

CHAPTER 23

CUMULATIVE IMPACTS AND PROJECT ALTERNATIVES

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CUMULATIVE IMPACTS

Introduction

Under CEQA, an EIR is required to assess the cumulative impacts of a project with respect to current and probable future projects within the region. CEQA Guidelines (Section 15255) define cumulative effects as “two or more individual effects that, when considered together, are considerable or which compound or increase other environmental impacts. The cumulative impacts from several projects result from the incremental impacts of the proposed project when added to other closely related, and reasonably foreseeable, future projects.”

The City of Palmdale, the City of Lancaster, and the County Department of Regional Planning were contacted to determine planned projects in the area that could be considered in a cumulative baseline. Appendix S contains the list of planned projects in the area that have been approved but have not yet been constructed. This cumulative baseline was used to assess potentially cumulative impacts of the proposed project.

According to the Development Summary prepared by the City of Lancaster (see Appendix S), future development projects including residential and commercial developments are spread throughout the City of Lancaster, generally to the northwest of the project area. No planned or approved projects in the City of Lancaster were identified within the Initial Study Area.

The City of Palmdale has numerous planned and approved residential and commercial projects south and southwest of the PWRP. The residential development projects vary in size but show a general trend of development eastward from the city center. A proposed mining and reclamation project has recently been approved encompassing an area between 70th Street

East and 90th Street East and between Avenue O-8 and Avenue S. This project encompasses a portion of the LAWA property, including approximately one square mile within the southern portion of Agricultural Study Area No. 6.

LAWA is in the process of revising plans for the PMD within the current LAWA property. The project is in the early planning stages but could alter future land uses in the vicinity of the PWRP. Lastly, the County General Plan Update is considering approval of the Antelope Valley SEA that would discourage rapid residential and commercial development east of the Little Rock Wash.

The Cities of Palmdale and Lancaster have prepared general plan EIRs that evaluate environmental impacts of implementing their General Plans. (The County general plan EIR is currently being updated and was not available for review at the time of publication.) The General Plans provide a cumulative baseline for effects of development in the area. The EIR analyses for both general plans provide information on environmental resources that are expected to be significantly affected. Tables 23-1 and 23-2 summarize these significant effects constituting the cumulative baseline. Implementation of the PWRP 2025 Plan and EIR would contribute to this cumulative condition.

Cumulative Effects

Land Use/Agricultural Resources

The region surrounding the PWRP consists of open space, residential, and agricultural uses. The proposed changes in land use would not add substantial development to the area nor would it substantially change the land uses in the surrounding area. The area would remain predominantly rural under the proposed project. Historically, the area’s peak agricultural period occurred in the 1950s. Farming operations currently exist near the proposed agricultural

**Table 23-1
Significant Effects Identified in the
City of Palmdale General Plan EIR**

SIGNIFICANT IMPACTS OF GENERAL PLAN	SUMMARY
Geology	
Earthquake Hazards	Earthquakes present a significant regional hazard that is unavoidable
Air Quality	
Development and Vehicle Trips	Emissions from development and increased traffic will present long-term emissions that may violate air quality standards
Water Resources	
Groundwater Supplies	Cumulative groundwater extraction that creates groundwater overdraft would be considered significant.
Biological Resources	
Sensitive Species	Destruction of natural resources would result in impacts to sensitive species that are significant and unavoidable
Habitat	The loss of habitat is significant and unavoidable
Population	
Jobs/Housing	Increased capacities for commercial and industrial development will result in a jobs/housing imbalance
Housing	
Residential Housing	Non-residential development will out pace residential development
Traffic and Circulation	
Traffic	Buildout of the plan will result in 13 roadway segments operating at LOS D or E
Public Services	
Schools, Parks, and Recreation	Significant impacts will remain until new programs are enacted and new school facilities offset existing deficiencies
Library	Significant until new and expanded facilities are implemented
Noise	
Airport, Railroad, and Major Roadway	Development will significantly increase ambient noise levels regionally

Source: City of Palmdale General Plan EIR, 1992.

reuse areas. Many farms have been established recently, utilizing groundwater for the production of carrots. The introduction of additional farming operations in the proposed agricultural area would

contribute to a cumulative increase in agricultural land use in the area. This would not be considered an adverse impact since agricultural uses are allowed in the area by the County’s Antelope Valley Areawide General Plan. Therefore, the proposed project would not contribute to a significant cumulative impact to land use.

