

4.0 ENVIRONMENTAL ANALYSIS

4.0 UPDATES OF INFORMATION

This section contains information to update the Incremental Recycled Water Program Final EIR that was published on October 20, 2003. Relevant information that has been identified since that date has been included in one of the following five headings. This information will be used to evaluate the Preferred Program in the individual environmental analysis sections that follow the updates.

WATER QUALITY

Quality of recycled water produced by the Laguna Treatment Plant was reviewed to determine whether there were any changes in water quality that would affect analyses conducted for the EIR. No significant changes in water quality were found.

BIOLOGICAL RESOURCES

No changes regarding the legal status of special-status species were identified that relate to this Program..

REGULATIONS

The federal, state and local regulations were checked for changes or amendments since certification in November 2003. This information was obtained from the internet and the Environmental Law Reporter monthly newsletter. No changes were found for any of the regulations that apply to this project.

CUMULATIVE PROJECTS

The following projects are being added to Appendix D in the Program EIR as cumulative projects. The potential impacts of these projects are addressed in the environmental analysis sections that follow.

Federal Energy Regulatory Commission Order Amending License (106 FERC #61,065), Pacific Gas and Electric Company, Project No. 77-110

In this order, the Commission approved, with modifications, an application by Pacific Gas and Electric Company (PG&E) to amend the license for the Potter Valley Project No. 77. The Project's operating regime will be changed to benefit federally-listed threatened salmonids in California's Eel River Basin. This decision is the result of approximately 10 years of negotiations regarding the proposed operating regime.

The IRWP Final EIR anticipated potential changes in the operating regime due to the relicensing of the Potter Valley Project. Specifically, the Final EIR assumed the relicensing would result in a 15% reduction in Russian River flows, and incorporated this assumption into the modeling used to evaluate water quality impacts of the IRWP. The operating regime approved by the Commission in the relicensing decision does not differ substantially from

the operating regime evaluated in the Final EIR with respect to Russian River flows during the discharge season. For this reason, the Commission's decision does not affect the validity of the water quality modeling upon which the analysis in the IRWP Final EIR is based.

Federated Indians of Graton Rancheria Casino

This cumulative project, if constructed, would involve construction of a casino and associated facilities, including a hotel and spa. The property proposed for the project is located on five parcels at the intersection of Stony Point Road and Rohnert Park Expressway, adjacent to the boundaries of the City of Rohnert Park and within the unincorporated area of Sonoma County. The Tribe intends to use this land for, among other things, operation of a gaming enterprise. The Tribe currently intends to install one or more water wells on the property or the reservation and to construct facilities necessary to assure a fire flow of 2,700 to 3,500 gallons per minute for a two-hour duration. The Tribe may also explore and evaluate options with the Sonoma County Water Agency to identify a supply of water other than from new wells. To the extent feasible and commercially reasonable (as determined by the Tribe), buildings in the Project will be designed using water conservation techniques.

The Tribe currently intends to install an on-site wastewater treatment system. The Tribe may also explore and evaluate options with the Subregional wastewater system and the City of Santa Rosa to determine whether, and, if possible, how additional flow capacity can be accommodated by the Subregional waste water system. To the extent feasible and commercially reasonable (as determined by the Tribe), the Project will incorporate measures to minimize wastewater flows and use recycled water.

In order to mitigate potential impacts of the Project on storm water drainage resources, the Tribe intends to obtain a National Pollution Discharge Elimination system permit from the U.S. EPA if required by the federal Clean Water Act. (Memorandum of Understanding, 2003. Memorandum of Understanding between the City of Rohnert Park and the Federated Indians of the Graton Rancheria. 14 October 2003.)

Even though a firm project description is not available for this potential cumulative project and the project is not yet approved, the cumulative impacts of the casino have been evaluated in this Addendum based upon the following general assumptions: water withdrawal from groundwater could be up to half a million gallons a day; wastewater treatment would be via an on-site treatment plant; wastewater discharges to the Laguna de Santa Rosa could be up to a half a million gallons per day.

River Rock Casino

The River Rock Casino is owned and operated by the Dry Creek Band of Pomo Indians. The Casino includes a gaming facility and full-service restaurant and lounge. It is located on the Dry Creek Rancheria reservation in Alexander Valley. Wastewater from the facility is processed by an on-site treatment system with no discharge. Water is obtained from wells on site.

Rohnert Park General Plan Amendment

On September 5, 2002, the City of Rohnert Park entered into an agreement to settle litigation concerning the South County Resource Preservation Committee. In accordance with this settlement, in 2002, the City of Rohnert Park adopted a Resolution approving a General Plan amendment to remove certain acreage the City's Sphere of Influence and to amend related general plan text and figures. The affected acreage encompassed approximately 170.49 acres bounded by Valley House Road to the north, Petaluma Hill Road to the east, Railroad Avenue to the south, and the existing Rohnert Park City Limits to the west. In March 2003, the Local Agency Formation Commission of Sonoma County (LAFCO) approved a request by the City of Rohnert Park to amend the City's Sphere of Influence boundary by removing this land from the City's Sphere of Influence.

The City's General Plan Amendment included re-designating approximately 80 acres of the area, which is within the City's voter-approved Urban Growth Boundary, from Industrial to Open Space – Agricultural and Resource Management. The total area is currently in the unincorporated area of Sonoma County and has a Diverse Agriculture land use designation. (Local Agency Formation Commission of the County of Sonoma, Resolution No. 2416, Certifying Review and Consideration of the Information Contained in the Final Environmental Impact Report for the Rohnert Park 2000 General Plan, Making Findings and Determinations, and Approving a Sphere of Influence Amendment for the City of Rohnert Park (March 12, 2003).)

Draft Russian River Biological Assessment

The U.S. Army Corps of Engineers, the Sonoma County Water Agency (SCWA), and the Mendocino County Russian River Flood Control and Water Conservation Improvement District are undertaking a Section 7 Consultation under the federal Endangered Species Act with the National Oceanic and Atmospheric Administration (NOAA Fisheries) to evaluate the potential effects of their proposed operation and maintenance activities in the Russian River on listed salmonid species and their habitat.

On January 16, 2004, NOAA released a Draft Biological Assessment (January 16, 2004) (BA), provides a description of the environmental baseline and presents proposed structural changes to project facilities and operations and maintenance procedures. A previous Draft BA published by Entrix in September of 2003 was used to prepare the cumulative hydrology, groundwater, and water quality analyses in the Program EIR. In particular, the 2004 Draft B A has not changed substantially with respect to parameters related to the IRWP environmental analysis, that is, the extent of potential flow reduction in the Russian River during the discharge season. Therefore, the analysis in the Program EIR is still appropriate.

The Draft BA describes a project that involves:

- Changes to flows in various parts of the Russian River basin (see Sections 3.1 and 3.2 in COE and SCWA (2003)).
- Elimination of artificial sandbar breaching in the Russian River estuary (see Section 3.3 in COE and SCWA (2003)).

- Continued channel maintenance activities for flood and erosion control (see Section 3.4 in COE and SCWA (2003)).
- Continued implementation of habitat restoration activities (see Section 3.5 in COE and SCWA (2003)).
- Continued operation of fish facilities (see Section 3.6 in COE and SCWA (2003)).
- Changes to institutional agreements and constraints as needed to implement the above measures (see Section 3.7 in COE and SCWA (2003)). (U.S. Army Corps of Engineers and Sonoma County Water Agency. 2004. *Russian River Draft Biological Assessment*. 16 January 2004.)

REFERENCES

- 106 FERC 61,065, United States of America, Federal Energy Regulatory Commission, Pacific Gas and Electric Company, Project 77-110, Order Amending License, Issued January 28, 2004
- 2002 Draft Russian River Basin Fisheries Restoration Plan, California Department of Fish and Game
- Draft, November 2003. California Department of Fish and Game. "Recovery Strategy for California Coho Salmon (*Oncorhynchus kisutch*)", Public Review Draft
- Local Agency Formation Commission of the County of Sonoma. 2003. Resolution No. 2416, Certifying Review and Consideration of the Information Contained in the Final Environmental Impact Report for the Rohnert Park 2000 General Plan, Making Findings and Determinations, and Approving a Sphere of Influence Amendment for the City of Rohnert Park. 12 March, 3004.
- Memorandum of Understanding. 2003. Memorandum of Understanding between the City of Rohnert Park and the Federated Indians of the Graton Rancheria. 14 October 2003.
- "Short-Term Exposure to 17a-Ethynylestradiol Decreases the Fertility of Sexually Maturing Male Rainbow Trout (*Oncorhynchus mykiss*)", *Environmental Toxicology and Chemistry*, v.22, n.6 Jun03
- U.S. Army Corps of Engineers and Sonoma County Water Agency. 2004. Russian River Draft Biological Assessment. 16 January 2004.
- U.S.EPA. 2002. National Recommended Water Quality Criteria: 2002. EPA-822-R-02-047.
- "Waste Not, Want Not: The Potential for Urban Water Conservation in California", Pacific Institute, November 2003

4.1 LAND USE

Table 4.1-2 from the Program EIR presents Land Use criteria, and is presented below.

Table 4.1-2

Evaluation Criteria with Significance Thresholds – Land Use

| Evaluation Criteria | As Measured by | Significance Thresholds | Sources of Criteria |
|---|---|--------------------------------|--|
| 1. Will the IRWP be inconsistent with the policies of the Land Use Element or land use plan map of an adopted General Plan, or with adopted zoning regulations? | Acres of land | Greater than 0 acres of land | Land Use Element and land use plan map of the General Plans of Sonoma and Lake counties; cities of Cloverdale, Cotati, Healdsburg, Petaluma, Rohnert Park, Sebastopol and Santa Rosa; and Town of Windsor Zoning regulations of Sonoma and Lake counties; cities of Cloverdale, Cotati, Healdsburg, Petaluma, Rohnert Park, Sebastopol, and Santa Rosa; and Town of Windsor CEQA Guidelines Appendix G, Checklist Item IX (b). |
| 2. Will the Project physically divide an established community? | Physical barrier to movement within the community | Any such barrier | CEQA Guidelines Appendix G, Checklist Item IX (a). |
| 3. Will the IRWP introduce inappropriate uses in a Community Separator? | Acres of land within Community Separators developed in inappropriate uses | Greater than 0 acres of land | Sonoma County General Plan, Land Use Element, Objective LU-5.1 Santa Rosa General Plan, Land Use Element, Objective LUS-1c Land Use and Growth Management Element |
| 4. Will the IRWP increase the potential for conflict as a result of incompatible land uses? | Lineal feet of incompatible uses | Greater than 0 lineal feet. | Professional Judgment |

Table 4.1-2

Evaluation Criteria with Significance Thresholds – Land Use

| Evaluation Criteria | As Measured by | Significance Thresholds | Sources of Criteria |
|--|---|--------------------------------|----------------------------|
| 5. Will the IRWP convert non-urban land to urban uses for IRWP facilities? | Acres of land converted | Greater than 0 acres of land | Professional Judgment |
| 6. Will the IRWP convert public open space for IRWP facilities? | Acres of land not in accordance with restrictions on open space use | Greater than 0 acres of land | Professional Judgment |

LAGUNA PLANT UPGRADE COMPONENT

As evaluated in the Program EIR under Impacts 1.1.1 through 1.1.6, the Laguna Plant Upgrade will not result in a change in land use, a barrier within a community, or loss of open space, as the expanded facilities will be contained within the existing Laguna Plant site.

INDOOR WATER CONSERVATION COMPONENT

As evaluated in the Program EIR under Impacts 1.2.1 through 1.2.6, indoor water conservation will have no land use impacts.

URBAN IRRIGATION COMPONENT

As evaluated in the Program EIR under Impacts 1.4.1 through 1.4.6, urban irrigation will have no land use impacts

The Sonoma County Local Agency Formation Commission (LAFCO) recently approved a change in the Sphere of Influence (SOI) boundary in the southeast area of the City of Rohnert Park. The SOI change resulted from a 2002 legal settlement between the City and the South County Resources Preservation Committee. The boundary change did not change the land-use designation applicable to the area. Both before and after the boundary change, the site was within the unincorporated area of Sonoma County, and was designated Diverse Agriculture in the Sonoma County General Plan. The boundary change removed this area from the City of Rohnert Park’s SOI. The City of Rohnert Park’s General Plan had designated this area “Industrial.” Had LAFCO approved annexation of this area to the City, the land-use designation for the area would have changed from “Diverse Agriculture” under the County’s General Plan to “Industrial” under the City’s General Plan. In light of the boundary change in the SOI approved by LAFCO, the annexation of the area to the City is no longer reasonably foreseeable. Urban irrigation is a permitted use under either the County General Plan’s Diverse Agriculture designation or the City General Plan’s Industrial designation. Accordingly, the change in status of this area does not affect the analysis set forth in the Program EIR.

AGRICULTURAL IRRIGATION COMPONENT

As evaluated in the Program EIR, Impacts 1.5.1, 1.5.2 and 1.5.4 identify significant land use impacts resulting from agricultural irrigation on currently uncultivated lands. Portions of the potential North County agricultural irrigation area are located in the City of Cloverdale and agricultural uses within the City conflict with their General Plan and zoning regulations. In addition, maintenance of agricultural uses within the City could potentially divide parts of the City. Mitigation Measure 3.3.1 Site Facilities to Achieve Compatible Land Use, is proposed to address these impacts. However, it may not be possible to avoid locating agricultural uses in the city of Cloverdale, if sites in this area are needed to provide adequate area for agricultural reuse of recycled water. No additional feasible mitigation has been identified and this significant impact will be unavoidable. Agricultural irrigation with recycled water in areas that are currently cultivated will not result in a land use change.

As evaluated in the Program EIR under Impact 1.5.3, agricultural irrigation will not result in inappropriate uses in a Community Separator.

As evaluated in the Program EIR under Impact 1.5.5, Agricultural irrigation will not convert non-urban land to urban uses, since agriculture is not an urban use.

Impact 1.5.6 in the Program EIR identifies land use impacts related to the agricultural irrigation component consistency with Sonoma County Agriculture and Open Space District easements. Mitigation Measure 3.3.2 reduces this impact by providing funding to the Open Space District for the replacement on a one-for-one basis of the existing value of acreage in open space easements. The Program EIR found this impact to be less than significant after mitigation.

PIPELINES COMPONENT

As evaluated in the Program EIR under Impacts 1.6.1 through 1.6.6, the pipeline component will not have significant effects on land use based on criteria 1 through 6.

STORAGE COMPONENT

Impacts 1.7.1 and 1.7.4 in the Program EIR identify land use impacts related to the potential of the storage component to be inconsistent with a land use designation and create a land use conflict. Although Mitigation Measure 3.3.1, Site Facilities to Achieve Compatible Land Use reduces this impact, potential locations for storage facilities could be affected by considerations such as engineering requirements or land availability. No additional feasible mitigation has been identified and this significant impact will be unavoidable.

Impact 1.7.2 in the Program EIR identifies significant land use impacts related to the potential of the storage component to physically divide an established community. Although Mitigation Measure 3.3.1, Site Facilities to Achieve Compatible Land Use reduces this impact, it may not be possible to avoid locating storage sites in the cities of Cloverdale, Santa Rosa and Healdsburg if sites in these areas are needed to provide adequate capacity for

storage of recycled water. No additional feasible mitigation has been identified, and this significant impact will be unavoidable.

As evaluated in the Program EIR under Impact 1.7.3, storage reservoirs will be consistent with open space uses and will not be inappropriate in a Community Separator. The EIR found this impact to be less than significant.

As evaluated in the Program EIR under Impact 1.7.5, the storage component will not convert non-urban land to urban uses, because water areas are considered to be open space according to the Open Space Element of the Sonoma County General Plan.

Impact 1.7.6 in the Program EIR identifies a significant impact associated with conversion of open space. Mitigation Measure 3.3.2, Replacement of Open Space Easements, is proposed to reduce the impact to less than significant levels by providing funding to the Open Space District for the replacement on a one-for-one basis of the existing value of acreage in which the District holds an interest and where the use is found to be incompatible with the District's interest. The Program EIR found this impact to be less than significant after mitigation.

CREATED WETLANDS COMPONENT

As evaluated in the Program EIR under Impacts 1.8.1 through 1.8.5, the created wetlands component will have a less-than-significant impact on criteria 1 through 5.

Impact 1.8.6 in the Program EIR identifies a significant impact associated with conversion of open space from implementation of the created wetland component. Mitigation Measure 3.3.2, Replacement of Open Space Easements, is proposed to reduce the impact by providing funding to the Open Space District for the replacement on a one-for-one basis of the existing value of acreage in which the District holds an interest and where the use is found to be incompatible with the District's interest. The Program EIR found this impact to be less than significant after mitigation.

PUMP STATIONS AND TANKS COMPONENT

Impacts 1.9.1 and 1.9.4 in the Program EIR identify significant impacts. The pump station and tanks component may be inconsistent with a land use designation and may create a land use conflict. Although Mitigation Measure 3.3.1, Site Facilities to Achieve Compatible Land Use reduces this impact, it may not be possible in all cases to avoid locating facilities in a compatible land use designation or avoid all land use conflicts. No additional feasible mitigation has been identified and these significant impacts will be unavoidable.

As evaluated in the Program EIR under Impact 1.9.2, the pump station and tanks component sites will be relatively small in size and will not be large enough to physically divide a community; and therefore, there is no impact.

Impact 1.9.3 in the Program EIR identifies a less-than-significant impact associated with the location of pump stations or tanks in a Community Separator. Therefore, no mitigation is needed.

As evaluated in the Program EIR under Impact 1.9.5, the pump station and tanks component are public services facilities, not urban uses, and will not convert land to urban use; and therefore, there is no impact.

Impact 1.9.6 in the Program EIR identifies a significant impact associated with conversion of open space from siting of the pump stations and tanks component. Mitigation Measure 3.3.2, Replacement of Open Space Easements, is proposed to reduce the impact to less than significant by providing funding to the Open Space District for the replacement on a one-for-one basis of the existing value of acreage in which the District holds an interest and where the use is found to be incompatible with the District's interest. The Program EIR found this impact to be less than significant after mitigation.

GEYSERS STEAMFIELD EXPANSION COMPONENT

As evaluated in the Program EIR under Impact 1.10.1 through 1.10.6, the Geysers steamfield expansion component will have no land use impacts.

DIRECT DISCHARGE COMPONENT

As evaluated in the Program EIR under Impact 1.11.1 through 1.11.5, the direct discharge component will have no land use impacts.

Impact 1.11.6 in the Program EIR identifies a significant impact land use impact associated with the new discharge facilities along the Russian River. Mitigation Measure 3.3.2, Replacement of Open Space Easements, is proposed to reduce the impact to less than significant by replacing open space if the discharge facilities are not in accordance with restrictions on use of the open space. The Program EIR found this impact to be less than significant after mitigation.

INDIRECT DISCHARGE COMPONENT

Impacts 1.12.1 and 1.12.4 in the Program EIR identifies a significant land use impact relating to the potential of the indirect discharge component to be inconsistent with a land use designation. Although Mitigation Measure 3.3.1, Site Facilities to Achieve Compatible Land Use reduces this impact, the potential locations for facilities will be affected by other considerations, such as engineering requirements or land availability, and therefore, it may not be possible in all cases to locate facilities in a compatible land use designation or avoid all land use conflicts. No additional feasible mitigation has been identified and these significant impacts will be unavoidable.

As evaluated in the Program EIR under Impacts 1.12.2, 1.12.3, and 1.12.5, the indirect discharge component has no land use impacts.

Impact 1.12.6 in the Program EIR identifies a significant land use impact associated with the indirect discharge facilities east of Healdsburg. Mitigation Measure 3.3.2, Replacement of Open Space Easements, is proposed to reduce the impact by replacing open space if the

discharge facilities are not in accordance with restrictions on use of the open space. The Program EIR found this impact to be less than significant after mitigation.

ADVANCED MEMBRANE TREATMENT COMPONENT

Impacts 1.13.1 and 1.13.4 in the Program EIR identify a significant land use impact relating to the potential of the AMT facilities to be inconsistent with a land use designation. Although Mitigation Measure 3.3.1, Site Facilities to Achieve Compatible Land Use reduces this impact, the potential locations for the facilities may be affected by other considerations, such as engineering requirements or land availability, and therefore, it may not be possible in all cases to locate facilities in a compatible land use designation or avoid all land use conflicts. No additional feasible mitigation has been identified, and these significant impacts may be unavoidable.

As evaluated in the Program EIR under Impact 1.13.2, the AMT facilities would not physically divide an established community.

Impact 1.13.3 in the Program EIR identifies a significant land use impact because the AMT facilities would be a public service facility of sufficient size and quasi-industrial character as to be potentially incompatible with Community Separator policies. Although Mitigation Measure 3.3.1, Site Facilities to Achieve Compatible Land Use reduces this impact, the potential locations for the facilities may be affected by other considerations, and therefore, it may not be possible in all cases to locate facilities to avoid all land use conflicts. No additional feasible mitigation has been identified, and these significant impacts may be unavoidable.

As evaluated in the Program EIR under Impact 1.13.5, the AMT facilities would not convert non-urban land to urban uses.

Impact 1.13.6 in the Program EIR identifies a significant land use impact associated with the AMT facilities located on properties that are public open space. Mitigation Measure 3.3.2, Replacement of Open Space Easements, is proposed to reduce the impact by replacing open space if the facilities are not in accordance with restrictions on use of the open space. The Program EIR found this impact to be less than significant after mitigation.

CUMULATIVE PROJECTS

The cumulative land use impacts of project facilities are evaluated in Section 4.1 of the Program EIR. As noted there, all of the cumulative projects listed in Appendix D of the Program EIR have the potential to create land use impacts but are subject to appropriate land use and zoning requirements, and most would not be expected to have significant effects.

The cumulative impacts evaluated under Impact 1.1C and 1.4C remain significant as presented in the Program EIR. Both the IRWP and North County Agricultural Reuse Project still have the potential to introduce elements that are incompatible with existing land uses, including storage facilities, pump stations and other facilities. In addition, the Federated Indians of the Graton Rancheria Casino, west of Rohnert Park and near the Santa Rosa plain

storage area, has the potential to introduce elements that are incompatible with existing land uses because the Casino is a commercial use in a rural residential/agricultural area.

Impact 1.2C remains less than significant as presented in the Program EIR. The Casino, although an urban type use, is planned for an unincorporated area of Sonoma County outside the Rohnert Park city limits. It would thus not contribute to potential IRWP impacts on established communities.

Impact 1.3C in the Program EIR remains less than significant. The Casino will be located in the Rohnert Park-Santa Rosa Community Separator, and as a commercial use it would not be consistent with the policies for uses appropriate to Community Separators. However, the Preferred Program will not introduce an inappropriate use in a Community Separator. Therefore, the Preferred Program will not cumulatively contribute to this impact and it remains less than significant.

Impact 1.5C in the Program EIR remains less than significant. Although the Casino has the potential to convert non-urban land to an urban use, neither the IRWP nor the North County Agricultural Reuse Project would be considered urban uses. Therefore, the Preferred Program will not cumulatively contribute to this impact and it remains less than significant.

As evaluated under Impact 1.6C in the Program EIR, IRWP impacts on open space are expected to be fully mitigated and with mitigation would not contribute to cumulative loss of open space.

ENVIRONMENTAL IMPACTS FOR THE COMBINED ALTERNATIVES - PREFERRED PROGRAM

The Preferred Program combines five alternatives from the Program EIR and establishes both a target for recycled water use and a permissible range of recycled water use. The following illustrates the potential environmental impacts of the combined alternatives for the target and for the maximum amount of recycled water use identified for the range. The analysis of the environmental impacts of the combined alternatives that make up the Preferred Program follows the same methodology used in the Program EIR (Chapter 5). Details used in the analysis of environmental impacts for the Target and Range are presented in Appendix A.

Target

Significant land use impacts associated with individual components will not be changed by their combination with other components because of the site-specific nature of the impact. Impacts associated with storage, pump stations and tanks, and agricultural irrigation include inconsistency with land use and zoning, division of an established community, inappropriate use in a Community Separator and incompatible land uses. The Preferred Program will decrease the total acres of storage, will decrease the potential locations at which impacts will occur, and therefore will decrease the number of locations at which significant impacts will occur as well as the total area affected by those impacts when compared to individual alternatives. The number of pump stations may not change when compared to individual alternatives, and therefore will not change the impacts. There will be no significant land use

impacts associated with pipelines, so the additional acreage of pipeline construction will not result in a significant impact. Impacts of the target Preferred Program are reduced compared to those impacts that were identified in the Program EIR, and there will be no new significant impacts.

Range

Significant land use impacts associated with individual components will not be changed by their combination with other components because of the site-specific nature of the impact. Impacts associated with storage, pump stations and tanks, and agricultural irrigation include inconsistency with land use and zoning, division of an established community, inappropriate use in a Community Separator and incompatible land uses. The Preferred Program will decrease the total acres of storage, will decrease the potential locations at which impacts will occur, and therefore will decrease the number of locations at which significant impacts will occur as well as the total area affected by those impacts when compared to individual alternatives. The increased number of pump stations will increase the number of potential locations at which impacts for the Pump Stations component could occur, in comparison to the individual Program Alternatives, but the number of pump stations will not exceed that evaluated in Combination of Alternatives 11, and therefore will not result in new significant impacts. There will be no significant land use impacts associated with pipelines, so the additional acreage of pipeline construction will not result in a significant impact. Impacts of the high end of the range of the Preferred Program are reduced compared to those impacts that were identified in the Program EIR, and there will be no new significant impacts.

4.2 AGRICULTURE

Table 4.2-3 from the Program EIR presents criteria for Agricultural impacts, and is presented below.

Table 4.2-3

Evaluation Criteria with Significance Thresholds – Agriculture

| Evaluation Criteria | As Measured by | Significance Thresholds | Sources of Criteria |
|--|---|--------------------------------|---|
| 1. Will the IRWP cause loss of Farmland? | Acres of status farmland ¹ lost | Greater than 0 acres | CEQA Guidelines Appendix G, Checklist Item II (a) |
| 2. Will the IRWP cause conflict with Williamson Act contracts? | Acres of land that will be removed from Williamson Act contracts as a result of the IRWP. | Greater than 0 acres | CEQA Guidelines Appendix G, Checklist Item II (b) ² California Land Conservation Act of 1965 |
| 3. Will the IRWP reduce agricultural soil productivity due to erosion of topsoil from application of recycled water? | Acres of erodible soils irrigated by recycled water and not subject to erosion control plans under the Sonoma County Vineyard Erosion and Sediment Control Ordinance or the California Forest Practice Rules. | Greater than 0 acres. | CEQA Guidelines Appendix G, Checklist Item II (c) ³ Sonoma County Vineyard Erosion and Sediment Control Ordinance. California Forest Practice Rules (California Department of Forestry and Fire Protection 2003) |

Table 4.2-3

Evaluation Criteria with Significance Thresholds – Agriculture

| Evaluation Criteria | As Measured by | Significance Thresholds | Sources of Criteria |
|---|---|--|--|
| 4. Will the IRWP reduce agricultural soil productivity due to build-up of trace elements or salinity? | <p>a. Suitability of recycled water for irrigation (pH units, mg/l, or mmhos/cm)</p> <p>b. Metals loading (kilograms/hectare) in soils from application of recycled water and fertilizer/manure</p> | <p>Exceedence of FAO Guidelines</p> <p>Exceedence of state guidelines or federal rules</p> | <p>CEQA Guidelines Appendix G, Checklist Item II (c)³</p> <p>United Nations Food and Agricultural Organization (FAO) Irrigation Water Guidelines(FAO, 1994) Government of Canada, Prairie Farm Rehabilitation Administration, Irrigation and Salinity (Canada 2000)</p> <p>CEQA Guidelines Appendix G, Checklist Item II (c)³</p> <p>State Water Resources Control Board Report #84-1 (Pettygrove G.S. and Asano, T. 1996)</p> <p>EPA 503 Rules for applications of sludge</p> |
| 5. Will the IRWP result in the conversion of timberlands to non-timber uses? | Acres of timberland converted to non-timber use without approval of a Timberland Conversion Permit or an Exemption | Greater than 0 acres | <p>CEQA Guidelines Appendix G, Checklist Item II (c)³</p> <p>California Timber Practice Act, (Z'berg-Nejedly Forest Practice Act), Division 4, Chapter 8, Public Resources Code</p> |

Table 4.2-3

Evaluation Criteria with Significance Thresholds – Agriculture

| Evaluation Criteria | As Measured by | Significance Thresholds | Sources of Criteria |
|---|---|-------------------------|--|
| 6. Will the IRWP cause damage to adjacent vineyards by increasing glassy-winged sharpshooter populations? | Plants not locally grown or purchased from nurseries with approved inspection programs. | Greater than 0 plants | CEQA Guidelines Appendix G, Checklist Item II (c) ³ Sonoma County Agricultural Commissioner Sonoma County Viticulture Advisor |

LAGUNA PLANT UPGRADE COMPONENT

As evaluated in the Program EIR under Impact 2.1.1 through 2.1.6, the Laguna plant upgrade component will have no agricultural impacts.

INDOOR WATER CONSERVATION COMPONENT

As evaluated in the Program EIR under Impact 2.2.1 through 2.2.6, the indoor water conservation component will have no agricultural impacts.

URBAN IRRIGATION COMPONENT

As evaluated in the Program EIR under Impact 2.4.1 through 2.4.6, the urban irrigation component will have no agricultural impacts.

AGRICULTURAL IRRIGATION COMPONENT

Impact 2.5.1 in the Program EIR identifies a beneficial impact from the agricultural irrigation that brings new land into agricultural production, thus raising its value under the categories of the State Farmlands Mapping Program.

As evaluated in the Program EIR under Impact 2.5.2, 2.5.5, and 2.5.6, the agricultural irrigation component will not impact agriculture based on criteria 2, 5, and 6. Measure 3.2.1, Purchase Locally Grown or Inspected Plants, included as part of the IRWP, will require all plants to be locally grown or come from a nursery with an approved monitoring program for the glassy-winged sharpshooter.

Impact 2.5.3 in the Program EIR identifies a less-than-significant impact to soil productivity due to erosion from agricultural irrigation. Measure 3.2.4., Implement BMPs for Runoff, Erosion, and Chemical Use, has been adopted by the City to prevent soil erosion, loss of

topsoil, and loss of productivity. With implementation of this measure, this impact is identified as less than significant.

Impact 2.5.4 in the Program EIR identifies a less-than-significant impact relating to the reduction of soil productivity from a buildup of trace elements or salinity from agricultural irrigation. As the findings presented in the Program EIR indicate, accumulation of metals in soil is very low and will not affect soil productivity or toxicity.

PIPELINES COMPONENT

Impact 2.6.1 in the Program EIR identifies a significant unavoidable loss of farmland associated with construction of the pipeline component. The Subregional System may choose to prohibit future crops over certain pipeline easements which could result in permanent loss of Farmland. Mitigation Measure 3.3.3, Avoid Status Farmland and Land under Williamson Act Contracts, is proposed to reduce the impacts. However, there may be some instances where the pipeline route cannot be altered, and in these cases the impact will remain significant after mitigation. No other feasible mitigations have been identified therefore; this impact is significant and unavoidable.

As evaluated in the Program EIR under Impact 2.6.2 through 2.6.6, the pipeline component will have no agricultural impacts. Measure 3.2.1, Purchase Locally Grown or Inspected Plants, included as part of the IRWP, will require all plants to be locally grown or come from a nursery with an approved monitoring program for the glassy-winged sharpshooter.

STORAGE COMPONENT

Impacts 2.7.1 and 2.7.2 in the Program EIR identify a significant, unavoidable loss of farmland and conflicts with Williamson Act Contracts associated with construction of the storage component. Mitigation Measure 3.3.3, Avoid Status Farmland and Land under Williamson Act Contracts, is proposed to reduce the impact. However, while storage facilities will be located to avoid status farmlands and farmlands under Williamson Act contracts where feasible, in some cases there may be no alternative location, if there are no other lands available with suitable characteristics that meet the storage facility's specific siting requirements. Because there will be no other feasible mitigation for the permanent significant impacts due to loss of status and Williamson Act contract farmland, the impact will remain significant and unavoidable.

Impact 2.7.3 and 2.7.4 in the Program EIR identify a less-than-significant impact for evaluation criteria 3 and 4 from construction of the storage component.

As evaluated in the Program EIR under Impact 2.7.5 and 2.7.6, the storage component will not impact agriculture. Measure 3.2.1, Purchase Locally Grown or Inspected Plants, included as part of the IRWP, will require all plants to be locally grown or come from a nursery with an approved monitoring program for the glassy-winged sharpshooter.

CREATED WETLANDS COMPONENT

Impact 2.8.1 and 2.8.2 in the Program EIR identify a significant loss of status farmland and farmland under Williamson Act contracts associated with the created wetland component. Mitigation Measure 3.3.3, Avoid Status Farmland and Land under Williamson Act Contracts, is proposed to reduce the impact. However, while created wetlands will be located to avoid status farmlands and farmlands under Williamson Act contracts where feasible, in some cases there may be no alternative location, if there are no other lands available with suitable characteristics. Because there will be no other feasible mitigation for the permanent significant impacts due to loss of status and Williamson Act contract farmland, the impact will remain significant and unavoidable.

