safety factor from flooding by ensuring each development can handle a minimum 3-inch precipitation over the project site.

8. The developer shall submit a drainage study and specifications for improvements of all drainage easements, culverts, drainage structures, and drainage channels to the Department of Public Works for approval. Unless specifically waived herein, required plans and specifications shall provide a drainage system capable of handling and disposing of all surface waters originating within the subdivision and all surface waters that may flow onto the subdivision from adjacent lands. Said drainage system shall include any easements and structures required by the Department of Public Works or the affected Utility Agency to properly handle the drainage on-site and off-site. The report should detail any vegetation and trash/debris removal, as well as address any standing water.

9. Hydrology and hydraulic calculations for determining the storm system design shall be provided to the satisfaction of the Director, Department of Public Works. When appropriate, water surface profiles and adequate field survey cross-section data may also be required.

11. The County is implementing a storm water quality program as required by the SWRCB, which may modify or add to the requirements and guidelines presented elsewhere in this document. This can include ongoing monitoring of water quality of storm drain runoff, implementation of BMPs to reduce storm water quality impacts downstream or along adjacent properties. Attention is directed to the need to reduce any potential of vectors, mosquitoes, or standing water.

12. A Drainage Report is required for all developments in the County. It shall include a project description, project setting including discussions of existing and proposed conditions, any drainage issues related to the site, summary of the findings or conclusions, off-site hydrology, onsite hydrology, hydraulic calculations and a hydrology map.

IMPERIAL IRRIGATION DISTRICT

The IID is an irrigation district organized under the California Irrigation District Law, codified in Section 20500 et seq. of the California Water Code. Critical functions of IID include diversion and delivery of Colorado River water to the Imperial Valley, operation and maintenance of the drainage canals and facilities, including those in the project area, and generation and distribution of electricity. Several policy documents govern IID operations and are summarized below:

- The Law of the River and historical Colorado River decisions, agreements and contracts
- The Quantification Settlement Agreement and Transfer Agreements
- The Definite Plan, now referred to as the Systems Conservation Plan, which defines the rigorous agricultural water conservation practices being implemented by growers and IID to meet the Quantification Settlement Agreement commitments
- The Equitable Distribution Plan, which defines how IID will prevent overruns and stay within the cap on the Colorado River water rights

- Existing IID standards and guidelines for evaluation of new development and define IID's role as a responsible agency and wholesaler of water

IMPERIAL INTEGRATED WATER RESOURCES MANAGEMENT PLAN

In relation to the project, IID maintains regulation over the drainage of water into their drains, including the design requirements of stormwater retention basins. IID requires that retention basins be sized to handle an entire rainfall event in case the IID system is at capacity. Additionally, IID requires that outlets to IID facilities be no larger than 12 inches in diameter and must contain a backflow prevention device (IID 2009).

3.9.3 Impacts and Mitigation Measures

This section presents the significance criteria used for considering project impacts related to hydrology and water quality, the methodology employed for the evaluation, an impact evaluation, and mitigation requirements, if necessary.

Thresholds of Significance

Based on CEQA Guidelines Appendix G, project impacts related to hydrology and water quality are considered significant if any of the following occur:

- Violate any water quality standards or waste discharge requirements or otherwise substantially degrade groundwater water quality
- Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin
- 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
    - Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite
    - Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff
    - Impede or redirect flood flows
- In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation
- Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan

3.9.4 Impact Analysis

Impact 3.9-1 Would the project violate any water quality standards or waste discharge requirements or otherwise substantially degrade groundwater water quality?

VEGA 6

CONSTRUCTION

Construction of the VEGA 6 project includes site preparation, foundation construction, erection of major equipment and structures, installation of electrical systems, control systems, and startup/ testing. In addition, the construction of transmission lines, utility pole pads, conductors, and associated structures will be required.

During the construction phase, sedimentation and erosion can occur because of tracking from earthmoving equipment, erosion and subsequent runoff of soil, or improperly designed stockpiles. The utilization of proper erosion and sediment control BMPs is critical in preventing discharge to surface waters/drains. The project would employ proper SWPPP practices to minimize any discharges in order to meet the Best Available Technology/Best Conventional Technology standard set forth in the Construction General Permit.