Aesthetics

The proposed project would increase agricultural operations in unincorporated areas of the County. Currently, there are numerous agricultural operations within the Initial Study Area. The area remains sparsely populated and consists of mostly open space. Agricultural lands in these areas provide rural scenic features. As such, cumulative impacts to visual resources from additional agricultural operations would be less than significant.

The project expands the existing PWRP treatment and storage facilities. The construction of new storage reservoirs would increase the existing visual impact of the plant. The project would add to the cumulative impacts of development in the Antelope Valley. However, the facilities will be less than 20 feet tall and no significant impacts to long range views due to the treatment and storage facilities are expected. The area remains sparsely populated and consists mostly of open space. Views from residential areas would not be affected by the treatment and storage facilities. Cumulative impacts to visual resources would be less than significant.

Cultural Resources

The proposed project would entail the excavation of previously undisturbed soils. No known registered historic structures (i.e., listed on the NRHP, California Historic Landmarks, or Places of Historic Interest) exist within the LAWA property. The proposed project would increase the potential for the

**Table 23-2
Significant Effects Identified in the
City of Lancaster General Plan EIR**

PROJECT IMPACTS	LEVEL OF SIGNIFICANCE AFTER MITIGATION
Biological Resources	
Vegetation Communities/ Wildlife Habitat	Potentially significant effects to Joshua tree woodland and areas designated as Prime Desert Woodland.
Increased Human and Domestic Animal Presence	Significant
Air Quality	
Construction and Operation	Emissions from development and increased traffic will present long-term emissions that may violate air quality standards
Noise	
Long-Term Motor Vehicle Noise	Noise from traffic will significantly increase ambient noise levels
Schools	
Demand for schools	Significant until new schools are completed
Utilities	
Water Consumption	Significant
Surface Water and Groundwater Levels and Flow	Significant
Water Quality	Significant
Storm Drainage	
All Impacts	Significant
Energy	
Energy Consumption	Significant
Energy Transmission Facilities	Significant
Scenic Resources	
No Project alternative	Significant impacts to desert scenic resources under the No Project alternative

Source: City of Lancaster, 2020 General Plan Final Environmental Impact Report, Volume 2.

discovery of cultural and paleontological materials. Excavations occurring in the uppermost few feet of soil in the area (such as for agriculture) would not likely encounter significant fossil vertebrate remains since much of the assessment area has been previously disturbed. Identifying, collecting, and curating resources discovered during treatment facility or reservoir construction would be done in accordance

with SHPO requirements to minimize the cumulative impact to less than significant levels.

Biological Resources

Implementation of the proposed project would cause impacts to plant and animal species. These impacts may include a loss of foraging habitat for several avian species, loss of foraging and nesting habitat for waterfowl and native wildlife, and direct removal and disturbance of special status plants.

The project would result in the direct disturbance of the habitat of several terrestrial animal species by the elimination of Mojave wash scrub, creosote bush scrub, and Joshua tree woodland. The conversion of up to 5,140 acres of predominantly natural habitat open space would contribute to a cumulative reduction of natural habitats in the region. Both the City of Lancaster and the City of Palmdale General Plan EIRs find that destruction of natural habitat, including Joshua tree woodland, would constitute a significant impact of the overall development in the region. Therefore, the cumulative baseline is considered to be significantly adversely affected by development. Chapter 10 of this document identifies a significant project effect to Joshua tree woodland that is reduced to less than significant levels through implementation of identified mitigation measures. However, implementation of the PWRP 2025 Plan and EIR would contribute to the cumulative baseline condition that is considered significantly impacted by regional development plans. Therefore, the project’s contribution to the cumulative baseline condition is considered a significant and unavoidable cumulative impact.