As evaluated in the Program EIR under Impact 2.8.3 through 2.8.6, the created wetland component will have no agricultural impacts. Measure 3.2.1, Purchase Locally Grown or Inspected Plants, included as part of the IRWP, will require all plants to be locally grown or come from a nursery with an approved monitoring program for the glassy-winged sharpshooter.

PUMP STATIONS AND TANKS COMPONENT

Impact 2.9.1 and 2.9.2 in the Program EIR identify a significant loss of status farmland and farmland under Williamson Act contracts associated with the pump stations and tanks component. Mitigation Measure 3.3.3, Avoid Status Farmland and Land under Williamson Act Contracts, is proposed to reduce the impact. However, while pump stations and tanks will be located to avoid status farmlands and farmlands under Williamson Act contracts where feasible, in some cases there may be no alternative location, if there are no other lands available with suitable characteristics. Because there will be no other feasible mitigation for the permanent significant impacts due to loss of status and Williamson Act contract farmland, the impact will remain significant and unavoidable.

As evaluated in the Program EIR under Impact 2.9.3 through 2.9.6, the pump stations and tanks component will have no agricultural impacts. Measure 3.2.1, Purchase Locally Grown or Inspected Plants, included as part of the IRWP, will require all plants to be locally grown or come from a nursery with an approved monitoring program for the glassy-winged sharpshooter.

GEYSERS STEAMFIELD EXPANSION COMPONENT

As evaluated in the Program EIR under Impact 2.10.1 through 2.10.6, the geysers steamfield expansion component will have no agricultural impacts.

DIRECT DISCHARGE COMPONENT

Impacts 2.11.1 and 2.11.2 in the Program EIR identify a significant loss of status farmland and farmland under Williamson Act contract with construction of the Russian River outfall. Mitigation Measure 3.3.3, Avoid Status Farmland and Land under Williamson Act Contracts, is proposed to reduce the impact. However, while the Russian River outfall will be located to

avoid status farmlands and farmlands under Williamson Act contracts where feasible, in some cases there may be no alternative location, if there are no other lands available with suitable characteristics. Because there will be no other feasible mitigation for the permanent significant impacts due to loss of status and Williamson Act contract farmland, the impact will remain significant and unavoidable.

As evaluated in the Program EIR under Impacts 2.11.3 through 2.11.6, the direct discharge component will have no agricultural impacts. Measure 3.2.1, Purchase Locally Grown or Inspected Plants, included as part of the IRWP, requires all plants to be locally grown or come from a nursery with an approved monitoring program for the glassy-winged sharpshooter.

INDIRECT DISCHARGE COMPONENT

Impacts 2.12.1 and 2.12.2 in the Program EIR identify a significant loss of status farmland and farmland under Williamson Act contract with construction of the indirect discharge facilities along the Russian River or Dry Creek. Mitigation Measure 3.3.3, Avoid Status Farmland and Land under Williamson Act Contracts, is proposed to reduce the impact. However, indirect discharge facilities will be located to avoid status farmlands and farmlands under Williamson Act contracts where feasible, in some cases there may be no alternative location, if there are no other lands available with suitable characteristics. Because there will be no other feasible mitigation for the permanent significant impacts due to loss of status and Williamson Act contract farmland, the impact will remain significant and unavoidable.

As evaluated in the Program EIR under Impact 2.12.3 through 2.12.6, the indirect discharge component will have no agricultural impacts. Measure 3.2.1, Purchase Locally Grown or Inspected Plants, included as part of the IRWP, requires all plants to be locally grown or come from a nursery with an approved monitoring program for the glassy-winged sharpshooter.

ADVANCED MEMBRANE TREATMENT COMPONENT

Impacts 2.13.1 and 2.13.2 in the Program EIR identify a significant loss of status farmland and farmland under Williamson Act contract with construction of the AMT facilities along the Russian River or Dry Creek. Mitigation Measure 3.3.3, Avoid Status Farmland and Land under Williamson Act Contracts, is proposed to reduce the impact. However, in some cases there may be no alternative location. Because no other feasible mitigation for the permanent significant impacts due to loss of status and Williamson Act contract farmland has been identified, the impact remains significant and unavoidable.

As evaluated in the Program EIR under Impact 2.13.3 through 2.13.6, the AMT facilities will not cause erosion of agricultural soils or build-up of trace elements or salt in the surrounding agricultural soils due to application of recycled water, or increase glassy-winged sharpshooter populations. Measure 3.2.1, Purchase Locally Grown or Inspected Plants, included as part of the IRWP, requires all plants to be locally grown or come from a nursery with an approved monitoring program for the glassy-winged sharpshooter.

CUMULATIVE IMPACTS

The cumulative agricultural impacts of Program facilities are evaluated in Section 4.2 of the Program EIR. As noted there, because the Program has no impacts based on criteria 5 and 6, there will be no cumulative effects to agriculture based on those criteria. The cumulative loss of farmland and conflicts with Williamson Act contracts are evaluated under Impact 2.1.C and Impact 2.2.C in the Program EIR. The Federated Indians of Graton Rancheria Casino, west of Rohnert Park, may cause loss of farmland and Williamson Act contracts in the area; the Rohnert Park General Plan Amendment restores farmland. The addition of these projects will not warrant a change in the finding of less than significant for this cumulative impact.

Impact 2.3C, the reduction of agricultural soil productivity due to erosion, remains less than significant with the addition of the new cumulative projects. Neither the Casino nor the Rohnert Park General Plan Amendment will cause significant effects on soil productivity.

Impact 2.4C, reduction of agricultural soil productivity due to build-up of trace elements also remains less than significant since this impact occurs on a localized basis, as noted in the Program EIR.

ENVIRONMENTAL IMPACTS FOR THE COMBINED ALTERNATIVES - PREFERRED PROGRAM

The Preferred Program combines five alternatives from the Program EIR and establishes both a target for recycled water use and a permissible range of recycled water use. Details for the combination of alternatives are included in Appendix A. The following illustrates the potential environmental impacts of the combined alternatives for the target and for the maximum amount of recycled water use identified for the range. The analysis of the environmental impacts of the combined alternatives that make up the Preferred Program follows the same methodology used in the Program EIR (Chapter 5). Details used in the analysis of environmental impacts for the Target and Range are presented in Appendix A.

Target

Total area of permanent disturbance (excluding disturbance for agricultural irrigation) would be greater by 36 acres than any of the other individual alternatives, but less than identified in the Program EIR for Combination of Alternatives 13. This impact has been determined to be significant. Potential impacts associated with agricultural irrigation will be the same as those identified for Alternative 4, but will apply to a much smaller acreage of irrigation lands. Impacts of the target Preferred Program are reduced compared to those impacts that were identified in the Program EIR, and there will be no new significant impacts.

Range

The area of permanent disturbance (excluding disturbance for agricultural irrigation) would be greater by 93 acres than any of the other individual alternatives, but less than identified in the Program EIR for Combination of Alternatives 13. This impact has been determined to be significant. Potential impacts associated with agricultural irrigation will be the same as those

identified for Alternative 4, but will apply to a much smaller acreage of irrigation lands. Impacts of the high end of the range of the Preferred Program are reduced compared to those impacts that were identified in the Program EIR, and there will be no new significant impacts

4.3 GEOLOGY, SOILS, AND SEISMICITY

Table 4.3-7 from the Program EIR presents criteria for geology, soils, and seismicity impacts, and is presented below.

Table 4.3-7

Evaluation Criteria with Significance Thresholds – Geology, Soils, and Seismicity

| Evaluation Criteria | As Measured by | Significance Thresholds | Sources of Criteria |
|--|---|---|---|
| 1. Will the IRWP be located within an area of unstable slope conditions? | Geotechnical assessment of landslide risk potential | Location of facilities in area mapped as Mostly Landslide <i>or</i> Many Landslides | The rating takes into consideration the prevalence of mapped landslides in the area. Landslides and other slope failure could occur in areas where landslides are common. Areas with Few Landslides or Flat Land are expected to have stable slope conditions CEQA Guidelines Appendix G, Checklist Item VI (c). |
| 2. Will the IRWP be subject to ground rupture due to location near a surface trace of an active fault? | Location of facilities within an Alquist-Priolo Earthquake Fault Zone | Any portion of facilities within zone | Earthquake fault zones are established under the Alquist-Priolo Earthquake Fault Zoning Act by the California Division of Mines and Geology (CDMG), now the California Geological Survey (CGS), to regulate development near active faults to mitigate the hazard of surface rupture. The Act applies only to structures for human occupancy but the zones accurately delineate areas at greatest risk for surface fault rupture. CEQA Guidelines Appendix G, Checklist Item VI (a)(i) |

Table 4.3-7

Evaluation Criteria with Significance Thresholds – Geology, Soils, and Seismicity

| Evaluation Criteria | As Measured by | Significance Thresholds | Sources of Criteria |
|---|--|--|---|
| 3. Will the IRWP be located in areas with soils and groundwater conditions that are susceptible to liquefaction during an earthquake? | Geotechnical assessment of potential for liquefaction or more detailed mapping, where available | A rating of High for liquefaction for program facilities except irrigation pipes | Certain soil types, especially fine sandy soils, underlain by shallow groundwater, are prone to liquefaction. The Division of Mines and Geology has identified areas where soil properties are highly susceptible to liquefaction (CDMG 1997, <i>Special Publication 117</i> .) Program facilities in these areas would be vulnerable to damage from liquefaction. CEQA Guidelines Appendix G, Checklist Item VI (c) |
| 4. Will the IRWP induce seismicity? | Program induced ground shaking intensity | Ground shaking effects of Modified Mercalli ¹ intensity V or greater increasing in frequency by 20% or more | Earthquakes that produce ground shaking intensity of Modified Mercalli IV (generally corresponds to a magnitude 3 earthquake within an epicentral distance of several miles) are not generally associated with damage to people or property. CEQA defines damage to people or property as a significant effect. |
| 5. Will earthquake-induced strong ground shaking damage IRWP facilities? | Structural and geotechnical design and construction not in conformance with requirements of regulatory agencies and applicable building codes (refer to text). | Construction not in conformance with requirements of the Division of Safety of Dams or applicable building codes. | Uniform Building Code (UBC 1997) as amended locally and Division of Safety of Dams regulations. CEQA Guidelines Appendix G, Checklist Item VI (a)(ii and iii) |

¹ Modified Mercalli intensity scale is used because it describes the groundshaking affects of an earthquake at a given location. Scales, such as the Richter scale, based on Magnitude, measure total energy released in an earthquake and do not account for distance from the epicenter or soil type.

Table 4.3-7

Evaluation Criteria with Significance Thresholds – Geology, Soils, and Seismicity

| Evaluation Criteria | As Measured by | Significance Thresholds | Sources of Criteria |
|---|---|---|---|
| 6. Will construction of the IRWP cause off-site water-related erosion? | Construction activities not in compliance with requirements of the program National Pollutant Discharge Elimination System Permit (NPDES), Division of Safety of Dams regulations, or building and grading codes. | Construction not in compliance with NPDES, Division of Safety of Dams, or building and grading codes. | Clean Water Act regulations, Division of Safety of Dams regulations, and local building or grading ordinances (refer to text). |
| 7. Will IRWP be exposed to damage due to expansive soils? | Shrink-swell potential as rated in Sonoma County Soil Survey (Soil Conservation Service 1972) | Any construction inconsistent with standard engineering practices | The USDA Soil Conservation Service (SCS) indicates that: "If the shrink-swell potential is rated moderate to very high, shrinking and swelling can damage buildings, roads, and other structures." CEQA Guidelines Appendix G, Checklist Item VI (d) |
| 8. Will IRWP be exposed to damage due to construction on corrosive soils? | Corrosion potential as rated in Sonoma County Soil Survey (SCS 1972) | Any construction inconsistent with standard engineering practices | The Natural Resources Conservation Service (formerly SCS) indicates that soils with High corrosion can damage uncoated steel and concrete by chemical actions that dissolve and weaken the material. |
| 9. Will the IRWP be an incompatible land use type in the MRZ-2 classification, designated quarry area, or in The Geysers? | <p>a. Acres of MRZ-2 land developed in incompatible uses</p> <p>b. Acres of quarry site designated by the ARM plan developed in incompatible uses</p> | <p>Greater than 0 acres of land</p> <p>Greater than 0 acres of land</p> | <p>Sonoma County General Plan and the Mineral Land Classification of the Division of Mines and Geology (1989). CEQA Guidelines Appendix G, Checklist Item X (a)</p> <p>Sonoma County Aggregate Resources Management (ARM) Plan (1994). CEQA Guidelines Appendix G, Checklist Item X (a)</p> |

Table 4.3-7

Evaluation Criteria with Significance Thresholds – Geology, Soils, and Seismicity

| Evaluation Criteria | As Measured by | Significance Thresholds | Sources of Criteria |
|--|--|------------------------------|--|
| | c. Acres of Geysers developed in incompatible uses | Greater than 0 acres of land | Sonoma County General Plan Lake County Geothermal Element BLM [30 United States Code 1001-1025; 43 CFR Part 3200] |
| 10. Will the IRWP cause a substantial adverse change to a hot spring or other unique geologic feature. | Alternation of a unique geologic feature | Any alteration | CEQA Guidelines Appendix G, Checklist Item V(c) |

LAGUNA PLANT UPGRADE COMPONENT

As evaluated in the Program EIR under Impact 3.1.1, 3.1.2, 3.1.4, 3.1.5, and 3.1.7 through 10, Laguna Plant Upgrade component will have no geologic impacts.

Impact 3.1.3 in the Program EIR for the Laguna Plant Upgrade is considered less than significant relative to liquefaction.

As evaluated in the Program EIR under Impact 3.1.6, off-site water-related erosion could occur if precipitation of sufficient intensity occurred during phases of the construction in which areas of disturbed soil were left exposed. Measures to reduce these impacts are included in the project (see Measure 3.2.3, Storm Water Pollution Prevention Plan). The Program EIR found that impacts will be less than significant.

INDOOR WATER CONSERVATION COMPONENT

As evaluated in the Program EIR under Impacts 3.2.1 through 3.2.10, the indoor water conservation component will not have geologic impacts based on evaluation criteria 1 through 10.

URBAN IRRIGATION COMPONENT

Impact 3.4.1 in the Program EIR identifies significant impacts resulting from the potential for urban irrigation component to be located in areas of unstable slopes. Mitigation Measure 3.3.4, Slope Stabilization Design, reduces this impact to a level below significance by implementing standard engineering practices as needed. The Program EIR found this impact to be less than significant after mitigation.

As evaluated in the Program EIR under Impact 3.4.2, 3.4.4, 3.4.9, and 3.4.10, the urban irrigation component will not have any geologic impacts based on evaluation criteria 2, 4, 9, or 10.

Impact 3.4.3 in the Program EIR identifies a significant impact associated with the location of urban irrigation facilities within an area with high potential for liquefaction. Mitigation Measure 3.3.7, Reduce Risk of Damage due to Liquefaction, is proposed to address this impact. The Program EIR found this impact to be less than significant after mitigation.

Impact 3.4.5 through 3.4.8 in the Program EIR identifies less than significant impacts for the urban irrigation component based on evaluation criteria 5 through 8. No mitigation is needed.

AGRICULTURAL IRRIGATION COMPONENT

Impact 3.5.1 in the Program EIR identifies a significant impact associated with the location of agricultural irrigation components in locations of unstable slope conditions in the agricultural irrigation areas in North County, east of Rohnert Park, and in the Santa Rosa Plain. Mitigation Measure, 3.3.4, Slope Stabilization Design, is proposed to address this impact. The Program EIR found this impact to be less than significant after mitigation.

Impact 3.5.2 in the Program EIR identifies a significant impact associated with the location of agricultural irrigation areas in the North County and East of Rohnert Park that could be located in an area subject to ground rupture due to its location near a surface trace of an active fault. Mitigation measure 3.3.5, Site Facilities to Avoid Alquist-Priolo Zones, is proposed to address this impact. The Program EIR found this impact to be less than significant after mitigation.

Impact 3.5.3 in the Program EIR identifies a less-than-significant impact associated with the location of agricultural irrigation facilities within an area with high potential for liquefaction. No mitigation is needed.

As evaluated in the Program EIR under Impact 3.5.4, the agricultural irrigation component would not induce seismicity.

As evaluated in the Program EIR under Impact 3.5.5 and 3.5.6, the agricultural irrigation component will have less than significant geologic impacts based on evaluation criteria 5 and 6. No mitigation is needed.

As evaluated in the Program EIR under Impact 3.5.7 and 3.5.8, the agricultural irrigation component may be exposed to expansive or corrosive soils. The impact is less than significant and does not require mitigation.

As evaluated in the Program EIR under Impact 3.5.9, agricultural irrigation facilities may be located in land classified as MRZ-2 along the Russian River and one designated quarry site near Healdsburg. Agricultural irrigation in these areas is a compatible land use. The Program EIR found this impact to be less than significant.

As evaluated in the Program EIR under Impact 3.5.10, the agricultural irrigation component would not cause a change to a hot spring, or other unique geologic feature.

PIPELINES COMPONENT

Impact 3.6.1 in the Program EIR identifies a significant impact associated with the potential siting of the pipeline component in areas of unstable slope conditions. Mitigation Measure 3.3.4, Slope Stabilization Design, is proposed to address this impact; however, the mitigation is not feasible in some areas and agricultural irrigation facilities will be at risk of damage or failure throughout their life. No additional feasible mitigation has been identified, and this significant impact will be unavoidable.

Impact 3.6.2 in the Program EIR identifies a significant impact associated with potential siting of pipelines in the North County and East of Rohnert Park. These areas could be subject to ground rupture due to pipeline location near a surface trace of an active fault. Mitigation Measure 3.3.5, Site Facilities to Avoid Alquist-Priolo Zones, and 3.3.6 Earthquake Preparedness and Emergency Response Program are proposed to address this impact. The Program EIR found this impact to be less than significant after mitigation.

Impact 3.6.3 in the Program EIR identifies a significant impact associated with pipelines located in areas susceptible to liquefaction during an earthquake. Mitigation Measure 3.3.7, Reduce Risk of Damage due to Liquefaction, is proposed to address this impact. The Program EIR found this impact to be less than significant after mitigation.

As evaluated in the Program EIR under Impact 3.6.4, pipelines would not induce seismicity.

As evaluated in the Program EIR under Impacts 3.6.5 and 3.6.6, the agricultural irrigation component will have less-than-significant geologic impacts based on evaluation criteria 5 and 6.

As evaluated in the Program EIR under Impact 3.6.7 and 3.6.8, pipelines may be exposed to expansive or corrosive soils. The Program EIR found this impact to be less than significant.

As evaluated in the Program EIR under Impact 3.6.9, pipelines may be located in land classified as MRZ-2 zones, designated quarry areas, or in The Geysers. The Program EIR found this impact to be less than significant.

As evaluated in the Program EIR under Impact 3.6.10, pipelines will not cause a change to a hot spring, or other unique geologic feature.

STORAGE COMPONENT

Impact 3.7.1 in the Program EIR identifies a significant impact associated with the potential location of storage facilities in areas of unstable slope conditions. Mitigation Measure 3.3.4, Slope Stabilization Design, is proposed to address this impact. The Program EIR found this impact to be less than significant after mitigation.

Impact 3.7.2 in the Program EIR identifies a significant impact associated with the potential location of storage facilities in the North County and East of Rohnert Park area. The storage facilities could be located in areas subject to ground rupture. Mitigation Measure 3.3.5, Site Facilities to Avoid Alquist-Priolo Zones, is proposed to address this impact. The Program EIR found this impact to be less than significant after mitigation.

Impact 3.7.3 in the Program EIR identifies a significant impact associated with the potential location of storage facilities in areas susceptible to liquefaction during an earthquake. Mitigation Measure 3.3.7, Reduce Risk of Damage due to Liquefaction, is proposed to address this impact. The Program EIR found this impact to be less than significant after mitigation.

As evaluated in the Program EIR under Impact 3.7.4, storage facilities will not induce seismicity.

As evaluated in the Program EIR under Impacts 3.7.5 and 3.7.6, storage facilities have less than significant impacts under criteria 5 and 6, and do not require mitigation.

As evaluated in the Program EIR under Impact 3.7.7 and 3.7.8, storage facilities may be exposed to expansive or corrosive soils. The impact is less than significant and does not require mitigation.

Impact 3.7.9 in the Program EIR identifies a significant impact associated with the potential location of storage facilities in an MRZ-2 classification along the Russian River and storage facilities in an incompatible land use near quarries in the North County and East of Santa Rosa. Mitigation Measure 3.3.1, Site Facilities to Achieve Compatible Land Use, is proposed to reduce the impact; however, it may not be possible in all cases to locate facilities in a compatible land use designation or avoid all land use conflicts. No additional feasible mitigation has been identified and this significant impact will be unavoidable.

As evaluated in the Program EIR under Impact 3.7.10, construction and operation of storage facilities will not cause a change to a hot spring, or other unique geologic feature.

CREATED WETLANDS COMPONENT

Impact 3.8.1 in the Program EIR identifies a significant impact associated with the potential location of created wetlands in areas of unstable slope conditions. Mitigation Measure 3.3.4, Slope Stabilization Design, is proposed to address this impact. The Program EIR found this impact to be less than significant after mitigation.

Impact 3.8.2 in the Program EIR identifies a significant impact associated with the potential location of created wetlands in the North County and East of Rohnert Park that could be located in areas subject to ground rupture. Mitigation Measure 3.3.5, Site Facilities to Avoid Alquist-Priolo Zones, is proposed to address this impact. The Program EIR found this impact to be less than significant after mitigation.

Impact 3.8.3 in the Program EIR identifies a significant impact associated with the potential location of created wetlands in areas susceptible to liquefaction during an earthquake.

Mitigation Measure 3.3.7, Reduce Risk of Damage due to Liquefaction, is proposed to address this impact. The Program EIR found this impact to be less than significant after mitigation.

As evaluated in the Program EIR under Impact 3.8.4, created wetlands will not induce seismicity.

As evaluated in the Program EIR under Impact 3.8.5 and 3.8.6, created wetlands may have geologic impacts based on evaluation criteria 5 and 6. The impact is less than significant and does not require mitigation.

As evaluated in the Program EIR under Impact 3.8.7 and 3.8.8, created wetlands may be exposed to expansive or corrosive soils. The impact is less than significant and does not require mitigation.

Impact 3.8.9 in the Program EIR identifies a significant impact associated with the potential location of created wetlands in an MRZ-2 classification along the Russian River or near quarries in the North County and East of Santa Rosa. Mitigation Measure 3.3.1, Site Facilities to Achieve Compatible Land Use, is proposed to reduce the impact; however, it may not be possible in all cases to locate wetlands in a compatible land use designation or avoid all land use conflicts. No additional feasible mitigation has been identified, and this significant impact will be unavoidable.

As evaluated in the Program EIR under Impact 3.8.10, construction of created wetlands will not cause a change to a hot spring, or other unique geologic feature.

PUMP STATIONS AND TANKS COMPONENT

Impact 3.9.1 in the Program EIR identifies a significant impact associated with the potential location of pump stations and tanks in areas of unstable slope conditions. Mitigation Measure 3.3.4, Slope Stabilization Design, is proposed to address this impact. The Program EIR found this impact to be less than significant after mitigation.

Impact 3.9.2 in the Program EIR identifies a significant impact associated with the potential location of pump stations and tanks in the North County and East of Rohnert Park. The facilities could be located in areas subject to ground rupture. Mitigation Measure 3.3.5, Site Facilities to Avoid Alquist-Priolo Zones, and Mitigation Measure 3.3.6 Earthquake Preparedness and Emergency Response Program, are proposed to address this impact. The Program EIR found this impact to be less than significant after mitigation.

Impact 3.9.3 in the Program EIR identifies a significant impact associated with the potential location of pump stations and tanks in areas susceptible to liquefaction during an earthquake. Mitigation Measure 3.3.7, Reduce Risk of Damage due to Liquefaction, is proposed to address this impact. The Program EIR found this impact to be less than significant after mitigation.

As evaluated in the Program EIR under Impact 3.9.4, pump stations and tanks will not induce seismicity.

As evaluated in the Program EIR under Impact 3.9.5 and 3.9.6, pump stations and tanks may have geologic impacts based on evaluation criteria 5 and 6. The impact is less than significant and does not require mitigation.

As evaluated in the Program EIR under Impact 3.9.7 and 3.9.8, pump stations and tanks may be exposed to expansive or corrosive soils. The impact is less than significant and does not require mitigation.

Impact 3.9.9 in the Program EIR identifies a significant impact associated with the potential location of pump stations and tanks in an MRZ-2 classification along the Russian River or near quarries in the North County and East of Santa Rosa. Mitigation Measure 3.3.1, Site Facilities to Achieve Compatible Land Use, is proposed to reduce the impact; however, it may not be possible in all cases to locate wetlands in a compatible land use designation or avoid all land use conflicts. No additional feasible mitigation has been identified and this significant impact will be unavoidable.

As evaluated in the Program EIR under Impact 3.9.10, pump stations and tanks will not cause a change to a hot spring, or other unique geologic feature.

GEYSERS STEAMFIELD EXPANSION

Impact 3.10.1 in the Program EIR identifies a significant impact associated with the potential location of the geysers steamfield expansion in areas of unstable slope conditions. Mitigation Measure 3.3.4, Slope Stabilization Design, is proposed to address this impact. The Program EIR found this impact to be less than significant after mitigation.

As evaluated in the Program EIR under Impact 3.10.2 and 3.10.3, the geysers steamfield expansion will not have geologic impacts based on evaluation criteria 2 and 3.

Impact 3.10.4 in the Program EIR identifies a significant impact associated with induced seismicity generated by the injection of reclaimed water to the Geysers. Effects of induced seismicity were modeled based on a peak injection rate of 25 mgd, which is considerably higher than the target injection of 12.1 mgd or the maximum injection rate of 17 mgd proposed as part of the Preferred Program. The incidence of earthquakes will thus be less than that predicted in the Program EIR; however, the induced seismicity impact will continue to be significant with a greater than 20% change in the incidence of earthquakes (as measured with a baseline prior to Geysers Recharge Project 11 mgd injection). Please refer to estimated increases in earthquakes reported in Table 4.3-1. Mitigation Measure 3.5.1, Monitor Seismic Events and Adjust Injection Rates, is proposed to reduce the impact; however implementation of the mitigation measure may not reduce the impact to less than significant for nearby residents on the east side of the Geysers steamfield. No additional feasible mitigation has been identified and this significant impact will be unavoidable.

Table 4.3-1

Predicted Frequencies and MRIs of Intensity V

| Injection Rate (mgd) | COBB | | ANDERSON SPRINGS | |
|--|-----------------------|-----------------------------|-----------------------|----------------|
| | Frequency (N/year) | MRI ¹ (years) | Frequency (N/year) | MRI (years) |
| Baseline before Geysers Recharge Project | 0.74 | 1.40 | 0.93 | 1.09 |
| 11 ² | 0.96 | 1.04 | 1.16 | 0.86 |
| 16 | 1.01 | 0.99 | 1.21 | 0.83 |
| 19 | 1.07 | 0.93 | 1.27 | 0.79 |
| 25 | 1.15 | 0.87 | 1.35 | 0.74 |

1) MRI: mean recurrence interval

2) Level of injection from the Geysers Recharge Project and before IRWP injection.

As evaluated in the Program EIR under Impacts 3.10.5 and 3.10.6, the geysers steamfield expansion will not have significant impacts based on evaluation criteria 5 and 6. The impact is less than significant and does not require mitigation.

As evaluated in the Program EIR under Impact 3.10.7 and 3.10.8, the geysers steamfield component may be exposed to expansive or corrosive soils. The impact is less than significant and does not require mitigation.

As evaluated in the Program EIR under Impacts 3.10.9 the geysers steamfield component will not result in an incompatible land use in MRZ-2 zones, quarries, or The Geysers.

As evaluated in the Program EIR under Impact 3.10.10, the geysers steamfield component will not cause a significant change to a hot spring, or other unique geologic feature. The impact is less than significant and does not require mitigation.

DIRECT DISCHARGE COMPONENT

As evaluated in the Program EIR under Impacts 3.11.1 and 3.11.2, the direct discharge component will not be located within areas of unstable slope conditions or near a surface trace of an active fault.

Impact 3.11.3 in the Program EIR identifies a significant impact associated with the potential location of the direct discharge component in areas susceptible to liquefaction during an earthquake. Mitigation Measure 3.3.7, Reduce Risk of Damage due to Liquefaction, is proposed to address this impact. The Program EIR found this impact to be less than significant after mitigation.

As evaluated in the Program EIR under Impact 3.11.4, the direct discharge component will not induce seismic activity.

As evaluated in the Program EIR under Impacts 3.11.5 through 3.11.8, the direct discharge component may create geologic hazards. The impact is less than significant and does not require mitigation.

Impact 3.11.9 in the Program EIR identifies a significant impact associated with the potential location of the direct discharge component in an MRZ-2 classification at the discharge point on the Russian River. Mitigation Measure 3.3.1, Site Facilities to Achieve Compatible Land Use, is proposed to reduce the impact; however, it may not be possible to locate the outfall in a compatible land use designation or to avoid all land use conflicts. No additional feasible mitigation has been identified and this significant impact will be unavoidable.

As evaluated in the Program EIR under Impact 3.11.10, the direct discharge will not cause a change to a hot spring, or other unique geologic feature.

INDIRECT DISCHARGE COMPONENT

Impact 3.12.1 in the Program EIR identifies a significant impact associated with the potential location of the indirect discharge facilities in areas of unstable slope conditions. Mitigation Measure 3.3.4, Slope Stabilization Design, is proposed to address this impact. The Program EIR found this impact to be less than significant after mitigation.

As evaluated in the Program EIR under Impact 3.12.2, indirect discharge will not be located in an Alquist-Priolo Earthquake Fault Zone.

Impact 3.12.3 in the Program EIR identifies a significant impact associated with the potential location of the indirect discharge facilities in areas susceptible to liquefaction during an earthquake. Mitigation Measure 3.3.7, Reduce Risk of Damage due to Liquefaction, is proposed to address this impact. The Program EIR found this impact to be less than significant after mitigation.

As evaluated in the Program EIR under Impact 3.12.4, indirect discharge facilities will not induce seismicity. The impact is less than significant and does not require mitigation.

As evaluated in the Program EIR under Impacts 3.12.5 through 3.12.8, indirect discharge facilities will not have significant geologic impacts based on evaluation criteria 5 through 8. The impacts are less than significant and do not require mitigation.

Impact 3.12.9 in the Program EIR identifies a significant impact associated with the potential location of the indirect discharge facilities in an MRZ-2 classification along the Russian River. Mitigation Measure 3.3.1, Site Facilities to Achieve Compatible Land Use, is proposed to reduce the impact; however, it may not be possible in all cases to locate facilities in a compatible land use designation or avoid all land use conflicts. No additional feasible mitigation has been identified and this significant impact will be unavoidable.

As evaluated in the Program EIR under Impact 3.12.10, indirect discharge will not cause a change to a hot spring, or other unique geologic feature.

ADVANCED MEMBRANE TREATMENT COMPONENT

Impact 3.13.1 in the Program EIR identifies a significant impact associated with the potential siting of the AMT facilities in areas of unstable slope conditions. Mitigation Measure 3.3.4, Slope Stabilization Design, is proposed to address this impact. The Program EIR found this impact to be less than significant after mitigation.

As evaluated in the Program EIR under Impact 3.13.2, advance membrane treatment facilities will not be located in an Alquist-Priolo Earthquake Fault Zone.

Impact 3.13.3 in the Program EIR identifies a significant impact associated with the potential location of the AMT facilities in areas susceptible to liquefaction during an earthquake. Mitigation Measure 3.3.7, Reduce Risk of Damage due to Liquefaction, is proposed to address this impact. The Program EIR found this impact to be less than significant after mitigation.

As evaluated in the Program EIR under Impact 3.13.4, AMT facilities will not induce seismicity.

As evaluated in the Program EIR under Impacts 3.13.5 and 3.13.6, AMT facilities will not have significant impacts based on evaluation criteria 5 and 6. The impact is less than significant and does not require mitigation.

As evaluated in the Program EIR under Impacts 3.13.7 and 3.13.8, AMT facilities could be constructed in areas of expansive or corrosive soils. Project measures reduce this impact to less than significant.

Impact 3.13.9 in the Program EIR identifies a significant impact associated with the potential siting of AMT facilities in an MRZ-2 classification along the Russian River. Mitigation Measure 3.3.1, Site Facilities to Achieve Compatible Land Use, is proposed to reduce the impact; however, it may not be possible in all cases to locate facilities in a compatible land use designation. No additional feasible mitigation has been identified, and this significant impact may be unavoidable.

As evaluated in the Program EIR under Impact 3.13.10, AMT facilities will not cause a change to a hot spring, or other unique geologic feature.

CUMULATIVE IMPACTS

The cumulative geologic impacts of Program facilities are evaluated in Section 4.3 of the Program EIR. As noted there, the Program will construct additional facilities in a seismically active area. However, the actual level of risk is site specific and will not be cumulatively increased at any particular site. Cumulative effects of induced seismicity were also evaluated, and were found not to be significant. None of the new cumulative projects identified in Section 4.0 of this chapter would contribute to induced seismicity. General

Plans of local jurisdictions have identified geologic impacts as less than significant with the incorporation of standard policies and procedures to address geotechnical and seismic concerns.