The VEGA 6 project has the potential to affect surface water quality. Many different types of hazardous compounds will be used during the construction phase, with proper application, management, and containment being of high importance. Poorly managed construction materials can lead to the possibility for exposure of potential contaminants to precipitation. When this occurs, these visible and/or non-visible constituents become entrained in storm water runoff. If they are not intercepted or are left uncontrolled, the polluted runoff would otherwise freely sheet flow from the project to the IID Imperial Valley Drains and could result in the accumulation of these pollutants in the receiving waters. This is considered a potentially significant impact. With the implementation of Mitigation Measure HYD-1, impacts on surface water quality as attributable to the project would be reduced to a less than significant level. Prior to construction and grading activities, the project applicant is required to file an NOI with the SWRCB to comply with the General NPDES Construction Permit and prepare a SWPPP, which addresses the measures that would be included during construction of the VEGA 6 project to minimize and control construction and post-construction runoff to the “maximum extent practicable.” In addition, NPDES permits require the implementation of BMPs that achieve a level of pollution control to the maximum extent practical. With the implementation of Mitigation Measure HYD-1, impacts on surface water quality as attributable to the VEGA 6 project would be reduced to a less than significant level through the inclusion of focused BMPs for the protection of surface water resources. Monitoring and contingency response measures would be included to verify compliance with water quality objectives for all surface waters crossed during construction. In addition, given that site decommissioning would result in similar activities as identified for construction, these impacts could also occur in the future during site restoration activities.

OPERATION

As runoff flows over developed surfaces, water can entrain a variety of potential pollutants including, but not limited to, oil and grease, pesticides, trace metals, and nutrients. These pollutants can become suspended in runoff and carried to receiving waters. These effects are commonly referred to as non-point source water quality impacts.

Long-term operation of the solar facility poses a limited threat to surface water quality after the completion of construction. The project would be subject to the County’s Grading Regulations as specified in Section 91010.02 of the Ordinance Code. However, since the VEGA 6 project site is located in unincorporated Imperial County and not subject to a Municipal Separate Storm Sewer System or NPDES General Industrial Permit, there is no regulatory mechanism in place to address post-construction water quality concerns. Based on this consideration, the project has the potential to

result in both direct and indirect water quality impacts that could be significant. Implementation of Mitigation Measure HYD-2 would require the VEGA 6 project to incorporate post-construction BMPs into the project's drainage plan. The proposed VEGA 6 project will be designed to include site design, source control, and treatment control BMPs, as described below. The use of source control, site design, and treatment BMPs would result in a decrease potential for storm water pollution.

Site Design BMPs. The VEGA 6 project will be designed to include site design BMPs, which reduce runoff, prevent storm water pollution associated with the VEGA 6 project, and conserve natural areas onsite. Table 3.9-3 lists the various site design BMPs.

Table 3.9-3. Site Design Best Management Practices

Design Concept		Description
1	Minimize Impervious Footprint	The project site will include a significant amount of undeveloped land and pervious area. The footprint for the solar arrays will be predominately pervious ground. A minimal amount of Class II base paving for access roads and parking will be constructed.
2	Conserve Natural Areas	Only a small amount of existing site area can be classified as natural landscape and will only be disturbed in necessary areas at the project.
3	Protect Slopes and Channels	The project site and surrounding areas is comprised of extremely flat topography. Erosion of slopes due to stabilization problems is not a concern.
4	Minimize Directly Connected Impervious Areas	No storm drain will be constructed onsite. The site layout does not change the existing drainage pattern.

Source Control BMPs. Source control BMPs (both structural and non-structural) means land use or site planning practices, or structures that aim to prevent urban runoff pollution by reducing the potential for contamination at the source of pollution. Source control BMPs minimize the contact between pollutants and urban runoff. Table 3.9-4 identifies source control BMPs that would be applicable to the proposed VEGA 6 project.

Table 3.9-4. Source Control Best Management Practices

Design Concept		Description
1	Design Trash Storage Areas to Reduce Pollution Introduction	Any outdoor trash storage areas will be designed not to allow run-on from adjoining areas, screened or walled to prevent off-site transport of trash.
2	Activity Restrictions	Restrictions include activities that have the potential to create adverse impacts on water quality.
3	Non-storm Water Discharges	Illegal dumping educational materials as well as spill response materials will be provided to employees.
4	Outdoor Loading and Unloading	Material handling will be conducted in a manner as to prevent any storm water pollution.
5	Spill Prevention Control and Cleanup	The project will require a Spill Prevention, Control, and Countermeasure Plan, and a Hazardous Materials Business Plan in accordance with Federal and State requirements.
6	Education	Employees will receive materials for storm water pollution prevention in the form of brochures and other information in a format approved by the County of Imperial.