Transportation

Construction of treatment and storage facilities, the storage tank, and the pipeline would result in temporary traffic impacts resulting from truck movements to and from the project site during activities associated with project construction. Temporary traffic impacts would

also result from project construction adjacent to public roadways. Conversion of land to agricultural use is not expected to significantly impact traffic. District No. 20 has established mitigation measures in order to minimize temporary transportation impacts.

There are a number of approved construction projects planned for the Antelope Valley that would be located near the proposed project. The planned growth in the Antelope Valley will increase overall traffic delays in the region. Palmdale alone is projected to increase in population by 100 percent by the year 2025. The project lists included in Appendix S constitute the cumulative baseline with respect to increased traffic in the region. However, the project would not increase operational traffic substantially. Traffic impacts from the project would be primarily short-term construction related impacts that would contribute very little peak-hour operational traffic. Therefore, no cumulative impact would be anticipated.

Hydrology and Water Quality

The proposed project would provide effluent management methods that would mitigate nitrate contamination in the groundwater. This would provide a beneficial effect to groundwater quality. Compliance with the FMP would ensure that regional groundwater quality would not be adversely impacted by agricultural practices. The project would not contribute to cumulatively significant impacts with respect to flooding or erosion.

Geologic Hazards and Soils/Mineral Resources

The project assessment area would be subject to regional seismic hazards. The proposed project would not increase the risks of hazards resulting from seismic activity in the area. The proposed project would not construct any housing or habitable structures.

The application of recycled irrigation water could increase salts in the upper soil layers. Elevated salinity in soils can reduce soil quality and, therefore, long-term viability and productivity. However, implementation of

mitigation measures would reduce the project's potential for decreasing soil quality. Therefore, it is not anticipated that the proposed project would contribute to cumulative geologic impacts.

Air Quality and Odor

The proposed project is located in the AVAQMD, which is in non-attainment for PM₁₀ and ozone under the CCAA and is in non-attainment for ozone under the FCAA. The overall air quality in the Antelope Valley Air Basin results from cumulative emissions from all emissions sources including those blown in from the San Joaquin Valley and SCAB. As discussed previously, construction emissions could exceed thresholds of significance established by the AVAQMD for individual projects. However, no thresholds have been established to determine the significance of a project's contribution to the cumulative baseline.

During the construction of the proposed project, emissions of NO_x and PM₁₀ will exceed the AVAQMD's thresholds of significance for construction emissions. Operational air emissions from the water treatment facility would be minimal. Stationery sources would be subject to AVAQMD emissions permits for wastewater treatment facilities. The project would increase PM₁₀ emissions in the basin from the introduction of new farmland. While PM₁₀ emissions from farmland are exempt from permitting under AVAQMD regulations, they would contribute to the cumulative baseline. Air emissions associated with the project during construction and during long-term operations would contribute to the PM₁₀ and NO_x cumulative emissions baseline. Both the City of Lancaster and the City of Palmdale General Plan EIRs conclude that air quality impacts from development would result in significant impacts to air quality. Since the ambient conditions in the valley are in violation of the CCAA and FCAA for PM₁₀, any substantial contribution to air pollution would be considered a significant cumulative impact.

Noise

The proposed project would temporarily increase noise levels in the construction area. No other construction projects are planned near the project area. Given the temporary nature of the project, the distance from the project to local receptors, and the low population density, the project would not contribute to cumulative noise impacts.

Public Services and Utilities

Cumulative development would result in the need for increased public services including wastewater treatment. District No. 20 provides wastewater service for most of Palmdale. No other large wastewater facilities are proposed for the area. The proposed project is not expected to directly increase the demand on police and fire protection services and water services. However, these services are expected to expand as a result of the secondary effects of growth in the area. The expansion of the PWRP would not add to the cumulative impact, but would accommodate the cumulative increase in demand for wastewater treatment services.

