

4.0 PROJECT DESCRIPTION

4.1 Project Purpose and Objectives

The objective of CalEnergy (“the Applicant”), is to expand the existing Desert Valley Company Monofill with the construction of a new waste disposal Cell (Cell 4) to expand the existing monofill and continue the current operations of the permitted Class II Monofill Facility. To construct Cell 4, a modification of Conditional Use Permit (CUP) No. 05-0020 and issuance of a water well CUP for a new on-site water well is required by Imperial County. If the proposed expansion is approved, current operations would be shifted from Cell 3 to Cell 4 once Cell 3 has reached its disposal capacity in 2025. The purpose of the CUP modification is to allow the DVC to construct Cell 4 and continue the existing permitted operations of the facility when Cell 3 reaches capacity. The purpose of the water well CUP is to provide a new groundwater well for use during construction and operation of the expansion and for the capping and closure of existing Cell 3.

No change in the daily (750 tons per day) volumes of waste accepted at the facility, as identified in the SWF permit, is proposed; however, the location of the disposal cells and length of the disposal period would be extended to account for the estimated lifespan of the proposed Cell 4. Cell 3 is projected to reach capacity in 2025. The proposed expansion would increase the disposal capacity of the monofill by 2.6 million cubic yards (CY) and extend its operational life to approximately 2080.

Specific objectives developed for the Project are as follows:

- Maintain and expand cost-effective disposal for Cal Energy’s geothermal facility operations beyond 2025;
- Minimize haul distances for waste collection vehicles to reduce traffic, air quality, energy, and climate change impacts by providing up to 2.6 million cubic yards of additional waste disposal capacity at the Desert Valley Company Monofill;
- Utilize existing disposal facilities to minimize land use conflicts and impacts to the environment;
- Minimize the negative impacts of waste disposal at the expanded monofill through an environmentally sound operation that incorporates modern engineering and design techniques.

Cell 4 is proposed to be constructed and operated in two phases to transition operations from Cell 3. Phase 1 (Cell 4A) would be constructed and operable by 2024 to allow for the transition of disposal activities to occur prior to the estimated closure of Cell 3 in January 2025. Phase 2 (Cell 4B) would be constructed as additional capacity is needed. In addition to a CUP modification, an Imperial County General Plan Amendment and Zoning Change is required to modify the existing Open Space (OP) General Plan designation and Open Space (S-2) Zoning to Special Purpose Facility (SPF) and Medium Industrial (M-2), respectively.

4.2. Project Location

4.2.1. Regional Setting

Imperial County is a large rural county in southeast California consisting of approximately 2,942,080 acres. Imperial County is bordered on the north by Riverside County, the west by San Diego County, the east by the Arizona border, and the south by the United States/Mexican border (**Figure 3-1, Regional Location**). The county is located in the Colorado Desert and is characterized by open space, recreation, and conservation lands; irrigated agricultural activities and associated uses; rural communities; industrial uses, including geothermal development and landfill activities; and government uses.

Incorporated cities in Imperial County include Brawley, Calexico, Calipatria, El Centro, Holtville, Imperial, and Westmorland, as well as a number of unincorporated communities. A major feature of Imperial County is the Salton Trough, which includes the Salton Sea in the northwestern portion of the County. The Salton Sea area is known for its geothermal resources, including the four geothermal facilities owned by CalEnergy in the Salton Sea Known Geothermal Resources Area.

The region's climate is characterized by its hot summers with maximum temperatures ranging between 104 to 115°F (40-46°C). Winters are mild and dry, including maximum daily temperatures between 65 to 75°F (18- 24°C). Annual rainfall is approximately 3 inches.

4.2.2. Local Setting

The Desert Valley Company (DVC) Waste Disposal Monofill (Monofill) is located at 3301 West Highway 86, Brawley, California, 92227. The DVM and proposed Cell 4 expansion site ("Project site") are located southwest of the Salton Sea (**Figure 3-2, Regional Location**). The existing monofill, proposed expansion site, and the surrounding vicinity are characterized by low-lying, relatively flat topography with surface elevations ranging from 40 to 140 feet below mean sea level (MSL).

The Project site is located immediately west of the existing monofill on private lands north of Superstition Hills and south of State Route 86 (Highway 86), approximately 12 miles (19.3 km) west of the City of Westmorland and 4 miles (6.4 km) south of the Salton Sea in the County of Imperial, California (See (**Figure 3-3, Existing Monofill**)). The Project site is located in Section 33, Range 11 East, Township 12 South within the U.S. Geological Survey (USGS) Kane Spring, California 7.5-minute topographic quadrangle (Assessor's Parcel No. [APN] 019-100-004-001).

The proposed site for Cell 4 is similar to the existing DVM. The site and surrounding areas contain limited man-made disturbances, such as the Kane Springs Jeep Trail, which crosses Section 29 northeast of Section 33, and a power transmission line and maintenance road crossing Sections 27, 28 and 34, less than a mile from Section 33. No other man-made features are evident in the immediately adjacent sections to the existing DVM or proposed Cell 4 expansion site. The most

significant development in the area is State Highway 86, which is located to the north and east of the facility.

Surrounding properties exhibit largely the same desert features as Section 33—sparse vegetation, seasonal washes, exposed soil, and no man-made projects or uses. Human presence in the area is evidenced by occasional off-road vehicle trails, refuse dumps/litter, and survey points.

Some areas in the vicinity of the proposed project site have more pronounced mesquite hummocks, but in general, the area is sparsely vegetated. The San Sebastian Marsh, a wildlife and habitat reserve, is located several miles north. The San Sebastian Marsh area supports more diverse vegetation at higher concentrations than are present in the immediate vicinity of the site. Surface water drainage from the DVM and the proposed project site do not flow toward the reserve.

Land use to the north of the site (north of Section 33) is designated by Imperial County as A-2 (General Agriculture) and land to the east and west are designated M-2 (Medium Industrial). Land use to the south includes Bureau of Land Management (BLM) land and military uses.

