

## 4.12 MINERAL AND PETROLEUM RESOURCES

This section evaluates the potential effects of implementing the 2040 General Plan on mineral and petroleum resources, including the potential to hamper or preclude the extraction of, or access to, these resources. As described in the “Approach to the Environmental Analysis” section, above, the following assessment of impacts is based on the characterization of existing environmental conditions and regulatory setting provided in the January 2020 Background Report (Appendix B). Where necessary, each section identifies changes (e.g., new information, regulatory changes) to the environmental and regulatory setting included in the Background Report that are relevant to understanding the 2040 General Plan’s potential impacts.

Comments on the notice of preparation (NOP) included concerns regarding the sustainability of the oil and gas industry; effects of oil and gas exploration and production on climate change, water quality, water supply, traffic, noise, odors, aesthetics, and hazards; renewal of drilling permits, compliance with new policies, and use of best management practices; and the effects of importing oil and gas compared to producing it locally in the county. These comments are addressed in this section, as appropriate. The NOP and comments on the NOP are included in Appendix A.

In addition, these topics are typically outside the aspects of impacts to petroleum and mineral resources evaluated in this section pursuant to the thresholds established below in accordance with the County of Ventura’s adopted Initial Study Assessment Guidelines (ISAG) and Appendix G of the State CEQA Guidelines. However, in order to have a comprehensive discussion of the potential environmental effects of new policies related to oil and gas development in the county, indirect effects in the areas of climate change, transportation, water supply and quality, noise, air quality, odors, aesthetics, and hazards are discussed in this section. To the extent that extraction of mineral resources under the 2040 General Plan could have effects on other environmental resources, these items are addressed in the respective resource sections of this draft EIR.

### 4.12.1 Background Report Setting Updates

#### REGULATORY SETTING

In addition to the information provided in Section 8.4, “Mineral Resources,” Section 8.5, “Energy Resources,” and Section 10.2 “Legal and Regulatory Framework for Water Management (Class II Underground Injection Control Program),” of the Background Report (Appendix B), the following information is relevant to understanding and evaluating the impacts of the 2040 General Plan on petroleum resources. This information goes beyond consideration of whether the laws and regulations pertain to precluding petroleum development, but they are included in this chapter for completeness.

##### Federal Laws and Regulations

Federal laws and regulations do not preclude access to petroleum resources, but are provided here to provide greater context on the regulatory framework governing oil and gas production and transport.

## Gas Pipelines

Natural gas pipeline safety is managed by the Office of Pipeline Safety (OPS), U.S. Department of Transportation (DOT) Pipeline and Hazardous Material Safety Agency (PHMSA) and operators must follow the regulations in 49 CFR 192.1 to 192.1015, *Transportation of Natural and Other Gas by Pipeline*. OPS is responsible for regulating the safety of natural gas transportation pipelines, including safety aspects related to design, construction, operation, and maintenance. Minimum safety requirements for gas pipelines are described in the Code of Federal Regulations 49 CFR Parts 191, 192 and 193. Under 49 CFR 191, significant natural gas pipeline incidents are required to be reported to the PHMSA of the DOT.

Since 2003, OPS implemented the Integrity Management Program (IMP), described in 49 CFR 192 Subpart O. This regulation requires pipeline operators to assess, identify, and address the safety of pipeline segments that are located in areas where the consequences of a pipeline failure could be significant. Under the IMP, pipeline operators are required to: identify all segments of the pipeline that pass through a high consequence area, conduct a baseline assessment of the integrity of these segments, address any safety issues, reassess the integrity of the pipeline at intervals not to exceed 5 years, and establish performance measures to assess the program's effectiveness.

## California Laws and Regulations

The following State laws address gas and liquid pipelines, oil and gas facilities, and hazardous materials and waste. With the exception of coastal and non-coastal zoning ordinances, these state laws and regulations do not preclude access to petroleum resources, but are provided here to provide greater context on the regulatory framework governing oil and gas production and transport.

### California Pipeline Safety Act of 1981

This Act gives regulatory jurisdiction to the State Fire Marshal for the safety of all intrastate hazardous liquid pipelines and all interstate pipelines used for the transportation of hazardous or highly volatile liquid substances. The law establishes the governing rules for interstate pipelines to be the federal Hazardous Liquid Pipeline Safety Act and federal pipeline safety regulations.

Recent amendments require pipelines to include means of leak prevention and cathodic protection, with acceptability to be determined by the State Fire Marshal. All new pipelines must also be designed to accommodate passage of instrumented inspection devices (smart pigs) through the pipeline.

### California Public Utilities Commission General Order No. 112-F, State of California Rules Governing Design, Construction, Testing, Operation, and Maintenance of Gas Gathering, Transmission, and Distribution Piping Systems

The purpose of General Order No. 112-F is to establish, in addition to the Federal Pipeline Safety Regulations, minimum requirements for the design, construction, quality of materials, locations, testing, operations and maintenance of facilities used in the gathering, transmission, and distribution of gas to safeguard life or limb, health, property and public welfare and to provide that adequate service will be maintained by gas operators under the jurisdiction of the CPUC. General Order No. 112-F is incorporated in addition to the Federal Pipeline Safety Regulations, specifically, Title 49 of the Code of Federal Regulations (49 CFR), Parts 191, 192, 193, and 199, which also govern the Design, Construction, Testing, Operation, and

Maintenance of Gas Piping Systems in the State of California. General Order No. 112-F does not supersede the Federal Pipeline Safety Regulations, but rather supplements the federal regulations.

### Ventura County Air Pollution Control District Rule No. 71.1 - Crude Oil Production and Separation and Rule No. 54 - Sulfur Compounds

The Ventura County Air Pollution Control District (VCAPCD) regulates flaring at oil and gas facilities through its rules, regulations, monitoring and permitting programs. VCAPCD Rule 71.1 applies to equipment used in the production, gathering, storage, processing, and separation of crude oil and natural gas from petroleum production permitted units. Pursuant to this rule, venting of organic gases to the atmosphere is prohibited; therefore, storage tanks must include vapor recovery systems and produced gas must be directed to an on-site fuel system, a sales gas system, or a flare that combusts reactive organic gases, or a device with a reactive organic compound destruction or removal efficiency of at least 90 percent by weight. Exemptions from this rule are provided, including those for tanks installed prior to 1978 and temporary tanks. Rule 54 applies to any person who discharges sulfur compounds into the atmosphere from any source whatsoever.

#### Primary (Non-Emergency) Flares

The VCAPCD has determined that flares rated at or greater than 1 million Btu per hour (MMBtu/hr) are considered “primary flares” subject to VCAPCD permit requirements and permitted emissions pursuant to VCAPCD Rule 29, “Conditions on Permits.” Rule 29 requires that the VCAPCD permit for a flare include permitted emissions and a permit condition that limits the annual gas consumption in both the flare, and the flare’s gas pilot, if applicable. The VCAPCD permit places a gas consumption limit on routine flaring and “planned flaring events” identified in the operator’s Planned Flaring Management Plan. These flaring events include, but are not limited to, routine flaring to comply with Rule 71.1, flaring due to planned maintenance performed on wells, equipment, or pipelines by the operator or performed by another operating accepting the produced gas. “Unplanned Flaring” or flaring events include the unplanned burning of gas for emergency or safety concerns as a result of an unforeseen process upset or an equipment malfunction or breakdown. Rule 54 stipulates that unplanned flaring events shall not exceed 24 hours in duration and if the flaring event exceeds 1 hour in duration, the operator shall: (1) notify the VCAPCD as soon as reasonably possible, but no later than 4 hours after its detection by the operator; (2) submit a report to the VCAPCD within one week after the flaring event with an estimate of sulfur emissions, and pictures or descriptions of the equipment or controls that failed; and (3) immediately undertake appropriate corrective measures to come into compliance with Rule 54 (B.1) and (B.2), which set forth the acceptable permitted levels of discharge of sulfur compounds and sulfur dioxide.

#### Emergency Flares

Flares rated at less than 1 MMBTU/hr and used exclusively for emergency standby for the disposal of process gases in the event of unavoidable process upsets, are considered “emergency flares” and exempt from VCAPCD permits (Rule 23.A.4 and Rule 23.C.1). While these flares are exempt from the requirements of Rule 29 permitted emissions, they may be listed on an oil and gas operator’s Permit to Operate for enforcement purposes.

#### Permitted Flaring Variances

In the event an oil and gas operator is required to conduct additional flaring from a primary or emergency flare above and beyond VCAPCD permitted levels, a variance may be granted on a case-by-case basis through the VCAPCD Hearing Board. This variance may be granted when

an VCAPCD permittee is out of compliance with a District Rule (permit condition etc.) and in addition to seven specific findings demonstrates that the conditions requiring excess flaring were beyond the reasonable control of the petitioner, the petitioner has given consideration to curtailing operations of the source in lieu of obtaining a variance, and the petitioner will reduce excess emissions to the maximum extent feasible during the requested variance period. A variance is granted for a specified time period during which the VCAPCD will not take further enforcement action based on flaring conducted in accordance with the variance. Variances in which oil and gas flaring is requested typically are a result of gas sales pipeline maintenance and/or to dispose of produced gas or transfer oil product to an oil sales pipeline.

#### Non-Coastal and Coastal Zoning Ordinances

Section 8107-5.5 of the Non-Coastal Zoning Ordinance (NCZO), and Section 8175-5.7.7 of the Coastal Zoning Ordinance (CZO), establish oil development guidelines, which are applied to oil development authorized by new discretionary permits or permit modifications whenever physically and economically feasible and practicable. NCZO Section 8107-5.5.5, and CZO Section 8175-5.7.7(e), state that pipelines should be used to transport petroleum products offsite to promote traffic safety and air quality. As feasible, pipelines must be consolidated with existing pipelines and routed to avoid important resource areas. NCZO Section 8107-5.5.7, and CZO Section 8175-5.7.7(g), state that gas from wells should be piped to centralized collection and processing facilities, rather than being flared, to preserve energy resources and air quality, and to reduce fire hazards and light sources. NCZO Section 8107-5.5.8, and CZO Section 8175-5.7.7(h), state that wells should be located a minimum of 800 feet from occupied sensitive uses and that private access roads to drill sites should be located a minimum of 300 feet from occupied sensitive uses, unless this requirement is waived by the occupant. NCZO Section 8107-5.6.1, and CZO Section 8175-5.7.8(a), require the following setbacks for well drilling and equipment:

- ▶ 100 feet from any dedicated public street, highway, or nearest rail of a railway being used as such, unless the new well is located on an existing drill site and the new well would not present a safety or right-of-way problem.
- ▶ 500 feet from any building or dwelling not necessary to the operation of the well, unless a waiver is signed allowing the setback to be reduced; in no case can the well be located less than 100 feet from said structures.
- ▶ 500 feet (under the NCZO) or 800 feet (under the CZO) from any institution, school, or other building used as a place of public assemblage, unless a waiver is signed allowing the setback to be reduced. However, in no case shall any well be located less than 300 feet from said structures.
- ▶ 300 feet from the edge of the existing banks of "Red Line" channels as established by the Ventura County Watershed Protection District and 100 feet from the existing banks of all other channels, including any marsh, small wash, intermittent lake, intermittent stream, spring or perennial stream, unless a qualified biologist determines that there are no significant biological resources present or that this standard setback should be adjusted.

Additionally, NCZO Section 8107-5.6.26 Application of Sensitive Use Related Standards requires that the imposition of regulations on petroleum operations, which are based on distances from occupied sensitive uses, shall only apply to those occupied sensitive uses which were in existence at the time the permit for the subject oil operations were approved.

## ENVIRONMENTAL SETTING

In addition to the information provided in Section 8.4, “Mineral Resources,” and Section 8.5, “Energy Resources,” of the Background Report (Appendix B), the following information is relevant to understanding and evaluating the potential impacts of the 2040 General Plan on petroleum resources. The discussion goes beyond consideration of whether the 2040 General Plan would preclude access to petroleum resources in order to have a comprehensive discussion of the history and current conditions for petroleum production in the County.

### History of Oil and Gas Permitting

The County of Ventura began requiring discretionary permits for oil and gas exploration and production activities and structures with adoption of the County's first zoning ordinance in 1947. Over time, the County's zoning ordinances and standard permits have become more stringent and detailed in their regulation of this land use. From 1947 through approximately 1966, the County granted discretionary "special use permits" (the predecessor to the County's "conditional use permits") authorizing oil and gas exploration and production. These permits describe, in general terms, the oil and gas-related activities and structures that are authorized under the permit and often apply to large permit areas. The permits typically do not state the maximum number or exact location of allowable wells or other structures, nor do they contain expiration dates by which the land use must end unless extended by the County.