Impact 3.9.C in the Program EIR identifies a significant cumulative impact associated with an incompatible land use. New cumulative projects will not change this determination.

ENVIRONMENTAL IMPACTS FOR THE COMBINED ALTERNATIVES - PREFERRED PROGRAM

The Preferred Program combines five alternatives from the Program EIR and establishes both a target for recycled water use and a permissible range of recycled water use. The following illustrates the potential environmental impacts of the combined alternatives for the target and for the maximum amount of recycled water use identified for the range.

Target

Significant impacts associated with individual components would not be changed by their combination with other components because of the site-specific nature of the impacts. In addition most impacts can be fully mitigated with appropriate design. Pipelines in the Alexander Valley Bench agricultural irrigation area could be located in areas that are highly subject to unstable slope conditions. Significant impacts associated with loss of availability of mineral resources remain, and the total acreage of the combined components could be increased by as compared to individual alternatives. However, the potential loss of availability does not exceed any evaluated in the Combination of Alternatives, and therefore will not result in new significant impacts. Induced seismicity impacts of Geysers Expansion would be less than with Alternative 5 because there would be less injection of recycled water, but still significant, even with mitigation. Impacts of the target Preferred Program are reduced compared to those identified in the Program EIR, and there will be no new significant impacts.

Range

Significant impacts associated with individual components would not be changed by their combination with other components because of the site-specific nature of the impacts. In addition most impacts can be fully mitigated with appropriate design. Pipelines in the Alexander Valley Bench agricultural irrigation area could be located in areas that are highly subject to unstable slope conditions. Significant impacts associated with loss of availability of mineral resources remain, and the total acreage of the combined components could be increased by as compared to individual alternatives. However, the potential loss of availability does not exceed any evaluated in the Combination of Alternatives, and therefore will not result in new significant impacts. Induced seismicity impacts of Geysers Expansion would be less than with Alternative 5 because there would be less injection of recycled water; but still significant, even with mitigation. Impacts of the high end of the range of the Preferred Program are reduced compared to impacts identified in the Program EIR, and there will be no new significant impacts.

4.4 SURFACE WATER HYDROLOGY

Table 4.4-6 from the Program EIR presents criteria for Surface Water Hydrology impacts, and is presented below.

Table 4.4-6

Evaluation Criteria with Points of Significance – Surface Water Hydrology

| Evaluation Criteria | As Measured by | Significance Thresholds | Sources of Criteria |
|--|---|---|--|
| 1. Will the IRWP cause streambank erosion? | Percentage increases in the average stream power when the average channel velocity exceeds erosion threshold velocities ¹ for maximum daily flow in the wet year type ² . | Greater than 2 percent increase ³ | Based on the typical particle size distribution, erosion of the material in the stream channel should only occur when the average channel velocity is greater than erosion threshold velocities. CEQA checklist question VIII.c) ⁴ |
| 2. Will the IRWP cause flooding? | Increase in the 100-year flood elevation for maximum daily flow in the wet year type ² . | Greater than 0.1 foot increase. In case of rupture, less than bankful | FEMA uses 1 foot as a guideline for significance. Sonoma County Water Agency generally does not consider increases of less than 0.1 feet significant during project review. ⁵ CEQA checklist questions VIII.d through VIII.j. ⁶ |

Erosion threshold velocities are defined for Laguna and Russian River reaches in Appendix G.

Wet year type is defined in TM-16 based on annual water year flow at Guerneville. The 10% exceedance criteria used to define a wet year translates to a 10 percent chance that there will be a wetter year, or conversely, that there is a 90 percent chance that the year will be drier.

The 2 percent threshold was defined based on the resolution of stage-discharge data available for the analysis

CEQA checklist question VIII.c) asks if the project would substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site. Evaluation criterion 4.4.1 evaluates whether the project will increase the average stream power sufficiently to cause erosion. This increase in stream power could result from alteration drainage patterns or alteration of stream or river courses.

Dames and Moore (1995)

CEQA checklist question VIII.d) asks if the project will substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site. Evaluation criterion 4.4.2 evaluates whether the project will increase flooding. This increase in flooding could result from alteration drainage patterns, alteration of stream or river courses, or a substantial increase in the rate or amount of surface runoff.

CEQA checklist question VIII.e) asks if the project would create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff. The potential for runoff water to exceed the capacity of existing or planned stormwater drainage systems is evaluated in Section 4.15 Public Services, Utilities, and Recreation. The potential for runoff water to provide substantial additional sources of polluted runoff is evaluated in Section 4.6 Surface Water Quality.

CEQA checklist question VIII.h) asks if the project would place within a 100-year flood hazard area structures which would impede or redirect flood flows. Evaluation criterion 4.4.2 evaluates whether the project would significantly increase in the 100-year flood elevation which could result from placing structures within the 100 year flood hazard area.

CEQA checklist question VIII.i) asks if the project would expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam. This is evaluated in Section 4.7 Public Health and Safety.

CEQA checklist question VIII.j) asks if the project would cause inundation by seiche, tsunami, or mudflow. Inundation by seiches, tsunamis, and mudflow would result from release of extremely large volumes of water such as will result from the failure of a levee or dam. This is evaluated in Section 4.7 Public Health and Safety. Smaller amounts of mudflow could occur if improper construction techniques were used. Erosion due to construction is evaluated in Section 4.3 Geology, Soils, and Seismicity.

LAGUNA PLANT UPGRADE COMPONENT

Impacts 4.1.1 and 4.1.2 in the Program EIR identify significant impacts associated with the potential for the Laguna plant upgrade to cause streambank erosion or flooding. Mitigation Measure 3.3.8, Flood Storage Management, is proposed to address this impact. The Program EIR found this impact to be less than significant after mitigation.

INDOOR WATER CONSERVATION COMPONENT

As evaluated in the Program EIR under Impacts 4.2.1 and 4.2.2, indoor water conservation will have no surface water hydrology impacts based on evaluation criteria 1 and 2.

URBAN IRRIGATION COMPONENT

As evaluated in the Program EIR under Impacts 4.4.1 and 4.4.2, streambank erosion and flooding may be associated with the urban irrigation component. The impact is less than significant and does not require mitigation.

AGRICULTURAL IRRIGATION COMPONENT

Impacts 4.5.1 and 4.5.2 in the Program EIR identify significant surface water hydrology impacts resulting from agricultural irrigation on currently uncultivated lands. Mitigation Measure 3.3.8, Flood Storage Management, is proposed to address this impact. The Program EIR found this impact to be less than significant after mitigation.

PIPELINES

Impact 4.6.1 and 4.6.2 in the Program EIR identify significant surface water hydrology impacts potentially causing streambank erosion and flooding due to pipeline construction and operation. Mitigation Measure 3.3.7, Reduce Risk of Damage due to Liquefaction, and Measure 3.2.3, Storm Water Pollution Prevention Plan, are proposed to reduce the risk of pipeline rupture and damage from liquefaction. Damage to pipelines from liquefaction may still occur even with implementation of the mitigation. No additional feasible mitigation has been identified, and this significant impact may be unavoidable.

STORAGE COMPONENT

As evaluated in the Program EIR under Impacts 4.7.1 and 4.7.2, significant surface water hydrology impacts will not occur from construction and operation of storage facilities based on evaluation criteria 1 and 2. The impacts are less than significant and do not require mitigation.

CREATED WETLANDS COMPONENT

As evaluated in the Program EIR under Impact 4.8.1, streambank erosion impacts associated with construction of created wetlands are less than significant. Measures to reduce this impact are included in the project as part of the City's Storm Water Pollution Prevention Plan (see Measure 3.2.3).

Impact 4.8.2 in the Program EIR identifies significant surface water hydrology impacts associated with construction and operation and maintenance of created wetlands. Mitigation Measure 3.3.8 Flood Storage Management is proposed to address this impact. The Program EIR found this impact to be less than significant after mitigation.

PUMP STATIONS AND TANKS COMPONENT

Impacts 4.9.1 and 4.9.2 in the Program EIR identify significant surface water hydrology impacts from the pump station and tank component based on evaluation criteria 1 and 2. Mitigation Measure 3.3.8, Flood Storage Management, is proposed to address this impact. The Program EIR found this impact to be less than significant after mitigation.

GEYSERS STEAMFIELD EXPANSION COMPONENT

Impacts 4.10.1 and 4.10.2 in the Program EIR identify significant surface water hydrology impacts from the geysers steamfield expansion. Mitigation Measure 3.3.8, Flood Storage

Management, is proposed to address this impact. The Program EIR found this impact to be less than significant after mitigation.

DIRECT DISCHARGE COMPONENT

As evaluated in the Program EIR under Impact 4.11.1, streambank erosion impacts associated with construction and operation of the direct discharge component are less than significant.

As evaluated in the Program EIR under Impact 4.11.2, flooding impacts associated with construction and operation of the direct discharge component are less than significant.

INDIRECT DISCHARGE COMPONENT

As evaluated in the Program EIR under Impact 4.12.1, streambank erosion impacts associated with construction and operation of the indirect discharge component are less than significant.

Impact 4.12.2 in the Program EIR identifies potentially significant flooding impacts associated with the construction of percolation ponds and infiltration basins. Mitigation Measure 3.3.8, Flood Storage Management, is proposed to address this impact. The Program EIR found this impact to be less than significant after mitigation.

AMT COMPONENT

Impacts 4.13.1 and 4.13.2 in the Program EIR identify significant impacts associated with the potential for construction of AMT facilities to cause streambank erosion or flooding. Mitigation Measure 3.3.8, Flood Storage Management, is proposed to address this impact. The Program EIR found this impact to be less than significant after mitigation.

CUMULATIVE IMPACTS

The cumulative surface hydrology impacts of Program facilities are evaluated in Section 4.4 of the Program EIR. As noted there, all cumulative development in the project area has the potential to affect erosion and flooding as a result of both construction-period impacts and creation of additional impervious surface area. The Federated Indians of the Graton Rancheria Casino project, west of Rohnert Park, may cause erosion and flooding by adding additional impervious surfaces, but does not contribute to cumulative impacts of the IRWP, because the Program has no impacts after mitigation.

ENVIRONMENTAL IMPACTS FOR THE COMBINED ALTERNATIVES - PREFERRED PROGRAM

The Preferred Program combines five alternatives from the Program EIR and establishes both a target for recycled water use and a permissible range of recycled water use. The following illustrates the potential environmental impacts of the combined alternatives for the target and for the maximum amount of recycled water use identified for the range. The analysis of the

environmental impacts of the combined alternatives that make up the Preferred Program follows the same methodology used in the Program EIR (Chapter 5). Details used in the analysis of environmental impacts for the Target and Range are presented in Appendix A.

Target

Streambank erosion impacts are related to the amount of runoff from areas of construction disturbance, permanent ground coverage, and the potential for rupture of pipelines and resulting discharge of recycled water. Significant impacts related to runoff and pipeline rupture were identified for the Program Alternatives. Under this combination of alternatives, the amount of construction disturbance may be up to 1,393 acres, primarily due to the length of pipelines. This temporary impact acreage is less than that evaluated under the Combination of Alternatives analysis in the Program EIR. A decrease in the total acres of permanent area of disturbance of up to 18,000 acres could result from the decrease in agricultural conversion compared to the maximum identified in the Program EIR. The IRWP includes mitigation that will address potential flooding concerns associated with creation of runoff or failure of pipelines or storage facilities, so combinations of components will not result in a significant impact. Impacts of the target Preferred Program are reduced compared to those impacts that were identified in the Program EIR, and there will be no new significant impacts.

Range

Streambank erosion impacts are related to the amount of runoff from areas of construction disturbance, permanent ground coverage, and the potential for rupture of pipelines and resulting discharge of recycled water. Significant impacts related to runoff and pipeline rupture were identified for the Program Alternatives. Under this combination of alternatives, the amount of construction disturbance may be up to 1,423 acres, primarily due to the length of pipelines. This temporary impact acreage is less than that evaluated under the Combination of Alternatives analysis in the Program EIR. A decrease in permanent area of disturbance of up to 15,000 acres could result from the decrease in agricultural conversion compared to the maximum identified in the Program EIR. The IRWP includes mitigation that will address potential flooding concerns associated with creation of runoff or failure of pipelines or storage facilities, so combinations of components will not result in a significant impact. Impacts of the high end of the range of the Preferred Program are reduced compared to those impacts that were identified in the Program EIR, and there will be no new significant impacts.

4.5 GROUNDWATER

Table 4.5-3 from the Program EIR presents groundwater criteria, and is presented below:

Table 4.5-3

Evaluation Criteria with Significance Thresholds - Groundwater

| Evaluation Criteria | As Measured by | Significance Thresholds | Sources of Criteria |
|--|---|---|--|
| 1. Will the IRWP degrade groundwater quality at existing or future drinking water wells, resulting in a public health hazard? | Nitrate concentration in existing or future domestic drinking water wells Travel time or distance to the closest domestic well | Nitrate levels in groundwater greater than 10 mg/L nitrate as nitrogen (which corresponds to 45 mg/L nitrate) Travel time less than 6 months or well within 500 feet (12 months and 2000 feet for injection wells and infiltration basins) | CEQA Guidelines Appendix G, Checklist Item VIII (f); State and federal water quality regulations California State Department of Health Services, draft groundwater recharge (DGWR) regulations for the use of recycled water dated July 21, 2003. |
| 2. Will the IRWP cause groundwater mounding or increase groundwater levels that cause surface water discharge in a non-stream environment? | Increase in groundwater levels | Groundwater that is raised to within 6 feet of the surface | CEQA Guidelines Appendix G, Checklist Item VIII (d) ¹ |
| 3. Will the IRWP lower groundwater levels at existing wells? | Wells be subject to lower groundwater levels | Greater than 0 wells | CEQA Guidelines Appendix G, Checklist Item VIII (b) ² |
| 4. Will the IRWP lower groundwater levels in areas that could have been developed for future water supply? | Number of parcels that would be subject to lower groundwater levels | Greater than 0 parcels | CEQA Guidelines Appendix G, Checklist Item VIII (b) ² |

¹ CEQA checklist item VIII (d) asks if the project would substantially alter the existing drainage pattern of the site or substantially increase the rate or amount of surface runoff in a manner that would result in flooding on- or off-site. This section specifically considers the effects of groundwater mounding on flooding. Elevated water tables can interfere with the operation of leachfields or can result in surface runoff and flooding. Additional aspects of flooding are addressed in Section 4.4, Surface Water Hydrology.

2 CEQA checklist item VIII (b) asks if the project would substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or lowering of the local groundwater table (i.e., the production rate of pre-existing nearby wells would drop to a level that would not support existing land uses for which permits have been granted). The reduction of groundwater levels can cause existing wells to cease providing water for their intended uses or eliminate potential future water supply.

LAGUNA PLANT UPGRADE COMPONENT

As evaluated in the Program EIR under Impacts 5.1.1 through 5.1.4, there will be less than significant impacts associated with construction and operation of the Laguna Plant upgrade.

INDOOR WATER CONSERVATION COMPONENT

As evaluated in the Program EIR under Impacts 5.2.1, 5.2.3, and 5.2.4, indoor water conservation will not impact groundwater based on evaluation criteria 1, 3, and 4.

As evaluated in the Program EIR under Impact 5.2.5 there is a less-than-significant impact to groundwater mounding associated with construction and operation of indoor water conservation.

URBAN IRRIGATION COMPONENT

Impacts 5.4.1 through 5.4.4 in the Program EIR evaluate the potential for groundwater impacts associated with urban irrigation. The Program EIR found that potential impacts will be less than significant.

AGRICULTURAL IRRIGATION COMPONENT

Impacts 5.5.1 through 5.5.3 in the Program EIR evaluate the potential for groundwater impacts associated with agricultural irrigation based on evaluation criteria 1, 2, and 3. The Program EIR found that potential impacts will be less than significant. The proposed application rate for all agriculture reuse areas is equivalent to agronomic needs and will not result in groundwater recharge or groundwater mounding as evaluated under Impact 5.5.2 in the Program EIR.

During selection of the Preferred Program questions arose about groundwater quality and standards set by the Department of Health Services (DHS). The draft groundwater recharge regulations being considered by DHS would require advanced treatment on projects where groundwater recharge is intended. The IRWP screened out projects involving groundwater recharge in the Rohnert Park area from further consideration and the IRWP does not include groundwater recharge. The IRWP includes irrigation and the proposed irrigation application rate is equivalent to agronomic needs and would not result in groundwater recharge. Therefore, the DHS draft groundwater recharge regulations do not apply to the agricultural

irrigation area. However, the DHS regulations regarding irrigation with recycled water apply; please refer to Project Measure 3.2.4, Implement BMPs for Runoff, Erosion, and Agricultural Chemical Use. As evaluated in the Program EIR under Impact 5.5.4 agricultural irrigation will not impact groundwater.

PIPELINES COMPONENT

Impact 5.6.1 in the Program EIR identifies a significant groundwater quality impact associated with the construction and operation pipelines. Mitigation Measure 3.3.9, Well Protection Program, is proposed to reduce the impact by providing alternative water supply during the period when a well may be affected by a brine pipeline rupture. The Program EIR found this impact to be less than significant after mitigation.

Impact 5.6.2 in the Program EIR evaluates the potential for the pipelines to cause groundwater mounding. The Program EIR found that potential impacts will be less than significant.

Impact 5.6.3 in the Program EIR evaluates the potential for pipeline construction to lower groundwater levels at existing wells. The Program EIR found that potential impacts will be less than significant.

As evaluated in the Program EIR under Impact 5.6.4, pipelines will not lower groundwater levels for future water supply.

STORAGE COMPONENT

Impact 5.7.1 in the Program EIR identifies a significant groundwater quality impact associated with construction and operation of the storage component. Mitigation Measure 3.3.9, Well Protection Program, is proposed to reduce the impact by preventing deterioration of water quality. The Program EIR found this impact to be less than significant after mitigation.

Impact 5.7.2 in the Program EIR identifies a significant impact from groundwater mounding associated with construction and operation of the storage component. Mitigation Measure 3.5.2, Septic System Replacement, identifies options to reduce the impact by monitoring septic systems and replacing affected systems with non-conventional systems. The Program EIR found this impact to be less than significant after mitigation.

Impact 5.7.3 in the Program EIR identifies a significant impact from lowering groundwater levels associated with construction and operation of the storage component. Mitigation Measure 3.3.9, Well Protection Program, will reduce the impact by providing options for well protection. The Program EIR found this impact to be less than significant after mitigation.

Impact 5.7.4 evaluates a significant impact to groundwater levels associated with the storage component and concluded that Mitigation Measure 3.3.9, Well Protection Program, will reduce the impact to less than significant.

CREATED WETLANDS COMPONENT

Impact 5.8.1 in the Program EIR identifies a significant groundwater quality impact associated with created wetlands. Mitigation Measure 3.3.9, Well Protection Program, is proposed to reduce the impact by providing options by preventing deterioration of groundwater quality. The Program EIR found this impact to be less than significant after mitigation.

Impact 5.8.2 in the Program EIR identifies a significant impact from groundwater mounding associated with operation of created wetlands. Mitigation Measure 3.5.2, Septic System Replacement, identifies options to reduce the impact by monitoring septic systems and replacing affected systems with non-conventional systems. The Program EIR found this impact to be less than significant after mitigation.

Impacts 5.8.3 and 5.8.4 in the Program EIR evaluate the potential for lowering groundwater levels associated with the operation of created wetlands and determined the effects to be less than significant.

PUMP STATIONS AND TANKS COMPONENT

Impacts 5.9.1 and 5.9.4 in the Program EIR evaluate the potential for groundwater impacts associated with the operation of created wetlands based on evaluation criteria 1 through 4. The Program EIR found that potential impacts will be less than significant.

GEYSERS STEAMFIELD EXPANSION COMPONENT

Impacts 5.10.1 through 5.10.4 in the Program EIR evaluate the potential for groundwater impacts associated with construction and operation of the geysers steamfield expansion based on evaluation criteria 1 through 4. The Program EIR found that potential impacts will be less than significant.

DIRECT DISCHARGE COMPONENT

Impacts 5.11.1 through 5.11.4 in the Program EIR evaluate the potential for groundwater impacts associated with the direct discharge component based on evaluation criteria 1 through 4. The Program EIR found that potential impacts will be less than significant.

INDIRECT DISCHARGE COMPONENT

Impact 5.12.1 in the Program EIR identified a significant impact to groundwater at wells from the construction and operation of the indirect discharge component. Mitigation Measure 3.3.9, Well Protection Program, is proposed to reduce the impact by preventing deterioration of groundwater quality. The Program EIR found this impact to be less than significant after mitigation.

Impact 5.12.2 in the Program EIR identifies a significant impact from groundwater mounding associated with the construction and operation of the indirect discharge component.

Mitigation Measure 3.5.2, Septic System Replacement, identifies options to reduce the impact by monitoring septic systems and replacing affected systems with non-conventional systems. The Program EIR found this impact to be less than significant after mitigation.

Impacts 5.12.3 and 5.12.4 in the Program EIR evaluate the potential for lowering groundwater levels associated with the construction and operation of the indirect discharge component. The Program EIR found that potential impacts will be less than significant.

ADVANCED MEMBRANE TREATMENT COMPONENT

As evaluated in the Program EIR under Impacts 5.13.1 through 5.13.4, AMT facilities will have less than significant impacts on groundwater resources.

CUMULATIVE IMPACTS

The cumulative impacts to groundwater of Program facilities are evaluated in Section 4.5 of the Program EIR. As noted there, cumulative impact 5.1C is significant because of reduced baseflow to groundwater near reservoirs. The Federated Indians of the Graton Rancheria Casino, located west of Rohnert Park, would also be expected to reduce baseflow to groundwater by creating additional impervious surfaces. This remains a significant impact.

As evaluated in the Program EIR under Impacts 5.3C and 5.4C, drawdown of groundwater due to interception of baseflow by reservoirs is a localized impact, and would occur only in the immediate area where a reservoir is constructed. The Casino project is located in the vicinity of the Santa Rosa Plain storage area and is expected to obtain its water from wells developed on site. It is also expected to create an undetermined amount of additional impervious surface from the construction of the casino and resort facility. This would cause additional cumulative impacts to groundwater. However, since this has already been determined to be a significant impact, the conclusion remains unchanged.

Groundwater mounding impacts evaluated in the Program EIR under Impact 5.2C remain less than significant. No cumulative projects that could exacerbate groundwater mounding were identified from the additional new cumulative projects.

ENVIRONMENTAL IMPACTS FOR THE COMBINED ALTERNATIVES - PREFERRED PROGRAM

The Preferred Program combines five alternatives from the Program EIR and establishes both a target for recycled water use and a permissible range of recycled water use. The following illustrates the potential environmental impacts of the combined alternatives for the target and for the maximum amount of recycled water use identified for the range. The analysis of the environmental impacts of the combined alternatives that make up the Preferred Program follows the same methodology used in the Program EIR (Chapter 5). Details used in the analysis of environmental impacts for the Target and Range are presented in Appendix A.

Target

Groundwater impacts are largely site-specific, and combinations of alternatives will not create additional groundwater impacts at any one site. Size of storage will be less than for Alternative 4, so total impacts of dam seepage will be less. Significant impacts associated with pipelines are confined to those pipelines carrying brine and are the same as those described in the Program EIR. Impacts of the target Preferred Program are reduced compared those identified in the Program EIR, and there will be no new significant impacts.

Range

Groundwater impacts are largely site-specific, and combinations of alternatives will not create additional groundwater impacts at any one site. Size of storage will be greater than for Alternative 4, but less than for Combination of Alternatives 11; total impacts of dam seepage will be less than for that combination. Significant impacts associated with pipelines are confined to those pipelines carrying brine, and this impact will be the same as for Alternative 6. Impacts of the high end of the range of the Preferred Program are reduced compared to the impacts identified in the Program EIR, and there will be no new significant impacts.

4.6 SURFACE WATER QUALITY

The significance of the impact of the IRWP components on surface water quality evaluated in the Program EIR was dependent on either recycled water quality alone or recycled water quality and program element size. Recycled water quality will not change with the Preferred Program. The maximum size of the program elements for the Preferred Program are the same as, or smaller than, the maximum size studied in the Program EIR (see Table 2-2 in Chapter 2, Project Description).

Because a number of water quality impacts have changed since the Final EIR, because of reductions in the size of alternatives under the Preferred Program and the advent of new cumulative projects identified in Section 4.0 of this chapter, Due to these changes, the Surface Water Quality section format is similar to the Draft EIR, rather than the other sections in the Addendum.

Table 4.6-1

Evaluation Criteria with Point of Significance – Surface Water Quality

| Evaluation Criteria | As Measured by | Point of Significance | Justification |
|---|----------------|-----------------------|--|
| 1. Will IRWP discharge, indirect discharge, or dam seepage cause numeric-based criteria to be exceeded? | Concentration | Varies | U.S.EPA (California Toxics Rule) criteria; North Coast Region Basin Plan criteria; Basin Plan Action Plan for Accidental Spills and Contingencies CEQA checklist questions VIII.a) and VIII.f) ^{a,b} |
| 2. Will IRWP discharge, indirect discharge, or dam seepage cause narrative-based criteria to be exceeded? | Varies | Varies | North Coast Region Basin Plan narrative criteria CEQA checklist questions VIII.a) and VIII.f) ^{a,b} |

Table 4.6-1

Evaluation Criteria with Point of Significance – Surface Water Quality

| Evaluation Criteria | As Measured by | Point of Significance | Justification |
|---|---|---|--|
| 3. Will IRWP construction and operation of IRWP facilities result in a substantial degradation of surface runoff quality? | Compliance with local and state storm water quality regulations requiring implementation of effective Best Management Practices | Failure to implement effective, reasonable and appropriate measures | State of California General NPDES Permits for Discharges of Storm Water Associated with Construction and Industrial Activities Santa Rosa Area Urban Runoff and Storm Water NPDES Permit Standard Urban Storm Water Mitigation Plan (SUSMP) and any other jurisdictions that have SUSMPs at the time of construction California Storm Water Best Management Practice – Construction handbook CEQA checklist questions VIII.c) and VIII.e) ^{c,d} |
| 4. Will the IRWP direct or indirect discharge or dam seepage result in non-attainment of established TMDLs? ^e | Loads | Total nitrogen – 265,700 lbs. Ammonia – 35,100 lbs | Clean Water Act section 303(d) and federal regulations (40 CFR 130) CEQA checklist questions VIII.a) and VIII.f) ^{a,b} |

^a CEQA checklist question VIII.a) asks if the project would cause a violation of any water quality standards or waste discharge requirements or worsen any existing such violations. The water quality standards applicable to waters of California include the numeric CTR criteria, the numeric and narrative Basin Plan objectives, and any established TMDLs (human health standards other than CTR criteria are covered in the Public Health and Safety section). Waste discharge requirements are based on these criteria, objectives and TMDLs. Therefore, evaluating the project relative to evaluation criteria 1, 2, and 4 would identify whether the project would cause a violation of any water quality standards or waste discharge requirements or worsen any existing such violation.

b CEQA checklist question VIII.f) asks if the project would otherwise substantially degrade water quality. Although there may be constituents that have the potential to degrade water quality, without standards no way is available to evaluate potential impacts. Therefore, using the available standards covered under evaluation criteria 1, 2, and 4 evaluates CEQA checklist question VIII.f), would the project otherwise substantially degrade water quality to the extent that is technically feasible.

c CEQA checklist question VIII.c) asks if the project would substantially alter the existing drainage pattern of the site or area, including the alteration of the course of stream or river in a manner which would result in substantial erosion or siltation on- or off-site. Evaluation criterion 3 is designed to evaluate whether project construction and operations would result in erosion or siltation on- or off-site. CEQA checklist question VIII.c) is also addressed in the Surface Water Hydrology section.

d CEQA checklist question VIII.d) asks if the project would create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff. Evaluation criterion 3 is designed to evaluate whether project construction and operations would provide substantial additional sources of polluted runoff. The potential of the project to exceed the capacity of existing or planned stormwater drainage systems is evaluated in the Public Services, Utilities, and Recreation section.

e TMDLs have only been established for total nitrogen and ammonia in the Laguna.

LAGUNA PLANT UPGRADE COMPONENT

As evaluated in the Program EIR under Impacts 6.1.1, 6.1.2, and 6.1.4, the Laguna Plant Upgrade will have no impacts on water quality based on evaluation criteria 1, 2 or 4.

As evaluated in the Program EIR under Impact 6.1.3, the Laguna Plant Upgrade has the potential to disturb soil in waterways and result in a substantial degradation of surface runoff quality. Measures to reduce these impacts are included in the Program (see Measure 3.2.1, Revegetate Temporarily Disturbed Sites, 3.2.2, Storm Water Pollution Prevention Plan and 3.2.6, Protect Creeks from Toxic Discharge). The Program EIR found that potential impacts will be less than significant.

INDOOR WATER CONSERVATION COMPONENT

As evaluated in the Program EIR under Impacts 6.2.1 through 6.2.4, no impacts were identified for the Indoor Water Conservation component based on evaluation criteria 1 through 4.

URBAN IRRIGATION COMPONENT

As evaluated in the Program EIR under Impacts 6.4.1 through 6.4.4, there may be water quality impacts associated with urban irrigation. Measures to reduce these impacts are included in the Program (see Measure 3.2.4, Implement BMPs for Runoff, Erosion, and Chemical Use. The Program EIR found that potential impacts will be less than significant.

AGRICULTURAL IRRIGATION COMPONENT

As evaluated in the Program EIR under Impacts 6.5.1 through 6.5.4, there may be water quality impacts associated with agricultural irrigation. Measures to reduce these impacts are included in the Program (see Measure 3.2.4, Implement BMPs for Runoff, Erosion, and Chemical Use. The Program EIR found that potential impacts will be less than significant.

PIPELINES COMPONENT

As described under Impacts 6.6.1a, and 6.6.2a, the pipeline impacts for pipelines carrying recycled water are less than significant with implementation of measures adopted by the City as part of the Preferred Program based on evaluation criteria 1 and 2. As described under Impacts 6.6.1b and 6.6.2b, the pipeline impacts for pipelines carrying brine are significant before and after mitigation based on evaluation criteria 1 and 2. Although measures adopted as part of the Project Description (Measure 3.2.7, Pipeline Features in Active Fault Zones) would limit the frequency, duration and extent of a pipeline rupture, a rupture cannot be prevented. As described under Impacts 6.6.3 and 6.6.4 in the Program EIR, the pipeline impacts are less than significant with implementation of measures adopted by the City as part of the Preferred Program.

STORAGE COMPONENT

As evaluated in the Program EIR under Impacts 6.7.1, 6.7.2, and 6.7.4, the impact of storage on surface water is considered to be significant for Evaluation Criteria 1, 2, and 4. Mitigation Measure 3.5.6, Dam Seepage Interception, will reduce these impacts to less than significant after mitigation.

As evaluated under Impact 6.7.3 in the Program EIR, the impact of the Storage component construction and operation of facilities will have a less than significant impact on surface runoff quality. Storage is not a component of Alternative 1.

CREATED WETLANDS COMPONENT

As evaluated in the Program EIR under Impacts 6.8.1, 6.8.2 and 6.8.4, no impacts were identified for the Created Wetlands component based on evaluation criteria 1, 2 and 4.

As evaluated in the Program EIR under Impacts 6.8.3, created wetlands have the potential to disturb soil in waterways and result in a substantial degradation of surface runoff quality. Measures to reduce these impacts are included in the Program (see Measure 3.2.1, Revegetate Temporarily Disturbed Sites, 3.2.2, Storm Water Pollution Prevention Plan and 3.2.6, Protect Creeks from Toxic Discharge). The Program EIR found that potential impacts will be less than significant.

PUMP STATIONS AND TANKS COMPONENT

As evaluated in the Program EIR under Impacts 6.9.1, 6.9.2 and 6.9.4, no impacts were identified for the Created Wetlands component based on evaluation criteria 1, 2 and 4.

As evaluated in the Program EIR under Impact 6.9.3, pump stations and tanks have the potential to disturb soil in waterways and result in a substantial degradation of surface runoff quality. Measures to reduce these impacts are included in the Program (see Measure 3.2.1, Revegetate Temporarily Disturbed Sites, 3.2.2, Storm Water Pollution Prevention Plan and 3.2.6, Protect Creeks from Toxic Discharge). The Program EIR found that potential impacts are less than significant.

GEYSERS STEAMFIELD EXPANSION COMPONENT

As evaluated in the Program EIR under Impacts 6.10.1, 6.10.2 and 6.10.4, no impacts were identified for this component based on evaluation criteria 1, 2 and 4.

As evaluated in the Program EIR under Impacts 6.10.3, the Geysers steamfield expansion has the potential to disturb soil in waterways and result in a substantial degradation of surface runoff quality. Measures to reduce these impacts are included in the Program (see Measure 3.2.1, Revegetate Temporarily Disturbed Sites, 3.2.2, Storm Water Pollution Prevention Plan and 3.2.6, Protect Creeks from Toxic Discharge). The Program EIR found that potential impacts are less than significant.