4.3. Project Overview

The proposed Project includes the expansion of the existing Desert Valley Company Monofill with the addition of a new waste storage Cell 4 (45 acres) and associated facilities that include:

- a new leachate pond for Cell 4 (1.2 acres);
- the addition and extension of stormwater diversion dikes to divert surface water runoff around the Project site;
- minor extensions/modifications to internal roads to provide access to Cell 4;
- installation of a new water well for use during construction and operation of Cell 4 (e.g., dust control and mixing with soil sealant) and for the capping and closure of existing Cell 3; and,
- Additional air quality particulate sampling stations, and additional groundwater monitoring wells

The proposed site plan is shown on **Figure 4-1**. The design of Cell 4 would be consistent with Cell 3, with a liner system designed to a Class I hazardous waste standard and other criteria that conform to Class II designated waste standards and the existing monofill's permits. All other aspects of the proposed Project, such as operations, maintenance, monitoring, closure/post closure activities, recordkeeping and financial assurances would also be consistent with those of the existing monofill.

The total Desert Valley Company Monofill occupies 181.5 acres, of which approximately 68 acres (the total permitted area) is enclosed by fencing which surrounds the landfill operating area. A total of 28.9 acres of the site is currently permitted for disposal operations. The proposed Project would expand the total permitted area and disposal operations by 46.2 acres, which would result in a total

permitted area of 114.2 acres (68 acres + 46.2 acres = 114.2 acres) and a total disposal area of 75.1 acres (28.9 acres + 46.2 acres = 75.1 acres).

4.4. Project Operations

A full description of the technical project characteristics requires discussion of the definitions and criteria applied to the disposal site, wastes to be received, site preparation activities, and site operational procedures.

4.4.1. Definitions and Criteria

The following requirements, definitions, and criteria for the siting of a Class II facility are those of the California State Water Resources Control Board (1989).

Class II sites are those overlying usable ground water, with geologic conditions such that they would be either naturally capable of preventing lateral and vertical hydraulic continuity between liquids and gases emanating from the waste in the site and usable surface or ground waters, or those with a disposal area that has been modified to achieve these requirements.

Impervious formations, such as natural soil or the equivalent of artificially-constructed barriers, should have a permeability of 1×10^{-6} cm/sec and have adequate physical properties to prevent vertical movement of fluid, including waste and leachate, from waste management units to waters of the state as long as wastes in such units pose a threat to water quality. Class II units must confine wastes and byproducts within the boundary of the disposal area. Infiltration into adjacent non-water-bearing sediments which do not have hydraulic continuity with usable water may be permitted.

Class II sites must meet the following criteria of the California Administrative Code (see Code of Regulations, Title 23, Chapter 3, Subchapter 15):

- Class II units must be underlain by natural geologic materials having permeability of not more than 1×10^{-6} cm/sec or an equivalent liner system may be used.
- Class II units shall be designed, constructed, operated and maintained to prevent inundation or wash-out due to 100-year storm events.
- Class II units must have A 200-foot setback from any known Holocene fault.
- Class II units must be designed, constructed, and maintained to preclude failure from rapid geologic change.
- Class II units must be designed, constructed, and maintained to preclude failure from tidal waves.
- Wastes must be a minimum of 5 feet above the highest anticipated elevation of underlying ground water.

Section 2532, Chapter 3, Title 23 of the California Administrative Code specifically allows the disposal of certain designated wastes (nonhazardous) in Class II disposal sites that meet the criteria outlined previously for Class II sites, when in the judgement of the regional board such disposal will not unreasonably affect water quality and as allowed in the County CUP. Such restricted disposal of designated wastes shall be subject to terms and conditions considered appropriate by the Regional Board and the County with most restrictive conditions applying to the site.

4.4.2. Wastes Accepted

Future permitted waste streams would be in accordance with the existing SWF Permit (13-AA-0022) and Waste Discharge Permit for Cell 3 (R7-2016-0016). Cell 4 would continue to receive nonhazardous waste streams associated with geothermal energy production at the existing CalEnergy facilities in the Salton Sea Known Geothermal Resources Area: Elmore, Leathers, Salton Sea 1, and Salton Sea 2 (**Figure 3-4**). Waste streams would continue to consist of geothermal filter cake, drilling mud materials, geothermal contaminated soils and materials, and plastic liners used to line the trailers that are used to transport the waste to the DVM. The material that would be disposed of in Cell 4 would be consistent with the waste types and volumes described in **Tables 3-4** and **3-5** in the Project Background Section.

4.4.3. Other Ancillary Improvements

Support Facilities

For the addition of Cell 4 the following additional structures are planned:

- Addition and extension of stormwater diversion dikes to divert surface water runoff around the proposed project site;
- Minor extensions/modifications to internal roads to provide access to Cell 4;
- Installation of a new water well for use during construction and operation of Cell 4 and for the closure and capping of Cell 3; and,
- Additional air quality particulate sampling stations, and additional groundwater monitoring wells.

Diversion System/Dikes

Preliminary drainage features include the diversion and reconnection of existing natural drainages that enter the site and the routing of stormwater within the new facilities.

A diversion berm and swale would be constructed along the southern and eastern boundaries of the Cells 4A and 4B that would direct the flows from the natural drainages around the new cell. As shown on **Figure 4-2, Proposed Cross Section**, the berm and swale would be designed for a 100-year storm event, similar to the one constructed for Cells 1-3.

A swale would also be constructed on the east side of the diversion berm to pick up sheet flow from the site drainage from the west side dikes of the new cells. The east side of the cells would sheet flow to the existing drainage swale between Cells 1-3 and Cells 4A and 4B.

Rainfall within the cell would be collected at the southern low end of each cell and either evaporate or be transported to the leachate pond.

Internal Access Road

A new 20-foot wide paved road that would start adjacent to the existing site buildings at Cells 1 and 2 would be constructed to provide access Cell 4A and then 4B. The new road would follow along the 10-foot wide existing maintenance road on the east and south sides of Cell 3, crossing the Cell 3 diversion channel and terminating at the southeast corner of Cell 4A. Access to Cell 4B would be an extension of the access from Cell 4A to the southeast corner of Cell 4B.

Operational Water

Drinking water for on-site personnel and sanitary use at the office/administration building would continue to be provided by a water delivery service and stored in an existing aboveground water storage tank. A new water well would be drilled for use during construction and operation of Cell 4 for dust control, and for mixing the acrylic polymer stabilization/sealant for use on the monofill working surface. Water from the new well would also be used for the closure and capping of Cell 3, Cell 4A and Cell 4B. Expected maximum operational demand for groundwater is 11 acre-feet per year (AFY). Historically, groundwater use at the DVC has ranged from 3.58 to 8.02 AFY.

