Appendix L-1
Water Supply Assessment

Water Supply Assessment

Lithium Valley Specific Plan

NOVEMBER 2025

Prepared for:

IMPERIAL COUNTY PLANNING AND DEVELOPMENTAL SERVICES
801 Main Street
El Centro, California 92243

Prepared by:

DUDEK

687 S. Coast Highway 101, Suite 110
Encinitas, California 92024

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ATTACHMENTS

A IID Interim Water Supply Policy for Non-Agricultural Projects
B IID 2023 Equitable Distribution Plan, revised July 26, 2023
C Water Demand Memorandum, Rick Engineering, revised November 27, 2024
D IID Resolution No. 15-2024

Acronyms and Abbreviations

Acronym/Abbreviation	Definition [Table Heading (RGB: 15, 43,77)]
AF	Acre-Foot or Acre-Feet
AFY	Acre-Feet per Year
CEQA	California Environmental Quality Act
CRWDA	Colorado River Water Delivery Agreement
CUP	Conditional Use Permit
CVWD	Coachella Valley Water District
EDP	IID Equitable Distribution Plan
ICPDS	Imperial County Planning and Development Services
ICS	Intentionally Created Surplus
IID	Imperial Irrigation District
IOPP	Inadvertent Overrun Payback Policy
IRWMP	Integrated Regional Water Management Plan
IWSP	Interim Water Supply Policy
KAF	Thousand Acre Feet
LAFCO	Local Agency Formation Commission
LVSP	Lithium Valley Specific Plan
LCR	Lower Colorado Region
MW	Megawatt
MWD	Metropolitan Water District of Southern California
PVID	Palo Verde Irrigation District
QSA/	Quantification Settlement Agreement and Related Agreements
	Transfer Agreements
SB	Senate Bill
SDCWA	San Diego County Water Authority
TLCFP	Temporary Land Conversion Fallowing Policy
USBR	United States Bureau of Reclamation
USEPA	United States Environmental Protection Agency
WSA	Water Supply Assessment

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1 Purpose of Water Supply Assessment

This Water Supply Assessment (WSA) was prepared for the County of Imperial (Lead Agency) by Dudek, regarding the Lithium Valley Specific Plan (LVSP) proposed by the County. This study was prepared to comply with the WSA content requirements of Senate Bill 610 (referred to as SB 610). SB 610 is an act that amended Section 21151.9 of the Public Resources Code, and Sections 10631, 10656, 10910, 10911, 10912, and 10915 of the California Water Code (CWC). SB 221 is an act that amended Section 11010 of the Business and Professions Code, while amending Section 65867.5 and adding Sections 66455.3 and 66473.7 to the Government Code. SB 610 was approved by the Governor and filed with the Secretary of State on October 9, 2001, and became effective January 1, 2002.[1] SB 610 provides for preparation of WSAs for projects identified under CWC Section 10912 that are subject to preparation of an Environmental Impact Report (EIR) under the California Environmental Quality Act (CEQA).

This study has been prepared pursuant to the requirements of CWC Section 10910, as amended by SB 610 (Costa, Chapter 643, Stats. 2001). The purpose of SB 610 is to advance water supply planning efforts in the State of California; therefore, SB 610 requires the Lead Agency, to identify any public water system or water purveyor that may supply water for the project and to prepare the WSA after a consultation. Once the water supply system is identified and water usage is established for construction and operations for the life of the project, the lead agency is then able to coordinate with the local water supplier and make informed land use decisions to help provide California's cities, farms and rural communities with adequate water supplies.

Under SB 610, water supply assessments must be furnished to local governments for inclusion in any environmental documentation for certain projects (as defined in CWC Section 10912 [a]) that are subject to the CEQA. Due to increased water demands statewide, this water bill seeks to improve the link between information on water availability and certain land use decisions made by cities and counties. This bill takes a significant step toward managing the demand placed on California's water supply. It provides further regulations and incentives to preserve and protect future water needs. Ultimately, this bill will coordinate local water supply and land use decisions to help provide California's cities, farms, rural communities and industrial developments with adequate long-term water supplies. The WSA will allow the lead agency to determine whether water supplies will be sufficient to satisfy the demands of the project, in addition to existing and planned future uses.

1.1 Water Supply Assessment Triggers

With the introduction of SB 610, any project under CEQA shall provide a WSA if the project meets the definition of CWC Section 10912. It is not clear whether a Specific Plan, in the absence of any specific project approvals, triggers preparation of a WSA under CWC Section 10912. One Superior Court decision ruled that a WSA was not required for a General Plan Update. (*Citizens for Responsible Equitable Environmental Development v. City of Chino* (County of San Bernardino Superior Court Case No. CIVRS1008458) 8-11-2011 Tentative Ruling ["The court denies the writ as to the contention that the City failed to have a Water Supply Assessment (WSA) done for the project under Water Code Section 10910 and included in the EIR since a proposed general plan is not the type of actual development project identified in Water Code 10912 triggering the WSA requirement."] A Specific Plan is prepared, adopted, and amended in the same manner as a General Plan. (Gov. Code § 65453(a).) Nevertheless, the County has prepared

[1] SB 610 amended Section 21151.9 of the California Public Resources Code, and amended Sections 10631, 10656, 10910, 10911, 10912, and 10915, repealed Section 10913, and added and amended Section 10657 of the Water Code. SB 610 was approved by California Governor Gray Davis and filed with the Secretary of State on October 9, 2001.

this WSA given this uncertainty. Given the unique and programmatic nature of the LVSP and its WSA, it differs from previous WSA's prepared in consultation with IID.

CWC Section 10910(b) states the County "shall identify any water system whose area includes the project site…as defined by Section 10912, that may supply water for the project. If the city or county is not able to identify any public water system that may supply water for the project, the city or county shall prepare the water assessment…" Section 10912(c) defines a "public water system" as "a system for the provision of piped water to the public for human consumption that has 3,000 or more service connections." In the LVSP plan area (Plan Area) the duty to prepare a WSA falls to the County of Imperial because Imperial Irrigation District (IID) is not a public water system within the meaning of the CWC 10912(c). Nevertheless, the County consulted with IID, LAFCO, and Golden State Water Company during the preparation of this WSA. Other entities have also been consulted as part of the LVSP and CEQA review processes.

CWC Section 10911(c) requires that the County "determine, based on the entire record, whether projected water supplies will be sufficient to satisfy the demands of the project, in addition to existing and planned future uses." Specifically, CWC Section 10910(c)(3) also states that "If the projected water demand associated with the proposed project was not accounted for in the most recently adopted urban water management plan, or the public water system has no urban water management plan, the water supply assessment for the project shall include a discussion with regard to whether the total projected water supplies, determined to be available by the city or county for the project during normal, single dry, and multiple dry water years during a 20 year projection, will meet the projected water demand associated with the proposed project, in addition to the public water system's existing and planned future uses, including agricultural and manufacturing uses."

2 Project Description

The County of Imperial is proposing to adopt the LVSP which would facilitate future development through changes to the existing land use and zoning regulations within the designated 51,622-acre LVSP Area (Plan Area) to support the economic transition to renewable energy and low-impact mineral recovery industries, while promoting sustainable development and healthy communities over the 30-year buildout. Full buildout would include solar facilities, green industrial, manufacturing, logistics, playas renewables and restoration, lithium extraction, geothermal energy, and associated infrastructure**.** More specifically, the project is located at the northern portion of Imperial County covering approximately 51,622 acres that borders the southern end of Salton Sea. Please refer to **Figure 1** for the Project's Regional Location (**Figure 1.** Project Site Regional Location), **Figure 2** for the Project Site and Vicinity **(Figure 2** Aerial View of Project Site and Vicinity), and **Figure 3** for the proposed Land Use Plan. The LVSP currently does not include specific development plans however the proposed Land Use Map is shown in Figure 3.

The LVSP would change existing land use designations to facilitate a mix of different developments. Green Industrial use is the focal use designation allowing development/uses such as geothermal facilities, lithium extraction facilities (and/or combined geothermal and lithium extraction facilities), as well as other energy decarbonization facilities such as green hydrogen manufacturing facilities that refine and/or manufacture products of lithium. One of the unique development types of the LVSP is the combined Geothermal and Lithium extraction facilities. Figure 3 summarizes the geothermal power generation and lithium extraction processes. Up to 17 such facilities are analyzed for the proposed buildout of the LVSP herein, generating 2,550 MW and extraction of approximately 450,800 metric tons of lithium per year.

Based on the proposed development square footage in the Plan Area, water demand is anticipated to be approximately 48,023 AFY at the end of Phase 1, with an additional 15,220 AFY at the end of Phase 2 and a further 14,533 AFY in Phase 3, for a 20-year total amount of 63,243 AFY and a total expected water demand of 77,776 AFY at full buildout after 30 years.[2] In addition, as described below, biological mitigation may add additional water demands which at full buildout after 30 years is roughly estimated to be an additional 19,720 AFY[3] for a total of 97,496 AFY after 30 years, or on a proportional basis (Phase 1 and 2 together represent 81.3% of the total buildout water demand) 16,032 AFY for a total of 79,275 AFY after 20 years.

The proposed future project owner(s) will need to contract with water suppliers to deliver up to the desired AFY of water up to a total of the amounts mentioned above, via a delivery gate/canal or through the water storage facilities constructed as part of the LVSP. The proposed project is anticipated to use approximately 63,243 AFY of water at the end of 20-years (79,275 AFY with biological mitigation), which is approximately 57.6% less than what the amount currently delivered to the Plan Area (46.8% less than currently delivered with biological mitigation). At full buildout, the demand would be 47.8% less than the current delivery (34.6% less with biological mitigation).

[2] These water demand estimates represent the total demands at the end of each phase and gradually increase as projects are constructed throughout the 30-year period of the plan.

[3] The estimated 19,720 AFY of mitigation water is based on replacing an estimated 40,000 AFY that currently occurs as return flows from the application of 126,000 AFY for agriculture on a pro-rated basis of the percentage of lineal feet of drains with pupfish habitat of 49.5 %. 40,000 AFY x 0.495 = 19,720.

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3 Project Water Demands

Potable water services for the project would be provided through on-site water treatment systems (utilizing non-potable water from IID), water treated by Golden State Water Company, or through a Special District created pursuant to the terms of the LVSP. Development would occur in phases over a 30-year buildout period that spans three phases and include various different land uses including community opportunity areas (e.g. commercial hubs, recreational uses, healthcare services, and childcare services to support nearby residential areas), manufacturing, logistics, renewables, green industrial, and restoration/conservation. Untreated Colorado River water will be supplied to the project via the existing canals and laterals to the 12 different water storage facilities proposed as part of the LVSP under a water agreement with IID. Currently, the Plan Area receives water from IID for existing agricultural uses, low density second home/retirement dwellings, recreational services, and tourist serving business districts which totals approximately 149,000 AFY for the Plan Area.

Projected water use by Land Use and Phase taken from a Water Demand Memorandum prepared by Rick Engineering is summarized in **Table 1 (Attachment C)**. Note that each Phase is estimated to be approximately 10 years. Specific water demand assumptions for various land uses were used as follows:

- Green Industrial/Playa Renewables = 2,800 AFY/facility
- Community Opportunity Area = 0.19 AFY/employee
- Logistics = 0.11 AFY/1,000 square feet
- Conservation = 0.5 AFY
- Playas Restoration = 4.3 AFY/acre for restoration projects
- Solar = 0.033 AFY/acre
- Infrastructure = roads and industry transportation hub
- Temporary workforce housing = 0.12 AFY/dwelling unit
- Permanent Housing = 275 gallons per day or 1.16 AFY/dwelling unit
- All other uses, municipal uses average = 0.23 AFY/employee

Existing geothermal and recently proposed lithium extraction facilities within Imperial County reported water consumption projections were reviewed as well as case studies from across the U.S. for projects consistent with the uses proposed were reviewed and averages used to develop the assumptions above in the Water Demand Memorandum.

Table 1. Project Operational Water Uses (AFY)

Land Use Designation	Applied To	Water Demand Metric	Phase 1 Water Demand (AFY)	Phase 2 Water Demand (AFY)	Phase 3 Water Demand (AFY)	Source
Solar	Total Acreage	0.03 AFY/acre	58	—	See Phase 3 Logistics and Manufacturing	Average of case studies
River Corridor	Total Acreage	0 AFY/acre	—	—	—	IID 2012

Table 1. Project Operational Water Uses (AFY)

Land Use Designation	Applied To	Water Demand Metric	Phase 1 Water Demand (AFY)	Phase 2 Water Demand (AFY)	Phase 3 Water Demand (AFY)	Source
Conservation	Total Acreage	0.5 AFY/acre	—	—	—	IID 2012
Community Opportunity Area	# of Employees	0.19 AFY/ employee	121	525	—	SCAG Modeling Data and IID 2012
Playas Renewables	# of Facilities	2,800 AFY/ facility, plus 20% water recycling	4,759	8,937	—	Average of case studies and SCAG Modeling Data
Green Industrial	# of Facilities	2,800 AFY/ facility, plus 20% water recycling (LVSP Policy I-3)	37,133	4,420	9,117	Average of case studies and SCAG Modeling Data
Manufacturing	Adjusted Building SF	0.45 AFY/ 1,000 SF	1,361	680	1,291	Average of case studies and SCAG Modeling Data
Logistics	Adjusted Building SF	0.11 AFY/ 1,000 SF	520	658	91	Average of case studies and SCAG Modeling Data
Playas Restoration	Total Acreage	4.0 AFY/acre	—	—	4034	IID 2012
Interim Agricultural Overlay	—	—	Existing agriculture usage		See Phase 3 Green Industrial and Manufacturing	—
Total	—	—	**48,023**	**15,220**	—	**—**

* Category required. Insert "0" if not applicable for the proposed project.

As of the date of this WSA, IID delivers untreated Colorado River water to the proposed project site for agricultural uses through a large number of gates and laterals. Considering the size of the project site and number of delivery points, the 10-year record for deliveries is estimated to be consistent with the figure of 149,000 AFY that was produced from the Water Demand Memorandum (attached as Attachment C) that was prepared for the LVSP in consultation with IID.

The Draft EIR for the LVSP includes biological mitigation measures to protect water resource habitat/species (i.e., pupfish) within the existing drains that may be adversely affected by reductions in return flows due to changes in

land uses (i.e. from agricultural to non-agricultural). Implementation of these mitigation measures could result in water supply demands to replace any loss of drain flows from land use changes. Of the 30 drains that are located within the LVSP area, 14 of them have records indicating presence of pupfish. Of the 149,000 AFY that is delivered to the plan area, 126,000 AFY makes up deliveries for agricultural use. Of that 126,000 AFY, it is estimated that 40,000 AFY ends up as return flows to the drains based on an average estimated water efficiency rate of 68.3% (CEC 2006). In order to estimate the amount of return flows within the pupfish drains that could be replaced by the proposed land use changes, it was estimated the lineal length of drains within the plan area totals 589,429 feet of which the drains with pupfish make up 290,542 or 49.3%. As a result, if it was conservatively assumed that all of this return flow would be necessary for biological mitigation, then approximately 19,720 AFY could be needed as an additional water demand. However, this is a conservative assumption, as any water used for biological mitigation would be specifically tailored to serve biological purposes and may ultimately be return water from uses creating demand rather than additional demand or contracted water. Whereas under existing conditions agricultural runoff return flows provide existing incidental benefits for biological resources.

The proposed project's land uses have an estimated total operational water demand at full buildout in 30 years of 77,776 AFY and 63,243 AFY by the end of Phase 2 after 20 years. Including the potential biological mitigation demand would make the totals 97,496 AFY after 30 years and 79,275 AFY after 20 years. Thus, the proposed project demand is a decrease of 71,224 from full buildout (51,504 if including biological mitigation), and 85,757 AFY reduction after 20 years (69,725 AFY with biological mitigation). The proposed project's estimated operational water demand at the end of 20 years represents 340% of the 18,620 AFY balance of water supply (426% with biological mitigation) that may be available for contracting under the IWSP. The proposed project's estimated operational water demand at the end of 30 years represents 418 % of the 18,620 AFY balance of water supply (524% with biological mitigation). Therefore, consistent with CWC 10910(d)(2)(D), additional modifications to the IWSP would be requested of IID to implement the project. However, IID's Resolution No. 15-2024 supports new non-agricultural projects including the LVSP (Attachment D).