Population and Housing/Secondary Effects of Growth

The proposed project may displace a few residences but would not contribute to a regional trend. Expansion of the PWRP would accommodate an increase in population in the Antelope Valley. Secondary impacts of population growth may arise, such as impacts to air quality, traffic, and noise. The secondary effects of growth are seen as significant and unavoidable. These effects by their nature account for the cumulative effects to resources in the region. Chapter 20 evaluates the project's relationship to growth and the secondary effects of growth. District No. 20 has no authority to control growth within their service area, but are mandated to provide sufficient wastewater treatment services.

Hazardous Materials

The development of new treatment and storage facilities would increase the quantity of hazardous chemicals stored at the PWRP. Since implementation of the project would also increase agricultural use, there would likely be an increase in the use of pesticides on crops. Although the project would increase chemical storage and use in the region, the cumulative increase would not be considered significant.

Public Safety

The proposed project would follow all applicable standards and regulations relating to the use of reclaimed water as required by the DHS. No cumulative impacts to public health are anticipated.

Summary of Cumulative Impacts

Impact 23-1: Implementation of the PWRP 2025 Plan and EIR would result in cumulatively significant impacts to regional air quality and biological resources.

Local cities have concluded that implementation of their general plans would result in cumulatively significant adverse effects to air quality, biological resources, geology, mineral resources, hydrology, noise, public services, and transportation. Regional resource managers including the RWQCB-LR, AVAQMD, DFG, USFWS, and the Corps provide mechanisms to minimize impacts to air quality and biological resources. Implementation of the PWRP 2025 Plan and EIR would contribute to regional air emissions during construction. Conversion of land to agricultural uses would reduce biological resources that would contribute to the significant cumulative loss of biological resources in the region. These impacts to the already significantly affected cumulative baseline would be considered a significant impact of the proposed project.

Mitigation Measures

Mitigation Measure 23-1: District No. 20 shall comply with existing regulations regarding air emissions controls and biological resources permitting.

Significance after Mitigation

Compliance with existing regulations would not eliminate the project's contribution to the cumulative baseline condition for air quality and biological resources. The project would contribute to the baseline condition resulting in a significant and unavoidable cumulative impact to air quality and biological resources.

Impact 23-2: Implementation of the PWRP 2025 Plan and EIR would result in less than significant cumulative impacts to aesthetics, geology, water quality, noise, transportation, public services, population and housing, hazards, and public safety.

The proposed project would not contribute significantly to a cumulatively significant adverse condition for the following environmental resources: aesthetics, geology, water quality, noise, transportation, public services, population and housing, hazards, and public safety. No mitigation measures are required.

Mitigation Measure

No mitigation measures are required.

Significance of Impact

Less than significant.

ALTERNATIVES

Section 15126.6 of the CEQA Guidelines requires that an EIR discuss reasonable and feasible project alternatives that could avoid or substantially lessen identified significant impacts. District No. 20 conducted an extensive alternatives screening process of conceptual alternatives to identify wastewater treatment and effluent management facilities through the year

2025. From this screening process, agricultural reuse coupled with winter storage reservoirs was identified as the proposed effluent management project. Expanding treatment capacity with 22.4 mgd of CAS and tertiary treatment was identified as the proposed treatment upgrade.

Chapter 6 of the PWRP 2025 Plan summarizes the alternatives screening process conducted to identify feasible alternatives that meet the project objectives. Chapter 7 summarizes the site screening process conducted to identify the proposed agricultural areas and storage reservoir locations.

Pursuant to CEQA requirements, the following analysis assesses impacts of the No Project alternative and compares the analysis results with the proposed project. A summary of the project alternatives that were rejected from further consideration is also provided to assess their ability to avoid significant impacts of the proposed project.