Design Concept		Description
7	Integrated Pest Management	If any pesticide is required onsite, the need for pesticide use in the project design will be reduced by: • Keeping pests out of buildings using barriers, screens, and caulking • Physical pest elimination techniques, such as squashing, trapping, washing or pruning out pests • Relying on natural enemies to eat pests • Proper use of pesticides as a last line of defense
8	Vehicle and Equipment Fueling, Cleaning, and Repair	All vehicles will be serviced offsite whenever possible. If servicing is required onsite, it must be conducted in an area isolated from storm drain inlets or drainage ditch inlets. The area must be bermed and precluded from run on. Any spillage must be fully contained and captured and disposed of per County of Imperial Hazardous Waste requirements.
9	Waste Handling and Disposal	Materials will be disposed of in accordance with Imperial County Hazardous Material Management guidelines and will be sent to appropriate disposal facilities. Under no circumstances shall any waste or hazardous materials be stored outside without secondary containment.

Treatment Control BMPs. The proposed VEGA 6 project will incorporate post-construction Low Impact Development Treatment Control BMPs, including but not limited to infiltration trenches or bioswales, which shall be investigated and integrated into the project layout to the maximum extent practicable. The drainage plan shall provide both short-term and long-term drainage solutions to ensure the proper sequencing of drainage facilities and treatment of runoff generated from project impervious surfaces prior to off-site discharge.

The proposed VEGA 6 project shall develop a long-term maintenance plan and implemented to support the functionality of treatment control BMPs. The facility layout shall also include sufficient container storage and on-site containment and pollution-control devices for drainage facilities to avoid the off-site release of water quality pollutants, including, but not limited to oil and grease, fertilizers, treatment chemicals, and sediment.

Ramon Substation Expansion

CONSTRUCTION

Short-term impacts related to water quality would occur during the earthwork and construction phase, when the potential for erosion, siltation, and sedimentation would be the greatest. Construction of the proposed Ramon Substation expansion has the potential to produce typical pollutants such as nutrients, heavy metals, pesticides and herbicides, toxic chemicals related to construction and cleaning, waste materials including wash water, paints, wood, paper, concrete, food containers, and sanitary wastes, fuel, and lubricants. Impacts to stormwater quality would occur from construction and associated earth moving, and increased pollutant loadings would occur immediately offsite.

The proposed Ramon Substation expansion has the potential to affect surface water quality. Many different types of hazardous compounds will be used during the construction phase, with proper application, management, and containment being of high importance. Poorly managed construction materials can lead to the possibility for exposure of potential contaminants to precipitation. When this occurs, these visible and/or non-visible constituents become entrained in storm water runoff. If they are not intercepted or are left uncontrolled, the polluted runoff would otherwise freely sheet flow from the project and could result in the accumulation of these pollutants in the receiving waters. This is considered a potentially significant impact. With the implementation of Mitigation Measure RS-HYD-

1, impacts on surface water quality as attributable to the project would be reduced to a less than significant level. Prior to construction and grading activities, IID will be required to file an NOI with the SWRCB to comply with the General NPDES Construction Permit and prepare a SWPPP, which addresses the measures that would be included during construction of the proposed Ramon Substation expansion to minimize and control construction and post-construction runoff to the "maximum extent practicable." In addition, NPDES permits require the implementation of BMPs that achieve a level of pollution control to the maximum extent practical. With the implementation of Mitigation Measure RS-HYD-1, impacts on surface water quality would be reduced to a less than significant level through the inclusion of focused BMPs for the protection of surface water resources. Monitoring and contingency response measures would be included to verify compliance with water quality objectives for all surface waters crossed during construction.

OPERATION

The proposed Ramon Substation expansion would include oil containment pits below the transformer equipment to ensure that any leaks or spills would be contained and would not impact receiving bodies of water. In addition, the majority of the proposed expansion area would be covered in pervious surface, such as crushed rock and natural vegetation. These aspects would minimize the runoff of water on the expansion area to receiving water bodies. In accordance with the project's Water Quality Management Plan, containment pits, crushed rock surface, and drainage infrastructure would be regularly inspected and maintained in order to ensure proper functioning. Therefore, project operation would not violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality. The proposed Ramon Substation expansion would have a less than significant impact.