From approximately 1966 through the 1970s, the County used a new discretionary conditional use permit form with more detailed and stringent conditions as compared to the special use permits. The conditional use permits from this era typically only authorize the drilling and operation of a limited number of drill sites, wells, and/or other structures; require discretionary County approval for all subsequent development; and contain permit expiration dates. Beginning in the early 1980's and continuing to the present, the County's conditional use permits typically specify the exact number and location of all authorized wells and other appurtenant structures; impose more detailed and comprehensive conditions; and contain permit expiration dates. When a permittee seeks to add new wells or otherwise engage in new development under conditional use permits granted by the County from approximately 1966 to present, the new development typically requires a discretionary permit modification.

There are currently 57 oil companies operating in Ventura County under the authority of 125 active County discretionary permits for oil and gas exploration and production. Of this total, approximately 35 have expiration dates during the planning period for the 2040 General Plan (i.e., 2020 through 2040) and approximately 75 permits have no specified expiration date. Ventura County Planning Division permit records indicate that the permits for the remainder of the operating wells either have expiration dates before 2020 or after 2040.

## 4.12.2 Environmental Impacts and Mitigation Measures

### METHODOLOGY

As described in Sections 8.4 and 8.5 of the Background Report, aggregates (sand and gravel) and petroleum (oil and gas) are the primary geological resources in Ventura County. Therefore, these resources are the focus of the following analysis. To determine the potential for the 2040 General Plan to conflict with the extraction of mineral resources, the proposed

land use diagram was compared to maps of aggregate resources maintained by the State (mineral resource zones mapped by the California Division of Mines and Geology [now known as the California Geological Survey]) and County (as Mineral Resource Protection [MRP] overlay zone) described in the Background Report. The potential for physical changes within identified mineral resource zones (MRZs) was determined using geographic information system software. Specifically, the analysis focused on MRZ-2 lands, which are identified in the County's NCZO with an MRP Overlay. Consistent with ISAG Section 3a, any land use proposed on or immediately adjacent to land zoned in the MRP Overlay designation or adjacent to a principal access road to a property with the boundaries of an existing conditional use permit for mineral (e.g., aggregate) resources extraction is considered to have the potential to hamper or preclude access to mineral resources.

Similarly, the evaluation of impacts on petroleum resources is based on the petroleum resources map (Figure 8-10 in the Background Report) and well data published by the State Division of Oil, Gas, and Geothermal Resources. These resources were compared to the proposed land use diagram in the geographic information system software to assess the overall proximity of potential land use changes to identified resource areas (i.e., oil fields and wells). Consistent with ISAG Section 3b, any land use designation that could result in development on or immediately adjacent to any known petroleum resource area, or adjacent to a principal access road to a property with an existing use permit for petroleum exploration and production, is considered to have the potential to hamper or preclude access to petroleum resources. The evaluation is program-level and identifies potential effects of the 2040 General Plan relative to existing conditions, based on reasonable inference and using readily available information. The evaluation also includes information about petroleum development and regulation in the County that is beyond the scope of evaluation of precluding access to petroleum resources, but is provided here to provide a comprehensive discussion.

## THRESHOLDS OF SIGNIFICANCE

As discussed in the "Approach to the Environmental Analysis" section, the thresholds used to determine the significance of the 2040 General Plan's impacts are based on the County of Ventura's adopted ISAG, which include threshold criteria to assist in the evaluation of significant impacts for individual projects. Appendix G of the State CEQA Guidelines also provides considerations for determining the significance of a project's impacts, in the form of initial study checklist questions.

To develop thresholds of significance for this section of the draft EIR, the County has deviated from the ISAG threshold criteria, where appropriate, to consider the programmatic nature of a general plan for the entire unincorporated area and to incorporate the 2019 revisions to the Appendix G checklist.

Specifically, the various thresholds provided in the ISAG were consolidated into a single impact statement for each of the resources. ISAG Section 3a, thresholds 1 and 2, and ISAG Section 3b, thresholds 1 through 3 regarding petroleum resources are evaluated together. In addition, language was added to emphasize that the analysis is relative to existing conditions. Appendix G questions XII(a) and XII(b) relate to availability of mineral resources and are evaluated as separate thresholds for mineral and petroleum resources.

For the purpose of this draft EIR, implementation of the 2040 General Plan would have a significant impact on mineral and petroleum resources if it would:

- ▶ Result in any land use, project activity, or development, which is on or adjacent to existing mineral resources extraction sites, immediately adjacent to land zoned Mineral Resource Protection (MRP) overlay zone or land mapped for mineral resources, or adjacent to a principal access road to an existing aggregate extraction or production site, and as a result could hamper or preclude extraction of the resources.
- ▶ Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the State.
- ▶ Result in development on or adjacent to existing petroleum extraction sites or areas where petroleum resources are zoned, mapped, or permitted for extraction, which could hamper or preclude access to the resources.
- ▶ Result in the loss of availability of a known petroleum resource that would be of value to the region and the residents of the State.

## ISSUES NOT DISCUSSED FURTHER

The Area Plans for communities of El Rio/Del Norte, Lake Sherwood/Hidden Valley, North Ventura Avenue, Oak Park, Ojai Valley, Piru, and Thousand Oaks were reviewed for policies and implementation programs specific to these areas that would potentially have impacts on the environment with respect to mineral and petroleum resources. The 2040 General Plan would not result in substantive changes to Area Plan policies and implementation programs related to mineral and petroleum resources. The Area Plan policies and implementation programs related to these issues are consistent with the policies and implementation programs of the 2040 General Plan, which are addressed in the following impact discussions. Therefore, the environmental effects of the Area Plan policies and implementation measures are not addressed separately in this section.

## 2040 GENERAL PLAN POLICIES AND IMPLEMENTATION PROGRAMS

Policies and implementation programs in the 2040 General Plan related to mineral and petroleum resources and, specifically, the thresholds of significance identified above, include the following:

### Conservation and Open Space Element

- ▶ **COS-6.1: Balanced Mineral Resource Production and Conservation.** The County shall balance the development and conservation of mineral resources with economic, health, safety, and social and environmental protection values. (MPSP, IGC, RDR) [*Source: New Policy*]
- ▶ **COS-6.2: Significant Mineral Resource Deposits.** The County shall maintain maps of mineral resources deposits as identified by the California State Geologist as having regional or statewide significance and any additional deposits as may be identified by the County. The County shall provide notice to landowners and the general public on the

location of significant mineral resource deposits. (MPSP, PI) [Source: Existing GPP Goal 1.4.1.2, modified]

- ▶ **COS-6.3: Mineral Extraction Location Priority.** The County shall promote the extraction of mineral resources locally to minimize economic costs and environmental effects associated with transporting these resources. (IGC, JP) [Source: Existing GPP Goal 1.4.1.3, modified]
- ▶ **COS-6.4: Mineral Resource Area Protection.** Discretionary development within Mineral Resource Zones identified by the California Division of Mines and Geology shall be subject to the Mineral Resource Protection (MRP) Overlay Zone and is prohibited if the use will significantly hamper or preclude access to or the extraction of mineral resources. (RDR) [Source: Existing GPP Policy 1.4.2.8, modified]
- ▶ **COS-6.5: Mineral Resource Land Use Compatibility.** The County shall ensure that discretionary development is compatible with mineral resources extraction and processing if the development is to be located in areas identified on the Mineral Resource Zone Maps prepared by the California Geological Survey or in County identified mineral resource areas. The County shall:
  1. Require an evaluation to ascertain the significance of the mineral resources deposit located in the area of a discretionary development and to determine if the use would significantly hamper or preclude access to or the extraction of mineral resources.
  2. Require discretionary development proposed to be located adjacent to existing mining operations to provide a buffer between the development and mining operations to minimize land use incompatibility and avoid nuisance complaints.
  3. Establish a buffer distance based on an evaluation of noise, community character, compatibility, scenic resources, drainage, operating conditions, biological resources, topography, lighting, traffic, operating hours, and air quality. (RDR) [Source: New Policy]
- ▶ **COS-7.2: Oil Well Distance Criteria.** The County shall require new discretionary oil wells to be located a minimum of 1,500 feet from residential dwellings and 2,500 from any school. (RDR) [Source: New Policy]
- ▶ **COS-7.3: Compliance with Current Policies, Standards, and Conditions.** The County shall require new or modified discretionary development permits for oil and gas exploration, production, drilling, and related operations be subject to current State and County policies, standards, and conditions. (RDR) [Source: Existing GPP Policy 1.4.2.5, and Ojai Valley Area Plan Policy 1.3.2.9, modified]
- ▶ **COS-7.7: Conveyance for Oil and Produced Water.** The County shall require new discretionary oil wells to use pipelines to convey oil and produced water; oil and produced water shall not be trucked. (RDR) [Source: New Policy]
- ▶ **COS-7.8: Gas Collection, Use, and Disposal.** The County shall require that gases emitted from all new discretionary oil and gas wells shall be collected and used or removed for sale or proper disposal. Flaring or venting shall only be allowed in cases of emergency or for testing purposes. (RDR) [Source: Existing Ojai Valley Policy 1.3.2.2]

## ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

### **Impact 4.12-1: Result in Development on or Adjacent to Existing Mineral Resources Extraction Sites or Areas Where Mineral Resources Are Zoned, Mapped, or Permitted for Extraction, Which Could Hamper or Preclude Extraction of the Resources**

As described in Section 8.4, “Mineral Resources,” of the Background Report, aggregate resources (i.e., construction-grade sand and gravel) are the primary mineral resources extracted in Ventura County. The State Geologist investigates and identifies lands in California underlain by mineral resources. Some of these lands are referred to the State Mining and Geology Board for MRZ designation based upon the known or inferred presence of mineral resources. The State Mining and Geology Board designates certain lands as MRZ-2 where they are underlain by mineral deposits of statewide significance. This designation information is transmitted to local governments for incorporation into general plans and implementing zoning ordinances.

The land use diagram of the 2040 General Plan would accommodate future development of relatively higher intensity residential, commercial, mixed use, and industrial land uses within the Existing Community area designation (boundary) and the Urban area designation (boundary). These are areas with existing residential, commercial, and/or industrial uses developed with urban building intensities generally located adjacent to the boundaries of incorporated cities or along highway corridors such as SR 33, SR 118, SR 126, and Highway 101. The residential, commercial, mixed use, and industrial land use designations of the 2040 General Plan would apply to approximately 1.2 percent of land in the unincorporated county. Potential uses within these designations include small- and large-lot detached single-family homes, one- to three-story attached single-family dwellings and lower density multifamily developments, mixes of commercial, office, residential, civic, and/or recreational uses, one- to two-story structures for retail and commercial services, and industrial employment-generating uses, such as production, assembly, warehousing, and distribution.

The Rural land use designation would allow for low-density and low-intensity land uses such as residential estates and other rural uses which are maintained in conjunction with agricultural and horticultural uses or in conjunction with the keeping of farm animals for recreational purposes, such as greenhouses, principal and accessory structures related to agriculture, and also oil and gas wells, and would apply to approximately 0.9 percent of land in the unincorporated county.

Approximately 97.1 percent of the unincorporated county would remain designated as either Open Space (approximately 88 percent) or Agriculture (approximately 9 percent) under the 2040 General Plan. The Open Space land use designation would allow low intensity development with a minimum parcel size of 10 acres and 1 dwelling unit per parcel. Other uses could include composting operations, greenhouses, correctional institutions, fire stations, and oil and gas wells. The Agriculture land use designation would allow for development of one dwelling unit per parcel and a minimum parcel size of 40 acres. Other uses could include greenhouses, principal and accessory structures related to agriculture, and composting operations. Proposed policies of the 2040 General Plan addressing flaring and trucking associated with new discretionary oil and gas wells could result in the construction and operation of new pipelines for the conveyance of oil, gas, or produced water.