Significant Impacts of the Proposed Project

The EIR concludes that the proposed project would result in three significant and unavoidable impacts:

- Construction air emissions during the construction of project facilities.
- Cumulative impact to biological resources in the region resulting from the destruction of natural habitat and to air quality since the existing condition is already significantly impacted.
- Secondary effects of growth.

Analysis of No Project Alternative

The No Project alternative is considered as the reasonably foreseeable result if the project were not implemented. For purposes of this analysis, under the No Project alternative, no new treatment upgrades or effluent management systems would be constructed. Effluent discharges would increase commensurate with

the projected population increases for the City of Palmdale. The need for land application and agriculture above agronomic rates would continue and increase over time. The 15.0 mgd treatment capacity of the PWRP is expected to be reached by the year 2013. Once the current treatment capacity is reached, new project proponents would not be allowed to discharge to the District No. 20 sewerage system and would instead need to develop alternate plans for the conveyance and treatment of their wastewater. As a result, the No Project alternative is considered infeasible.

The following discussion compares potential impacts of the No Project alternative with the proposed project. Table 23-3 summarizes the comparison.

**Table 23-3
Comparison of Proposed Project with
No Project Alternative**

	NO PROJECT ALTERNATIVE
Land Use	-
Aesthetics	-
Cultural Resources	-
Biological Resources	-
Transportation	-
Hydrology and Water Quality	+
Geologic Hazards and Soils/Mineral Resources	-
Air Quality	-
Noise	-
Public Services and Utilities	+
Recreational Facilities	-
Population and Housing/Secondary Effects of Growth	-
Hazardous Materials	-
Public Safety	+

Source: ESA

- = lesser impact than Proposed Project

+ = greater impact than Proposed Project

Land Use

The No Project alternative would avoid the adverse impacts of the preferred project associated with land uses. No additional land would be converted for effluent management. No residents would be displaced and no development would occur within the proposed SEA. None of the mitigation measures identified for the proposed project would be necessary.

Aesthetics

The No Project alternative would avoid the adverse impacts of the proposed project. None of the impacts or mitigation measures identified for the proposed project would apply.

Cultural Resources

The No Project alternative would avoid the adverse impacts of the proposed project. No cultural resources would be affected. None of the mitigation measures identified for the proposed project with respect to cultural resources would apply.

Biological Resources

The No Project alternative would avoid the adverse impacts of the proposed project. None of the mitigation measures identified for the proposed project would apply. No impacts to sensitive species would occur as a result of construction or conversion of land for effluent management. The cumulatively significant impact to natural habitats would be avoided.

Transportation

The No Project alternative would avoid the temporary adverse impacts of the proposed project. There would be no additional traffic from construction or operation of the new facilities and no lane closures during construction. None of the mitigation measures identified for the proposed project would apply.

Hydrology and Water Quality

The No Project alternative would avoid the adverse impacts of the proposed project. None of the mitigation measures identified for the proposed project would apply. Modifications to the floodplain and construction storm water quality impacts would be avoided. However, without the long-term plan, land application practices would continue resulting in continued risk of groundwater quality degradation through infiltration. This would be considered a significant impact of the No Project alternative.

Geologic Hazards and Soils/ Mineral Resources

The No Project alternative would avoid the adverse impacts of the proposed project. There would be no increase in potential erosion or soil salinity. None of the mitigation measures identified for the proposed project would apply.

Air Quality and Odor

The No Project alternative would avoid the adverse impacts of the proposed project. None of the mitigation measures identified for the proposed project would apply. Construction air emissions would be eliminated. Operational emissions associated with the existing treatment process would still contribute to the cumulative condition of the air basin.

Noise

The No Project alternative would avoid the adverse impacts of the proposed project. There would be no construction or operational noise impacts. None of the mitigation measures identified for the proposed project would apply.

Public Services and Utilities

As population increases in the area, wastewater peak flows experienced at the PWRP would exceed its current design capacity. The lack of adequate wastewater treatment services could restrict planned growth or result in package treatment plants or septic

systems. This would be considered a significant impact of the No Project alternative.