The project proposes a comprehensive Water Master Plan (WMP). The WMP would identify additional infrastructure details to meet long-term water demands, expanded water conservation measures, enforcement of water recycling requirements for industrial users, and exploration of alternative water sources such as recycled brine or groundwater. LVSP policies would also enforce water recycling requirements for individual users and require all mineral recovery operations initially to recycle 20% of their water within the mineral recovery process itself, with the exception of reinjected brine water with a 10% increase every five years until it reaches an 80% water recycling requirement in 2055 (LVSP Policy I-3). Water supply projects and policies would also address non-agricultural beneficial use, developed in consultation with IID to ensure sustainable water management. For example, the Green Industrial and Playa Renewable land uses would include a 20% water recycling assumption to reflect sustainable water use practices. In addition, the LVSP includes a Water Phasing Policy (LVSP Policy I-1) where water consumption in the Plan Area will be monitored by tracking agricultural land taken out of production against new water demand from buildout of the LVSP. If a project applicant is relying upon reduced agricultural demand to offset the project's water demand, the applicant would be required to demonstrate that net water demand in the Plan Area has been reduced, or that alternative water supplies have been provided.

The LVSP includes proposed infrastructure for water storage and conveyance as provided in **Figure 4** below. Water would be provided via onsite or regional water storage facilities. To meet the water demand and storage requirements for Phase 1, twelve water storage facilities containing raw water are recommended throughout the Plan Area. Water conveyance facilities would integrate throughout the Plan Area and include a backbone pipeline system and storage facilities. The quantity, capacity, and locations of water storage facilities were based on high-

level water demand estimates and are intended as conceptual locations to show how demands may be met. Actual water storage facility designs will be further refined as individual projects are submitted and create a more precise demand. Construction and maintenance of infrastructure would be achieved through the creation of a Special District for the LVSP with implementation of the LVSP and associated Zoning Ordinance amendments.

Figure 1. Project Site Regional Location

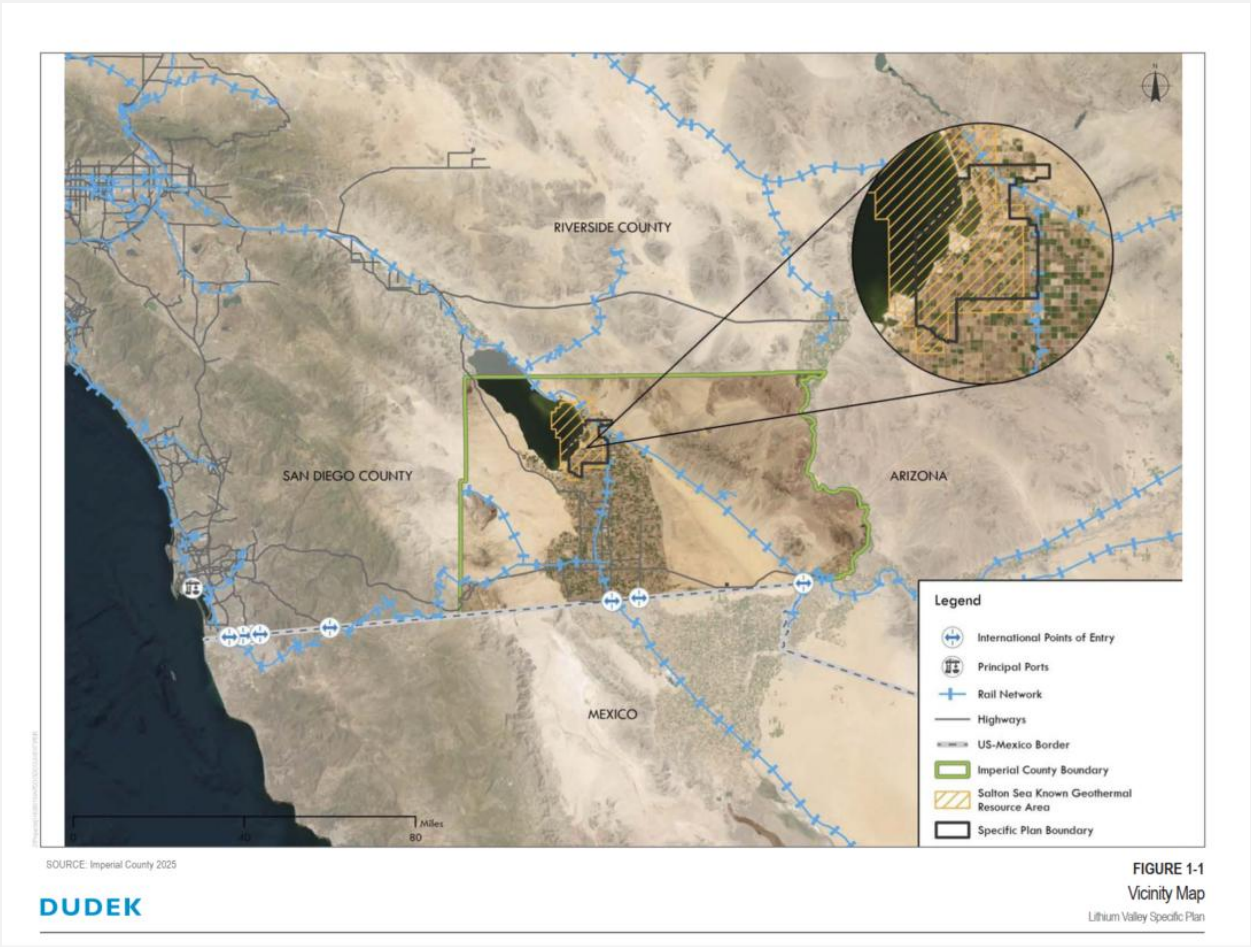

Figure 2. Aerial Map of Project Vicinity

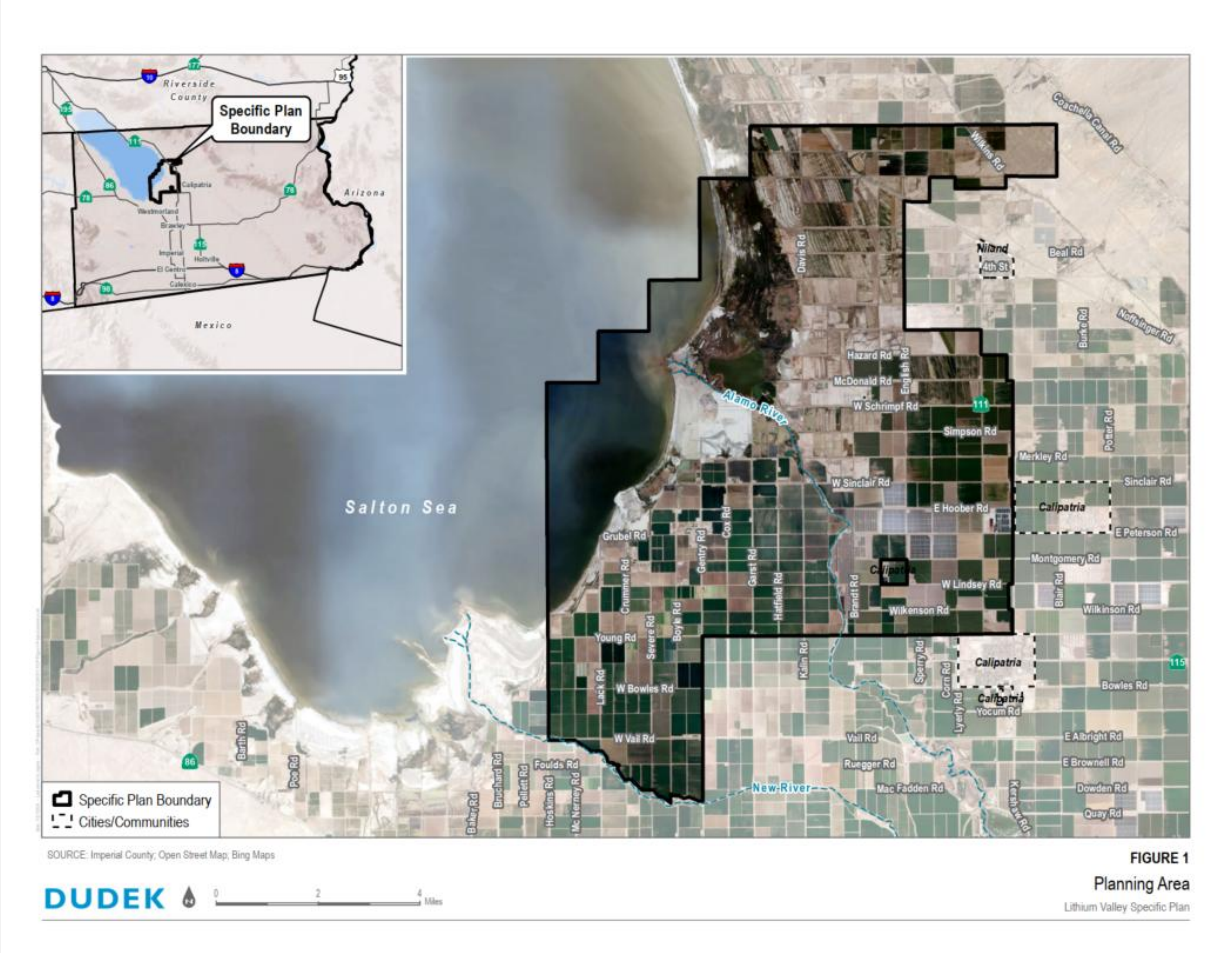

Figure 3. Project Layout/Site Plan

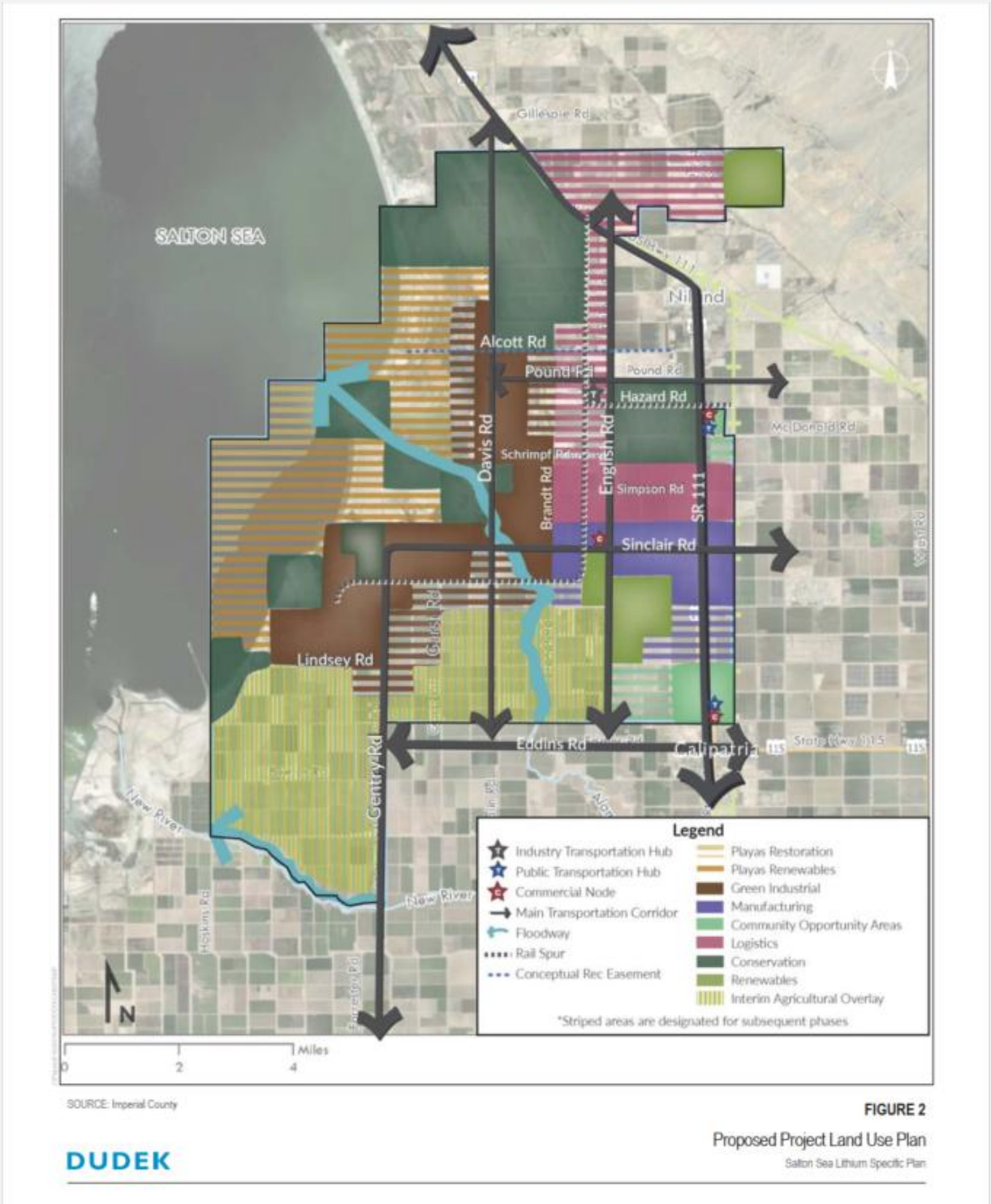

Figure 4. Proposed Water Storage Facilities

3.1 Description of IID and Golden State Service Areas

The proposed project site is located in Imperial County in the southeastern corner of California. The County is comprised of approximately 4,597 square miles or 2,942,080 acres.[4] Imperial County is bordered by San Diego County to the west, Riverside County to the north, the Colorado River/Arizona boundary to the east, and 84 miles of International Boundary with the Republic of Mexico to the south. Approximately fifty percent of Imperial County is undeveloped land under federal ownership and jurisdiction. The Salton Sea accounts for approximately 11 percent of Imperial County's surface area. In 2024, sixteen percent (16%) of the area was in irrigated agriculture (468,530

4 *Imperial County General Plan*, Land Use Element 2008 Update

acres), including 14,676 acres of the Yuma Project, some 35 sections or 5,568 acres served by Palo Verde Irrigation District (PVID), and 448,286 net acres served by IID.[5, 6]

The area primarily served with wholesale water by IID located in the Imperial Valley, which is generally contiguous with IID's Imperial Unit, lies south of the Salton Sea, north of the U.S./Mexico International Border, and generally in the 699,132-acre area between IID's Westside Main and East Highline Canals. In 2024, IID delivered untreated water to 497,241 acres, predominantly in the Imperial Valley, along with small areas of East and West Mesa land, including non-agricultural use, but excluding temporarily fallowed land.

Golden State Water provides potable water to over 1,200 customers in the Calipatria Service Area (CSA) adjacent to the LVSP, which includes Calipatria, Niland, and some areas of unincorporated Imperial County. The service area includes one water treatment plant with two 4.5-million-gallon raw water basins, 40 miles of water mains, and 4 storage tanks with a capacity of 4.2 million gallons.

3.2 Climate Factors

Imperial Valley, located in the Northern Sonoran Desert, which has a subtropical desert climate is characterized by hot, dry summers and mild winters. Clear and sunny conditions typically prevail, and frost is rare. The region receives 85 to 90 percent of possible sunshine each year, the highest in the United States. Winter temperatures are mild rarely dropping below 32°F, but summer temperatures are very hot, with more than 100 days over 100°F each year. The remainder of the year has a relatively mild climate with temperatures averaging in the mid-70s.

The 100-year average climate characteristics are provided in **Table 2.** Climate Characteristics, Imperial, CA 100-Year Record, 1925-202. Rainfall contributes around 50,000 AF of effective agricultural water per inch of rain. Most rainfall occurs from November through March; however, summer storms can be significant in some years. Annual areawide rainfall is shown in **Table 3.** IID Areawide Annual Precipitation (In). (1990-2024) and **Table 4** provides monthly mean temperatures. The thirty-year, 1995-2024, average annual air temperature was 74.13°F, and average annual rainfall was 2.40 inches, see **Table 5**. This record shows that while average annual rainfall has fluctuated, the 10-year average temperatures have slightly increased over the 30-year averages.

Table 2. Climate Characteristics, Imperial, CA 100- Year Record, 1925-2024

Climate Characteristic	Annual Value
Average Precipitation (100-year record, 1925-2024)	2.75 inches (In)
Minimum Temperature, Jan 1937	16 °F
Maximum Temperature, July 1995	121 °F
Average Minimum Temperature, 1925-2024	48.5 °F
Average Maximum Temperature, 1925-2024	98.4 °F
Average Temperature, 1925-2024	73.2 °F

Source: IID Imperial Weather Station Record, IID 2025.