DIRECT DISCHARGE COMPONENT

The Direct Discharge component of the Preferred Project, like the Program EIR, consists of two alternatives: Alternative 6A (Direct Discharge from Delta Pond to the Laguna) and Alternative 6B (Direct Discharge to the Russian River). For most potential pollutants, the evaluation of impacts of Preferred Project direct discharge on surface waters depends only on recycled water quality. In these cases, the evaluation contained in the Program EIR applies to the Preferred Program and no further evaluation is presented. However, the evaluation of some constituents depends on the volume of water discharged as well as recycled water quality. These constituents include temperature, pH, dissolved oxygen, and turbidity in the Laguna and temperature, turbidity, TDS and conductivity in the Russian River. The potential ranges of discharge volumes for Alternative 6A and Alternative 6B in the Preferred Project are described below.

Direct Discharge from Delta Pond to the Laguna (Alternative 6A). Under this option, there will be discharge from Delta Pond to the Laguna at its confluence with Santa Rosa Creek between October 1 through May 14. Other permitted discharge points, including the discharge from Meadowlane Pond, will not be used except when and where effluent and receiving water limits can be achieved. Improvements to the discharge facilities at Delta Pond will be made to better regulate and measure flows. Discharge will occur at a rate to achieve permit limits that will be between 0 and 10 percent of flow in the Laguna de Santa Rosa. At 25.9 mgd ADWF, this restriction results in the need for additional discharge capacity. The balance of the discharge will occur in the Russian River consistent with Alternative 6B, 6C, 6D and/or 6E (Alternatives 6C through 6E consist of Indirect Discharge to the River and are evaluated in the Indirect Discharge Component Section).

Direct Discharge to the Russian River (Alternative 6B). If Alternative 6A is not implemented (i.e., if Laguna discharge is 0 MG), then Under Alternative 6B the entire

volume of discharge could occur directly to the River, up to a maximum of 4,500 MG in the wettest year. Direct discharge to the River could be as low as 0 MG, if discharge is precluded for regulatory reasons. If Alternative 6A is implemented in combination with Alternative 6B, and direct discharge is not precluded for regulatory reasons, then direct discharge to the River could range up to 600 MG in the wettest year (Chapter 2 Project Description Table 2-6). Thus, under Alternative 6B, direct discharge to the Russian River could range from 0 MG to 4,500 MG, depending on whether the year is wet, normal or dry, whether direct discharge is precluded by the CTR as applied by the Regional Board, and whether a portion of the direct discharge is discharged via Alternative 6A.

A new discharge with an outfall directly to the Russian River will be located at a point from north of Healdsburg to Mirabel. Recycled water will be pumped through the Geysers pipeline to a point near the discharge point and conveyed through new pipeline and pumping facilities to a new outfall on the Russian River. Discharge will occur between October 1 through May 14.

Impact: 6.11.1. Will the Direct Discharge component cause an exceedence of numeric-based criteria?

Analysis: *Significant: Alternatives 6 A and 6B*

The evaluation of direct discharge impacts relative to numeric criteria consists of three types of evaluations: a significance evaluation whereby undiluted recycled water is compared to the evaluation criteria (numeric criteria shown in Program Table 4.6-2), a significance evaluation that depends on the volume of water discharged as well as recycled water quality (temperature, pH, dissolved oxygen, and turbidity in the Laguna and temperature, turbidity, TDS and conductivity in the Russian River), and a range of impacts evaluation that examines a range of concentrations in the receiving waters likely to result from IRWP Direct Discharge (Alternatives 6A and 6B). The numeric criteria are the CTR water quality objectives and are shown in Program Table 4.6-2. The numeric evaluation criteria ultimately applied to Direct Discharge may be less stringent depending on how the State Implementation Plan (SIP) is implemented by the North Coast Regional Water Quality Control Board. In particular, the SIP provides the Regional Board with discretion to develop site-specific criteria, water effects ratios, and/or a mixing zone policy. All of these options are recognized in current regulations as permissible considerations to be used by regulatory authorities when deriving effluent quality limits. Depending on how the Regional Board exercises its discretion, the numeric evaluation criteria may differ from the numeric criteria shown in Program Table 4.6-2. The effluent limits adopted by the Regional Board will not be more stringent than the CTR limits included in Table 4.6-2. At this time, there is no way to know how the Regional Board will exercise its discretion in light of the implementation options available under the SIP. For these reasons, the CTR limits shown in Program Table 4.6-2 represent “worst-case” evaluation criteria (i.e. the most stringent evaluation criteria that may apply to direct discharge). Effluent limits less stringent than the CTR objectives will be established by the North Coast Regional Water Quality

Control Board only if the limits protect beneficial uses. The impact of a discharge that is in compliance with such limits will be considered less than significant.

Significance Evaluation – Alternatives 6A and 6B. The following analysis applies to direct discharge to the Laguna (Alternative 6A) and to the Russian River (Alternative 6B). For the evaluation of the Russian River (Alternative 6B) it was assumed that all discharge would go to the River with no discharge to the Laguna.

Evaluations Based Solely on Effluent Quality

CTR criteria. Alternatives 6A and 6B. The maximum detectable concentration in recycled water of the following constituents do not meet their respective CTR “worst case” significance criteria: cyanide, copper, lead, gamma-BHC, and endosulfan II. However, as identified in the Project Description, Alternative 6 includes AMT as needed to avoid exceeding CTR significance criteria.

AMT may not, however, be effective at reducing cyanide concentrations. Impacts of cyanide are found to be significant as described in the Certified EIR.

Other Constituents. Alternatives 6A and 6B. The evaluation of the impact of Direct Discharge on the following constituents in the Program EIR applies to the Preferred Program is considered to be less than significant: ammonia, bacteria, residual chlorine, conductivity, and radioactivity.

Evaluations Based on Effluent Quality and Discharge Volume

Alternative 6A. The project description for both the Program EIR and the Preferred Program limit discharge to the Laguna to ten percent of the flow in the Laguna. Based on this limitation, the impacts of direct discharge to the Laguna on temperature, pH, dissolved oxygen, and turbidity are considered to be less than significant.

Alternative 6B. Direct discharge to the River could be as low as 0 MG (if reuse increases above 2,200 MG) or as high as 4,500 MG if Alternative 6A is not implemented. For the purposes of the analyses described below, a worst-case scenario of all discharge to the River was evaluated.

Temperature. In the Program EIR impacts of discharge on temperature in the Russian River were evaluated by using recycled water and receiving water temperature and flow data to estimate the resulting concentration of recycled water in the receiving water. This was done using the maximum discharge season recycled water temperature and median discharge season receiving water temperature with a 95 percent dilution (greater dilution estimated to occur 95 percent of the time) to estimate the resulting concentration in the receiving water. Table 4.6-4 compares the 95th percent dilution of recycled water in the Russian River for dry, normal and wet years for the Program EIR and the Preferred Program. Dilution rates in the River during dry, normal, and wet years were obtained by a water balance model described in TM 16 (Draft

EIR Appendix N) and Master Planning IRWP Water Balance Model Application – Selected Program (Appendix E to the Final Master Plan).

Addendum Table 4.6-4

95th Percentile Recycled Water Concentrations in the Russian River (dilution is greater 95 percent of the time) Under the Program EIR and the Preferred Program Alternatives (in percent) in Normal (50th percentile rainfall), Dry (10th percentile driest) and Wet (90th percentile wettest) Years

| | Maximum Percent (95 th percentile) Discharge in the River | | |
|--|--|------|-----|
| | Normal | Dry | Wet |
| Program EIR ^a Alt 6B (max discharge to River) | 21.6 | 17.1 | 2.8 |
| Preferred Program Alt 6B ^{b,c} (max discharge to River) | 2.2 | 1.6 | 2.2 |

^a Source: TM 16

^b Source: Master Planning IRWP Water Balance Model Application – Selected Program (Final Master Plan Appendix E)

^c The analysis presented here for the Preferred Program Alternative 6B assumes all discharge (up to 4,500 MG) goes to the River, This approach is conservative because it would create the greatest impact upon the River.

For the Preferred Program, the 95th percentile recycled water concentration during a wet year (the highest percentile recycled water of dry, wet, and normal years) is predicted to result in a 0.6°F increase in the Russian River temperature assuming the maximum recycled water temperature (79°F). Since the median Russian River temperature was 53°F, the resulting temperature does not exceed the evaluation criterion of no more than a 4°F increase when the receiving water is below 58°F. Therefore, the Preferred Program impact on temperature in the Russian River is considered to be less than significant based on the numeric criterion for temperature.

Turbidity. Turbidity in the Russian River is predicted to increase by less than 0.01 NTU which is less than one percent over current conditions (pre-geysers recharge baseline) (less than the 20 percent allowable increase objective). Therefore, the impact of the on turbidity in the Russian River with the Preferred Program is considered to be less than significant.

Conductivity. Alternative 6A. No conductivity criteria exist for the Laguna.

Alternative 6B. Conductivity for each month was estimated using the average monthly Russian River conductivities and the average monthly recycled water concentrations in the dilution calculation as described in the Program EIR Appendix H. These conductivities were examined to determine if six or more

months exceeded the 50th percentile value and thus the point of significance. The 50th percentile upper limit point of significance for conductivity is more stringent than the 90th percentile upper limit point of significance. Therefore, compliance with the 50th percentile upper limit point of significance was evaluated. More than fifty percent of the estimated average monthly conductivity values in the Russian River did not exceed the 50th percentile objective for conductivity for all three year types (dry, normal, and wet). In addition, at least two of the six months exceeding the 50th percentile objective were months in which no discharge is predicted to occur. Therefore, the impact of the Preferred Project Direct Discharge on conductivity in the Russian River is considered to be less than significant.

Total Dissolved Solids (TDS). Alternative 6A. No TDS criteria exist for the Laguna.

Alternative 6B. Insufficient data exist to evaluate the impact of Direct Discharge on TDS in the Russian River. However, since TDS and conductivity are directly related and discharge is not predicted to produce an impact on conductivity, Direct Discharge likely will also not produce an impact on TDS in the Russian River. Therefore, the impact of Preferred Project Direct Discharge on TDS in the Russian River is considered to be less than significant.

Range of Impacts Evaluation. Although for most constituents significance was evaluated based on relatively extreme conditions (no dilution), a range of impacts analysis was conducted to provide estimates of the range of concentration of potential pollutants in the receiving waters.

Alternative 6A. The range of potential impacts on the Laguna with a maximum direct discharge to the Laguna is not expected to differ substantially from the ranges shown in Table 4.6-20 because both the Program EIR and the Preferred Project limit discharge to the Laguna to 10 percent.

Alternative 6B. The range of impacts of discharge to the Russian River at Healdsburg for the Preferred Project assuming the maximum discharge to the River (4500 MG) relative to the pre-geysers recharge baseline and post-geysers recharge baseline are shown in Addendum Table 4.6-5. Because all Santa Rosa discharge under existing conditions occurs through the Laguna, no Santa Rosa recycled water is in the Russian River at Healdsburg. Thus, the pre-geysers recharge baseline and post-geysers recharge baseline are the same since neither baseline contains any Santa Rosa recycled water. The Russian River at Healdsburg was determined to be an appropriate location to represent where both direct and indirect discharge will likely occur. The predicted values for the Preferred Project shown in Addendum Table 4.6-5 do not exceed the water quality criteria/objectives with the exception of enterococci. Although the enterococci density values exceed the objectives for enterococci, this exceedence is due to the high enterococci density values in the Russian River. Recycled water enterococci density values were below detection

(generally <2 CFU/100 mL) and do not exceed the objectives. Thus, the Preferred Project would not cause or contribute to enterococci exceedences in the Russian River. Although the maximum predicted values for TDS and conductivity shown in Table 4.6-5 exceed the 50th percentile criteria for TDS and conductivity, the criteria are based on the number of monthly means that exceed the criteria. TDS and conductivity do not exceed the objectives for TDS and conductivity because of the seasonality of conductivity (as evaluated in the impacts section above, due to the low number of TDS values, TDS is assumed to co-vary with conductivity.)

Addendum Table 4.6-5

Predicted Range of Impacts of Discharge to the Russian River at Healdsburg for the Preferred Project and Baseline Conditions (in µg/L unless otherwise noted).

Constituents with no receiving water data are indicated by NA

| | Pre-and Post-Geysers Recharge Baselines | Preferred Project | | Water Quality Criteria | | |
|--------------------------------|---|---|---|----------------------------------|------------------|-------------|
| | | 50% Percentile (0 percent recycled water) | 95% Percentile (2.2 percent recycled water) | CTR Aquatic Life (chronic/acute) | CTR Human Health | Basin Plan |
| Aluminum (total) | 59 | 59 | 61 | - | - | 750 (acute) |
| Arsenic (total) | 0.60 | 0.60 | 0.65 | 150/340 ^a | - | - |
| Barium (total) | NA | NA | NA | - | - | - |
| Boron (total) | NA | NA | NA | - | - | - |
| Calcium (total) (mg/L) | NA | NA | NA | - | - | - |
| Copper (total) | 1.0 | 1.0 | 1.3 | 8.5/10.2 ^a | 1300 | |
| Iron (total) | NA | NA | NA | | | |
| Lead (total) | 0.034 | 0.034 | 0.2 | 2.4/76 ^a | - | |
| Magnesium (total) (mg/L) | NA | NA | NA | | | |
| Nickel (total) | 1.8 | 1.8 | 1.9 | 50/531 ^a | 610 | |
| Potassium (total) (mg/L) | - | NA | NA | | | |
| Zinc (total) | 0.35 | 0.35 | 1.1 | 113/133 ^a | | |
| Chloroform | <0.5 | 0.25 | 0.33 | | Reserved | |
| Methyl-tert Butyl Ether (MTBE) | NA | NA | NA | | | |
| Naphthalene | <0.50 | 0.25 | 0.41 | | | |
| 1,4 Dichlorobenzene | <0.50 | 0.25 | 0.26 | | 400 | |

Addendum Table 4.6-5

Predicted Range of Impacts of Discharge to the Russian River at Healdsburg for the Preferred Project and Baseline Conditions (in µg/L unless otherwise noted).

Constituents with no receiving water data are indicated by NA

| | Pre-and Post-Geysers Recharge Baselines | Preferred Project | | Water Quality Criteria | | |
|--------------------------------------|---|---|---|----------------------------------|------------------|---|
| | | 50% Percentile (0 percent recycled water) | 95% Percentile (2.2 percent recycled water) | CTR Aquatic Life (chronic/acute) | CTR Human Health | Basin Plan |
| Gamma-BHC | <0.010 | 0.005 | 0.005 | 0.95 | 0.019 | |
| Endosulfan II | <0.010 | 0.005 | 0.007 | 0.056/0.22 | 110 | |
| Ammonia (mg N/L) | 0.025 | 0.025 | 0.29 | | | 15.4 (acute) 3.24 (chronic) |
| Nitrite (mg N/L) | 0.008 | 0.008 | 0.058 | | | |
| Nitrate (mg N/L) | 0.13 | 0.13 | 0.47 | | | |
| TKN (mg/L) | 0.20 | 0.20 | 0.27 | | | |
| Phosphate (mg P/L) | 0.010 | 0.010 | 0.56 | | | |
| Total Coliform Bacteria (MPN/100 mL) | 240 | 240 | 240 | | | Median fecal coliform < 50/100ml for any 30 day period Total fecal < 10% > 400/100ml for any 40 day period |
| E. coli (MPN/100 mL) | 81 | 81 | 79 | | | 30-day mean = 126 Maximum conc.: designated bathing beach = 235 moderate use for bathing = 298 light use for bathing = 410 infrequent use for bathing = 576 |

Addendum Table 4.6-5

Predicted Range of Impacts of Discharge to the Russian River at Healdsburg for the Preferred Project and Baseline Conditions (in µg/L unless otherwise noted).

Constituents with no receiving water data are indicated by NA

| | Pre-and Post-Geysers Recharge Baselines | Preferred Project | | Water Quality Criteria | | |
|--------------------------|---|---|---|----------------------------------|------------------|--|
| | | 50% Percentile (0 percent recycled water) | 95% Percentile (2.2 percent recycled water) | CTR Aquatic Life (chronic/acute) | CTR Human Health | Basin Plan |
| Enterococci (CFU/100 mL) | 135 | 135 | 132 | | | 30-day mean = 33 Maximum conc.: designated bathing beach = 61 moderate use for bathing = 78 light use for bathing = 107 infrequent use for bathing = 151 |
| Alkalinity (mg/L) | 124 | 124 | 127 | | | |
| BOD (mg/L) | NA | NA | NA | | | |
| Chloride | 5.5 | 5.5 | 7.3 | | | |
| Conductivity (µmhos/cm) | 260 | 260 | 275 | | | Russian River upstream 90% upper limit = 320 Russian River upstream 50% upper limit = 250 Russian River downstream 90% upper limit = 375 Russian River downstream 50% upper limit = 285 |
| Cyanide | <5.0 | 2.5 | 2.8 | 5.2/22 | 700 | |

Addendum Table 4.6-5

Predicted Range of Impacts of Discharge to the Russian River at Healdsburg for the Preferred Project and Baseline Conditions (in µg/L unless otherwise noted).

Constituents with no receiving water data are indicated by NA

| | Pre-and Post-Geysers Recharge Baselines | Preferred Project | | Water Quality Criteria | | |
|---|---|---|---|----------------------------------|------------------|--|
| | | 50% Percentile (0 percent recycled water) | 95% Percentile (2.2 percent recycled water) | CTR Aquatic Life (chronic/acute) | CTR Human Health | Basin Plan |
| Dissolved oxygen (mg/L) ^b | 8.1 | 8.1 | 8.1 | | | Minimum = 7.0 90% lower limit = 7.5 50% lower limit = 10.0 |
| Fluoride (mg/L) | 0.060 | 0.060 | 0.06 | | | |
| pH (using maximum recycled water concentration) | 8.0 | 8.0 | 8.0 | | | Max 8.5 |
| pH (using minimum recycled water concentration) | 8.0 | 8.0 | 8.0 | | | Min 6.5 |
| Sodium (total) (mg/L) | NA | NA | NA | | | |
| Sodium (dissolved) (mg/L) | NA | NA | NA | | | |
| Sulfate (mg/L) | 16 | 16 | 17 | | | |
| Temperature (°F) | 53 | 53 | 53.6 | | | 5° F increase above natural receiving water temperature |
| TSS (mg/L) | 160 | 160 | 157 | | | |

Addendum Table 4.6-5

Predicted Range of Impacts of Discharge to the Russian River at Healdsburg for the Preferred Project and Baseline Conditions (in µg/L unless otherwise noted).

Constituents with no receiving water data are indicated by NA

| | Pre-and Post-Geysers Recharge Baselines | Preferred Project | | Water Quality Criteria | | |
|-----------------|---|---|---|----------------------------------|------------------|--|
| | | 50% Percentile (0 percent recycled water) | 95% Percentile (2.2 percent recycled water) | CTR Aquatic Life (chronic/acute) | CTR Human Health | Basin Plan |
| TDS (mg/L) | 155 | 155 | 163 | | | Russian River upstream 90% upper limit = 170 Russian River upstream 50% upper limit = 150 Russian River downstream 90% upper limit = 200 Russian River downstream 50% upper limit = 170 |
| TOC (mg/L) | 1.9 | 1.9 | 3 | | | |
| Turbidity (NTU) | 2.0 | 2.0 | 2.0 | | | < 20 percent above naturally occurring background |

Source: 40 CFR Part 131 (CTR criteria); North Coast Basin Plan, 1994 (Basin Plan objectives)

^a These metals criteria are for dissolved metals.

^b Dissolved oxygen values based on one week's data for recycled water.

Mitigation: *Cyanide. Alternatives 6A and 6B*

No mitigation has been identified.

After

Mitigation *Cyanide. Significant: Alternatives 6A and 6B*

See the discussion of cyanide mitigation in Chapter 4.6 of the Program EIR

Mitigation: *pH. Alternative 6B*

3.5.3. Adjust pH and D.O in Recycled Water Prior to Discharge to the Russian River

After
Mitigation *pH. Less than Significant: Alternative 6B.*
The pH of recycled water can be adjusted with chemical addition of acid or base as necessary prior to discharge to insure that discharge of recycled water does not result in a significant impact on pH in the receiving water.

Mitigation: *Dissolved Oxygen. Alternative 6B*

3.5.3. Adjust pH and D.O in Recycled Water Prior to Discharge to the Russian River

After
Mitigation *Dissolved Oxygen. Less than Significant: Alternative 6B*

The dissolved oxygen of recycled water can be adjusted with additions of oxygen or air as necessary prior to discharge to insure that discharge of recycled water does not result in a significant impact on dissolved oxygen in the receiving water.

Impact: 6.11.2. Will the Direct Discharge component cause an exceedence of narrative-based criteria)?

Analysis: *Significant: Alternative 6A*

Less than Significant: Alternative 6B

The evaluation of the impact of Direct Discharge on narrative-based criteria found in the Program EIR also applies to the Preferred Program.

Direct Discharge is not a component of Alternatives 1, 3, 4, 5, 6C, 6D, and 6E.

Mitigation: *Biostimulatory Substances. Alternative 6A*

3.5.7 Laguna Biostimulation Reduction.

After
Mitigation *Biostimulatory Substances. Less than Significant: Alternative 6A*

Several methods are included in mitigation measure 3.5.7, including discharge and storage management, reduction of nutrients in the watershed and AMT, that alone or together can reduce the concentration of nutrients in recycled water and in the watershed sufficiently to insure that biostimulatory substances in the Laguna are not increased due to project discharge.

Impact: 6.11.3. Will the Direct Discharge component construction and operation of facilities result in a substantial degradation of surface runoff quality?

Analysis: *Less than Significant: Alternatives 6A and 6B*

The evaluation of the impact of Direct Discharge on construction and operation of facilities found in the Program EIR also applies to the Preferred Program.

Direct Discharge is not a component of Alternatives 1, 3, 4, 5, 6C, 6D, and 6E.

Mitigation: No mitigation is needed.

Impact: 6.11.4. Will the Direct Discharge component result in non-attainment of established TMDLs?

Analysis: *Significant: Alternative 6A*

Less than Significant: Alternative 6B

The evaluation of the impact of Direct Discharge on non-attainment of established TMDLs found in the Program EIR also applies to the Preferred Program.

Direct Discharge is not a component of Alternatives 1, 3, 4, 5, 6C, 6D, and 6E.

Mitigation: *Alternative 6A*

3.5.4 Reduce Nitrogen loads to Laguna de Santa Rosa

After

Mitigation *Less than Significant: Alternative 6A.*

Nitrogen loads to the Laguna will be reduced by a reduction in nitrogen loads from the treatment plant or from other sources in the watershed. Construction occurring in January 2003 to retrofit the Laguna Plant aeration basins will provide anoxic selector zones and better aeration control. These changes are expected to reduce effluent nitrogen content beyond that reported in this Draft EIR. Significant reduction of nitrogen inputs to streams such as the Laguna de Santa Rosa can result from the introduction of Best Management Practices (BMPs) in the watershed. Several of the BMPs which are known to reduce nutrients such as nitrate and ammonia have been summarized recently in “California Stormwater Best Management Practice Handbook(s)” and are evaluated further in mitigation measure 3.5.4.

INDIRECT DISCHARGE COMPONENT

Indirect discharge to the River could be as low as 0 MG (if reuse increases above 2,200 MG) or if Alternative 6A is implemented in combination with Alternative 6B, or if Alternative 6B is implemented alone. If implemented in conjunction with Alternative 6A, indirect discharge to the River could be as much as 600 MG in the wettest year. If Alternative 6A or 6B are not implemented (Laguna discharge and River direct discharge are 0 MG as necessary to comply with regulatory requirements), the entire volume of discharge (up to 4,500 MG maximum in the wet year) could occur via one or a combination of indirect River discharge methods associated with Alternatives 6C, D, and E. Indirect discharge may occur via percolation ponds (6C), infiltration basins (6D), or injection wells (6E). Indirect discharge potentially allows for additional treatment of the recycled water through the soil-aquifer system before it reaches surface water or deeper aquifers.

Impact: 6.12.1. Will the Indirect Discharge component cause an exceedence of numeric-based criteria)?

Analysis: *Significant: Alternatives 6C through 6E*

As evaluated in the Program EIR, for the purposes of the surface water quality impacts analysis in this addendum, no change in composition of recycled water through Indirect Discharge is assumed and the analysis presented above for the direct discharge to the Russian River (Alternative 6B) applies to Alternatives 6C through 6E as well as to Alternative 6B. However, any subsurface changes in composition of recycled water are likely to reduce priority pollutants. Thus the impact of Indirect Discharge on cyanide, pH and dissolved oxygen is considered to be significant.

Indirect Discharge is not a component of Alternatives 1, 3, 4, 5, 6A, and 6B.

Mitigation: *Cyanide. Alternatives 6C through 6E*

No mitigation has been identified.

After

Mitigation *Cyanide. Significant: Alternatives 6A and 6B*

See the direct discharge cyanide mitigation section.

Mitigation: *pH. Alternatives 6C through 6E*

3.5.3. Adjust pH and D.O. in Recycled Water Prior to Discharge to the Russian River.

After

Mitigation *pH. Less than Significant: Alternatives 6C through 6E*

The pH of recycled water released to percolation ponds, infiltration basins, and injection wells will be adjusted with the chemical addition of acid or base as necessary prior to discharge to prevent adverse impacts on surface waters.

Mitigation: *Dissolved oxygen. Alternatives 6C through 6E*

3.5.3. Adjust pH and D.O. Recycled Water Prior to Discharge to the Russian River.

After

Mitigation *Dissolved oxygen. Less than Significant: Alternatives 6C through 6E*

The dissolved oxygen in percolation ponds, infiltration basins, and injection wells will be adjusted with the addition of oxygen or air as necessary prior to discharge to prevent adverse impacts on surface waters.

Impact: 6.12.2. Will the Indirect Discharge component cause an exceedence of narrative-based criteria)?

Analysis: *Less than Significant: Alternatives 6C through 6E*

As shown in the analysis of Alternative 6B, Direct Discharge is not predicted to result in any significant impacts to the Russian River, so under the

Preferred Project, Indirect Discharge, which is expected to result in fewer impacts than Direct Discharge, will also be less than significant.

Indirect Discharge is not a component of Alternatives 1, 3, 4, 5, 6A, and 6B.

Mitigation: No mitigation is needed.

Impact: 6.12.3. Will the Indirect Discharge component construction and operation of facilities result in a substantial degradation of surface runoff quality?

Analysis: *Less than Significant: Alternatives 6C through 6E*

The evaluation of the Indirect Discharge component construction and operation of facilities for the Program EIR also applies to the Preferred Program.

Indirect Discharge is not a component of Alternatives 1, 3, 4, 5, 6A, and 6B.

Mitigation: No mitigation is needed.

Impact: 6.12.4. Will the Indirect Discharge component result in non-attainment of established TMDLs?

Analysis: *Less than Significant: Alternatives 6C through 6E*

Discharge to the Russian River will result in a decrease in nitrogen loads to the Laguna.

Indirect Discharge is not a component of Alternatives 1, 3, 4, 5, 6A, and 6B.

Mitigation: No mitigation is needed.

ADVANCED MEMBRANE TREATMENT

As evaluated in the Program EIR under Impacts 6.13.1, 6.13.2, and 6.13.4, AMT will not result in direct or indirect discharge or dam seepage.

As evaluated in the Program EIR under Impact 6.13.3, AMT will have a less-than-significant impact to water quality from runoff resulting from construction and operation of facilities.

CUMULATIVE IMPACTS

The evaluation of cumulative impacts found in the Program EIR is also applicable to the Preferred Program. Three projects with a potential nexus with the Preferred Program have been proposed or revised since the publication of the Final Program EIR. Sonoma County Water Agency's new draft Biological Assessment for Section 7 consultation was published in January 2004, plans are underway for a casino to be built near Rohnert Park, and the Federal Energy Regulatory Commission issued an Order Amending License for PG&E (106 FERC #61,065) on January 28, 2004. Details regarding these projects are set forth in Chapter 4.0 of this Addendum. These three projects are therefore reasonably foreseeable and their cumulative impact analysis follows.

SCWA's Draft BA. Cumulative analysis in the Final EIR was based upon the 13 June 2003 Draft BA. SCWA's January 2004 draft BA was compared to the 2003 Draft BA to determine whether the alternative flow regimes have changed substantially. The flow regimes in the January 2004 draft BA are still within the range of potential flow regimes evaluated in the Program EIR. For this reason, the cumulative impact analysis in the Program EIR remains accurate.

Federated Indians of Graton Rancheria Casino. This project will involve construction of a casino and facilities and may involve building a wastewater treatment plant which will discharge into the Laguna de Santa Rosa. Wastewater discharge could be up to 0.5 mgd to the Laguna de Santa Rosa.

106 FERC #61,065. See project description in Chapter 4.0. The FERC order does not change the analysis of impacts because the IRWP discharge season does not overlap with reduced summer flows under the FERC order.

Impact: 6.1C. Will the Program plus cumulative projects cause an exceedence of numeric-based criteria?

Analysis: *Less than Significant*

Increased Residential and Commercial Development. Land development can increase the concentration of water quality constituents in stormwater runoff from the site. Stormwater runoff from the Rohnert Park cumulative project could, in turn, affect the quality of the Laguna de Santa Rosa and other waterways. The Santa Rosa Area Urban Runoff and Storm Water NPDES Permit Standard Urban Storm Water Mitigation Plan (SUSMP) and other jurisdictions SUSMPs are designed to reduce stormwater runoff. To mitigate potential impacts of the Rohnert Park Casino project on stormwater drainage, the Tribe has agreed to make an annual contribution to the City of Rohnert Park which will be used to address stormwater drainage matters (Memorandum of Understanding, 2003). Therefore, stormwater discharge from the Rohnert Park Casino will not cause significant cumulative impacts.

Increases in Other Wastewater Treatment Plants Capacities in the Russian River Basin. If the Graton Rancheria casino wastewater treatment plant discharge is not on Tribal property, then discharge will be permitted, like other discharges in the Russian River Basin, by the Regional Water Quality Control Board and the cumulative impact will be as described for other wastewater discharges in the Russian River Basin in the Program EIR. If the discharge is on Tribal property, the discharge will be permitted by the EPA. Discussions were held with Suesan Saucerman, U.S. EPA Water Quality Standards and Permits Division (personal communication, January 2004). She stated that a U.S. EPA-issued permit for the Casino will be very similar to one issued by the Regional Board including a seasonal discharge prohibition, a limitation of discharge to one percent of the receiving water (Laguna) flow, and no dilution allowed for

determining reasonable potential and permit compliance. An EPA-issued permit will differ from a Regional Board permit in that the 2002 EPA National Recommended Water Quality Criteria will be used for the Reasonable Potential Analysis (RPA) and compliance evaluation and the methods for determining RPA will be those in the Technical Support Document rather than the State Implementation Policy (Suesan Saucerman, U.S. EPA Region 9, pers. comm.). The compounds found in detectable quantities in Santa Rosa’s recycled water that have different U.S. EPA and CTR criteria are shown in Table 4.6-6, along with the maximum recycled water concentration for each constituent (from Program EIR Table 4.6-2).

Addendum Table 4.6-6

Differences between CTR and U.S. EPA Priority Pollutant Criteria

| Constituent | CTR Criteria | EPA Criteria | Santa Rosa’s Recycled Water Maximum Concentration |
|--------------------------------|-----------------|-----------------|--|
| Cadmium | 2.1 | 0.24 | ND |
| Chromium III | 170 | 71 | ND |
| Mercury | 0.05 | 0.77 | ND |
| Chloroform | - | 5.7 | 4 |
| Methyl-tert Butyl Ether (MTBE) | - | - | 1.8 |
| Naphthalene | - | - | 7.5 |
| 1,4 Dichlorobenzene | 400 | 63 | 0.6 |
| Gamma-BHC | 0.019 | 0.16 | 0.02 |
| Endosulfan II | 0.056 | 0.056 | 0.08 |

Cumulative impacts for constituents with numeric criteria will occur only if the EPA criteria were more stringent than the CTR criteria and if the concentration in recycled water exceeded the U.S. EPA criteria. The only U.S. EPA criteria that are more stringent than the CTR criteria are for cadmium, chromium III, chloroform, and 1,4 dichlorobenzene. The maximum concentrations in recycled water of these constituents are either below detection (cadmium and chromium III) or less than the U.S. EPA criteria (chloroform, 1, 4 dichlorobenzene). Therefore, the Rohnert Park Casino discharge is not expected to exceed established numeric criteria, and the cumulative concentrations will also not exceed numeric criteria.

Impact: **6.2C. Will the Program plus cumulative projects cause an exceedence of narrative-based criteria?**

Analysis: *Less than Significant*

The levels of constituents with narrative criteria are regulated in Santa Rosa's discharge to not cause an exceedence of narrative-based criteria based on site-specific conditions. These site-specific conditions include stormwater runoff and discharge from other wastewater treatment plants and will include potential future increases in runoff and discharge. Therefore, regulations will insure that Santa Rosa's recycled water discharge will not cause significant cumulative impacts.