Environmental Controls

Air Quality and Groundwater Monitoring

Gas monitoring wells will be installed after the closure of each unit. A series of drilled PVC pipes will be installed into the landfills to monitor and release the presence of any gas generated within the fill.

Erosion and Sedimentation Control

Erosion and sedimentation controls would be developed during final engineering of the grading plans and would be implemented during construction and operation. Storm Water Pollution Prevention Plans (SWPPP) would be prepared for both Phase 1 and Phase 2 construction and operation. Best Management Practices (BMP) would be included in the SWPPPs to address erosion and sedimentation of the following features:

- Erosion protection of graded areas including slopes, roads, and drainage swales/ditches.

- Site perimeter runoff sedimentation control – Swales and ditches that discharge runoff from the site to existing drainages will contain fiber rolls or other devices to collect any sediment before leaving the site.
- Monitoring of natural drainages downstream of the site.
- Application of a polymer sealer to the outer surfaces of the slopes to prevent erosion.

4.4.4. Site Operation

Hours

The permitted hours and days of operation for Cell 4 would be the same as for Cell 3. The current DVM facility currently accepts waste between 6:00 AM and 6:00 PM, Monday through Sunday during daylight hours.

Personnel

During operation of Cell 4, the DVM facility would continue to employ eight (8) full-time staff. No additional staff would be required.

Disposal Rate and Volume

The projected life of each phase of Cell 4 is based on an estimated design capacity of approximately 1.3 million cubic yards, for a total of 2.6 million cubic yards, and a projected disposal rate of 45,454.54 cubic tons per year. The annual cubic tonnage is calculated by dividing the average annual waste disposal tonnage of 60,000 tons/year by an empirically determined airspace utilization factor of 1.32 tons per cubic yard. The approximate life span each phase of Cell 4 is thus calculated to be 28.60 years, based on the total volumetric capacity of 1.3 million cubic yards divided by the average annual disposal rate of 45,454.54 cubic tons per year.

Access and Security

Access to the site is via State Route 86 to a 1.25-mile paved access road. The existing chain link fencing [approximately six (6) feet in height] would be extended to encompass Cell 4. The gates would continue to be locked at all times when facility personnel are not present at the site.

Load Check and Waste Screen

Waste transport trucks arriving at the DVC facility would continue to be inspected prior to off-loading per existing operations. Sampling of incoming materials would be based upon present sampling and analysis requirements. Subsequent to inspection and sampling, the trucks would be cleared for access to the operational cell and offloaded.

After off-loading waste into Cell 4, site equipment is used to grade and compact the materials. Once the material is graded and compacted, the surface would be sprayed with a polymer-based sealant (Soil Seal), which penetrates the graded surface and creates a stable crust and provides for wind protection. On average, approximately 7,700 gallons of Soil Seal are applied at the DVM annually. Record keeping practices for operation and maintenance of Cell 4 would continue exactly the same as those used during operations at Cell 3.

4.4.5. Support Facilities

Sewage and Waste

The existing on-site septic tank/leach field would continue to be used for disposal of sanitary waste generated by site personnel.

Fire Control

Burning wastes would not be accepted at Cell 4. Due to the inorganic nature of the Cell 4 wastes, fires are extremely unlikely. In the event of a fire in a cell, a loader or water truck would be used to smother the fire with on-site soils or water. In addition, fire extinguishers are located in the office, maintenance area, and on the site vehicles.

Dust Control

Similar to existing Cell 3 operations, activities within Cell 4 would be ceased if wind speeds exceed 13 mph, and all site activities which generate fugitive dust are ceased when wind speeds exceed 21 mph.

Odor Control and Vector Control

Odors would not be a concern with Cell 4 since the DVM does not accept odorous waste materials. The types of materials disposed of at the DVM preclude the attraction of insects, rodents, and other vectors or creation of nuisance. Operational experience at the site indicates that insects, rodents, and other vectors are in fact not attracted to the DVM, and no problems have been noted.

Noise Control

All construction equipment would be equipped with exhaust mufflers in compliance with current State of California requirements. The construction equipment would not create vibrations outside of the construction zone. Vibratory sheepsfoot compaction equipment would create minor vibrations within 100 to 200 feet when in operation.

4.4.6. Waste Transport Trucks and Truck Haul Routes

In accordance with the existing solid waste facility permit, the number of waste transporting truck deliveries would be limited to 38 per day. In 2017, the number of daily truck deliveries ranged from a low of six (6) to a maximum of 38 per day; each with an approximate filter cake load capacity of less than 25 tons. Daily tonnage would not exceed 750 tons per day.

Truck haul routes used to transport the waste stream to the monofill are described on **Table 3-6** and depicted on **Figure 3-4, Designated Haul Routes**. These routes would continue to be used for the proposed Project.

4.5. Construction

4.5.1. Project Construction, Scheduling/Phasing

Cell 4 would be built in two (2) phases – Phase 1 and 2, referred to herein as Cells 4A and 4B, respectively. Similar to Cell 3, Cells 4A and 4B would occupy a surface area of approximately 50 acres (CalEnergy, 2018). Construction of Cell 4A, with an overall area of 24 acres, would be constructed first and would take approximately 12 months to complete. Therefore, the construction Year for Cell 4A is presumed to be 2023. The lifespan of Cell 4A is 28.6 years (i.e., until 2052). According to the Conceptual Design Report (2019), Cell 4B, with a surface area of 21 acres, would be constructed approximately two years prior to Cell 4A reaching its capacity. Thus, the construction year for Cell 4B is anticipated to be 2050.

Construction traffic to the site would include:

- Mobilization/demobilization of construction equipment included in the list above.
- Contractor personnel of 15 to 25 for an approximate 1-year construction duration.
- Truck loads for base rock and asphalt for construction access road and new paved road (Approximately 50 truck trips).
- Truck loads for synthetic liner materials. (Approximately 200 truck trips).