Mitigation Measure(s)

VEGA 6

HYD-1 **Prepare SWPPP and Implement BMPs Prior to Construction and Site Restoration.** The project applicant or its contractor shall prepare a SWPPP specific to the project and be responsible for securing coverage under SWRCB's NPDES stormwater permit for general construction activity (Order 2009-0009-DWQ). The SWPPP shall identify specific actions and BMPs relating to the prevention of stormwater pollution from project-related construction sources by identifying a practical sequence for site restoration, BMP implementation, contingency measures, responsible parties, and agency contacts. The SWPPP shall reflect localized surface hydrological conditions and shall be reviewed and approved by the appropriate agency prior to commencement of work and shall be made conditions of the contract with the contractor selected to build and decommission the project. The SWPPP shall incorporate control measures in the following categories:

- Soil stabilization and erosion control practices (e.g., hydroseeding, erosion control blankets, mulching)
- Sediment control practices (e.g., temporary sediment basins, fiber rolls)
- Temporary and post-construction on- and off-site runoff controls
- Special considerations and BMPs for water crossings and drainages

- Monitoring protocols for discharge(s) and receiving waters, with emphasis place on the following water quality objectives: dissolved oxygen, floating material, oil and grease, potential of hydrogen (pH), and turbidity
- Waste management, handling, and disposal control practices
- Corrective action and spill contingency measures
- Agency and responsible party contact information
- Training procedures that shall be used to ensure that workers are aware of permit requirements and proper installation methods for BMPs specified in the SWPPP

The SWPPP shall be prepared by a Qualified SWPPP Practitioner and/or Qualified SWPPP Developer with BMPs selected to achieve maximum pollutant removal and that represent the best available technology that is economically achievable. Emphasis for BMPs shall be placed on controlling discharges of oxygen-depleting substances, floating material, oil and grease, acidic or caustic substances or compounds, and turbidity. BMPs for soil stabilization and erosion control practices and sediment control practices will also be required. Performance and effectiveness of these BMPs shall be determined either by visual means where applicable (i.e., observation of above-normal sediment release), or by actual water sampling in cases where verification of contaminant reduction or elimination, (inadvertent petroleum release) is required to determine adequacy of the measure.

HYD-2 **Incorporate Post-Construction Runoff BMPs into Project Drainage Plan**. The project Drainage Plan shall adhere to the County's Engineering Guidelines Manual, IID "Draft" Hydrology Manual, or other recognized source with approval by the County Engineer to control and manage the on- and off-site discharge of stormwater to existing drainage systems. Infiltration basins will be integrated into the Drainage Plan to the maximum extent practical. The Drainage Plan shall provide both short- and long-term drainage solutions to ensure the proper sequencing of drainage facilities and management of runoff generated from project impervious surfaces as necessary.

Ramon Substation Expansion

RS-HYD-1 **Prepare SWPPP and Implement BMPs Prior to Construction.** IID or its contractor shall prepare a SWPPP specific to the project and be responsible for securing coverage under SWRCB's NPDES stormwater permit for general construction activity (Order 2009-0009-DWQ). The SWPPP shall identify specific actions and BMPs relating to the prevention of stormwater pollution from project-related construction sources by identifying a practical sequence for site restoration, BMP implementation, contingency measures, responsible parties, and agency contacts. The SWPPP shall reflect localized surface hydrological conditions and shall be reviewed and approved by the appropriate agency prior to commencement of work and shall be made conditions of the contract with the contractor selected to build the project. The SWPPP shall incorporate control measures in the following categories:

- Soil stabilization and erosion control practices (e.g., hydroseeding, erosion control blankets, mulching)

- Sediment control practices (e.g., temporary sediment basins, fiber rolls)
- Temporary and post-construction on- and off-site runoff controls
- Special considerations and BMPs for water crossings and drainages
- Monitoring protocols for discharge(s) and receiving waters, with emphasis place on the following water quality objectives: dissolved oxygen, floating material, oil and grease, potential of hydrogen (pH), and turbidity
- Waste management, handling, and disposal control practices
- Corrective action and spill contingency measures
- Agency and responsible party contact information
- Training procedures that shall be used to ensure that workers are aware of permit requirements and proper installation methods for BMPs specified in the SWPPP

The SWPPP shall be prepared by a Qualified SWPPP Practitioner and/or Qualified SWPPP Developer with BMPs selected to achieve maximum pollutant removal and that represent the best available technology that is economically achievable. Emphasis for BMPs shall be placed on controlling discharges of oxygen-depleting substances, floating material, oil and grease, acidic or caustic substances or compounds, and turbidity. BMPs for soil stabilization and erosion control practices and sediment control practices will also be required. Performance and effectiveness of these BMPs shall be determined either by visual means where applicable (i.e., observation of above-normal sediment release), or by actual water sampling in cases where verification of contaminant reduction or elimination, (inadvertent petroleum release) is required to determine adequacy of the measure.

Significance after Mitigation

VEGA 6

With the implementation of Mitigation Measure HYD-1, impacts on surface water quality as attributable to the VEGA 6 project would be reduced to a less than significant level through the inclusion of focused BMPs for the protection of surface water resources. Monitoring and contingency response measures would be included to verify compliance with water quality objectives for all surface waters crossed during construction.