5 *USBR website: Yuma Project. PVID contacted AJ Slagan for acreage February 13, 2024.*
6 *IID Annual Inventory of Areas Receiving Water Years 2023, 2022, 2021*

Table 3. IID Areawide Annual Precipitation (In). (1990-2024)

1990	1991	1992	1993	1994	1995	1996
1.646	3.347	4.939	2.784	1.775	1.251	0.685
1997	**1998**	**1999**	**2000**	**2001**	**2002**	**2003**
1.328	2.604	1.399	0.612	0.516	0.266	2.402
2004	**2005**	**2006**	**2007**	**2008**	**2009**	**2010**
4.116	4.140	0.410	1.331	1.301	0.619	3.907
2011	**2012**	**2013**	**2014**	**2015**	**2016**	**2017**
2.261	2.752	2.772	1.103	2.000	1.867	2.183
2018	**2019**	**2020**	**2021**	**2022**	**2023**	**2024**
1.305	3.017	2.685	1.688	1.265	1.40	1.815

Source: IID 2025. Computation based on polygon average of CIMIS as station came online in the WISKI.[7]
Notable from Table 3 (above) and Table 4(below) is that while average annual rainfall measured at IID Headquarters in Imperial, California, has been decreasing, monthly average temperatures are remarkably consistent.

Table 4. Monthly Mean Temperature (°F)- Imperial, CA 10- Year, 30- Year & 100- Year (2015-2024,1995-2024,1925-2024)

	Jan			Feb			Mar			Apr		
	Max	Min	Avg	Max	Min	Avg	Max	Min	Avg	Max	Min	Avg
10-year	81	34	**58**	85	36	**51**	92	42	**67**	101	49	**74**
30-year	81	34	**57**	84	36	**60**	93	41	**66**	100	47	**72**
100-year	80	32	**56**	84	35	**59**	91	40	**65**	99	46	**71**
	May			Jun			Jul			Aug		
	Max	Min	Avg	Max	Min	Avg	Max	Min	Avg	Max	Min	Avg
10-year	104	54	**77**	115	62	**89**	116	72	**95**	115	73	**94**
30-year	106	54	**78**	113	60	**87**	115	69	**93**	114	70	**93**
100-year	105	53	**78**	113	59	**86**	114	68	**92**	113	68	**91**
	Sep			Oct			Nov			Dec		
	Max	Min	Avg	Max	Min	Avg	Max	Min	Avg	Max	Min	Avg
10-year	112	65	**88**	103	53	**78**	90	40	**65**	82	36	**58**
30-year	111	63	**88**	102	51	**76**	90	39	**64**	81	33	**56**
100-year	111	61	**86**	102	49	**75**	89	38	**63**	80	32	**56**

Source: IID 2025. IID Imperial Headquarters Station Record (Data provided by IID staff)

Table 5. Monthly Mean Rainfall (In) – Imperial, CA 10-Year, 30-Year & 100-Year (2015-2024, 1995-2024, 1925-2024)

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
10-year	0.58	0.17	0.27	0.11	0.08	0.01	0.07	0.16	0.34	0.12	0.17	0.32	2.38

[7] IID 2025. From 1/1/1990-3/23/2004, 3 CIMIS stations: Seeley, Calipatria/Mulberry, Meloland; 3/24/2004-7/5/2009, 4 CIMIS stations (added Westmorland N.); 7/6/2009-12/1/2009, 3 CIMIS stations: Westmorland N. offline; 12/2/2009-2/31/2009, 4 CIMIS stations, Westmorland N. back online; 1/1/2010-9/20/2010.

Table 5. Monthly Mean Rainfall (In) – Imperial, CA 10-Year, 30-Year & 100-Year (2015-2024, 1995-2024, 1925-2024)

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
30-year	0.43	0.35	0.23	0.09	0.05	0.00	0.13	0.23	0.31	0.16	0.19	0.31	2.40
100-year	0.38	0.36	0.24	0.10	0.03	0.00	0.10	0.30	0.35	0.24	0.19	0.47	2.75

Source: IID 2025. IID WIS: CIMIS stations polygon calculation (Data provided by IID staff).

3.3 Imperial Valley Historic and Future Land and Water Uses

Imperial Valley's economy is gradually diversifying. Agriculture will likely continue to be the primary industry within the valley; however, two principal factors anticipated to reduce crop acreage are renewable energy (geothermal and solar) and urban development. Over the next twenty years, urbanization is expected to slightly decrease agriculture land use to provide space for an increase in residential, commercial and industrial uses. The transition from agricultural land use typically results in a decrease in water demand for municipal, commercial, and solar energy development; and an increase in water demand for geothermal energy development, resulting in a net overall reduction in water consumption. Local energy resources include geothermal, wind, biomass and solar. The County General Plan provides for development of energy production centers or energy parks within Imperial County. Alternative energy facilities will help California meet its statutory and regulatory goals for increasing renewable power generation and use and decrease water demands in Imperial County.

4 Imperial Irrigation District Water Supply and Demand

This WSA provides an analysis of a normal, single dry, and multiple dry water years to indicate whether adequate water is available for the proposed project in various climate scenarios. Water availability for this project in a normal year is no different from water availability during a single-dry and multiple-dry year scenarios. This is due to the small effect rainfall has on wholesale water availability in IID's arid environment along with IID's strong entitlements to the Colorado River water supply. Local rainfall does have some impact on how much water is consumed (i.e. if rain falls on agricultural lands, those lands will not demand as much irrigation) but does not impact the definition of a normal year, a single-dry year or a multiple-dry year scenario.

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5 Reliability of Water Supplies – Normal Year

IID is entitled to annual net consumptive use of 3.1 MAF of Colorado River, less its QSA/Transfer Agreement obligations. Imperial Dam, located north of Yuma, Arizona, serves as a diversion structure for water deliveries throughout southeastern California, Arizona and Mexico. Wholesale water is transported to the IID water service area through the AAC for use throughout the Imperial Valley. IID historic and forecast net consumptive use volumes at Imperial Dam from CRWDA Exhibit B are shown in **Table 6**. Volumes 2003-2024 are adjusted for USBR Decree Accounting historic records. Volumes for 2025-2077 are from CRWDA Exhibit B modified to reflect 2014 Letter Agreement changes to the 1988 IID/MWD Water Conservation Agreement.[8]

Due to limits on annual consumptive use of Colorado River water under the QSA/Transfer Agreements, IID's wholesale water supply during a normal year is best represented by the CRWDA Exhibit B Net Available for Consumptive Use (**Table 6**, Column 11). The annual volume is IID Priority 3(a) Quantified Amount of 3.1 million acre-feet (MAF) (**Table 6**, Column 2) less the IID transfer program reductions for each year (**Table 6**, Columns 3-9). IID suggests **Table 6**, which assumes full use of IID's quantified wholesale water supply, be used in determining base normal year water availability.

[8] 2014 Imperial Irrigation District Letter Agreement for Substitution and Conservation Modifications to the IID/MWD Water Conservation Agreement - December 17, 2014.

Table 6. IID Historic and Forecast Net Consumptive Use for Normal Year, Single-Dry Year and Multiple-Dry Year Water Supply, 2003-2037, et seq. (CRWDA Exhibit B)

IID Quantification and Transfers, Volumes in KAF at Imperial Dam [1]										
Col 1	2	3	4	5	6	7	8	9	10	11
	IID Priority 3(a)									
		IID Reductions								
Year	IID 3(a) Quantified Amount	1988 MWD Transfer [2]	SDCWA Transfer	AAC Lining	Salton Sea Mitigation SDCWA Transfer [3]	Intra-Priority 3 CVWD Transfer	MWD Transfer w\ Salton Sea Restoration [4]	Misc. PPRs	IID Total Reduction (Σ Cols 3-9) [5]	IID Net [Available for] Consumptive Use(Col 2 - 10)
2003	3,100	105.1	10.0	0.0	0.0	0.0	0.0	11.5	126.6	2,978.2
2004	3,100	101.9	20.0	0.0	15.0	0.0	0.0	11.5	148.4	2,743.9
2005	3,100	101.9	30.0	0.0	15.0	0.0	0.0	11.5	158.4	2,756.8
2006	3,100	101.2	40.0	0.0	20.0	0.0	0.0	11.5	172.7	2,909.7
2007	3,100	105.0	50.0	0.0	25.0	0.0	0.0	11.5	191.5	2,872.8
2008	3,100	105.0	50.0	8.9	26.0	4.0	0.0	11.5	205.4	2,825.1
2009	3,100	105.0	60.0	65.5	30.1	8.0	0.0	11.5	280.1	2,566.7
2010	3,100	105.0	70.0	67.7	33.8	12.0	0.0	11.5	294.8	2,540.5
2011	3,100	103.9	63.3	67.7	0.0	16.0	0.0	11.5	262.4	2,915.8
2012	3,100	104.1	106.7	67.7	15.2	21.0	0.0	11.5	326.2	2,903.2
2013	3,100	105.0	100.0	67.7	71.4	26.0	0.0	11.5	381.6	2,554.9
2014	3,100	104.1	100.0	67.7	89.2	31.0	0.0	11.5	403.5	2,533.4
2015	3,100	107.82	100.0	67.7	153.3	36.0	0.0	11.5	476.3	2,480.9
2016	3,100	105.0	100.0	67.7	130.8	41.0	0.0	11.5	456.0	2,504.3
2017	3,100	105.0	100.0	67.7	105.3	45.0	0.0	9.9	432.9	2,667.1
2018	3,100	105	130.0	67.7	0.1	63	0.0	9.7	375.5	2,724.5
2019 [6]	3,100	105	160.0	67.7	46.55	68	0.0	6.9	454.2	2,645.8
2020	3,100	105	192.5	67.7	0.0	73	0.0	9.1	448.0	2,652.0
2021	3,100	105	205.0	67.7	0.0	78	0.0	9.3	465.0	2,635.0
2022	3,100	105	202.5	67.7	0	83	0.0	9.8	468.0	2,632.0

Table 6. IID Historic and Forecast Net Consumptive Use for Normal Year, Single-Dry Year and Multiple-Dry Year Water Supply, 2003-2037, et seq. (CRWDA Exhibit B)

IID Quantification and Transfers, Volumes in KAF at Imperial Dam [1]										
Col 1	2	3	4	5	6	7	8	9	10	11
	IID Priority 3(a)									
		IID Reductions								
Year	IID 3(a) Quantified Amount	1988 MWD Transfer [2]	SDCWA Transfer	AAC Lining	Salton Sea Mitigation SDCWA Transfer [3]	Intra-Priority 3 CVWD Transfer	MWD Transfer w\ Salton Sea Restoration [4]	Misc. PPRs	IID Total Reduction (Σ Cols 3-9) [5]	IID Net [Available for] Consumptive Use(Col 2 - 10)
2023[7]	3,100	105	150.0	67.7	0	88	0.0	11.5	420.6	2,679.4
2024	3,100	105	150	67.7	0	93	0.0	11.5	427.2	2,672.8
2025	3,100	105	200	67.7	0	98	0.0	11.5	482.2	2,617.8
2026	3,100	105	200	67.7	0	103	0.0	11.5	487.2	2,612.8
2027	3,100	105	200	67.7	0	103	0.0	11.5	487.2	2,612.8
2028	3,100	105	200	67.7	0	103	0.0	11.5	487.2	2,612.8
2029-37	3,100	105	200	67.7	0	103	0.0	11.5	487.2	2,612.8
2038-47[8]	3,100	105	200	67.7	0	103	0.0	11.5	487.2	2,612.8
2048-77[9]	3,100	105	200	67.7	0	50	0.0	11.5	434.2	2,665.8

1. 2003 through 2024, volumes are adjusted for actual USBR Decree Accounting values; IID Total Reduction and Net Available for Consumptive Use may not equal Col 2 minus Col 10, if IID conservation/use was not included in Exhibit B.
2. 2014 Letter of Agreement provides that, effective January 2016 total amount of conserved water available is 105 KAFY
3. Salton Sea Mitigation volumes may vary based on conservation volumes and method of conservation.
4. *This transfer is not likely given lack of progress on Salton Sea restoration as of 2018; shaded entries represents volumes that may vary..*
5. Reductions include conservation for 1988 IID/MWD Transfer, IID/SDCWA Transfer, AAC Lining; SDCWA Transfer Mitigation, MWD Transfer w/Salton Sea Restoration (if any); Misc. PPRs. Amounts are independent of increases and reductions as allowed by the IOPP.
6. In order to resolve the outstanding 2010 Salton Sea mitigation water pre-delivery issue, IID left 46,546 AF of extraordinary conservation in Lake Mead. See IID's December 19, 2019 revised 2019 water order and Reclamation's March 10, 2020 approval letter.
7. In 2023, 50 KAF of ICS was foregone by SDCWA for the benefit of Lake Mead under the Drought Response Plan by Reclamation.
8. Assumes SDCWA does not elect termination in year 35.
9. Assumes SDCWA and IID mutually consent to renewal term of 30 years.
10. Modified from 100 KAFY in CRWDA Exhibit B; stating in 2018 MWD will provide CVWD 50 KAFY of the 100 KAFY.

Source: IID 2025: CRWDA: Federal QSA Exhibit B, p 13; updated values from 2023 Annual Water & QSA Implementation Report

Under normal operating conditions, non-agricultural water demands for the IID wholesale water service area are projected for 2025-2055 to range grow from 136.1 to 201.4 in thousands of AFY (KAFY), and IID agricultural demands including system operation are projected for 2025-2055 from 2,259.5 to 2,209.5 KAFY, all volumes within the IID wholesale water service area. IID wholesale water supplies available for consumptive use after accounting for mandatory transfers are projected to 2077 in **Table 6** (Column 11), volumes at Imperial Dam.

To assess IID's ability to meet future wholesale water demands, IID historic and forecasted demands are compared with CRWDA Exhibit B net availability under its water supply entitlement, volumes at Imperial Dam **Table 6** (Column 11). The analysis requires accounting for system operation consumptive use within the IID wholesale water service area, from AAC at Mesa Lateral 5 to Imperial Dam, and for water pumped for use by the USBR Lower Colorado Water Supply Project (LCRWSP), an IID consumptive use component in the USBR Decree Accounting Report. IID system operation consumptive use for 2020 was 167,000 AF, the latest data available.

Notwithstanding any regulatory water supply cuts from the Secretary of Interior, IID's ability to meet customer water demands through 2055 as shown in **Table** is based on the following:

- IID Projected non-agricultural use.
- Agricultural and Salton Sea mitigation uses.
- CRWDA Exhibit B net available for IID consumptive use from Table 6.
- System operation consumptive use from **Error! Reference source not found.** for 2020.

Table 7. IID Historic and Forecasted Consumptive Use vs CRWDA Exhibit B IID Net Available Consumptive Use, volumes at Imperial Dam (KAFY), 2015-2055

	2015	2020	2025	2030	2035	2040	2045	2050	2055
Non-Ag Delivery	107.4	113.2	133.1	142.9	151.4	163.2	175.4	188.4	199.3
Ag Delivery	2,158.9	2,165.4	2,259.5	2,209.5	2,209.5	2,209.5	2,209.5	2,209.5	2,209.5
QSA SS Mitigation Delivery	153.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
System Op CU in IID & to Imperial Dam	61.3	167.0	230.5	225.4	225.4	225.4	225.4	225.4	225.4
IID CU at Imperial Dam	2,488.2	2,503.6	2,623.1	2,577.8	2,586.3	2,598.1	2,610.3	2,623.3	2,634.2
Conservation in Excess of Exhibit B	45.5	51.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total IID CU	2,533.6	2,554.6	2,623.1	2,577.8	2,586.3	2,598.1	2,610.3	2,623.3	2,634.2
Exhibit B IID Net Available for CU at Imperial Dam (adjusted PPR's 2015/2020)	2,623.7	2,652.7	2,617.8	2,612.8	2,612.8	2,612.8	2,612.8	2,665.8	2,665.8
2015 & 2020 Actual and 2025-2055 Projected IID Underrun (-)/Overrun at Imperial Dam	-90.02	-98.07	5.30	-35.00	-26.50	-14.70	-2.50	-42.50	-31.60

Notes*: 2015 and 2020 have been updated to reflect actual consumptive use with respective USBR decree accounting adjustments*
Non-Ag Delivery CI 15.0%, Ag Delivery CI 3.0%, QSA SS mitigation CI 15%
QSA Salton Sea Mitigation Delivery terminated on 12/31/2017
Underrun /Overrun = IID CU at Imperial Dam minus CRWDA Exhibit B Net Available
Notes: Ag Delivery for 2025-2055 does not take into account land conversion for solar use nor reduction in agricultural land area due to urban expansion.