Through Policy COS-6.2, the County would maintain maps of mineral deposits identified by the State Geologist as having regional or statewide significance and any additional deposits as may be identified by the County. MRZ-2 lands are identified in the County's NCZO with an MRP Overlay. As stated in NCZO Section 8104-7.2, the purpose of this overlay zone is to safeguard future access to the resources, facilitate the long-term supply of mineral resources in the county, and notify landowners and the public of the presence of the resources. As illustrated on Figure 8-9 of the Background Report, there is a band of MRZ-2 designated lands that roughly coincides with the Santa Clara River, extending from Piru, in the northeast, to Oxnard, in the southwest, that includes areas of Piru, Saticoy, and El Rio, which are designated for residential and industrial development in the proposed land use diagram.

Generally, the 2040 General Plan strives to balance the development and conservation of mineral resources with economic, health, safety, and social and environmental protection values (Policy COS-6.1) and promote the local extraction of mineral resources to minimize economic costs and environmental effects associated with importing these resources from outside of the county (Policy COS-6.3). As established in Policy COS-6.4, future discretionary development would continue to be subject to the provisions of the MRP Overlay, and such development would be prohibited if the use would substantially hamper or preclude access to, or the extraction of, mineral resources.

Pursuant to Policy COS-6.5, the County would promote mineral resource land use capacity by ensuring that discretionary development in areas designated MRZ-2 is compatible with mineral resources extraction and processing activities. Specifically, the County would require an evaluation of the significance of the mineral resources deposits located in the area of a proposed discretionary development and determine whether the use would significantly hamper or preclude access to, or the extraction of, mineral resources; and require discretionary development proposed adjacent to existing mining operations to provide a buffer (based on an evaluation of noise, community character, compatibility, scenic resources, drainage, operating conditions, biological resources, topography, lighting, traffic, operating hours, and air quality) between the development and mining operations to minimize land use incompatibility and avoid nuisance complaints. This review would address discretionary development both on or adjacent to mineral extraction sites and adjacent to principal access roads to existing aggregate extraction or production sites.

With the implementation of policies proposed in the 2040 General Plan, the potential for development on or adjacent to mineral resources that are zoned, mapped, or permitted for extraction, which could hamper or preclude extraction of the resources, would be **less than significant**.

#### Mitigation Measures

No mitigation is required for this impact.

#### **Impact 4.12-2: Result in the Loss of Availability of a Known Mineral Resource That Would Be of Value to the Region and the Residents of the State**

Future development that could be accommodated under the 2040 General Plan is described in Impact 4.12-1. Through 2040 General Plan Policies COS-6.1 and COS-6.3, the County seeks to balance the development and conservation of mineral resources with economic, health, safety, and social and environmental protection values while promoting the extraction of local mineral resources to minimize economic costs and environmental effects associated with importing

these resources from outside of the county, as discussed above. The 2040 General Plan would also include Policy COS-6.2, through which the County would maintain classification and designation reports and maps of mineral resources deposits recognized as having regional or statewide significance.

Also as stated above, the County's MRP Overlay, which prohibits discretionary development that would significantly hamper or preclude access to, or the extraction of, mineral resources corresponds to lands zoned MRZ-2. Although the County also includes approximately 225,112 acres of lands zoned MRZ-3 and MRZ-3a (over half of the plan area) that have not been fully evaluated and could contain valuable mineral resources, these areas are not afforded the same level of protection as MRZ-2 lands under the 2040 General Plan. However, because MRZ-3 and MRZ-3a areas have not been established as areas of value to the region or the State, it would be speculative to assess the potential effects of future development in these areas. Further, Policy COS-6.5 would require future discretionary development to conduct an evaluation to ascertain the significance of the mineral resource deposits located in the area of a proposed discretionary development based on the most current MRZ maps available at the time development is proposed (as updated pursuant to Policy COS-6.2). For these reasons, future development would not be anticipated to result in the loss of a known mineral resource that would be of value to the region and the residents of the State. This impact would be **less than significant**.

#### Mitigation Measures

No mitigation is required for this impact.

#### **Impact 4.12-3: Result in Development on or Adjacent to Existing Petroleum Resources Extraction Sites or Areas Where Petroleum Resources Are Zoned, Mapped, or Permitted for Extraction, Which Could Hamper or Preclude Access to the Resources**

Under the County's current zoning ordinances, new oil and gas development must be authorized by a discretionary conditional use permit. Likewise, any material change to most existing modern-era (i.e., approximately post-1966) oil and gas permits requires County discretionary approval in the form of a permit modification. Future development that could be accommodated under the 2040 General Plan is described in Impact 4.12-1. There are several locations where the 2040 General Plan Land Use Diagram would allow for development in areas with existing oil wells or new oil well development that are identified as petroleum fields on Figure 8-10 of the Background Report. These include communities along Highway 150 between Ojai and Santa Paula, areas north of Camarillo and Oxnard and south of Highway 118, as well as in the unincorporated area of Simi Valley, that are designated for Very Low Density Residential. At the southern boundary of the county, west of Thousand Oaks, there are oil wells proximate to areas with Low-Density and Residential Planned Development designations. Similarly, there are wells in an unincorporated area of Thousand Oaks that is designated Low-Density Residential. Southwest of Santa Paula along Highway 126, north of the city of Ventura along Highway 33, and adjacent to Highway 101 along the coast, industrial designations would overlap with mapped oil fields. Residential designations would also coincide with existing wells along Highway 33 south of Highway 150.

The 2040 General Plan includes several policies intended to limit the potential for conflict between petroleum resource extraction uses (existing and proposed) and adjacent land uses. Although not all of these would potentially preclude petroleum development, they are described in this section to provide a comprehensive view of protections for petroleum production.

Policy COS-7.3 would require that new or modified discretionary use permits for oil and gas exploration, production, drilling, and related operations be subject to current State and County policies, standards, and conditions. Additionally, NCZO Section 8107-5, Oil and Gas Exploration and Production and CZO Section 8175-5.7.8 Oil Development and Operational Standards, contain standards for siting of oil and gas development which include the requirement that drill sites and access roads shall not obstruct natural drainage courses (NCZO 8107-5.6.2 and CZO 8175-5.7.8(b)); and require that drill sites and roads or hauling routes located between the public right-of-way and the drill sites be maintained to prevent the emanation of dust, minimize erosion, prevent deterioration of vegetation and crops, and ensure adequate levels of safety (NCZO 8107-5.6.6 and CZO 8175-5.7.8(f)). Policy COS-7.2 would require that new oil wells subject to discretionary approval be located a minimum of 1,500 feet from residential dwellings and 2,500 feet from any school. Currently, the County's zoning standards state that wells should be located a minimum of 800 feet from sensitive uses (NCZO 8107-5.5.8 and CZO 8175-5.7.8), and must be located a minimum of 500 feet from dwelling units (NCZO 8107-5.6 and CZO 8175-5.7.8), 500 feet from schools in the non-coastal area (NCZO 8107-5.6), and 800 feet from schools in the Coastal Zone (CZO 8175-5.7.8), unless these setback requirements are waived by occupants of the sensitive uses.

Policies COS-7.2 and COS-7.3 are proposed to limit effects on human health that can be associated with sudden events, such as accidental explosions, as well as prolonged exposure to air contaminants, odor, and noise from oil and gas extraction sites. The release of chemicals into the air from oil and gas activities can occur from surface operations, wells and pipelines, operation of diesel or gas-powered equipment and vehicles, and accidental releases. As discussed further below, health indicators such as adverse birth outcomes; cancer; and respiratory, neurological, gastrointestinal, dermatological, and psychological effects, have been associated with proximity to oil and gas extraction sites (County of Los Angeles 2018).

Oil and gas extraction sites may expose individuals to airborne emissions of nitrogen oxides, particulate matter, and volatile organic compounds (VOCs), such as benzene. Studies have shown that long-term exposure to elevated levels of benzene may increase the risk of developing cancer, particularly acute myelogenous leukemia. Particulate matter and VOCs can also lead to eye, nose, and throat irritation; exacerbations of asthma; and other respiratory conditions. VOCs have also been associated with adverse reproductive and developmental effects, as well as neurological effects such as headaches, dizziness, and other impacts to the central nervous system. In addition, the myriad chemicals associated with drilling fluids present public health concerns ranging from respiratory health effects to cancer, if not properly monitored and controlled. Hydrogen sulfide, which produces a smell similar to rotten eggs, occurs naturally in crude petroleum and natural gas and is also a by-product of desulfurization processes in oil and gas industries that may present a nuisance to nearby sensitive receptors. The ability to detect odors varies considerably among individuals, and the reaction can even sometimes be susceptible to odor fatigue (i.e., the phenomenon in which a person can become desensitized to odor). The physical manifestations of an individual's reaction to foul odors can range from psychological (e.g., irritation, anger, or anxiety) to physiological (e.g., circulatory and respiratory effects, nausea, vomiting, and headache).

There are also a number of activities associated with oil and gas exploration and production that can elevate exterior noise levels, including well advancing and well pump operation. Noise generated by oil and gas extraction sites has been linked to sleep disturbance and may contribute to increased risk of depression, anxiety, and fatigue (County of Los Angeles 2018).

For additional discussion of the adverse health outcomes associated with exposure to toxic air contaminants and stationary noise sources, refer to Section 4.3, “Air Quality,” and Section 4.13, “Noise and Vibration,” respectively.

The benefits of siting oil and gas sites away from residences and sensitive receptors to reduce public health impacts has been identified in various studies. The California Council on Science and Technology (CCST) concluded that “[m]any of the constituents used in and emitted by oil and gas development can damage health and place disproportionate risks on sensitive populations” (CCST 2015:13). The study also found that “[t]he closer citizens are to these industrial facilities, the higher their potential exposure to toxic air emissions and higher risk of associated health effects.” For this reason, “the scientific literature supports the recommendations for setbacks” and the “need for setbacks applies to all oil and gas wells” (CCST 2015:431). Specifically, the CCST study states that, “Studies from outside of California indicate that community public health risks of exposures to toxic air contaminants (such as benzene and aliphatic hydrocarbons) are most significant within 0.5-mile (800 meters or 2,625 feet) from active oil and gas development. These risks will depend on local conditions and the types of gas and petroleum being produced. Actual exposures and subsequent health impacts in the Los Angeles Basin may be similar or different, but they have not been measured” (CCST 2015:213). Furthermore, a public health study completed in the State of Maryland recommended a 2,000-foot setback from well pads (University of Maryland 2014:91).