4.5.2. Site Preparation

To prepare the disposal site, required construction activities include access road improvements; onsite grading, berm and levee development, soil compaction, installation of two plastic membranes; and other ancillary improvements required for safe operation. A 50-foot buffer would also be established along the outer edge of Cell 4 and a new 1.2-acre leachate collection pond would be constructed along the eastern edge of Cell 4B. During construction, portable office trailers may be placed on the Project site to accommodate the construction personnel. During construction, the following additional structures are currently anticipated:

- New water well
- Trailers for construction crews
- Drilling and excavation heavy equipment
- Portable diesel lighting and portable diesel engines

Water Use Estimates

As previously noted, Cell 4 would be constructed in two phases referred to herein as Cells 4A and 4B. It is anticipated that construction of Cell 4A would be completed and Cell 4A would be operational before closure activities of Cell 3⁽¹⁾ would begin. This EIR assumes that water use for Cell 3 closure activities and day-to-day operational water demand of Cell 4A could overlap for four (4) to six (6) months during the construction of the Cell 3 cap.

The total water demand for the construction of Cell 4A and Cell 4B is projected to range from 75 to 100 acre-feet during the two year construction periods or 38 to 50 AFY, respectively. The total water demand for the closure of Cell 3 is projected to range from 30 to 40-acre feet during the four (4) to six (6) month closure activities.

Construction Laydown Areas

A 16-acre construction laydown, material stockpiling and borrow areas would be located between Cell 2 and Cell 4B.

Access Road

The existing DVM is accessed from State Route 86 by all vehicles entering and leaving the facility. The existing private single lane road between State Route 86 and the DVM would continue to be used by vehicles delivering waste to the facility. Minor extensions/modifications an internal roadway within the monofill would be required in order to access Cell 4.

Construction traffic to the site would include:

- Mobilization/demobilization of construction equipment included in **Table 4-1**.
- Contractor personnel of 15 to 25 for an approximate 1-year construction duration.
- Truck loads for base rock and asphalt for construction on the internal access road and new paved road. (Approximately 50 truck trips per day).
- Truck loads for synthetic liner materials. (Approximately 200 truck trips).

¹ Closure and maintenance activities for Cell 3 are addressed in this EIR as a cumulative project (see Chapter 7.0).

TABLE 4-1: GRADING AND PAVING EQUIPMENT

Quantity	Equipment Name
Grading Equipment	
1-3	Tractor/Scraper
1-2	Paddle Wheel Scraper
1	CST 140H Motor Grader
1	CAT D9 Dozer
1	CAT D6 Dozer
1-2	4,000-GAL Water Truck
1	8,000-GAL Water Pull
1	825C Sheepsfoot Compactor
1	CAT CP 433E Vibratory Sheepsfoot Compactor
1	Deere 210 LE Loader
1	CAT 430D Backhoe Loader
Paving Equipment	
1	CAT AP -1055B Asphalt Paving machine
1-2	SAKAI SW-850 Asphalt Compactor
1	CAT PS-200B Rubber Tire Compactor
1	IR DD-22 Vibratory Drum Compactor

Cell Construction

Development of Cell 4

The design of Cell 4 would be consistent with Cell 3. The liner system would be designed to Class I hazardous waste standards, and other criteria would conform to Class II designated waste standards and the existing facility’s permits. Cell 4 would receive approximately the same amount of waste annually as Cell 3, but CUP modifications are needed to receive waste at the proposed Cell 4 location (which is outside of the area permitted in previous EIRs) and extend the lifespan of waste disposal operations. All other aspects of the proposed Cell 4 waste storage area such as general operations, waste volume, waste type, maintenance, monitoring, recordkeeping, and financial assurances would be consistent with the existing DVM and are described in more detail below.

Seismic Design

The existing DVM operates under a seismic monitoring program approved by the Imperial County Public Works Department (CalEnergy, 2018), with data reported monthly to regulatory agencies. The expansion of the DVM would be designed to meet stringent landfill regulatory requirements for seismic stability identified in Title 27 of the California Code of Regulations. California State Water Resources Control Board (SWRCB) regulations require that a Class II landfill be set back at least 200-foot from any known Holocene fault. Holocene faulting was addressed at the outset of the site-selection process. The initial screening identified faults that had been previously recognized in Imperial County. Two long trenches were excavated to screen for Holocene faults. Trench 1 encountered several faults and many fractures; thus, this area was rejected in favor of the area near Trench 2, which encountered faulting only in the far western end of the trench. Cell 4 was sited in an area more than 200 feet from a Holocene era fault. A geotechnical investigation including borings would be performed to provide soil properties for designing the engineered fills, checking slope stability and identifying clay and other materials within the excavations.

Liner System

The liner system would be constructed to Class I standards. Each cell would be designed and would be constructed per State of California Title 23, Division 3, Chapter 15, Article 4; Construction Standards for Class I Units. The system shown on **Figure 4-2, Proposed Cross Section**, includes a leachate liner and collection layer and a leak detection layer. They would be installed over a bottom geosynthetic clay liner and a 3-4 ft thick layer of compacted material with a permeability less than 1×10^{-7} cm/sec. The leachate collection and leak detection layers would slope to a 4-inch PVC collection pipe that would slope downward from the south to north end of the cell. The PVC collection pipe would run up to the top of the north dike where a pump collection point would be installed to remove leachate if present. A similar leak detection pipe would be installed in the leak detection layer with a pump removal point adjacent to the leachate collection pipe on the north dike for each cell. The leachate or leakage fluid would be pumped to the leachate pond for evaporation.

Leachate Pond

A common 1.2-acre leachate collection pond would be constructed adjacent to Cell 4A to the north and Cell 4B to the west. The pond would also be used intermittently for stormwater removal from the active cell when stormwater build-up prohibits disposal of the geothermal waste material. It would be designed to contain approximately 6.5 feet of depth of leachate/ponded water. The inside slopes of the pond perimeters would have 2:1 slopes, while the internal dike between the northern most pond sections has a 1.5:1 slope. These are typical design parameters for shallow ponds. The water in the ponds is essentially rainwater with some dissolved salts, almost all sodium chloride, and DVM leachate from the primary and secondary leachate sumps.

Rainfall that accumulates during a rain event would evaporate in the active cell or in the leachate collection pond when moved there.

Leachate Monitoring System

The leachate monitoring system would consist of periodic operation of the leachate collection pump to check for the presence of leachate and to quantify the flowrate. The leak detection system would also be checked for leakage below the leachate collection system.