With the implementation of Mitigation Measure HYD-2, potential water quality impacts resulting from post-construction discharges during operation for the VEGA 6 project would be reduced to a less than significant level. Implementation of Mitigation Measure HYD-2 would require the VEGA 6 project to incorporate post-construction BMPs into the project's drainage plan. The use of source control, site design, and treatment BMPs would result in a decrease potential for storm water pollution.

Ramon Substation Expansion

With the implementation of Mitigation Measure RS-HYD-1, impacts on surface water quality as attributable to the proposed Ramon Substation expansion would be reduced to a less than significant level through the inclusion of focused BMPs for the protection of surface water resources. Monitoring

and contingency response measures would be included to verify compliance with water quality objectives for all surface waters crossed during construction.

Impact 3.9-2 Would the project substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?

VEGA 6

The construction water demand of the VEGA 6 project is estimated to be 160 AF, with an additional 10 AF required for dust control on offsite access roads that are not paved. Thus, as indicated in Figure 3.9-1, the full construction water requirements are 170 acre-feet. The construction water demand represents 1.0 percent of the average annual increase in groundwater storage of 17,000 AF per year and 0.0015 percent of the volume of groundwater in storage in the Imperial Valley Groundwater Basin (accounting for the groundwater level decline from 1974 to 2022). Furthermore, the construction water needs are short-term and temporary. This temporary water use is not anticipated to cause persistent and long-term lowering of groundwater levels (Appendix K of this EIR).

The operational water demand for panel washing and other maintenance needs is based primarily on the number of panels, which relates to the energy production or output, in megawatts. The operational water demand is anticipated to be 8 acre-feet per year. Maintenance activities are anticipated to be conducted up to twice a year over a one-to-two-week period each event, so the maintenance water demand is intermittent and not spread throughout the year. The operational water demand will occur throughout the life of the VEGA 6 project which is anticipated to be 25 to 30 years.

The annual operational water needs are equivalent to 0.05 percent of the average annual increase in groundwater storage of 17,000 AF per year and 0.00008 percent of the volume of groundwater in storage in the Imperial Valley Groundwater Basin (accounting for the groundwater level decline from 1974 to 2022). Therefore, the long-term operation and maintenance of the VEGA 6 project would not have any measurable effect or impact on groundwater resources in the Basin (Appendix K of this EIR).

Based on the analysis above, there is sufficient water available for anticipated future water demands in the Basin to accommodate the proposed VEGA 6 project during normal, single dry year, and multiple dry year periods for the lifetime of the VEGA 6 project. As such, impacts would be less than significant.

Further, groundwater recharge in the area will not be significantly affected as the majority of the project site will feature a pervious landscape in both the existing and proposed conditions. Any runoff from solar panel washing would evaporate or percolate through the ground, as a majority of the surfaces in the solar field would remain pervious. The proposed VEGA 6 project would not substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the VEGA 6 project may impede sustainable groundwater management of the basin. No significant impacts on groundwater supply or recharge would occur.

Ramon Substation Expansion

The proposed Ramon Substation expansion does not include residential or commercial uses that would require groundwater supplies. Therefore, the proposed expansion would have no impact on groundwater supplies or recharge in the expansion area.

Mitigation Measure(s)

VEGA 6

No mitigation measures are required.

Ramon Substation Expansion

No mitigation measures are required.

Impact 3.9-3 Would the project 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?

VEGA 6

Project implementation would not substantially alter the existing drainage pattern of the site or area. Soil erosion could result during construction of the proposed VEGA 6 project in association with grading and earthmoving activities. The VEGA 6 project site would be disturbed by construction activities such as grading and clearing as a part of site preparation. To the extent feasible, site preparation would be planned and designed to minimize the amount of earth movement. Compaction of the soil to support building and traffic loads as well as the PV module supports may be required and is dependent on final engineering design. During construction, erosion would be controlled in accordance with County standards which include preparation, review and approval of a grading plan by the County Engineer; implementation of a Dust Control Plan (Rule 801); and compliance with the NPDES General Construction Permit and project-specific SWPPP, as outlined in Mitigation Measure HYD-1.