Population and Housing/Secondary Effects of Growth

No residences would be displaced under the No Project alternative. Growth in the region would likely occur in any case. As such, the secondary effects of growth would likely be similar under the No Project alternative.

Hazardous Materials

The No Project alternative would avoid the adverse impacts of the proposed project. None of the impacts associated with the proposed project would apply.

Public Safety

The No Project alternative would avoid the adverse impacts of the proposed project. None of the mitigation measures identified for the proposed project would apply. However, the potential to exceed the treatment capacity of the PWRP would pose a public health hazard if inadequate treatment were provided to increasing wastewater flows. In addition, groundwater quality could degrade with increased land application, which could affect drinking water wells. This would be considered a significant impact of the No Project alternative to public health.

Effluent Management Alternatives

District No. 20 identified a wide range of conceptual effluent management alternatives to meet the project objectives. Eight general effluent management categories, listed below, were developed for consideration. These alternatives are as follows:

- Land Application
- Agricultural Reuse
- Groundwater Recharge
- Municipal Reuse
- Discharge to Water Body in the Antelope Valley

- Wetlands
- Pump Water Outside of the Antelope Valley
- Evaporation Ponds

Preliminary Screening

The alternatives were evaluated with respect to the basic project objectives. The preliminary screening analysis performed by District No. 20 for the PWRP found that only one effluent management alternative (agriculture) and two treatment upgrade alternatives (tertiary and advanced tertiary) met all project objectives. Tables 6-1 and 6-2 summarize the first level screening. The second level of screening evaluated the alternatives for other criteria including environmental impacts, cost-effectiveness, effluent quality, and operational considerations. Table 6-3 of the PWRP 2025 Plan summarizes the results of the second level of screening. The screening process identified agricultural reuse coupled with tertiary treatment as the proposed project.

The following sections evaluate whether the Project Alternatives could avoid these identified significant impacts of the proposed project. Table 23-4 summarizes which significant impacts associated with the proposed project would be avoided by a project alternative. Chapter 6 describes the screening process used to identify the proposed project, providing more detail on the constraints posed by each Effluent Management Alternative.

Environmental Screening

Land Application

The Land Application alternative would avoid some of the significant environmental impacts of the project but would increase the potential for creating additional significant groundwater quality impacts. The Land Application alternative would not require construction of storage reservoirs thereby reducing the significant construction air emissions. The Land Application alternative would reduce the acreage needed for agriculture thereby reducing the project impact and cumulative impact to natural habitats in the region. The PWRP’s contribution to the air quality of the region would be minimal and would not be considered a cumulatively significant contribution. However, secondary effects of growth would not be avoided by this alternative.

The Land Application alternative would result in incidental recharge. The tertiary treated water would likely avoid the significant water quality effects associated with the existing land application methods. However, the tertiary treatment may not be adequate to avoid degrading groundwater quality. Therefore, obtaining a permit from the RWQCB-LR for the use of tertiary-treated water on a land application site could significantly affect the implementation schedule. This would violate the CDO and CAO.

**Table 23-4
Summary of Significant Impacts Avoided by Project Alternatives**

EFFLUENT MANAGEMENT ALTERNATIVE	SIGNIFICANT AND UNAVOIDABLE IMPACTS OF THE PROPOSED PROJECT			
	CONSTRUCTION AIR EMISSIONS	CUMULATIVE EFFECTS		SECONDARY EFFECTS OF GROWTH
		AIR QUALITY	BIOLOGICAL RESOURCES	
Land Application	Substantially lessened	Not avoided	Avoided	Not avoided
Groundwater Recharge	Substantially lessened	Not avoided	Avoided	Not avoided
Municipal Reuse	Not avoided	Not avoided	Not avoided	Not avoided
Discharge to Water Body in the Antelope Valley	Substantially lessened	Not avoided	Avoided	Not avoided
Wetlands	Substantially lessened	Not avoided	Not avoided	Not avoided
Pump Water Out of the Antelope Valley	Not avoided	Not avoided	Avoided	Not avoided
Evaporation Ponds	Not avoided	Not avoided	Not avoided	Not avoided