As reported in the 2024 Annual Water & QSA Implementation Report and 2024 SWRCB Report, from 2013 to 2024 IID consumptive use (CU) resulted in underruns; i.e., annual CU was less than the district's QSA Entitlement of 3.1 MAFY minus QSA/Transfer Agreements obligations. This would indicate that even though Table shows IID Overrun/Underrun at Imperial Dam not exceeding CRWDA Exhibit B Net Available for CU, for the 30-year life of the proposed project, IID consumptive use may be less than forecasted.

In addition to what is included in the forecasted projects considered in Table 7 above, there are a few notable projects that are nearing approval that could constitute additional non-agricultural demands for IID, namely the Black Rock Geothermal Project, the Morton Bay Geothermal Project, and the Elmore Geothermal Project. The estimated water demands for these projects would be approximately 1,125 AFY for the Black Rock Geothermal Project (an increase of 805 AFY compared to the historical 10-year of deliveries to the site), 5,560 AFY for the Morton Bay Geothermal Project (an increase of 5,560 AFY compared to the 10-year history of the site), and 6,480 AFY (an increase of 5,922 AFY compared to the 10-year history of the site) for the Elmore Geothermal Project for a total of 13,165 AFY for all three projects or a net increase of 12,287 AFY compared to the 10-year historical average for the areas that would be occupied by those projects. Therefore, if these projects are approved the net underrun/overrun figures in Table 7 would change.

In the event that IID has issued water supply agreements that exhaust the 25 KAFY IWSP set aside for conservation, and it becomes apparent that IID delivery demands due to non-agriculture use are going to cause the district to exceed its quantified 3.1 MAFY entitlement less QSA/Transfer Agreements obligations, IID has identified options to meet these new non-agricultural demands. These options include (1) tracking water yield from temporary land conversion from agricultural to non-agricultural land uses (renewable solar energy); and (2) only if necessary, developing conservation projects to expand the size of the district's water supply portfolio.

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6 Reliability of Water Supplies – Single Dry and Multiple Dry Years

Historically, when drought conditions exist within the IID wholesale water service area the water supply available to meet agricultural and non-agricultural water demands remains the same as normal year water supply because IID has relied solely on its entitlement for Colorado River water. Due to the priority of IID water rights and other agreements, drought conditions affecting Colorado River water supplies have previously caused shortages for Arizona, Nevada and Mexico, before impacting California and IID. Accordingly, the Net Available for Consumptive Use volumes in **Table 6**, Column 11 also represents the water supply at Imperial Dam available for diversion by IID in single-dry year and multiple-dry year scenarios, consistent with IID's senior water rights. However, the runoff declines in the upper basin and prolonged drought conditions throughout the west have resulted, for the first time, in the Colorado River operating under a Tier 2a Shortage Condition in 2023, creating long-term water supply uncertainties throughout the Basin states. The prolonged drought conditions have made potential reductions possible for all basin contractors, including IID. Should reductions to IID's wholesale water supply be ordered or directed from a governmental authority having appropriate jurisdiction, development within the Plan Area may be required to reduce its water supply demand by a proportionate reduction of the total volume of wholesale water available to IID.

6.1 Water Management under a Suspended Inadvertent Overrun Payback Policy (IOPP)

Under normal operating conditions, the CRWDA Inadvertent Overrun Payback Policy (IOPP), provided IID with some flexibility to manage its water use. When the water level in Lake Mead is above 1,125 feet, an overrun of its USBR approved annual water order was permissible, and IID had up to three years to pay water use above the annual water order. When Lake Mead's water level is at or below 1,125 feet on January 1 in the calendar year after the overrun is reported in the USBR Lower Colorado Region Decree Accounting Report, the IOPP prohibits additional overruns and requires that outstanding overruns be paid back in the subsequent calendar year rather than in three years as allowed under normal conditions; that is, the payback is to be made in the calendar year following publication of the overrun in the USBR Decree Accounting Report. The IOPP is suspended during shortage conditions. For historic IID annual rainfall, net consumptive use, transfers and IID underrun/overrun amounts, see **Table .**

Table 8. IID Annual Rainfall (In), Net Consumptive Use and Underrun/Overrun Amounts (AF), 1988-2024

Year	IID Total Annual Rainfall	IID Water Users	IID/MWD Transfer	IID/ SDCWA Transfer	SDCWA Transfer Salton Sea Mitigation	IID Underrun/ Overrun	IID/CVWD Transfer	AAC Lining
1988		2,947,581						
1989		3,009,451						
1990	91,104	3,054,188	6,110					
1991	192,671	2,898,963	26,700					
1992	375,955	2,575,659	33,929					
1993	288,081	2,772,148	54,830					
1994	137,226	3,048,076	72,870					
1995	159,189	3,070,582	74,570					
1996	78,507	3,159,609	90,880					
1997	64,407	3,158,486	97,740					
1998	100,092	3,101,548	107,160					
1999	67,854	3,088,980	108,500					
2000	29,642	3,112,770	109,460					
2001	12,850	3,089,911	106,880					
2002	12,850	3,152,984	104,940					
2003	116,232	2,978,223	105,130	10,000	0	6,555		
2004	199,358	2,743,909	101,900	20,000	15,000	-166,408		
2005	202,983	2,756,846	101,940	30,000	15,000	-159,881		
2006	19,893	2,909,680	101,160	40,000	20,000	12,414		
2007	64,580	2,872,754	105,000	50,000	25,021	6,358		
2008	63,124	2,825,116	105,000	50,000	26,085	-47,999	4,000	8,898
2009	30,0354	2,566,713	105,000	60,000	30,158	-237,767	8,000	65,577
2010	189,566	2,545,593	105,000	70,000	33,736	-207,925	12,000	67,700
2011	109,703	2,915,784	103,940	63,278	0	82,662	16,000	67,700
2012	133,526	2,903,216	104,140	106,722	15,182	134,076	21,000	67,700
2013	134,497	2,554,845	105,000	100,000	71,398	-64,981	26,000	67,700
2014	53,517	2,533,414	104,100	100,000	89,168	-797	31,000	67,700

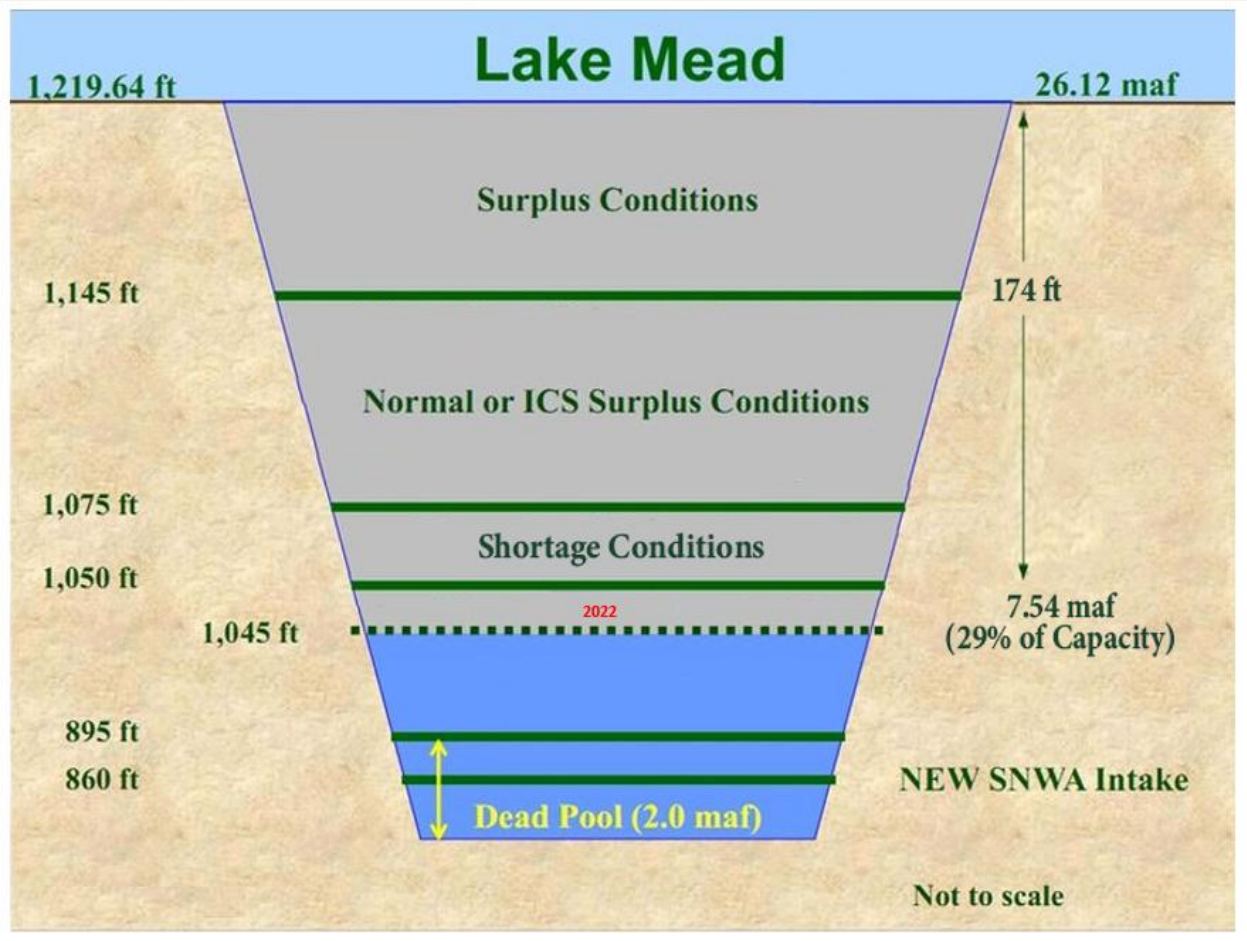
Table 8. IID Annual Rainfall (In), Net Consumptive Use and Underrun/Overrun Amounts (AF), 1988-2024

Year	IID Total Annual Rainfall	IID Water Users	IID/MWD Transfer	IID/ SDCWA Transfer	SDCWA Transfer Salton Sea Mitigation	IID Underrun/ Overrun	IID/CVWD Transfer	AAC Lining
2015	97,039	2,480,933	107,820	100,000	153,327	-90,025	36,000	67,700
2016	90,586	2,504,258	105,000	100,000	130,796	-62,497	41,000	67,700
2017	105,919	2,548,171	105,000	100,000	105,311	-30,591	45,000	67,700
2018	63,318	2,625,422	105,000	130,000	0	0	63,000	67,700
2019	146,384	2,558,136	105,000	160,000	46,555	-34,215	68,000	67,700
2020	130,275	2,493,623	105,000	192,500	0	-98,073	73,000	67,700
2021	81,901	2,552,674	105,000	205,000	0	-37,737	78,000	67,700
2022	61,377	2,577,164	105,000	202,500	0	-6,470	83,000	67,700
2023	68,122	2,417,024	105,000	150,000	0	-146.8	88,000	67,700
2024	88,063	2,311,905	105,000	150,000	0	-93,255	93,000	67,700

Notes: Volumes in acre-feet and except Total Annual Rainfall are USBR Decree Accounting Report record at Imperial Dam.
IID Total Annual Rainfall from IID Provisional Water Balance, first available calculations are for 1990
Not all IID QSA programs are shown on this table.
Sources: IID 2025: USBR Decree Accounting reports, except IID Total Rainfall and IID Overrun/Underrun is a separate calculation
2023 IID Annual Water & QSA Implementation Report and 2024 IID SWRCB Report; IID Total Rainfall and IID Overrun/ Underrun is a separate calculation

On August 16, 2021, the water level in Lake Mead was 1,060 feet and for the first time since the IOPP came into effect, the Secretary of the Interior declared the first-ever, Tier 1 shortage condition for Colorado River operations, with elevations reaching 1,045 as of mid 2022 (**Figure**). On January 1, 2025, the Lake Mead level was still below the 1,125 foot threshold at 1,063 feet and thus the overrun policy remains through 2025.

Figure 5. Lake Mead Schematic (June 15, 2022)



The flexibility that IID was allowed in 2013 and 2014 is no longer available to the district. Under the terms of the IOPP, no overruns are allowed in a year when payback is required. IID has not experienced any overrun pay back since 2014 as noted in **Table** . Under shortage conditions, IID would use any conserved water stored in a non-System reservoir, if available, to prevent any overrun.

Table 9. IID Inadvertent Overrun Payback to the Colorado River under the IOPP, 2013-2024

Calendar Year of Payback	2011 Overrun Payback (AF)	2012 Overrun Payback (AF)	Payback Total for Calendar Year (AF)
2013	55,710	—	55,710
2014	20,662	134,076	154,738
Total Payback	**76,372**	**134,076**	**210,448**

Notes: All values are consumptive use volumes at Imperial Dam (AF).
2013 Payback Total was 62 KAF, but in 2012 IID had 6,290 AF of early payback, reducing volume to 55,710 AF

The 2013 IOPP payback obligation, prohibition on overruns in payback years, and suspension of this flexibility during shortage conditions led the IID Board to implement an apportionment program pursuant to the 2007 EDP, which has been subsequently revised and modified over the years. The 2023 EDP is a version approved and adopted by the IID Board on July 26, 2023 (see Attachment B). The Revised 2023 EDP also establishes a water exchange clearinghouse to facilitate the movement of water supply between all water users and within water user categories. The established water user categories are 1) agricultural water users, 2) industrial/commercial water users and 3) potable water users. As designed, the clearinghouse will allow IID and its water customers to balance water demands with the water supplies that are available to all users.

Generally, the EDP Apportionment, as discussed in the proceeding section, is not expected to impact potable water uses or industrial/commercial uses. However, given the certainty of continuing drought on the Colorado River through 2026 and other stressors, enforcement of fees and conservation requirements may be applicable. For purposes of this WSA, years with a shortage condition that impacts non-agricultural projects such as an IOPP payback obligation constitute "dry" years for IID. For single-dry year and multiple-dry water year assessments, IID's EDP shall govern.

6.2 Equitable Distribution Plan (EDP) History

A 2006 study by Hanemann and Brookes suggested that overrun conditions were likely to occur 40-50 percent of the years during the decade following the report. Under such conditions a supply/demand imbalance would occur resulting in a need to apportion water consistent with state law. Under California state law, water must be distributed equitably as determined by the IID Board of Directors.

On November 28, 2006, the IID Board of Directors adopted Resolution No 22-2006 approving development and implementation of an Equitable Distribution Plan to address times when customers' demand would exceed IID's Colorado River supply. The EDP, adopted in 2007 allowed the IID Board to institute an apportionment program. As part of this resolution, the IID Board directed the General Manager to prepare the rules and regulations necessary or appropriate to implement the plan within the district. The EDP Regulations were created to enable IID to implement a water management tool (apportionment) to address years in which water demand is expected to exceed supply.

It was expected that an annual EDP Apportionment would be established for each of the next several years, if not for the duration of the QSA. However, the implementation of the EDP apportionment was legally challenged in 2013 with litigation ensuing through 2017 when a statement of decision was issued by the trial court, followed by a writ of mandate and a declaratory judgment later that year. The writ of mandate directed IID to repeal the EDP. On February 6, 2018, the IID board approved a resolution repealing the EDP while the case was on appeal. On July 16, 2020, the appellate court reversed the writ of mandate and declaratory judgment on almost all grounds, including

declaratory relief on the water rights issue and IID's discretion to determine the method of apportionment except for a provision as to how water was prioritized among water user categories. The court ruled that the district is required to distribute water equitably for all categories of users.

On June 21, 2022, IID adopted a revised EDP to address the single outstanding legal issue with respect to prioritization of apportionments among categories of water users. The revised EDP also updated certain operational provisions and most importantly, to the extent feasible, provides for a defined quantity of available, annual water supply apportioned to each water user to prevent cumulative demands from exceeding IID's available, authorized annual Colorado River supply (Attachment B-Equitable Distribution Plan). In July 2023 the EDP was revised again to allow for direct transfer of water through the IID Clearinghouse and among the respective water user categories. Implementation of the EDP resumed in January 1, 2023 and will continue annually thereafter consistent with the latest adopted EDP. For details regarding the EDP and its implementation, including related forms, please visit IID's website at Equitable Distribution | Imperial Irrigation District (iid.com)

7 Water Availability for a 30-Year Period to Meet Projected Demands

The proposed project is proposed to obtain water from IID a certified State of California provider. The LVSP includes several proposed land use types that would require water including community opportunity areas (e.g. commercial hubs, recreational uses, healthcare services, and childcare services to support nearby residential areas), manufacturing, logistics, renewables, green industrial, and restoration/conservation. Not all of these uses would require potable water and in fact the green industrial land uses are assumed to include at least 20% recycled water, consistent with LVSP Policy I-3.

