
SECTION 5 AFFECTED ENVIRONMENT, IMPACTS AND MITIGATION

5.1 AGRICULTURE

5.1.1 AFFECTED ENVIRONMENT

The areas surrounding and in the vicinity of the Cadiz Project site are generally undeveloped. The only agricultural cultivation in this area is restricted to the Cadiz Inc. agricultural operations located on the west side of the project wellfield (at the north end of the Cadiz Project area). Approximately 1,600 acres of Cadiz Inc. landholdings are cultivated with table grapes, citrus and row crops acreage. A very small portion of this 1,600 acres, approximately six acres or less, will be used for the construction of the project wellfield and water conveyance facilities.

Existing General Plan and Zoning Designations

The County of San Bernardino has land use planning jurisdiction over private and non-federal public lands in this area. The BLM has jurisdiction over federal public lands.

Most of the Cadiz Project area is designated in the San Bernardino County General Plan as Resource Conservation (RC), and 9,600 acres at the north end of the Cadiz Project area are designated as Agriculture (AG). The RC designation provides for open space and recreational uses, single family residences on very large parcels and similar compatible uses. The AG designation provides for commercial agricultural operations, agricultural support services, rural residential uses, open space and recreation uses, and similar and compatible uses.

The General Plan land use designations for the Cadiz Project area and the surrounding areas are shown on Figure 5.1-1. The Cadiz Inc. agricultural operations (approximately 1,600 acres) are within the AG designated area.

In 1993, the County of San Bernardino Board of Supervisors approved the Cadiz Valley Agricultural Development Project. This land use approval allows for the expansion of agricultural operations to encompass a total of 9,600 acres.

Future expansion of agriculture operations, if any, would be undertaken in compliance with the provisions of the Groundwater Monitoring and Management Program contained in Volume IV of this Final EIR/EIS. Generally, changes in future agricultural production would be in response to market conditions such as changes in the demand for specific agricultural products at specific times of the year.

Existing Agricultural Operations

The majority of the Cadiz Project area is undeveloped with the exception of approximately 1,600 acres at the west side of the proposed Cadiz Project wellfield, which are the locations of the existing Cadiz Inc. agricultural operations. There are seven groundwater production wells that supply water for agricultural irrigation. All these wells are powered by diesel engines.

Figure 5.1-1 shows the location of Cadiz Inc. landholding, the County of San Bernardino AG land use designation and the Cadiz Inc. agricultural operations. Figure 5.1-2 shows the part of the Cadiz Project area that is adjacent to and overlies the existing Cadiz Inc. agricultural operations.

The Cadiz Inc. agricultural operations are located within Sections 21, 27 and 33. The crops cultivated in these sections include citrus, grapes and cultivated acreage available for future row crop planting. Varieties being grown include Thompson seedless grapes, Red Flame seedless grapes, Lisbon and Eureka lemons, Royal Mandarin minneolas and Valencia oranges, as shown in Table 5.1-1.

**TABLE 5.1-1
CURRENT AGRICULTURAL
CULTIVATION ON THE PROJECT SITE**

Variety/Crop	Acreage
Thompson Seedless	200
Flame Grapes	383
Research and Development	4
Lisbon and Eureka Lemons	280
Minneolas	27
Row Crops	572
Royal Mandarins	14
Valencia Oranges	120
TOTAL	1600 acres

Water from seven existing wells is supplied via pipeline to the Cadiz Inc. agricultural operations. An extensive irrigation system consisting of pipes and hoses delivers water directly to each individual plant or tree. All irrigation is water conserving. For example, grapes and row crops are irrigated with drip systems, and citrus trees are irrigated with microspray emitters.

Williamson Act Contract Lands

There are no Williamson Act contract lands in the Cadiz Project area.

Existing Soils

Because the United States Department of Agriculture Soil Conservation Service (SCS), now the Natural Resource Conservation Service (NRCS), has not mapped soils in the Cadiz Project area, no soils in the area are currently designated as agricultural soils. Therefore, none of the Cadiz Project area is designated as Prime Farmland, Unique Farmland or Farmland of Statewide Importance.

