

DOCKETED	
Docket Number:	99-AFC-01C
Project Title:	Elk Hills Power Project - Compliance
TN #:	266896
Document Title:	Corrected_Appendix Q Environmental Justice and Socioeconomics
Description:	This upload replaces and supersedes docket upload TN# 266453 for CRC's Appendix Q, Environmental Justice and Socioeconomics as the correctly titled document for Appendix Q.
Filer:	Daniel I. Padilla
Organization:	California Resources Corporation
Submitter Role:	Applicant
Submission Date:	10/29/2025 9:22:28 AM
Docketed Date:	10/29/2025

CalCapture CCS Project

Environmental Justice and Socioeconomics Technical Study Report



Prepared for:
Carbon TerraVault Holdings, LLC, a carbon
management subsidiary of California Resources
Corporation

October 2025

Project/File:
185806775

Prepared by:
Stantec Consulting Services Inc.
2646 Santa Maria Way, Suite 107
Santa Maria, CA 93455

Revision Schedule

Revision	Description	Author	Date	Quality Check	Date	Independent Review	Date

Disclaimer

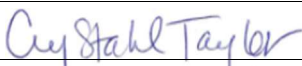
The conclusions in the Report titled CalCapture CCS Project Environmental Justice and Socioeconomics Technical Study Report are Stantec's professional opinion, as of the time of the Report, and concerning the scope described in the Report. The opinions in the document are based on conditions and information existing at the time the scope of work was conducted and do not take into account any subsequent changes. The Report relates solely to the specific project for which Stantec was retained and the stated purpose for which the Report was prepared. The Report is not to be used or relied on for any variation or extension of the project, or for any other project or purpose, and any unauthorized use or reliance is at the recipient's own risk.

Stantec has assumed all information received from Carbon TerraVault Holdings, LLC, a carbon management subsidiary of California Resources Corporation (the "Client") and third parties in the preparation of the Report to be correct. While Stantec has exercised a customary level of judgment or due diligence in the use of such information, Stantec assumes no responsibility for the consequences of any error or omission contained therein.

This Report is intended solely for use by the Client in accordance with Stantec's contract with the Client. While the Report may be provided by the Client to applicable authorities having jurisdiction and to other third parties in connection with the project, Stantec disclaims any legal duty based upon warranty, reliance or any other theory to any third party, and will not be liable to such third party for any damages or losses of any kind that may result.

Prepared by: Lisel Ballmer, Environmental Planner
Henry Mooney, Environmental Planner
Susan Summerford, Environmental Planner

Reviewed by:


Signature

Crystahl Taylor

Approved by:


Signature

Eric Snelling

Table of Contents

Acronyms / Abbreviations.....	iii
1 Introduction	1
1.1 Project Description	1
1.2 CTV I Background Information.....	6
1.3 Project Location	7
2 Environmental Justice and Socioeconomics Analysis.....	8
2.1 Environmental Justice	8
2.1.1 Project Setting	8
2.1.2 Environmental Justice Project Screening	11
2.2 Socioeconomics	22
2.2.1 Project Setting	22
2.2.2 Socioeconomic Project Screening	22
3 Environmental Impacts.....	25
3.1.1 Air Quality.....	25
3.1.2 Cultural and Tribal Cultural Resources	29
3.1.3 Hazards, Hazardous Materials/Waste, and Wildfire	30
3.1.4 Noise and Vibration.....	31
3.1.5 Public Health	32
3.1.6 Transportation	35
3.1.7 Visual Resources	36
3.1.8 Solid Waste Facilities	36
3.1.9 Water Resources	37
4 Cumulative Impacts	39
5 Mitigation Measures.....	40
6 References	41

List of Tables

Table 1 Project Parcel Data	7
Table 2 Summary of Kern County General Plan Land Use Policies and Project Conformance	10
Table 3 Indicators that Form the CalEnviroScreen 4.0 Score	12
Table 4 Demographic Information of Project Area	15
Table 5 CalEnviroScreen Scores for Disadvantaged Communities	18
Table 6 CalEnviroScreen Indicator Percentiles for Pollution Burden for Disadvantaged Communities.....	18
Table 7 CalEnviroScreen Scores for Indicator Percentiles for Population Characteristics for Disadvantaged Communities	19
Table 8 Socioeconomic Information of Project Area	23
Table 9. Skilled Workers by Occupation in Kern County.....	23
Table 8 Project Construction Criteria Pollutant Emissions	25
Table 9 Project Operational Criteria Pollutant Emissions.....	26



List of Figures

Figure 1 Regional Vicinity Map.....	3
Figure 2 Site Plan.....	4
Figure 3 SB 535 and Minority Population.....	16
Figure 4 Low-Income Population.....	17
Figure 5 CalEnviroScreen 4.0 Results Percentiles.....	20
Figure 6 CalEnviroScreen 4.0 Results for Pollution Burden.....	21
Figure 7 Sensitive Receptors	28



Acronyms / Abbreviations

Acronym / Abbreviation	Full Name
AMI	acute myocardial infarction
BMP	best management practice
CAL FIRE	California Department of Forestry and Fire Protection
CalEnviroScreen	California Communities Environmental Health Screening Tool
CalEPA	California Environmental Protection Agency
CalGEM	California Geologic Energy Management Division
CARB	California Air Resources Board
CCR	California Code of Regulations
CCS	CalCapture Carbon Capture and Sequestration
CCU	Carbon Capture Unit
CEC	California Energy Commission
CEQA	California Environmental Quality Act
CNRA	California Natural Resources Agency
CO	carbon monoxide
CO ₂	carbon dioxide
CRC	California Resources Corporation
CTV	Carbon TerraVault Holdings, LLC
CTV I	Carbon TerraVault I
CUP	Conditional Use Permit
the CUP	Collectively, CUP No. 13, Map 118; CUP No. 14, Map 118; CUP No. 5, Map 119; CUP No. 3, Map 120; CUP No. 2, Map 138; and CUP No. 6, Map 119
DPM	diesel particulate matter
DTSC	California Department of Toxic Substances Control
EFG+	Econamine FG Plus
EHOF	Elk Hills Oilfield
EHPP	Elk Hills Power Plant
EIR	Environmental Impact Report
EJ	Environmental Justice
EO	Executive Order
Kern COG	Kern Council of Governments
Kern County	Kern County Planning and Natural Resources Department
kV	kilovolt
LOS	Level of Service
MDB&M	Mount Diablo Base and Meridian
MEIR	Maximally Exposed Individual Resident
MESR	Maximally Exposed Sensitive Receptor
MMPY	million metric tons per year
MTPD	metric tons per day
MWe	megawatt equivalent
NO _x	oxides of nitrogen
NO ₂	nitrogen dioxide



CalCapture CCS Project – Environmental Justice and Socioeconomics Technical Study Report
 Acronyms / Abbreviations

Acronym / Abbreviation	Full Name
NPDES	National Pollution Discharge Elimination System
OEHHA	Office of Environmental Health Hazard Assessment
PM	particulate matter
PM _{2.5}	fine particulate matter; particulate matter 2.5 microns or smaller
PM ₁₀	fine particulate matter; particulate matter 10 microns or smaller
ppm	parts per million
RO	reverse osmosis
ROG	reactive organic gas (also known as volatile organic compound)
SB	Senate Bill
SJVAB	San Joaquin Valley Air Basin
SJVAPCD	San Joaquin Valley Air Pollution Control District
SOx	oxides of sulfur
ST	steam turbine
Stantec	Stantec Consulting Services Inc.
SWP	State Water Project
SWRCB	State Water Resources Control Board
TAC	toxic air contaminant
UIC	Underground Injection Control
U.S. EPA	U.S. Environmental Protection Agency
WEAP	Worker Awareness Program
WKWD	West Kern Water District



1 Introduction

Stantec Consulting Services Inc. (Stantec) has prepared this Environmental Justice and Socioeconomics Technical Study Report (Technical Study Report) on behalf of Carbon TerraVault Holdings, LLC (CTV), a carbon management subsidiary of California Resources Corporation (CRC) for the CalCapture Carbon Capture and Sequestration (CCS) Project (Project), in the Elk Hills Oilfield (EHOF) near Tupman, Kern County, California (Project site). The Regional Location and Project Location are shown in Figures 1 and 2.

1.1 Project Description

The proposed Project would capture carbon dioxide (CO₂) generated as a by-product by CRC's 550-megawatt-equivalent (MWe) Elk Hills Power Plant (EHPP), located in the EHOF near Tupman, Kern County, California. The EHPP was commissioned in 2003 and is powered by two General Electric 7FA gas turbines (GTs), with two heat recovery steam generators (HRSGs) providing steam to a General Electric D11 steam turbine (ST). The Carbon Capture Unit (CCU), not including pipelines or temporary staging and parking areas, would be located immediately south of the EHPP in a 7.64-acre existing disturbed area.

Implementation of the Project will require approval of a Petition for Modification Application from the California Energy Commission (CEC), who has the exclusive authority for licensing thermal power plants of 50 MW or larger, as well as related transmission lines, fuel supply lines, and other facilities.

The CCU would utilize Fluor's Econamine FG PlusSM (EFG+) process to capture and concentrate the CO₂. The EFG+ process is designed to capture 95 percent of the CO₂ from the total flue gas feed to the unit. The EFG+ CCU can be divided into seven primary subsystems or sections: Flue Gas Cooling, CO₂ Absorption, Solvent Regeneration, Solvent Maintenance, Chemical Storage and Supply, CO₂ Compression, and Utility Support Systems. The treated flue gas is vented to the atmosphere directly from the EFG+ CCU plant absorber. The concentrated CO₂ would then be compressed, dehydrated, and stripped of oxygen prior to conveyance to the permitted manifold pad, permitted as part of the approved Carbon TerraVault I (CTV I) project (State Clearinghouse No. 2022030180), which will direct the CO₂ to the U.S. Environmental Protection Agency (U.S. EPA) approved Class VI Underground Injection Control (UIC) wells to be injected into a depleted oil and gas reservoir located on the CRC property and approved as part of the CTV I project. The previously approved CTV I manifold pad, injection wells, depleted oil and gas reservoir and related facilities further discussed in Section 1.2 below are not part of the CalCapture CCS Project analyzed in this report.

A new, approximately 0.5-mile, 8- to 10-inch pipeline, installed primarily below ground utilizing either trenching or horizontal directional drilling (HDD) techniques, would transport the CO₂ from the CCU to the tie-in with the Carbon TerraVault I (CTV I) permitted 35R manifold facility (pad). It is anticipated that the proposed Project would capture approximately 4,400 metric tons of CO₂ per day (MTPD) (1.6 million



metric tons of CO₂ per year [MMTPY]). The proposed Project is estimated to be in operation for up to 26 years.¹

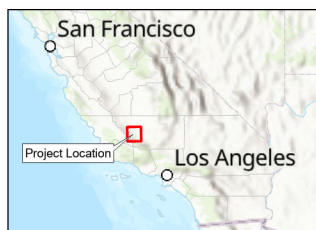
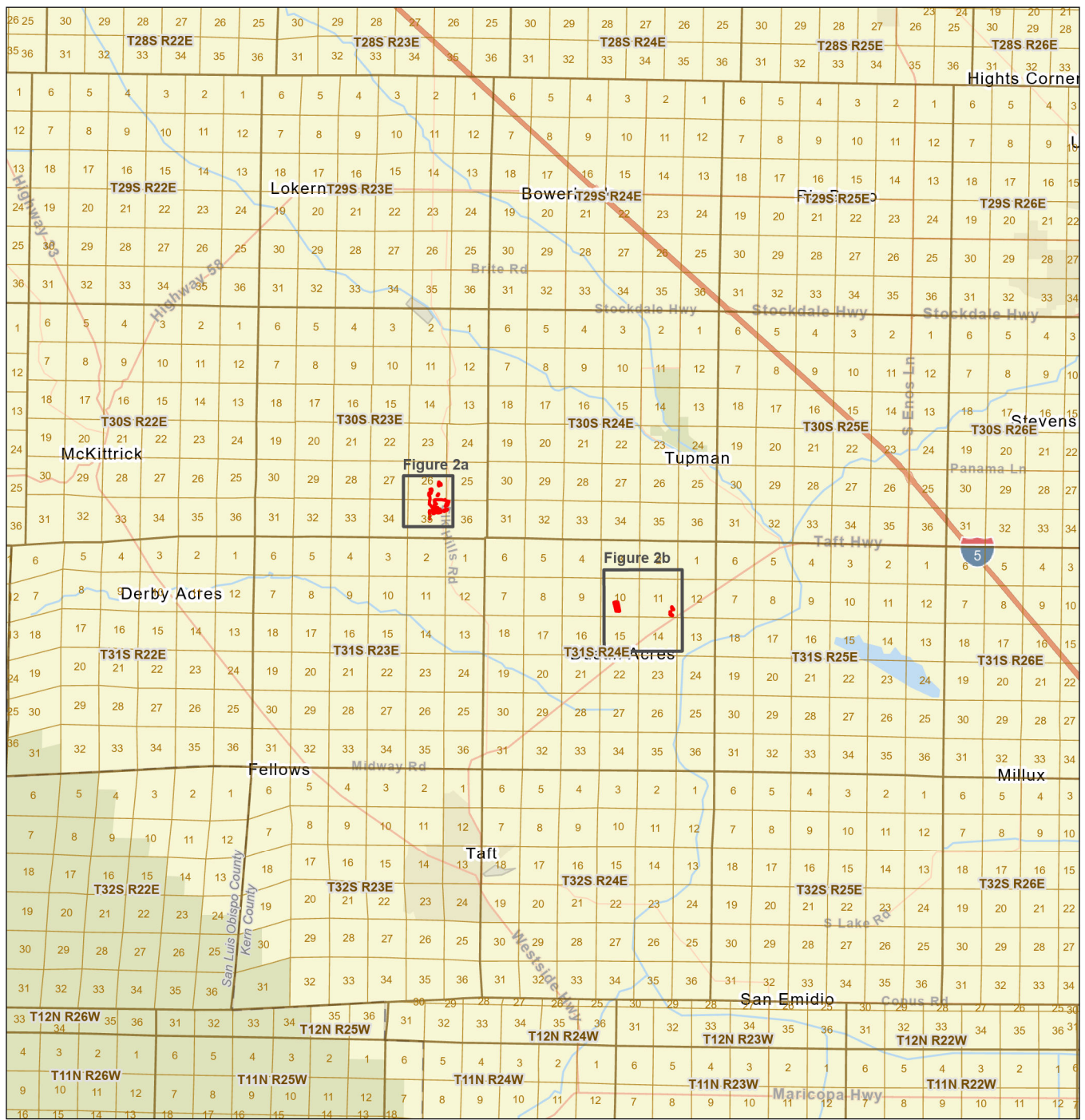
Water use during operation of the CalCapture CCU would be minimized by the inclusion of a hybrid cooling system (Wet Surface Air Coolers [WSAC], air coolers, secondary glycol cooling, and water cooling). Additionally, the CCU would be equipped with a water treatment system, consisting of a reverse osmosis (RO) Unit that is designed to recover and reuse water from the Cooling Tower blowdown. The recovered water is utilized as make-up to the CO₂ absorption system and the Wash Water WSAC Basin. A wastewater stream (less than 10 gallons per minute) would be collected at the CalCapture CCU and transferred by a new surface pipeline to the EHPP for disposal via an existing UIC Class I injection well.