Untreated Colorado River water will be supplied to the project via the most adjacent canal or lateral under a water agreement with IID. To meet the water demand and storage requirements for Phase 1, ten to twelve water storage facilities are proposed by the LVSP throughout the Plan Area. Water conveyance facilities would integrate throughout the plan area and include a backbone pipeline system and storage facilities. Potable water supply needs would be provided through onsite water treatment systems, by Golden State Water Company, or a Special District established by the LVSP. Golden State Water Company's Calipatria service area is not subject to the requirements of preparing an Urban Water Management Plan and sources its water entirely from IID as wholesale water supplier for the area.

As noted previously, under the terms of California legislation adopted to facilitate the QSA/Transfer Agreements and enacted in CWC Section 1013, the IID board adopted the TLCFP to address how to deal with any temporary reduction of water use by projects such as solar projects that are developed under a CUP.

While conserved water generated from the TLCFP is limited by law for use for water transfer or environmental purposes, by satisfying multiple district objectives the TLCFP serves to reduce the need for efficiency conservation and other water use reduction practices on the part of IID and its water users providing the district with wide benefits. One of the considerations in developing the TLCFP was to provide agricultural land owners with long-term assurances from IID that, at project termination, irrigation service would be available for them to resume farming operations.

IWSP Water

The IWSP, provided herein as Attachment A, designates up to 25,000 AFY of water for potential conservation for Non-Agricultural Projects within IID's water service area. As of January 2025, IID has up to 18,620 AFY that it may make available for conservation under the IWSP for new projects such as the proposed project. The IWSP establishes a schedule for Processing Fees, Reservation Fees, and Development Fees that change each year for all non-agricultural projects, and annual Water Supply Development fees for some non-agricultural projects. The proposed project's water use will be subject to the annual Water Supply Development fee if IID determines that wholesale water for the project is to be supplied under the IWSP.

Given the Colorado River conditions, the likelihood that IID will not receive its annual 3.1 MAF apportionment less QSA/Transfer Agreement obligations of Colorado River water is no longer low despite the high priority of the IID entitlement relative to other Colorado River contractors and projected water supplies. Given the prolonged drought conditions and recent communication from the Department of the Interior, reductions to all basin contractors,

including IID, are increasingly likely. If such obligatory reductions were to come into effect within the project life, the future applicants would be required to work with IID to ensure any anticipated reduction can be managed.

The County of Imperial as the lead agency has a responsibility to determine if the current and projected demands and water supply conditions, including projected uncertainties of Colorado River hydrology are sufficient. The wholesale water supplier IID, like any water provider, has jurisdiction to manage the water supply within its service area and impose conservation measures during a period of temporary water shortage, such as the one we are experiencing now.

Furthermore, without the proposed project's replacement of agricultural land with development under the LVSP, IID's task of managing water supply under the QSA/Transfer Agreements and any other voluntary contributions to Lake Mead would be lighter, because existing agricultural water use on the proposed project site is significantly higher than the proposed water demand for the proposed project as explained in the Expected Water Demands for the Proposed Project on the section that follows.

7.1 Tracking Water savings from Growth of Non-Agricultural Land Uses

The Imperial County Board of Supervisors has targeted up to 25,000 acres of agricultural lands, about 5 percent (5%) of the farmable acreage served by IID, for temporary conversion to solar farms; because the board found that this level of reduction would not adversely affect agricultural production. As reported for IID's Temporary Land Conversion Fallowing Program, existing solar developments at the end of 2024 have converted 13,307 acres of farmland. Solar projects had a total yield at-river of 72,320 AF of water in 2024. The balance of the 25,000-acre agriculture-to-solar policy is 11,693 acres. On average, each agricultural acre converted reduces agricultural demand by 5.1 AFY, which results in a total at-river yield (reduction in consumptive use) of 127,500 AFY.

However, due to the nature of the conditional use permits under which solar farms are developed, IID cannot rely on this supply being permanently available. In fact, should a solar project decommission early, that land may go immediately back to agricultural use (it remains zoned an agricultural land). Nevertheless, during their operation, the solar farms do ameliorate pressure on IID to implement projects to meet demand from new non-agricultural projects.

Unlike the effect of solar projects, other non-agricultural uses are projected to grow, as reflected in the nearly 85.6 percent (85.6%) increase in non-agricultural water demand from 107.4 KAF in 2015 to 199.3 KAF in 2055 reflected herein in **Table** . Although state mandated water conservation goals to municipalities has curtailed the upward trend, **Table 7** continues to depict a conservative scenario. This increase in demand of 92 KAFY is likely to be offset by reductions in agricultural lands; however, as the land remains zoned as agricultural land, that source is not reliable to be permanently available to IID.

The amount of land developed for residential, commercial, and industrial purposes is projected to grow by 55,733 acres from 2015 to 2050[9] within the sphere of influence of the incorporated cities and specific plan areas in Imperial County. A conservative estimate is that such development will displace at least another 24,500 acres of farmland based on the Imperial Local Agency Formation Commission (LAFCO) sphere of influence maps and existing zoning and land use in Imperial County. At 5.13 AFY yield at-river, there would be a 125,000 AFY reduction IID net consumptive use. However, the total acreage from actual annexations that have resulted in reductions to

9 IRWMP, Chapter 5, Table 5-14.

agricultural acreage between 2015 and 2024 has been 2,224 acres, according to IID's annual inventory of total farmable land which is consistent with the acreage gain to non-agricultural land uses (2,224 acres) and based off of annexation records obtained through the Imperial County Local Agency Formation Commission. This shift in acreage documents a growth rate of approximately 50 percent of the originally projected rate.

The total foreseeable solar project temporary yield at-river (91,800 AFY) and municipal development permanent yield at-river, conservatively adjusted (65,000 AFY) is to reduce forecasted IID net consumptive use at-river 156,800 AFY, which is more than enough to meet the forecast demand minus Exhibit B Net Available volumes shown in **Table .** This yield at-river is sufficient to meet the forecasted excess of non-agricultural use over Net Available supply within the IID service area for the next 20 years, as is required for SB 610 analysis (assuming there are no regulatory cuts to IID's full entitlement).

Farmland retirement associated with municipal development would reduce IID agricultural delivery requirements beyond IID's efficiency conservation projections**.** Therefore, in the event that Schedule 7 General Industrial Use water has exhausted its apportioned amount, the Applicants will rely on IID IWSP water to supply the Project, as discussed above in the Projected Water Availability section.

7.2 Expanding Water Supply Portfolio

While forecasted long-term annual yield-at-river from the reduction in agricultural acreage due to municipal development in the IID service area is sufficient to meet the forecasted excess of non-agricultural use over CRWDA Net Available supply (**Table**) without regulatory cuts and without expanding IID's Water Supply Portfolio, IID has also evaluated the feasibility of a number of capital projects to increase its water supply portfolio.

As reported in 2012 Imperial IRWMP Chapter 12, IID contracted with GEI Consultants, Inc. to identify a range of capital project alternatives that the district could implement. Qualitative and quantitative screening criteria and assumptions were developed in consultation with IID staff. Locations within the IID wholesale water service area with physical, geographical, and environmental characteristics most suited to implementing short- and long-term alternatives were identified. Technical project evaluation criteria included volumes of water that could be delivered and/or stored by each project, regulatory and permitting complexity, preliminary engineering components, land use requirements, and costs.

After preliminary evaluation, a total of 27 projects were configured:

- 17 groundwater or drain water desalination
- 2 groundwater blending
- 6 recycled water
- 1 groundwater banking
- 1 IID system conservation (concrete lining)

Projects were assessed at a reconnaissance level to allow for comparison of project costs. IID staff and the board identified key factors to categorize project alternatives and establish priorities. Lower priority projects were less

feasible due to technical, political, or financial constraints. Preferential criteria were features that increased the relative benefits of a project and grant it a higher priority. Four criteria were used to prioritize the IID capital projects:

1. **Financial Feasibility.** Projects whose unit cost was more than $600/AF were eliminated from further consideration.
2. **Annual Yield.** Project alternatives generating 5,000 AF or less of total annual yield were determined not to be cost-effective and lacking necessary economies of scale.
3. **Groundwater Banking.** Groundwater banking to capture and store underruns is recognized as a beneficial use of Colorado River water. Project alternatives without groundwater banking were given a lower priority.
4. **Partnering.** Project alternatives in which IID was dependent on others (private and/or public agencies) for implementation were considered to have a lower priority in the IID review; this criterion was reserved for the IRWMP process, where partnering is a desirable attribute.

Based on these criteria, the top ten included six desalination, two groundwater blending, one system conservation, and one groundwater storage capital projects. These capital projects are listed in **Table** which follows.

Table 10. IID Capital Project Alternatives and Cost (May 2009 price levels $)

Name	Description	Capital Cost	O&M Cost	Equivalent Annual Cost	Unit Cost ($/AF)	In-Valley Yield (AF)
AWC 1	IID System Conservation Projects	$56,225,000	N/A	$4,068,000	$504	8,000
DES 4	Keystone Desalination with IID Drainwater/ Alamo River	$147,437,743	$15,323,901	$23,849,901	$477	50,000
DES 2	Keystone Desalination with Well Field and Groundwater Recharge	$282,399,468	$13,158,000	$29,489,000	$590	50,000

Source: Imperial IRWMP, Chapter 12; see also Imperial IRWMP Appendix N, IID Capital Projects

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8 Conclusions

IID serves as the regional wholesale water supplier, importing raw Colorado River water and delivering it, untreated, to agricultural, municipal, industrial, environmental and recreational water users within its water service area. As mentioned above, IID's quantified Priority 3(a) water right under the QSA/Transfer Agreements secures 3.1 MAF per year, less transfer obligations of water for IID's use from the Colorado River, without relying on rainfall in the IID service area. Even with this strong entitlement to water, IID actively promotes on-farm efficiency conservation and is implementing system efficiency conservation measures including seepage recovery from IID canals and the All-American Canal (ACC) and measures to reduce operational discharge. As the IID website Water Department states:

> Through the implementation of extraordinary conservation projects, the development of innovative efficiency measures and the utilization of progressive management tools, the IID Water Department is working to ensure both the long-term viability of agriculture and the continued protection of water resources within its service area.

Overall, agricultural water demand in the Imperial Valley will decrease due to IID system and grower on-farm efficiency conservation measures that are designed to maintain agricultural productivity at pre-QSA levels while producing sufficient yield-at-river to meet IID's QSA/Transfer Agreements obligations. The County finds that with these efficiencies combined with the conversion of some agricultural land uses to non-agricultural land uses (both solar and municipal), ensure that IID can continue to meet the water delivery demand of its existing and future cumulative agricultural and non-agricultural water users, including this Project.

The Lead Agency findings of this WSA are summarized as follows, based on the information contained herein and as supported by IID water supply data:

1. IID's annual entitlement to consumptive use of Colorado River water is capped at 3.1 MAF less water transfer obligations, pursuant to the QSA and Related Agreements. Under the terms of the CRWDA, IID is implementing efficiency conservation measures to reduce net consumptive use of Colorado River water needed to meet its QSA/Transfer Agreements obligations while retaining historical levels of agricultural productivity.
2. In 2024 IID consumptively used 2,311,905 AF of Colorado River water (volume at Imperial Dam); 2,103,768 AF were delivered to customers (including recreational and environmental water deliveries) of which 1,991,796 AF, or 95 percent, went to agricultural users as per IID's Water Balance run on March 2025.
3. Reduction of IID's net consumptive use of Colorado River water under the terms of the Colorado River Water Delivery Agreement is to be the result of efficiency conservation measures. Crop water use in the Imperial Valley will not decline under these conditions, however IID operational spill and tailwater from field runoff will decline as efficiency conservation measures are implemented.
4. The dependability of IID's water rights, Colorado River flows, and Colorado River storage facilities for Colorado River water alone are not sufficient to assure water availability for the Project. The prolonged drought conditions on the Colorado River Basin have made it increasingly likely that the water supply of IID may be disrupted, in dry years or/and under shortage conditions. Mexico, Arizona and Nevada, which have lower priority than IID, have already experienced Tier 1 and Tier 2a reductions in 2022, 2023, and 2024 as a result of the declared Colorado River water shortage.
5. Due to ongoing Colorado River drought conditions, Lake Mead's low elevation, reduced inflows from Lake Powell, and the suspension of the federal Inadvertent Overrun and Payback Policy, which eliminates IID's ability to

overrun its 3.1 MAF annual entitlement during water shortage conditions, the IID Board has implemented an annual apportionment program (otherwise known as the Equitable Distribution Plan or EDP).

6. IID's EDP apportions the available water supply among all its water users equitably and among three water user categories based on historical use: 1) agricultural water users, 2) commercial/industrial water users, and 3) potable water users. Apportionment into these categories as a whole is initiated after deducting from the available water supply water for operational system needs, system conservation yields, environmental mitigation requirements, recreational uses, and similar unmeasured small pipe account water uses. See Attachment B -Equitable Distribution Plan.
7. Historically, IID has never been denied the right to use the annual volume of water it has available for its consumptive uses under its entitlement. Nevertheless, IID is participating in discussions for possible actions in response to continued extreme drought on the Colorado River.
8. Existing water demand within the LVSP boundaries is estimated at 149,000 AFY. Of that amount it is estimated that 71,224 AFY (51,504 AFY with biological mitigation) would no longer be used with full buildout of the LVSP.
9. Implementation of biological mitigation measures from the Draft EIR for the LVSP may result in some additions to water supply demands to ensure that drains can maintain pupfish habitat. Of the estimated 40,000 AFY of agricultural return flows that goes to the drains, an estimated 19,800 AFY discharges to the 14 drains in the Plan area with pupfish habitat. If it was determined that all of this return flow would be required to be made up on a one-to-one basis as part of that mitigation, a conservative assumption, then approximately 19,800 AFY would be needed as an additional water demand. As a result, at the end of the full 30-year build out, the total water demand would be 97,496 AFY, which is still substantially less than the existing 149,000 AFY (51,504 AFY less).
10. The proposed Project's estimated operational water demand, after 20 years, represents 340% of the 18,620 AFY balance of water supply (426% with biological mitigation) that may be available for contracting under the IWSP. The proposed Project's estimated operational demand at 30 years represents 418% of the 18,620 AFY balance of water supply (524% with biological mitigation). Therefore, consistent with Water Code 10910(d)(2)(D), additional modifications to the IWSP would be requested of IID to implement the project. However, IID's Resolution No. 15-2024 supports new non-agricultural projects including the LVSP Project (Attachment D).
11. New, non-agricultural projects may be susceptible to delivery cutbacks when an EDP Apportionment is exhausted.
12. Under an authorized water supply agreement, future projects that are developed as part of the LVSP will be required to acknowledge and accept as a condition of water service that to the extent that IID receives an order or directive from a governmental authority, having appropriate jurisdiction, that reduces the total volume of water available to IID from the Colorado River during all or any part of their water service agreement, IID may reduce the water service agreement amount, as directed by the IID Board, as a proportionate reduction of the total volume of water available to IID. This reduction is separate from and in addition to any allocation authorized pursuant to the EDP
13. The LVSP would include a Water Phasing Policy (LVSP Policy I-1) where water consumption in the Plan Area will be monitored by tracking agricultural land taken out of production against new water demand from buildout of the LVSP. If a project applicant is relying upon reduced agricultural demand to offset the project's water demand, the applicant would be required to demonstrate that net water demand in the Plan Area has been reduced, or that alternative water supplies have been provided.

Therefore, there would be sufficient water supplies available during normal, single dry, and multiple dry water years during a 20-year projection that will meet the projected water demand associated with the proposed project, in addition to the existing wholesale and local water system's uses and planned future uses, including agricultural and manufacturing uses provided policy changes are enacted to enable the non-agricultural water deliveries consistent with the wholesale supplier IID's Resolution No. 15-2024. For all the reasons described herein, the historical stability of the IID wholesale water supply, the amount of foreseeable water available, IID's Resolution No. 15-2024 (Attachment D) that supports the LVSP, along with on-farm and system efficiency conservation and other measures being undertaken by IID and its customers suggest that LVSP's water needs will be reasonably met for the next 20 years as assessed here in.

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9 Resources and References

California Energy Commission. 2006. Estimating Irrigation Water Use for California Agriculture: 1950s to Present. May 2006.

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United States Bureau of Reclamation (USBR). 2024. Lower Colorado Region Website: https://www.usbr.gov/lc/region/g4000/wtracct.html, Lower Colorado River Water Accounting, Water Accounting Reports (1964 - 2015). Compilation of Records in Accordance with Article V of the Decree of the Supreme Court of the United States in Arizona v. California Dated March 9, 1964: Calendar Years 1964 - 2015 Boulder City, NV.2024.