A soil study performed on part of the site in 1986 found the soils to be predominantly loamy sands and sandy loams. Shallow, naturally cemented soils known as caliche are not known to occur locally in the Cadiz Project area. The soils are alkaline with a pH between 8 and 9.

5.1.2 CEQA THRESHOLDS OF SIGNIFICANCE

For purposes of CEQA, a project will normally have a significant adverse impact related to agricultural resources if it results in:

- Conflicts with existing zoning for agricultural uses; or
- Other changes in the existing environment which due to their location or nature could result in the conversion of farmland to non-agricultural use.

For a further discussion of CEQA thresholds of significance, see Section 5.20.

5.1.3 METHODOLOGY

The potential impacts of the Cadiz Project were evaluated using the Cadiz Valley Development FEIR (1993) and photos and maps of the currently cultivated areas provided by Cadiz Inc. The California Agricultural Land Evaluation and Site Assessment Model was not used to evaluate the relative value of agricultural land resources, as the soils in the Cadiz Project area have not been mapped.

5.1.4 IMPACTS

Eastern Alternative

Cadiz Inc. agricultural operations are adjacent to and overlay part of the project wellfield located at the west end of the Cadiz Project area. The potential impacts on agricultural resources for the Cadiz Project build alternatives would be minimal. However, both short- and long-term impacts for any of the alternatives will occur due to the loss of approximately six acres of agricultural land for the permanent easements Metropolitan will obtain around each Cadiz Project well, project wellfield pipe and manifold. The potential loss of up to six acres of cultivated land is negligible compared to the 1,600 acre total Cadiz Inc. agricultural operations. Overall, the Eastern Alternative would not result in significant adverse impacts related to agricultural resources.

General Plan Land Use Designations

Under the Eastern Alternative, project spreading basins would be constructed in Fenner Gap, between the Marble and Ship mountains, east of the Cadiz Inc. agriculture operations and approved AG land use designation. The project spreading basins, which would cover about 390 acres, would be approximately one mile northeast of the Cadiz agricultural operations as shown on Figure 5.1-2. The project spreading basins would not impact Cadiz Inc. agricultural operations and would not result in conflict with the current General Plan land use designation of Resource Conservation. Refer also to Section 5.2 (Land Use).

Williamson Act Contracts

The Cadiz Project area and the surrounding areas are not under Williamson Act contracts. Therefore, the Eastern Alternative would not require the cancellation of any Williamson Act contracts.

Prime Farmland, Unique Farmland and Farmland of Statewide Importance

Soils in the Cadiz Project area are not designated as Prime Farmland, Unique Farmland or Farmland of Statewide Importance. Therefore, the Eastern Alternative would not impact these types of agricultural soils and would not result in significant adverse impacts related to the conversion of Prime Farmland, Unique Farmland or Farmland of Statewide Importance.

Cadiz Inc. Agricultural Operations

Impacts related to Cadiz Inc. agricultural operations could occur as a result of 1) the upgrading of existing wells and construction of the project wellfield (wells, pipes and manifold) and 2) the curtailment of groundwater use for agricultural irrigation required to satisfy the Cadiz obligations to ensure delivery of water. All new wells would be constructed outside the existing agricultural

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operations area. Three existing wells, located in Section 27, would be upgraded for use in the Cadiz Project. These wells are used for agricultural irrigation and are owned by Cadiz Inc.

The operation of the Cadiz Inc. agricultural operations wells and the project wellfield wells would be subject to the requirements, conditions and restrictions of the Groundwater Monitoring and Management Plan described later in Section 5.5 (Water Resources). The location, construction, and operation of the project wellfield could impact agricultural operations, in both the short and long term.

The magnitude of these impacts in the short term would depend on the spacing between the cultivated crops in the different sections. The spacing between the rows of trees varies from section to section. In Section 27, the row spacing varies from 25 x 25 feet to 22 x 25 feet. In Section 21, the row spacing is 11 x 6.5 feet. The upgrading and construction and operation of the project wellfield would displace up to six acres of cultivated agricultural lands. The construction and operation of electrical substations needed to power the project wellfield would not displace or otherwise impact Cadiz Inc. agricultural operations.