The proposed Project includes a single connection to the CRC Power System and would include a connection of a new 115-kilovolt (kV) transmission line to a new CRC electrical substation. The proposed Project would require a new transmission tie line to connect the Project switching station to the existing CRC substation. Electrical power would be supplied to the CalCapture Substation with a new dedicated electrical transformer. The new 115-kV transmission tie line is expected to be built using pre-engineered steel poles with anchor bolt foundation designs.

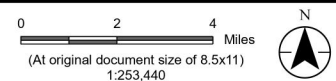
During construction, temporary offices and existing parking areas would be used by construction personnel. Temporary office and parking areas have been designated on previously disturbed areas to the south and northeast of the Project site. Two additional areas are located approximately 5.5 miles southeast of the Project site. There are no permanent new buildings proposed for the Project, and no grading would occur within the temporary office and parking areas. Total temporary staging and parking area would be approximately 30.74 acres.

¹The life of the project is dependent on the sources permitted for injection into the CTV I approved storage reservoir, the ability of the project year by year to obtain CO₂ and inject at the maximum 2,210,000 million tons per year, and the total estimated storage capacity of up to 48 million tons of CO₂.





- Project Area
- Township and Range
- Section

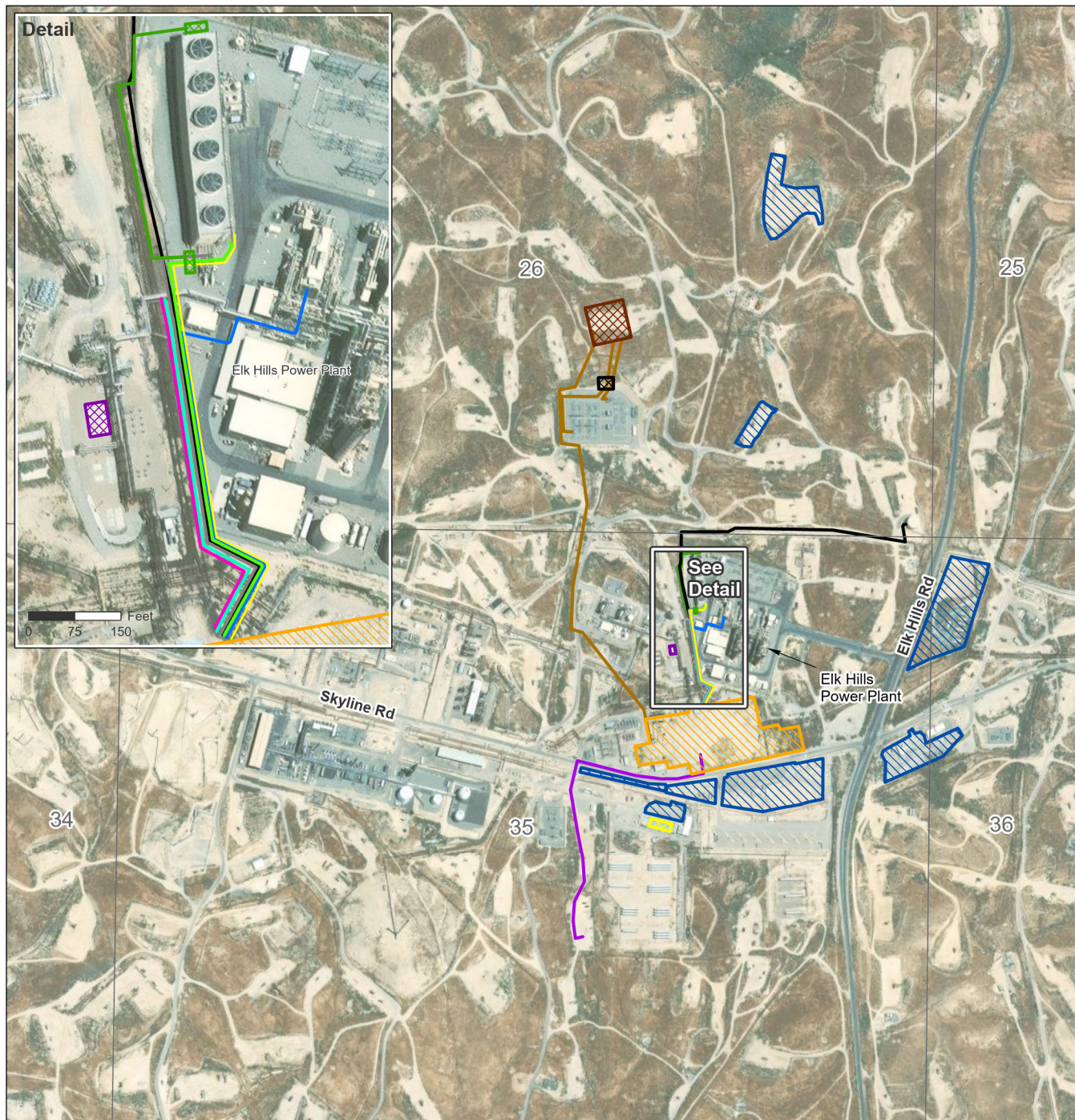


Project Location: Kern County, CA
 Prepared by MMD on 2025-06-26
 TR by CT 2025-06-26
 IR by ES on 2025-06-26
 Client/Project: 185806775

California Resources Corporation
 CalCapture Carbon Capture and Sequestration Project
 Figure No. 1
 Title: Regional Vicinity

Notes
 1. Coordinate System: NAD 1983 StatePlane California V FIPS 0405 Feet
 2. Data Sources: Stantec, USGS, 2025.
 3. Background: Esri, GEBCO, NOAA, National Geographic, Garin, HERE, Geonames.org
 Copyright:©2013 National Geographic Society, i-cubed

V:\185806775_CRC_CalCapture03_data\gis_cadd\gisproj\PD\PD_Figures_20250731.aprx Revised: 2025-07-31 By: mdeseo



Notes
1. Coordinate System: NAD 1983 StatePlane California V FIPS 0405 Feet
2. Data Sources: Stantec, USGS, 2025.
3. Background: Esri, GEBCO, NOAA, National Geographic, Garmin, HERE, Geonames.org
Copyright:©2013 National Geographic Society, i-cubed

- Capture Facility
- Temporary Parking, Office, and Staging Areas
- Proposed Sub Location (250 x 250)
- Substation Extension Proposal
- New BPSTG & Transformer
- Warehouse
- Cooling Water Sump

Township, Range, Section*

- Section

*Entire map extent within Township 30S Range 23E.

- Electrical Lines
- CO2 Line
- CWR Line
- CWS Line
- Condensate Line
- HP Steam Line
- LP Steam Line
- Raw Water Line
- RO Permeate Stream Pipeline
- CWS Line Alternative

0 500 1,000 Feet
(At original document size of 8.5x11)
1:12,000

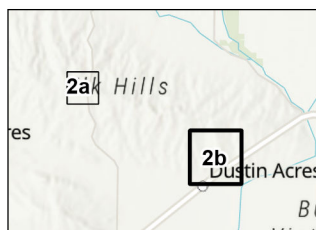


Project Location Prepared by MMD on 2025-07-31
Kern County, CA TR by CT 2025-07-31
Client/Project IR by ES on 2025-07-31
185806775

California Resources Corporation
CalCapture Carbon Capture and Sequestration Project
Figure No.
2a
Title
Site Plan

Disclaimer: This document has been prepared based on information provided by others as cited in the Notes section. Stantec has not verified the accuracy and/or completeness of this information and shall not be responsible for any errors or omissions which may be incorporated herein as a result. Stantec assumes no responsibility for data supplied in electronic format, and the recipient accepts full responsibility for verifying the accuracy and completeness of the data.

V:\185806775_CRC_CalCapture03_data\gis_cad\gispro\PD\PD_Figures_20250731.aprx Revised: 2025-07-31 By: mdeseo



 Temporary Parking, Office, and Staging Areas

Township, Range, Section*

 Section

*Entire map extent within Township 31S Range 24E.

0 800 1,600 Feet
(At original document size of 8.5x11)
1:19,200



Project Location Prepared by MMD on 2025-07-31
Kern County, CA TR by CT 2025-07-31
Client/Project IR by ES on 2025-07-31
185806775

California Resources Corporation
CalCapture Carbon Capture and Sequestration Project
Figure No.

2b
Title
Site Plan

Notes
1. Coordinate System: NAD 1983 StatePlane
California V FIPS 0405 Feet
2. Data Sources: Stantec, USGS, 2025.
3. Background: Esri, GEBCO, NOAA, National
Geographic, Garin, HERE, Geonames.org
Copyright:©2013 National Geographic Society, i-
cubed

Disclaimer: This document has been prepared based on information provided by others as cited in the Notes section. Stantec has not verified the accuracy and/or completeness of this information and shall not be responsible for any errors or omissions which may be incorporated herein as a result. Stantec assumes no responsibility for data supplied in electronic format, and the recipient accepts full responsibility for verifying the accuracy and completeness of the data.

1.2 CTV I Background Information

On December 31, 2024, the U.S. EPA issued four UIC Class VI well permits to CTV, a carbon management subsidiary of CRC.

The specific U.S. EPA permits issued for the four wells are as follows:

- R9UIC-CA6-FY22 1.1 for well 373-35R
- R9UIC-CA6-FY22 1.2 for well 345C-36R
- R9UIC-CA6-FY22 1.3 for well 353XC-35R
- R9UIC-CA6-FY22 1.4 for well 363C-27R

These four wells would be utilized to inject the CO₂ captured from the proposed Project into the Monterey Formation 26R storage reservoir located approximately 6,000 feet below the ground surface. The CTV I project area is located within the EHOF, which is a suitable area for long-term CO₂ storage and sequestration. The CTV I project was designed to implement sustainable CCS in support of California's initiative to combat climate change by reducing CO₂ levels in the atmosphere.

In addition to the Class VI Permit, CTV obtained a land use permit from the Kern County Planning and Natural Resources Department (Kern County) in 2024. Specifically, the CTV I project was approved by the Kern County Board of Supervisors on October 21, 2024, based on a final Environmental Impact Report (EIR, State Clearinghouse #2022030180) prepared by Kern County and certified by it on the same date. A Notice of Determination was filed with the Kern County Clerk on October 22, 2024. The CTV I project is subject to the terms, conditions and restrictions set forth in the CUPs issued by Kern County and identified as CUP No. 13, Map 118; CUP No. 14, Map 118; CUP No. 5, Map 119; CUP No. 3, Map 120; CUP No. 2, Map 138; and CUP No. 6, Map 119 (collectively, "the CUP"). Implementation of the CUP authorizes the construction and operation of underground CO₂ facility pipelines to support the CTV I CCS facility and related infrastructure (e.g., injection/monitoring wells, CO₂ manifold piping and metering facilities) within the 9,104-acre project site, located within the EHOF.

Four monitoring wells permitted by the California Geologic Energy Management Division (CalGEM), as part of the CUP issued by Kern County for the CTV I project would be used for CO₂ monitoring. In addition, six CTV I permitted wells would be used to monitor for seismic activity. The seismic monitoring wells will be used to detect seismic events at or above magnitude (M) 1.0 in real time as required by the California Air Resources Board (CARB) CCS Protocol under the Low Carbon Fuel Standard (LCFS) (C.4.3.2.3). Additionally, the California Integrated Seismic Network will be monitored continuously for indication of a 2.7 M or greater earthquake or greater occurring within a 1-mile radius of injection operations from commencement of injection activity to its completion.

Monitoring activities would extend beyond the injection phase of the Project pursuant to Code of Federal Regulation (CFR) Title 40 Section 146.93 until site closure is granted. Monitoring requirements during post-injection are similar to those during injection, with activities such as sampling occurring quarterly and monitoring well integrity testing at frequency per U.S. EPA requirement.

As noted above, the facilities approved as part of the CTV I project, including but not limited to the manifold, pad, injection wells, monitoring wells and related transmission lines, pipelines and other related facilities that have already been approved by applicable agencies with jurisdiction over those facilities,



including the U.S. EPA, CalGEM and Kern County, are not included as part of the proposed Project. Accordingly, such facilities are not analyzed in this report.

1.3 Project Location

The Project is located within the EHOF in the southwestern edge of the San Joaquin Valley near Tupman in Kern County, California.

The Project comprises portions of six parcels owned by CRC. The Project is contained within the following sections of EHOF: sections 26, 34, and 35 of Township 30 South Range 23 East and sections 10 and 11 of Township 31 South Range 24 East, Mount Diablo Base and Meridian (MDB&M), Kern County, State of California (Table 1). The proposed Project would be located on approximately 52 acres within the identified parcels.

Table 1 Project Parcel Data

Assessor's Parcel Number	Section/ Township/ Range	Acreage*
158-090-19	Section 35/ Township 30S/ Range 23E	590.61
158-090-16	Section 35/ Township 30S/ Range 23E	14.78
158-090-02	Section 26/ Township 30S/ Range 23E	640
158-090-04	Section 34/ Township 30S/ Range 23E	682.86
298-070-05	Section 11/Township 31S/Range 24E	640
298-070-06	Section 10/Township 31S/Range 24E	640

Notes:

Assessor's parcel acreages from Kern County Web Map ([Kern County GIS](#), 2025).



2 Environmental Justice and Socioeconomics Analysis

2.1 Environmental Justice

2.1.1 Project Setting

This Technical Study Report describes the environmental setting and regulatory background and discusses impacts specific to environmental justice associated with the construction and operation of the Project at the existing EHPP.

2.1.1.1 Setting and Regulatory Background

This Technical Study Report describes the methods and potential impacts associated with implementation of the Project and is included as a requirement of the adopted CEC Guiding Principles as well as state law. California law defines Environmental Justice (EJ) as, “the fair treatment of people of all races, cultures and income with respect to the development, adoption, implementation, and enforcement of environmental laws, regulations, and policies” (Gov. Code, § 65040.12(e)(1) Pub. Resources Code, §§ 71110-71118). EJ populations are also referred to as disadvantaged communities by the California Communities Environmental Health Screening Tool (CalEnviroScreen) (CalEPA 2022). The U.S. EPA defines EJ as, “the fair treatment and meaningful involvement of all people regardless of race, color, national origin or income with respect to the development, implementation and enforcement of environmental laws, regulations and policies.” Section 2.1.2, Environmental Justice in the Energy Commission Site Certification Process, describes why EJ is part of the CEC site certification process, the methodology used to identify an EJ population, and the consideration of California Environmental Protection Agency’s (CalEPA) CalEnviroScreen. Section 2.2, Environmental Justice Project Screening, presents the demographic data for those people living in a 6-mile radius of the Project site and a determination on presence or absence of an EJ population. When an EJ population is identified, the analyses in eight technical areas consider the Project’s impacts on this population and whether any impacts would disproportionately affect the EJ population.

2.1.1.2 Environmental Justice in the Energy Commission Siting Process

The 1994 Executive Order (EO) 12898, *Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations*, focused federal attention on the environment and human health conditions of minority communities and calls on federal agencies to achieve environmental justice as part of their mission. The EO required U.S. EPA and all other federal agencies (as well as state agencies receiving federal funds, such as CEC) to develop strategies to address this issue. The agencies were required to identify and address any disproportionately high and adverse human health or environmental effects of their programs, policies, and activities on minority and/or low-income populations. However, the EO was rescinded on January 20, 2025, pursuant to EO 14173 (Exec. No. 14173 2025).