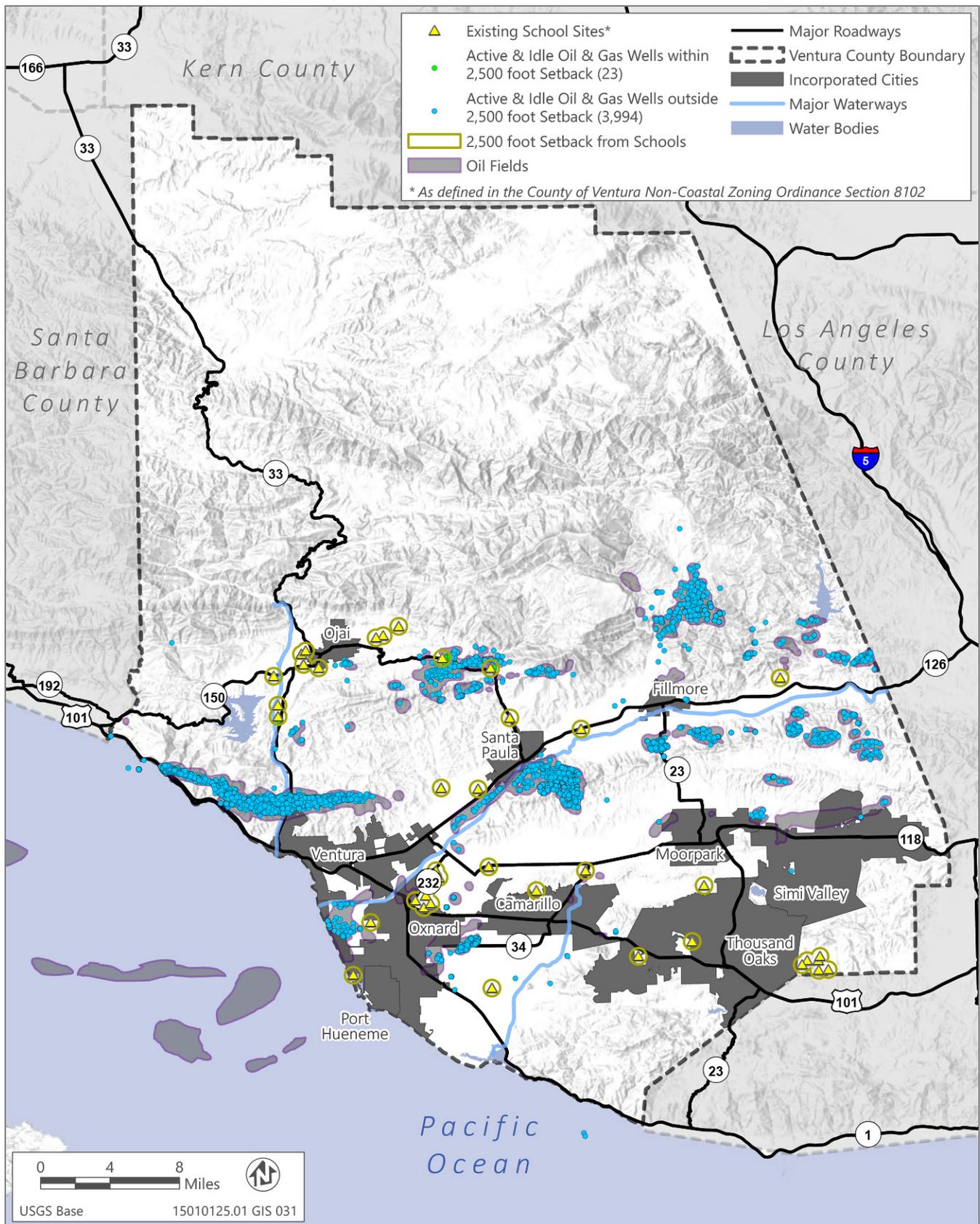
An evaluation of public health risks associated with oil and gas facilities, the Los Angeles County Department of Public Health (LACDPH) concluded that a setback distance of 1,500 feet would address the human health effects of air quality, noise, and odor associated with well operation such that additional mitigation would not be needed (County of Los Angeles 2018: Table 2). In February 2019, California Assembly Bill 345 (AB 345) was introduced to require, subject to specified variances, all new oil and gas-development or enhancement operations to be located at least 2,500 feet from a residence, school, childcare facility, playground, hospital, or health clinic. A variance request to reduce the 2,500-foot distance can be filed by an oil or gas well operator with the DOGGR State Oil and Gas Supervisor. Such a request may be approved if the operator can demonstrate that there is no other feasible means of accessing a legal subsurface right and provided that the variance provides as much distance to sensitive receptors as achievable and it would not endanger public health and safety. This purpose of this proposed bill is to establish “...a safe distance between drilling operations and vulnerable populations in order to avoid serious public health and safety risks and impacts” (California State Assembly 2019). The bill was removed from the docket for the 2019 legislative session but will be eligible for consideration again in 2020. The above discussion presents the potential benefits of the proposed setback policies designed to protect sensitive receptors from adverse health and safety outcomes related to nearby oil and gas development. Section 4.3, “Air Quality,” of this draft EIR evaluates air quality impacts on sensitive receptors. While these policies may serve to protect public health and safety, they also have the potential to hamper or preclude access to petroleum resources and which is the subject of this impact analysis.

Some policies of the 2040 General Plan do have the potential to preclude petroleum development, as follows. Through the 2040 General Plan, land use designations would be refined to reflect the existing zoning. There would be 13 land use designations established that more precisely distinguish among allowed land uses and set forth maximum development density and intensity standards. Properties that are currently zoned for petroleum extraction as a conditionally permitted land use would continue to be designated for this use as well as other land uses.

Likewise, properties where petroleum resources have been mapped (see Figure 8-10 of the Background Report) but existing conditions, such as existing development on the property, or existing zoning regulations, do not support or allow for the extraction of these resources, would continue to not support or allow for resource extraction under the 2040 General Plan. However, the increased setback requirements for new wells subject to discretionary permitting established in Policy COS-7.2 could hamper future petroleum extraction by prohibiting new discretionary wells within 1,500 feet of dwelling units and 2,500 feet of schools.

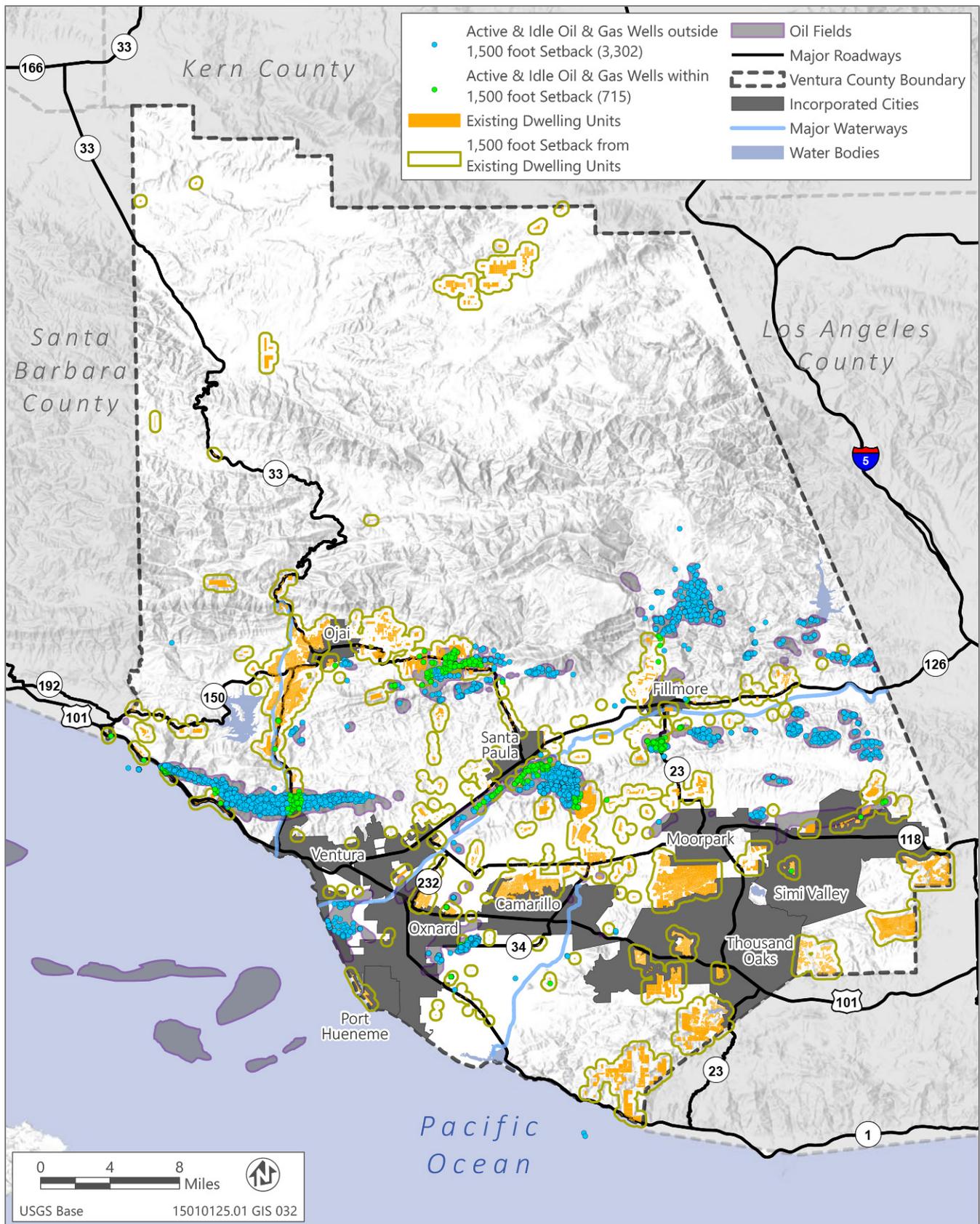
As described above, the 2040 General Plan aims to guide growth, including residential development and schools, to areas in the Existing Community area designation (boundary) and Urban area designation (boundary) where oil and gas extraction may currently be precluded by existing established land uses. Nonetheless, the 2040 General Plan Land Use Diagram identifies residential land use designations in existing oil fields and near existing wells and there is potential that future development of dwelling units and schools could occur within 1,500 feet and 2,500 feet, respectively, of petroleum reserves where oil and gas extraction subject to discretionary approval may be proposed during the planning horizon of the 2040 General Plan. As shown in Figures 4.12-1 and 4.12-2, there are currently 23 active and idle oil wells within 2,500 feet of existing schools and 715 active and idle oil wells within 1,500 feet of existing dwelling units in the unincorporated county.

The County's zoning ordinances include eleven zone classifications which allow for oil and gas exploration and production as a conditionally permitted land use that is potentially compatible with dwelling units and schools. A Conditional Use Permit (CUP) is required for the development of oil and gas exploration and production as a permitted use. A CUP is based upon a discretionary decision required prior to initiation of particular uses not allowed as a matter of right and may be denied on the grounds of unsuitable location or may be conditioned in order to be approved. The minimum parcel sizes, ranging from one to forty acres, for the Open Space/Coastal Open Space, Agricultural/Coastal Agricultural and Rural Agriculture zone classifications would likely not hamper or preclude access to petroleum reserves in the vicinity of these uses. This assumption is based on the larger minimum lot sizes, lot coverage restrictions, fire code issues such as lack of secondary access in remote or geologically restrictive areas, and more limited access to water, utilities and infrastructure, any or all which can effectively prohibit or increase the cost of future development for new dwelling units or schools, thereby reducing potential development of these sensitive uses in these zone classifications. Additionally, the larger minimal parcel sizes provide more flexibility in the siting of new oil and gas wells, required to comply with the setback distances prescribed in Policy COS-7.2. Conversely, future oil and gas extraction within compatible zone classifications with minimum parcel sizes of 10,000 and 20,000 square feet may be hampered or access to petroleum reserves precluded as these zones have smaller minimum lot sizes which provide less flexibility in the siting of allowed uses and allow for greater maximum lot coverage which may inhibit compliance with the setback distances prescribed in Policy COS-7.2. Figure 4.12-3 depicts the oil fields within Ventura County, active and idle oil and gas wells, and the zone classifications which potentially allow oil and gas exploration and production as a conditionally permitted use, and also allow dwelling units and schools.



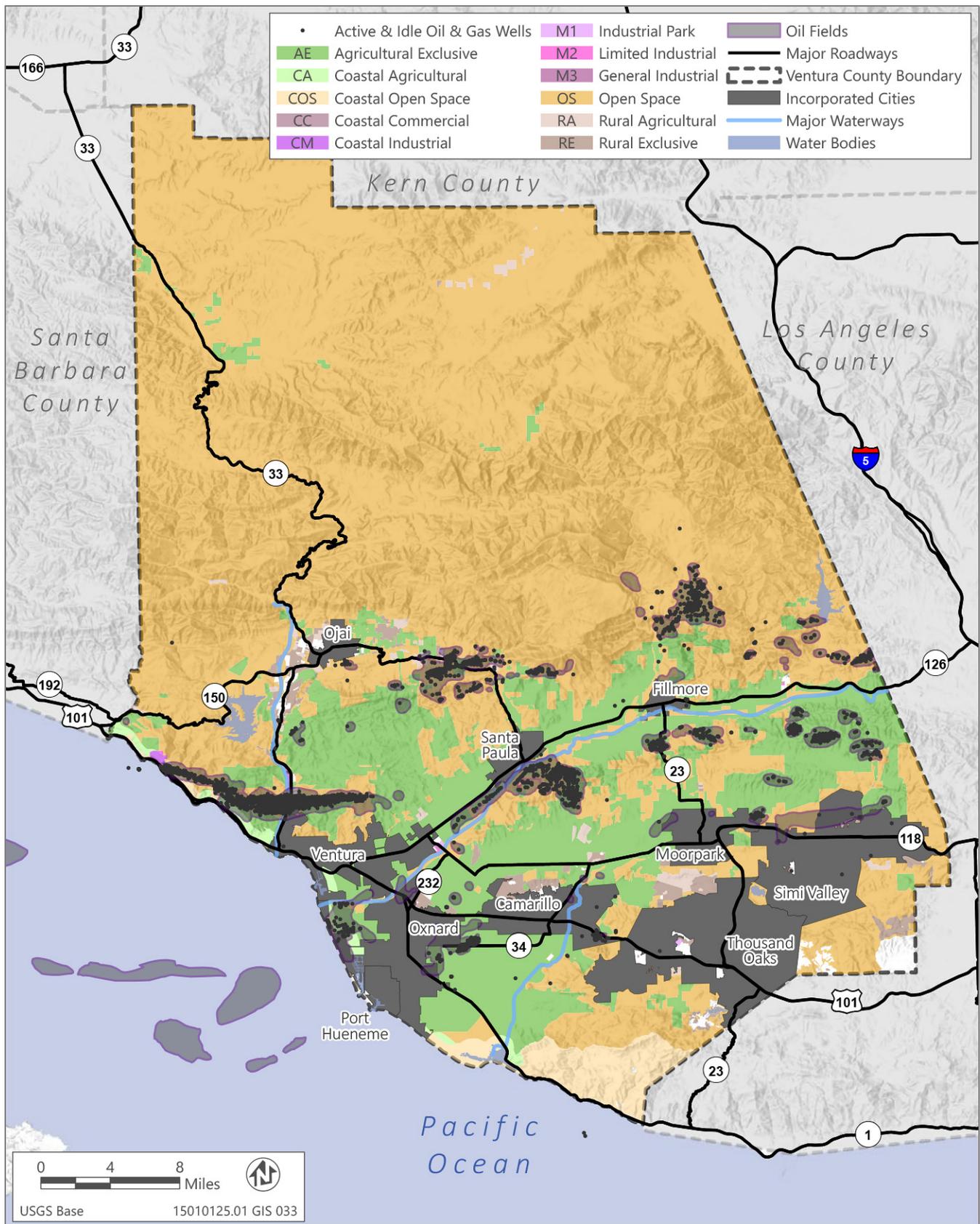
Source: Ventura County, 2016; CAL FIRE 2007 (State), 2008 (Local), and 2016 (Federal); USGS, 2013; DOGGR, 2019