Impact: 6.3C. Will the Program plus cumulative projects construction and operation of facilities result in a substantial degradation of surface runoff quality?

Analysis: *Less than Significant*

Development projects in the area have the potential for cumulative construction-period water quality impacts. Under the NPDES permit program, including stormwater permitting, EPA Region 9 is the permitting authority for Indian California. Preparation of Storm Water Pollution Prevention Plans under the NPDES permit will reduce construction period impacts to less than significant.

Impact: 6.4C. Will the Program plus cumulative projects result in non-attainment of established TMDLs?

Analysis: *Less than Significant*

The TMDL for the Laguna de Santa Rosa for nitrogen and ammonia already in place is designed to prevent cumulative impacts of projects on that constituent. With appropriate mitigation, the IRWP will meet the established TMDL for nitrogen and ammonia. It is presumed that the Rohnert Park cumulative project will be allocated loads by the U.S. EPA in a manner similar to the Regional Water Quality Control Board as appropriate to prevent environmental degradation due to nitrogen and ammonia. Therefore the cumulative impact on established TMDLs will be less than significant and no further mitigation is required.

ENVIRONMENTAL IMPACTS FOR THE COMBINED ALTERNATIVES - PREFERRED PROGRAM

The Preferred Program combines five alternatives from the Program EIR and establishes both a target for recycled water use and a permissible range of recycled water use. The following illustrates the potential environmental impacts of the combined alternatives for the target and for the maximum amount of recycled water use identified for the range. The analysis of the environmental impacts of the combined alternatives that make up the Preferred Program follows the same methodology used in the Program EIR (Chapter 5). Details used in the analysis of environmental impacts for the Target and Range are presented in Appendix A.

Target

Potential construction-period water quality impacts are associated with the acreage of temporary disturbance, but these impacts would all be fully addressed by measures adopted by the City as part of the Program, and are not expected to be worsened by an increase in total construction area. Operational impacts are primarily associated with the amount of recycled water to be reused or discharged, and are site specific to the reuse area. Analysis of components has considered the maximum size of each component, so combinations of alternatives would not worsen any impacts to receiving waters. Impacts of dam seepage are also site specific, but there would be a smaller total volume of storage with this combination than was evaluated in Program Alternative 4. Significant impacts associated with pipelines are confined to those pipelines carrying brine, and this impact would be the same as for Alternative 6. Impacts of the target Preferred Program are reduced compared to those impacts that were identified in the Program EIR, and there will be no new significant impacts.

Range

Potential construction-period water quality impacts are associated with the acreage of temporary disturbance, but these impacts would all be fully addressed by measures adopted by the City as part of the Program, and are not expected to be worsened by an increase in total construction area when compared with individual alternatives. Operational impacts are primarily associated with the amount of recycled water to be recycled, and are site specific to the reuse area. Analysis of components has considered the maximum size of each component, so combinations of alternatives would not worsen any impacts to receiving waters. Impacts of dam seepage are also site specific, but there would be a smaller total volume of storage with this combination than with Combination of Alternatives 11. Significant impacts associated with pipelines are confined to those pipelines carrying brine, and this impact would be the same as for Alternative 6. Impacts of the high end of the range of the Preferred Program are reduced compared to those impacts that were identified in the Program EIR, and there will be no new significant impacts.

4.7 PUBLIC HEALTH AND SAFETY

Table 4.7-8 from the Program EIR presents Public Health and Safety criteria, and is presented below.

Table 4.7-8

Evaluation Criteria with Significance Thresholds– Public Health and Safety¹

| Evaluation Criteria | As Measured by | Significance Threshold | Sources of Criteria |
|---|--|--|---|
| 1. Will the IRWP expose the public to chemicals, radionuclides, pathogenic viruses, bacteria, or other disease organisms at concentrations detrimental to human health? | Proposed measures not in compliance with California Title 22 regulations for the use of recycled water or the treatment plant's NPDES permit. | Greater than 0 occurrences | California Title 22 regulations governing the use of recycled water and the Clean Water Act |
| 2. Will the IRWP expose workers or the public to hazards from a known hazardous waste site? | Ground disturbance near a hazardous waste release site(s). | Greater than 0 occurrences within the Program study area | CEQA Guidelines Appendix G, Checklist Item VII (d); California Government Code, Section 65962.5; Resource Conservation and Recovery Act; Comprehensive Environmental Response Compensation and Liability Act (as amended by the Superfund Amendments and Reauthorization Act); California Hazardous Waste Control Law |
| 3. Will the IRWP increase potential exposure of the public to hazardous materials due to a chemical release during their routine transport, use, storage or disposal? | Increase in transport, use, storage or disposal of hazardous materials not in accordance with State and federal hazardous materials or waste regulations. Use of acutely hazardous materials or hazardous emissions within ¼ mile of a school. | Greater than 0 occurrences | CEQA Guidelines Appendix G, Checklist Item VII (a), (b), and (c); Federal Emergency Planning and Community Right-to-Know Act; California Accidental Release Prevention Law; Public Safety sections of local General Plans |

Table 4.7-8

Evaluation Criteria with Significance Thresholds– Public Health and Safety¹

| Evaluation Criteria | As Measured by | Significance Threshold | Sources of Criteria |
|---|--|---|---|
| 4. Will the IRWP expose the public to safety hazards associated with operation of heavy machinery, vehicles, or equipment; or creation of accessible excavations (trenches, pits, or borings); or creation of an accessible open body of water? | Use of heavy machinery, vehicles or equipment; creation of excavations; or creation of an open body of water in public areas not in accordance with State construction safety regulations. | Greater than 0 occurrences | California Construction Safety Regulations |
| 5. Will the IRWP expose the public to a flooding hazard? | Increased risk of inundation due to proposed element(s) not in compliance with State's dam safety standards. | Greater than 0 occurrences | CEQA Guidelines Appendix G, Checklist Item VII (a) and (b); Standards set by the California Department of Water Resources Division of Safety of Dams; Public Safety sections of local General Plans |
| 6. Will the IRWP expose people or structures to a risk of loss, injury or death involving wildland fires? | Operation of the IRWP not in compliance with the State's Fire Safe Regulations | Greater than 0 occurrences | CEQA Guidelines Appendix G, Checklist Item VIII (h); Public Safety sections of local General Plans; State Fire Safe Regulations |
| 7. Will the IRWP increase the potential exposure of the public to disease vectors (i.e., mosquitoes)? | Creation of mosquito habitat. | Greater than 0 acres of new mosquito habitat | Marin/Sonoma Mosquito Abatement District criteria for mosquito abatement |
| 8. Will the IRWP create a safety hazard for people residing or working near a public or private airport or airstrip? | Construction activities or permanent structures that create a safety hazard for residents or workers within an airport land use area or within 2 miles of an airstrip or airport without a land use plan | Construction or structures not in compliance with airport land use policies | CEQA Guidelines Appendix G, Checklist Item VII (e) and (f) |

¹ CEQA checklist item VII (g) asks if the project will impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan. This question is addressed in the transportation section.

LAGUNA PLANT UPGRADE COMPONENT

As evaluated in the Program EIR under Impacts 7.1.1, 7.1.2, and 7.1.4 through 7.1.8, the Laguna Plant upgrade component will not impact public health and safety based on evaluation criteria 1, 2, and 4 through 8.

Impact 7.1.3 in the Program EIR evaluates the potential exposure of the public to hazardous materials. The Program EIR found that potential impacts will be less than significant.

INDOOR WATER CONSERVATION COMPONENT

As evaluated in the Program EIR under Impacts 7.2.1 through 7.2.8, the indoor water conservation component will not impact public health and safety based on evaluation criteria 1 through 8.

URBAN IRRIGATION COMPONENT

Impact 7.4.1 in the Program EIR evaluates potential exposure of the public to hazardous materials during construction and operation of the urban irrigation component. The Program EIR found that potential impacts will be less than significant.

As evaluated in the Program EIR under Impact 7.4.2 through 7.4.6 and 7.4.8, the urban irrigation component will not impact public health and safety based on evaluation criteria 2 through 6 and 8.

Impact 7.4.7 in the Program EIR evaluates potential exposure of the public to disease vectors from the urban irrigation component. The Program EIR found that potential impacts will be less than significant.

AGRICULTURAL IRRIGATION COMPONENT

As evaluated in the Program EIR under Impacts 7.5.1 through 7.5.4 and 7.5.6 through 7.5.7, there is a potential for exposure of the public to hazardous during construction and operation of the Agricultural Irrigation component. Measures to reduce these impacts are included in the IRWP (see Measure 3.2.11, Construction Management Program). The Program EIR found that impacts will be less than significant.

As evaluated in the Program EIR under Impact 7.5.5 and 7.5.8, agricultural irrigation will not impact public health and safety based on evaluation criteria 5 and 8.

PIPELINE COMPONENT

As evaluated in the Program EIR under Impacts 7.6.1 through 7.6.4 and 7.6.6, there is a potential for exposure of the public to hazardous during construction and operation of the Pipeline component. Measures to reduce these impacts are included in the IRWP (see Measure 3.2.11, Construction Management Program). The Program EIR found that impacts will be less than significant.

As evaluated in the Program EIR under Impact 7.6.5, 7.6.7 and 7.6.8, pipelines will not impact public health and safety based on evaluation criteria 5, 7 and 8.

STORAGE COMPONENT

Impact 7.7.1 in the Program EIR identifies a significant impact associated with exposure to chemicals and organisms at concentrations detrimental to human health. Mitigation Measure 3.3.9, Well Protection Program, is proposed to address this impact. The Program EIR found this impact to be less than significant after mitigation.

As evaluated in the Program EIR under Impacts 7.7.2 through 7.7.7, there is a potential for exposure of the public to hazardous during construction and operation of the Storage component. Measures to reduce these impacts are included in the IRWP (see Measure 3.2.11, Construction Management Program). The Program EIR found that impacts will be less than significant.

As evaluated in the Program EIR under Impact 7.7.8, the storage component will not impact public health and safety based on evaluation criteria 8.

CREATED WETLANDS COMPONENT

Impact 7.8.1 in the Program EIR identifies a significant impact associated with exposure to chemicals and organisms at concentrations detrimental to human health. Mitigation Measure 3.3.9, Well Protection Program, is proposed to address this impact. The Program EIR found this impact to be less than significant after mitigation.

Impact 7.8.2 through 7.8.4, 7.8.6 and 7.8.7 discuss impacts associated with exposure of the public to hazardous waste sites, hazardous materials and safety hazards during construction and operation of created wetlands. The Program EIR found that impacts will be less than significant.

As evaluated in the Program EIR under Impact 7.8.5 and 7.8.8, agricultural irrigation will not impact public health and safety based on evaluation criteria 5 and 8.

PUMP STATIONS AND TANKS COMPONENT

As evaluated in the Program EIR under Impacts 7.9.1, 7.9.5, 7.9.7, and 7.9.8, the pump station and tank component will not affect public health and safety based on evaluation criteria 1, 5, 7, and 8.

Impacts 7.9.2 through 7.9.4 and 7.9.6 discuss impacts associated with exposure of the public to hazardous waste sites, hazardous materials, and safety hazards during construction and operation pump stations and tanks. The Program EIR found that impacts will be less than significant.

GEYSERS STEAMFIELD EXPANSION COMPONENT

As evaluated in the Program EIR under Impacts 7.10.1, 7.10.3, 7.10.4, 7.10.5, 7.10.7 and 7.10.8, the Geysers Steamfield Expansion component will not impact public health and safety based on evaluation criteria 1, 3, 4, 5, 7 and 8.

Impacts 7.10.2 and 7.10.6 in the Program EIR evaluates potential exposure workers or the public to hazards based on evaluation criteria 2 and 6. The Program EIR found that impacts will be less than significant.

DIRECT DISCHARGE COMPONENT

Impacts 7.11.1 through 7.11.4 in the Program EIR evaluates potential exposure workers or the public to hazards based on evaluation criteria 1 and 4. The Program EIR found that impacts will be less than significant.

As evaluated in the Program EIR under Impact 7.11.5 through 7.11.8, the discharge component will not affect public health and safety based on criteria 5 through 8.

INDIRECT DISCHARGE COMPONENT

Impact 7.12.1 in the Program EIR identifies a significant impact associated with exposure to chemicals and organisms at concentrations detrimental to human health. Mitigation Measure 3.3.9, Well Protection Program, is proposed to address this impact. The Program EIR found this impact to be less than significant after mitigation.

Impacts 7.12.2 through 7.12.7 in the Program EIR evaluates potential exposure workers or the public to hazards based on evaluation criteria 2 and 7. The Program EIR found that impacts will be less than significant.

As evaluated in the Program EIR under Impact 7.12.8, the discharge component will not affect public health and safety based on criteria 8.

ADVANCED MEMBRANE TREATMENT COMPONENT

As evaluated in the Program EIR under Impacts 7.13.1, 7.13.5, and 7.13.7, AMT facilities will not impact public health and safety.

Impact 7.13.2 in the Program EIR evaluates the potential for construction of AMT facilities to expose workers or the public to hazards from a known hazardous waste site. As part of Project Measure 3.2.11, Construction Management Program, potential hazardous waste release sites would be identified prior to construction by performing an Initial Site Assessment to identify hazardous waste release sites within 500 feet of the AMT facility. Identification and proper management of any contaminated soil or groundwater encountered during construction would mitigate impacts to less than significant.

As evaluated in the Program EIR under Impact 7.13.3 and 7.13.4, AMT facilities would not expose the public to hazardous materials and to safety hazards associated with operation of machinery. The Program EIR found these impacts will be less than significant.

As evaluated in the Program EIR under Impact 7.13.6, AMT facilities would not expose people to significant wildfire risk. Project Measure 3.2.11, Construction Management Program, requires procedures to manage ignition sources and to reduce the risk and hazard from wildland fires. Ignition source controls will reduce impacts to less than significant.

Impact 7.13.8, evaluates whether AMT facilities would create a safety hazard near an airport or airstrip. Project Measure 3.2.14, Site Facilities to Avoid Airport Land Use Conflict, would impose height restrictions or relocate the AMT facility away from the Charles M. Schulz Sonoma County Airport, and thus would reduce impacts to a level that is less than significant.

CUMULATIVE IMPACTS

The cumulative public health and safety impacts of Program facilities are evaluated in Section 4.7 of the Program EIR. As noted there under Impacts 7.2C, 7.4C, 7.6C, and 7.8C, none of the components associated with the IRWP will have significant effects on public health, so there are no cumulative effects associated criteria with 2, 4, 6, and 8.

As indicated in the Program EIR under Impact 7.1C, the Program has been evaluated against standards intended for long duration and cumulative impacts will not be expected to be significant, so no further mitigation is required. Although the Federated Indians of the Graton Rancheria Casino, located west of Rohnert Park, may include a wastewater disposal facility, any discharge from the Casino will still be subject to an NPDES permit from the U.S. EPA, and impacts to human health will therefore be less than significant. Please refer to the Water Quality section of this Addendum for more information.

As evaluated in the Program EIR under Impact 7.3C, exposure to hazardous materials due to a chemical release will be less than significant because the use of hazardous materials must be fully in accordance with applicable laws.

As evaluated in the Program EIR under Impact 7.5C, exposure to a flooding hazard will be less than significant. The addition of the new cumulative projects described in Chapter 6 will not add reservoirs in locations where less-than-significant flooding hazards of the Preferred Program could be augmented.

As evaluated in the Program EIR under Impact 7.7C, an increase in the potential exposure of the public to disease vectors (i.e. mosquitoes) cumulative impacts will be reduced to a less-than-significant level due because the entire Program area is subject to the requirements of the Marin/Sonoma Mosquito Abatement District and the Vector Biology and Control Branch of California Department of Health Services. The addition of the new cumulative projects described in Chapter 6 will not change this determination.

ENVIRONMENTAL IMPACTS FOR THE COMBINED ALTERNATIVES - PREFERRED PROGRAM

The Preferred Program combines five alternatives from the Program EIR and establishes both a target for recycled water use and a permissible range of recycled water use. The following illustrates the potential environmental impacts of the combined alternatives for the target and for the maximum amount of recycled water use identified for the range. The analysis of the environmental impacts of the combined alternatives that make up the Preferred Program follows the same methodology used in the Program EIR (Chapter 5). Details used in the analysis of environmental impacts for the Target and Range are presented in Appendix A.

Target

The target volume recycled water disposal could result in exposure of the public to recycled water both through urban and agricultural irrigation and discharge. The evaluation of impacts to public health is based on standards intended for long duration exposures and cumulative impacts, so this impact will not be significant. Mitigation for wells that could be affected by discharge or storage will fully address potential Program impacts. Potential exposure to a hazardous waste site is a site-specific hazard and combinations of components will not exacerbate this impact. All use of hazardous materials must conform to applicable laws, so no impacts will be expected from combining alternatives. Flooding hazards are directly related to the number and size of dams, and the Target reuse will require less storage than Alternative 4. Impacts of constructing the Agricultural Irrigation component in areas of high wildfire risk can be fully mitigated by the construction management component. The Mosquito Prevention Program will fully mitigate potential impacts associated with exposure to disease vectors. The AMT component has the potential to create a safety hazard near an airport or airstrip; this impact can be fully mitigated by appropriate siting. Impacts of the Preferred Program are reduced compared to those impacts that were identified in the Program EIR for the Combination of Alternatives, and there will be no new significant impacts.

Range

The maximum recycled water disposal could result in exposure of the public to recycled water both through urban and agricultural irrigation. However, the evaluation of impacts to public health is based on standards intended for long duration exposures and cumulative impacts, so this impact will not be significant. Mitigation for wells that could be affected by discharge or storage will fully address potential impacts. Potential exposure to a hazardous waste site is a site-specific hazard and combinations of components will not exacerbate this impact. All use of hazardous materials must conform to applicable laws, so no impacts will be expected from combining alternatives. Flooding hazards are directly related to the number and size of dams, and the high end of the range will require less storage than was evaluated in Combination of Alternatives 11. Impacts of constructing the Agricultural Irrigation component in areas of high wildfire risk can be fully mitigated by the construction management component. The Mosquito Prevention Program will fully mitigate potential impacts associated with exposure to disease vectors. The AMT component has the potential to create a safety hazard near an airport or airstrip; this impact can be fully mitigated by

appropriate siting. Impacts of the Preferred Program are reduced compared to those impacts that were identified in the Program EIR, and there will be no new significant impacts.

4.8 BIOLOGICAL RESOURCES

Table 4.8-6 from the Program EIR presents criteria for terrestrial biological resources, and is presented below.

Table 4.8-5

Evaluation Criteria and Significance Thresholds - Biological Resources

| Evaluation Criteria | As Measured By | Significance Thresholds | Sources of Criteria |
|---|---|--|--|
| <p>1. Will the IRWP cause loss of individuals, or loss of critical habitat, or loss of occupied habitat of endangered, threatened, or rare species of plants and animals? Endangered, threatened, or rare is defined here as: federally listed endangered, threatened, or proposed plant or wildlife species State listed endangered, threatened, or proposed plant or wildlife species or rare plant species State candidates for listing CNPS List 1B plant species</p> | <p>a) Number of individuals of a plant or wildlife species that would be lost b) Acres of occupied or designated critical habitat c) Linear feet of occupied stream habitat</p> | <p>a) Greater than 0 individuals b) Greater than 0 acres c) Greater than 0 linear feet</p> | <p>FESA, CESA (Sections 2062 and 2067), CEQA (Article 5, Section 15065), and California Native Plant Protection Act (CDFG Code Sections 1900-1913) CEQA Guidelines Appendix G, Checklist Item VII(a)</p> |
| <p>2. Will the IRWP cause loss of individuals of CNPS List 2, 3, or 4 plant species?</p> | <p>Loss of populations (i.e., stands) or portions of populations of plants.</p> | <p>Greater than 15 percent of known populations in Sonoma/Lake Counties for CNPS List 2, 3, and 4 plant species.</p> | <p>California Native Plant Protection Act (CDFG Code Sections 1900-1913), CEQA (Article 5, Section 15065) CEQA Guidelines Appendix G, Checklist Item VII(a)</p> |
| <p>3. Will the IRWP cause loss of active raptor nest sites?</p> | <p>Number of active nesting sites</p> | <p>Greater than 0 active nest sites</p> | <p>CEQA (Article 5, Section 15065), CDFG Wildlife Habitat Relationships model - (Version 8.0), Fish and Game Code - (Section 3503.5) CEQA Guidelines Appendix G, Checklist Item VII(a)</p> |

Table 4.8-5

Evaluation Criteria and Significance Thresholds - Biological Resources

| Evaluation Criteria | As Measured By | Significance Thresholds | Sources of Criteria |
|--|--|--|--|
| 4. Will the IRWP cause loss of animals designated as a federal candidate species, a California fully protected species, or a California species of special concern? | Direct loss of individuals or loss of occupied rookeries (colonial nesting birds), nests (birds), dens (mammals), roost sites (bats), or burrows (all taxa). | a) Greater than 0 individuals. b) Greater than 0 occupied rookeries, nests, roost sites, or burrows. | CEQA (Article 5, Section 15065), CDFG Wildlife Habitat Relationships model - (Version 8.0) CEQA Guidelines Appendix G, Checklist Item VII(a) |
| 5. Will the IRWP cause permanent loss of native special-status plant communities such as those designated in the California Natural Diversity Data Base as "rare" or in local tree ordinances? | Acres of special-status native plant community lost. Number of local ordinance trees lost. | a) Greater than 0.10 acre for terrestrial plant communities b) Greater than 0.01 acre for aquatic plant communities c) Greater than 0 ordinance trees. | CEQA (Article 5, Section 15065), California Native Plant Protection Act (Fish and Game Code, Sections 1900-1913), CDFG Interim Wildlife/Hardwood Management Guidelines (1989), CNDDDB (2002), Local Tree Ordinances CEQA Guidelines Appendix G, Checklist Item VII(b) and VII(e) |
| 6. Will the IRWP substantially block or disrupt major migration or travel corridors between essential resource areas for native animals? | Number of corridors substantially blocked or disrupted. | Greater than 0 corridors. | CEQA Guidelines Appendix G, Checklist Item VII(d) |
| 7. Will the IRWP result in ecological risk to plant and animal populations (i.e., acute or chronic toxicity and bioaccumulation)? | Ecological Quotient (EQ), which is the ratio of the exposure concentration or exposure rate to the appropriate benchmark values | Ecological Quotient greater than 10. | Menzie et al. 1993 Barnthouse et. al. 1986 USEPA 1989 Watkin and Stelljes 1993 CEQA Guidelines Appendix G, Checklist Item VII(a) and VII(b) |
| 8. Will the IRWP cause a decrease in streamflows, affecting aquatic habitat or aquatic life downstream from proposed dam sites? | Linear feet of stream habitat where 20 percent decrease in wet season streamflow or any decrease in dry season streamflow occurs. | Greater than 0 linear feet | CEQA (Article 5, Section 15065) CEQA Guidelines Appendix G, Checklist Item VII(a) and VII(b) |

Notes:

| | | | |
|--------|--|-------|---|
| CDFG | California Department of Fish and Game | CNPS | California Native Plant Society |
| CEQA | California Environmental Quality Act | FESA | Federal Endangered Species Act |
| CESA | California Endangered Species Act | USFWS | United States Fish and Wildlife Service |
| CNDDDB | California Natural Diversity Data Base | USFWS | U.S. Fish and Wildlife Service |

LAGUNA PLANT UPGRADE COMPONENT

As evaluated in the Program EIR under Impact 8.1.1, the Laguna Plant Upgrade component identifies a significant impact to endangered, threatened, or rare species or their habitat. Mitigation Measure 3.3.10, Avoid Loss of Sensitive Biological Resources and their Habitats, requires avoidance where feasible and compensation for the loss of habitat. The impact will be less than significant after mitigation.

As evaluated in the Program EIR under Impact 8.1.2, the Laguna Plant Upgrade component identifies a significant impact to sensitive plant species. Mitigation Measure 3.3.11, Avoid Loss of Sensitive Plant Species, requires that sensitive plant species be avoided, and if necessary compensated. The impact will be less than significant after mitigation.

As evaluated in the Program EIR under Impact 8.1.3, the Laguna Plant Upgrade component identifies a significant impact to active raptor nest sites. Mitigation Measure 3.4.1, Avoid Active Raptor Nests, requires protection of active raptor nests during program activities and reduces this impact to less than significant.

As evaluated in the Program EIR under Impact 8.1.4, the Laguna Plant Upgrade component identifies significant impacts to sensitive animal species. Mitigation Measure 3.4.2, Avoid Loss of Protected Species, Candidate Species, and Species of Special Concern, requires avoidance where feasible and compensation for lost habitat. Mitigation reduces the impact to less than significant.

As evaluated in the Program EIR under Impact 8.1.5 through 8.1.8, the Laguna Plant Upgrade component will not impact biological resources based on evaluation criteria 5 through 8.

INDOOR WATER CONSERVATION COMPONENT

As evaluated in the Program EIR under Impacts 8.2.1 through 8.2.8, the Indoor Water Conservation component will not impact biological resources based on evaluation criteria 1 through 8.

URBAN IRRIGATION COMPONENT

Impact 8.4.1 in the Program EIR identifies significant impacts to individuals or habitat of endangered, threatened, or rare species of plants and animals. Implementation of Mitigation

Measure 3.3.10, Avoid Loss of Sensitive Biological Resources and their Habitats, which requires avoidance and/or compensation, reduces this impact to less than significant.

As evaluated in the Program EIR under Impact 8.4.2, the Urban Irrigation component will not impact plants species on the CNPS List 2, 3, or 4.

Impact 8.4.3 in the Program EIR identifies a significant impact to active raptor nest sites from the Urban Irrigation component. Mitigation Measure 3.4.1, Avoid Active Raptor Nests, requires protection of active raptor nests during program activities and reduces this impact to less than significant.

As evaluated in the Program EIR under Impact 8.4.4, the Urban Irrigation component will not impact sensitive animal species

Impact 8.4.5 in the Program EIR, identifies a significant impact to native special-status plant communities. Project Measure 3.2.4, Implement BMPs for Runoff, Erosion, and Agricultural Chemical Use is part of the program and Mitigation Measure 3.3.12 Avoid Permanent Impacts to Sensitive Trees and Plant Species, is proposed to reduce the impact to less than significant.

Impact 8.4.6 in the Program EIR identifies a significant impact to major migration or travel corridors. Mitigation Measure 3.3.13, Avoid Blocking Major Wildlife Migration or Travel Corridors, is proposed to reduce the impact to less than significant.

As evaluated in the Program EIR under Impact 8.4.7, the Urban Irrigation component identifies a less-than-significant impact with respect to ecological risk to plant and animal populations (i.e., acute or chronic toxicity and bioaccumulation). No mitigation is needed.

As evaluated in the Program EIR under Impact 8.4.8, the Urban Irrigation component will not decrease streamflows and will not affect aquatic habitat or aquatic life downstream from dam sites.

AGRICULTURAL IRRIGATION COMPONENT

Impact 8.5.1 in the Program EIR identifies a significant impact to individuals or habitat of endangered, threatened, or rare species of plants and animals from the Agriculture Irrigation component. Implementation of Mitigation Measure 3.3.10, Avoid Loss of Sensitive Biological Resources and their Habitats, which requires avoidance and/or compensation, reduces this impact to less than significant.

Impact 8.5.2 in the Program EIR identifies a significant impact to plant species from construction of the Agricultural Irrigation component. Implementation of Mitigation Measure 3.3.10, Avoid Loss of Sensitive Biological Resources and their Habitats, which requires avoidance and/or compensation, reduces this impact to less than significant.

Impact 8.5.3 in the Program EIR identifies a significant impact to active raptor nest sites from construction of the Agricultural Irrigation component. Mitigation Measure 3.4.1, Avoid

Active Raptor Nests, requires protection of active raptor nests during program activities; reduces this impact to less than significant.

Impact 8.5.4 in the Program EIR identifies a significant impact to sensitive animal species from the Agricultural Irrigation component. Implementation of Mitigation Measure 3.4.2, Avoid Loss of Protected Species, Candidate Species, and Species of Special Concern, which requires avoidance and/or compensation, reduces this impact to less than significant.

Impact 8.5.5 in the Program EIR identifies a significant impact to native special-status plant communities. Implementation of Mitigation Measure 3.3.12 Avoid Permanent Impacts to Sensitive Trees and Plant Species, which requires avoidance and/or compensation, reduces this impact to less than significant

Impact 8.5.6 in the Program EIR identifies a significant impact to migration routes. Mitigation Measure 3.3.13, Avoid Blocking Major Wildlife Migration or Travel Corridors, which requires avoidance measures such as timing and mitigation efforts that provide unobstructed corridors is proposed to reduce the impact to less than significant.

As evaluated in the Program EIR under Impact 8.5.7, the Urban Irrigation component identifies a less significant impact with respect to ecological risk to plant and animal populations (i.e., acute or chronic toxicity and bioaccumulation). No mitigation is needed.

As evaluated in the Program EIR under Impact 8.5.8, the Urban Irrigation component will not decrease streamflows and will not affect aquatic habitat or aquatic life downstream from dam sites.

PIPELINES COMPONENT

Impact 8.6.1 in the Program EIR identifies a significant impact to individuals or habitat of endangered, threatened, or rare species of plants and animals from construction of the Pipelines component. Implementation of Mitigation Measure 3.3.10, Avoid Loss of Sensitive Biological Resources and their Habitats, which requires avoidance and/or compensation, reduces this impact to less than significant.

Impact 8.6.2 in the Program EIR identifies a significant impact to plant species from construction of the Pipeline component. Implementation of Mitigation Measure 3.3.10, Avoid Loss of Sensitive Biological Resources and their Habitats, which requires avoidance and/or compensation, reduces this impact to less than significant.

Impact 8.6.3 in the Program EIR identifies a significant impact to active raptor nest sites from construction of the Pipeline component. Mitigation Measure 3.4.1, Avoid Active Raptor Nests, requires protection of active raptor nests during program activities; thereby reducing this impact to less than significant.

Impact 8.6.4 in the Program EIR, the Pipeline component identifies a significant impact to sensitive animal species from construction of the Pipeline component. Implementation of Mitigation Measure 3.4.2, Avoid Loss of Protected Species, Candidate Species, and Species of Special Concern, reduces this impact to less than significant.

Impact 8.6.5 in the Program EIR identifies a significant impact to native special-status plant communities from construction of the Pipeline component. Implementation of Mitigation Measure 3.3.12 Avoid Permanent Impacts to Sensitive Trees and Plant Species, which requires avoidance and/or compensation, reduces this impact to less than significant.

Impact 8.6.6 in the Program EIR identifies a significant impact to migration routes from construction of the Pipeline component. Mitigation Measure 3.3.13, Avoid Blocking Major Wildlife Migration or Travel Corridors, which requires avoidance measures such as timing and mitigation efforts that provide unobstructed corridors is proposed to reduce the impact to less than significant.

Impact 8.6.7 in the Program EIR identifies a less-than-significant impact for ecological risk to plant and animal populations (i.e., acute or chronic toxicity and bioaccumulation) from operation and maintenance of the Pipeline component.

As evaluated in the Program EIR under Impact 8.6.8, the Pipeline component will not result in a decrease in streamflows, affecting aquatic habitat or aquatic life downstream from proposed dam sites.

STORAGE COMPONENT

Impact 8.7.1 in the Program EIR identifies a significant impact to individuals or habitat of endangered, threatened, or rare species of plants and animals from construction of the Storage component. Implementation of Mitigation Measure 3.3.10, Avoid Loss of Sensitive Biological Resources and their Habitats, requires avoidance and/or compensation and reduces this impact to less than significant.

Impact 8.7.2 in the Program EIR identifies a significant impact on sensitive plant species from construction of the Storage component. Implementation of Mitigation Measure 3.3.11, Avoid Loss of Sensitive Plant Species, which requires avoidance and/or compensation, reduces this impact to less than significant.

Impact 8.7.3 in the Program EIR identifies a significant impact on active raptor nest sites from construction of the Storage component. Mitigation Measure 3.4.1, Avoid Active Raptor Nests, requires protection of active raptor nests during program activities; thereby reducing this impact to less than significant.

Impact 8.7.4 in the Program EIR identifies a significant impact on sensitive animal species. Implementation of Mitigation Measure 3.4.2, Avoid Loss of Protected Species, Candidate Species, and Species of Special Concern, requires avoidance and/or compensation and reduces this impact to less than significant.

Impact 8.7.5 in the Program EIR identifies a significant impact to native special-status plant communities. Implementation of Mitigation Measure 3.3.12 Avoid Permanent Impacts to Sensitive Trees and Plant Species, which requires avoidance and/or compensation, reduces this impact to less than significant.

Impact 8.7.6 in the Program EIR identifies a significant impact on migration routes. Implementation of Mitigation Measure 3.3.13, Avoid Blocking Major Wildlife Migration or Travel Corridors, which requires avoidance measures, reduces this impact to less than significant.

As evaluated in the Program EIR under Impact 8.7.7, there will be a less-than-significant impact to the ecological risk to plant and animal populations (i.e., acute or chronic toxicity and bioaccumulation) from operation and maintenance of the Storage component.