A specific analysis of EJ is not required by the California Environmental Quality Act (CEQA). Pursuant to *Friends of Davis v. City of Davis* (2000) under CEQA, the question is not whether a project will affect



particular persons, but whether it will affect the environment of persons in general. Pursuant to CEQA Guidelines § 15064(e), economic and social changes resulting from a project shall not be treated as significant effects on the environment. Economic or social factors may contribute to the environmental impacts of a project or may contribute to determinations of the significance of impacts; however, they do not constitute impacts in themselves (CEQA Guidelines §§ 15064(e), 15131(b), and 15382).

Although not required by CEQA, CEC implements EJ evaluation in its siting process through its Justice Access Equity Diversity Inclusion Framework (JAEDI) (CEC 2023). To address EJ evaluation and protections, CEC partnered with the California Natural Resources Agency (CNRA) to develop the JAEDI in 2023. As a part of that process, CEC and CNRA defined Energy Justice as “the goal of achieving equity in both the social and economic participation in the energy system, while also remediating social, economic, and health burdens on marginalized communities. Energy justice explicitly centers the concerns of Tribes and Justice Communities and aims to make energy more accessible, affordable, and clean, and democratic for all communities” (CEC 2023). Marginalized communities are commonly identified as those where residents are predominantly minorities or live below the poverty level; where residents have been excluded from the environmental policy setting or decision-making process; where they are subject to a disproportionate impact from one or more environmental hazards; and where residents experience disparate implementation of environmental regulations, requirements, practices, and activities in their communities. EJ and Energy Justice efforts attempt to address the inequities of environmental protection in these communities.

All departments, boards, commissions, conservancies, and special programs overseen by CNRA must consider EJ in their decision-making processes if their actions have an impact on the environment, environmental laws, or policies. CEC has followed CNRA and considers EJ in their decision-making processes. Such actions that require EJ consideration may include:

- adopting regulations;
- enforcing environmental laws or regulations;
- making discretionary decisions or taking actions that affect the environment;
- providing funding for activities affecting the environment; and
- interacting with the public on environmental issues.

An EJ analysis is composed of the following:

- Identification of areas potentially affected by various emissions or impacts from a proposed project;
- Providing notice in appropriate languages (when possible) of the proposed project and opportunities for participation in public meetings to EJ communities;
- A determination of whether there is a comparatively larger population of minority persons, or persons below the poverty level, living in an area potentially affected by the proposed project; and
- A determination of whether there may be a significant adverse impact on a population of minority persons or persons below the poverty level caused by the proposed project alone, or in combination with other existing and/or planned projects in the area.

Given the Project site is an existing facility (EHPP) among an existing industrial use (EHOF), CEC will address EJ but not as extensively as an Air Facility Permit application.



2.1.1.3 San Joaquin Valley Air Basin Community Health Programs

The Project site is located within the San Joaquin Valley Air Basin (SJVAB). The statewide Community Air Protection Program requires CARB to develop a new community-focused program to reduce exposure more effectively to air pollution and preserve public health and to take measures to protect communities disproportionately impacted by air pollution. CARB is required to select the highest priority locations in the state for the deployment of community air monitoring systems and select locations around the state for the preparation of community emissions reduction programs. CARB's governing board has selected 19 communities (Assembly Bill 617 communities) for a community emissions reduction program (CARB 2023). The Project site (and the 6-mile radius) is not located in an Assembly Bill 617 community or a "consistently nominated" community.

2.1.1.4 Kern County General Plan

In California, Senate Bill (SB) 1000 was enacted to require local governments with disadvantaged communities, as defined in statute, to incorporate EJ into their general plans when two or more general plan elements (sections) are updated. The existing Kern County General Plan does not include an EJ or Socioeconomic element that identifies the locations of EJ communities throughout Kern County. In 2017, Kern County initiated the process on the Kern County General Plan Update for 2040 (Kern County 2020). As part of that process, the 2040 General Plan will include an EJ analysis, and Kern County intends to use the option of incorporating EJ policies throughout the General Plan. The current Kern County General Plan has a Land Use, Open Space, and Conservation Element, which includes policies that could be applied to EJ and socioeconomics (i.e., industrial uses near residences). Table 2 identifies the policies presented in the land use element that apply to the Project and describes the Project's conformance with these policies. Section 2.3, Environmental Impacts, provides a more detailed environmental justice analysis to support these conclusions.

Table 2 Summary of Kern County General Plan Land Use Policies and Project Conformance

Applicable Goal/Policy	Conformance and Basis for Determination
Policy 3. The land areas best suited for industrial activity by virtue of their location and other criteria will be protected from residential and other incompatible development.	Yes. No residential development is adjacent to the Project site parcels. As described in the Project Description, Section 1.3, the Project site comprises seven privately owned (CRC) parcels and the Project's CCU would be located immediately south of the EHPP in a 7.25-acre existing disturbed area.
Policy 5. Provide for the clustering of new industrial development adjacent to existing industrial uses and along major transportation corridors.	Yes. The new industrial development will be adjacent to existing industrial uses and no major transportation corridors occur within or adjunct to the Project site parcels. As described in the Project Description, Section 1.1, the Project site comprises five privately owned (CRC) parcels and the Project's CCU would be located immediately south of the EHPP in a 7.25-acre existing disturbed area.



2.1.1.5 Kern Council of Governments

The Project site also falls within the jurisdiction of the Kern Council of Governments (Kern COG), which is an association of Kern County and 11 city governments within the County that address regional transportation issues. Kern COG, in partnership with the University of California Davis Center for Regional Change, published an EJ report titled *Land of Risk / Land of Opportunity* in 2011. The EJ report analyzes EJ and social inequities in the San Joaquin Valley and presents recommendations on how to protect the health and well-being of the region's most vulnerable populations (London et al. 2011). Neither the unincorporated community of Tupman where the Project would be near to, nor the nearest incorporated City of Taft were identified as "communities at risk" for "Cumulative Environmental Vulnerability" in the report. Additionally, the Kern COG report identified the Project site as an area with Low Health Vulnerability.

2.1.1.6 Project Outreach

The Governor's Office of Land Use and Climate Innovation worked with state agencies, local governments, and other stakeholders to update the General Plan Guidelines in 2020 to include guidance for communities on EJ (Governor's Office of Land Use and Climate Innovation 2020). This law has several purposes, including facilitating transparency and public engagement in local governments' planning and decision-making processes, reducing harmful pollutants and the associated health risks in EJ communities, and promoting equitable access to health-inducing benefits such as healthy food options, housing, public facilities, and recreation.

Meaningful involvement is an important part of the siting process and occurs when:

- Those whose environment or health would be potentially affected by the decision on the proposed activity have an appropriate opportunity to participate in the decision;
- The population's contribution can influence the decision; and
- The concerns of all participants involved are considered in the decision-making process.

In accordance with the Governor's EO B-10-11, the CEC Tribal Consultation Policy, the CEC Siting Regulations, and amendments to CEQA (i.e., Assembly Bill 52), CEC staff will conduct outreach and consultation with regional Tribal governments.

CEC will follow the noticing requirements per CEQA Guidelines Section 15087 to mail the Notice of Availability of the staff assessment to all owners and occupants contiguous to the Project site, including to property owners within 1,000 feet of the Project site and 500 feet of Project linear facilities, using the list of assessor parcel numbers and owners submitted as required by California Code of Regulations (CCR), Title 20, Appendix B(a)(1)(E).

2.1.2 Environmental Justice Project Screening

2.1.2.1 Methodology

CalEnviroScreen 4.0 is a science-based mapping tool used by CalEPA's Office of Environmental Health Hazard Assessment (OEHHA) to identify disadvantaged communities pursuant to SB 535. As required by SB 535, disadvantaged communities are identified based on geographic, socioeconomic, public health



and environmental hazard criteria (CalEPA 2022). CalEnviroScreen identifies impacted communities by taking into consideration pollution exposure and its effects, as well as health and socioeconomic status, at the census-tract level (OEHHA 2021). Using data from federal and state sources, the tool consists of two broad groups (Pollution Burden and Population Characteristics) informed by 21 indicators. Table 3 lists the indicators, which are grouped into the Pollution Burden and the Population Characteristics scores to form the final CalEnviroScreen score. These indicators are used to measure factors that affect the potential for pollution impacts in communities. The Exposure and Environmental Effects indicators comprise a Pollution Burden group, and the Sensitive Populations and Socioeconomic Factors indicators comprise a Population Characteristic Group.

Table 3 Indicators that Form the CalEnviroScreen 4.0 Score

Pollution Burden	
Exposure Indicators	Environmental Effects Indicators
Children’s lead risk from housing	Cleanup sites
Diesel particulate matter (DPM) emissions	Groundwater threats
Drinking water contaminants	Hazardous waste
Ozone concentrations	Impaired water bodies
PM _{2.5} concentrations	Solid waste sites and facilities
Pesticide use	Toxic releases from facilities
Traffic density	Airborne chemicals
Population Characteristics	
Sensitive Populations Indicators	Socioeconomic Factors Indicators
Asthma emergency department visits	Educational attainment
Cardiovascular disease (emergency department visits for heart attacks)	Housing-burdened low-income households
Low birth-weight infants	Linguistic isolation
Unemployment	Poverty

Notes: PM = particulate matter. PM_{2.5} = fine particulate matter 2.5 microns or less.
Source: OEHHA 2021

The CalEnviroScreen model uses U.S. Census Bureau tract data as a geographic scale for identifying disadvantaged communities within California. For each Census Tract, CalEnviroScreen calculates an overall score by combining the individual indicator scores within each of the two groups (i.e., Pollution Burden and Population Characteristics), then multiplying the Pollution Burden and Population Characteristics scores to produce a final score:

$$[\text{Pollution Burden}] \times [\text{Population Characteristics}] = \text{CalEnviroScreen Score}$$

- Pollution Burden Score.** Pollution Burden scores for each U.S. Census Tract are derived from the average percentiles of the eight exposures indicators (ozone and particulate matter 2.5 microns or smaller [PM_{2.5}] concentrations, DPM emissions, drinking water contaminants, children’s lead risk from housing, pesticide use, toxic releases from facilities, and traffic impacts) and the five environmental effects indicators (cleanup sites, impaired water bodies, groundwater



threats, hazardous waste facilities and generators, and solid waste sites and facilities). Indicators from the environmental effects component are given half the weight of the indicators from the exposure's component. The calculated average Pollution Burden score (average of the indicators) is divided by 10 and rounded to one decimal place for a Pollution Burden score ranging from 0.1 to 10.

- **Population Characteristics Score.** Population Characteristics scores for each U.S. Census Tract are derived from the average percentiles for the three sensitive populations indicators (cardiovascular disease, low birth weight infants, and asthma) and the five socioeconomic factors indicators (educational attainment, linguistic isolation, housing burden, unemployment, and poverty). The calculated average percentile is divided by 10 for a Population Characteristic score ranging from 0.1 to 10.

Since both the Pollution Burden and Populations Characteristics provide a maximum score of 10, the maximum CalEnviroScreen Score is 100. Based on these scores, Census Tracts across California are ranked relative to one another. The indicator values for the Census Tracts for the entire state are ordered from highest to lowest. A percentile is calculated from the ordered values for all areas that have a score. A higher percentile indicates a higher potential relative burden. A percentile does not describe the magnitude of the difference between two tracts, but rather it simply tells the percentage of tracts with lower values for that indicator (OEHHA 2021). Census Tracts receiving the highest 25 percent of overall scores in CalEnviroScreen 4.0 are considered disadvantaged (CalEPA 2022).

Part of the assessment of how, or if, the Project would impact an EJ population includes a review of CalEnviroScreen data for the Project area. There are four technical areas that could have Project impacts that could combine with the indicators in CalEnviroScreen: Air Quality, Public Health, Hydrology and Water Quality, and Hazards, Hazardous Materials, and Wildfire.

The CalEnviroScreen indicators relevant to each of the four technical areas are as follows:

- For air quality, these indicators are ozone concentrations and PM_{2.5} concentrations.
- For public health, these indicators are asthma, cardiovascular disease, DPM emissions, low birth-weight infants, pesticide use, toxic releases from facilities, and traffic density.
- For hydrology and water quality, these indicators are drinking water contaminants, groundwater threats, and impaired water bodies.
- For hazards, hazardous materials, and wildfire, these indicators are cleanup sites, hazardous waste, and solid waste.

When these technical areas have identified a potential Project impact where an EJ population is present, CalEnviroScreen is used to better understand the characteristics of the areas where the impact would occur and ensure that disadvantaged communities in the vicinity of the Project have not been missed when screened by race/ethnicity and low income. There are several limitations with CalEnviroScreen that are important to note (OEHHA 2021). Some limitations and items to note on CalEnviroScreen include the following:

- The core purpose of this tool is to characterize “impacts” of pollution in communities with respect to factors that are not routinely included in risk assessments, where “impacts,” for the purposes of this tool, refers broadly to stressors that can affect health and quality of life.



- The tool is a screening tool developed to conduct statewide evaluations of community scale impacts.
- Many factors, or stressors, contribute to a community's pollution burden and vulnerability.
- Standard risk assessment protocols cannot always account for the full range of factors that may contribute to risk and vulnerability.
- The score presents a relative, rather than an absolute, evaluation of pollution burdens and vulnerabilities in California communities by providing a relative ranking of communities across the state of California.
- A percentile does not describe the magnitude of the difference between two tracts, rather it simply tells the percentage of tracts with lower values for that indicator.
- The score is for a given tract relative to other tracts in the state.
- The tool did not/does not:
 - substitute for a cumulative impact analysis under CEQA,
 - restrict the authority of government agencies in permit and land use decisions,
 - guide all public policy decisions; and,
 - inform the implementation of many policies, programs and activities throughout the state.

To consider EJ concerns, CEC has historically used a 6-mile radius surrounding the Project site based on the potential distance of air pollution emissions. The distance was retained due to the rural nature of the area with few residences close by and the expansive size of the Project site. The Project itself is within Census Tract 33.04 and the surrounding 6-mile radius also includes Census Tract 66 and Census Tract 34.

2.1.2.2 U.S. Census Bureau Results

Table 4 details U.S. Census data taken from the 2023 American Community Survey 5-Year Estimates for the Census Tract. Figure 3 displays the Project area within a designated SB 535 Disadvantaged Communities area and the racial/ minority demographics of the Census Tracts while Figure 4 displays the low income/ poverty demographics of the Census Tracts.

As shown in Table 4, the population within the Project site Census Tract (33.04) has a lower percentage of total Minorities and Hispanic and Latino people than the percentage of those ethnicities countywide and in Census Tract 66. The population within the Project site Census Tract (33.04) has a higher percentage of Native Hawaiian and Other Pacific Islander than the percentage of these ethnicities countywide. Census Tract 34 has a higher percentage of people living in poverty than those countywide and in Census Tracts 33.04 and 66. Thus, Census Tracts 33.04 and 34 are considered an EJ community through the socioeconomic factor and Census Tract 66 is considered an EJ community by race.