Figure 4.12-1 Oil and Gas Well 2,500-ft Setback from Schools Map



Source: Ventura County, 2016; CAL FIRE 2007 (State), 2008 (Local), and 2016 (Federal); USGS, 2013; DOGGR, 2019

Figure 4.12-2 Oil and Gas Well 1,500-ft Setback from Dwelling Units Map



Source: Ventura County, 2016; CAL FIRE 2007 (State), 2008 (Local), and 2016 (Federal); USGS, 2013; DOGGR, 2019

**Figure 4.12-3 Non-Coastal Zoning Ordinance & Coastal Zoning Ordinance Zone Classifications which allow Oil & Gas Exploration and Production & Dwelling Units**

Future development of dwelling units and schools within compatible zone classifications with minimum parcel sizes of 10,000 and 20,000 square feet could affect the ability to develop new oil wells on neighboring parcels of approximately 0.25 to nearly 0.5 mile from these uses/structures. Depending on the size of parcels, size of the proposed structures and configuration of existing land uses, future development of residential dwellings or schools could preclude access to petroleum resources that are mapped and zoned for extraction.

Policy COS-7.2 would notably increase the existing setback requirements for new oil and gas wells such that future residential development or new schools could preclude expansion of existing oil and gas operations, as well as drilling of new discretionary wells, thereby hampering or precluding access to the resource. This impact would be **potentially significant**.

### Mitigation Measures

Mitigation Measure PR-1: Revised Policy COS-7.2: Oil Well Distance Criteria

The County shall include the following revised policy in the 2040 General Plan.

#### **COS-7.2: Oil Well Distance Criteria**

The County shall require that new discretionary oil and gas wells ~~to be located~~ be sited a minimum of 1,500 feet from the well head to residential dwellings dwelling units and 2,500 from any school sensitive use structures which include dwellings, childcare facilities, hospitals, health clinics, and school property lines.

#### Significance after Mitigation

Mitigation Measure PR-1 would revise Policy COS-7.2 to include a broader range of sensitive uses than currently included in the County zoning ordinances' petroleum setback requirements for occupied sensitive uses which include dwellings, schools, and health care facilities. NCZO (Section 8102-0) and CZO (Section) 8172-1 define a dwelling as a building or portion thereof designed or occupied exclusively for residential purposes. NCZO (Section 8102-0) defines a schools as educational facilities for pre-college levels of instruction; specifically limited to elementary, middle school and high schools offering full curricula as required by State law. The CZO does not include a definition for schools. California Health and Safety Code Section 42705.5(5) defines sensitive receptors as hospitals, schools and day care centers, and such other locations as the district (Air Pollution Control District) or State board (California Air Resources Board) may determine. The revised policy includes childcare facilities (i.e. day care centers) and hospitals consistent with HSC Section 42705.5(5). Additionally, health clinics are included consistent with proposed AB 345 setback distance from oil and gas development or enhancement operations. With the proposed expansion of the types of uses considered "sensitive uses," the lesser of the minimum setbacks for Policy COS-7.2 (1,500 feet) is proposed to apply to all types of sensitive uses as part of Mitigation Measure PR-1. The minimum setback distance of 1,500 feet for future oil and gas wells is consistent with the recommended setback distance for sensitive populations described in the Los Angeles County LACDPH, *Public Health and Safety Risks of Oil and Gas Facilities in Los Angeles County* report (February 2018). This report includes a review of key public health and safety hazards and guidance for setback distance criteria that may reduce the health and safety risks associated with existing and new oil and gas operations in proximity to sensitive populations. The report also synthesizes information from multiple sources, including a review of epidemiological literature, environmental and health impact assessments, neighborhood health investigations, and consultations with various jurisdictions regarding oil and gas ordinances.

The report recommends that the County of Los Angeles, and local jurisdictions within that county, expand the current minimum setback distance beyond 300 feet and apply these requirements to both the siting of new wells and to the development of sensitive land uses near existing operations. The recommended setback distances were based on information compiled from scientific publications, environmental impact assessments, other environmental studies, and experiences in other jurisdictions. The report concludes that many of the environmental impact reports and health impact assessments reviewed for oil and gas development projects predicted significant impacts from air emissions, odors, noise, vibration and safety hazards; and provided site-specific mitigation measures to try to reduce or eliminate those impacts. In particular, effective mitigation measures were designed to substantially reduce or eliminate impacts from air emissions and noise. The report indicates that depending on operational and environmental conditions, odor impacts from routine operations and/or emergency events may not be possible to mitigate with currently available measures. Community Safety Plans and enhanced Emergency Response Plans are recommended to address the significant possible safety hazards associated with oil and gas activities and to prepare for leaks, seepage and other potential disasters. In addition to these preparedness plans and mitigation measures, the report recommends comprehensive and continuous environmental monitoring which will allow operators and regulatory agencies to develop evidence-based strategies to protect public health.

Based upon the potential toxic air emission, odors, noise, and safety hazard impacts related to oil and gas development noted above, the report recommends a range of setback distances including 600, 1,000, and 1,500 feet to address and mitigate for air quality, noise and odor impacts to sensitive populations. The report indicates that a 600-foot setback would reduce air quality impacts; however, air quality monitoring is advised. Furthermore, at this distance, additional mitigation and assessment would likely be needed to avoid noise, and safety hazards (e.g. fires, explosions and other emergencies) and odors may be unavoidable. This distance would not mitigate for safety hazards. A 1,000-foot setback would reduce air quality and noise impacts; however, additional mitigation and assessment may be needed to avoid certain noise impacts during some key operations, e.g. well advancement (drilling). Furthermore, odors may be unavoidable in loss of containment events, regardless of additional mitigation. This distance would not mitigate for safety hazards. A 1,500-foot setback would reduce air quality, noise and odor impacts. However, there remains some uncertainty as to whether additional mitigation may be needed due to gaps in long-term health and exposure data. This distance would not mitigate for safety hazards. The report further notes that a setback distance is not an absolute measure of health protection and additional mitigation measures must also be considered. For existing oil and gas operations, the report recommends a site-specific assessment at each facility throughout Los Angeles County to identify current distances to sensitive land uses and other site characteristics that can be used to inform whether further mitigation measures are warranted to reduce potential public health and safety risks.

In July 2019, the City of Los Angeles completed the *Oil and Gas Health Report* addressing the feasibility of establishing a setback distance of 1,500 feet from sensitive receptors on future oil and gas development. The report identifies oil and gas infrastructure within the City of Los Angeles, evaluates materials used at such sites, studies the peer reviewed scientific literature on human health and oil and gas development, and presents the findings based on report results.

The report concludes that if surface setback distance alone is established from sensitive receptors, it should be at least 600 feet due to the uncertainty of airborne chemicals of concern, or at least 500 feet which was the minimum threshold evaluated in the multiple epidemiological literature studies evaluated in the report. A surface setback distance of 600 feet would meet the minimum LACDPH report. However, in addition to a 600-foot surface setback, the City of Los Angeles report recommends best available emission control technologies and operational management approaches should be deployed on all oil and gas wells and ancillary infrastructure to limit emissions of toxic air pollutants. Furthermore, the report noted enhanced operating conditions, required engineering controls, annual inspections, and utilization of the best available technology can significantly reduce the need for potential setback distances.

Both reports noted above recommend surface setback distances of a minimum of 600 feet or, as specified by the LACDPH report, 1,500 feet from sensitive receptors, as a means to mitigate toxic air emission, odor, and noise impacts. The proposed setback distance of 2,500 feet identified in AB 345 relies on the CCST study as recommending “a health and safety buffer zone between sensitive land uses and oil and gas wells in order to protect communities where neighborhood drilling occurs” (California State Assembly 2019). However, the CCST study does not include a recommendation of 2,500 feet from the sensitive receptors included AB 345. Rather the study provides an overarching recommendation to “conduct studies in the Los Angeles Basin and throughout California to document public health risks and impacts as a function of proximity to all oil and gas development—not just those that are stimulated—and promptly develop policies that decrease potential exposures. Such policies might incorporate, for example, increased air pollutant emission control technologies, as well as science-based minimum surface setbacks between oil and gas development and places where people live, work, play and learn” (CCST 2015:259).

Based on review of literature for this impact analysis and to be more protective of a broader definition of sensitive uses and reduce air quality, noise and odor impacts from well operations, Mitigation Measure PR-1 would expand the types of sensitive uses that would be required to have minimum setback distances from oil and gas wells. A minimum of a 1,500-foot setback has been proposed to create greater protections for a larger number of sensitive land uses in the county and this buffer distance is greater than the current buffer distance of 600-feet for residential dwellings established by the current general plan. However, the change in Mitigation Measure PR-1 would reduce the setback required for schools from 2,500 feet to 1,500 feet. While oil and gas wells could now operate at a closer distance to schools relative to Policy COS-7.2, data suggests that the 1,500-foot setback requirement would be sufficient to minimize air, noise, and odor impacts from well operations. Further, a greater number of land uses would be subject to this 1,500-foot requirement and would result in greater public health protections for sensitive populations consistent with recommendations from available data and science. Further, this policy change would reduce the magnitude of access impacts for petroleum operators compared to the 2040 General Plan because the buffer for schools would be reduced significantly thereby opening up potential land area that could support well operations. By doing this, this mitigation would satisfy the requirements of CEQA to “reduce” the significant effects of the project. However, it should be acknowledged that this policy change could also result in other areas of the county that would be subject to setback requirements because of the expanded sensitive land uses that would be protected, though it is too speculative to determine this at this time.

While the amended policy would put limitations on the placement of new discretionary oil and gas wells, it would not necessarily prohibit access to the oil and natural gas resources being sought. In resource locations near sensitive land uses, directional drilling (including horizontal drilling) techniques could be utilized. Modern directional drilling utilizes drill bits that can bend at a multitude of angles, allowing operators to access underground resources without having to locate a drill site directly above a subsurface reservoir that might otherwise be located in the setback distance. According to the International Association of Drilling Contractors, this drilling method has been utilized by the oil and gas industry since the 1920s, and is currently used in oil fields worldwide (IADC 2015). This method is also used by various oil operators throughout the county.

Mitigation Measure PR-1 would implement permitting challenges that may affect the feasibility of local oil and gas production and, in turn, would increase the reliance on foreign imports from outside of the 2040 General Plan area. Overall crude demand has held steady in California for the past 20 years, but the percent of domestic (California) production has declined. Foreign and Alaskan crude oil imports have offset the decline of California production over the last two decades (City of Los Angeles 2019 EIA 2019). Because California does not have any interstate pipelines that supply crude oil to the State from other states, it is isolated from the larger national petroleum network and therefore must rely on foreign and Alaskan sources of oil that are transported by marine tankers. Any reduction in supply from Ventura or elsewhere in California cannot be offset by increasing imports from another state.