Grading Plan

Perimeter dikes would be constructed to be approximately 20 feet higher than the existing grades at the site. The total height of fill at cell capacity will be approximately 30 feet above existing ground or 10 feet above the top of the dike elevations. Material would be cut from the interior of the cell in order to construct the engineered fills for the dikes, protective cover, and cap material for daily cover.

A final grading plan would be prepared prior to construction that would provide for enough cut within the cell perimeters to construct the fills for the dikes, protective cover over the leachate collection/leak detection layers, and cap material for cell closures. Material may need to be stockpiled within the construction laydown/stockpile/borrow areas for the cap material. Grading of the cells will include:

- Dust control using on-site well water
- Clearing and grubbing
- Cutting/stockpiling of dike fill material
- Over-excavation, moisture conditioning and re-compaction of the cell bottom materials
- Construction of the engineered fills for the dikes

Installation of the bottom liner, geosynthetic liner, leak detection layer, leachate collection layer, protective synthetic cover and soil protective cap.

4.6. Post-Closure Maintenance and Final Closure Activities

Prior to issuance of the revision to Solid Waste Facility Permit No. 13-AA-0002, and in compliance with the requirements of the Title 27 California Code of Regulations, a closure and post closure maintenance plan for the proposed expansion shall be prepared by a registered civil engineer or a certified engineering geologist. The closure and post closure maintenance plan will be reviewed and approved by the local enforcement agency, the Regional Water Quality Control Board and the California Department of Resources Recycling and Recovery (CalRecycle) and will provide the following:

- (1) specific written descriptions of closure and post closure maintenance activities, and
- (2) reasonable estimates of the maximum cost of closure by a third party at the time during its active life when the extent and manner of operation would make the closure most expensive, and to maintain it through the post closure period.

4.6.1. Site Closure

Unless the Applicant determines that a further expansion of the facility is feasible and files the appropriate applications with the County, the Monofill would be closed when Cells 4A and 4B reach their total permitted capacity. An updated closure plan and post closure maintenance plan would be prepared to take into account the revised fill plan, the increased waste disposal capacity, and the extended site life. The closure plan along with the application for a revision to the currently approved SWFP would be submitted to the Imperial County Environmental Health Services Division, acting as the LEA for solid waste disposal facilities. Once the entire landfill reaches final grade, a final cover would be installed in accordance with 27 CCR §21090.

To ensure protection of the surrounding environment during the closure period an inspection and monitoring program would be implemented at the site. Water quality monitoring during the post-closure period would continue in accordance with regulations as formulated by the RWQCB in the WDRs issued to the facility. As required by 27 CCR §21190(c), all proposed on-site post-closure land uses, other than non-irrigated open space, must be submitted to ICPDSD, LEA, RWQCB, the Imperial County Air Pollution Control District and CalRecycle for review.

4.6.2. Final Cover Design

The final cover for Cells 4A and 4B, from the bottom up, would include a geosynthetic clay liner over the monofill material, a 40 mil HDPE Geomembrane Liner, a nonwoven geotextile fabric, a 12-inch thick soil cap soil; and a 12-inch thick soil cover/cap treated with soil binder and polymer sealant (See Detail 2 on **Figure 4-2**). The top surface would be graded to collect drainage at the north end of the cells. All finished slopes and the final cap would be treated with a polymer sealer to prevent erosion. Graded areas used for laydown, stockpiling and borrow would be revegetated with a hydroseed mix including tackifier, fertilizer and a straw cover.

4.7. General Plan Amendment and Change of Zone

The existing DVCM is located within the northeast quarter of Section 33, Township 12 South, Range 11 East, SBBM (APN 019-100-004), and the northernmost 20 acres of the southeast quadrant of Section 33. Collectively, this area has a land use designation of “Special Purpose Facility” and is zoned M-2 (Medium Industrial). The remainder of Section 33 (approximately 458.5 acres) is designated as “Recreational/ Open Space” and is zoned S-2 (Open Space/Preservation).

The Project will require an amendment to Imperial County’s General Plan Land Use Element to change the land use designation on the remainder of Section 33 from “Recreational/ Open Space” to “Special Purpose Facility” (**Figure 4-3**). The Project will also require a Zone Change to change the zoning from S-2 (Open Space/Preservation) to M-2 (Medium Industrial) (**Figure 4-4**).

4.8. Project Approvals

A number of discretionary approvals would be required as part of the proposed project’s approval and implementation. These include:

TABLE 4-2: CONSULTATION AND PERMITTING REQUIREMENTS

Jurisdiction Level	Type of Permit/Approval	Agency Name/Type	Purpose
State	Section 401 of the Federal CWA, National Pollutant Discharge Elimination System (NPDES) General Permit for Discharge of Construction Related Stormwater (CAS000001)	California Regional Water Quality Control Board, Colorado River Basin, Region 7 (RWQCB) <i>Responsible Agency</i>	Management of stormwater during construction, Notice of Intent (NOI) required under Section 401.
State	Updated Waste Discharge Requirements	California Regional Water Quality Control Board, Colorado River Basin, Region 7 (RWQCB) <i>Responsible Agency</i>	For discharge of non-hazardous geothermal wastes to land.
State	California Streets and Highways Code 660 to 711.21, California Code of Regulations (CCR) 1411.1 to 1411.6	California Department of Transportation (Caltrans) <i>Responsible Agency</i>	Permits are required for oversized and/or overweight truckloads that exceed legal load limits as defined by the California Vehicle Code.
State	1602 Lake and Streambed Alteration Agreement	California Department of Fish and Wildlife <i>Responsible/Trustee Agency</i>	Required for any activity that diverts or obstructs the natural flow of any river, stream, or lake; change the bed, channel, or bank of any river, stream, or lake; use material from any river, stream, or lake; or deposit or dispose of material into any river, stream, or lake.