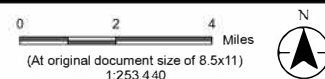
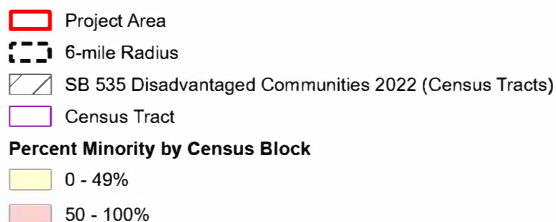
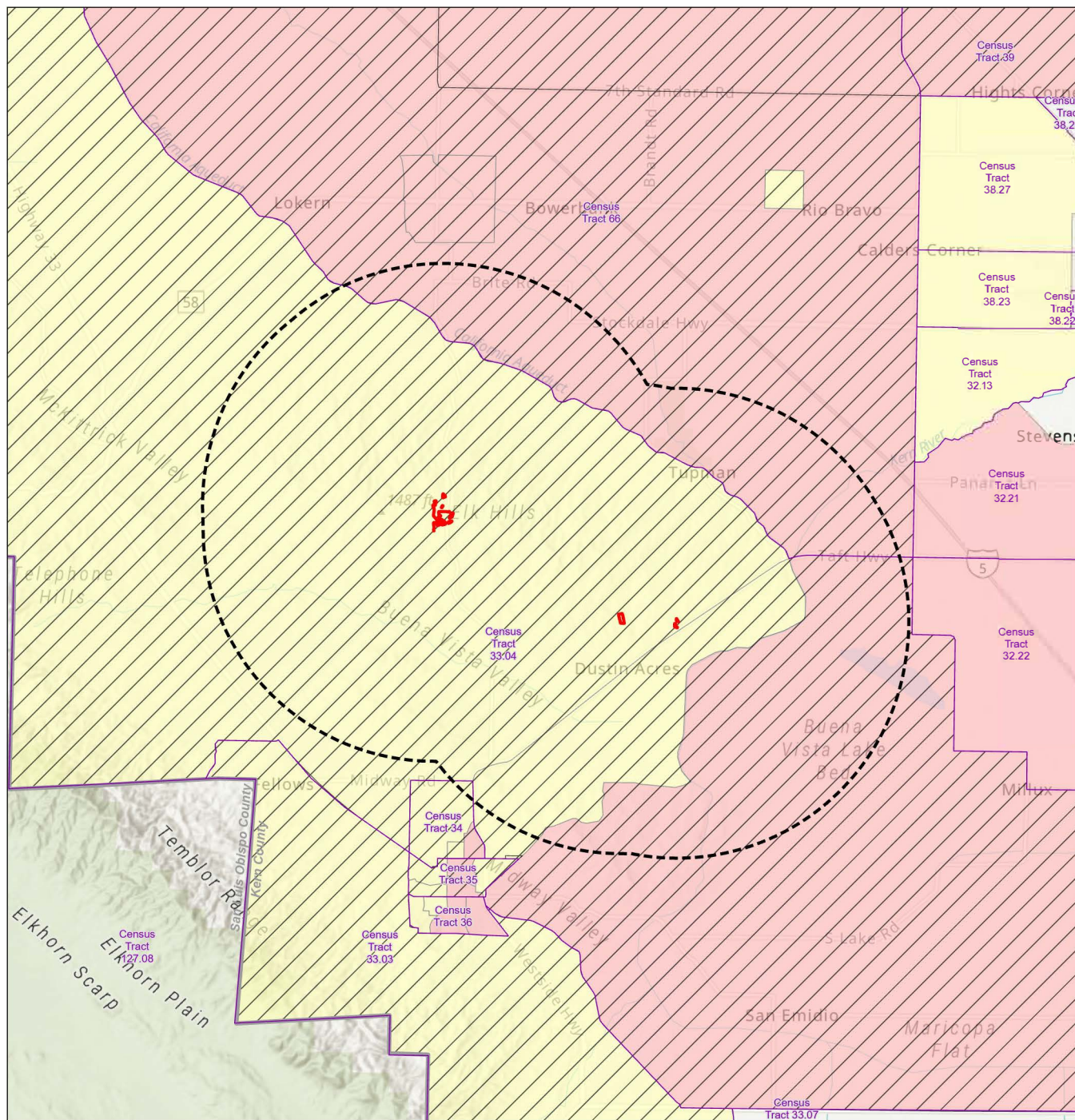


Table 4 Demographic Information of Project Area

Demographic Category	Census Tract 33.04	Census Tract 34	Census Tract 66	Kern County
Total Population	2,508	4,310	4,781	910,433
Socioeconomic				
Percent Low Income	19.6%	33.0%	17.4%	17.8%
Race				
Total Minority	46.5%	53.3%	74.6%	69.3%
Black or African American alone	2.8%	0.0%	0.5%	4.8%
American Indian and Alaska Native alone	0.0%	0.6%	0.0%	0.3%
Asian alone	0.5%	0.7%	0.0%	4.9%
Native Hawaiian and Other Pacific Islander alone	0.3%	0.2%	0.0%	0.1%
Some other race alone	0.0%	0.0%	0.3%	0.5%
Two or more races	5.7%	0.4%	2.8%	3.0%
Hispanic or Latino	37.2%	51.5%	71.1%	55.7%
White alone	53.5%	46.7%	25.4%	30.7%

Source: U.S. Census, 2023a.





Project Location Kern County, CA
Client/Project 185806775
Prepared by MMD on 2025-07-06
TR by CT on 2025-07-06
IR by ES on 2025-07-06

California Resources Corporation
CalCapture Carbon Capture and Sequestration Project
Figure No.
3

Minority Population and Disadvantaged Communities

Notes

1. Coordinate System: NAD 1983 StatePlane California V FIPS 0405 Feet
2. Data Sources: Stantec, U.S. Census Bureau, U.S. Department of Commerce, "Hispanic or Latino Origin by Race," American Community Survey, ACS 5-Year Estimates Detailed Tables, Table B03002, 2023.
3. Background: Esri, TomTom, Garmin, FAO, NOAA, USGS, EPA, USFWS, Esri, NASA, NGA, USGS, California State Parks, Esri, TomTom, Garmin, SafeGraph, METI/NASA, USGS, Bureau of Land Management, EPA, NPS, USDA, USFWS, Esri, USGS

2.1.2.3 CalEnviroScreen Results

CalEnviroScreen 4.0 was used to gather additional information about the population potentially impacted by the Project. The CalEnviroScreen indicators (see Table 3) are used to measure factors that affect the potential for pollution impacts in communities. Census Tracts receiving the highest 25 percent (75 and above) of overall scores in CalEnviroScreen 4.0 are considered disadvantaged and bolded (CalEPA 2022). Table 5 presents the CalEnviroScreen overall scores for the identified disadvantaged community within a 6-mile radius of the Project site. Figure 5 displays the CalEnviroScreen 4.0 results, which identifies the Census Tracts as Disadvantaged Communities. Figure 6 displays the Pollution Burden.

Table 5 CalEnviroScreen Scores for Disadvantaged Communities

Census Tract No.	Total Population	CalEnviroScreen 4.0 Percentile	Pollution Burden Percentile	Population Characteristics Percentile
33.04	3,358	81	96	56
34	4,762	79	47	94
66	3,415	96	96	84

Source: OEHHA 2021

Table 6 presents the CalEnviroScreen percentiles for the indicators that make up the pollution burden percentile within 6-mile radius of the Project site. These relatively higher percentiles could be seen as drivers for the Census Tract's identification as a disadvantaged community. Table 7 presents the percentiles for the indicators that make up the population characteristics.

Table 6 CalEnviroScreen Indicator Percentiles for Pollution Burden for Disadvantaged Communities

Census Tract No.	Ozone	PM _{2.5}	DPM	Pesticides	Toxic Releases	Traffic	Drinking Water	Lead	Cleanup Sites	Groundwater Threats	Hazardous Waste	Impaired Water Bodies	Solid Waste
33.04	75	57	9	88	91	3	93	57	86	95	97	0	99
34	89	92	16	60	5	0	62	93	17	7	22	0	55
66	80	94	15	91	68	7	97	65	43	66	94	44	85

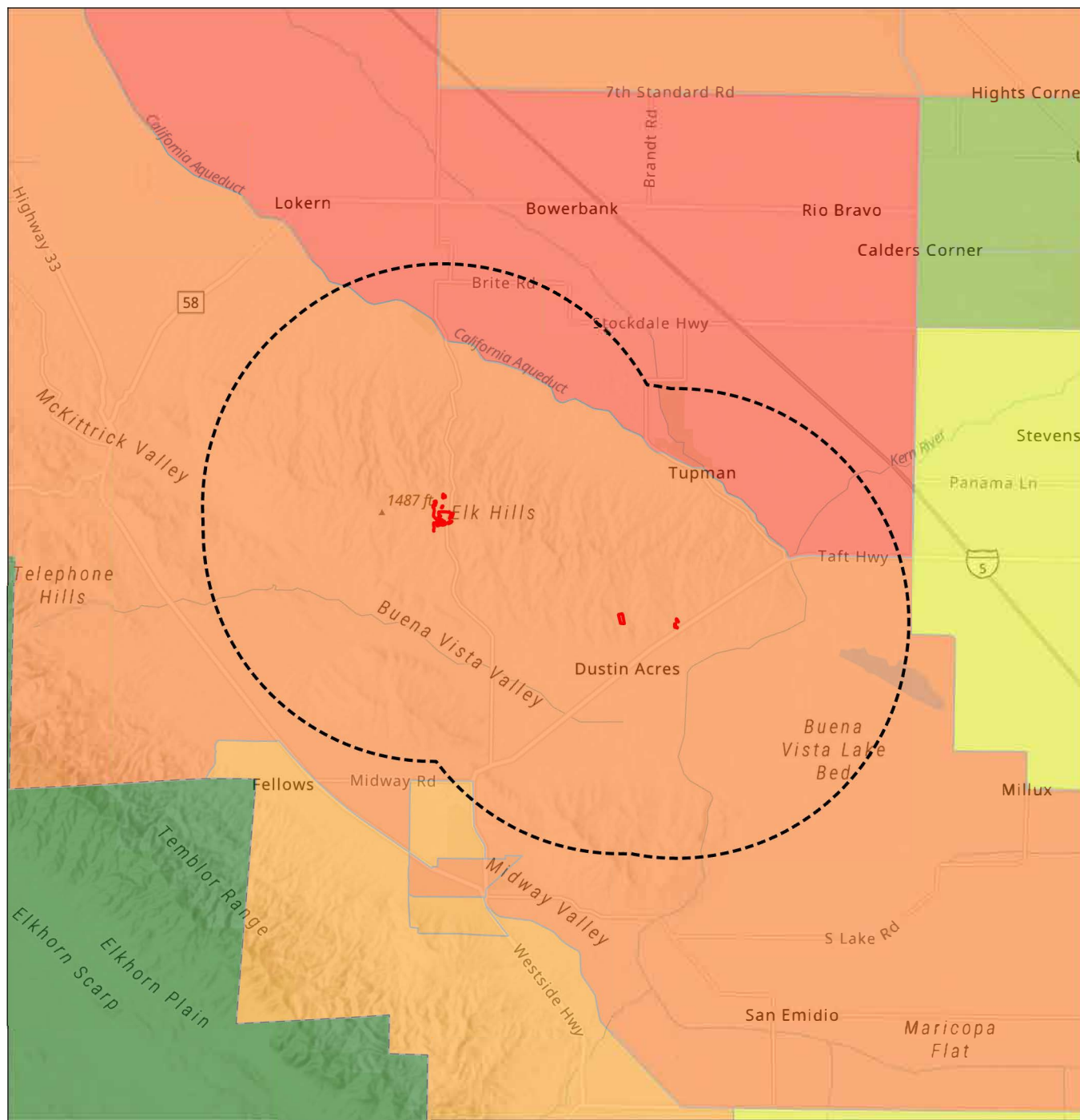


Table 7 CalEnviroScreen Scores for Indicator Percentiles for Population Characteristics for Disadvantaged Communities

Census Tract No.	Asthma	Low Birth Weight	Cardiovascular Disease	Education	Linguistic Isolation	Poverty	Unemployment	Housing Burden
33.04	18	62	58	76	58	70	88	17
34	39	92	95	86	93	99	94	62
66	49	73	78	80	83	86	89	58



V:\185806775_CRC_CalCapture03_data\gis_cal\gispro\Socioeconomic_E\JSocio_E\Figures_20250625.aprx Revised: 2025-07-06 By: mdesee



Notes

1. Coordinate System: NAD 1983 StatePlane California V FIPS 0405 Feet
2. Data Sources: Stantec, Data Sources: State of California OEHHA, 2025.
3. Background: Esri, TomTom, Garmin, FAO, NOAA, USGS, EPA, USFWS, Esri, CGIAR, USGS, California State Parks, Esri, TomTom, Garmin, SafeGraph, METI/NASA, USGS, Bureau of Land Management, EPA, NPS, USDA, USFWS, Esri, USGS

Project Area

6-mile Radius

CalEnviroScreen 4.0 Results

- >90 - 100 (Highest Scores)
- >80 - 90
- >70 - 80
- >60 - 70
- >50 - 60
- >40 - 50
- >30 - 40
- >20 - 30
- >10 - 20
- 0 - 10 (Lowest Scores)

0 2 4 Miles
(At original document size of 8.5x11)
1:253,440



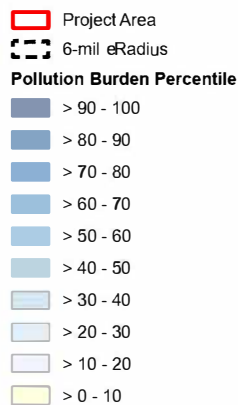
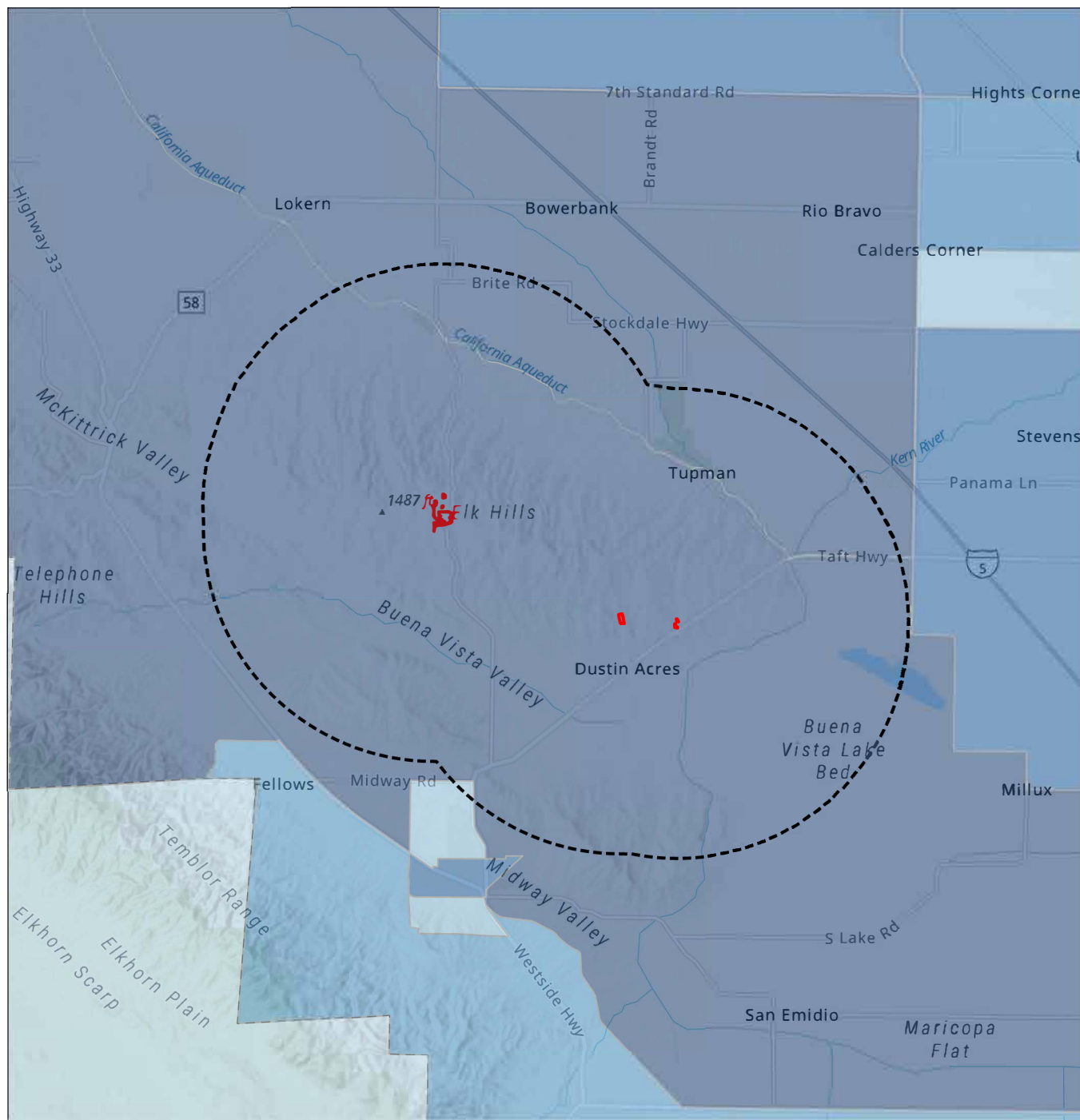
Project Location Prepared by MMD on 2025-07-06
Kern County, CA TR by CT 2025-07-06
Client/Project IR by ES on 2025-07-06
185806775