As discussed in the City of Los Angeles report (2019), in 2018, the energy demand for California required approximately 642,000 barrels of crude oil per day from refineries across the State. The State imports nearly 60 percent of the crude oil used at refineries in San Francisco Bay and Los Angeles/Long Beach Port Complex. As of 2016, Ventura County crude oil production accounted for four percent of overall crude oil production onshore within the State of California and 0.1 percent of offshore production (see Appendix B). The report noted that in 2018, the California Energy Commission (CEC) reported that California refineries received 31 percent of their crude oil from domestic California production, 11 percent from domestic Alaska production, and 58 percent from foreign countries. The CEC and U.S. Energy Information Administration report that foreign sources of crude oil imported to California totaled 364 million barrels in 2018, mainly coming from North America, Latin America, Africa, and the Middle East, Saudi Arabia, Ecuador and Columbia.

To the extent the amended policy would contribute to a reduction of new oil and gas production in the unincorporated county, and to the extent the new oil and gas that would have been produced in the unincorporated area would also have been consumed in California, the demand for California-produced oil and gas would be satisfied through the importation of additional oil and gas from other countries and Alaska, which in turn could have indirect environmental impacts such as those associated with transporting the oil and gas from outside of Ventura County. Such impacts, however, would largely occur outside the 2040 General Plan project area.

Including additional sensitive uses such as childcare facilities, hospitals, and health clinics in Mitigation Measure PR-1 would increase the policy's potential impact on the ability of oil operators to access petroleum resources near these additional uses. Mitigation Measure PR-1 would hamper or preclude access to petroleum resources for new discretionary oil and gas wells that cannot comply with the setback criteria set forth in this policy for occupied sensitive uses that exist at the time of a proposed new discretionary well.

Based on the conclusions presented in the LACPHD report discussed above, any revisions to COS-7.2 that would reduce the minimum 1,500-foot setback requirements for new oil and gas wells from sensitive receptors could reduce the beneficial impact of this setback related to toxic air emissions, odor, noise and safety hazards on these uses. The literature reviewed for this analysis did not recommend a 2,500-foot setback specifically from schools for new oil and gas wells. Rather, schools are considered within the class of sensitive receptors and included in the recommended 1,500-foot setback distance from new oil and gas wells and production (County of Los Angeles 2018). Therefore, a reduction from 2,500 feet to 1,500 feet for schools from new oil and gas wells would not likely increase the potential impacts from toxic air emissions, odor, noise and safety hazards on schools.

As discussed above, Figure 4.12-3 depicts the oil fields within Ventura County, active and idle oil and gas wells, and the eleven zone classifications which allow for oil and gas exploration and production as a conditionally permitted land use that is potentially compatible with dwelling units and schools. Future oil and gas extraction within compatible zone classifications with minimum parcel sizes of 10,000 and 20,000 square feet may be hampered or access to petroleum reserves precluded as these zones have smaller minimum lot sizes which provide less flexibility in the siting of allowed uses and allow for greater maximum lot coverage which may inhibit compliance with the setback distances prescribed in Policy COS-7.2. Furthermore, as shown in Figures 4.12-1 and 4.12-2, there are currently 23 active and idle oil wells within 2,500 feet of existing schools and 715 active and idle oil wells within 1,500 feet of existing dwellings in the unincorporated county. Future discretionary expansion of oil production within the setback distances depicted on Figures 4.12-1 and 4.12-2 would be prohibited pursuant to Policy COS-7.2. Policy COS-7.2 could theoretically affect local oil and gas exports and increase the reliance on imports from outside of the 2040 General Plan area. There are no actions or policies that the County could feasibly mandate to fully reduce the impact that Policy COS 7.2 would have on hampering or precluding access to petroleum resources. This impact would remain **significant and unavoidable**.

#### **Impact 4.12-4: Result in the Loss of Availability of a Known Petroleum Resource That Would Be of Value to the Region and the Residents of the State**

Under the County's current zoning ordinances, new oil and gas development must be authorized by a discretionary conditional use permit. Likewise, any material change to most existing modern-era (i.e., approximately post-1966) oil and gas permits requires County discretionary approval in the form of a permit modification. The County is considering amending its zoning ordinances to similarly require a discretionary permit modification to authorize new oil and gas development under "antiquated" use permits that lack expiration dates, well limits, and other development parameters (i.e., approximately pre-1966).

There are two policies proposed in the 2040 General Plan that would result in new requirements that would apply to new projects subject to discretionary action by the County that could limit petroleum extraction without placing a physical limitation on location or access: Policy COS-7.7 would require oil wells to use pipelines to convey oil and produced water offsite (rather than trucking) and Policy COS-7.8 would require that gases emitted from all new discretionary oil and gas wells be collected and used or removed for sale or proper disposal (rather than flaring) except for cases of emergency or for testing purposes. Both policies provide potential environmental benefits in the form of increased traffic safety, fewer toxic air contaminants and reduced greenhouse gas emissions (from avoided flaring and trucking). Combined, these policies support attainment of the following 2040 General Plan Guiding Principles:

- ▶ **Hazards and Safety:** Minimize health and safety impacts to residents, businesses and visitors from human-caused hazards such as hazardous materials, noise, air, sea level rise, and water pollution, as well as managing lands to reduce the impacts of natural hazards such as flooding, wildland fires, and geologic events.
- ▶ **Climate Change and Resilience:** Reduce greenhouse gas emissions to achieve all adopted targets, proactively anticipate and mitigate the impacts of climate change, promote employment opportunities in renewable energy and reducing greenhouse gases, and increase resilience to the effects of climate change.
- ▶ **Environmental Justice:** Commit to the fair treatment of people of all races, cultures, and incomes with respect to the development, adoption, implementation, and enforcement of environmental laws, regulations and policies, protect disadvantaged communities from a disproportionate burden posed by toxic exposure and risk, and continue to promote civil engagement in the public decision-making process.

Conversely, these policies reduce attainment of the following 2040 General Plan Guiding Principle:

- ▶ **Economic Vitality:** Foster economic and job growth that is responsive to the evolving needs and opportunities of the County's economy and preserves land use compatibility with Naval Base Ventura County and the Port of Hueneme, while enhancing quality of life and promoting environmental sustainability.

As discussed further below, the use of pipelines for the conveyance of crude oil and gas is currently required under the County's zoning ordinances, where feasible. The NCZO (Section 8107-5.5.5(a)) and CZO (Section 8175-5.7.7(e)) establish that pipelines should be used to transport petroleum products offsite to promote traffic safety and air quality, except when infeasible or impractical. There are a variety of logistical challenges associated with piping crude oil. Existing oil pipelines in the county are privately owned and pipeline owners and operators are required to comply with a variety of regulations, including periodic safety testing. As discussed in the Regulatory Setting above, safety testing of oil and gas pipelines is required to comply with federal, State, or local regulations (i.e., Pipeline and Hazardous Material Safety Agency and State Fire Marshall safety testing of pipelines; DOGGR safety testing of oil and gas wells, and the CPUC safety testing of facilities used in the gathering, transmission and distribution of gas). This safety testing may require the removal and transport via truck of oil, gas or produced water in order to execute the requisite testing protocols. To transport produced oil via pipeline, the oil operator must first identify potential interconnection options for the subject production facility. Once identified, the interconnection is subject to agreement between the oil operator and pipeline owner, including the fees which must be paid to the pipeline owner.

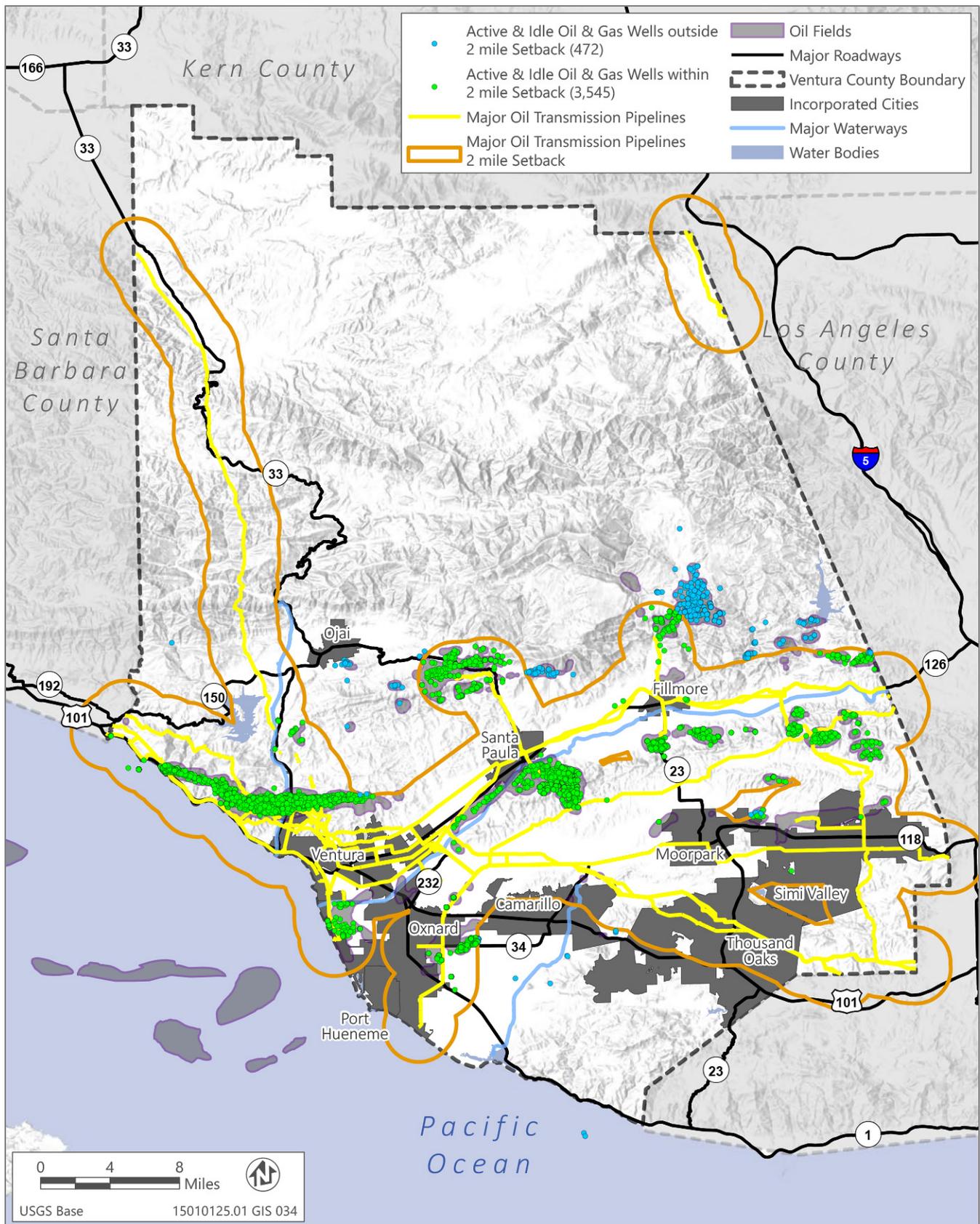
The Renaissance Petroleum LLC., *Cabrillo Oil Field Options and Economic Feasibility Study* (Traut 2016), completed for the Ventura County Planning Division as part of a requested oil and gas development permit modification, evaluated the economic feasibility of constructing a pipeline to transport crude oil from the Cabrillo Oil Field Naumann Drillsite to market by way of a pipeline instead of tanker truck. The study noted that an estimated tariff to transport crude oil via pipeline is \$0.50 per barrel. The estimated net savings realized by utilizing a pipeline for crude oil transport instead of truck transport is \$2.00 per barrel. It was concluded that constructing pipelines to transport produced oil at a distance of approximately 6 to 10 miles

would not be economically feasible or justifiable. Specifically, it was estimated that the three available pipeline interconnection points for a proposed drilling site would require the construction of between 6.6 and 10.6 miles of new pipeline at 1.2 to 1.5 million dollars per mile and a total cost of 11.4 million dollars for permitting design, engineering, and construction. The necessary lead time for these actions would be 4 to 5 years (Traut 2016). The study indicated that the economic feasibility of any pipeline project would be based on the differential savings between the cost of transporting oil by pipeline versus the cost of transporting oil by tanker truck, after consideration of the capital investment of pipeline construction. A series of discounted cash flow analysis were performed to determine the net present value (NPV) of the pipeline project based on the Renaissance Petroleum's 2016 annual production of approximately 1,800 barrels of oil per month forecasted out for 25 years. For a pipeline project to be considered economically feasible, the NPV would have to be no less than \$0, which equates to a 5 percent rate of return on the original capital investment. The study concluded that the initial annual production rate for Renaissance Petroleum required to drive the NPV to \$0 was 1,305,808 barrels of oil, a volume more than 16 times the annual production peak of 80,221 realized in the Cabrillo Oil Field in 2011. Although the per barrel cost of piping oil noted in the study may be less than trucking, an oil operator would need a large volume of oil production to realize the economic feasibility of installing oil pipelines as a replacement for conveying crude oil by tanker truck. For many smaller volume oil operators in the county, the payback period for construction a crude oil pipeline could render the investment in pipeline construction infeasible.