After construction is complete, all existing roads would be left in a condition equal to or better than their preconstruction condition. All other areas disturbed by construction activities would be recontoured and decompacted. As such, daily operations and routine maintenance (such as occasional PV panel washing) are not anticipated to alter the existing drainage pattern such that erosion increases when compared to existing conditions. The VEGA 6 project site would remain largely impervious over the operational life of the project. Additionally, the project would implement site design BMPs, as outlined in Table 3.9-3, which would reduce soil disturbance during operation. The proposed VEGA 6 project would result in less than significant impacts associated with the alteration of drainage patterns resulting in substantial erosion or siltation on- or off-site.

Ramon Substation Expansion

Project implementation would not substantially alter the existing drainage pattern of the site or area. Soil erosion could result during construction of the proposed Ramon Substation expansion area in association with grading and earthmoving activities. The expansion area would be disturbed by construction activities such as grading and clearing as a part of site preparation. To the extent feasible, site preparation would be planned and designed to minimize the amount of earth movement. During construction, erosion would be controlled in accordance with County standards which include preparation, review and approval of a grading plan by the County Engineer; implementation of a Dust Control Plan; and compliance with the NPDES General Construction Permit and project-specific SWPPP, as outlined in Mitigation Measure RS-HYD-1.

Minimal impervious surface would be added to the proposed expansion area and would be limited to pervious, crushed rock surface cover. This would allow for water infiltration and would not substantially alter the existing drainage pattern of the site or area. Therefore, the proposed Ramon Substation expansion would have a less than significant impact.

Mitigation Measure(s)

VEGA 6

No additional mitigation measures beyond Mitigation Measures HYD-1 are required.

Ramon Substation Expansion

No additional mitigation measures beyond Mitigation Measures HYD-1 are required.

Significance after Mitigation

VEGA 6

With the implementation of Mitigation Measure HYD-1, potential impacts associated with the alteration of drainage patterns resulting in substantial erosion or siltation on- or off-site would be reduced to a level less than significant through compliance with County standards, implementation of a Dust Control Plan (Rule 801), and compliance with the NPDES General Construction Permit and project-specific SWPPP.

Ramon Substation Expansion

With the implementation of Mitigation Measure HYD-1, potential impacts associated with the alteration of drainage patterns resulting in substantial erosion or siltation on- or off-site would be reduced to a level less than significant through compliance with County standards, implementation of a Dust Control Plan, and compliance with the NPDES General Construction Permit and project-specific SWPPP.

Impact 3.9-4 Would the project 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 offsite?

VEGA 6

Project implementation would not substantially alter the existing drainage pattern of the site or area. The majority of the VEGA 6 project site would continue to sheet flow through the pervious native soils. The VEGA 6 project will be designed to meet County of Imperial storage requirements (100 percent of the 100-year storm (3 inches of rain)) (refer to the County's Engineering Guidelines Design Guidelines Manual for the Preparation and Checking of Street Improvement, Drainage and Grading Plans within Imperial County (2008) for storm water runoff, which will result in an impoundment of runoff in excess of the anticipated volume of runoff to be generated by the 100-year storm event. Additionally, implementation of Mitigation Measure HYD-2 requires that the project Drainage Plan adhere to the County's Engineering Guidelines Manual, IID "Draft" Hydrology Manual, or other recognized source with approval by the County Engineer to control and manage the on- and off-site discharge of stormwater to existing drainage systems. As such, infiltration basins will be integrated

into the Drainage Plan to the maximum extent practical. The Drainage Plan shall provide both short- and long-term drainage solutions to ensure the proper sequencing of drainage facilities and management of runoff generated from project impervious surfaces as necessary.

Additionally, after construction is complete, all existing roads would be left in a condition equal to or better than their preconstruction condition. All other areas disturbed by construction activities would be recontoured and decompacted. As such, daily operations and routine maintenance (such as occasional PV panel washing) are not anticipated to alter the existing drainage pattern such that flooding (on- or off-site) increases when compared to existing conditions. Lastly, the VEGA 6 project site would remain largely pervious over the operational life of the project. Therefore, the proposed VEGA 6 project would result in no significant impacts associated with the alteration of drainage patterns resulting in on- or off-site flooding.

Ramon Substation Expansion

Implementation of the proposed Ramon Substation expansion would involve minimal grading and various construction activities on relatively flat terrain. Standard construction procedures, and federal, state and local regulations implemented in conjunction with the site's SWPPP and its BMPs required under the NPDES General Construction Permit, would minimize potential for erosion during construction. These practices would keep substantial amounts of soil material from eroding from the expansion area and prevent deposition within receiving waters located downstream. The potential for on-site erosion may increase due to grading and excavating activities during the construction phase for the proposed expansion. However, BMPs would be implemented for maintaining water quality and reducing erosion.