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Attachment A

IID Interim Water Supply Policy for
Non-Agricultural Projects

Attachment A: IID Interim Water Supply Policy for Non-Agricultural Projects[10]

1.0 Purpose.

Imperial Irrigation District (the District) is developing an Integrated Water Resources Management Plan (IWRMP) 26F[11] that will identify and recommend potential programs and projects to develop new water supplies and new storage, enhance the reliability of existing supplies, and provide more flexibility for District water department operations, all in order to maintain service levels within the District's existing water service area. The first phase of the IWRMP is scheduled to be completed by the end of 2009 and will identify potential projects, implementation strategies and funding sources. Pending development of the IWRMP, the District is adopting this Interim Water Supply Policy (IWSP) for Non-Agricultural Projects, as defined below, in order to address proposed projects that will rely upon a water supply from the District during the time that the IWRMP is still under development. It is anticipated that this IWSP will be modified and/or superseded to take into consideration policies and data developed by the IWRMP.

2.0 Background.

The IWRMP will enable the District to more effectively manage existing water supplies and to maximize the District's ability to store or create water when the available water supplies exceed the demand for such water. The stored water can be made available for later use when there is a higher water demand. Based upon known pending requests to the District for water supply assessments/verifications and pending applications to the County of Imperial for various Non-Agricultural Projects, the District currently estimates that up to 50,000 acre feet per year (AFY) of water could potentially be requested for Non-Agricultural Projects over the next ten to twenty years. Under the IWRMP the District shall evaluate the projected water demand of such projects and the potential means of supplying that amount of water. This IWSP currently designates up to 25,000 AFY of water for potential Non-Agricultural Projects within IID's water service area. Proposed Non-Agricultural projects may be required to pay a Reservation Fee, further described below. The reserved water shall be available for other users until such Non-Agricultural projects are implemented and require the reserved water supply. This IWSP shall remain in effect pending the approval of further policies that will be adopted in association with the IWRMP.

3.0 Terms and Definitions.

3.1 Agricultural Use. Uses of water for irrigation, crop production and leaching.

3.2 Connection Fee. A fee established by the District to physically connect a new Water User to the District water system.

3.3 Industrial Use. Uses of water that are not Agricultural or Municipal, as defined herein, such as manufacturing, mining, cooling water supply, energy generation, hydraulic conveyance, gravel washing, fire protection, oil well re-pressurization and industrial process water.

3.4 Municipal Use. Uses of water for commercial, institutional, community, military, or public water systems, whether in municipalities or in unincorporated areas of Imperial County.

3.5 Mixed Use. Uses of water that involve a combination of Municipal Use and Industrial Use.

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10 IID Board Resolution 31-2009. Interim Water Supply Policy for New Non-Agricultural Projects. September 29, 2009. < IID Interim Water Supply Policy for Non-Agricultural Projects>

11 The 2009 Draft IID IWRMP has been superseded by the October 2012 Imperial IRWMP, which incorporates the conditions of the IWSP by reference.

3.6 Non-Agricultural Project. Any project which has a water use other than Agricultural Use, as defined herein.

3.7 Processing Fee. A fee charged by the District Water Department to reimburse the District for staff time required to process a request for water supply for a Non-Agricultural Project.

3.8 Reservation Fee. A non-refundable fee charged by the District when an application for water supply for a Non-Agricultural Project is deemed complete and approved. This fee is intended to offset the cost of setting aside the projected water supply for the project during the period commencing from the completion of the application to start-up of construction of the proposed project and/or execution of a water supply agreement. The initial payment of the Reservation Fee will reserve the projected water supply for up to two years. The Reservation Fee is renewable for up to two additional two-year periods upon payment of an additional fee for each renewal.

3.9 Water Supply Development Fee. An annual fee charged to some Non-Agricultural Projects by the District, as further described in Section 5.2 herein. Such fees shall assist in funding IWRMP or related water supply projects,

3.10 Water User. A person or entity that orders or receives water service from the District.

4.0. CEQA Compliance.

4.1 The responsibility for CEQA compliance for new development projects within the unincorporated area of the County of Imperial attaches to the County of Imperial or, if the project is within the boundaries of a municipality, the particular municipality, or if the project is subject to the jurisdiction of another agency, such as the California Energy Commission, the particular agency. The District will coordinate with the County of Imperial, relevant municipality, or other agency to help ensure that the water supply component of their respective general plans is comprehensive and based upon current information. Among other things, the general plans should assess the direct, indirect and cumulative potential impacts on the environment of using currently available water supplies for new industrial, municipal, commercial and/or institutional uses instead of the historical use of that water for agriculture. Such a change in land use, and the associated water use, could potentially impact land uses, various aquatic and terrestrial species, water quality, air quality and the conditions of drains, rivers and the Salton Sea.

4.2 When determining whether to approve a water supply agreement for any Non-Agricultural Project pursuant to this IWSP, the District will consider whether potential environmental and water supply impacts of such proposed projects have been adequately assessed, appropriate mitigation has been developed and appropriate conditions have been adopted by the relevant land use permitting/approving agencies, before the District approves any water supply agreement for such project.

5.0. Applicability of Fees for Non-Agricultural Projects.27F[12]

5.1 Pursuant to this Interim Water Supply Policy, applicants for water supply for a Non-Agricultural Project shall be required to pay a Processing Fee and may be required to pay a Reservation Fee as shown in Table A. All Water Users shall also pay the applicable Connection Fee, if necessary, and regular water service fees according to the District water rate schedules, as modified from time to time.

5.2 A Non-Agricultural Project may also be subject to an annual Water Supply Development Fee, depending upon the nature, complexity, and water demands of the proposed project. The District will determine whether a proposed Non-Agricultural Project is subject to the Water Supply Development Fee for water supplied pursuant to this IWSP as follows:

[12] The most recent fee schedules can be found in a link at IID/Water/ Municipal, Industrial and Commercial Customers; or visit by URL at Imperial Irrigation District : Water Rate Schedules

5.2.1. A proposed project that will require water for a Municipal Use shall be subject to an annual Water Supply Development Fee as set forth in Table B if the projected water demand for the project is in excess of the project's estimated population multiplied by the District-wide per capita usage. Municipal Use projects without an appreciable residential component will be analyzed under sub-section 5.2.3.

5.2.2. A proposed project that will require water for an Industrial Use located in an unincorporated area of the County of Imperial shall be subject to an annual Water Supply Development Fee as set forth in Table B.

5.2.3. The applicability of the Water Supply Development Fee set forth in Table B to Mixed Use projects, Industrial Use projects located within a municipality, or Municipal Use projects without an appreciable residential component, will be determined by the District on a case-by-case basis, depending upon the proportion of types of land uses and the water demand proposed for the project.

5.3. A proposed Water User for Non-Agricultural Projects may elect to provide some or all of the required water supply by paying for and implementing some other means of providing water in a manner approved by the District, such as conservation projects, water storage projects and/or use of an alternative source of supply, such as recycled water or some source of water other than from the District water supply. Such election shall require consultation with the District regarding the details of such alternatives and a determination by the District, in its reasonable discretion, concerning how much credit, if any, should be given for such alternative water supply as against the project's water demand for purposes of determining the annual Water Supply Development Fee for such project.

5.4 The District Board shall have the right to modify the fees shown on Tables A and B from time to time.

6. Water Supply Development Fees collected by the District under this IWSP shall be accounted for independently, including reasonable accrued interest, and such fees shall only be used to help fund IWRMP or related District water supply projects.

7. Any request for water service for a proposed Non-Agricultural Project that meets the criteria for a water supply assessment pursuant to Water Code Sections 10910-10915 or a water supply verification pursuant to Government Code Section 66473.7 shall include all information required by Water Code Sections 10910 –10915 or Government Code Section 66473.7 to enable the District to prepare the water supply assessment or verification. All submittals should include sufficient detail and analysis regarding the project's water demands, including types of land use and per capita water usage, necessary to make the determinations outlined in Section 5.2.

8. Any request for water service for a proposed Non-Agricultural Project that does not meet the criteria for a water supply assessment pursuant to Water Code Section 10910-10915 or water supply verification pursuant to Government Code Section 66473.7 shall include a complete project description with a detailed map or diagram depicting the footprint of the proposed project, the size of the footprint, projected water demand at full implementation of the project and a schedule for implementing water service. All submittals should include sufficient detail and analysis regarding the project's water demands, including types of land use and per capita water usage, necessary to make the determinations outlined in Section 5.2.

9. All other District rules and policies regarding a project applicant or Water User's responsibility for paying connection fees, costs of capital improvements and reimbursing the District for costs of staff and consultant's time, engineering studies and administrative overhead required to process and implement projects remain in effect.

10. Municipal Use customers shall be required to follow appropriate water use efficiency best management practices (BMPs), including, but not limited to those established by the California Urban Water Conservation Council BMP's (see http://www.cuwcc.org/mou/exhibit-1-bmp-definitions-schedules-requirements.aspx)

[https://calwep.org/our-work/conservation/bmp-guidebooks/], or other water use efficiency standards, adopted by the District or local government agencies.

11. Industrial Use customers shall be required to follow appropriate water use efficiency BMP's, including but not limited to those established by the California Urban Water Conservation Council and California Energy Commission, as well as other water use efficiency standards, adopted by the District or local government agencies.

12. The District may prescribe additional or different BMPs for certain categories of Municipal and Industrial Water Users.

Attachment B

IID 2023 Equitable Distribution Plan,
revised July 26, 2023

Attachment B: IID Equitable Distribution Plan[13]

Adopted December 11, 2007

Revised November 18, 2008

Revised April 07, 2009

Revised April 23, 2013

Revised May 14, 2013

Revised October 28, 2013

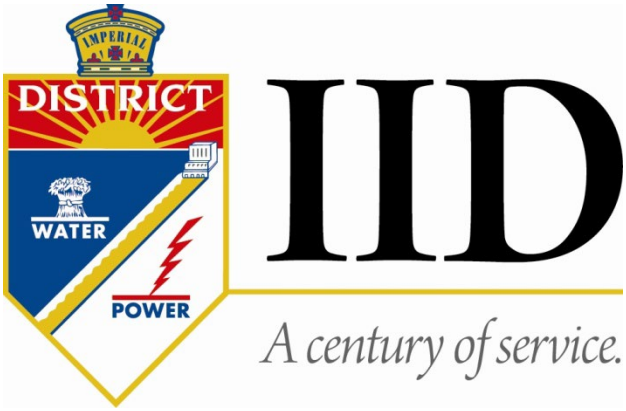
Revised June 21, 2022

Revised July 26, 2023 (attach)

13 Equitable Distribution Plan documents. July 26, 2023 https://www.iid.com/water/rules-and-regulations/equitable-distribution

Equitable Distribution Plan

Adopted December 11, 2007
Revised November 18, 2008
Revised April 07, 2009
Revised April 23, 2013
Revised May 14, 2013
Revised October 28, 2013
Revised June 21, 2022



1.0 **Purpose**.

1.1 Purpose. The Imperial Irrigation District ("District" or “IID”) is authorized by the Irrigation District Law, specifically California Water Code Section 22252, to adopt rules and regulations for the equitable distribution of water within the District. The IID Board of Directors has approved this plan for the equitable distribution of the available water supply (the "Equitable Distribution Plan"). This Equitable Distribution Plan is for the management of the District’s available water supply and does not transfer water and/or water rights outside the IID service area, but does allow for an intra-district clearinghouse for the movement of water within the IID water service area. Pursuant to Resolution No. 31-2022, the IID Board of Directors has adopted this revised Equitable Distribution Plan.

2.0 **Terms and Definitions**.

2.1 Agricultural Water. Water used for irrigation, related to agricultural purposes, duck ponds, and algae farming. Pipe and small parcel water service as identified by the District’s *Rules and Regulations Governing the Distribution and Use of Water* is not included in this definition pursuant to Section 2.22.

2.2 Agricultural Water User(s). A District Water User that uses Agricultural Water.

2.3 Agricultural Water Users Category. A category of District Water Users comprised of Agricultural Water Users.

2.4 Apportionment. The amount of water equitably apportioned among District Water Users within each Water User Category pursuant to Sections 3.2, 3.3, and 3.4.

2.5 Available Water Supply. Water available each Calendar Year for Apportionment, which shall not include Operational and System Water and may be subject to a Water Management Reduction.

2.6 Calendar Year. Each 12-month period that begins on January 1 and ends on December 31.

2.7 Category Apportionment. The amount of water equitably apportioned to each Water User Category as a category, which is calculated by the Calendar Year average of the historical water use for that Water User Category as a whole during the years 2003 to 2012, eliminating the highest Calendar Year and lowest Calendar Year of water use history.

2.8 Clearinghouse. A mechanism administered by the District or other entity authorized by the IID Board of Directors to provide a means by which qualified

District Water Users can transfer water within the IID water service area during a Calendar Year pursuant to Section 6.0.

2.9 Cropland. Irrigable acreage within the District service area divided into fields based on the [proprietary] District Geospatial Data Base compiled from IID records, inspections and U.S. Consolidated Farm Service Agency (CFSA) Common Land Unit (CLU) standards, or other defined acreage database such as the assessor's parcel records.

2.10 District or IID. The Imperial Irrigation District.

2.11 District Conservation Assignment. Apportionment contractually or automatically assigned to IID for water conservation purposes from lands participating in or designated for participation in any District On-Farm Efficiency Conservation Program, District Fallowing Program or other District conservation programs, or subject to the Temporary Land Conversion Fallowing Policy or Interim Water Supply Policy per the terms and conditions set forth in those program agreements and/or IID policies.

2.12 District Fallowing Program. Any program administered by the District to create conserved water by fallowing agricultural lands per the terms and conditions set forth in those program agreements and/or IID policies, including the Temporary Land Conversion Fallowing Policy.

2.13 District On-Farm Efficiency Conservation Program. Any program administered by the District to create conserved water by on-farm efficiency conservation measures and/or projects per the terms and conditions set forth in those program agreements and/or IID policies.

2.14 District System Conservation Program/Projects. An integrated package of system improvements to existing infrastructure and construction of new facilities designed to conserve water.

2.15 District Water User. Any user of water supplied by the District receiving an Apportionment.

2.16 Eligible Agricultural Acre(s). Acreage that is subject to the Temporary Land Conversion Fallowing Policy or meets all the following:

a. Cropland greater than 5 acres;

b. Used for crop production, duck ponds or algae farming;

c. Current with water availability charges and water bills; and

d. Connected to District water distribution system.

2.17 Farm Unit. A grouping of two or more Agricultural Water accounts of one or more fields leased or owned by the same Agricultural Water User; a single Agricultural Water account is automatically a Farm Unit.

2.18 Hybrid Apportionment. A Method of Apportionment used to calculate the Apportionment per Eligible Agricultural Acre within the Agricultural Water Users Category as set forth in Section 3.2.

2.19 Industrial/Commercial Water User(s). District Water Users receiving water directly from the District, and not from a Potable Water User, for industrial and commercial uses.

2.20 Industrial/Commercial Water Users Category. A category of District Water Users comprised of Industrial/Commercial Water Users.

2.21 Method of Apportionment. The method of apportionment used to calculate the Apportionment for District Water Users within each Water User Category during a Calendar Year.

2.22 Operational and System Water. Water not available for Apportionment because it is: (i) required by law, contract, and/or regulatory order or permit to be delivered or used for another use or user and failure to do so would impact the District's operations, maintenance and/or Available Water Supply; (ii) required for the District's operations and maintenance, including operational carriage and discharge water, system losses, seepage (excluding water from seepage interception conservation projects), evaporation or other losses in the District's distribution system, such as unmetered uses which cannot otherwise be calculated, including small parcel and pipe water service, recreation/lakes, and feedlots, adjusted for calculated losses from the District's point of diversion; or (iii) created by District System Conservation Program/Projects and absent the District System Conservation Program/Projects the water would not have been available for Apportionment because it would have been otherwise lost, such as through seepage or discharge.

2.23 Overrun Payback Program. A program consistent with the federal Inadvertent Overrun and Payback Policy or other federal policies or programs to which the District may be subject, by which the cost of and/or responsibility for any District payback obligation will be borne by those District Water Users responsible for exceeding the Apportionment in a Calendar Year (adjusted for any Clearinghouse water transferred) should a District overrun occur in that Calendar Year; provided that this Overrun Payback Program shall not be available to District Water Users in any Calendar Year the federal Inadvertent Overrun and Payback Policy is suspended and/or the District is not allowed to overrun pursuant to a federal law, rule, or regulation.

2.24 Potable Water User(s). District Water Users receiving water from the District and treating that water through a water treatment system to deliver potable water to its water users, including but not limited to municipalities and special districts.