California Resources Corporation
CalCapture Carbon Capture and Sequestration Project
Figure No.
5

CalEnviroScreen Results Overall
Percentile

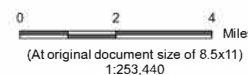
Disclaimer: This document has been prepared based on information provided by others as cited in the Notes section. Stantec has not verified the accuracy and/or completeness of this information and shall not be responsible for any errors or omissions which may be incorporated herein as a result. Stantec assumes no responsibility for data supplied in electronic format, and the recipient accepts full responsibility for verifying the accuracy and completeness of the data.

V:\185806775_CRC_CalCapture03_data\gis_cal\gispro\Socioeconomic_E\JSocio_E\Figures_20250625.aprx Revised: 2025-07-06 By: mdeseeo



Notes

1. Coordinate System: NAD 1983 StatePlane California V FIPS 0405 Feet
2. Data Sources: Stantec, Data Sources: State of California OEHHA, 2025.
3. Background: Esri, TomTom, Garmin, FAO, NOAA, USGS, EPA, USFWS, Esri, NASA, NGA, USGS, California State Parks, Esri, TomTom, Garmin, SafeGraph, METI/NASA, USGS, Bureau of Land Management, EPA, NPS, USDA, USFWS, Esri, USGS



Project Location Prepared by MMD on 2025-07-06
Kern County, CA TR by CT 2025-07-06
Client/Project IR by ES on 2025-07-06
185806775

California Resources Corporation
CalCapture Carbon Capture and Sequestration Project
Figure No.
6

CalEnviroScreen Results Pollution Burden

Disclaimer: This document has been prepared based on information provided by others as cited in the Notes section. Stantec has not verified the accuracy and/or completeness of this information and shall not be responsible for any errors or omissions which may be incorporated herein as a result. Stantec assumes no responsibility for data supplied in electronic format, and the recipient accepts full responsibility for verifying the accuracy and completeness of the data.

2.2 Socioeconomics

2.2.1 Project Setting

This Technical Study Report describes the environmental setting and regulatory background and discusses impacts specific to socioeconomics associated with the construction and operation of the Project at the existing EHPP.

2.2.1.1 Kern County Administrative Office (CAO) Fiscal Division

The Kern County Administrative Office (CAO) coordinates the annual county budget process, prepares the recommended budget, and oversees fiscal policy and execution (CAO 2025). The CAO manages the Kern County General Fund. The General Fund is governed by the California Government Code § 29000, also known as the County Budget Act. This law, along with local ordinances and policies, outlines how counties must prepare, adopt, and manage their budgets. The General Fund is supported by property taxes, sales taxes, state and federal revenues, and fees for services.

2.2.2 Socioeconomic Project Screening

2.2.2.1 Methodology

The information and analysis presented in this section has been derived from U.S. Census Bureau Census Tract data, U.S. Bureau of Labor Statistics, CRC's CalCapture Project Construction and Contracting Strategy (Fluor 2025) and the Front-End Engineering Design Study for Retrofit Post-Combustion Carbon Capture on a Natural Gas Combined Cycle Power Plant Final Report (Electrical Power Research Institute 2022). The U.S. Bureau of Labor Statics was utilized to factor in 2025 inflation for the reports' results. Certain economic data are confidential, as they could provide a potential competitive advantage to other CCS developers. No estimation of construction and operational payroll estimates, expenditures for locally purchased materials, and sales tax and property taxes generated during an operational year are available. Operational costs, such as operational expenditures for locally purchased materials, are projected to increase with inflation over the life of the Project.

2.2.2.2 U.S. Census Bureau Results

Table 8 details U.S. Census data taken from the 2023 American Community Survey 5-Year Estimates for the Census Tract. Refer to Figure 4 for low income/ poverty demographics of the Census Tracts. As shown in Table 8, Census Tract 34 has a higher percentage of people living in poverty than those countywide and in Census Tracts 33.04 and 66. Census Tracts 33.04 and 34 also have higher existing unemployment rates than Kern County, but all Census Tracts are higher than the projected unemployment rates of the United States. According to the Federal Reserve's Federal Open Market Committee meeting held in March 2025, Federal Reserve Board members and Federal Reserve Bank presidents, projected the unemployment rate to be 4.3 percent in 2026 and 4.2 percent for the longer run (Federal Reserve 2025).



Table 8 Socioeconomic Information of Project Area

Demographic Category	Census Tract 33.04	Census Tract 34	Census Tract 66	Kern County
Total Population	2,508	4,310	4,781	910,433
Socioeconomic				
Percent Low Income	19.6%	33.0%	17.4%	17.8%
Existing Unemployment	12.4%	18.5%	7.8%	8.4%

Source: U.S. Census Bureau. 2023 Table B17017

Note: Bolded numbers meet EJ thresholds.

The main occupations (skilled workers) relating to the Project in Kern County are displayed in Table 9 below.

Table 9. Skilled Workers by Occupation in Kern County

Occupation for Civilian Employed Population	Number of Skilled Workers
Natural resources, construction, and maintenance occupations	64,954
Production, transportation, and material moving occupations	55,463

Source: U.S. Census Bureau 2023 Table S2401

2.2.2.3 Additional Socioeconomic Information

As described in the FEED Report, the construction of the Project is estimated to cost \$748 million (2020 estimate). Further details on the scope breakdown of each of the systems are described below:

- CO₂ Capture Plant - \$484 million
- Utility Systems - \$334 million
- CO₂ Compression - \$76 million
- Balance of Plant - \$41 million

As described in the Construction and Contracting Strategy, CRC has committed to a local, union-only construction labor posture with the Kern, Inyo, Mono Counties Building and Construction Trades Council (Fluor 2025). Union-only labor excludes construction monitoring by biological resources, archaeological resources, paleontological resources, and tribal cultural resources professionals; and any work conducted by geotechnical specialists, air quality specialists, miscellaneous surveyors, and CRC employees. The Project will also require full-time construction management staff from field mobilization to mechanical completion (Fluor 2025). Based on CRC's current labor agreements, the average labor rate for construction of the Project would be \$90.79 per hour, or \$113.37 adjusted for 2025 (Electrical Power Research Institute 2022).



After construction, the Project will provide the following potential direct economic benefits through revenue to the Kern County General Fund (which includes school impact fees) and County service providers, which will benefit all of Kern County. According to the Kern High School District, Statutory School Facility Fees (Government Code Section 66006(b)(1)(B)) determined school impact fees (referred to as development fees) to be \$0.84 per square foot of industrial development (Kern High School District 2024). However, given the small number of employees and temporary duration of work (i.e., construction), schools are unlikely to be impacted by the Project.

CRC has already committed to the following payments to Kern County through the CTV I project:

- \$59.7 million of total revenue from all Cumulative Impact Oil and Gas Reservoir Pore Space Charge² over 25 years of injection.
- \$280,000 a year (\$7 million total) for the Kern County Fire Department for CO₂ training, equipment, and operation of the ReadyKern Emergency Notification program.
- \$8.5 million in a one-time sales tax payment for all Project equipment and related other oilfield expenses (Fluor 2025).

In addition, it is unlikely the personnel associated with the Project would utilize Valley Acres Park (the nearest public recreational facility located approximately 6.1 miles southeast of the Project) or other nearby existing parks and recreational facilities. Thus, the Project would have no impact on parks.

Given the small number of employees, temporary duration of work, and lack of housing in the immediate vicinity, no impacts to schools are anticipated.

² CRC will utilize CTV I's Mitigation Measure 4.15-3, which will be implemented as an annual payment due every year for the life of the Project or as a lump sum payment for multiple years until the Project is decommissioned.



3 Environmental Impacts

The following technical areas discuss Project-related effects on EJ populations and disadvantaged communities: Air Quality; Cultural and Tribal Cultural Resources; Hazards, Hazardous Materials, and Wildfire; Noise and Vibration; Public Health; Transportation; Visual Resources; and Water Resources. Part of the assessment of how, or if, the Project would impact an EJ population includes a review of CalEnviroScreen data for the Project area. There are four technical areas that could have Project impacts that could combine with the indicators in CalEnviroScreen: (1) Air Quality; (2) Hazards, Hazardous Materials, and Wildfire; (3) Public Health; and (4) Water Resources. When these technical areas have identified a potential impact in an area that includes an EJ population, CalEnviroScreen is used to better understand the characteristics of the areas where the impact would occur and ensure that disadvantaged communities in the vicinity of the project have not been missed when screened by race/ethnicity and low income.

3.1.1 Air Quality

The Project site is in the unincorporated area of southwestern Kern County in the SJVAB. As described in the Air Quality and Greenhouse Gas Technical Study (Stantec 2025a), the area of the SJVAB in which the Project is located is classified as severe nonattainment for the 1-hour state ozone standard as well as for the federal (extreme nonattainment) and state 8-hour ozone standards. The SJVAB is also designated as nonattainment for the federal and state 24-hour PM_{2.5} standards. Additionally, the SJVAB is classified as nonattainment for the state PM₁₀ standards. The SJVAB is unclassified or classified as attainment for all other pollutant standards (Stantec 2025a).

As determined in the Air Quality and Greenhouse Gas Technical Study (Stantec 2025a) and shown in Table 8, the Project's construction would include the following criteria pollutant emissions: reactive organic gases (ROG), carbon monoxide (CO), sulfur dioxides (SO_x), the ozone precursor oxides of nitrogen (NO_x and NO₂), and PM₁₀ and PM_{2.5}. As shown in Table 9, Project operations would generate air pollutant emissions from mobile sources (vehicle activity from employees, and deliveries), energy sources, and area sources (incidental activities related to architectural coating, consumer products, and landscape maintenance), but it would also be capturing and storing CO₂ on site.

Table 10 Project Construction Criteria Pollutant Emissions

Year	Emissions (tons/year)					
	ROG	NO _x	CO	SO _x	PM ₁₀	PM _{2.5}
2027	0.69	2.09	12.3	<0.005	5.46	1.01
2028	0.52	1.46	10.8	<0.005	3.36	0.78
SJVAPCD Thresholds of Significance	10	10	100	27	15	15
Exceeds Threshold?	No	No	No	No	No	No

Source: Stantec 2025a



Table 11 Project Operational Criteria Pollutant Emissions

Source	Emissions (tons/year)					
	ROG	NOx	CO	SOx	PM10	PM2.5
Mobile	0.03	0.09	0.51	<0.005	0.18	0.05
Area	0.63	0.00	0.00	0.00	0.00	0.00
Energy	3.85	4.27	13.2	7.01	5.33	5.33
<i>Total</i>	<i>4.52</i>	<i>4.37</i>	<i>13.7</i>	<i>7.01</i>	<i>5.50</i>	<i>5.37</i>
SJVAPCD Thresholds of Significance	10	10	100	27	15	15
<i>Exceeds Threshold?</i>	<i>No</i>	<i>No</i>	<i>No</i>	<i>No</i>	<i>No</i>	<i>No</i>

Note: Energy emissions represent the net increase in emissions associated with the combustion of natural gas at the EHPP required to meet the energy demand from the Project.

Source: Stantec 2025a

Pursuant to the Air Quality and Greenhouse Gas Technical Study, the San Joaquin Valley Air Pollution Control District's (SJVAPCD) Guidance for Assessing and Mitigating Air Quality Impacts states individual projects that are below regional thresholds for criteria pollutants would not conflict with applicable air quality plans (Stantec 2025a). Results of the study's calculations found the Project's criteria pollutant emissions would not occur at rates above the thresholds nor at rates that could be cumulatively significant. The Project would contribute to temporary construction impacts, but it would not contribute considerably to cumulative concentrations. The potential maximum impacts calculated the Project would not emit more than two tons per year of NOx or PM₁₀, which remained below the significance threshold for cancer, chronic, and acute risk. Operations of the Project are expected under normal operating conditions to result in a net negative greenhouse gas emissions impact by sequestering in excess of 1.5 million metric tons of CO₂ per year with a capture nameplate efficiency of 95 percent (Stantec 2025a). Therefore, no disproportionate impacts on an EJ population's air quality would occur.

3.1.1.1 Ozone Impacts

ROG, also known as volatile organic compounds, play a significant role in the formation of ground-level ozone, which is a key component of smog. ROG react with NOx in the presence of sunlight to create ozone. Ozone is known to cause numerous health effects, which can disproportionately affect EJ communities who often face multiple environmental and social stressors, as follows:

- lung irritation, inflammation and exacerbation of existing chronic conditions, even at low exposures (Alexis et al. 2010, Fann et al. 2012, Zanobetti and Schwartz 2011);
- increased risk of asthma among children under 2 years of age, young males, and African American children (Lin et al. 2008, Burnett et al., 2001); and
- higher mortality, particularly in the elderly, women and African Americans (Medina-Ramón 2008).

As described in the Air Quality and Greenhouse Gas Technical Study, Project construction would emit NOx, which is a precursor of ozone to a level above SJVAPCD thresholds if left unmitigated; therefore, construction activities would comply with applicable federal, state, and local regulations for air quality attainment planning, and implement control and mitigation measures, as included in the Air Quality and Greenhouse Gas Technical Study and per requirements of both the Air Pollution Control District and Air



Quality Management Districts, to reduce NO_x emissions from Project construction to less than significant. Project operation would not produce precursors of ozone above regulatory thresholds given the nature of the Project as a CCS project. Therefore, air quality impacts associated with NO_x would be less than significant, and the Project would not contribute significantly to regional ozone concentrations, relative to baseline conditions as described below (Stantec 2025a). Thus, no disproportionate impacts on an EJ population would occur.