Additionally, the WQMP for the proposed Ramon Substation expansion will require that natural areas outside the project footprint remain undisturbed during construction and operation, which will limit the area of disturbance during construction. The WQMP will also require inspections prior to storm events and regular maintenance and of the crushed rock surface and drainage infrastructure during operation of the substation to ensure that they are operating as designed. Off-site erosion would not be substantially affected by the proposed expansion due to the relatively flat topography that surrounds the expansion area. Therefore, the proposed expansion would have a less than significant impact on increases in water-induced erosion on- or off-site.

Mitigation Measure(s)

VEGA 6

Implement Mitigation Measure HYD-2.

Ramon Substation Expansion

No mitigation measures are required.

Significance after Mitigation

VEGA 6

With the implementation of Mitigation Measure HYD-2, impacts on existing drainage patterns as a result of potentially substantial increases to runoff would be reduced to a level less than significant. Implementation of Mitigation Measure HYD-2 would require the VEGA 6 project's Drainage Plan to adhere to the County's Engineering Guidelines Manual, IID "Draft" Hydrology Manual, or other

recognized source with approval by the County Engineer to control and manage the on- and off-site discharge of stormwater to existing drainage systems.

Impact 3.9-5 Would the project 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 sources of polluted runoff?

VEGA 6

During construction, erosion and associated pollutants would be controlled in accordance with County standards which include preparation, review and approval of a grading plan by the County Engineer; implementation of a Dust Control Plan (Rule 801); and compliance with the NPDES General Construction Permit and project-specific SWPPP, as outlined in Mitigation Measure HYD-1 (see Impact 3.9-1 for additional details).

After construction is complete, all existing roads would be left in a condition equal to or better than their preconstruction condition. All other areas disturbed by construction activities would be recontoured and decompacted. The proposed VEGA 6 project is not anticipated to generate a significant increase in the amount of runoff water when compared to existing conditions. As such, daily operations and routine maintenance (such as occasional PV panel washing) are not anticipated to alter the existing drainage pattern such that runoff increases would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff. The VEGA 6 project site would remain largely pervious over the operational life of the project. Water will continue to percolate through the ground, as a majority of the surfaces on the VEGA 6 project site will remain pervious. The proposed VEGA 6 project would not create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff. This is considered a less than significant impact.

Ramon Substation Expansion

Minimal impervious surface would be added to the proposed expansion area and would be limited to pervious, crushed rock surface cover. This would allow for water infiltration and would not substantially alter the existing drainage pattern of the site or area. The proposed expansion would not create or contribute to runoff that would exceed the existing capacity of stormwater drainage systems nor substantially contribute to polluted runoff. This is considered a less than significant impact.

Mitigation Measure(s)

VEGA 6

Implement Mitigation Measure HYD-1.

Ramon Substation Expansion

No mitigation measures are required.

Significance after Mitigation

VEGA 6

With the implementation of Mitigation Measure HYD-1, impacts on the existing drainage pattern by the VEGA 6 project that could result in substantial or polluted runoff would be reduced to a level less than significant through compliance with County standards, implementation of a Dust Control Plan (Rule 801), and compliance with the NPDES General Construction Permit and project-specific SWPPP.

Impact 3.9-6 Would the project 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:

Impede or redirect flood flows?

VEGA 6

Project implementation would not substantially alter the existing drainage pattern of the site or area. The proposed VEGA 6 project is not anticipated to generate a significant increase in the amount of runoff water from water use involving solar panel washing. Water will continue to percolate through the ground, as a majority of the surfaces on the VEGA 6 project site will remain pervious. Additionally, according to the FEMA's FIRM (Map Number Map Number 06025C100C) (FEMA 2008), the proposed solar energy facility and access roads located on the project site are located in Zone X (unshaded). The FEMA Zone X (unshaded) designation is an area determined to be outside the 0.2 percent annual chance floodplain. The gen-tie transmission line runs through FEMA Flood Zone A, which is a special flood hazard zone with 1 percent annual chance of flooding. The transmission pole foundations would be small relative to the width of the floodplain and would not pose a substantial obstruction to flood flow flows and would be located outside the floodplain to the maximum extent practical. Therefore, the proposed VEGA 6 project would not 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 impede or redirect flood flows, and impacts would be less than significant.

Ramon Substation Expansion

Minimal impervious surface would be added to the proposed expansion area and would be limited to pervious, crushed rock surface cover. This would allow for water infiltration and would not substantially alter the existing drainage pattern of the site or area. The proposed expansion is not anticipated to impede or redirect flood flows. This is considered a less than significant impact.

Mitigation Measure(s)

VEGA 6

No mitigation measures are required.