Impact 8.7.8 in the Program EIR identifies a significant impact from a decrease in streamflows that may affect aquatic habitat or aquatic life downstream from dam sites. Implementation of Mitigation Measure 3.3.14, which requires avoidance and/or compensation, reduces this impact to less than significant.

CREATED WETLANDS COMPONENT

Impact 8.8.1 in the Program EIR identifies a significant impact to individuals or habitat of endangered, threatened, or rare species of plants and animals. Implementation of Mitigation Measure 3.3.10, Avoid Loss of Sensitive Biological Resources and their Habitats, reduces this impact to less than significant.

Impact 8.8.2 in the Program EIR identifies a significant impact to plant species. Implementation of Mitigation Measure 3.3.11, Avoid Loss of Sensitive Plant Species, which requires avoidance and/or compensation, reduces this impact to less than significant.

Impact 8.8.3 in the Program EIR identifies a significant impact to active raptor nest sites. Mitigation Measure 3.4.1, Avoid Active Raptor Nests, requires protection of active raptor nests during program activities and reduces this impact to less than significant.

Impact 8.8.4 in the Program EIR identifies a significant impact to sensitive animal species. Implementation of Mitigation Measure 3.4.2, Avoid Loss of Protected Species, Candidate Species, and Species of Special Concern, which requires avoidance and/or compensation, reduces this impact to less than significant.

Impact 8.8.5 in the Program EIR identifies a significant impact to native special-status plant communities. Implementation of Mitigation Measure 3.3.12 Avoid Permanent Impacts to Sensitive Trees and Plant Species, which requires avoidance and/or compensation, reduces this impact to less than significant

Impact 8.8.6 in the Program EIR identifies a significant impact to migration routes. Mitigation Measure 3.3.13, Avoid Blocking Major Wildlife Migration or Travel Corridors, which requires avoidance measures, is proposed to reduce the impact to less than significant.

As evaluated in the Program EIR under Impact 8.8.7, the Created Wetlands component identifies a less-than-significant impact from ecological risk to plant and animal populations (i.e., acute or chronic toxicity and bioaccumulation) from operation and maintenance of the Created Wetlands component.

PUMP STATION AND TANKS COMPONENT

Impact 8.9.1 in the Program EIR identifies a significant impact to individuals or habitat of endangered, threatened, or rare species of plants and animals. Implementation of Mitigation Measure 3.3.10, Avoid Loss of Sensitive Biological Resources and their Habitats, which requires avoidance and/or compensation, reduces this impact to less than significant.

Impact 8.9.2 in the Program EIR identifies a significant impact to plant species. Implementation of Mitigation Measure 3.3.11, Avoid Loss of Sensitive Plant Species, which requires avoidance and/or compensation, reduces this impact to less than significant.

Impact 8.9.3 in the Program EIR identifies a significant impact to active raptor nest sites. Mitigation Measure 3.4.1, Avoid Active Raptor Nests, requires protection of active raptor nests during program activities; thereby reducing this impact to less than significant.

Impact 8.9.4 in the Program EIR, the Pump Stations and Tanks component identifies a significant impact to sensitive animal species. Implementation of Mitigation Measure 3.4.2, Avoid Loss of Protected Species, Candidate Species, and Species of Special Concern, which requires avoidance and/or compensation, reduces this impact to less than significant.

Impact 8.9.5 in the Program EIR identifies a significant impact to native special-status plant communities. Implementation of Mitigation Measure 3.3.12 Avoid Permanent Impacts to Sensitive Trees and Plant Species, which requires avoidance and/or compensation, reduces this impact to less than significant

Impact 8.9.6 in the Program EIR identifies a significant impact to migration routes. Mitigation Measure 3.3.13, Avoid Blocking Major Wildlife Migration or Travel Corridors, which requires avoidance measures such as timing and mitigation efforts that provide unobstructed corridors is proposed to reduce the impact to less than significant.

As evaluated in the Program EIR under Impacts 8.9.7 and 8.9.8, the Pump Station and Tanks component will have no impacts based on evaluation criteria 7 and 8.

GEYSERS STEAMFIELD COMPONENT

Impact 8.10.1 in the Program EIR identifies a significant impact to individuals or habitat of endangered, threatened, or rare species of plants and animals. Implementation of Mitigation Measure 3.3.10, Avoid Loss of Sensitive Biological Resources and their Habitats, which requires avoidance and/or compensation, reduces this impact to less than significant.

Impact 8.10.2 in the Program EIR identifies a significant impact to plant species. Implementation of Mitigation Measure 3.3.11, Avoid Loss of Sensitive Plant Species, which requires avoidance and/or compensation, reduces this impact to less than significant.

Impact 8.10.3 in the Program EIR identifies a significant impact to active raptor nest sites. Mitigation Measure 3.4.1, Avoid Active Raptor Nests, requires protection of active raptor nests during program activities; thereby reducing this impact to less than significant.

Impact 8.10.4 in the Program EIR identifies a significant impact to sensitive animal species. Implementation of Mitigation Measure 3.4.2, Avoid Loss of Protected Species, Candidate Species, and Species of Special Concern, which requires avoidance and/or compensation, reduces this impact to less than significant.

Impact 8.10.5 in the Program EIR identifies a significant impact to native special-status plant communities. Implementation of Mitigation Measures 3.3.12 Avoid Permanent Impacts to Sensitive Trees and Plant Species, and 3.4.5 reduce this impact to less than significant

Impact 8.10.6 in the Program EIR identifies a significant impact to migration routes. Mitigation Measure 3.3.13, Avoid Blocking Major Wildlife Migration or Travel Corridors, which requires avoidance measures, is proposed to reduce the impact to less than significant.

As evaluated in the Program EIR under Impacts 8.10.7 and 8.10.8, the Geysers Steamfield Expansion component will have no biological impacts based on evaluation criteria 7 and 8.

DIRECT DISCHARGE COMPONENT

Impact 8.11.1 in the Program EIR identifies a significant impact to individuals or habitat of endangered, threatened, or rare species of plants and animals. Implementation of Mitigation Measure 3.3.10, Avoid Loss of Sensitive Biological Resources and their Habitats, which requires avoidance and/or compensation, reduces this impact to less than significant.

Impact 8.11.2 in the Program EIR identifies a significant impact to plant species. Implementation of Mitigation Measure 3.3.11, Avoid Loss of Sensitive Plant Species, which requires avoidance and/or compensation, reduces this impact to less than significant.

Impact 8.11.3 in the Program EIR identifies a significant impact to active raptor nest sites. Mitigation Measure 3.4.1, Avoid Active Raptor Nests, requires protection of active raptor nests during program activities; thereby reducing this impact to less than significant.

Impact 8.11.4 identifies a significant impact to sensitive animal species. Implementation of Mitigation Measure 3.4.2, Avoid Loss of Protected Species, Candidate Species, and Species of Special Concern, which requires avoidance and/or compensation, reduces this impact to less than significant.

Impact 8.11.5 in the Program EIR identifies a significant impact to native special-status plant communities. Implementation of Mitigation Measure 3.3.12 Avoid Permanent Impacts to Sensitive Trees and Plant Species, which requires avoidance and/or compensation, reduces this impact to less than significant

As evaluated in the Program EIR under Impact 8.11.6 and 8.11.7, the Direct Discharge component identifies less than significant impacts based on evaluation criteria 6 and 7.

As evaluated in the Program EIR under impact 8.11.8, the Direct Discharge component identifies a no impacts based on evaluation criteria 8.

INDIRECT DISCHARGE COMPONENT

Impact 8.12.1 in the Program EIR identifies a significant impact to individuals or habitat of endangered, threatened, or rare species of plants and animals. Implementation of Mitigation Measure 3.3.10, Avoid Loss of Sensitive Biological Resources and their Habitats, requires avoidance and/or compensation and reduces this impact to less than significant.

Impact 8.12.2 in the Program EIR identifies a significant impact to plant species. Implementation of Mitigation Measure 3.3.11, Avoid Loss of Sensitive Plant Species, requires avoidance and/or compensation and reduces this impact to less than significant.

Impact 8.12.3 in the Program EIR identifies a significant impact to active raptor nest sites. Mitigation Measure 3.4.1, Avoid Active Raptor Nests, requires protection of active raptor nests during program activities; thereby reducing this impact to less than significant.

Impact 8.12.4 in the Program EIR identifies a significant impact to sensitive animal species. Implementation of Mitigation Measure 3.4.2, Avoid Loss of Protected Species, Candidate Species, and Species of Special Concern, which requires avoidance and/or compensation, reduces this impact to less than significant.

Impact 8.12.5 in the Program EIR identifies a significant impact to native special-status plant communities. Implementation of Mitigation Measure 3.3.12 Avoid Permanent Impacts to Sensitive Trees and Plant Species, which requires avoidance and/or compensation, reduces this impact to less than significant.

Impact 8.12.6 in the Program EIR identifies a significant impact to migration routes. Mitigation Measure 3.3.13, Avoid Blocking Major Wildlife Migration or Travel Corridors, which requires avoidance measures, is proposed to reduce the impact to less than significant.

As evaluated in the Program EIR under impact 8.12.7, the Indirect Discharge component identifies a less-than-significant impacts with respect to ecological risk to plant and animal populations (i.e., acute or chronic toxicity and bioaccumulation).

As evaluated in the Program EIR under impact 8.12.8, the Indirect Discharge component will have no biological impacts based on evaluation criteria 8.

ADVANCED MEMBRANE TREATMENT COMPONENT

Impact 8.13.1 in the Program EIR identifies a significant impact to individuals or habitat of endangered, threatened, or rare species of plants and animals from AMT facilities. Implementation of Mitigation Measure 3.3.10, Avoid Loss of Sensitive Biological Resources and their Habitats, requires avoidance and/or compensation and reduces this impact to less than significant.

Impact 8.13.2 in the Program EIR identifies a significant impact to plant species from construction of AMT facilities. Implementation of Mitigation Measure 3.3.11, Avoid Loss of Sensitive Plant Species, requires avoidance and/or compensation and reduces this impact to less than significant.

Impact 8.13.3 in the Program EIR identifies a significant impact to active raptor nest sites. Mitigation Measure 3.4.1, Avoid Active Raptor Nests, requires protection of active raptor nests during program activities; thereby reducing this impact to less than significant.

Impact 8.13.4 in the Program EIR identifies a significant impact to sensitive animal species. Implementation of Mitigation Measure 3.4.2, Avoid Loss of Protected Species, Candidate Species, and Species of Special Concern, which requires avoidance and/or compensation, reduces this impact to less than significant.

Impact 8.13.5 in the Program EIR identifies a significant impact to native special-status plant communities. Implementation of Mitigation Measure 3.3.12 Avoid Permanent Impacts to Sensitive Trees and Plant Species, which requires avoidance and/or compensation, reduces this impact to less than significant

Impact 8.13.6 in the Program EIR identifies a significant impact to migration routes. Mitigation Measure 3.3.13, Avoid Blocking Major Wildlife Migration or Travel Corridors, which requires avoidance measures, reduces the impact to less than significant.

As evaluated in the Program EIR under Impact 8.13.7, AMT facilities will have a less-than-significant impact with respect to ecological risk to plant and animal populations (i.e., acute or chronic toxicity and bioaccumulation).

As evaluated in the Program EIR under Impact 8.13.8, AMT facilities will have no biological impacts.

CUMULATIVE IMPACTS

The cumulative biological resource impacts of Program facilities are evaluated in Section 4.8 of the Program EIR. As noted there, the proposed developments in the project area, including projected growth in the General Plans of the jurisdictions of the region, have the potential for cumulative effects on biological resources in the IRWP area. However, impacts analyzed under criteria 8.1, 8.3, 8.4, 8.5, 8.6, and 8.8 in the Program EIR will be fully mitigated through avoidance, compensation, habitat creation, restoration, and preservation. Therefore there are no additive effects to the cumulative projects and no additional mitigations are proposed.

As evaluated in the Program EIR under Impact 8.2C, the significance threshold of greater than 15 percent of CNPS List 2, 3, and 4 plant species could be exceeded by other projects in concert with the IRWP. Mitigation Measure 3.3.11, Avoid Loss of Sensitive Plant Species requires the City to avoid impacts to List 2, 3, and 4 plant species to the extent feasible. This is the maximum mitigation that the City can contribute, even if there are cumulative impacts due to other projects. The Federated Indians of the Graton Rancheria, located west of Rohnert Park, may create additional impacts to these listed plants. This impact remains significant.

As evaluated in the Program EIR under Impact 8.7C, ecological risk to plant and animal populations (i.e., acute or chronic toxicity and bioaccumulation) was determined to be less

than significant because it is unlikely that cumulative exposure to constituents in recycled water would cause an ecological quotient greater than 10. This would not change with the addition of the new cumulative projects described in Chapter 6.

ENVIRONMENTAL IMPACTS FOR THE COMBINED ALTERNATIVES – PREFERRED PROGRAM

The Preferred Program combines five alternatives from the Program EIR and establishes both a target for recycled water use and a permissible range of recycled water use. The following illustrates the potential environmental impacts of the combined alternatives for the target and for the maximum amount of recycled water use identified for the range. The analysis of the environmental impacts of the combined alternatives that make up the Preferred Program follows the same methodology used in the Program EIR (Chapter 5). Details used in the analysis of environmental impacts for the Target and Range are presented in Appendix A.

Target

All of the components except conservation have the potential to have adverse effects on biological resources, including special status plant and animal species and habitats, raptor nests, and migration corridors. The area of permanent disturbance for the Preferred Program would be substantially decreased due to the smaller area required for agricultural irrigation. An increase in acreage of temporary impacts (up to 1,393 acres) associated with combining alternatives would result in greater potential impacts than individual alternatives, but less than reported for Combinations of Alternatives in the Program EIR. These impacts can be mitigated to less than significant through the program of mitigation measures recommended for the IRWP. Impacts of the target Preferred Program are reduced compared to those impacts that were identified in the Program EIR, and there will be no new significant impacts.

Range

All of the components except conservation have the potential to have adverse effects on biological resources, including special status plant and animal species and habitats, raptor nests, and migration corridors. The area of permanent disturbance would be decreased due to the smaller area required for agricultural irrigation. An increase in acreage of temporary impacts (up to 1,423 acres) associated with combining alternatives would result in greater potential impacts than individual alternatives, but less than reported for the Combinations of Alternatives in the Program EIR. These impacts can be mitigated to less than significant through the program of mitigation measures recommended for the IRWP. Impacts of the high end of the range of the Preferred Program are reduced compared to those impacts that were identified in the Program EIR, and there will be no new significant impacts.

4.9 JURISDICTIONAL WETLANDS

Table 4.9-3 from the Program EIR presents Jurisdictional Wetlands criteria, and is presented below.

Table 4.9-3

Evaluation Criteria and Significance Thresholds – Jurisdictional Wetlands

| Evaluation Criteria | As Measured By | Significance Threshold | Justification |
|---|--|---|---|
| 1. Will the Program fill jurisdictional wetlands or other waters of the U.S.? | Acreage of fill or dredge of jurisdictional wetlands and/or linear miles of fill or dredge of other jurisdictional waters. | a) Greater than 0 acre of jurisdictional wetlands b) Greater than 0 linear miles of other jurisdictional waters. | Clean Water Act, 40 CFR 230 Section 404(b)(1). Rivers and Harbors Act, Section 10. CEQA Guidelines Appendix G, Checklist Item VII(c) |
| 2. Will the Program alter the bed and banks or adjacent riparian habitat of a state stream, lake, or other wetland? | Acreage or linear miles of alteration of state waters. | a) Greater than 0 acre of state waters or adjacent riparian habitat. b) Greater than 0 linear miles of stream/lake bed/banks or adjacent riparian habitat. | Sections 1600 <i>et seq.</i> of the California Fish and Game Code. California Porter-Cologne Act. CEQA Guidelines Appendix G, Checklist Item VII(c) |

LAGUNA PLANT UPGRADE COMPONENT

Impacts 9.1.1 and 9.1.2 in the Program EIR identify significant impacts associated with the Laguna Plant upgrade. Mitigation Measure 3.3.15, Avoid Fill of Jurisdictional Waters and Wetlands, will reduce the impacts to less than significant.

INDOOR WATER CONSERVATION COMPONENT

As evaluated in the Program EIR under Impacts 9.2.1 and 9.2.2, indoor water conservation will have no impact wetlands.

URBAN IRRIGATION COMPONENT

As evaluated in the Program EIR under Impacts 9.4.1 and 9.4.2, urban irrigation will have no impact to jurisdictional waters.

AGRICULTURAL IRRIGATION COMPONENT

Impacts 9.5.1 and 9.5.2 in the Program EIR identify significant impacts related to potential fill or alteration of wetlands from construction of the agricultural irrigation component. Mitigation Measure 3.3.15, Avoid Fill of Jurisdictional Waters and Wetlands, is proposed to reduce the impact to wetlands to less than significant.

PIPELINES COMPONENT

Impacts 9.6.1 and 9.6.2 in the Program EIR identify significant wetland impacts associated with pipeline construction. Mitigation Measure 3.3.15, Avoid Fill of Jurisdictional Waters and Wetlands, is proposed to reduce the impact to wetlands to less than significant.

STORAGE COMPONENT

Impacts 9.7.1 and 9.7.2 in the Program EIR identify significant wetland impacts associated with construction of storage facilities the Santa Rosa Plain, East of Santa Rosa, East of Rohnert Park and in the North County. Mitigation Measure 3.3.15, Avoid Fill of Jurisdictional Waters and Wetlands, is proposed to reduce the impacts to less than significant.

CREATED WETLANDS COMPONENT

Impacts 9.8.1 and 9.8.2 in the Program EIR identify significant impact to wetlands associated with construction of the created wetland component. Mitigation Measure 3.3.15, Avoid Fill of Jurisdictional Waters and Wetlands, is proposed to reduce the impacts to less than significant.

PUMP STATIONS AND TANKS COMPONENT

Impacts 9.9.1 and 9.9.2 in the Program EIR identify a significant impact to wetlands associated with construction of pump stations and tanks. Mitigation Measure 3.3.15, Avoid Fill of Jurisdictional Waters and Wetlands, is proposed to reduce the impact to less than significant.

GEYSERS STEAMFIELD EXPANSION COMPONENT

Impacts 9.10.1 and 9.10.2 in the Program EIR identify a significant impact to wetlands associated with construction of the geysers steamfield expansion component. Mitigation Measure 3.3.15, Avoid Fill of Jurisdictional Waters and Wetlands, is proposed to reduce the impact to less than significant.

DISCHARGE COMPONENT

Impacts 9.11.1 and 9.11.2 in the Program EIR identify significant impacts to wetlands associated with construction of the Russian River outfall. Mitigation Measure 3.3.15, Avoid

Fill of Jurisdictional Waters and Wetlands, is proposed to reduce the impact to less than significant.

INDIRECT DISCHARGE

Impacts 9.12.1 and 9.12.2 identify significant impacts to wetlands associated with construction of indirect discharge facilities. Mitigation Measure 3.3.15, Avoid Fill of Jurisdictional Waters and Wetlands is proposed to reduce the impacts to less than significant.

AMT COMPONENT

Impacts 9.13.1 and 9.13.2 in the Program EIR identify a significant impact to wetlands associated with construction of AMT facilities. Mitigation Measure 3.3.15, Avoid Fill of Jurisdictional Waters and Wetlands, is proposed to reduce the impact to less than significant.

CUMULATIVE IMPACTS

The cumulative impacts to jurisdictional wetlands from Program facilities are evaluated in Section 4.9 of the Program EIR. As noted there, jurisdictions throughout the IRWP study area have adopted General Plans that allow development that could affect wetlands, and all proposed development projects on the cumulative project lists (see Chapter 6) that will affect currently undeveloped land have the potential to affect wetlands. However, both the policies of the various jurisdictions and the regulatory requirements regarding wetland preservation will ensure that these impacts are fully mitigated. Regarding the Graton Rancheria Casino, located west of Rohnert Park, it is unknown but possible that wetlands exist on the proposed project site. Indian tribes are subject to the Clean Water Act, and therefore are subject to the Federal permitting authority of Corps of Engineers. Therefore, it is reasonable to assume that no net loss mitigation policies will apply to the casino as well as other projects in the region.

ENVIRONMENTAL IMPACTS FOR THE COMBINED ALTERNATIVES - PREFERRED PROGRAM

The Preferred Program combines five alternatives from the Program EIR and establishes both a target for recycled water use and a permissible range of recycled water use. Details for the combination of alternatives are included in Appendix A. The following illustrates the potential environmental impacts of the combined alternatives for the target and for the maximum amount of recycled water use identified for the range. The analysis of the environmental impacts of the combined alternatives that make up the Preferred Program follows the same methodology used in the Program EIR (Chapter 5). Details used in the analysis of environmental impacts for the Target and Range are presented in Appendix A.

Target

All of the components except conservation have the potential to have adverse effects on jurisdictional wetlands resources. The total area of permanent disturbance for the Preferred Program will be substantially decreased due to the smaller area required for agricultural irrigation in the Program EIR. An increase in acreage of temporary impacts (up to 1,393

acres) associated with combining alternatives will result in greater potential impacts than individual alternatives, but less than reported for Combinations of Alternatives in the Program EIR. These impacts can be mitigated to less than significant through the program of mitigation measures recommended for the IRWP. Impacts of the Preferred Program are reduced compared to those impacts that were identified in the Program EIR, and there will be no new significant impacts.

Range

All of the components except conservation have the potential to have adverse effects on jurisdictional wetlands resources. Under the maximum reuse volume, the total area of permanent disturbance will be substantially decreased from individual alternatives due to the smaller area required for agricultural irrigation. An increase in acreage of temporary impacts (up to 1,423 acres) associated with combining alternatives will result in greater potential impacts. These impacts can be mitigated to less than significant through the program of mitigation measures recommended for the IRWP. Impacts of the Preferred Program are reduced compared to those impacts that were identified in the Program EIR, and there will be no new significant impacts. Impacts of the Preferred Program would not exceed levels evaluated in Combination of Alternatives 11 from the Program EIR.

4.10 TRANSPORTATION

Table 4.10-2 from the Program EIR presents Transportation criteria, and is presented below.

Table 4.10-2

Evaluation Criteria with Significance Thresholds – Transportation¹

| Evaluation Criteria | As Measured by | Significance Thresholds | Sources of Criteria |
|--|--|---|---|
| 1. Will IRWP traffic cause congestion on local roadways? | a. Increase in traffic along access roadways due to construction activities | Increase that exceeds roadway capacity | CEQA Guidelines Appendix G, Checklist Item XV (a) |
| | b. Level of Service (LOS) along affected roadways and at intersections | Increase in traffic due to operational and maintenance activities resulting in LOS below standards of local jurisdictions | |
| 2. Will IRWP construction cause traffic delays, transit delays, delays for bicycles and pedestrians and delays for emergency vehicles? | Miles of temporary lane or roadway closures resulting in reduction in traffic capacity | Greater than 0 miles. | CEQA Guidelines Appendix G, Checklist Item XV (e) and (g) Professional Judgment. |
| 3. Will IRWP construction restrict access to residences, businesses, or public facilities? | Number of residences, businesses, or public facilities to which access is restricted without an alternate means of vehicular access | Greater than 0 locations. | CEQA Guidelines Appendix G, Checklist Item XV (e) Professional Judgment. |
| 4. Will IRWP construction increase traffic hazards to motor vehicles, bicyclists, or pedestrians? | Number of locations where there is ingress or egress of construction equipment onto a major roadway not in accordance with defined safety regulations. | Greater than 0 locations. | CEQA Guidelines Appendix G, Checklist Item XV (d) |

Table 4.10-2

Evaluation Criteria with Significance Thresholds – Transportation¹

| Evaluation Criteria | As Measured by | Significance Thresholds | Sources of Criteria |
|--|--|--------------------------------|---|
| 5. Will IRWP construction traffic damage public or private roadways? | Number of miles of roadway that are not restored to existing conditions or better. | Greater than 0 miles. | Professional Judgment. |
| 6. Will there be adequate parking for IRWP construction activities? | Number of construction related vehicles that cannot be accommodated by on-site parking. | Greater than 0 vehicles. | CEQA Guidelines Appendix G, Checklist Item XV (f) |
| 7. Will the IRWP impact residential or commercial on-street parking? | Reduction in the number of on-street parking spaces, where alternative parking is not available. | Greater than 0 spaces. | CEQA Guidelines Appendix G, Checklist Item XV (f) |

¹ CEQA checklist item XV (b) was addressed in the Initial Study for the Program, which documented that the County Congestion Management Agency is no longer funded and there are no standards to be met by the Program. CEQA checklist item XV (c) was also addressed in the Initial Study, which documented that none of the alternatives will require a change in air traffic patterns, regarding either an increase in air traffic levels or change in location.

LAGUNA PLANT UPGRADE

As evaluated in the Program EIR under Impact 10.1.1, there will be less-than-significant traffic impacts associated with the Laguna Plant.

As evaluated in the Program EIR under Impacts 10.1.2 through 10.1.7, there may be traffic impacts associated with evaluation criteria 2 through 7. Implementation of Measure 3.2.15 will ensure any damaged access roads will be restored to existing conditions or better. The Program EIR found that impacts will be less than significant.

INDOOR WATER CONSERVATION COMPONENT

As evaluated in the Program EIR under Impacts 10.2.1 through 10.2.7, there are no impacts associated with evaluation criteria 1 through 7.

URBAN IRRIGATION COMPONENT

Impact 10.4.1 in the Program EIR identifies significant impacts related to construction traffic on local roadways. Although measures to reduce this impact are included in the project as

part of the City's Standard Traffic Control Procedures (see Measure 3.2.15), no additional feasible mitigation has been identified and this significant impact will be unavoidable.

As evaluated in the Program EIR under Impacts 10.4.2 through 10.4.7, there may be traffic impacts associated with evaluation criteria 2 through 7. Measures to reduce these impacts are included in the project as part of the City's Standard Traffic Control Procedures (see Measure 3.2.15). The Program EIR found that impacts will be less than significant.

AGRICULTURAL IRRIGATION COMPONENT

Impact 10.5.1 in the Program EIR identifies significant traffic impacts on local roadways related to traffic from construction and operations and maintenance of agricultural irrigation facilities. Although measures to reduce this impact are included in the project as part of the City's Standard Traffic Control Procedures (see Measure 3.2.15), no additional feasible mitigation has been identified, and this significant impact will be unavoidable.

As evaluated in the Program EIR under Impacts 10.5.2 through 10.5.7, there may be traffic impacts associated with evaluation criteria 2 through 7. Measures to reduce these impacts are included in the project as part of the City's Standard Traffic Control Procedures (see Measure 3.2.15). The Program EIR found that impacts will be less than significant.

PIPELINE COMPONENT

Impact 10.6.1 in the Program EIR identifies significant temporary traffic impacts on some local and collector roadways related to pipeline construction. Although measures to reduce this impact are included in the project as part of the City's Standard Traffic Control Procedures (see Measure 3.2.15), no additional feasible mitigation has been identified, and this significant impact will be unavoidable.

Impact 10.6.2 in the Program EIR identifies significant temporary impacts as a result of pipeline construction consisting of temporary lane or road closures or sidewalk closures. Although measures to reduce this impact are included in the project as part of the City's Standard Traffic Control Procedures (see Measure 3.2.15), no additional feasible mitigation has been identified, and this significant impact will be unavoidable.

Impact 10.6.3 in the Program EIR identifies significant temporary impacts related to access to businesses, residences and public facilities. Although measures to reduce this impact are included in the project as part of the City's Standard Traffic Control Procedures (see Measure 3.2.15), no additional feasible mitigation has been identified, and this significant impact will be unavoidable.

As evaluated in the Program EIR under Impacts 10.6.4 through 10.6.6, construction under this component could require construction equipment to enter and leave the public right-of-way. Measures to reduce this impact are included in the project as part of the City's Standard Traffic Control Procedures (see Measure 3.2.15). The Program EIR found that impacts will be less than significant.

Impact 10.6.7 in the Program EIR identifies significant impacts related to localized temporary reductions in on-street parking due to construction activities. Although measures to reduce this impact are included in the project as part of the City's Standard Traffic Control Procedures (see Measure 3.2.15), no additional feasible mitigation has been identified, and this significant impact will be unavoidable.

STORAGE COMPONENT

Impact 10.7.1 in the Program EIR identifies significant temporary traffic impacts on some local and collector roadways related to storage facilities construction. Although measures to reduce this impact are included in the project as part of the City's Standard Traffic Control Procedures (see Measure 3.2.15), no additional feasible mitigation has been identified, and this significant impact will be unavoidable.

As evaluated in the Program EIR under Impacts 10.7.2 through 10.7.7, there may be traffic impacts associated with evaluation criteria 2 through 7. Measures to reduce these impacts are included in the project as part of the City's Standard Traffic Control Procedures (see Measure 3.2.15). The Program EIR found that impacts will be less than significant.

CREATED WETLANDS COMPONENT

Impact 10.8.1 in the Program EIR identifies significant temporary traffic impacts on some local and collector roadways related to created wetlands construction. Although measures to reduce this impact are included in the project as part of the City's Standard Traffic Control Procedures (see Measure 3.2.15), no additional feasible mitigation has been identified, and this significant impact will be unavoidable.

As evaluated in the Program EIR under Impacts 10.8.2 through 10.8.7, there may be traffic impacts associated with evaluation criteria 2 through 7. Measures to reduce these impacts are included in the project as part of the City's Standard Traffic Control Procedures (see Measure 3.2.15). The Program EIR found that impacts will be less than significant.

PUMP STATIONS AND TANKS COMPONENT

Impact 10.9.1 in the Program EIR identifies significant temporary traffic impacts on some local and collector roadways related to pump station and tanks construction. Although measures to reduce this impact are included in the project as part of the City's Standard Traffic Control Procedures (see Measure 3.2.15), no additional feasible mitigation has been identified, and this significant impact will be unavoidable.

Impact 10.9.2 in the Program EIR identifies significant temporary impacts as a result of pump station and tanks construction consisting of temporary lane or road closures or sidewalk closures. Although measures to reduce this impact are included in the project as part of the City's Standard Traffic Control Procedures (see Measure 3.2.15), no additional feasible mitigation has been identified, and this significant impact will be unavoidable.

As evaluated in the Program EIR under Impacts 10.9.3 through 10.9.7, construction under this component could require construction equipment to enter and leave the public right-of-way. Measures to reduce these impacts are included in the project as part of the City's Standard Traffic Control Procedures (see Measure 3.2.15). The Program EIR found that impacts will be less than significant.

GEYSERS STEAMFIELD COMPONENT

Impact 10.10.1 in the Program EIR identifies significant temporary traffic impacts on some local roadways related to the Geysers Steamfield component. Although measures to reduce this impact are included in the project as part of the City's Standard Traffic Control Procedures (see Measure 3.2.15), no additional feasible mitigation has been identified and this significant impact will be unavoidable.

As evaluated in the Program EIR under Impacts 10.10.2 through 10.10.7, construction under this component could require construction equipment to enter and leave the public right-of-way. Measures to reduce these impacts are included in the project as part of the City's Standard Traffic Control Procedures (see Measure 3.2.15). The Program EIR found that potential impacts will be less than significant.

DIRECT DISCHARGE COMPONENT

Impact 10.11.1 in the Program EIR identifies significant temporary traffic impacts to access roads related to the construction of direct discharge facilities. Although measures to reduce this impact are included in the project as part of the City's Standard Traffic Control Procedures (see Measure 3.2.15), no additional feasible mitigation has been identified, and this significant impact will be unavoidable.

As evaluated in the Program EIR under Impacts 10.11.2 through 10.11.7, construction under this component could require construction equipment to enter and leave the public right-of-way. Measures to reduce these impacts are included in the project as part of the City's Standard Traffic Control Procedures (see Measure 3.2.15). The Program EIR found that impacts will be less than significant.

INDIRECT DISCHARGE COMPONENT

Impact 10.12.1 in the Program EIR identifies significant temporary traffic impacts to access roads related to the construction of indirect discharge facilities. Although measures to reduce this impact are included in the project as part of the City's Standard Traffic Control Procedures (see Measure 3.2.15), no additional feasible mitigation has been identified, and this significant impact will be unavoidable.

As evaluated in the Program EIR under Impacts 10.12.2 through 10.12.7, construction under this component could require construction equipment to enter and leave the public right-of-way. Measures to reduce these impacts are included in the project as part of the City's Standard Traffic Control Procedures (see Measure 3.2.15). The Program EIR found that impacts will be less than significant.

ADVANCED MEMBRANE TREATMENT COMPONENT

Impact 10.13.1 in the Program EIR identifies significant temporary traffic impacts on some local and collector roadways related to the AMT facilities construction. Although measures to reduce this impact are included in the project as part of the City's Standard Traffic Control Procedures (see Project Measure 3.2.15), no additional feasible mitigation has been identified, and this significant impact may be unavoidable. After construction, operation and maintenance of the AMT facilities would average 50 additional trips per day. Some roads that would be used by the increased operational traffic may have limited available capacity, and therefore, the increases could result in Levels of Service (LOS) below LOS "C", which is the standard for Sonoma County, resulting in a significant impact. No additional feasible mitigation has been identified, and this significant impact may be unavoidable.