Source: ESA

Groundwater Recharge

The Groundwater Recharge alternative would avoid some of the identified significant impacts of the project. The alternative would avoid air emissions from conversion of agricultural lands. However, construction emissions would be generated during construction of surface recharge facilities and facilities needed to convey blending water to the recharge site. The alternative would augment groundwater supplies, thereby providing a beneficial effect. The project would eliminate the impacts to biological resources since no agricultural lands would be needed. However, cumulative impacts to air quality and secondary effects of growth would not be avoided by this alternative.

This alternative has not been selected as the preferred alternative since it would not meet the project's schedule objectives. The alternative would require substantial support and assistance from other local agencies. The schedule of implementation is therefore unpredictable, depending on coordination and policy formulation by cooperating agencies. Therefore, the alternative would not meet a project objective of implementation in time to meet the CDO and CAO schedule requirements.

Municipal Reuse

The Municipal Reuse alternative would avoid significant impacts to biological resources since the agricultural land would not be required. However, construction emissions resulting from building the pump station and conveyance system would be similar to emissions associated with the proposed project. Cumulative impacts to air quality and secondary effects of growth would not be avoided by this alternative.

It is unlikely that a Municipal Reuse alternative could accommodate the projected flow, in which case some other means of effluent management would also be required. A municipal reuse component is included in the proposed project. If agriculture were used in conjunction with this alternative, no significant impacts of the proposed project would be avoided.

Discharge to Water Body In the Antelope Valley

The Discharge to a Water Body in the Antelope Valley alternative would avoid the significant impact to biological resources resulting from implementation of the proposed project. Discharging to a local water way such as Little Rock Wash could avoid significant construction air emissions and could augment water supplies through incidental recharge. However, the other significant impacts including cumulative air quality and secondary effects of growth would remain.

Discharging to Little Rock Wash could potentially degrade groundwater quality due to incidental recharge of tertiary treated water. Obtaining a permit to discharge to the wash could substantially affect the project schedule contrary to the CAO and project objectives. In addition, discharging to Little Rock Wash would affect overlying land uses including the proposed PMD, down stream residential developments, and the existing and proposed mining operations in the area. Discharging to Little Rock Wash could also aggravate flooding impacts to local roadways.

Wetlands

The Wetlands alternative would avoid significant impacts to biological resources since the agricultural land would not be required. Construction emissions resulting from building the pump station and conveyance system would be similar to the proposed project. The project would not avoid secondary effects of growth.

It is unlikely that a Wetlands alternative could accommodate the projected flow, in which case some other means of effluent management would be required. If agriculture were used in conjunction with this alternative, the significant impact to biological resources identified for the proposed project would not be avoided. In addition, incidental recharge of tertiary water could degrade groundwater quality.

Pump Water out of the Antelope Valley

The alternative to pump water out of the Antelope Valley would avoid the significant effects to biological

resources since agricultural conversion would not be necessary. None of the other significant effects of the project would be avoided.

The alternative would require substantial coordination and approval from regional agencies including the RWQCBs, natural resource agencies, and water districts. The alternative would not meet the schedule objectives of the project. Pumping water out of the basin would likely require substantial construction of conveyance systems or tunnels at substantial cost. Water is a valued resource in the desert region. Future efforts to increase recycling or groundwater recharge would be impaired by plans to pump the water out of the basin.

Evaporation Ponds

The Evaporation Ponds alternative would not avoid any of the identified significant impacts of the proposed project. The acreage requirements associated with this alternative would be similar to or greater than the proposed project, resulting in a significant cumulative impact to biological resources. Construction air emissions and cumulative air quality effects would remain as would the secondary effects of growth.

