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SHORT TERM VERSUS LONG TERM PRODUCTIVITY IMPACTS

9.1 SHORT TERM USE VERSUS LONG TERM PRODUCTIVITY

The Cadiz Project has been planned to increase water storage and supply for dry years to improve Metropolitan's overall capability to provide raw water throughout its service area in the event of drought conditions. The need for the Cadiz Project, as described in Section 2, is based on the long-term water needs of the Southern California region. These needs are, in turn, based on demographic projections prepared by the Southern California Association of Governments (SCAG), San Diego Association of Governments (SANDAG) and the California State Department of Finance. These projections are consistent with the regional and State Air Quality Management Plans and have subsequently been incorporated into the State Implementation Plan.

9.2 AGRICULTURAL RESOURCES

The Cadiz Project will not appreciably affect existing agricultural resources in the Cadiz Project area. Future expansion of Cadiz Inc. agricultural operations, if any, within and in the vicinity of the Cadiz Project would occur only in compliance with and pursuant to the requirements of the Groundwater Monitoring and Management Plan. The curtailment of groundwater use for agricultural irrigation could occur as a result of the operation of the Cadiz Project. If groundwater use for agricultural purposes is curtailed, the long-term productivity at this Cadiz Inc. agricultural operation would be reduced.

9.3 LAND USE, PLANNING AND POLICIES

Development of some vacant land in the Cadiz Project area for other uses will be precluded by the construction and operation of the Cadiz Pumping Plant, (and booster stations, if applicable) water conveyance facilities, project spreading basins, project wellfield and other support facilities. As a result, the long-term productivity of the land for other purposes will be reduced accordingly.

9.4 SOCIOECONOMICS

The Cadiz Project will result in short-term construction employment that will benefit the local labor supply, construction equipment and materials suppliers and service businesses that directly support Cadiz Project construction workers. It will indirectly benefit those businesses that supply raw materials and services to construction equipment and materials suppliers and the service providers who directly meet the needs of the construction teams. Over the long-term, the Cadiz Project will assist Metropolitan in meeting dry-year water supply needs in its service area. The Cadiz Project will help prevent more severe drought year water shortages that would adversely impact residents and businesses in Metropolitan's service area. Within the planning period, severe water use restrictions could potentially be reduced or avoided.

9.5 TOPOGRAPHY, GEOLOGY, SEISMICITY AND SOILS

Short- and long-term effects will occur to site topography and soils. Short-duration aggregate demand will result from the use of concrete for construction of structures and facilities, and for bedding material for water conveyance facilities. This short-duration demand will not significantly affect the local or regional availability of aggregate since adequate supplies of aggregate are available for Cadiz Project use. Minimal short- and long-duration effects will be expected due to geologic hazards in the Cadiz

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Project area. Short-duration effects to soils that could be caused by erosion will be mitigated by use of soil binders, watering and respreading of surface soil to encourage reestablishment of vegetation of exposed areas. Long-term impacts due to potential seismic events will be mitigated by construction of Cadiz Project facilities according to the Uniform Building Code and other seismic design features.

9.6 WATER RESOURCES

The Cadiz Project will not appreciably affect the availability of water resources for other purposes, since the aquifer system underlying the Cadiz Project area (where water will be stored or withdrawn from) is not connected to other watersheds or aquifer systems in the area. The Cadiz Project area overlying the affected aquifer system is also extremely remote, with little growth in population or employment. In the long-term, transfers of indigenous groundwater will be monitored and groundwater use will be limited to ensure replenishment to pre-Cadiz Project levels. Therefore, the long-term productivity of the region will not be impacted. Implementation of the mitigation measures included in the Cadiz Project will reduce construction-related impacts on stream crossings and water resources to below a level of significance. The increase in water storage and supply during dry years that will result from implementation of the Cadiz Project will improve overall water system reliability in the Metropolitan service area.

9.7 AIR QUALITY

The Cadiz Project will cause some short-term deterioration in existing air quality during the construction of the Cadiz Pumping Plant, water conveyance facilities, project spreading basins, project wellfield and support facilities. This increase in emissions will be reduced by mitigation measures included in the Cadiz Project. Long-term impacts will be negligible because operation of Cadiz Project facilities will not emit pollutants into the atmosphere in quantities that would exceed local air pollution control district standards. Therefore, no effects on the maintenance and enhancement of long-term productivity related to air quality will occur because of the implementation of the Cadiz Project.

9.8 TRANSPORTATION

The short-duration Cadiz project-generated traffic associated with construction activity will result in some decrease in the convenience afforded users of the regional roads that will be used to ship Cadiz Project equipment and supplies. In terms of the long-term operation of the transportation system, no disturbance is expected after completion of Cadiz Project activities and long-term productivity should not be affected. A minor long-term benefit to emergency access will be provided by non-public graded maintenance roads associated with the Cadiz Project facilities.

9.9 BIOLOGICAL RESOURCES

The Cadiz Project will result in the short-term loss of vegetation and wildlife habitat in some of the areas where the water conveyance facilities will be constructed and in construction equipment and supply storage yards. Permanent loss of vegetation and wildlife habitat will occur in the areas where the access roads are located for the Cadiz Project water conveyance facilities and power distribution facilities, project spreading basin and project wellfield. The gradual reestablishment of vegetation of areas within the Cadiz Project construction right-of-way will contribute to the long-term productivity of affected species and habitats. However, ecological recovery rates are expected to be relatively slow, resulting in potential longer term adverse effects to these areas.