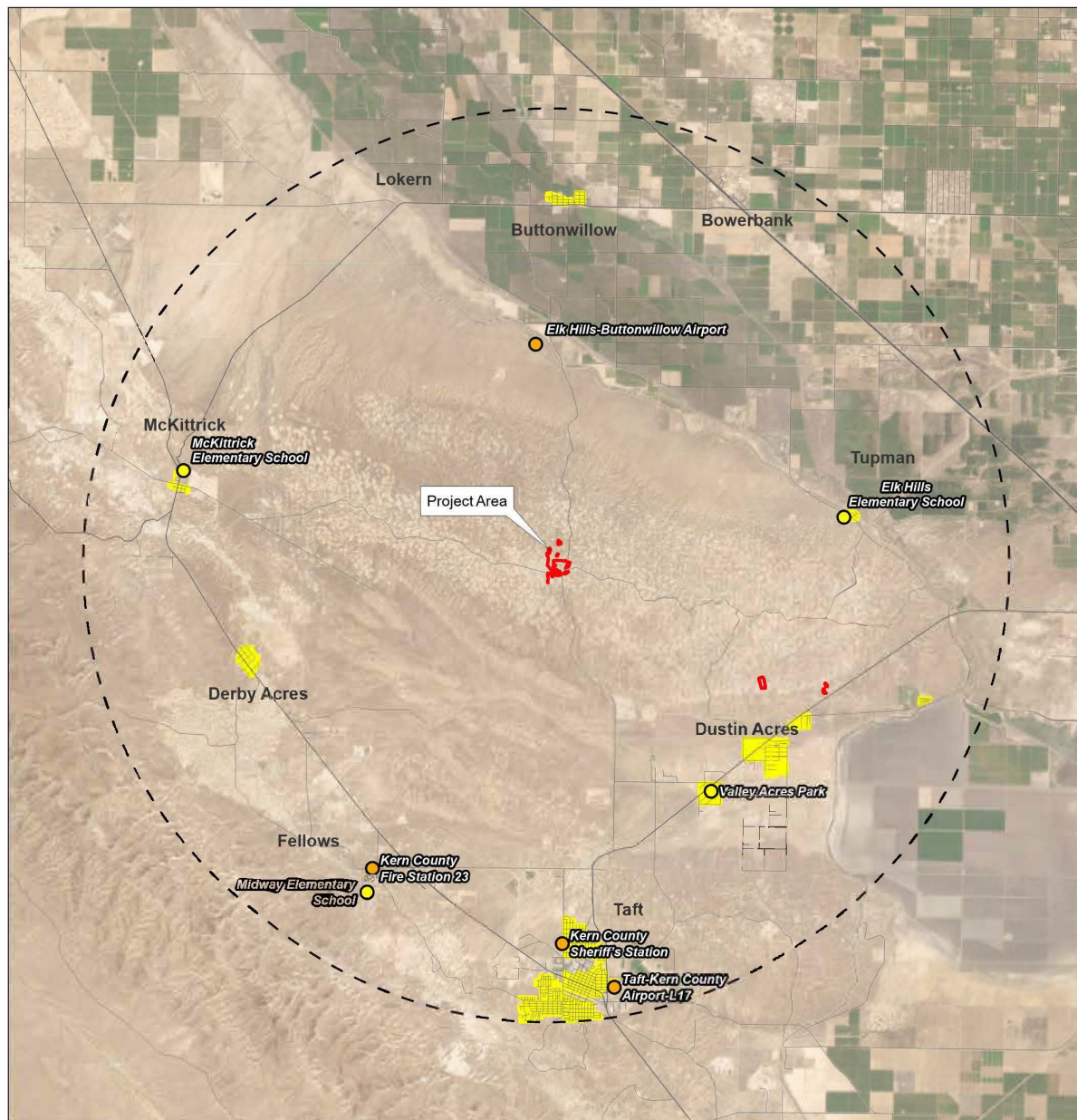
CalEnviroScreen 4.0 uses the average daily maximum 8-hour ozone concentration (parts per million [ppm]). According to CalEnviroScreen data, ozone concentrations in the Census Tracts are assigned a percentile based on the statewide distribution of values. Ozone levels in the Census Tracts are relatively high (refer to Table 6). The Census Tracts have a higher ozone level than most California Census Tracts and are disadvantaged communities for ozone.

Even though the existing ozone concentration is high, the Project would not be expected to contribute significantly to the regional air quality as it relates to ozone. The Project would emit less than 1.1 tons per year of ROG or NO_x, which would not pose a substantial increase to basin emissions and basin emissions would be essentially the same if the Project is approved (Stantec 2025a). The Project would also be required to comply with air quality emission rate significance thresholds for NO_x and ROG during the construction and testing and maintenance phases. The Project would use best management practices (BMPs) during construction, which would reduce NO_x and ROG during construction. The Project's impacts would not be expected to cause exceedance of ambient air quality standards during operation (including readiness testing and maintenance). Therefore, the Project would not contribute significantly to regional ozone concentrations, relative to baseline conditions.

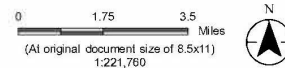
The Project's air quality impacts, as related to ozone and ozone precursors, would be less than significant for the Census Tracts of concern and the general population. Thus, the Project would not expose sensitive receptors to substantial ozone precursor concentrations because there are no sensitive receptors within almost 5 miles of the Project site. Pursuant to the CalCapture Noise Study (Stantec 2025d), the closest noise-sensitive receptors are located approximately 4.97 miles southeast of the Project site (Figure 7). The Project's ozone and ozone precursor air quality impacts would be less than significant for the local EJ community and the general population.



V:\1850\A\18500775_CRC_CalCapture03_data\gis\pro\PD\PD_Figures_20250731.aprx Revised: 2025-07-31 By: mdesoso



- Project Area
- 10-mile Buffer of Project Area
- Public Services
- Sensitive Receptors
- Sensitive Receptors (Residential Areas)



Project Location: Kern County, CA
Client/Project: 185008775
Prepared by NMD on 2025-07-31
TR by CT 2025-07-31
IR by ES on 2025-07-31

California Resources Corporation
CalCapture Carbon Capture and Sequestration Project
Figure No. 7

Title
Sensitive Receptors and Public Services

Notes
1. Coordinate System: NAD 1983 StatePlane
California V FIPS 0405 Feet
2. Data Sources: Stantec 2025
3. Background: Esri, GEBCO, NOAA, National
Geographic, Garmin, HERE, Geonames.org
Copyright: ©2013 National Geographic Society, i-
cubed

Disclaimer: This document has been prepared based on information provided by others as cited in the Notes section. Stantec has not verified the accuracy and/or completeness of this information and shall not be responsible for any errors or omissions which may be incorporated herein as a result. Stantec assumes no responsibility for data supplied in electronic format, and the recipient accepts full responsibility for verifying the accuracy and completeness of the data.

3.1.1.2 PM_{2.5} Impacts

PM is a complex mixture of aerosolized solid and liquid particles including such substances as organic chemicals, dust, allergens, and metals. These particles can come from many sources, including cars and trucks, industrial processes, wood burning, or other activities involving combustion. The composition of PM depends on the local and regional sources, time of year, location and weather. PM_{2.5} is known to cause numerous health effects, which can potentially affect EJ communities. Particles in this size range can have adverse effects on the heart and lungs, including lung irritation, exacerbation of existing respiratory disease, and cardiovascular effects. For CalEnviroScreen, the indicator PM_{2.5} is determined by the annual mean concentration of PM_{2.5} (weighted average of measured monitor concentrations and satellite observations, µg/m³), averaged over 3 years (2017–2019). According to CalEnviroScreen data, PM_{2.5} concentrations in each Census Tract are ordered by PM_{2.5} concentration values and then are assigned a percentile based on the statewide distribution of values (refer to Table 6). Census Tract 33.04 is in the 57 percentile in PM_{2.5}, Tract 34 is in the 92 percentile, and Census Tract 66 is in the 94 percentile. This indicates that the communities are exposed to above average PM_{2.5} concentrations compared to the rest of the state. Even so, the Project would not be expected to contribute significantly to the regional air quality related to PM_{2.5} because the Project would produce 0.002 tons per year of PM_{2.5} (which is less than approximately 0.0001% of the total PM_{2.5} produced per year in the SVJAB (Stantec 2025a). The Project would be required to comply with ambient air quality standards for PM during construction and operations. The Project would implement BMPs during construction activities to minimize PM and other pollutant emissions. BMPs would include but not be limited to watering active construction sites based on the type of operation, soil, and wind exposure; stabilizing dust emissions at disturbed areas that are not actively utilized; prohibiting grading activities during periods of high wind (over 20 miles per hour); limiting vehicle speed on unpaved roads (15 miles per hour); and covering trucks hauling dirt, sand, or loose materials. With implementation of BMPs and compliance with SJVAPCD's rules for dust control, the Project would not be expected to contribute significantly to regional PM_{2.5} concentrations, relative to baseline conditions. The Project's air quality impacts, as it relates to PM_{2.5}, would be less than significant for the Census Tracts of concern and the general population. Thus, the Project would not expose sensitive receptors to substantial PM_{2.5} concentrations.

3.1.2 Cultural and Tribal Cultural Resources

As outlined in the Cultural Resources Study (Stantec 2025c), the Project site lies within the traditional territory of the Penutian-speaking Yokuts tribal groups. Potential impacts on cultural and tribal cultural resources were assessed as less than significant, provided mitigation measures are applied. No known built Historical Resources, Archaeological Historical Resources, Unique Archaeological Resources (as defined by Public Resources Code Section 15064.5), or human remains are present that would be affected by the Project's construction. However, damage to undiscovered buried archaeological resources during construction could constitute a significant impact. Implementing Cultural and Tribal Cultural Resources mitigation measures across all Project-related construction zones would mitigate such impacts to a less-than-significant level. Consequently, the Project would not disproportionately affect resources tied to a specific tribe identified as an EJ population.



3.1.3 Hazards, Hazardous Materials/Waste, and Wildfire

3.1.3.1 Hazards and Hazardous Materials

The CalEnviroScreen scores for the disadvantaged communities Census Tracts 33.04, 34, and 66 in the 6-mile radius of the Project for environmental stressors that relate to waste management are as follows: cleanup sites (86, 17, and 43 percentiles) and hazardous waste generators and facilities (97, 22, and 94 percentiles) (see Table 6). This indicates that these three Census Tracts have more hazardous materials sites than the vast majority of Census Tracts statewide.

Cleanup Sites. The CalEnviroScreen indicator is calculated by considering the number of cleanup sites including Superfund sites on the National Priorities List, the weight of each site, and the distance to the Census Tract. Sites undergoing cleanup actions by government authorities or property owners, have suffered environmental degradation due to the presence of hazardous substances. Of primary concern is the potential for exposure to these substances. The Project site itself is included on the Department of Toxic Substances Control (DTSC) EnviroStor and the State Water Resources Control Board Geotracker databases as the location of a hazardous material and cleanup site. Although CalEnviroScreen criteria identified the presence of numerous cleanup sites in the Census Tract within the Project site, the Project would not present a significant hazard to public health or the environment. No impact would occur from the public encountering known contaminated soil within 1,000 feet of the Project because the Project and the surrounding parcels are privately owned and restricted as an oilfield. To reduce the risk of exposure to unknown environmental contamination, existing laws, ordinances, regulations, and standards, and the implementation of mitigation measures for hazardous materials and worker safety would ensure the desired handling and disposal of hazardous material and waste materials, to prevent potential public or environmental impacts. No disproportionate impacts on an EJ population would occur due to no sensitive receptors adjacent to or within 4.97 miles of the Project site.

Hazardous Waste Generators and Facilities. EJ communities may face disproportionate impacts from hazards if the storage and use of hazardous materials occur more extensively within or near these communities compared to the broader population, or if a Project worsens existing issues related to cleanup sites, hazardous waste generators, facilities, or solid waste sites. The planned storage and use of hazardous materials at the Project site could also disproportionately affect EJ populations. However, hazardous materials brought to the site during construction and operation will be stored in compliance with applicable laws, ordinances, regulations, and standards, including spill response and cleanup measures. This reduces the likelihood of a spill or release significant enough to impact the surrounding community, making such an event highly unlikely and the impact less than significant with mitigation measures in place.

Given that the overall CalEnviroScreen score reflects the combined effects of multiple pollutants and factors, individual contributions were analyzed for indicators related to hazardous materials. The Project's construction is not expected to produce significant hazardous waste beyond routine equipment maintenance byproducts, such as used lubricating oils and spent batteries.

The Elk Hills Cogeneration Power Plant itself already stores, uses, and disposes of hazardous materials, including aqueous ammonia, sulfuric acid, lead batteries, and transformer oil, and this would continue during Project operations. The Project's CCU would utilize Fluor's EFG+ process to capture and concentrate the CO₂. The EFG+ process includes Flue Gas Cooling, CO₂ Absorption, Solvent



Regeneration, Solvent Maintenance, Chemical Storage and Supply, CO₂ Compression, and Utility Support systems. Many of these processes utilize hazardous materials. Hazardous materials handling and disposal is governed by the specific hazardous properties of each material. In addition, exposure to CO₂ levels above 0.5 percent (OSHA 2019) over extended periods can cause headaches, dizziness, and nausea. At concentrations around 4 percent, CO₂ becomes life-threatening, leading to asphyxiation. Accidental CO₂ leaks are hazardous to staff, the environment, and any nearby sensitive receptors. CO₂ is heavier than air and would spread close to the ground. A CO₂ leak would more likely result in the accumulation of CO₂ in low-lying areas within the EHOFF and would not spread over 5 miles to the nearest residences in Census Tracts 33.04, 34, and 66.

The proposed CO₂ pipeline will be located entirely within CRC's operating property; therefore, the pipeline will not be subject to U.S. Department of Transportation Pipeline and Hazardous Materials Safety Administration (PHMSA) regulations for hazardous liquids pipelines. With the recent passage of Senate Bill 614, the Office of the State Fire Marshal (OSFM) will develop regulations for CO₂ pipelines that are expected to be equal to or more protective as the federal 49 CFR Part 195 regulations. CRC will coordinate final pipeline design with the OSFM to ensure compliance with upcoming regulations, which will provide certainty under CEQA to determine that impacts are less than significant

3.1.3.2 Wildfire

The Project site and the EHOFF itself have gently sloping hills that are highly disturbed by oil and gas industrial activities. Large portions of the EHOFF footprint have been developed and are maintained to be devoid of vegetation. Fragments of saltbush scrub and non-native grassland habitat occur among the oilfield infrastructure. Non-native grassland is highly invasive and provides a source of fuel for wildfires. The majority of the Project site lies within a State Responsibility Area and High Fire Hazard Safety Zone as designated by the California Department of Forestry and Fire Protection (CAL FIRE) (CAL FIRE 2024). No part of the Project site is categorized as a Very High Fire Hazard Safety Zone. The nearest fire department is Kern County Fire Station 24, located 8 miles west at 23246 2nd Street, McKittrick, CA. There is a low-trafficked road with gated access, Skyline Road, which connects the fire station to the EHOFF. CRC has already developed and implemented a Safety Manual with wildfire management sections to help eliminate impacts. Sections 3.4 (Fire Fighting Policy), 6.7 (Hot Work), and 6.8 (Ignition Sources in Class 1 Hazardous Areas) of the Safety Manual would be utilized to implement internal fire management controls. In addition, CRC works with local fire departments on a regular basis to address fires in all fields and all employees receive fire awareness training. Based on a review of CAL FIRE's Incident Maps that show fires back through 2016 (CAL FIRE 2025a), and CAL FIRE's Fire and Resource Assessment Program, Fires Across Time (CAL FIRE 2025b), no fires in the recorded history have burned across the Project site. Due to the implementation of existing wildfire management, the risk of off-site wildland fires and on-site generated combustion due to the Project is low and no disproportionate impacts on EJ populations would occur.