Agricultural Area Siting Process

As part of the project screening conducted by District No. 20, several locations were considered for use as agriculture sites. District No. 20 first conducted an initial survey within a 15-mile radius (over 700 square miles) surrounding the PWRP. The area to the east and northeast of the PWRP was deemed suitable for effluent management operations. This area, described as the Initial Study Area, was divided into six study areas and evaluated further through a site screening process.

The site screening selection criteria used in evaluating the six study areas included (1) soil suitability, (2) environmental impacts, (3) public impacts, (4) operational considerations, and (5) cost

effectiveness. The screening process is described in Chapter 7.

Study Area 6 was found to be superior to the other alternatives. The area contains only one home, which is currently vacant. No farming operations were identified within this area. The area is located closest to the PWRP, making it easier to construct and operate.

Storage Reservoir Siting Process

As part of the site screening conducted by District No. 20, several locations were considered for storage reservoirs. Only those areas that could feasibly serve Agricultural Study Area Nos. 5 and 6 were considered for storage reservoirs. District No. 20 identified and evaluated three storage reservoir study areas. The screening criteria used to evaluate the study areas were as follows: (1) operational considerations, (2) soil suitability, (3) environmental impacts, (4) public impacts; and (5) cost effectiveness, all of which are discussed in more detail in Chapter 7 of the PWRP 2025 Plan.

Based on the descriptions and summary in Chapter 7, Storage Reservoir Study Area No. 1 was found to be superior to the other alternatives.

Environmentally Superior Alternative

CEQA requires that an EIR identify the environmentally superior alternative of a project. The PWRP 2025 Plan and EIR evaluates six treatment alternatives and eight effluent management alternatives. Of the six treatment alternatives, advanced treatment would be considered the environmentally superior alternative since it would produce the highest quality water. However, the excessive energy requirements and costs associated with advanced treatment process pose substantial constraints to the alternative. The PWRP 2025 Plan and EIR (Chapter 6) concludes that tertiary treatment produces high quality water that would be adequate for most effluent management alternatives

using substantially less energy and at a lower cost. For these reasons, the proposed treatment alternative is tertiary treatment.

Of the eight effluent management alternatives evaluated by District No. 20, the groundwater recharge alternative would be considered the environmentally superior alternative, since it would augment the groundwater supply while avoiding the substantial effects of land conversion. However, there would be additional impacts associated with construction of facilities to convey blending water to the recharge sites with the groundwater recharge alternative.

The groundwater recharge alternative would be superior to current land application activities since the infiltrating water quality would be higher. Otherwise, the land application alternative would be similar to the groundwater recharge alternative, since it would avoid the land conversion impacts while augmenting the groundwater supply, although to a lesser degree, through incidental recharge. In addition, the land application alternative would avoid construction impacts associated with the proposed project and the groundwater recharge alternative.

The combined agricultural reuse and municipal reuse alternatives (the proposed project) would require conversion of a large area of open space. As discussed in Chapter 6, the agricultural reuse and municipal reuse alternative is the proposed project since it provides the most reliable means of meeting project objectives including the time schedule requirements of the CAO and CDO.

The alternative to discharge to a water body in the Antelope Valley could be incompatible with existing and planned land uses within or near the water body. The groundwater recharge alternative is environmentally superior to this alternative since it would avoid potentially incompatible land uses.

The wetlands alternative would potentially be incompatible with existing and planned land uses within or near the wetland and could degrade groundwater and surface water quality. The groundwater recharge alternative is environmentally superior to this alternative since it would avoid potentially incompatible land uses.

The alternative to pump water outside of the Antelope Valley would likely result in substantial construction impacts for pump station construction, tunneling, or pipeline construction. In addition, pumping water out of the valley would require substantial energy usage on a daily basis. Furthermore, the alternative would result in a net loss of water resources to the region.

The evaporation pond alternative would require substantial land conversion that would result in significant construction air emissions. Furthermore, evaporation ponds would not augment groundwater supplies.

The No Project alternative would avoid the construction and operations related impacts. Nonetheless, the No Project alternative would result in potential impacts to groundwater quality, public services, and public health.