2.25 Potable Water Users Category. A category of District Water Users comprised of Potable Water Users.

2.26 Take-or-Pay Basis. An obligation that District Water Users pay, pursuant to the District's Water Rate Schedules and *Rules and Regulations Governing the Distribution and Use of Water*, for all of the Apportionment accepted by the District Water User and not used during the Calendar Year.

2.27 Three-Year Average Apportionment. A Method of Apportionment used to calculate the Apportionment for each District Water User within the Potable Water Users Category and the Industrial/Commercial Water Users Category as set forth in Sections 3.3 and 3.4.

2.28 Water Card. The common term for the "Certificate of Ownership and Authorization of Owner Designee or Tenant" described in Regulation No. 3 of the District's *Rules and Regulations Governing the Distribution and Use of Water*. The Water Card provides information i.e., Cropland, name and address of owner and any lessees, APN, gate and canal providing water service, identity of person authorized to order water/receive notices from the District, who is obligated to pay, and similar information.

2.29 Water Management Reduction. A reduction in Available Water Supply for Apportionment, or a percentage reduction in each Category Apportionment, because of a District-wide overrun payback requirement mandatory program, or regulatory limitation of or reduction in the District's Colorado River water supply.

2.30 Water Users Category(ies). The Agricultural Water Users Category, the Potable Water Users Category, and the Industrial/Commercial Water Users Category.

3.0 **Equitable Distribution**.

3.1 Category Apportionment. Each Water User Category shall receive a Category Apportionment from the Available Water Supply to be distributed to the District Water Users within that Water User Category.

3.2 Agricultural Water User Apportionment. Apportionment models understood and discussed to date are historical, straight line, soil type and hybrids of a combination of these methods. The default Method of Apportionment for Agricultural Water Users is the Hybrid Apportionment, which may be changed for any Calendar Year prior to the notification period set forth in Section 4.1 at the discretion of the IID Board of Directors. The Hybrid Apportionment is comprised of a historical use component and a

straight line component and is calculated for each Eligible Agricultural Acre as the sum of:

a. One-half of the average amount of water used each Calendar Year between 2003 to 2012, excluding the highest and lowest Calendar Years, up to a maximum of 10 acre-feet (i.e., 5 acre-feet will be maximum 1/2 of 10 acre-feet limit); and

b. After the historical use component is calculated for every Eligible Agricultural Acre within the Agricultural Water User Category and that amount is subtracted from the Category Apportionment, the remaining amount of Category Apportionment for the Agricultural Water User Category is divided by the Eligible Agricultural Acres resulting in a flat amount for each Eligible Agricultural Acre.

3.3 Potable Water User Apportionment. The default Method of Apportionment for Potable Water Users is the Three-Year Average Apportionment, which may be changed for any Calendar Year prior to the notification period set forth in Section 4.1 at the discretion of the IID Board of Directors. The Three-Year Average Apportionment is calculated as the average amount of water used each of the most recent three Calendar Years that such data is available for each District Water User within the Potable Water User Category.

3.4 Industrial/Commercial Water User Apportionment. The default Method of Apportionment for Industrial/Commercial Water Users is the Three-Year Average Apportionment, which may be changed for any Calendar Year prior to the notification period set forth in Section 4.1 at the discretion of the IID Board of Directors. The Three-Year Average Apportionment is calculated as the average amount of water used each of the most recent three Calendar Years that such data is available for each District Water User within the Industrial/Commercial Water User Category.

4.0 **Apportionment Acceptance on Take-Or-Pay Basis**.

4.1 A written notice of the Apportionment for each District Water User shall be sent no later than October 31 prior to the beginning of the next Calendar Year. For Agricultural Water Users, the written notice of the Apportionment will be identified per Eligible Agricultural Acre and the number of Eligible Agricultural Acres per landowner, which shall be sent to the landowner, lessee and the authorized representative.

4.2 Prior to the start of the Calendar Year, the District Water User and/or, as applicable, the landowner or authorized representative (of Eligible Agricultural Acres for the Agricultural Water Users Category), with written consent of the lessee (if any), must, using a District form:

a. Accept some, all or none of the Apportionment on a Take-or-Pay Basis.

b. Reserve some or all of the Apportionment on a Take-or-Pay Basis for the use of a future lessee, if applicable. The landowner remains responsible for payment on a Take-or-Pay Basis for the amount reserved for the future lessee, if applicable, unless and until payment is made by the future lessee.

c. Designate the person or entity responsible for payment of accepted and unused Apportionment on the Take-or-Pay Basis.

d. For Agricultural Water Users only, approve or disapprove the use of the Apportionment on other fields within the Farm Unit.

e. Allow or disallow a lessee to offer accepted and unused Apportionment to the Clearinghouse.

4.3 The District Water User and/or landowner will only be responsible for payment on a Take-or-Pay Basis for Apportionment that is accepted and remains unused in the water account at the end of the Calendar Year. On December 31 of the Calendar Year, payment for any remaining amount of the unused Apportionment will be included in the year end invoice.

4.4 Apportionment not affirmatively rejected is considered accepted. In the event a District form accepting Apportionment is not received for a field, IID will provide water delivery service to an owner or lessee with a valid Water Card in an amount not to exceed the Apportionment.

5.0 **Farm Units**.

5.1 The Farm Unit allows for the creation of a master Agricultural Water account under which individual Agricultural Water accounts are aggregated. The District will continue to bill for delivered water by individual Agricultural Water account and not by the Farm Unit or “master water account.”

5.2 The primary purpose of a Farm Unit is to allow an Agricultural Water User to order water on any field within the Farm Unit as long as there is a remaining water balance for the Farm Unit greater than the water order. If water is not available within the Farm Unit, the water order will not be accepted, unless and until procedures are developed and implemented under this Equitable Distribution Plan, including procedures for the Overrun Payback Program, that allow for the acceptance of the water order.

5.3 The District will account for water and track a water balance for each field. Fields can move between Agricultural Water accounts when there is a change to the Water Card and the water balance for the field will move with the field.

5.4 Agricultural Water Users must complete and keep current the Water Card and any Farm Unit designations to receive an Apportionment and delivery of water. It is the Agricultural Water User's responsibility to keep Farm Unit designations current.

5.5 An Agricultural Water account may only be associated with a single Farm Unit at any one time. Any Agricultural Water account not designated as part of a Farm Unit will be tracked and identified as an individual Farm Unit comprised solely of that Agricultural Water account.

5.6 The amount of Apportionment available to an Agricultural Water User on leased fields included in a Farm Unit must be approved by the landowner and lessee of those fields.

5.7 Water can be added to a Farm Unit by transferring water through the Clearinghouse, but the transfer must be made to individual fields within the Farm Unit. If no particular fields are specified, the District will select a field within the Farm Unit to initially receive the water or (as closely as possible) equally divide the water among all Eligible Agricultural Acres within the Farm Unit.

5.8 An Agricultural Water User may designate multiple Farm Units. Apportionment may only be transferred between Farm Units via the Clearinghouse.

5.9 The priority of water use within a Farm Unit is (a) accepted Apportionment authorized for use on the field, (b) water from other fields authorized for transfer within the Farm Unit, and (c) water from the Clearinghouse; or as otherwise provided in procedures developed and implemented under and pursuant to this Equitable Distribution Plan. Water from a higher-priority category must be fully-used before water from a lower-priority category may be used within a Farm Unit.

6.0 **Clearinghouse**.

6.1 Purpose. The Clearinghouse is a mechanism to facilitate the movement of water between District Water Users and/or between Farm Units. Administration of the Clearinghouse may be delegated by the District to an entity authorized by the IID Board of Directors on a non-profit basis under rules approved by the IID Board of Directors, however all final transactions must be reported to the District for implementation.

6.2 Eligibility. Any District Water User may be a transferee. Any District Water User may be a transferor. All transferees and transferors must be current on their District water accounts and billings, including water availability charges.

6.3 Transfers. Water made available to the Clearinghouse for transfer will be assigned to Clearinghouse accounts and water shall be transferred through the Clearinghouse pursuant to procedures developed and implemented under and pursuant

to this Equitable Distribution Plan. Water available for transfer will be made on a first-come, first-serve basis for those District Water Users that have submitted an offer to transfer water or submitted a request for additional water.

6.4 Clearinghouse Notice of Transfer. The Notice of Transfer will be the Clearinghouse reporting mechanism to document all transfers of water including the relevant transactional information to execute the transaction between the transferor and transferee.

6.5 Water Transferred Through the Clearinghouse. The transferee shall be billed and shall pay the District the total payment amount due for the transferred water in the District billing issued for the same month the Notice of Transfer for the transferred water is made, or the next billing if that same month is infeasible due to the timing of the billing. The total amount due is based on the acre-feet of water transferred (not to exceed Clearinghouse Notice of Transfer) multiplied by the current District rate applicable to the District Water User pursuant to the District's Water Rate Schedules and *Rules and Regulations Governing the Distribution and Use of Water*. Such payment will be due regardless of whether the transferred water is used by the transferee. If the transferred water is used by the transferee before the District billing is issued, the District Water User will be billed only once for the current District rate applicable to the District Water User. After the District processes the Clearinghouse Notice of Transfer, the transferor shall have no further obligation for payment of that water on a Take-or-Pay Basis. Any supplemental transactional information or fees associated with the transfer of the water between the transferor and transferee but not relevant to the implementation of the transaction are a private matter and shall not be reported to the District. Any transfers of water through the Clearinghouse, whether within the Farm Unit or via the Clearinghouse, are only for the Calendar Year in which they occur and do not constitute a permanent transfer of water, or create a right to be apportioned water in future years.

6.6 Offers Remaining at Calendar Year End. Any offers for water to be transferred through the Clearinghouse not transferred by the end of the Calendar Year may be used by the District to meet the needs of other District Water Users, fulfilling conservation responsibilities, or for other District purposes. Use by the District in this manner will not relieve the District Water Users of payment required on the Take-or-Pay Basis.

7.0 **On-Farm Conservation and Land Fallowing Programs**.

7.1 An Agricultural Water User that participates in the District On-Farm Efficiency Conservation Program or District Fallowing Program is subject to a District Conservation Assignment of the Agricultural Water User's accepted Apportionment for the Farm Unit equal to the amount of water conserved by on-farm efficiency conservation measures or fallowing for which the Agricultural Water User is contracted.

7.2 If the Agricultural Water User's Apportionment is less than the District On-Farm Efficiency Conservation Program or District Fallowing Program contracted amount, the Agricultural Water User must procure this difference from either: the Agricultural Water User's accepted Apportionment on other Eligible Agricultural Acres within the Farm Unit, or the Clearinghouse.

7.3 If the Agricultural Water User's Apportionment is more than the District Fallowing Program contracted amount, the Agricultural Water User may use the difference on other Eligible Agricultural Acres within the Farm Unit not participating in a District Fallowing Program, on the fallowed field after the term of the District Fallowing Program, or offer it to the Clearinghouse.

8.0 **Miscellaneous**.

8.1 The IID Board of Directors, at its sole discretion, which may include consideration of recommendations by the Agricultural Water Advisory Committee, may declare a 15-day period in which all offers of water received by the Clearinghouse, of up to 7% (seven percent) of the District Water User's Apportionment, shall be accepted by the District thereby relieving the District Water Users of payment of that water on the Take-or-Pay Basis. This water accepted by the District will be offered back for transfer to other District Water Users via the Clearinghouse.

8.2 The General Manager is authorized and directed to do any and all things necessary to implement and effectuate these Regulations in a manner consistent with this policy, including the temporary modification of any dates necessary to facilitate implementation.

8.3 In the event of a Water Management Reduction, the IID Board of Directors, at its sole discretion, may take any actions it determines and finds are necessary to protect the public health and safety.

8.4 The IID Board of Directors may terminate the implementation of an annual Apportionment at any time at its discretion or upon recommendation of the Agricultural Water Advisory Committee. The District shall track actual water demands during the Calendar Year.

Attachment C

Water Demand Memorandum, Rick Engineering,
revised November 27, 2024

Attachment C: Water Demand Memorandum

April 25, 2024

Revised June 20, 2024

Revised August 22, 2024

Revised November 27, 2024

WATER DEMAND MEMORANDUM

Date:	April 25, 2024; Revised June 20, 2024, August 22, 2024, November 27, 2024
To:	Jim Minnick, Imperial County Planning and Development Services Director
From:	Dudek Consultant Team: Shannon Baer, AICP (RICK); Brian Mooney, FAICP (RICK); Matt Valerio (Dudek); Devin Pritchard-Peterson, PG No. 10133 (Dudek)
Topic:	Lithium Valley Specific Plan Water Demand Methodology

This memorandum (memo) has been prepared by the Lithium Valley Specific Plan and Programmatic Environmental Impact Report Consultant Team, RICK and Dudek, to inform the reader how water demand and water storage quantities were estimated for the Lithium Valley Specific Plan proposed land use plan. This memo presents the general methodology of the water demand and storage calculations, assumptions made, results, and sources used.

1. METHODOLOGY

1.1 Land Use Plan Acreages

To estimate the water demand of the Lithium Valley Specific Plan, we started with the acreages of each land use designation of the Proposed Land Use Plan for the Lithium Valley Specific Plan. Table 1, Land Use Plan Acreages, delineates the acreages of each land use designation by phase.

Considering the relatively large size of the Specific Plan Area, and the unpredictable market demands, the Consultant Team applied a phased development approach. Phasing involves dividing the project area into manageable stages for select areas, ensuring that subsequent phases are contingent upon infrastructure availability and market demand. This adaptive approach gives the Specific Plan a dynamic and proactive tool to make it a longer lasting, resilient plan.

Table 1, Land Use Plan Acreages

Land Use Designation	Phase 1 Acreage	Phase 2 Acreage	Phase 3+ Acreage
Solar	1,768	-	See Manufacturing and Logistics
River Corridor	1,042	-	-
Conservation	8,140	-	-
Community Opportunity Area	815	828	-
Playas Renewables	2,313	4,344	-
Green Industrial	7,290	2,712	8,949[a]
Manufacturing	1,834	1,375	2,608[b]
Logistics	2,319	4,404	633[c]
Playas Restoration	-	-	2,017
Interim Agriculture	-	-	See Green Industrial and Manufacturing
Total	25,521	13,662	14,207

Source: RICK 2024.

Notes: (-) = does not apply to the phase.

[a.] From Interim Agriculture area west of the Alamo River.

[b.] Includes 1,473 acres of Interim Agriculture area east of the Alamo River and 1,135 acres of southern Solar area.

[c.] From northern Solar area.

1.2 Adjusted Building Square Footage Assumptions

Based on Table 1, Land Use Plan Acreage, the Consultant Team converted the acreage to square feet. Total square feet were then adjusted to account for lot coverages based on cased studies, and absorption rate assumptions, based on historical trends and market research. The absorption rate measures how much of the existing land use (mostly agriculture) is anticipated to transform into the new land use designation, estimating the speed and extent of development occurring within the Specific Plan Area. The historical absorption rate within the Gateway Specific Plan is approximately 4% of the gross area, having developed less than 3,000,000 square feet over the course of 20+ years. Additionally, the entire County experiences approximately 3% population growth every year. For developable land use designations, assumed absorption rates conservatively range between 5 and 25% in Phase 1, and 5 to 10% in Phases 2 and 3. Applying absorption rates help avoid overestimating the degree to which development will occur, leading to a more accurate and reliable Specific Plan and Programmatic Environmental Impact Report.

The absorption rate assumptions were applied to the total square feet of every land use designation, resulting in the following adjusted building square footages. Table 2, Adjusted Building Square Footage, shows that the total adjusted building square footage for Phase 1 is 27,855,293 square feet, and the total building square footage for the entire Specific Plan buildout is 49,432,209 square feet.

Table 2, Adjusted Building Square Footage

Land Use Designation	Phase 1 Adjusted Building SF	Phase 2 Adjusted Building SF	Phase 3 Adjusted Building SF	Total Building SF
Solar	50,000	-	-	50,000

River Corridor	-	-	-	-
Conservation	-	-	-	-
Community Opportunity Areas	532,793	1,082,063	-	1,614,856
Playas Renewables	1,511,362	2,838,429	-	4,349,791
Green Industrial	19,845,741	2,362,365	4,872,530	27,080,637
Manufacturing	2,996,137	1,496,911	2,840,550	7,333,598
Logistics	4,545,055	5,754,659	826,604	11,126,317
Playas Restoration	-	-	-	-
Interim Agricultural Overlay	-	-	-	-
Total	29,481,088	13,534,427	8,759,333	51,774,849

Source: RICK 2024.