Once connected to a major oil transmission pipeline, transporting oil through these pipelines requires compliance with the pipeline carrier's thresholds and not to exceed standards for acceptable API gravity. API gravity is a measure of how heavy or light a petroleum liquid is compared to water. For example, if API gravity is greater than 10, it is lighter and floats on water; if less than 10, it is heavier and sinks. API gravity is thus an inverse measure of a petroleum liquid's density relative to that of water (also known as specific gravity) and is used to compare densities of petroleum liquids. The major oil transmission pipelines depicted in Figure 4.12-4 maintain rules and regulations governing the gathering and transportation of crude oil in the county. For example, the Crimson California Pipeline, L.P. (CCP), which serves as a major oil transmission pipeline for conveyance of oil for processing out of the county, has established rules and regulations regarding acceptable API gravity thresholds required to convey oil (CCP 2016). These thresholds stipulate that CCP reserves the right to reject any and all shipments of oil whose API gravity are such that it is not readily susceptible to transportation through their pipeline. Consequently, assuming an oil producer has the ability to connect to a major oil transmission pipeline, they must ensure that the oil from their operations meets the pipeline carrier's thresholds and not to exceed standards for acceptable API gravity. Meeting these thresholds and standards may require oil operators install additional on-site production facilities to process crude oil in order to meet API gravity thresholds, which may not be technologically or economically feasible to install in order to connect to a major oil transmission pipeline.

### Conveyance of Crude Oil

Figure 4.12-4 depicts the major oil transmission pipelines and location of active and idle oil wells located in the unincorporated county. This map illustrates that most oil wells in the county are clustered within approximately 2 miles of major oil transmission pipelines, which transport oil from local operators out of the county for processing. For purposes of the following analysis and based on the estimated per mile cost to install pipelines, it is assumed that any



Source: Ventura County, 2016; CAL FIRE 2007 (State), 2008 (Local), and 2016 (Federal); USGS, 2013; DOGGR, 2019

Figure 4.12-4 Major Oil Transmission Pipelines Map

existing oil wells located within a 2-mile radius of a major oil or gas transmission pipeline are connected to these transmission lines through smaller gathering or minor pipelines. Furthermore, it is assumed these oil operators have the operational ability to meet the API gravity thresholds and standards required to convey their oil through a major oil transmission pipeline. It is also assumed that any oil wells located beyond a 2-mile radius of a major transmission pipeline are not connected to these lines. Additionally, it is assumed that these oil operators would not have the operational ability to meet the API gravity thresholds and standards required to convey their oil through a major oil transmission pipeline. Therefore, it is assumed that most operators located beyond the two-mile radius of a major transmission pipeline would not be able to comply with the pipeline requirements of Policy COS-7.7 due to the technological and economic infeasibility of installing lengthier pipelines greater than two miles from new oil wells to a major oil transmission line or due to the additional on-site production facilities to process crude oil in order to comply with API gravity thresholds and standards in order to convey oil through a major oil transmission pipeline.

Figure 4.12-4 depicts 472 active and idle oil wells located outside of the 2-mile radius of a major oil transmission line. The oil operators located beyond the two-mile radius, and in more remote locations, likely consist of smaller oil producing operations that are not extracting a large amount of oil. Additionally, Figure 4.12-4, depicts 3,545 current active and idle oil wells located within the two-mile of a major oil transmission pipeline. The larger clustering of these operations is likely a function of greater opportunities for oil extraction and technological or economically feasible access to a major oil transmission line. However, those oil operators within the two-mile radius of a major oil transmission pipeline may be effectively prohibited by Policy COS-7.7 if connection to existing smaller gathering or minor pipelines, which can connect to a major oil transmission pipeline, or additional on-site production facilities to process crude oil in order to comply with API gravity thresholds and standards in order to convey oil through a major oil transmission pipeline, are not technologically or economically feasible.

#### Conveyance of Produced Water

Oil operators would be required to comply with Policy COS-7.7 for new discretionary oil wells that require the transport of produced water, which pursuant to the policy, must be conveyed via pipeline. According to DOGGR, approximately 15 times more water than oil is produced from California's oil and gas fields. Crude oil is a heterogeneous mixture of solids, liquids, and gases. This mixture includes sediments, water and water vapor, salts, and acid gases, including carbon dioxide and, sometimes, hydrogen sulfide. Water that is part of the fluid produced from the well is called "produced water" and contains many of the same components found in crude oil. Conveyance of produced water via pipeline from an oil operation requires connection to a receiving location (e.g. oilfield waste management company) for processing and disposal. Currently, there are no major produced water transmission pipelines in the county. Produced water may also be used on-site through such technologies as steam generated electricity. Finally, produced water may be disposed of through Class II injection wells permitted by DOGGR. These wells are used for waterflood, steam flood, cyclic steam, and to dispose of the salt and fresh water produced in the process of extracting oil and gas. Use of a Class II injection well for water disposal requires review and approval by DOGGR that the geology of the area and the injection zone is appropriate for the disposal of produced water. Based upon Policy COS-7.7, oil operators would be required to convey produced water separated from oil and gas at the oil and gas extraction (well) to the Class II injection well underground injection site. From there, the water is transferred to holding tanks and filtered

and pumped down a Class II injection well. The injection zone where this produced water may be injected is usually composed of sandstone, a rock porous and permeable enough to accept injected fluids. Rock beds chosen for injection zones are covered by impermeable beds, like shale, that act as cap rocks, confining injected liquids in the porous beds.

Oil operators may not be able to comply with requirements of Policy COS-7.7 to convey produced water via pipeline due to the technological and economic infeasibility of installing Class II injection well(s) and associated infrastructure needed to convey produced water from an oil and gas well site(s) to the of the injection zone. Similarly, oil operators may not be able to comply with requirements of Policy COS-7.7 due to the technological and economic infeasibility of installing a produced water pipeline from the oil and gas well site(s) to a receiving location (e.g. oilfield waste management company) for processing and disposal.

Therefore, it is assumed that oil facilities located beyond the two-mile radius of a major transmission pipeline, would not be able to comply with the pipeline requirements of Policy COS-7.7 due to the technological and economic infeasibility of installing new Class II injection wells to inject produced water underground or convey produced water to a major transmission pipeline.

#### Flaring of Produced Gas

The NCZO (Section 8107-5.5.7) and the CZO (Section 8175-5.7.7(g)) also currently indicate that gas should be piped offsite rather than flared, unless the permit applicant can demonstrate that doing so would not be feasible or practicable. In addition, VCAPCD regulates flaring at oil and gas facilities through its rules, regulations, monitoring and permitting programs. VCAPCD Rule 71.1 prohibits venting of organic gases to the atmosphere; therefore, storage tanks must include vapor recovery systems and produced gas must be directed to an on-site fuel system, a sales gas system, or a flare that combusts reactive organic gases, or a device with a reactive organic compound destruction or removal efficiency of at least 90 percent by weight. If gas collected from oil wells and storage tanks cannot be used or removed for sale or proper disposal or flared pursuant to COS-7.8 the entire facility must be shut down.

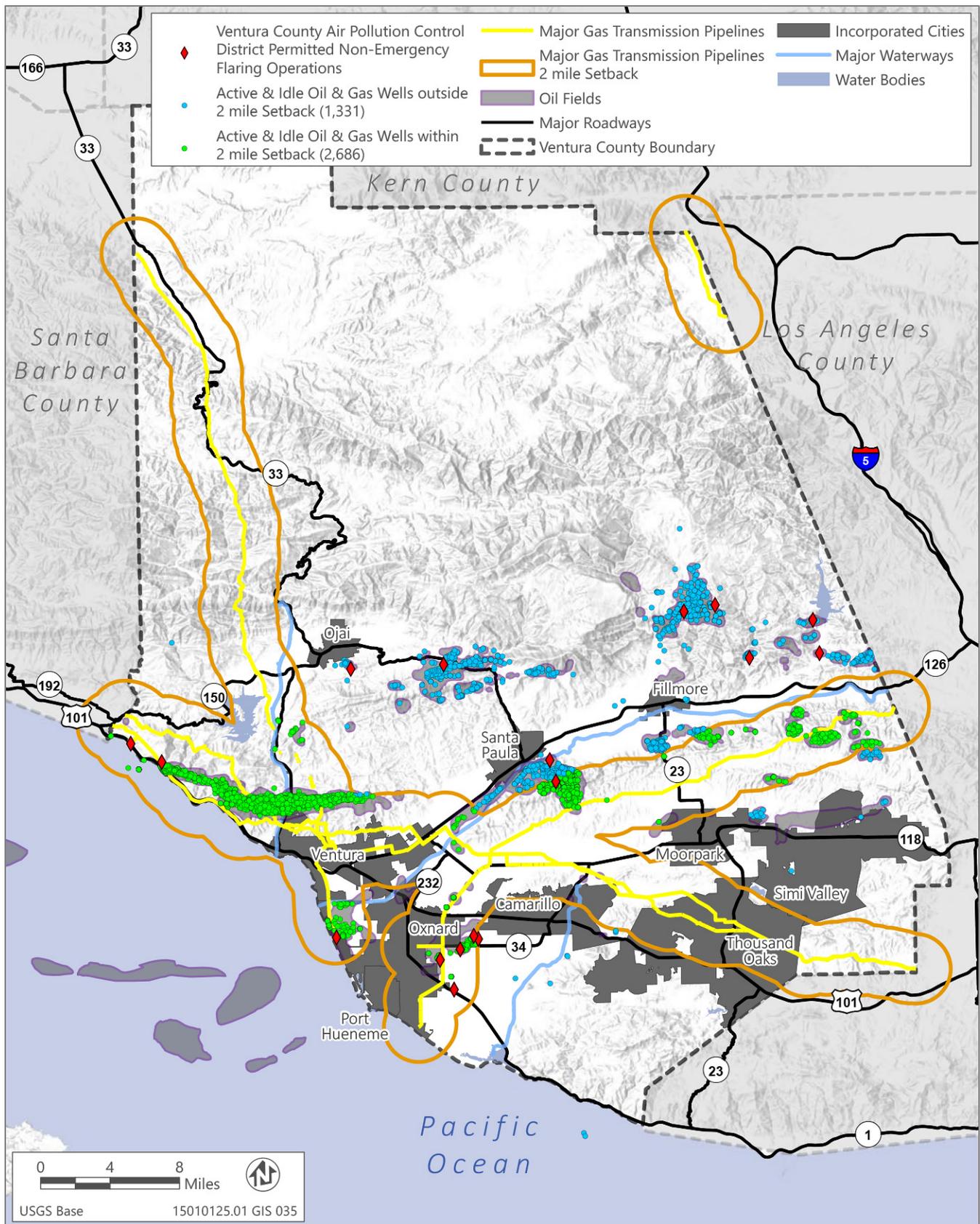
Based upon VCAPCD permit information, there are currently 24 VCAPCD permits to operate non-emergency flares covering 17 oil and gas operations as shown on Figure 4.12-5. Policy COS-7.8 would prohibit new oil and gas wells from using non-emergency flaring (i.e., primary flares) of gases produced during resource extraction, except in cases of emergency and for testing.