3.1.4 Noise and Vibration

EJ populations may experience disproportionate noise impacts if the siting of unmitigated industrial facilities occurs within or near EJ communities to a greater extent than within the community at large. The Kern County General Plan does not establish noise level thresholds for construction activities. The County's Noise Ordinance exempts construction activities occurring between 6:00 AM. and 9:00 PM. on



weekdays and between 8:00 AM. and 9:00 PM on weekends, from its noise level standards. The Project has proposed 10-hour Monday through Friday construction workdays over a 2-year period. Construction activities would include the use of equipment that would generate noise that exceeds ambient levels, such as cranes, concrete mixer trucks, pile drivers, and pneumatic tools. In addition, Project construction would require the use of helicopters. Construction-related noise from the Project would not expose residents intermittently to noise above thresholds. Pursuant to the CalCapture Noise Study (Stantec 2025d), the closest noise-sensitive receptors are located approximately 4.97 miles southeast of the Project site. As previously mentioned, the location of the Project site has been in use as an oil and gas production facility for over 100 years and there are no noise-sensitive receptors located within 4.97 miles of the Project site. Therefore, based on distance attenuation, construction, and operation, Project noise levels experienced by the sensitive receptors will be quieter than the exterior noise levels established by the Kern County General Plan (65 dB Day Night Average Sound level (Ldn) or less in outdoor activity areas). Therefore, the overall impact of noise from the Project on the surrounding properties would be less than significant. The potential vibration impact associated with construction would be less than significant, and there would be no impact associated with vibration during Project operation. No disproportionate impacts on an EJ population would occur.

3.1.5 Public Health

Section 4.3, Health Risk Assessment, of the Air Quality and Greenhouse Gas Technical Study (Stantec 2025a) identified potential toxic air contaminants (TACs) that could negatively impact public health during construction and operation of the Project. Each potential contaminant is discussed in the following sections.

3.1.5.1 Diesel Particulate Matter

The exposure indicator represents how much diesel PM (DPM) is emitted into the air within and near the Census Tracts. Air emissions of NO_x, CO, PM₁₀, and PM_{2.5} were compared to SJVAPCD localized significance thresholds to determine the Project's contribution to ambient air around the Project site. Per SJVAPCD guidance, the localized significance thresholds should be used for on-site emissions. However, total air emissions (on-site and off-site) were compared to these thresholds to provide a conservative analysis. The primary source of TACs during long-term operations would be associated with DPM emissions from heavy-duty diesel truck use. The Project would generate monthly truck trips to deliver new amine solvent, to off-haul spent solvent, and other maintenance activities. However, the DPM generated from the Project would be minimal given the limited number of trips, and as discussed above, there are no sensitive receptors located within 4.97 miles of the Project site. Additionally, DPM dissipates with distance, especially within 500 feet. Therefore, a quantitative health risk assessment regarding DPM was not warranted (Stantec 2025a). According to the results of the health risk assessment conducted for this Project in the Air Quality and Greenhouse Gas Technical Study (Stantec 2025a), impacts associated with DPM from the Project construction and operation activities (diesel-fueled equipment) would be less than significant and would not have a significant cumulative contribution to the DPM levels in the disadvantaged communities.



3.1.5.2 Pesticide Use

The exposure indicator in CalEnviroScreen for pesticide use represents certain high hazard, high-volatility substances that may lead to unintended environmental damage. This indicator is defined by the total mass of active pesticide ingredients (filtered for hazard and volatility) used in production-agriculture areas (OEHHA 2021). The Project would include vegetation management adjacent to facility components. Pesticides would not be used in any of the Project areas, and the risk to the public would be less than significant since no pesticides are proposed for use. Herbicide use will not be allowed during the construction phase of the Project. During Project operations, CRC will employ a BMP ensuring only licensed applicators are tasked with herbicide application in accordance with all applicable laws, per the Biological Resources Technical Report (Stantec 2025b). No disproportionate impacts on an EJ population would occur.

3.1.5.3 Toxic Releases from Facilities

The exposure indicator in CalEnviroScreen for chemical releases represents modeled toxicity-weighted concentrations of chemical releases to air from facility emissions and off-site incineration in and near the Census Tracts. Project operation would also require the use of several catalysts and chemicals, including, but not limited to, CO₂ solvent, including the EFG+ amine solution blend, as well as ethylene glycol, sulfuric acid, corrosion inhibitor, scale inhibitor, silica dispersant, chlorine dioxide, and biodispersants. None of these chemicals are listed as TACs by the U.S. EPA or CARB. Moreover, the Project would comply with applicable state, and local regulations, including the Federal Clean Air Act, to reduce impacts from these chemicals. Therefore, Project operation would not result in a health risk exposure from other TACs. According to the results of the health risk assessment conducted for the Project in the Air Quality and Greenhouse Gas Technical Study (Stantec 2025a), the Project's construction and operational impacts associated with toxic releases from diesel-fueled equipment, to include vehicle trips, area sources, electrical generation, and stationary sources would be less than significant. The Project would not have a significant cumulative contribution to toxic releases and would not result in a cumulatively considerable net increase of any criteria pollutant for which the Project region is non-attainment under applicable state or regional ambient air quality standards. The Project's toxics emissions would be less than significant for the local EJ community and the general population.

3.1.5.4 Valley Fever

Coccidioidomycosis or "Valley Fever" is caused by inhaling the spores of the fungus *Coccidioides immitis* (*C. immitis*), which are released from the soil during soil disturbance (e.g., during construction activities) or wind erosion. Construction activities associated with the Project, including ground-disturbing operations, could increase the potential for exposure to airborne spores among nearby residents and on-site workers if such spores are present. When soil is disturbed by activities such as digging, driving, or high winds, fungal spores can become airborne and potentially be inhaled. The San Joaquin Valley is considered an endemic area for Valley Fever. Project activities would generate fugitive dust that could contain *C. immitis* spores. However, the Project would minimize the generation of fugitive dust that may include *C. immitis* spores during construction and operational activities by preparation and implementation of a Dust Control Plan in compliance with the SJVAPCD's Regulation VIII. Additionally, all field staff will be required to participate in CRC's Worker Awareness Program (WEAP) Training, which helps to identify symptoms of Valley Fever and provides resources to treat and manage if infected. The



potential risk to public health and those near the site during construction and Project operation will be less than significant with implementation of the Dust Control Plan and WEAP training. The potential risk associated with Project-related emissions of *C. immitis* spores would be less than significant. No disproportionate impacts on the EJ population would occur.

3.1.5.5 Traffic Impacts

The exposure indicator in CalEnviroScreen for traffic impacts represents the vehicles in a specified area, resulting in human exposures to chemicals that are released into the air by vehicle exhaust. Communities in the Project area are not exposed to high traffic impacts as compared to the rest of the state. This indicator is defined by the sum of traffic volumes adjusted by road segment length. Per the Transportation Impact Analysis (Stantec 2025d), study locations are the roadways in the immediate vicinity of the Project that would be used to access the Project site, and each are anticipated to have fewer than 50 trips added on these roadways during the peak hour under operational conditions. The Project would generate vehicle trips to the Project site. These trips include workers and material and equipment deliveries. During operation, the Project is anticipated to generate roughly 40 vehicle trips per day. Given that CRC has committed to local, union-only labor posture for the Project from the Kern, Inyo, Mono Counties Building and Construction Trades Council, the majority of delivery and worker trips are assumed to travel from Bakersfield, approximately 34 miles from the site (Fluor 2025). Due to the local source of labor, no shortage of housing is anticipated for the construction duration (Fluor 2025). Temporary housing and permanent housing would not be necessary for the Project. Vehicles would result in the emissions of fugitive dust from driving on paved and unpaved roadways, brake wear, and tire wear, as well as exhaust emissions of ROG, NO_x, SO_x, CO, PM₁₀, and PM_{2.5}. Emissions from mobile sources were calculated using CalEEMod. Project operational emissions are presented in Table 11 of the Air Quality and Greenhouse Gas Technical Study (Stantec 2025a). As illustrated in the table, emissions would fall below SJVAPCD thresholds and the Project would not result in a cumulatively considerable net increase of any criteria pollutant for which the Project region is non-attainment under an applicable state or regional ambient air quality standards, and the impact would be less than significant. The Project's operational traffic volume impact would not have a significant cumulative contribution to the traffic density for the local EJ community and the general population.

3.1.5.6 Asthma

The sensitive population indicator in CalEnviroScreen for asthma represents the number of emergency department visits for asthma per 10,000 people. The CalEnviroScreen score for the Project area is 18 in the Asthma category (refer to Table 7). This indicates the number of emergency department visits for asthma per 10,000 people from 2015 to 2017 is lower than the state average for asthma emergency department visits. According to the results of the health risk assessment conducted for the Project in Section 2.3.1, Air Quality, impacts associated with emissions from construction and operation activities would be less than significant and would not have a significant cumulative contribution to asthma emergency department visits. The Project's emissions would not have a significant cumulative contribution to asthma emergency department visits for the local EJ community and the general population.



3.1.5.7 Low Birth Weight Infants

This indicator measures the percentage of babies born weighing less than 2,500 grams (about 5.5 pounds). The Project area shows a low-birth-weight percentile of 62 for Census Tract 33.04, 92 for Census Tract 34, and 73 for Census Tract 66 is 73. This indicates that the percentage of low birth weights is higher than most tracts statewide. The Health Risk Assessment (Stantec 2025a) for the Project was based on a highly conservative health protective methodology that accounts for impacts on the most sensitive individuals in a given population. According to the results of the assessment, the risks at the nearest sensitive receptors (i.e. Maximally Exposed Sensitive Receptor [MESR] and Maximally Exposed Individual Resident [MEIR]) are below health-based thresholds. Therefore, the expected toxic emissions from the Project would not cause significant health effects (such as low-birth-weight) on infants in these disadvantaged communities or have a significant cumulative contribution to these disadvantaged communities.

3.1.5.8 Cardiovascular Disease

This indicator represents the rate of heart attacks. It measures the number of emergency department visits for acute myocardial infarction (AMI) (or heart attack) per 10,000 people. Table 7 shows Census Tract 33.04 is at the 58 percentile in the Cardiovascular Disease category, Census Tract 34 is at the 95 percentile, and Census Tract 66 is at the 78 percentile. This indicates that the number of emergency department visits for AMI per 10,000 people is higher than most tracts statewide. This indicates that these communities are above the average number of emergency department visits for AMI compared to the rest of the state. According to the results of the Health Risk Assessment conducted for the Project in the Air Quality and Greenhouse Gas Technical Study (Stantec 2025a), impacts associated with emissions from construction and operation activities would be less than significant and would not have a significant cumulative contribution to cardiovascular disease. The Project's emissions would not have a significant cumulative contribution to cardiovascular disease for the local EJ community and the general population.

3.1.6 Transportation

Significant reductions in transportation options may significantly impact EJ populations. In particular, an impact on bus transit, pedestrian facilities, or bicycle facilities could cause disproportionate impacts on low-income communities, as low-income residents more often use these modes of transportation. The Project area is served by Kern Transit bus service. Kern Transit Route 120 Taft-Bakersfield services in the Project area, with the nearest bus stop at Valley Acres, approximately 6 miles southeast of the Project site. There are no pedestrian or bike facilities in the vicinity of the Project. Vehicular access to the Project site would be from Skyline Road, directly across from the main construction personnel parking area. During construction, activities would be confined to the Project site and no road closures or detours are anticipated. During construction, all the roadway segments evaluated for impact analysis continued to operate at Level of Service (LOS) D or better with the addition of construction traffic and each are at or below the target threshold of LOS D. During Project operation, the anticipated traffic generation is approximately 40 trips per day based on 16 employees. This permanent increase in trips generated would not be impactful to any applicable plans establishing thresholds because the roadway segments would likely continue to operate at LOS D or better and the additional 40 trips is less than the 110 trips per day threshold presented in the Office of Planning and Research Technical Advisory (Stantec 2025e). Therefore, as demonstrated in the Transportation Impact Analysis (Stantec 2025), the transportation



impacts, including those affecting alternative modes of transportation, would be less than significant. As a result, any effects on EJ populations would also be less than significant and would not be disproportionate.

3.1.7 Visual Resources

A project-related visual impact may occur if a project is in proximity to an EJ population and one or more of the following circumstances occur:

- The project, if in a non-urbanized area, substantially degrades the existing visual character or quality of the public view of the site and its surroundings.
- The project creates a new source of substantial light and glare that would adversely affect day or nighttime views in the area.

The Project is located in a rural area and existing land uses in the vicinity of the Project site are exclusively oil and gas exploration and production activities. The Project is located entirely within the EHO, which has been used for more than 100 years for oil and gas production. New permanent facility lighting would comply with local lighting ordinances and provided for worker safety or as required to comply with Federal Aviation Administration hazard regulations. Due to the existing character of the Project site, and the nexus of the Project's operational activities to current conditions, and the lack of residences adjacent to the Project, it was concluded that no disproportionate impacts on an EJ population would occur.

3.1.8 Solid Waste Facilities

The CalEnviroScreen scores for the disadvantaged communities Census Tracts 33.04, 34, and 66 in the 6-mile radius of the Project for environmental stressors that relate to waste management are as follows: cleanup sites (86, 17, and 43 percentiles), hazardous waste generators and facilities (97, 22, and 94 percentiles), and solid waste facilities (99, 55, and 85 percentiles) (see Table 6). This indicates that these three Census Tracts have more hazardous materials sites than the vast majority of Census Tracts statewide.

Solid Waste Facilities.

CES considers data in the State's Solid Waste Information System and the number of solid waste facilities, operations, and disposal sites within 3,281 feet (or 0.6 miles) of a census tract, including closed landfills and disposal sites that have not met minimum state standards for closure. Data from the State's Hazardous Waste Tracking System is also considered (OEHHA 2021). As shown in Table 6, CES scores for the Solid Waste category indicate that a portion of Census Tract 33.04 ranked in the 99th percentile based on the number of and types of solid waste facilities in the vicinity, which is among the highest scores for tracts statewide. The handling and disposal of each type of project related construction and operation is dependent on the hazardous ranking of its constituent materials. Given CRC has an Environmental Risk Management Process that covers all the required aspects of waste classification, tracking, and disposal and CRC would add all waste material to the required California Environmental Reporting System database along with the required maps and Consolidated Contingency and Emergency Response Plans, there would be no increase in solid waste generators and facilities in the area due to Project construction or operation. Therefore, the Project would have a less than significant impact



associated with the generation or disposal of solid waste with mitigation incorporated. No disproportionate impacts to an EJ population would occur.