1.3 Water Demand Assumptions

The next step was applying a water demand assumption to each land use designation, using either the total acreage, adjusted building square footage, the approximate number of facilities capable within the adjusted building square footage, or the estimated number of employees based on the adjusted building square footage. Table 3, Water Demand Assumptions and Results, describes the metrics used for each land use designation in terms of acre feet per year (AFY) per acre, AFY per employee, AFY per facility, or AFY per 1,000 square feet (SF). Table 3 also includes the results of the water demand metrics for each land use designation.

Table 3, Water Demand Assumptions and Results

Land Use Designation	Applied To	Water Demand Metric	Phase 1 Water Demand (AFY)	Phase 2 Water Demand (AFY)	Phase 3 Water Demand (AFY)	Source
Solar	Total Acreage	0.03 AFY/acre	58	-	See Phase 3 Logistics and Manufacturing	Average of case studies
River Corridor	Total Acreage	0 AFY/acre	-	-	-	IID 2012
Conservation	Total Acreage	0.5 AFY/acre	-	-	-	IID 2012
Community Opportunity Area	# of Employees	0.19 AFY/employee	121	525	-	SCAG Modeling Data and IID 2012
Playas Renewables	# of Facilities	2,800 AFY/ facility, plus 20% water recycling	4,759	8,937	-	Average of case studies and SCAG Modeling Data
Green Industrial	# of Facilities	2,800 AFY/ facility, plus 20% water recycling	37,133	4,420	9,117	Average of case studies and SCAG Modeling Data
Manufacturing	Adjusted Building SF	0.45 AFY/ 1,000 SF	1,361	680	1,291	Average of case studies

						and SCAG Modeling Data
Logistics	Adjusted Building SF	0.11 AFY/ 1,000 SF	520	658	91	Average of case studies and SCAG Modeling Data
Playas Restoration	Total Acreage	4.0 AFY/acre	-	-	4034	IID 2012
Interim Agricultural Overlay	-	-	Existing agriculture usage		See Phase 3 Green Industrial and Manufacturing	-
Total	-	-	48,023	15,220	14,533	-

Sources: RICK 2024; SCAG 2024; IID 2012.
Notes: (-) = does not apply or not applicable; AFY = acre-feet per year; SF = square-feet; IID = Imperial Irrigation District; SCAG = Southern California Association of Governments.

1.4 Water Recycling Assumptions

A 20 percent water recycling assumption was applied to Green Industrial and Playas Renewables. This was a conservative estimate made by the Consultant Team based on conversations with companies involved in lithium extraction and organizations studying those processes. It is the Consultant Team's understanding that the potential for water recycling for the mineral recovery process (or direct lithium extraction (DLE) process) has a higher capability to recycle water than water savings of geothermal or solar energy.

As of 2020, the California Water Resources Control Board estimates only 3 percent of water is recycled with Geothermal Energy Production (State Water Resources Control Board 2019). However, Appendix D of Imperial Irrigation District's (IID) Integrated Regional Water Management Plan (IRWMP), page D-32, conservation for geothermal and solar thermal water uses assumes 10 percent savings by the year 2015 and 20 percent savings by the year 2020 (IID 2012).

Therefore, a relatively conservative (low) water recycling assumption of 20 percent has been applied to the Green Industrial and Playas Renewables land use designation.[1] It is important to note that these advanced water recycling practices are extremely expensive and can make a project unfeasible.[2]

1.5 Water Storage Assumptions and Results

Potable water storage facilities are required to meet the peak hour demand (PHD), maximum day demand (MDD), fire flow and other emergency conditions in a distribution system. The total required

[1] Geothermal energy production involves larger volumes of treated water for steam-generated energy. Water recycling practices for new or existing geothermal facilities has been demonstrated to require significant capital costs for additional wells, equipment, and chemical treatments (BHER 2024).
[2] For example, the Vulcan Energy Zero Carbon Lithium project in Germany reports a very low net water consumption of 359.27 gallons per net ton of Lithium Hydroxide Monohydrate due to the water recycling streams engineered into the process (Vulcan Energy 2023), which is approximately 10 to 100 times less water than reported by other companies (Chambers Group 2021; Dobson et al. 2023; Lake Resources 2023). However, this project is estimated to cost upwards of $1.4B, using substantial public investments and funding.

potable water storage for a pressure zone, includes the sum of three types of storage: Operational, Emergency and Fire Flow.

A pressure zone is defined as a distinct subset of the water distribution piping network where a minimum and maximum pressure range is maintained by pressure controlling devices, including storage facilities. Due to changes in elevation in a water distribution system, multiple pressure zones are often required to maintain water pressures within a set range within the full system.

The following criteria are industry-standard factors used to determine storage volumes for this specific plan area.

Operational Storage

Peak demands (i.e., peak hour) greater than MDD are typically supplied from storage. Operational storage provides the storage to meet these short-term peak demands. Twenty-five percent (25%) of the estimated MDD is the industry standard criteria used to meet daily demand fluctuations within each pressure zone.

Emergency Storage

Emergency storage capacity is needed to sustain the water needs during periods of total or partial shutdown of the water supply facilities. 100% of the estimated MDD is an industry standard value used to calculate emergency storage by pressure zone.

Fire Flow Storage

The maximum fire flow requirement for each pressure zone must be met through storage. The fire flow storage for a pressure zone is based on the highest fire flow requirement within each pressure zone.

Due to a lack of understanding of pressure zones at this stage of development, storage requirements were based on total annual average water estimates per project phase, assuming one pressure zone would serve the entire development. Estimate assumed an MDD peaking factor of 2 (i.e. MDD = 2 x Average Annual Demand). Fire flow storage conservatively assumed a maximum 8,000 gpm, 4 hour fire flow, though this value will likely be lower once more building information is known for the development. Storage requirements would likely increase if the number of pressure zones serving the area increased, as fire flow storage is typically contained in the reservoirs for each pressure zone.

Table 4 Water Storage

Storage Requirement	Phase 1 (gallons)	Phase 2 (gallons)	Phase 3 (gallons)
Operational (0.25 x MDD)	21,437,381	6,794,353	6,487,316
Emergency (1 x MDD)	85,749,526	27,177,412	25,949,265
Fire Flow (Largest FF)	1,920,000	1,920,000	1,920,000
Totals	**109,107,000**	**35,892,000**	**34,357,000**

Source: Dudek 2024

2. IID Water Supply Policy

The current estimated water apportionment to the Specific Plan Area is approximately 149,000 AFY (Gamboa-Arce 2023). Approximately 126,000 AFY (or 85 percent) of that apportionment is apportioned to agricultural land uses within the Specific Plan Area, inclusive of IID Trust Lands leased to growers. It shall be assumed that all apportioned agricultural water is being used or offered back to the clearinghouse by the apportioned agricultural customer for use by other agricultural users so that the apportioned customer may be relieved of the take-or-pay obligation (Gamboa-Arce 2024). Agricultural apportionment many not be transferred to other water user categories, under the current IID Equitable Distribution Plan (2006).

Interim Water Supply Policy (IWSP, 2009), IID may set aside up to 25,000 AFY for conservation for the benefit of new non-agricultural projects. As of November 2024, IID has issued two water supply agreements and one "Will-Serve Letter" under the IWSP for 6,380 AFY, leaving a balance of 18,620 AFY of potential water supply available for additional conservation and contracting under the IWSP. As the policy stands, the IID Board may need to assess and consider any water supply amount beyond the 25,000 AFY, under updated hydrological conditions and obligations (Gamboa-Arce 2024).

All new non-agricultural projects, in coordination with IID, need to conserve their respective water supply demand and environmentally assess the project and/or program needed to create that conserved water supply for the benefit of their project, irrespective of the aforementioned 25,000 AFY balance (Gamboa-Arce 2024).

As shown in Table 5, IID Water Demand Comparison, the maximum Phase 1 Water Demand for the Lithium Valley Specific Plan is 37,296 AFY, which is beyond the 18,620 AFY 2024 unallocated water conservation amount for non-agricultural projects.

Table 5, IID Water Demand Comparison

Phase 1 Water Demand (AFY)	Total Specific Plan Water Demand (AFY)	2023 Specific Plan Area Agricultural Water Apportionment (AFY)	2024 IWSP Total unallocated water for non-agricultural projects (AFY)
48,023	77,776	149,000	18,620

Sources: RICK 2024; Gamboa-Acre March, November 2024.
Notes: AFY = acre-feet per year.

3. Recommendations

Based on the quantities in Table 5, Phase 1 of the Lithium Valley Specific Plan may request up to approximately 48,023 AFY, and approximately 77,776 AFY for all phases, which exceeds the 18,620 AFY available to non-agricultural projects. As such, it will take further collaboration with IID to identify: (1) if an update to the Interim Water Supply Policy (2009) is warranted, and (2) possible water supply augmentation options described in Chapter 12 of the IID Integrated Regional Water Management Plan that may be fit for the Lithium Valley Specific Plan area.

4. References

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Attachment A – Case Studies and SCAG Modeling Data

Case Studies

Project or Facility Name	Facility Size or Production Capacity	Water Use (AFY)	Source Link
Green Industrial/Playas Renewables			
Energy Source Mineral Atlis Project	19,000 tonnes Li/yr	3,400	https://www.icpds.com/assets/Energy-Source-Mineral-ATLiS-Project-DEIR-.pdf
CTR Hell's Kitchen Stage 1	25,000 tonnes Li/yr	6,500	https://files.ceqanet.opr.ca.gov/277330-3/attachment/kwHBZD0vEqiE1tK17Qi-2fB-qph5ETh541IqnDAuzEtlNhoIcEMRj_g4Q8paMoUcB5yJrr7OAIHJSIDr0
Vulcan A-DLE Phase 1	24,000 tonnes Li/yr	27	https://www.investi.com.au/api/announcements/vul/e617fca6-6d4.pdf
Lake Resources Lithium Project Phase 1	25,000 tonnes Li/yr	384	https://lakeresources.com.au/wp-content/uploads/2023/12/lke_kachi-dfs_19-dec-23.pdf
BHER DLE	90,000 Li/yr	330	Conservation with BHER staff March 14, 2024.
BHER Elmore North	140 MW	6,480	https://www.energy.ca.gov/powerplant/steam-turbine/elmore-north-geothermal-project-engp
BHER Morton Bay Geothermal Project	140 MW	5,560	https://www.energy.ca.gov/powerplant/steam-turbine/morton-bay-geothermal-project-mbgp
BHER Black Rock Geothermal Project	77MW	1,125	https://www.energy.ca.gov/powerplant/steam-turbine/black-rock-geothermal-project-brgp
IID Generic Binary Geothermal Plant	50 MW	6,000	https://www.iid.com/water/water-supply/water-plans/imperial-integrated-regional-water-management-plan

IID Generic Flash Geothermal Plant	50 MW	485	https://www.iid.com/water/water-supply/water-plans/imperial-integrated-regional-water-management-plan
Anonymous Green Hydrogen	60 tons H/day	245	N/A
Anonymous Data Center	1,000,000 SF	14	N/A
Manufacturing			
Nissan Leaf Battery Plant	5,800,000 SF	2,800	https://www.energy.gov/sites/prod/files/nepapub/nepa_documents/RedDont/EA-1678-FEA-2009.pdf
Blue Oval Battery Park Kentucky	7,100,280 SF	2,688	https://www.energy.gov/sites/default/files/2023-03/ea-fonsi-ea-2201-blueovalsk-battery-2023-03.pdf
Blue Oval City Battery Plant	3,136,320 SF	1,344	https://www.energy.gov/sites/default/files/2023-03/ea-fonsi-ea-2201-blueovalsk-battery-2023-03.pdhttps://www.energy.gov/sites/default/files/2023-03/ea-fonsi-ea-2201-blueovalsk-battery-2023-03.pdf
SCAG 2019 Modeling Data	4,194,240 SF	2,055	https://www.arcgis.com/home/item.html?id=3b27b21e9aa64e4a8200d0385ccfe3ac%2F1000.
Logistics			
World Logistic Center	40,400,000 SF	1,991	https://moval.gov/cdd/pdfs/projects/wlc/FEIR.pdf
West Valley Logistics Specific Plan	3,543,690 SF	470	https://www.fontanaca.gov/DocumentCenter/View/37259/WVLCSP-2ndRDEIR_WEB-Version
I-15 Logistics Center	1,175,720 SF	147	https://files.ceqanet.opr.ca.gov/221268-2/attachment/5ACAxl-Ty-Qlfb-nCQYpjkV4FXBP85XKnPvzJ1cCkt0bbRndwYsN70cIJUdJqVEz2DdrhYdCDPBqtipj0
SCAG 2019 Modeling Data	2,906,470 SF	375	https://www.arcgis.com/home/item.html?id=3b27b21e9aa64e4a8200d0385ccfe3ac%2F1000.

SCAG Modeling Data

Average Building Square Foot by Sector (per employee)

Sector	Suburban	Urban
Retail/services	750	530
Accommodation	1,950	1,010
Restaurant	520	310
Arts and Entertainment	1,010	900
Other Services	750	650
Office Services	530	440
Education	940	620
Medical Services	290	210
Public Administration	840	700
Manufacturing	680	460
Transportation/warehousing	710	610
Utilities	490	280
Wholesale	820	680
Construction	750	390
Military	600	525

Source: SCAG 2019: Estimated with 2019 employment data from Infogroup along with SCAG land use

Indoor Commercial Water Use Baseline

Unit Type	Gallons/employee/day
Retail and Service	38
Accommodation	209
Restaurant	209
Arts and Entertainment	209
Other Services	338
Office Services	38
Education	157
Medical Services	157
Public Administration	38
Manufacturing	368
Transportation and Warehousing	80
Utilities	33
Wholesale	80
Construction	33
Military	80

Source: Pacific Institute 2003: adjusted to account for efficiency improvement

Attachment D

IID Resolution No. 15-2024

Attachment D: IID Resolution No. 15-2024

Adopted May 21, 2024

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IMPERIAL IRRIGATION DISTRICT
RESOLUTION NO. 15-2024

A RESOLUTION REINFORCING IMPERIAL IRRIGATION DISTRICT'S COLORADO RIVER RESOURCES AND LOCAL WATER MANAGEMENT COMMITMENTS TO SERVE COMMUNITY WATER DEMANDS INCLUDING LITHIUM VALLEY

WHEREAS, the Imperial Irrigation District (IID) shares priorities 3a and 6a of California's Colorado River water entitlement pursuant to the 1931 Seven Party Agreement, and has a 1932 contract with the United States Secretary of the Interior for the diversion and use of up to 70 percent of California's Colorado River supplies; and

WHEREAS, IID's senior water rights are capped at an annual entitlement of 3.1 million acre-feet of Colorado River water for the term of the Quantification Settlement Agreement, which includes a present perfected right of 2.6 million acre-feet of diversions per year as decreed by the U.S. Supreme Court; and

WHEREAS, IID's mission is to provide water and power, which is essential to life and progress for the communities we serve; and

WHEREAS, IID's vision, as a publicly-owned utility, is a commitment to provide reliable and cost-effective water and power services to all of its customers; and

WHEREAS, IID strives to effectively plan and manage its water resources to encourage the maximum utilization of available supplies within its service area, to ensure local water supply certainty and to provide for long-term Colorado River system resiliency in an era of drought and climate change; and

WHEREAS, IID promotes the efficient use of water by its customers and aims to conduct its business and operations in a sustainable and environmentally sensitive manner.

NOW, THEREFORE, BE IT RESOLVED, that the Imperial Irrigation District Board of Directors is supportive of Imperial County's efforts to diversify our community's economy and improve employment opportunities, including projects affiliated with the development of Lithium Valley, that incorporate environmental stewardship provisions to protect our region from unmitigated impacts. IID is committed to:

(1) Equitably distribute its annual Colorado River supply among all of its users, including agricultural, industrial and commercial and potable water use categories within the district; and
(2) Provide cost-effective water delivery service to IID customers; and
(3) Develop the necessary water management policies, programs and tools to support new non-agricultural beneficial uses, including Lithium Valley development; and
(4) Collaborate with stakeholders, including Imperial County, to expand conservation opportunities and develop innovative water management tools to support long-term system sustainability that balances future water supplies, conservation obligations and local demands; and
(5) Continue to work together with Imperial County to ensure new projects and changes in land use include robust hydrologic analyses and requisite environmental mitigation to protect the Salton Sea and adjacent communities; and
(6) Review proposed projects with Imperial County to verify that water demands meet beneficial use requirements and efficiency standards.

PASSED AND ADOPTED this 21st day of May, 2024.

IMPERIAL IRRIGATION DISTRICT ORGANIZED JULY 25, 1911 EL CENTRO, CALIFORNIA

IMPERIAL IRRIGATION DISTRICT

Chairman

Secretary