Any potential, temporary loss of revenue for Cadiz Inc. due to the disruption of agricultural operations during construction is not considered significant and no mitigation is necessary.

Disruption of up to six acres of Cadiz Inc. agricultural operations may be necessary to accommodate construction of pipelines connecting to the wells. To minimize adverse effects, the alignments of the project wellfield pipes would run outside of and along the edge of the cultivated sections to the extent feasible.

Metropolitan would obtain a permanent easement of 10,400 square feet around each project well and a 40-foot wide easement centered over the alignment of the pipes, resulting in a total loss of approximately six acres from the upgrading of three existing wells, the construction of the new wells and the pipeline alignments. The loss of approximately six acres of cultivated agriculture for construction and operation of the project wellfield would not be considered a long term significant adverse impact of the Cadiz Project as this loss would be minor in comparison to the total number of acres currently cultivated.

The curtailment of groundwater use for agricultural irrigation (in connection with the Cadiz Project) would occur if required to satisfy Cadiz obligations to ensure delivery of water and would be in compliance with the provisions of the Management Plan.

The availability of water is one of several factors that will determine whether future agricultural use at Cadiz is expanded or reduced. Curtailment of groundwater use for agricultural use may result from other factors including, but not limited to, the economic viability of agricultural products grown at Cadiz, the availability of a farm worker labor force, meteorological conditions and other agricultural considerations such as the presence or absence of pests. In the event agricultural acreage is removed from production, existing provisions contained in the County of San Bernardino Mitigation Monitoring and Compliance Program (SCH #890202), Mitigation Measure AQ3 ensures such land is maintained to prevent soil erosion and the potential for wind mobilized dust. Therefore, potential impacts from curtailment of groundwater use for agricultural operations will be less than significant.

Construction and operation of the project spreading basins would not affect Cadiz Inc. agricultural operations. Also, it would not impact the potential for future agricultural operations as these landholdings are not designated by the County of San Bernardino for agricultural uses. Therefore,

no impact to agricultural land related to construction of the project spreading basins would be anticipated.

The operation of the Cadiz Project would alternately result in the withdrawal or spreading of water. Currently, approximately 5,000 to 6,000 acre-feet of water is used on an annual basis to irrigate the Cadiz Inc. agricultural operations. As discussed in Section 5.5 (Water Resources) the withdrawal of Colorado River water and indigenous groundwater for use by Metropolitan is not anticipated to have a significant adverse impact on the availability of water for the existing Cadiz Inc. agricultural operations.

If the Eastern Alternative is implemented, indigenous groundwater resources together with stored Colorado River water would be used by both the Cadiz Inc. agricultural operations and the Cadiz Project. Oversight and management of the Cadiz Inc. agricultural operations water use and Cadiz Project water management and use would be subject to jurisdiction of the Groundwater Monitoring and Management Plan.

Western Alternative

The impacts of the Western Alternative on agricultural resources would be the same as the impacts under the Eastern Alternative.

Combination Alternative

The impacts of the Combination Alternative on agricultural resources would be the same as the impacts under the Eastern and Western alternatives.

Eastern/Canal Alternative

The impacts of the Eastern/Canal Alternative on agricultural resources would be the same as to the impacts under the Eastern, Western and Combination alternatives.

No Project Alternative

The No Project Alternative would not include the construction of any of the Cadiz Project alternatives and, therefore, would not result in the disruption of existing agricultural operations. There would be no impact on agricultural resources under this alternative.

5.1.5 MITIGATION MEASURES

The Cadiz Project impacts to agriculture are below a level of significance and no mitigation is necessary.

5.1.6 LEVEL OF SIGNIFICANCE AFTER MITIGATION

Temporary disruption of agricultural land may be necessary to accommodate project wellfield and pipeline construction. Metropolitan will obtain a permanent easement of up to six acres, to accommodate the wells and project wellfield and pipeline alignments. The loss of up to six acres of cultivated agricultural land will not be a significant adverse impact.