9.10 ENERGY AND MINERAL RESOURCES

The Cadiz Project will not appreciably affect the short-term supply of energy in the region. The Cadiz Project will not impact mineral extraction in the area, nor are new mineral claims in the area anticipated. Therefore, short- and long-term mineral extraction operations will not be adversely affected by the Cadiz Project. The amount of energy required to operate the Cadiz Project will be available from the dedicated electrical supply established by Metropolitan for its Iron Mountain Pumping Plant. Therefore, the Cadiz Project will not appreciably affect the long-term productivity of the region with respect to energy and mineral resources.

9.11 HAZARDS AND HAZARDOUS MATERIALS

The Cadiz Project will result in short-term project-related hazards primarily associated with construction of the water conveyance facilities and other support facilities in an area where military ordnance is known to occur. However, mitigation measures included in the Cadiz Project require the survey for and removal of any ordnance within the right-of-way of Cadiz Project construction activities. A long-term hazard may be created should the water conveyance facilities fail during a seismic event, potentially flooding generally uninhabited areas adjacent to the Cadiz Project area. However, this is considered a remote possibility because the Cadiz Project facilities will be constructed according to the American Water Works Association and other applicable design standards. Cadiz Project facilities will be able to withstand all but a localized catastrophic earthquake. The Cadiz Project site is also located in a remote area with few residential or other land uses that could be flooded should there be a breach in the water conveyance facilities. Therefore, the Cadiz Project should not create a long-term hazard to people or property or reduce productivity.

9.12 NOISE

Implementation of the Cadiz Project will result in short-term, project-related noise impacts associated with the construction of the Cadiz Project facilities. No appreciable long term noise effects are anticipated.

9.13 PUBLIC SERVICES

Due to the remote location of the Cadiz Project and the nature of its operation, implementation of the Cadiz Project will not result in the significant short-term impacts on public services. Contractors will be required to provide on-site emergency first aid services during Cadiz Project construction. The facilities being installed or constructed do not create a demand for public services. The number of new long-term employees will be negligible and could be provided by the existing employment base. Therefore, there will not be an increase in the need for public facilities as a result of the Cadiz Project. Thus, the Cadiz Project will have no effect on the maintenance and enhancement of long-term productivity of the region related to public services.

9.14 UTILITIES AND SERVICE SYSTEMS

The Cadiz Project will not appreciably affect area or region utility or service systems and will, therefore, not adversely affect the long-term productivity of the region related to utilities and service systems.

9.15 AESTHETICS

Implementation of the Cadiz Project will create short-term disruptions of visual quality along the water conveyance facilities and power distribution facilities because of soil and vegetation disturbances and

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the visual contrast created between Cadiz Project structures and the existing landform. For the water conveyance facilities, over the long-term, soil and vegetation conditions will very gradually improve and diminish most of these impacts. However, the canal segment of the Eastern/Canal Alternative will remain a clearly visible man-made feature contrasting with surrounding terrain over the long-term. The visual impacts of the power distribution facilities installed along-side the water conveyance facilities will not be considered significant when taken into consideration with similar existing facilities and the totality of the entire Cadiz Project area and region.

9.16 CULTURAL RESOURCES

The Cadiz Project related field studies, data recovery and analyses will contribute to the present level of knowledge about cultural resources. Information resulting from the documentation of resources and the possible loss of one site should be useful in future efforts to interpret and educate people about the cultural resources in the Cadiz Project area. In the absence of the Cadiz Project, recovery and interpretation of these sites is not be expected to occur.

9.17 PALEONTOLOGICAL RESOURCES

The effects of the Cadiz Project include the loss of paleontological resources. However, Cadiz Project-related field studies, and data recovery and analyses will contribute to the present level of knowledge about paleontological resources in southeastern San Bernardino County. The information resulting from the recovery of fossils should be useful in future efforts to interpret and educate people about those resources. The Cadiz Project will affect only a small percentage of estimated paleontological resources in the region and will, therefore create no significant long-term loss of potential for exploration and recovery of these resources.

9.18 WILDERNESS/RECREATION

The Cadiz Project will not appreciably create a long-term effect on wilderness or recreation resources and will, therefore, not adversely affect the long-term productivity of the region related to these resources.

9.19 INDIAN TRUST ASSETS

The Cadiz Project facilities will not be developed on any Indian lands. The Cadiz Project will also not create any impacts that would affect lands owned by Indian tribes in the vicinity of the Cadiz Project area. In addition, the Cadiz Project will not create any short- or long-term effects on Indian Trust Assets. Therefore, no effects on the maintenance and enhancement of long-term productivity of Indian Trust Assets will occur as a result of the Cadiz Project.

9.20 ENVIRONMENTAL JUSTICE

Implementation of the Cadiz Project will not change the character of the area where the Cadiz Project facilities will be located. In addition, they will be located in a remote area away from population centers where environmental justice issues might arise. Therefore, the Cadiz Project will not create any environmental justice issues and will not interfere with the long-term productivity of the region.