If gases are not allowed to be continuously flared, depending on the volume of gas produced, this gas could be converted to electricity for connection to the electric grid or used to run equipment onsite (e.g. heater treaters, separators, glycol reboilers, compressors, vapor recovery units) which is typically done in conjunction with flaring. The gas produced by extraction activities may either not be needed for production onsite (e.g. used for equipment) or may far exceed the quantity that can be utilized onsite and would require flaring transport via tanker truck or sale through a major gas transmission pipeline. Consequently, the most economically feasible option for the drilling of new oil wells would be at facilities with existing smaller gathering or minor pipelines which feed into the gas transmission network, which is operated locally by Southern California Gas Company (SoCalGas).

There are several challenges involved with injecting gas into the intrastate transmission network. First, the gas must be of a sufficient quality for SoCalGas to accept the injection. In some areas of the county, the gas extracted naturally meets these standards, in other areas onsite treatment would be required. Also, as shown in Figure 4.12-5, oil and gas resources may be in areas that are located some distance from the interstate backbone of transmission. In these cases, operators would need to construct pipelines to achieve connections or identify existing gathering lines and negotiate connection with the owner of those lines. Finally, there is no guarantee that SoCalGas would accept the gas generated by the wells. The utility's ability to receive gas while maintaining appropriate system pressures within the pipes, as mandated for safety by the California Public Utilities Commission, is dependent on flows from all points of receipt, physical pipeline and storage conditions, and end-use demand. If needed, transmitted gas may be stored by SoCalGas in one of the four underground storage facilities located in Southern California, the closest to Ventura County being the La Goleta Natural Gas Storage Facility, located in Goleta, California.

In 2016, the Bentley Family Limited Partnership prepared a *Gas Disposal/Utilization – Viability and Analysis of Alternatives to Flaring Study*. The study was completed as part of a permit modification for the Ventura County Planning Division for the continued operation of nine existing oil and gas wells and associated equipment within an existing oil and gas production facility located near the city of Ojai in the unincorporated county (Permit case no. PL15-0187). The study concluded that alternatives to the facility's existing practice of continuous primary flaring of approximately 15 to 42 Mcf/day of gas, which if sold at a total natural gas price of \$30.00 to \$80.00 per day, would not support the costs associated with transporting produced gas to market or other beneficial uses as an alternative onsite flaring. These alternatives included the following:

1. **Transport via Truck as Compressed Natural Gas (CNG) or Liquefied Natural Gas (LNG):** This alternative was determined to be economically infeasible as there are limited numbers of local companies that can physically transport methane gas at the pressures required and no infrastructure exists to off load these gases at receiving facilities. Both CNG and LNG would require the construction of an onsite processing facility. In addition, the processing of LNG requires energy to continually process and freeze to -260F in order to turn it into a liquid, which would result in higher processing and facility costs.
2. **Sales through Utility Pipeline Access:** This alternative was determined to be economically infeasible as the estimated cost of constructing metering, monitoring, processing, gas conditioning and compression facilities would total \$ 1 million to \$1.5 million. In addition, easements would need to be obtained from public and private property owners to install the required pipeline needed to connect to the Southern California Gas distribution system located several miles from the project site. The value of gas generated at the project site (\$80.00) per day would not support the costs associated with this alternative.
3. **Electrical Generation/Micro Turbines:** This alternative was determined to be infeasible as there is insufficient electrical load on the property to justify the installation of micro turbines or other types of electrical generating equipment. This alternative would require either an electrical load on the property, utility access, or both. As of the date of the study, the California Public Utilities Commission did not allow small (less than 1 Mcf) electricity operators (other than solar) access to connect to the electrical grid. Therefore, there exists insufficient electrical load on the property to justify the installation of micro turbines or other types of electrical generating equipment.



Source: Ventura County, 2016; CAL FIRE 2007 (State), 2008 (Local), and 2016 (Federal); USGS, 2013; DOGGR, 2019; VCAPCD, 2017

Figure 4.12-5 Major Gas Transmission Pipelines Map

4. **Agricultural or Industrial Use on the Property:** This alternative was determined infeasible as there is no need for commercial scale heating, such as would be required by a greenhouse or commercial enterprise.
5. **Reactivation of Sales through Private Vintage/CRC Former Gas Pipeline:** This alternative was determined to be infeasible as this pipeline is not owned by the oil operator and reactivation of this pipeline is beyond their control and it is unknown whether this former gas pipeline would be reactivated.

As discussed above, for purposes of this analysis it is assumed that oil operators located beyond the two-mile radius of a major gas transmission pipeline would not be able to comply with the pipeline requirements of Policy COS-7.8 due to the technical or economic infeasibility of either using the gas on-site, installing gas injection wells or installing new pipelines to connect to a major gas transmission line. Figure 4.12-5 depicts 1,331 active and idle oil wells located outside of a two-mile radius of a major gas transmission line. These operators located beyond the two-mile radius, and in more remote locations, likely consist of smaller oil producing operations that are not extracting a large amount of oil and therefore not producing a large amount of gas. The clustering of a larger volume of active and idle oil wells can be seen on Figure 4.12-5, which depicts 2,686 active and idle oil wells located inside of the two-mile of a major gas transmission line. The larger clustering of these operations is likely a function of greater opportunities for oil extraction and technological or economically feasible access to a major gas transmission line. However, those oil operators within the two-mile radius of a major gas transmission pipeline which currently rely upon flaring to dispose of produced gas may be effectively prohibited by Policy COS-7.8 if connection to existing smaller gathering or minor pipelines is not technologically or economically feasible for future discretionary oil and gas wells.

Therefore, Policy COS-7.8 could effectively prohibit the development of new discretionary oil and gas wells located outside of a two-mile radius of a major gas transmission pipeline by most operators due to the costs and technical complexities associated with treating the gas onsite, constructing pipeline interconnections, and connecting to the SoCalGas transmission line which does not guarantee the acceptance of gas on a daily basis, or limitations on the minimal amount of gas that can be used onsite. However, the volume of loss for this petroleum resource would likely be at a smaller scale for oil operators located outside of a two-mile radius of a major gas transmission pipeline due to the presumably small size of these operations.

In some cases, however, pipelines may be constructed to meet the requirements in Policies COS-7.7 and COS-7.8. The NCZO and CZO both encourage the construction of pipelines to convey oil. The County has authority to issue permits for construction of pipelines on non-federal land in the unincorporated county and for all of the Coastal Zone except for the ocean-adjacent portion of the Coastal Zone located within the California Coastal Commission's (CCC) original jurisdiction. Development of oil and gas resources on existing leases in tidelands and submerged areas is subject to the regulatory authority of the California State Lands Commission. In addition, the CCC issues permits in the portion of the Coastal Zone located within its original jurisdiction, and the California Department of Transportation issues permits for oil pipelines intruding into the rights of way for State highways.

All of these types of discretionary permits are subject to CEQA or other environmental review. Anticipated effects of pipeline construction would be consistent with the overall land disturbance described for physical development anticipated with implementation of the 2040 General Plan. As discussed above, due to the technical and economic infeasibility of constructing new oil, gas or produced water pipelines, the County does not anticipate these policies would result in the construction of a large number of new pipelines and thus does not anticipate that these construction-related impacts would occur often. However, potential environmental impacts from pipeline construction on traffic and circulation, air and water quality, and cultural, archeological and paleontological resources may occur. Additionally, construction activities and risks associated with pipeline operation may result in potential impacts on biological resources; however, NCZO 8107-5.5.5(d) and CZO 8175-5.7.7(e)(3) require pipelines to be routed away from sensitive biological habitats and other areas when feasible. These programmatic effects are included in the environmental impact analyses of this draft EIR.

Policies COS-7.7 and COS-7.8 could result in the loss of known petroleum resources of value to the region and the State because Policies COS-7.7 and COS-7.8 would mandate infrastructure that may be technologically or economically infeasible to install. However, based on the analysis above, the volume of loss for this petroleum resource would likely be at a smaller scale and concentrated on oil operators located outside of a two-mile radius of a major oil or gas transmission pipeline. The policies would nonetheless render a substantial quantity of petroleum resources inaccessible and result in the loss of availability of known petroleum resources of value to the region and the State in at least some parts of the plan area. This impact would be **potentially significant**.

#### Mitigation Measures

Mitigation Measure PR-2: Revised Policy COS-7.7: Limited Conveyance for Oil and Produced Water

The County shall include the following revised policy in the 2040 General Plan.

**Policy COS-7.7: Limited Conveyance for Oil and Produced Water.** The County shall require new discretionary oil wells to use pipelines to convey crude oil and produced water, if feasible.; ~~oil and produced water shall not be trucked.~~ Trucking of crude oil and produced water may only be allowed if the proponent demonstrates that conveying the oil and produced water via pipeline is infeasible. In addition, trucking of crude oil and produced water is allowed in cases of emergency and for testing purposes consistent with federal, state and local regulations.

Mitigation Measure PR-3: Revised Policy COS-7.8: Limited Gas Collection, Use, and Disposal.

The County shall include the following revised policy in the 2040 General Plan.

**Revised Policy COS-7.8: Limited Gas Collection, Use, and Disposal.** The County shall require that gases emitted from all new discretionary oil and gas wells be collected and used or removed for sale or proper disposal, if feasible. Flaring or venting ~~shall~~ may only be allowed if the proponent demonstrates that conducting operations without flaring or venting is infeasible. In addition, flaring or venting is allowed in cases of emergency or and for testing purposes consistent with federal, State, and local regulations.

### Significance after Mitigation

As proposed in the 2040 General Plan, Policies COS-7.7 and COS-7.8 could benefit air quality, limit the release of greenhouse gases and avoid other environmental impacts that could result from new oil and gas development that would not be authorized under the policies. Conversely, the policies could limit access to petroleum resources in the plan area by effectively restricting the locations where new oil and gas development could occur. Mitigation Measures PR-2 and PR-3 would revise these policies by allowing the County to approve new oil and gas wells where operators can establish the infeasibility of conducting the proposed exploration and production operations without trucking and/or flaring or venting. This flexibility is reflected in the County's current zoning ordinances. The proposed revision to Policy COS-7.7 would also allow trucking during emergencies and for testing purposes, consistent with the County's existing zoning ordinances.

In particular, Mitigation Measure PR-3 would revise Policy COS-7.8 to allow the County to approve new oil and gas wells that utilize flaring or venting of produced gas during exploration and production operations if the County determines that collecting, using or removing gases emitted from new oil and gas wells and production facilities without flaring or venting is technologically, economically, or otherwise infeasible. And Mitigation Measure PR-2 would revise Policy COS-7.7 to allow the County to approve new oil and gas wells that utilize trucking of crude oil and produced water during exploration and production operations if the County determines that it is infeasible for the operator to convey the oil and dispose the produced water without trucking. Mitigation Measure PR-2 would also revise Policy COS-7.7 to authorize trucking in cases of emergency and for safety testing purposes, as may be necessitated by operators to comply with federal, state and local regulations (i.e., Pipeline and Hazardous Material Safety Agency and the State Fire Marshall safety testing of pipelines, DOGGR safety testing of oil and gas wells, and the CPUC safety testing of facilities used in the gathering, transmission and distribution of gas). Without allowing conveyance of crude oil and produced water via truck for testing purposes, Policy COS-7.7 would effectively prohibit an operator's ability to secure any federal, State, or local agency's permits which require such testing thereby rendering oil operations infeasible.

The County Board of Supervisors, in considering Mitigation Measures PR-2 and PR-3, must weigh the importance of allowing access to local oil and gas resources with the known local environmental consequences of oil and gas production operations. Under CEQA, the decision-making authority must balance, as applicable, the environmental, economic, legal, social, technological, or other benefits of a project against its unavoidable environmental impacts when determining whether to approve the project. In this case, the 2040 General Plan includes Policies COS-7.7 and COS-7.8 which, while benefitting the local environment by reducing impacts which may be caused by new oil and gas production, could also reduce access to local oil and gas resources, reduce the economic productivity of the oil and gas industry, and increase environmental impacts associated with increased importation of petroleum. As lead agency, the County must consider and balance these competing environmental, economic, social and other interests in determining whether to adopt, reject or revise Mitigation Measures PR-2 and PR-3 which, as explained above, would provide more flexibility for the County to approve new oil and gas development compared to Policies COS-7.7 and COS-7.8.

By continuing to allow the County's approval of new oil and gas wells that utilize flaring or venting of produced gas and/or trucking of oil and produced water in situations where there is no feasible alternative, Mitigation Measures PR-2 and PR-3 would reduce the potential impact regarding a loss of availability of a known petroleum resource that would be of value to the region and the residents of the State. This impact would be reduced to **less than significant**.