As evaluated in the Program EIR under Impacts 10.13.2 through 10.13.7, construction under this component could require construction equipment to enter and leave the public right-of-way. Measures to reduce these impacts are included in the project as part of the City's Standard Traffic Control Procedures (see Project Measure 3.2.15). The Program EIR found that impacts will be less than significant.

CUMULATIVE IMPACTS

The cumulative transportation impacts of Program facilities are evaluated in Section 4.10 of the Program EIR. As noted there, under Impacts 10.1C, 10.2C, and 10.3C, congestion, delays, access restrictions, and impacts on residential and commercial parking during construction are significant.

The Federated Indians of the Graton Rancheria Casino, located west of Rohnert Park, is anticipated to generate traffic during both construction and operations. Traffic generation has not been estimated by the proponents of the Casino. Based on a preliminary description of the casino, however, construction and operational traffic is expected to be substantial. This traffic will contribute to congestion and delays. Construction may contribute to access restrictions near the Casino site. Impacts on residential and commercial parking may occur. The Casino will therefore contribute to cumulative congestion, delays, access restrictions, and impacts on residential and commercial parking during construction, although the magnitude of this contribution cannot be determined at this time. The cumulative impacts remain significant.

As evaluated under Impact 10.4C, 10.5C, and 10.6C impacts from the IRWP plus cumulative projects according to criteria 4, 5, and 6 will be less than significant. The City will conduct construction, restore affected roadways to existing conditions or better and regulate construction related parking in accordance with regulations specified under the Standard Traffic Control Procedures. Traffic impacts from the Casino are not expected to overlap with these impacts which are localized in nature. Thus the IRWP would not contribute to cumulative hazards in the IRWP area according to criteria 4, 5, and 6.

ENVIRONMENTAL IMPACTS FOR THE COMBINED ALTERNATIVES – PREFERRED PROGRAM

The Preferred Program combines five alternatives from the Program EIR and establishes both a target for recycled water use and a permissible range of recycled water use. The following illustrates the potential environmental impacts of the combined alternatives for the target and for the maximum amount of recycled water use identified for the range. The analysis of the environmental impacts of the combined alternatives that make up the Preferred Program follows the same methodology used in the Program EIR (Chapter 5). Details used in the analysis of environmental impacts for the Target and Range are presented in Appendix A.

Target

Total construction traffic would be greater than for any of the individual Program Alternatives by 603 trips per day, but less than reported for the Combination of Alternatives in the Program EIR. Impacts from construction traffic were determined to be significant. Delays and access restrictions due to lane closures during construction would be specific to the particular pipeline segment, and would not be exacerbated as a result of combining alternatives. Thus, the impact will not be substantially more severe than described in the Program EIR. Significant operational traffic impacts would only be associated with agricultural irrigation, and would not be exacerbated by combining alternatives. Impacts of the target Preferred Program are reduced compared to those impacts that were identified in the Program EIR for Alternative 4, and there will be no new significant impacts.

Range

Total construction traffic would be greater than for any of the individual Program Alternatives by 624 trips per day, but less than reported for the Combination of Alternatives in the Program EIR. These impacts were reported to be significant. Delays and access restrictions due to lane closures during construction would be specific to the particular pipeline segment, and would not be exacerbated as a result of combining alternatives. Thus, the impact will not be substantially more severe than described in the Program EIR. Significant operational traffic impacts would only be associated with agricultural irrigation, and would not be exacerbated by combining alternatives. Impacts of the high end of the range of the Preferred Program are reduced compared to those impacts that were identified in the Program EIR, and there will be no new significant impacts.

4.11 AIR QUALITY

Table 4.11-9 from the Program EIR presents Air Quality criteria, and is presented below.

Table 4.11-9

Evaluation Criteria with Significance Thresholds – Air Quality

| Evaluation Criteria | As Measured by | Significance Thresholds | Source of Criteria |
|--|--|--|--|
| 1. Will construction of the IRWP generate emissions that expose people to high levels of dust and equipment exhaust? | Size of construction area, duration of construction, amount and size of large equipment, and proximity of receptors. | Non-compliance with measures recommended by BAAQMD, Northern Sonoma County APCD, and Lake County AQMD. | CEQA Guidelines Appendix G, Checklist Item III (d). Bay Area Air Quality Management District CEQA Guidelines for Assessing Impacts of Projects and Plans |
| 2. Will IRWP emissions cumulatively exceed allowable limits or conflict with or obstruct the implementation of the Bay Area Ozone Attainment Plan? | Emissions of Reactive Organic Compounds, Nitrogen Oxides, Sulfur Dioxide, Carbon Monoxide and Particulates | - In the jurisdiction of the BAAQMD: greater than 80 pounds/day for ozone precursor pollutants (nitrogen oxides and reactive organic gases) and PM ₁₀ ; and 550 pounds/day of carbon monoxide. - In the jurisdiction of the Northern Sonoma County APCD: greater than 40 tons per year of ozone precursor pollutants, 15 tons per year of PM ₁₀ ; - In jurisdiction of the Lake County AQMD greater than 150 pounds/day of a criteria air contaminant. | CEQA Guidelines Appendix G, Checklist Item III (a) and Item III (c) Bay Area Ozone Attainment Plan Bay Area Air Quality Management District CEQA Guidelines for Assessing Impacts of Projects and Plans, Northern Sonoma County APCD Rules and Regulations, and Lake County AQMD Rules and Regulations |
| 3. Will the IRWP expose people to substantial levels of toxic air contaminants? | Risk associated with emissions of toxic air contaminants. | Probability of contracting cancer for maximally exposed individual (MEI) exceeds ten in one million or exposure to non-carcinogenic toxic air contaminants will result in a Hazard Index greater than 1 for the MEI. | Bay Area Air Quality Management District CEQA Guidelines for Assessing Impacts of Projects and Plans |

Table 4.11-9

Evaluation Criteria with Significance Thresholds – Air Quality

| Evaluation Criteria | As Measured by | Significance Thresholds | Source of Criteria |
|--|---|---|---|
| 4. Will the IRWP violate or contribute to violation of ambient air quality standard? | Emissions of carbon monoxide. ¹ | Greater than 550 pounds per day of CO. | CEQA Guidelines Appendix G, Checklist Item III (b). Bay Area Air Quality Management District CEQA Guidelines for Assessing Impacts of Projects and Plans. |
| 5. Will the IRWP cause odor impacts? | Complaints | Potential for greater than ten odor complaints in a 90 day period or greater than 1 confirmed or 3 unconfirmed complaints per year averaged over 3 years. | CEQA Guidelines Appendix G, Checklist Item III (e). Bay Area Air Quality Management District CEQA Guidelines for Assessing Impacts of Projects and Plans. |
| 6. Will the IRWP cause permit/monitoring violations at the Geysers Steamfield? | Violations | Greater than 0 violations. | Northern Sonoma Air Pollution Control District Rules and Regulations. Lake County AQMD Rules and Regulations |
| 7. Will the IRWP increase greenhouse gas emissions? | Percent increase of equivalent carbon dioxide (eCO ₂) emissions over 2000-2001 levels | Any increase. | City of Santa Rosa, City of Cotati, City of Rohnert Park, and City of Sebastopol as members of Cities for Climate Protection |

1. CO is the only criteria air contaminant that is normally modeled for its ambient concentration impacts (such as CO “hotspots” at congested intersections). Impacts for the other criteria air contaminants are assessed against criterion number 2 according to their mass emissions.

LAGUNA PLANT UPGRADE COMPONENT

As evaluated in the Program EIR under Impact 11.1.1 through 11.1.3, the Laguna Plant Upgrade will have a less-than-significant impact on air quality based on evaluation criteria 1, 2 and 3.

As evaluated in the Program EIR under Impact 11.1.4 and 11.1.6 the Laguna Plant Upgrade will have no air quality impacts.

Impacts 11.1.5 and 11.1.7 in the Program EIR identify a significant impact to odor and eCO₂ emissions. No feasible mitigation has been identified and the potential for odor impacts will

continue, even with continued implementation of the facility's current odor control program therefore, the impact will remain significant and unavoidable.

INDOOR WATER CONSERVATION COMPONENT

As evaluated in the Program EIR under Impact 11.2.1 through 11.2.7, indoor water conservation will have no air quality impacts based on evaluation criteria 1 through 7.

URBAN IRRIGATION COMPONENT

As evaluated in the Program EIR under Impact 11.4.1, 11.4.3, and 11.4.5, there will be a less-than-significant impact associated with emissions due to construction activities. As part of the IRWP, the City will implement Measures 3.2.16, Dust Control Program, and 3.2.17, Equipment Exhaust Control Program.

As evaluated in the Program EIR under Impact 11.4.2, 11.4.4, 11.4.6 and 11.4.7, the Urban Irrigation component will have no impacts to air quality based on evaluation criteria 2, 4, 6, and 7.

AGRICULTURAL IRRIGATION COMPONENT

As evaluated in the Program EIR, Impacts 11.5.1, 11.5.3 and 11.5.4 identify a less-than-significant impact associated with levels of emission from construction of the Agricultural Irrigation component. As part of the IRWP, the City will implement Measures 3.2.16, Dust Control Program, and 3.2.17, Equipment Exhaust Control Program.

Impact 11.5.2 in the Program EIR identifies a significant impact from Agricultural Irrigation component exceeding allowable limits or conflicting with the implementation of the Bay Area Ozone Attainment Plan. Although Measures 3.2.16 and 3.2.17 are included in the project to reduce this impact, no additional feasible mitigation has been identified, and this significant impact will be unavoidable.

Impact 11.5.5 in the Program EIR identifies a significant impact from implementation of the Agricultural Irrigation component causing odor impacts. Mitigation Measure 3.5.6, Odor Control from Grape Harvesting and Crushing Operations, is proposed to address this impact, and to reduce the impact to less than significant after mitigation.

As evaluated in the Program EIR under Impact 11.5.6, the Agricultural Irrigation component will have no impacts to air quality based on evaluation criteria 6.

Impact 11.5.7 in the Program EIR identifies a significant impact from increased energy use will result in an unavoidable increase in eCO₂ emissions. No feasible mitigation has been identified and there are no additional energy conservation measures, such as process or equipment design or alternative energy sources, are available that will reduce the net increase in energy use. Therefore, the impact will remain significant and unavoidable.

PIPELINES COMPONENT

As evaluated in the Program EIR under Impact 11.6.1, and 11.6.3, there will be less than significant impacts associated with emissions due to construction activities. As part of the IRWP, the City will implement Measures 3.2.16, Dust Control Program, and 3.2.17, Equipment Exhaust Control Program.

As evaluated in the Program EIR under Impact 11.6.2, 11.6.4 through 11.6.7, the Pipelines component will have no impacts to air quality based on evaluation criteria 2 through 7.

STORAGE COMPONENT

As evaluated in the Program EIR under Impact 11.7.1, 11.7.3 and 11.7.5, there will be less than significant impacts associated with emissions due to construction activities. As part of the IRWP, the City will implement Measures 3.2.16, Dust Control Program, and 3.2.17, Equipment Exhaust Control Program.

As evaluated in the Program EIR under Impact 11.7.2, 11.7.4 and 11.7.6, the Storage component will have no impacts to air quality based on evaluation criteria 2, 4 and 6.

Impact 11.7.7 in the Program EIR identifies a significant impact associated with an increase in eCO₂ emissions. Increased energy use will result in an unavoidable increase in eCO₂ emissions. No additional energy conservation measures are available that will reduce the net increase in energy use. Therefore, the impact will remain significant and unavoidable.

CREATED WETLANDS COMPONENT

As evaluated in the Program EIR under Impact 11.8.1, 11.8.3 and 11.8.5, there will be less than significant impacts associated with emissions due to construction activities. As part of the IRWP, the City will implement Measures 3.2.16, Dust Control Program, and 3.2.17, Equipment Exhaust Control Program.

As evaluated in the Program EIR under Impact 11.8.2, 11.8.4, 11.8.6, and 11.8.7, the Created Wetlands component will have no impacts to air quality based on evaluation criteria 2, 4, 6 and 7.

PUMP STATIONS AND TANKS COMPONENT

As evaluated in the Program EIR under Impacts 11.9.1 through 11.9.4, the construction of the pump stations will not expose people to high levels of dust and equipment exhaust therefore; the impacts will be less than significant. As part of the IRWP, the City will implement Measures 3.2.16, Dust Control Program, and 3.2.17, Equipment Exhaust Control Program.

As evaluated in the Program EIR under Impact 11.9.5, and 11.9.6, the Pump Stations and Tanks component will have no impacts to air quality based on evaluation criteria 5 and 6.

Impact 11.9.7 in the Program EIR identifies a significant impact associated with an increase in eCO₂ emissions. Increased energy use will result in an unavoidable increase in eCO₂ emissions. No additional energy conservation measures, such as process or equipment design or alternative energy sources, are available that will reduce the net increase in energy use therefore, this impact will remain significant and unavoidable.

GEYSERS STEAMFIELD EXPANSION COMPONENT

As evaluated in the Program EIR under Impacts 11.10.1 through 11.10.3, the Geysers Steamfield Expansion component will have a less-than-significant impact associated with emissions and toxic air contaminants. As part of the IRWP, the City will implement Measures 3.2.16, Dust Control Program, and 3.2.17, Equipment Exhaust Control Program.

As evaluated in the Program EIR under Impacts 11.10.4 through 11.10.7, the Geysers Steamfield Expansion component will have no air quality impacts.

DIRECT DISCHARGE COMPONENT

As evaluated in the Program EIR under Impacts 11.11.1, 11.11.3, the Direct Discharge component will have a less-than-significant impact associated with emissions and toxic air contaminants. As part of the IRWP, the City will implement Measures 3.2.16, Dust Control Program, and 3.2.17, Equipment Exhaust Control Program.

As evaluated in the Program EIR under Impacts 11.11.2, 11.11.4, and 11.11.5 through 11.11.7, the Direct Discharge component will have no air quality impacts. Comments received during the selection process and after certification of the Program EIR have suggested that the discharge analysis is flawed because it did not account for global warming trends. The potential effects of global warming, if any, could increase evaporation and transpiration, which would serve to reduce disposal needs. No impacts on the discharge analysis are identified.

INDIRECT DISCHARGE COMPONENT

As evaluated in the Program EIR under Impacts 11.12.1 through 11.12.5, the Indirect Discharge component will have less than significant impacts associated with emissions and toxic air contaminants. As part of the IRWP, the City will implement Measures 3.2.16, Dust Control Program, and 3.2.17, Equipment Exhaust Control Program.

As evaluated in the Program EIR under Impact 11.12.6, the Indirect Discharge component will have no air quality impacts.

Impact 11.12.7 in the Program EIR identified significant impacts associated with eCO₂ emissions. Increased energy use will result in an unavoidable increase in eCO₂ emissions. No additional energy conservation measures are available that will reduce the net increase in energy use. As a result, no feasible mitigation has been identified. This impact is therefore significant and unavoidable.

ADVANCED MEMBRANE TREATMENT COMPONENT

As evaluated in the Program EIR under Impacts 11.13.1 through 11.13.3, the construction of AMT facilities would not expose people to high levels of dust and equipment exhaust therefore; the impacts will be less than significant. As part of the IRWP, the City will implement Measures 3.2.16, Dust Control Program, and 3.2.17, Equipment Exhaust Control Program.

As evaluated in the Program EIR under Impacts 11.13.4 through 11.13.6, the AMT facilities will have no impacts to air quality.

Impact 11.13.7 in the Program EIR identifies a significant impact associated with an increase in eCO₂ emissions. Increased energy use of the AMT facilities would result in an unavoidable increase in eCO₂ emissions. No additional energy conservation measures, such as process or equipment design or alternative energy sources, are available that would reduce the net increase in energy use, therefore, this impact would remain significant and unavoidable.

CUMULATIVE IMPACTS

The cumulative air quality impacts of Program facilities are evaluated in Section 4.11 of the Program EIR. New cumulative projects as identified in Section 4.0 of this chapter are evaluated below.

As evaluated in the Program EIR, Impacts 11.1C, 11.3C, 11.4C, 11.5C and 11.7C were determined to be less than significant. Although construction activities for IRWP components will result in significant construction-period emissions of criteria air contaminants, mitigation measures can reduce these impacts to less than significant for all emissions. Because all cumulative projects should also be subject to similar mitigation measures for construction, it is anticipated that construction emissions will not be cumulatively significant.

Although the Laguna Plant upgrade component will generate TAC emissions, a risk assessment showed that the cancer risk will be far less than the significance threshold. The Graton Rancheria casino may install a 0.5 mgd on-site wastewater treatment plant within a short distance of the Laguna plant. Slight increases in TAC from this casino treatment plant would not be sufficient to increase cumulative emissions to significant levels. Furthermore, the Indian Tribe must comply with the federal Clean Air Act and would be required to obtain the appropriate permits from either the Bay Area Air Quality Management District or the U.S. Environmental Protection Agency. These permits would require the plant to continue meeting the BAAQMD's Risk Management Policy or equivalent U.S. EPA policies. The BAAQMD considers that any source that obtains the appropriate permits and complies with all appropriate rules and regulations would not have a significant cumulative impact.

Odor from increased wastewater treatment activity at the Laguna Plant was determined to be significant. Siting of the Graton Rancheria casino wastewater treatment plant near the Laguna Plant (within approximately 2 miles) may increase odor complaints, but not to the

threshold of significance, which is greater than ten odor complaints in a 90 day period or greater than 1 confirmed or 3 unconfirmed complaints annual complaints (three year average).. Mitigation is proposed to address potential impacts associated with the grape production that could result from Agricultural Irrigation alternative. Other grape production facilities will be expected to be subject to similar mitigation, so this impact is not expected to be significant.

As evaluated under Impact 11.6C, operations at the Geysers Steamfield will be regulated by the Northern Sonoma APCD and Lake County AQMD, so no cumulative impacts associated with emissions at the Geysers will be expected.

As evaluated under Impact 11.2C, the IRWP plus cumulative projects emissions may exceed allowable limits or conflict with or obstruct the implementation of the Bay Area Ozone Attainment Plan. The EIRs for the General Plans for the cities of Santa Rosa and Rohnert Park both predicted significant air quality impacts associated with emissions of PM₁₀ and CO, and Rohnert Park also projected significant emissions of ozone precursors. Although the IRWP emissions of CO and PM₁₀ are projected to be less than significant, they will contribute to cumulative emissions of these pollutants, and are therefore considered to contribute incrementally to cumulatively significant PM₁₀ and ozone precursor emissions. A portion of the IRWP emissions will be emissions associated with off-site power plants that will produce energy for the project. The project has already incorporated mitigation measures to minimize emissions, and no further measures are feasible. The Federated Indians of the Graton Rancheria Casino, located west of Rohnert Park, is anticipated to produce air pollutant emissions during both construction and operations. Emissions have not been estimated by the proponents of the Casino. These emissions will contribute to cumulatively significant air quality impacts in the region, although the magnitude of this contribution cannot be determined at this time. The cumulative impacts remain significant.

As evaluated under Impact 11.7C in the Program EIR, the IRWP plus cumulative projects may increase eCO₂ emissions, and this is therefore a significant impact. Several project related to the Laguna Treatment Plant, but not part of IRWP, either under construction or awaiting funding, will reduce the cumulative eCO₂ emissions associated with operation of the Subregional System. However, the emissions associated with the energy requirements of alternatives 1 and 3 through 6 will outweigh these reductions.

ENVIRONMENTAL IMPACTS FOR THE COMBINED ALTERNATIVES – PREFERRED PROGRAM

The Preferred Program combines five alternatives from the Program EIR and establishes both a target for recycled water use and a permissible range of recycled water use. The following illustrates the potential environmental impacts of the combined alternatives for the target and for the maximum amount of recycled water use identified for the range. The analysis of the environmental impacts of the combined alternatives that make up the Preferred Program follows the same methodology used in the Program EIR (Chapter 5). Details used in the analysis of environmental impacts for the Target and Range are presented in Appendix A.

Target

In comparison to Alternative 4, which had the highest usage of construction equipment for any of the Program Alternatives, 186 more pieces of equipment would be required, and there would be 935 more hours per day of equipment running. Impacts are less, however, than identified for Combination of Alternatives 11 in the Program EIR. These can be mitigated by implementation of control measures, which would apply to all combinations of components. Operational emissions are primarily associated with the Laguna Plant upgrade and operation of agricultural facilities. Even with the reduction in scale of agricultural irrigation, NO_x emissions are likely to exceed significance thresholds established by the BAAQMD. Operation of the Laguna Plant upgrade, storage facilities, pump stations and tanks, and the AMT Facility would all contribute to an increase in eCO₂ emissions. These impacts have already been determined to be significant. Project air quality of the Preferred Program impacts are reduced compared to those identified in the Program EIR, and no new impacts have been identified. Due to the full implementation of the Laguna Plant Upgrade component, and the addition of potential air quality impacts from the nearby Graton Rancheria Casino (within approximately 2 miles), cumulative air quality impacts would increase slightly, but would not be substantially more severe, and would not result in new significant cumulative impacts.

Range

In comparison to Alternative 4, which had the highest usage of construction equipment, 313 more pieces of equipment and 1,478 more hours of operation daily would be required. Impacts are less, however, than identified for Combination of Alternatives 11 in the Program EIR. These can be mitigated by implementation of control measures, which would apply to all combinations of components. Operational emissions are primarily associated with the Laguna Plant upgrade and operation of agricultural facilities. Even with the reduction in scale of agricultural irrigation, NO_x emissions are likely to exceed significance thresholds established by the BAAQMD. Operation of the Laguna Plant upgrade, storage facilities, pump stations and tanks, and the AMT Facility would all contribute to an increase in eCO₂ emissions. However, these impacts have already been determined to be significant. Project air quality of the Preferred Program impacts are reduced compared to those identified in the Program EIR, and no new impacts have been identified. Due to the full implementation of the Laguna Plant Upgrade component, and the addition of potential air quality impacts from the nearby Graton Rancheria casino, cumulative air quality impacts would increase slightly. Those impacts, however, would not be substantially more severe, and would not result in new significant cumulative impacts.

4.12 NOISE

Table 4.12-8 from the Program EIR presents Noise criteria, and is presented below.

Table 4.12-11

Evaluation Criteria with Significance Thresholds – Noise

| Evaluation Criteria | As Measured by | Significance Thresholds | Sources of Criteria |
|---|---|---|---|
| 1. Will construction or operation of the IRWP generate noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies? | Projected noise levels as measured at the receiving land use based on applicable state or local regulation. | <p>a. Greater than noise level for receiving land use allowable by local ordinance or regulation.</p> <p>b. Construction noise greater than 60 dBA L_{eq} daytime, 55 dBA L_{eq} nighttime.</p> | <p>CEQA Guidelines Appendix G, Checklist Item XI (a).</p> <p>a. Noise Element of the General Plans of Sonoma County; the cities of Cloverdale, Cotati, Healdsburg, Petaluma, Rohnert Park, Sebastopol and Santa Rosa; and Town of Windsor</p> <p>Lake County Noise Ordinance</p> <p>City of Santa Rosa Municipal Code, Chapter 17-16</p> <p>City of Rohnert Park Municipal Code, Section 9.44</p> <p>City of Sebastopol Municipal Code, Section 8.24.030</p> <p>City of Petaluma Zoning Ordinance, Section 22-301.3</p> <p>b. California Department of Health, Office of Noise Control Model Community Noise Ordinance.</p> |
| 2. Will IRWP construction activities result in generation of excessive ground-borne vibration levels? | Projected vibration levels at receiving land use. | Greater than 0.5 inch/sec. peak particle velocity | <p>CEQA Guidelines Appendix G, Checklist Item XI (b).</p> <p>U.S. Bureau of Mines Safe limit for normal structures.</p> |

Table 4.12-11

Evaluation Criteria with Significance Thresholds – Noise

| Evaluation Criteria | As Measured by | Significance Thresholds | Sources of Criteria |
|---|--|---|--|
| 3. Will operation of the IRWP cause a substantial permanent increase in ambient noise levels above existing levels in the vicinity? | Projected noise levels at receiving land uses with the project compared to ambient noise levels. | a. Greater than 5 dBA L_{dn} increase and remaining below “normally acceptable” noise level for affected use, or b. Greater than 3 dBA L_{dn} increase exceeding the “normally acceptable” level for the affected use. | CEQA Guidelines Appendix G, Checklist Item XI (c). Historical precedent based upon community annoyance studies. |
| 4. Will construction activities and traffic required for the IRWP result in a substantial temporary or periodic increase in ambient noise levels above existing levels in the vicinity? | Projected noise levels at the receiving land use with the construction activities compared to existing ambient noise levels. | Greater than 5 dBA L_{eq} increase in noise above existing ambient noise during daytime or nighttime. | CEQA Guidelines Appendix G, Checklist Item XI (d). Historical precedent based upon community annoyance studies. |
| 5. Will the IRWP expose people to noise in the vicinity of a public or private airport? | Incompatible use located within: a. An adopted airport land use plan; b. Two miles of an airport for which there is no adopted airport land use plan | Any such use. | CEQA Guidelines Appendix G, Checklist Item XI (e) and Item XI (f). |

Note: Impacts related to CEQA Guidelines Appendix G, Checklist Item XI (e) and Item XI (f), dealing with noise impacts in the vicinity of airports were determined not to be significant in the Initial Study for the IRWP. See Chapter 6 of this EIR for a discussion of impacts determined not to be significant.

LAGUNA PLANT UPGRADE COMPONENT

Impact 12.1.1 in the Program EIR identifies significant impacts resulting from new noise sources from the new pumps and processes at the Laguna Plant. Mitigation Measures 3.3.16 and 3.4.3 are proposed to address this impact; however, the measures may not reduce the noise levels to less than significant. Therefore, this will constitute a significant, unavoidable impact.

As evaluated in the Program EIR under Impacts 12.1.2 and 12.1.5, Laguna Plant Upgrade will have no noise impacts.

Impact 12.1.3 in the Program EIR identifies a significant impact resulting from a substantial increase in noise levels at sensitive receptors located along the northern boundary on Meadow Lane. Mitigation Measure 3.3.16, Pump Station and Facility Noise Control, is proposed to address this impact; however, the measures may not reduce the noise levels to less than significant. Therefore, this will constitute a significant, unavoidable impact.

Impact 12.1.4 in the Program EIR identifies a significant impact associated with construction of the Laguna Plant Upgrade component. Mitigation Measure 3.4.3, Construction Noise Control Measures, is proposed to address this impact; however, the measures may not reduce the noise levels to less than significant. Therefore, this will constitute a significant, unavoidable impact.

INDOOR WATER CONSERVATION COMPONENT

As evaluated in the Program EIR under Impacts 12.2.1 through 12.2.5, Indoor Water Conservation will have no noise impacts.

URBAN IRRIGATION COMPONENT

Impacts 12.4.1 and 12.4.4 under the Program EIR identified significant impacts associated with construction of the component. Mitigation Measure 3.4.3 is proposed to address this impact; however, the installation of gray water systems requires construction activities at locations on the property where soils are suitable for use of the system, and the measures may not be possible to reduce the noise levels to less than significant. Therefore, this will constitute a significant, unavoidable impact.

As evaluated in the Program EIR under Impacts 12.4.2, 12.4.3, and 12.4.5 Urban Irrigation will have no noise impacts.

AGRICULTURAL IRRIGATION COMPONENT

Impacts 12.5.1 and 12.5.4 in the Program EIR identify significant impacts resulting from the construction of the component. Mitigation Measure 3.4.3 is proposed to address this impact; however, the measures may not reduce the noise levels to less than significant. Therefore, this will constitute a significant, unavoidable impact.

As evaluated in the Program EIR under Impacts 12.5.2, 12.5.3, and 12.5.5 Agricultural Irrigation will have no noise impacts.

PIPELINES COMPONENT

Impacts 12.6.1 and 12.6.4 under the Program EIR identify significant impacts associated with construction of the component. Mitigation Measure 3.4.3 requires the City where feasible, to implement construction measures to reduce noise impacts on sensitive receptors. However, the measures may not reduce the noise levels to less than significant. Therefore, this will constitute a significant, unavoidable impact.

Impact 12.6.2 under the Program EIR identified significant impacts associated with the generation of excessive ground-borne vibration levels. Mitigation Measure 3.4.3 will reduce the impact to a less-than-significant level by limiting charge sizes, blasting hours, and utilizing appropriate stemming depths.

As evaluated in the Program EIR under Impact 12.6.3, the Pipeline component will have a less-than-significant effect on noise.

As evaluated in the Program EIR under Impacts 12.6.5, Pipeline will have no noise impacts.

STORAGE COMPONENT

Impacts 12.7.1 and 12.7.4 in the Program EIR identify significant impacts associated with construction activities. Under Measure 3.4.3, the City will, where feasible, implement construction measures to reduce noise impacts on sensitive receptors. However, the measures may not reduce the noise levels to less than significant. Therefore, this will constitute a significant, unavoidable impact.

Impact 12.7.2 in the Program EIR identifies significant impacts associated with generation of excessive ground-borne vibration levels. Mitigation Measure 3.4.3 is proposed to address this impact by limiting charge sizes, blasting hours, and utilizing appropriate stemming depths to reduce the impact to less than significant after mitigation.

As evaluated in the Program EIR under Impacts 12.7.3 and 12.7.5, Storage will have no noise impacts.

CREATED WETLANDS COMPONENT

Impacts 12.8.1 and 12.8.4 in the Program EIR identifies significant impacts associated with construction activities. Under Measure 3.4.3, the City will, where feasible, implement construction measures to reduce noise impacts on sensitive receptors. However, the measures may not reduce the noise levels to less than significant. Therefore, this will constitute a significant, unavoidable impact.

As evaluated in the Program EIR under Impacts 12.8.2 and 12.8.5, Created Wetlands will have no noise impacts.

As evaluated in the Program EIR under Impact 12.8.3, the Created Wetlands component will have a less-than-significant effect on noise.

PUMP STATIONS AND TANKS COMPONENT

Impact 12.9.1, 12.9.3 and 12.9.4 in the Program EIR identify significant impacts associated with construction or operation and maintenance of the component. Under Measures 3.3.16 and 3.4.3, the City will, where feasible, implement design and construction measures to reduce noise impacts on sensitive receptors. However, the measures may not reduce the noise levels to less than significant. Therefore, this will constitute a significant, unavoidable impact.

As evaluated in the Program EIR under Impacts 12.9.2 and 12.9.5, Pump Stations and Tanks will have no noise impacts.

GEYSERS STEAMFIELD EXPANSION COMPONENT

Impacts 12.10.1, 12.10.3 and 12.10.4 in the Program EIR identify significant impacts associated with the Geysers Steamfield Expansion component. Under Mitigation Measures 3.3.16 and 3.4.3, the City will, where feasible, implement design and construction measures to reduce noise impacts on sensitive receptors. However, the measures may not reduce the noise levels to less than significant. Therefore, this will constitute a significant, unavoidable impact.

As evaluated in the Program EIR under Impacts 12.10.2 and 12.10.5, Geysers Steamfield Expansion will have no noise impacts.

DIRECT DISCHARGE COMPONENT

Impacts 12.11.1 and 12.11.4 in the Program EIR identify significant impacts associated with the component. Under Mitigation Measure 3.4.3, the City will, where feasible, implement construction measures to reduce noise impacts on sensitive receptors. However, the measure may not reduce the noise levels to less than significant. Therefore, this will constitute a significant, unavoidable impact.

As evaluated in the Program EIR under Impacts 12.11.2 and 12.11.5, Direct Discharge will have no noise impacts.

As evaluated in the Program EIR under Impact 12.11.3, the Direct Discharge component, will have a less-than-significant effect on noise.

INDIRECT DISCHARGE COMPONENT

Impacts 12.12.1, 12.12.3 and 12.12.4 in the Program EIR identify significant impacts associated with the component. Under Mitigation Measures 3.3.16 and 3.4.3, the City will, where feasible, implement construction measures to reduce noise impacts on sensitive receptors. However, the measures may not reduce the noise levels to less than significant. Therefore, this will constitute a significant, unavoidable impact.

As evaluated in the Program EIR under Impacts 12.12.2 and 12.12.5, Indirect Discharge will have no noise impacts.

ADVANCED MEMBRANE TREATMENT COMPONENT

Impact 12.13.1, 12.13.3 and 12.13.4 in the Program EIR identify significant impacts associated with construction or operation and maintenance of the AMT facilities. Under Measures 3.3.16 and 3.4.3, the City would, where feasible, implement design and construction measures to reduce noise impacts on sensitive receptors. However, the

measures may not reduce the noise levels to less than significant. Therefore, this would constitute a significant, unavoidable impact.

As evaluated in the Program EIR under Impacts 12.13.2 and 12.13.5, the AMT facilities will have no noise impacts.

CUMULATIVE IMPACTS

The cumulative impacts associated with noise impacts of Program facilities are evaluated in Section 4.12 of the Program EIR. New cumulative projects as identified in Section 4.0 of this chapter are evaluated below.

As evaluated in the Program EIR, Impacts 12.1C, 12.3C, and 12.4C are significant. Specifically, as noted in the discussion of Impact 12.1C, construction noise impacts of new cumulative projects could contribute to cumulative impacts if they take place at the same time as IRWP construction. Construction noise has already been determined to be significant, and there are no additional measures that could reduce cumulative construction noise impacts.