TABLE 4-2: CONSULTATION AND PERMITTING REQUIREMENTS

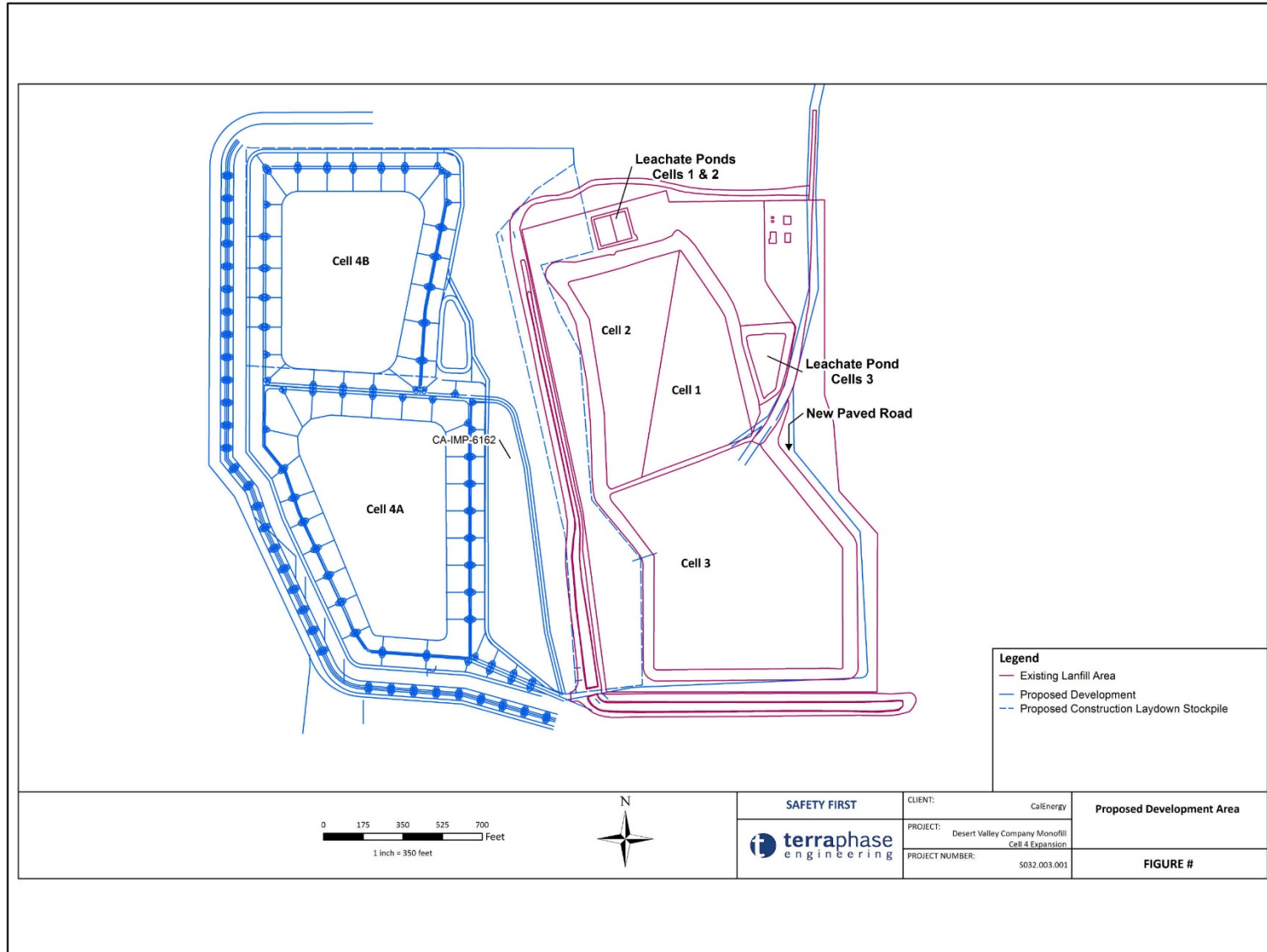
Jurisdiction Level	Type of Permit/Approval	Agency Name/Type	Purpose
State	Radioactive Material License	California Dept. of Public Health	To authorize the use of Americium-241 for use at the monofill as components of gauges for determination of moisture/density in engineering materials.
Local	Amendment to Conditional Use Permit No. 05-0020	Imperial County Planning and Development Services Department (ICPDSD) <i>Lead Agency</i>	To add a fourth cell to the existing monofill facilities and to facilitate the development, operation, closure and post-closure of a Class II non-hazardous solid waste landfill for geothermal, non-hazardous waste streams.
Local	Water Well Conditional Use Permit #21-0002	Imperial County Planning and Development Services Department (ICPDSD) <i>Lead Agency</i>	New well for water use during construction and operation of Cell 4 and for the capping and closure of existing Cell 3.
Local	General Plan Amendment	Imperial County Board of Supervisors <i>Lead Agency</i>	Change the land use designation on 458.5 acres within APN 019-100-004 from "Recreational/ Open Space" to "Special Purpose Facility".
	Zone Change	Imperial County Board of Supervisors <i>Lead Agency</i>	Change the zone classification on 458.5 acres within APN 019-100-004 from S-2 (Open Space/ Preservation) to M-2 (Medium Industrial)
Local	Revision to Solid Waste Facility Permit No. 13-AA-0002	Imperial County Public Health Department, Division of Environmental Health and CalRecycle <i>Responsible Agency</i>	Required for solid waste handling, processing and disposal activities
Local	Authority to Construct, Permit to Operate	Imperial County Air Pollution Control District (ICAPCD) <i>Responsible Agency</i>	Consultation and permitting for air pollution, including fugitive dust, and GHG emissions.

TABLE 4-2: CONSULTATION AND PERMITTING REQUIREMENTS

Jurisdiction Level	Type of Permit/Approval	Agency Name/Type	Purpose
			<p>Authority to Construct - required prior to constructing, erecting, installing, modifying, or replacing any article, machine, equipment or contrivance, the use of which may emit or control air contaminants.</p> <p>Permit to Operate – required prior to operation of any article, machine, equipment, or other contrivance that emits or controls air contaminants.</p>
Local	Section 401 of the CWA, NPDES General Permit for Discharge of Construction Related Stormwater	RWQCB, Region 7 <i>Responsible Agency</i>	<p>Monitor development and implementation of Stormwater Pollution Prevention Plans (SWPPPs) and other aspects of the NPDES permit 401 certification program.</p> <p>SWPPPs are required for stormwater discharges associated with construction activities disturbing > 1 acre of land.</p>
Local	Grading Permit	County Department of Public Works (DPW) <i>Responsible Agency</i>	Excavation or earthwork that involves over 2 feet in depth and/or fills over 1 foot in depth.