Ramon Substation Expansion

No mitigation measures are required.

Impact 3.9-7 In flood hazard, tsunami, or seiche zones, would the project risk release of pollutants due to project inundation?

VEGA 6

The VEGA 6 project site is not located near any large bodies of water. The Salton Sea is located approximately 6 miles north of the VEGA 6 project site. Because of the distance, the Salton Sea does not pose a danger of inundation from seiche or tsunami as related to the VEGA 6 project site. Furthermore, the VEGA 6 project site is over 100 miles inland from the Pacific Ocean. In addition, the VEGA 6 project site is relatively flat. Therefore, there is no potential for the project site to be inundated by seiches or tsunamis. No impact would occur.

Ramon Substation Expansion

The Ramon Substation expansion area is not located near any large bodies of water. The expansion area is located approximately 30 miles northwest of the Salton Sea. Because of the distance, the Salton Sea does not pose a danger of inundation from seiche or tsunami. Furthermore, the expansion area is approximately 79 miles inland from the Pacific Ocean. In addition, the expansion area is relatively flat. Therefore, there is no potential for the project site to be inundated by seiches or tsunamis. No impact would occur.

Mitigation Measure(s)

VEGA 6

No mitigation measures are required.

Ramon Substation Expansion

No mitigation measures are required.

Impact 3.9-8 Would the project conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?

VEGA 6

As described under Impact 3.9-1 above, with the implementation of Mitigation Measure HYD-1, impacts on surface water quality as attributable to the VEGA 6 project would be reduced to a less than significant level through the inclusion of focused BMPs for the protection of surface water resources. Implementation of Mitigation Measure HYD-2 would require the VEGA 6 project to incorporate post-construction BMPs into the project's drainage plan. The use of source control, site design, and treatment BMPs would result in a decrease potential for storm water pollution. Additionally, the VEGA 6 project would not require the direct use of groundwater. Therefore, the proposed VEGA 6 project would not pose a significant threat to local surface water features or shallow groundwater resources, and, as such would not conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan. Implementation of Mitigation Measures HYD-1 and HYD-2 would reduce impacts to a level less than significant.

Ramon Substation Expansion

As described under Impact 3.9-1 above, with the implementation of Mitigation Measure HYD-1, impacts on surface water quality as attributable to the Ramon Substation expansion would be reduced

to a less than significant level through the inclusion of focused BMPs for the protection of surface water resources.

The proposed Ramon Substation expansion does not include residential or commercial uses that would require groundwater supplies. Therefore, the proposed expansion would not conflict with nor obstruct implementation of a sustainable groundwater management plan. Therefore, no impact would occur.

Mitigation Measure(s)

VEGA 6

No additional mitigation measures beyond Mitigation Measures HYD-1 and HYD-2 are required.

Ramon Substation Expansion

No mitigation measures are required.

Significance after Mitigation

VEGA 6

With the implementation of Mitigation Measures HYD-1 and HYD-2, the potential water quality impacts resulting during construction and operation of the VEGA 6 project would be reduced to a level less than significant.

3.9.5 Decommissioning/Restoration and Residual Impacts

Decommissioning/Restoration

If at the end of the PPA term, no contract extension is available for a power purchaser, no other buyer of the energy emerges, or there is no further funding of the project, the project will be decommissioned and dismantled. Decommissioning and restoration activities would result in similar impacts on hydrology and water quality as would occur during construction of the proposed project. The primary water quality issue associated with decommissioning/restoration would be potential impacts on surface water quality, as the decommissioning activities would be similar to construction activities and would be considered a significant impact. However, during decommissioning, soil erosion would be controlled in accordance with NPDES General Construction Permit(s) and project-specific SWPPP. Compliance with requirements and best available control technologies in place at the time of decommissioning are anticipated to be similar to, or more stringent than, those currently required. Compliance with all applicable water quality regulations would reduce the project's impacts during decommissioning to a level less than significant. Impacts on other water resource issues, including alteration of drainage patterns, contributing to off-site flooding, impacts on groundwater recharge and supply, would be less than significant. There would be no impact associated with inundation from flooding or mudflows.

Residual

With implementation of the mitigation measures listed above, implementation of the project would not result in any residual significant impacts related to increased risk of flooding from stormwater runoff, from water quality effects from long-term urban runoff, or from short-term alteration of drainages and associated surface water quality and sedimentation. With the implementation of the required mitigation

measures during construction and decommissioning of the project, water quality impacts would be minimized to a less than significant level. Based on these circumstances, the project would not result in any residential significant and unmitigable adverse impacts on surface water hydrology and water quality.

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