3.1.9 Water Resources

The Project would be required to comply with the Clean Water Act and California's Porter-Cologne Water Quality Control Act by controlling the discharge of pollutants during its construction and operation phases. The Project would implement stormwater management and containment controls that would improve upon the Project site's potential to release contaminants to the environment. Pursuant to the Hydrology Study (Stantec 2025f), The Project's water resources impacts would be less than significant with mitigation incorporated.

A disproportionate hydrologic or water quality impact on an EJ population could occur if the Project would contribute to impairment of drinking water, exacerbate groundwater contamination threats, or contribute pollutants to impaired water bodies. Since the overall CalEnviroScreen score reflects the collective impacts of multiple pollutants and factors, the individual contributions to indicators were examined as they relate to hydrology and water quality. The pollutants of concern in this analysis are those from construction and operational activities.

CalEnviroScreen assigns a score to each type of stressor (refer to Table 6). To assess the impact of a stressor on population within a Census Tract, the score is assigned a weighting factor that decreases with distance from the Census Tract. For stationary stressors related to hydrology or water quality, the weighting factor diminishes to zero for distances larger than 3,281 feet (3,281 feet or 0.6 miles). Given Census Tracts 34 and 66 are more than 3,281 feet away from the Project (refer to Figure 3) and there are no sensitive receptors or residences within 3,281 feet of the Project in Census Tract 33.04, the weighting factor diminishes to zero.

Drinking Water Contaminants. CalEnviroScreen aggregates drinking water quality data from the California Department of Public Health, the U.S. EPA, and the State Water Resources Control Board (SWRCB). The score provided by the Drinking Water Contaminant metric calculation is intended to rank water supplies relative to their history or likelihood to provide water that exceeds drinking water standards. Low-income rural communities, particularly those served by small community water systems, can be disproportionately exposed to contaminants in their drinking water. As concluded in the Hydrology Study (Stantec 2025f), the Project would secure a National Pollution Discharge Elimination System (NPDES) permit from SWRCB: General Permit for Storm Water Discharges Associated with Construction and Land Disturbing Activities (Order No. 2022-0057-DWQ) for construction-related storm water discharges from the Project site. During operations, the Project would inject CO₂ beneath an exempted aquifer and meet U.S. EPA UIC Class VI requirements to protect underground sources of drinking water. Additionally, the Project may qualify for a low erosivity waiver from NPDES stormwater permitting where U.S. EPA stormwater regulations allow NPDES permitting authorities to waive NPDES permitting requirements for stormwater discharges from small construction sites in which activities disturb between 1 and 5 acres. Accordingly, the Project would not create disproportionate impacts on EJ communities during operations.

Groundwater Threats. Common groundwater pollutants found at contaminant release sites in California include gasoline and diesel fuels; chlorinated solvents and other volatile organic compounds; heavy metals such as lead, chromium, and arsenic; polycyclic aromatic hydrocarbons; persistent organic



pollutants like polychlorinated biphenyls and pesticides; and perchlorate. According to the Water Supply Assessment (Stantec 2025g), the Project is located within the service area of the West Kern Water District (WKWD) which relies on imported State Water Project (SWP) surface water supplies from the California Aqueduct purchased through Kern County Water Agency, a State Water Contractor, to meet the water supply needs of its customers (Stantec 2025g). Groundwater would be a component of the water supplies for the Project and would be produced from WKWD groundwater wells in the Kern County Subbasin in amounts up to 21,200 gallons per year, a *de minimis* use. The water would be disinfected groundwater from WKWDs well fields and delivered to CRC's California Resources Elk Hills public water system for distribution to the water system's customers in the EHOE (Stantec 2025f). Although there is a historical and projected decline in groundwater in storage in the Subbasin under most scenarios, there is sufficient imported SWP water available and banked Kern River recharge water available to WKWD to meet the construction and operation water demands of the Project over the next 20 years. Given the Project will meet Sustainable Groundwater Management Act requirements, and is not expected to overdraft local groundwater resources, impacts would be less than significant with mitigation (Stantec 2025f). Therefore, no disproportionate impacts on an EJ population would occur.

Impaired Water Bodies. The EHPP has a Notice of Non-Applicability under the Statewide General Permit for Stormwater Discharges Associated with Industrial Activities (Order 2014-0057-DWQ) because the industrial activities occurring onsite would not be exposed to stormwater (SWRCB 2025). There are no impaired watersheds or waters within the 6-mile radius. The Hydrology Study (Stantec 2025f) concluded final Project site plans would address impervious surfaces, runoff volumes and peak flows, and would include a drainage plan to address post-construction stormwater management, in compliance with Kern County stormwater requirements to reduce impairment to watersheds and water bodies. The Hydrology Study's modeled peak flow rates demonstrate the Project would not excessively create or contribute runoff water or provide any substantial additional sources of polluted runoff. No jurisdictional aquatic resources (such as impaired water bodies) are present that would be directly impacted from the Project. The minimal addition of impervious area combined with the existing drainage pattern that avoids the CO₂ Capture Facility concludes the Project would not increase any flooding potential within the EHOE or downstream. No disproportionate impacts on an EJ population would occur.



4 Cumulative Impacts

Cumulative impacts on EJ populations are unlikely, even if multiple nearby projects have overlapping construction schedules and are within the same community. While concurrent development can sometimes lead to increased demand for labor and public services, such as additional Kern County Fire Department training, such effects are not expected to disproportionately impact EJ communities in this case because there is no concurrent CCS development within the EHOF or local community of Tupman. The Project is also not expected to significantly affect housing availability, school enrollment, or public service capacity because the labor would be locally sourced, with the majority of the construction employees (approximately 500 workers) and operations employees (maximum of 16 workers) would travel from the Bakersfield area, approximately 34 miles away, and not require housing, school enrollment, or public services. As a result, the Project is not anticipated to contribute to any disproportionate or adverse cumulative impacts on EJ populations.



5 Mitigation Measures

The following mitigation measure (MM), modified from the CTV I project, is proposed for the Project to reduce environmental justice/ socioeconomics impacts to less than significant.

MM SOCIO-1: The Project proponent/operator shall work with the County to determine how the use of sales and use taxes from construction of the Project can be maximized. This process shall include, but is not necessarily limited to, the Project proponent/operator obtaining a street address within the unincorporated portion of Kern County for acquisition, purchasing and billing purposes, and registering this address with the State Board of Equalization. As an alternative to the aforementioned process, the Project proponent/operator may make arrangements with Kern County for a guaranteed single payment that is equivalent to the number of sales and use taxes that would have otherwise been received (less any sales and use taxes actually paid); with the amount of the single payment to be determined via a formula approved by Kern County. The Project proponent/operator shall allow the County to use this sales tax information publicly for reporting purposes.



6 References

- Alexis, Neil E., John C. Lay, Milan Hazucha, Bradford Harris, Michelle Hernandez, Philip A. Bromberg, Howard Kehrl, David Diaz-Sanchez, Chong Kim, Robert B. Delvin, and David B. Peden. 2010. Low-level ozone exposure induces airways inflammation and modifies cell surface phenotypes in healthy humans. *Inhal Toxicol* 22(7):593-600. Accessed March 2025. Available at: <https://www.ncbi.nlm.nih.gov/pubmed/20384440>
- Burnett Richard, Marc Smith-Doiron, Dave Stieb, Mark Raizenne, and Jeffery Brook. 2001. Association between Ozone and Hospitalization for Acute Respiratory Diseases in Children Less than 2 Years of Age. *American Journal of Epidemiology* 153(5):444-452. Accessed March 2025. Available at: <https://academic.oup.com/aje/article/153/5/444/149769>
- California Air Resources Board (CARB). 2023. Community Air Protection Program. “CAPP Communities and Consistently Nominated Communities Maps”. Accessed March 2025. Available at: <https://gis.carb.arb.ca.gov/Portal/apps/experiencebuilder/experience/?id=fa898fba4d024c568d7e228b83cd1246&page=Community-Maps&views=View-29.I>
- California Department of Forestry and Fire Protection. 2024. “Fire Hazard Severity Zone Viewer”. Accessed March 2025. Available at: <https://experience.arcgis.com/experience/03beab8511814e79a0e4eabf0d3e7247/>
- . 2025a. Current Emergency Incidents. “Incidents by Year”. Accessed June 2025. Available at: <https://www.fire.ca.gov/incidents>.
- . 2025b. Fire and Resource Assessment Program “Historical Fire Perimeters”. Accessed June 2025. Available at: <https://www.fire.ca.gov/what-we-do/fire-resource-assessment-program/fire-perimeters>.
- California Energy Commission (CEC). 2023. “Justice Access Equity Diversity Inclusion (JAEDI) Framework”. Accessed March 2205. Retrieved from: https://www.energy.ca.gov/sites/default/files/2023-11/CEC-JAEDI-Framework_ada.pdf
- California Environmental Protection Agency (CalEPA). 2022. Final Designation of Disadvantaged Communities Pursuant to Senate Bill 535. Accessed March 2025. Retrieved from: https://calepa.ca.gov/wp-content/uploads/2022/05/Updated-Disadvantaged-Communities-Designation-DAC-May-2022-Eng.a.hp_-1.pdf
- Electrical Power Research Institute. 2022. Front-End Engineering Design Study for Retrofit Post-Combustion Carbon Capture on a Natural Gas Combined Cycle Power Plant. Work Performed Under Agreement DE-FE0031842. U.S. Department of Energy National Energy Technology Laboratory.
- Executive Order No. 14173. 2025. Ending Illegal Discrimination and Restoring Merit-Based Opportunity. Accessed March 2025. Available at: <https://www.federalregister.gov/documents/2025/01/31/2025-02097/ending-illegal-discrimination-and-restoring-merit-based-opportunity>



- Fann, Neal, Amy Lamson, Susan Anenberg, Karen Wesson, David Risley, and Bryan Hubbell. 2012. Estimating the National Public Health Burden Associated with Exposure to Ambient PM_{2.5} and Ozone. *Risk Analysis* 32(1):81- 95. Accessed March 2025. Available at: <https://www.ncbi.nlm.nih.gov/pubmed/21627672>
- Federal Reserve. 2025. Federal Open Market Committee. March 19, 2025: FOMC Projections materials, accessible version. Accessed July 2025. Available at: <https://www.federalreserve.gov/monetarypolicy/fomcproptabl20250319.htm>.
- Fluor. 2025. CalCapture Project Construction and Contracting Strategy. Document No. EH-35R-CCU1-EXE-500-00001. Rev. D, 09-Apr-2025. California Resources Corporation.
- Governor's Office of Land Use and Climate Innovation. 2020. "Chapter 4.8 Environmental Justice Element". Accessed March 2025. Retrieved from: https://lci.ca.gov/docs/20200706-GPG_Chapter_4_EJ.pdf
- Kern County. 2020. Kern County General Plan Update, Participate, Issue Group Meeting Dates. Accessed March 2025. Available at: <https://kern2040.com/participate.html>
- Kern County Administrative Office. 2025. Functions of the County Administrative Office. Accessed July 2025. Available at: <https://www.kerncounty.com/government/county-administrative-office/cao>.
- Kern County Assessor Recorder. 2025a. About Assessor. Accessed July 2025. Available at: <https://www.kerncounty.com/government/departments/assessor-recorder/contact-about/about-assessor>.
- . 2025b. Assessor Property Search. Accessed July 2025. Available at: <https://www.kerncounty.com/government/departments/assessor-recorder/property/assessor-property-search>.
- Kern High School District. 2024. Developer Impact Fee Annual and Five Year. Reports for the Fiscal Year Ending June 30, 2024. Prepared by Fiscal Services. Accessed July 2025. Available at: <https://4.files.edl.io/e988/12/17/24/171235-9e04b54f-dfa6-4aac-a6d9-6451a6b8643e.pdf>.
- Lin, Shao, Xiu Liu , Linh H. Le, and Syni-An Hwang. 2008. Chronic Exposure to Ambient Ozone and Asthma Hospital Admissions among Children. *Environ Health Perspect* 116(12):1725-1730. Accessed March 2025. Available at: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2599770/>
- London, Jonathan, Ganlin Huang, and Tara Zagofsky. 2011. "Land of Risk/ Land of Opportunity: Cumulative Environmental Vulnerability in California's San Joaquin Valley". Davis, CA: UC Davis Center for Regional Change. Accessed March 2025. Retrieved from: https://www.kerncog.org/wp-content/uploads/2011/06/SJV_EJ_areas_2011.pdf
- Medina-Ramón, Mercedes and Joel Schwartz. 2008. Who is more vulnerable to die from ozone air pollution? *Epidemiology* 19(5):672-9. Accessed June 2025. Available at: <https://www.ncbi.nlm.nih.gov/pubmed/18480732>
- Occupational Safety and Health Administration (OSHA). 2019. Permissible Exposure Limits –Annotated Tables. Accessed March 2025. Available at: <https://www.osha.gov/annotated-pels/table-z-1#>



- Office of Environmental Health Hazard and Assessment (OEHHA). 2021. CalEnviroScreen 4.0. California Environmental Protection Agency. Accessed March 2025. Available at: <https://oehha.ca.gov/calenviroscreen/report/calenviroscreen-40>
- Stantec Consulting Services Inc. (Stantec). 2025a. *Air Quality - Greenhouse Gas Technical Study for CalCapture Carbon Capture and Sequestration Project, Elk Hills Oilfield, Kern County, California*.
- . 2025b. *Biological Resources Technical Study for CalCapture Carbon Capture and Sequestration Project, Elk Hills Oilfield, Kern County, California*.
- . 2025c. *Cultural Resources Study for CalCapture Carbon Capture and Sequestration Project, Elk Hills Oilfield, Kern County, California*.
- . 2025d. *Noise Study for CalCapture Carbon Capture and Sequestration Project, Elk Hills Oilfield, Kern County, California*.
- . 2025e. *Transportation Impact Analysis for CalCapture Carbon Capture and Sequestration Project, Elk Hills Oilfield, Kern County, California*.
- . 2025f. *Hydrology Study for CalCapture Carbon Capture and Sequestration Project, Elk Hills Oilfield, Kern County, California*.
- . 2025g. *Water Supply Assessment for CalCapture Carbon Capture and Sequestration Project, Elk Hills Oilfield, Kern County, California*.
- State Water Resources Control Board (SWRCB). 2025. Industrial Stormwater General Permit Mapping Tool. Accessed March 2025. Available at: <https://gispublic.waterboards.ca.gov/portal/apps/webappviewer/index.html?id=d2e422cdf19148cfa36f40e075b9889e>
- U.S. Census Bureau. 2023a. “American Community Survey 5-Year Estimates”. Accessed March 2025. Available at: <https://www.census.gov/data/developers/data-sets/acs-5year.html>
- Zanobetti Antonella and Joel Schwartz. 2011. Ozone and survival in four cohorts with potentially predisposing diseases. *Am J Respir Crit Care Med* 184(7):836-41. Accessed March 2025. Available at: <https://www.ncbi.nlm.nih.gov/pubmed/21700916>



Stantec is a global leader in sustainable engineering, architecture, and environmental consulting. The diverse perspectives of our partners and interested parties drive us to think beyond what's previously been done on critical issues like climate change, digital transformation, and future-proofing our cities and infrastructure. We innovate at the intersection of community, creativity, and client relationships to advance communities everywhere, so that together we can redefine what's possible.

Stantec Consulting Services Inc.
2646 Santa Maria Way, Suite 107
Santa Maria CA 93455-1776

stantec.com