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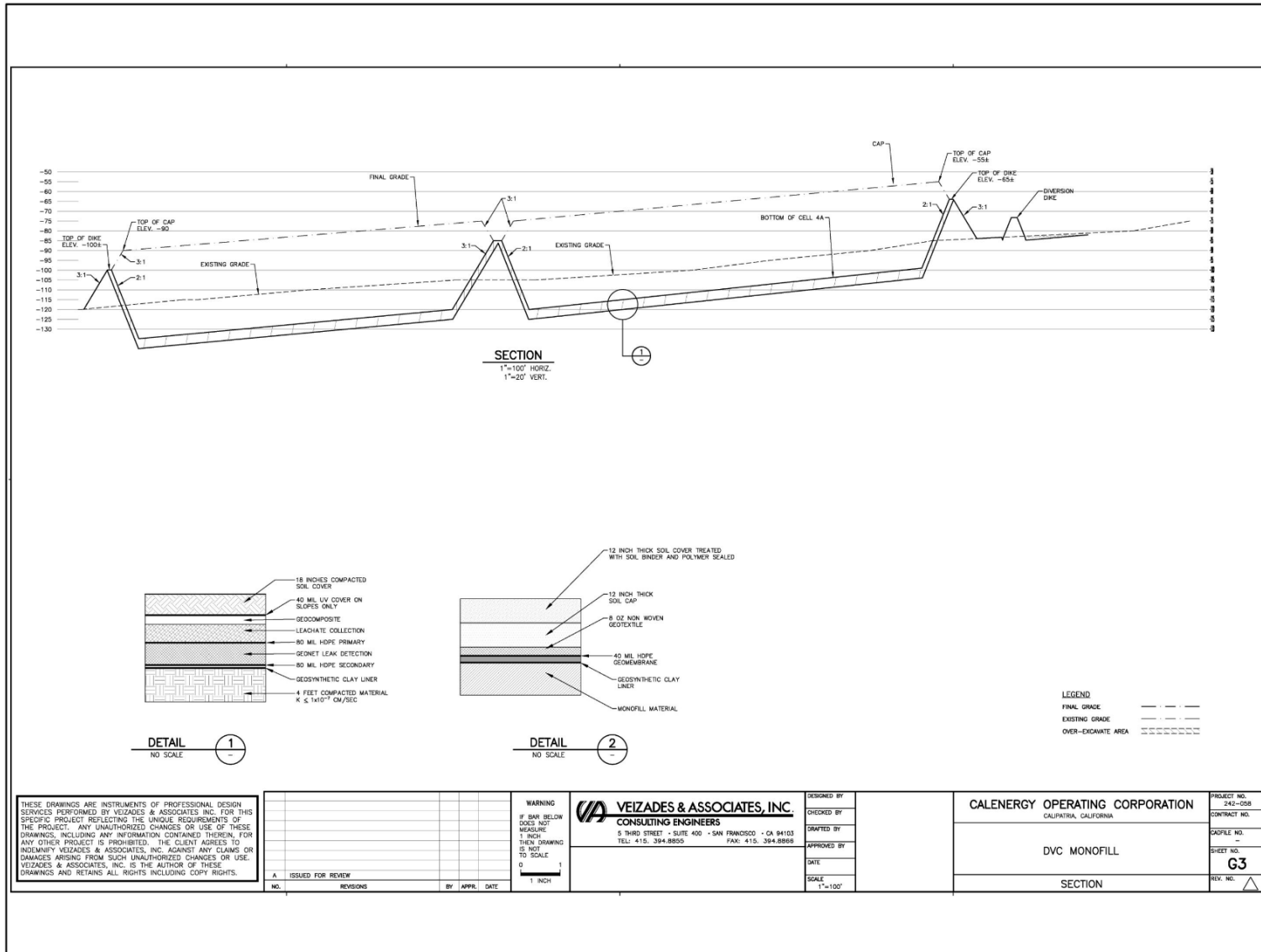
SOURCE: Terraphase, 2020.



Proposed Site Plan
Desert Valley Company Monofill Expansion Project, Cell 4
Figure 4-1

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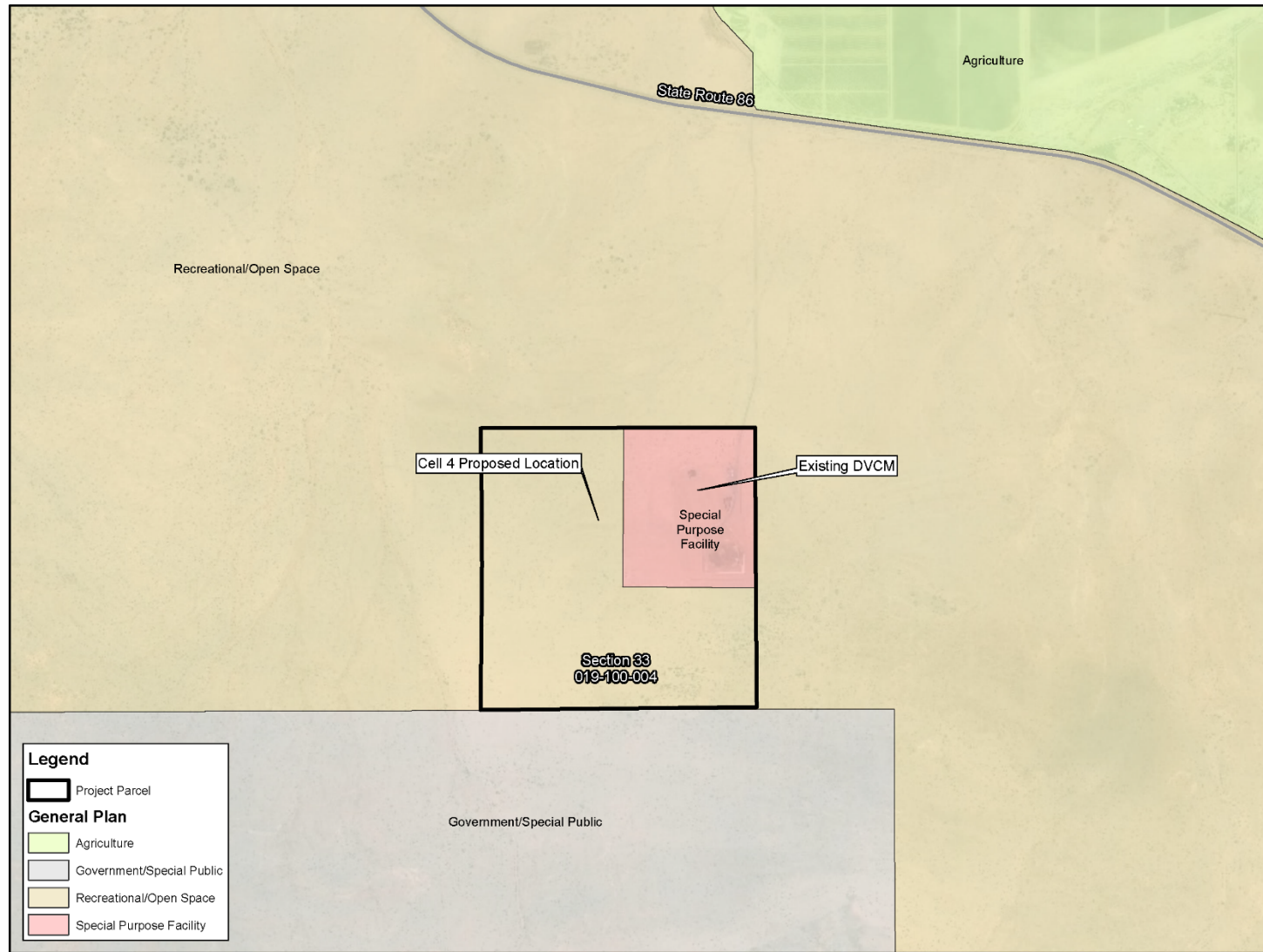
SOURCE: Terraphase, 2020.



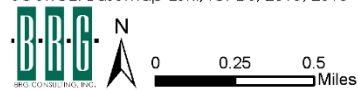
Proposed Cross Section
Desert Valley Company Monofill Expansion Project, Cell 4
Figure 4-2

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SOURCE: Basemap-ESRI; ICPDS, 2015, 2018

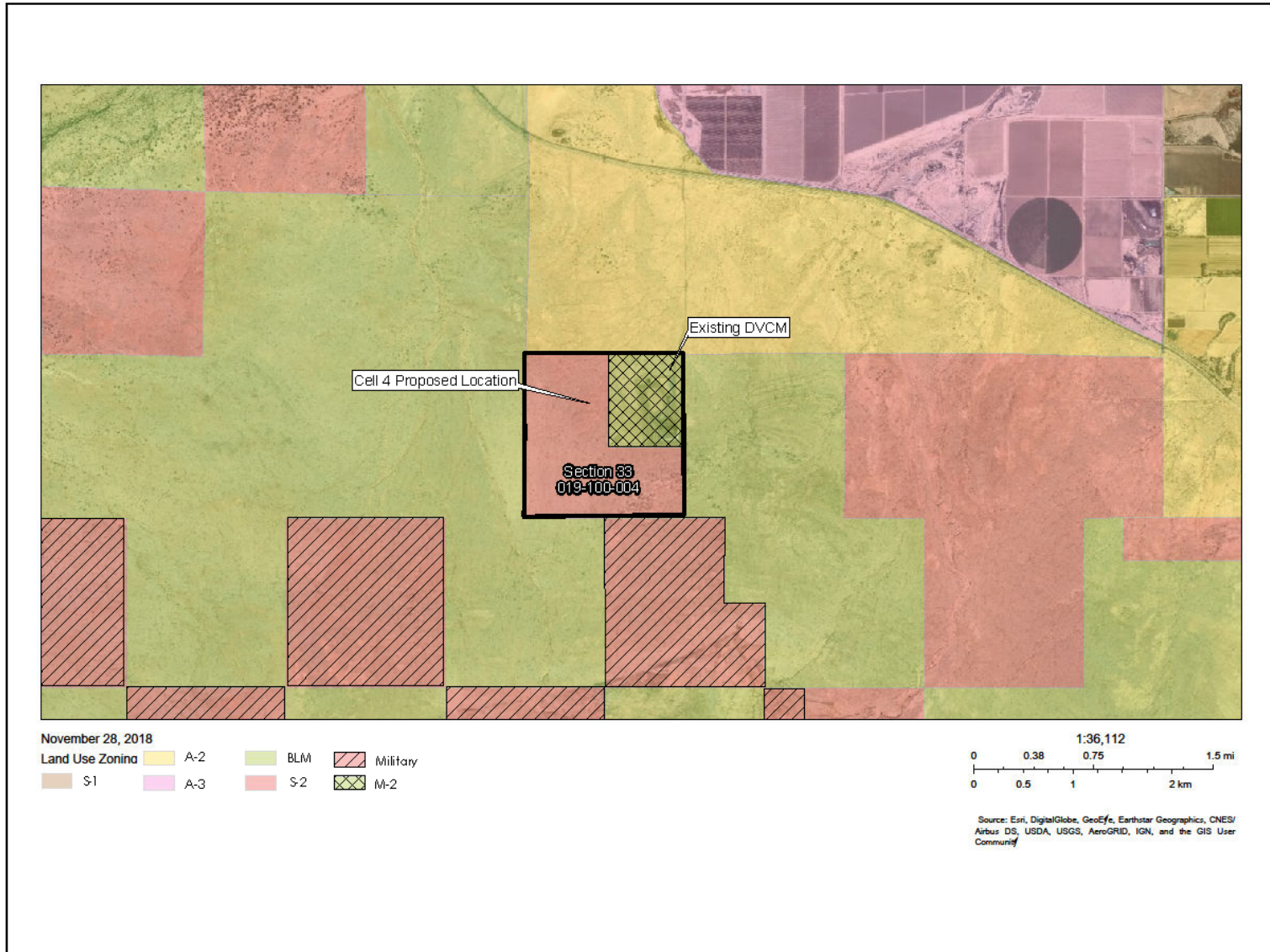


General Plan Amendment
Desert Valley Company Monofill Expansion Project, Cell 4

Figure 4-3

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SOURCE: Imperial County Planning & Development Services, Land Use Zoning, 2018



Proposed Zone Change
Desert Valley Company Monofill Expansion Project, Cell 4
Figure 4-4

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