As evaluated in the Program EIR under Impact 12.3C, operation of pump stations will contribute to cumulative noise increases in the Program area as the Program area grows and more intensive land uses are introduced into the vicinity. All feasible noise control measures will be included in pump station design, and there are not additional feasible measures to address cumulative effects.

As evaluated in the Program EIR under Impact 12.4C, construction traffic noise impacts could be exacerbated if other projects take place at the same time. Construction traffic noise has already been determined to be significant, and there are no additional measures that could reduce cumulative construction traffic noise impacts.

Impacts 12.2C and 12.5C are less than significant. Mitigation proposed by the IRWP will fully mitigate impacts of blasting by limiting charge sizes, blasting hours, and utilizing appropriate stemming depths. Construction of other projects in the IRWP study area could also require blasting, but other projects also will be subject to blasting controls, so no significant cumulative impact will occur.

The IRWP does not include facilities for human occupancy. Therefore, it will not expose residents or employees to excessive noise from airport operations, and there will be no cumulative impact.

The Federated Indians of the Graton Rancheria Casino, located west of Rohnert Park, is anticipated to generate construction and traffic noise. The proponents of the Casino have not estimated these impacts. The magnitude of this contribution cannot be determined at this time. The cumulative impact remains significant. Because noise impacts are generally site-specific, the Casino is not expected to make cumulative noise impacts substantially more severe than described in the Program EIR.

ENVIRONMENTAL IMPACTS FOR THE COMBINED ALTERNATIVES - PREFERRED PROGRAM

The Preferred Program combines five alternatives from the Program EIR and establishes both a target for recycled water use and a permissible range of recycled water use. The following illustrates the potential environmental impacts of the combined alternatives for the target and for the maximum amount of recycled water use identified for the range. The analysis of the environmental impacts of the combined alternatives that make up the Preferred Program follows the same methodology used in the Program EIR (Chapter 5). Details used in the analysis of environmental impacts for the Target and Range are presented in Appendix A.

Target

Construction of facilities for the target volume of the Preferred Program will generate significant construction and operation noise as identified in the Program EIR under individual alternatives and the Combinations of Alternatives. Reduction in the size of urban irrigation, agricultural irrigation, Geysers, and discharge components will reduce impacts relative to those identified in the Program EIR. The impacts of the target in the Preferred Program will be less than those identified in the Program EIR. There are no new significant impacts.

Range

Construction of facilities for the target volume of the Preferred Program will generate significant construction and operation noise as identified in the Program EIR under individual alternatives and the Combinations of Alternatives. Reduction in the size of agricultural, Geysers, and discharge components will reduce impacts relative to those identified in the Program EIR. The impacts of the high end of the range in the Preferred Program will be less than those identified in the Program EIR. There are no new significant impacts.

4.13 CULTURAL RESOURCES

Table 4.13-2 from the Program EIR presents criteria for Cultural Resources, and is presented below.

Table 4.13-2

Evaluation Criteria with Significance Thresholds –
 Cultural Resources and Paleontology

| Evaluation Criteria | As Measured by | Significance Thresholds | Sources of Criteria |
|--|---|---|---|
| 1. Will the IRWP cause a substantial adverse change in the significance of a historical or archeological resource as defined in Title 14, California Code of Regulations §15064.5? | Physical demolition, destruction, relocation, or material alteration of a historical or archaeological resource | Greater than 0 historical or archaeological resources | CEQA Guidelines Appendix G, Checklist Item V (a) and Item V (b). Title 14, California Code of Regulations §15064.5 Public Resources Code §21084.1 |
| 2. Will the IRWP have an adverse effect on any historic property that is included in, or eligible for inclusion in, the National Register of Historic Places? | The direct or indirect alteration of any of the characteristics of a historic property that qualify the property for inclusion in the National Register in a manner that will diminish the integrity of the property's location, design, setting, materials, workmanship, feeling, or association | Greater than 0 historic properties | National Historic Preservation Act of 1966, as amended, Section 106 |
| 3. Will IRWP disturb any human remains, including those interred outside of formal cemeteries? | Disturbance of any human remains | Greater than 0 human remains | CEQA Guidelines Appendix G, Checklist Item V (d). Title 14, California Code of Regulations §15064.5(d) Health and Safety Code §7050.5 Public Resources Code §5097.9 |

Table 4.13-2

Evaluation Criteria with Significance Thresholds –
Cultural Resources and Paleontology

| Evaluation Criteria | As Measured by | Significance Thresholds | Sources of Criteria |
|---|--|--|--|
| 4. Will the IRWP disturb any Native American human remains, associated grave goods, or items of cultural patrimony? | Disturbance of any Native American human remains, associated grave goods, or items of cultural patrimony | Greater than 0 human remains, associated grave goods, or items of cultural patrimony | Health and Safety Code §7050.5 Public Resources Code §5097.9 NAGPRA if on federal or tribal lands |
| 5. Will the IRWP directly or indirectly destroy a unique paleontological resource or site? | Ground-disturbing activity within geologic units with the potential to contain important fossils | Greater than 0 occurrences | CEQA Guidelines Appendix G, Checklist Item V (c). Public Resources Code §5097.5 Archeological and Historic Data Preservation Act of 1974 |

LAGUNA PLANT UPGRADE COMPONENT

Impacts 13.1.1 through 13.1.4 in the Program EIR identify significant impacts associated with cultural resources. Mitigation Measure 3.3.17 is proposed to address this impact; however, it does not ensure that impacts to cultural and paleontological resources will be reduced to a less-than-significant level; and therefore the impact is significant and unavoidable.

Impact 13.1.5 in the Program EIR identifies significant impacts associated with paleontological resources Mitigation Measure 3.3.17, Identification, Evaluation, and Avoidance of Cultural and Paleontological Resources, is proposed to address this impact and to reduce the impact to less than significant after mitigation.

INDOOR WATER CONSERVATION COMPONENT

As evaluated in the Program EIR under Impacts 13.2.1 through 13.2.5, the Indoor Water Conservation component will have no cultural resource impacts.

URBAN IRRIGATION COMPONENT

Impacts 13.4.1 through 13.4.4 in the Program EIR identify significant impacts associated with cultural resources. Mitigation Measure 3.3.17 is proposed to address this impact; however, it does not ensure that impacts to cultural and paleontological resources will be reduced to a less-than-significant level; and therefore the impact is significant and unavoidable.

Impact 13.2.5 in the Program EIR identifies significant impacts associated with paleontological resources. Mitigation Measure 3.3.17, Identification, Evaluation, and Avoidance of Cultural and Paleontological Resources, is proposed to address this impact and to reduce the impact to less than significant after mitigation.

AGRICULTURAL IRRIGATION COMPONENT

Impacts 13.5.1 through 13.5.4 in the Program EIR identify significant impacts associated with cultural resources. Mitigation Measure 3.3.17 is proposed to address this impact; however, it does not ensure that impacts to cultural and paleontological resources will be reduced to a less-than-significant level; and therefore the impact is significant and unavoidable.

Impact 13.5.5 in the Program EIR identifies significant impacts associated with paleontological resources. Mitigation Measure 3.3.17, Identification, Evaluation, and Avoidance of Cultural and Paleontological Resources, is proposed to address this impact and to reduce the impact to less than significant after mitigation.

PIPELINES COMPONENT

Impacts 13.6.1 through 13.6.4 in the Program EIR identify significant impacts associated with cultural resources. Mitigation Measure 3.3.17 is proposed to address this impact; however, it does not ensure that impacts to cultural and paleontological resources will be reduced to a less-than-significant level; and therefore the impact is significant and unavoidable.

Impact 13.6.5 in the Program EIR identifies significant impacts associated with paleontological resources. Mitigation Measure 3.3.17, Identification, Evaluation, and Avoidance of Cultural and Paleontological Resources, is proposed to address this impact and to reduce the impact to less than significant after mitigation.

STORAGE COMPONENT

Impacts 13.7.1 through 13.7.4 in the Program EIR identify significant impacts associated with cultural resources. Mitigation Measure 3.3.17 is proposed to address this impact; however, it does not ensure that impacts to cultural and paleontological resources will be reduced to a less-than-significant level; and therefore the impact is significant and unavoidable.

Impact 13.7.5 in the Program EIR identifies significant impacts associated with paleontological resources. Mitigation Measure 3.3.17, Identification, Evaluation, and Avoidance of Cultural and Paleontological Resources, is proposed to address this impact and to reduce the impact to less than significant after mitigation.

CREATED WETLANDS COMPONENT

Impacts 13.8.1 through 13.8.4 in the Program EIR identify significant impacts associated with cultural resources. Mitigation Measure 3.3.17 is proposed to address this impact; however, it does not ensure that impacts to cultural and paleontological resources will be reduced to a less-than-significant level; and therefore the impact is significant and unavoidable.

Impact 13.8.5 in the Program EIR identifies significant impacts associated with paleontological resources. Mitigation Measure 3.3.17, Identification, Evaluation, and Avoidance of Cultural and Paleontological Resources, is proposed to address this impact and to reduce the impact to less than significant after mitigation.

PUMP STATIONS AND TANKS COMPONENT

Impacts 13.9.1 through 13.9.4 in the Program EIR identify significant impacts associated with cultural resources. Mitigation Measure 3.3.17 is proposed to address this impact; however, it does not ensure that impacts to cultural and paleontological resources will be reduced to a less-than-significant level; and therefore the impact is significant and unavoidable.

Impact 13.9.5 in the Program EIR identifies significant impacts associated with paleontological resources. Mitigation Measure 3.3.17, Identification, Evaluation, and Avoidance of Cultural and Paleontological Resources, is proposed to address this impact and to reduce the impact to less than significant after mitigation.

GEYSERS STEAMFIELD EXPANSION COMPONENT

Impacts 13.10.1 through 13.10.4 in the Program EIR identify significant impacts associated with cultural resources. Mitigation Measure 3.3.17 is proposed to address this impact; however, it does not ensure that impacts to cultural and paleontological resources will be reduced to a less-than-significant level; and therefore the impact is significant and unavoidable.

Impact 13.10.5 in the Program EIR identifies significant impacts associated with paleontological resources. Mitigation Measure 3.3.17, Identification, Evaluation, and Avoidance of Cultural and Paleontological Resources, is proposed to address this impact and to reduce the impact to less than significant after mitigation.

DIRECT DISCHARGE COMPONENT

Impacts 13.11.1 through 13.11.4 in the Program EIR identify significant impacts associated with cultural resources. Mitigation Measure 3.3.17 is proposed to address this impact; however, it does not ensure that impacts to cultural and paleontological resources will be reduced to a less-than-significant level; and therefore the impact is significant and unavoidable.

Impact 13.11.5 in the Program EIR identifies significant impacts associated with paleontological resources. Mitigation Measure 3.3.17, Identification, Evaluation, and Avoidance of Cultural and Paleontological Resources, is proposed to address this impact and to reduce the impact to less than significant after mitigation.

INDIRECT DISCHARGE COMPONENT

Impacts 13.12.1 through 13.12.4 in the Program EIR identify significant impacts associated with cultural resources. Mitigation Measure 3.3.17 is proposed to address this impact; however, it does not ensure that impacts to cultural and paleontological resources will be reduced to a less-than-significant level; and therefore the impact is significant and unavoidable.

Impact 13.12.5 in the Program EIR identifies significant impacts associated with paleontological resources. Mitigation Measure 3.3.17, Identification, Evaluation, and Avoidance of Cultural and Paleontological Resources, is proposed to address this impact and to reduce the impact to less than significant after mitigation.

ADVANCED MEMBRANE TREATMENT COMPONENT

Impacts 13.13.1 through 13.13.4 in the Program EIR identify significant impacts associated with the AMT facilities. Mitigation Measure 3.3.17 is proposed to address this impact; however, it does not ensure that impacts to cultural and paleontological resources will be reduced to a less-than-significant level; and therefore the impact is significant and unavoidable.

Impact 13.13.5 in the Program EIR identifies significant impacts associated with paleontological resources. Mitigation Measure 3.3.17, Identification, Evaluation, and Avoidance of Cultural and Paleontological Resources, is proposed to address this impact and to reduce the impact to less than significant after mitigation.

CUMULATIVE IMPACTS

The cumulative cultural resources impacts of Program facilities are evaluated in Section 4.13 of the Program EIR. New cumulative projects as identified in Section 4.0 of this chapter are evaluated below.

As evaluated under Impacts 13.1C through 13.4C, the IRWP plus cumulative projects will have a significant impact on cultural resources based on evaluation criteria 1 through 4. The potential for cumulative projects, such as the Graton Rancheria Casino to impact cultural resources is high and could add to the impacts of the IRWP. Significant impacts to known and unknown resources could result from many different sources, for example, construction, demolition, or rehabilitation, and many of the cumulative projects identified could impact both known and unknown cultural resources. Although there are cumulative projects that will increase the impacts identified in the Cultural Resources section, Program impacts on known and unknown cultural resources have already been listed as significant and will be

avoided or mitigated to the extent feasible. The cumulative projects will not warrant a change in the recommended mitigation.

As evaluated under Impact 13.5C, the impact of the IRWP plus cumulative projects to directly or indirectly destroy a unique paleontological resource or site is less than significant. Although the potential for vertebrate fossils exists throughout much of the IRWP area and they could be disturbed whenever construction occurs at a depth to bedrock, Program impacts have already been listed as significant, and are fully mitigated. Even if vertebrate fossils were uncovered by cumulative projects, no further mitigation will be required of the IRWP.

The Casino, located west of Rohnert Park, may contribute to cumulative impacts to cultural resources. The proponents of the Casino have not disclosed any information pertaining to such impacts, or to potential ways of mitigating these impacts. For this reason, the magnitude of this contribution cannot be determined at this time. The cumulative impacts remain significant.

ENVIRONMENTAL IMPACTS FOR THE COMBINED ALTERNATIVES - PREFERRED PROGRAM

The Preferred Program combines five alternatives from the Program EIR and establishes both a target for recycled water use and a permissible range of recycled water use. The following illustrates the potential environmental impacts of the combined alternatives for the target and for the maximum amount of recycled water use identified for the range. The analysis of the environmental impacts of the combined alternatives that make up the Preferred Program follows the same methodology used in the Program EIR (Chapter 5). Details used in the analysis of environmental impacts for the Target and Range are presented in Appendix A.

Target

Permanent acreage of disturbance is substantially decreased from that identified in the Program EIR as compared to Alternative 4, although temporary disturbance may increase somewhat depending on the location of future program implementation. These impacts have been determined to be significant for individual Program alternatives and will be mitigated to the extent feasible. The impacts of the target in the Preferred Program are less than identified in the Program EIR for the Combinations of Alternatives.

Range

Permanent acreage of disturbance is substantially decreased from that identified in the Program EIR as compared to Alternative 4, although temporary disturbance may increase somewhat depending on the location of future program implementation. These impacts have been determined to be significant for individual Program alternatives and will be mitigated to the extent feasible. The impacts of the high end of the range in the Preferred Program are less than identified in the Program EIR for the Combinations of Alternatives.

4.14 VISUAL RESOURCES

Table 4.14-2 from the Program EIR presents Visual Resources criteria, and is presented below.

Table 4.14-2

Evaluation Criteria with Significance Thresholds - Visual Resources

| Evaluation Criteria | As Measured by | Significance Thresholds | Source of Criteria |
|---|---|---|--|
| <p>1. Will the IRWP have a substantial adverse effect on scenic vistas or substantially damage scenic resources including those designated by City or County General Plans, or Caltrans designated Scenic Highways?</p> | <p>Level of visual contrast, view obstruction, degradation in visual quality.</p> | <ul style="list-style-type: none"> - Strong visual contrast¹, - obstruction in viewed area² from foreground³ or middleground³, or - loss or alteration of a specific scenic resource⁴ | <p>CEQA Guidelines Appendix G, Checklist Item I (a)</p> <p>Sonoma County General Plan, Open Space Element; Lake County General Plan, Environmental Quality Element; Santa Rosa General Plan, Urban Design, Open Space and Conservation, and Transportation Elements; Sebastopol General Plan, Community Identity Element; Rohnert Park General Plan, Community Design Element; Cotati General Plan, Community Identity Section; Petaluma General Plan, Community Character Element; Windsor General Plan, Environmental Resources Element; Healdsburg General Plan, Scenic Resources and Urban Design Element; and Cloverdale General Plan, Community Design and Conservation and Open Space Elements.</p> |

Table 4.14-2

Evaluation Criteria with Significance Thresholds - Visual Resources

| Evaluation Criteria | As Measured by | Significance Thresholds | Source of Criteria |
|---|--|--|---|
| <p>2. Will the IRWP substantially degrade the existing visual character of the site or its surroundings, including views from private residences, high volume travelways⁵, recreation use areas⁶, or other public use area⁷?</p> | <p>Level of visual contrast, view obstruction, and degradation of visual quality</p> | <p>- Strong visual contrast¹, - obstruction in viewed area² from foreground³ or middleground³, or - loss or alteration of a specific scenic resource⁴</p> | <p>CEQA Guidelines Appendix G, Checklist Item I (b) Sonoma County General Plan, Open Space Element; Lake County General Plan, Environmental Quality Element; Santa Rosa General Plan, Urban Design, Open Space and Conservation, and Transportation Elements; Sebastopol General Plan, Community Identity Element; Rohnert Park General Plan, Community Design Element; Cotati General Plan, Community Identity Section; Petaluma General Plan, Community Character Element; Windsor General Plan, Environmental Resources Element; Healdsburg General Plan, Scenic Resources and Urban Design Element; and Cloverdale General Plan, Community Design and Conservation and Open Space Elements</p> |
| <p>3. Will the IRWP create a new light source?</p> | <p>High intensity light or glare towards private residences</p> | <p>Greater than 0 residences affected</p> | <p>CEQA Guidelines Appendix G, Checklist Item I (c)</p> |

1. Strong Visual Contrast - (one or more of the following) regraded land forms are flat with little to no contour: line of major ridgeline is altered and not consistent with surrounding ridgelines or minor ridgelines are eliminated; inconsistent color with adjacent landscape character; elimination of landscape texture created by exposed soil or removal of vegetation; form of project grossly exceeds scale of natural land forms.
2. Viewed area defined as area of landscape (i.e., everything except sky) as shown in a photograph from the closest sensitive viewpoint, taken with a normal (50 mm) lens.
- 3 Foreground: 0-1/2 mile; Middleground: 1/2-3 miles
4. Specific Scenic Resource - (one or more of the following) landscape component that creates striking feature; Landform - steep (>60%) undulating/dissected slopes, distinctive rock outcrops, or pronounced ridgelines; Water - major bodies of water that provide reflective qualities and irregular shorelines, or major/permanent streams/rivers with diversity of meanders, flows, rapids, rock outcrops, or river-banks; Vegetation - mature stands of native or cultural species (oaks and eucalyptus) in natural groves or distinct planted patterns (i.e. eucalyptus along roads or as planted wind breaks).
- 5 High volume travelways: State highways not part of the State Scenic Highway system and City or County arterial roadways.
- 6 Recreation use areas: Designated recreation sites, parks, trails, or other areas managed for public recreation.
- 7 Public use area: Downtown areas, cemeteries, community centers, attracting the public on a daily or regular basis.

LAGUNA PLANT UPGRADE COMPONENT

As evaluated in the Program EIR under Impact 14.1.1 and 14.1.2, the Laguna Plant Upgrade will have a less-than-significant impact.

Impact 14.1.3 in the Program EIR identifies a significant impact due to light and glare sources during nighttime construction affecting nearby residences. Mitigation Measure 3.4.3, Construction Noise Control Measures, limits nighttime construction and reduces the impact to less than significant after mitigation.

INDOOR WATER CONSERVATION COMPONENT

As evaluated in the Program EIR under Impacts 14.2.1 through 14.2.3, indoor water conservation will have no impact on visual resources impacts based on evaluation criteria 1 through 3.

URBAN IRRIGATION COMPONENT

Impact 14.4.1 and 14.4.2 in the Program EIR identifies a significant impact due to removal of vegetation and grading that will result in a bare, scarred appearance in strong contrast to the existing vegetated urban or rural landscape character. Mitigation Measure 3.3.18, Minimize Temporary and Permanent Visual Impacts, is proposed to minimize construction disturbance of the landscape and therefore reduce impacts to less than significant.

As evaluated in the Program EIR under Impact 14.4.3, the component will have no impacts based on evaluation criteria 3.

AGRICULTURAL IRRIGATION COMPONENT

As evaluated in the Program EIR under Impact 14.5.1 and 14.5.2, agricultural irrigation on City-owned Farms will be a continuation of ongoing operations and will not require new facilities. Agricultural irrigation in the North County and the East of Rohnert Park areas will

have a less-than-significant impact on visual resources based on evaluation criteria 1 and 2.

Impact 14.5.3 in the Program EIR identifies a significant impact due to light and glare sources during nighttime construction affecting nearby residences. Mitigation Measure 3.4.3, Construction Noise Control Measures, limits nighttime constructions and reduces the impact to less than significant after mitigation.

PIPELINES COMPONENT

Impacts 14.6.1 and 14.6.2 in the Program EIR identify a significant impact due to removal of vegetation and grading that will result in a bare, scarred appearance in strong contrast to the existing vegetated urban or rural landscape character. Mitigation Measure 3.3.18, Minimize Temporary and Permanent Visual Impacts, is proposed to minimize construction disturbance of the landscape and therefore reduce impacts to less than significant.

Impact 14.6.3 in the Program EIR identifies a significant impact due to light and glare sources during nighttime construction affecting nearby residences. Mitigation Measure 3.4.3, Construction Noise Control Measures, limits nighttime construction and reduces the impact to less than significant after mitigation.

STORAGE COMPONENT

Impacts 14.7.1 and 14.7.2 in the Program EIR identify significant impacts due to the scale and appearance of the storage facilities. Mitigation Measures 3.3.18, Minimize Temporary and Permanent Visual Impacts, and 3.4.4, Construction Noise Control Measures are proposed to minimize this impact. However, mitigation measures intended to reduce view obstruction or replace a degraded/eliminated visual resource are not available and therefore the impact will remain significant and unavoidable.

Impact 14.7.3 in the Program EIR identifies a significant impact due to light and glare sources during nighttime construction affecting nearby residences. Mitigation Measure 3.4.3, Construction Noise Control Measures, limits nighttime construction and reduces the impact to less than significant after mitigation.

CREATED WETLANDS COMPONENT

Impacts 14.8.1 and 14.8.2 in the Program EIR identify significant impacts due to the scale and appearance of the created wetland facilities Mitigation Measure 3.3.18, Minimize Temporary and Permanent Visual Impacts, will minimize construction disturbance to specific scenic resources and thereby reduce their loss or alteration, and will also minimize construction disturbance and therefore reduce impacts due to visual contrast to a less-than-significant level.

Impact 14.8.3 in the Program EIR identifies a significant impact due to light and glare sources during nighttime construction affecting nearby residences. Mitigation Measure 3.4.3,

Construction Noise Control Measures, limits nighttime construction and reduces the impact to less than significant after mitigation.

PUMP STATIONS AND TANKS COMPONENT

Impacts 14.9.1 and 14.9.2 in the Program EIR identify significant impacts due component visibility from Scenic Corridors (including Highway 12, Highway 101 and Bennett Valley Road) as well as private residences, high volume travelways, recreational areas and public use areas. Depending upon location they also could impact specific scenic resources such as such as mature stands of trees. Mitigation Measures 3.3.18, Minimize Temporary and Permanent Visual Impacts, and 3.4.4, Construction Noise Control Measures, are proposed to reduce the impact. However, measures to reduce view obstruction or replace a degraded/eliminated visual resource are not available and therefore the impact will remain significant and unavoidable.

Impact 14.9.3 in the Program EIR identifies a significant impact due to light and glare sources during nighttime construction affecting nearby residences. Mitigation Measure 3.4.3, Construction Noise Control Measures, limits nighttime construction and reduces the impact to less than significant after mitigation.

GEYSERS STEAMFIELD EXPANSION COMPONENT

Impact 14.10.1 and 14.10.2 in the Program EIR identify a significant impact due to the location of the Geysers steamfield expansion component. Mitigation Measures 3.3.18, Minimize Temporary and Permanent Visual Impacts, will require minimize visual intrusion, and therefore will reduce visual impacts to less than significant after mitigation.

Impact 14.10.3 in the Program EIR identifies a significant impact due to light and glare sources during nighttime construction affecting nearby residences. Mitigation Measure 3.4.3, Construction Noise Control Measures, limits nighttime construction and reduces the impact to less than significant after mitigation.

DIRECT DISCHARGE COMPONENT

Impact 14.11.1 and 14.11.2 in the Program EIR identify a significant impact due to the site location being located within a Scenic Landscape Unit or visible from a Scenic Corridor, other high volume travelways, private residences, or recreation or public use areas. Mitigation Measure 3.4.4 will reduce the visual contrast of the facilities by introducing vegetation to screen the facilities from public view. Mitigation Measure 3.3.18, Minimize Temporary and Permanent Visual Impacts, will minimize construction disturbance and therefore reduce impacts due to visual contrast, and will also avoid or reduce the disturbance of specific scenic resources, thereby avoiding or reducing impacts on these scenic resources. The EIR found this impact to be less than significant after mitigation.

Impact 14.11.3 in the Program EIR identifies a significant impact due to light and glare sources during nighttime construction affecting nearby residences. Mitigation Measure 3.4.3,

Construction Noise Control Measures, limits nighttime construction and reduces the impact to less than significant after mitigation.

INDIRECT DISCHARGE COMPONENT

Impacts 14.12.1 and 14.12.2 in the Program EIR identify significant impacts associated with visual contrast or moderate to severe view obstruction in closer foreground views from any adjacent roadways, residences or public viewpoints (including the Russian River) or for the higher berms (over five feet in height). Mitigation Measures 3.3.18, Minimize Temporary and Permanent Visual Impacts, and 3.3.4, Construction Noise Control Measures, are proposed to address this impact; however, it does not reduce impacts that will result due to strong visual contrast from elevated viewpoints. This impact remains significant and unavoidable.

Impact 14.12.3 in the Program EIR identifies a significant impact due to light and glare sources during nighttime construction affecting nearby residences. Mitigation Measure 3.4.3, Construction Noise Control Measures, limits nighttime construction and reduces the impact to less than significant after mitigation.

ADVANCED MEMBRANE TREATMENT COMPONENT

Impacts 14.13.1 and 14.13.2 in the Program EIR identify significant impacts due to the AMT facilities potential visibility from Scenic Corridors (including Highway 12 and Highway 101) as well as private residences, high volume travelways, recreational areas and public use areas. Depending upon location they also could impact specific scenic resources such as mature stands of trees. Mitigation Measures 3.3.18, Minimize Temporary and Permanent Visual Impacts, and 3.4.4, Construction Noise Control Measures, are proposed to reduce the impact. However, measures to reduce view obstruction or replace a degraded/eliminated visual resource are not available and therefore the impact will remain significant and unavoidable.

Impact 14.13.3 in the Program EIR identifies a significant impact due to light and glare sources during nighttime construction affecting nearby residences. Mitigation Measure 3.4.3, Construction Noise Control Measures, limits nighttime construction and reduces the impact to less than significant after mitigation.

CUMULATIVE IMPACTS

The cumulative visual impacts of Program facilities are evaluated in Section 4.13 of the Program EIR. New cumulative projects as identified in Section 4.0 of this chapter are evaluated below.

As evaluated in the Program EIR, Impacts 14.1C and 14.2.C have been determined to be significant. The IRWP components plus cumulative projects could have a substantial adverse effect on scenic vistas or substantially damage scenic resources including those designated by City or County General Plans, or Caltrans designated Scenic Highways.

IRWP components were determined to have significant impacts due to visual contrast created by construction, and will be mitigated within a period of one to two years. Cumulative projects are likely to have similar impacts on views from designated scenic resource areas or corridors affected by the IRWP. Although Project impacts are already determined to be significant and mitigation is expected to be effective within one to two years, cumulative projects may extend the length of time that disturbance will be experienced. With mitigation, the impacts of these cumulative projects are expected to be mitigated.

Permanent impacts on scenic resource areas or corridors could also result from Project components. Some of these impacts could be cumulative, depending on their location. All new residential, commercial and industrial development located in the IRWP study area, as well as a number of utility projects listed in the Program EIR, could have permanent visual impacts.

As evaluated under Impact 14.3C, impacts from the IRWP components plus cumulative projects are expected to be less than significant. IRWP components may have significant impacts because of nighttime construction and the necessary light sources that could affect nearby residences. However, the potential IRWP impact will be fully mitigated. Although no known cumulative projects will involve nighttime construction, it is not known what types of light sources may be introduced by the Casino project.

The Casino, located west of Rohnert Park, may contribute to cumulative impacts to visual resources. The proponents of the Casino have not disclosed any information pertaining to such impacts, or to potential ways of mitigating these impacts. For this reason, the nature and magnitude of this contribution cannot be determined at this time. The impacts of the Preferred Program remain cumulatively considerable for 14.1C and 14.2C, but less than significant for 14.3C.

ENVIRONMENTAL IMPACTS FOR THE COMBINED ALTERNATIVES - PREFERRED PROGRAM

The Preferred Program combines five alternatives from the Program EIR and establishes both a target for recycled water use and a permissible range of recycled water use. The following illustrates the potential environmental impacts of the combined alternatives for the target and for the maximum amount of recycled water use identified for the range. The analysis of the environmental impacts of the combined alternatives that make up the Preferred Program follows the same methodology used in the Program EIR (Chapter 5). Details used in the analysis of environmental impacts for the Target and Range are presented in Appendix A.

Target

The Program EIR identified significant visual impacts associated with storage facilities, pump stations and tanks, the Geysers steamfield expansion, and the new Russian River outfall facilities, each of these will affect a specific area and visual resource. Light and glare impacts are mitigable. The impacts of the target in the Preferred Program will be less than those identified in the Program EIR, because agricultural irrigation acreage will be less.

Range

The Program EIR identified significant visual impacts associated with storage facilities, pump stations and tanks, the Geysers steamfield expansion, and the new Russian River outfall facilities, each of these will affect a specific area and visual resource. Light and glare impacts are mitigable. The impacts of the high end of the range in the Preferred Program will be less than those identified in the Program EIR, because agricultural irrigation acreage will be less.

4.15 PUBLIC SERVICES AND UTILITIES

Table 4.16-2 from the Program EIR presents criteria for Public Services and Utilities, and is presented below.

Table 4.15-2

Evaluation Criteria with Significance Thresholds– Public Services, Utilities and Recreation

| Evaluation Criteria | As Measured by | Significance Thresholds | Sources of Criteria |
|---|---|---|---|
| 1. Will the IRWP increase demand for police and fire services; water and sewage treatment services; or solid waste disposal facilities to such a degree that accepted service standards are not maintained? | Additional personnel, equipment or capital facilities that will be needed to serve the Program. | Any additional personnel, equipment or capital facilities required beyond existing or planned capacity. | CEQA Guidelines Appendix G, Checklist Item XIII (a) ¹ and Checklist Items XVI (e) and (f) General Plans of the Cities of Cloverdale, Cotati, Healdsburg, Petaluma, Rohnert Park, Santa Rosa, Sebastopol, and Windsor; General Plans of Lake and Sonoma Counties Title 14, California Code of Regulations §1270, State Fire Safe Regulations |
| 2. Will the IRWP increase demand for park and recreation facilities to such a degree that accepted service standards are not maintained, requiring the construction of new facilities? | Additional recreational demand | Any additional demand beyond existing or planned capacity | CEQA Guidelines Appendix G, Checklist Item XIV (a) and (b) General Plans of the Cities of Cloverdale, Cotati, Healdsburg, Petaluma, Rohnert Park, Santa Rosa, Sebastopol, and Windsor; General Plans of Lake County and Sonoma County |
| 3. Will the IRWP conflict with wells, septic fields, or water or wastewater utilities? | Location of the IRWP component in relation to wells, water lines, septic or wastewater lines | IRWP component within 50 feet of wells or water lines, or within 10 feet of septic or wastewater lines | Title 22, California Code of Regulations ² |
| 4. Will the IRWP result in the construction of new or expanded water treatment, wastewater treatment facilities, or storm drainage facilities? | Need for new facilities. | Any new facilities beyond those included in the IRWP | CEQA Guidelines Appendix G, Checklist Items XVI (b) and (c) |

¹ The Initial Study for the project documented that a demand for additional schools and other public facilities will not occur from construction or operational activities of the project.

² CEQA checklist item XVI (d) was addressed in the Initial Study for the Program, which documented that the IRWP alternatives do not require sources of water other than recycled water to operate, and will thus not affect potable or other water supplies. CEQA checklist item XVI (g) was also addressed in the Initial Study, which documented that the Program alternatives can be successfully operated while adhering to regulations regarding solid waste. CEQA checklist item XVI (a) asks if the project will exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board. This question is addressed in the water quality section, which evaluates compliance of alternatives with the Basin Plan and California Toxics Rule.

LAGUNA PLANT UPGRADE COMPONENT

As evaluated in the Program EIR under Impact 15.1 and 15.1.2, the Laguna Plant Upgrade will have a less-than-significant impact on public services, utilities, or recreation based on evaluation criteria 1 and 2.

As evaluated in the Program EIR under Impact 15.1.3 and 15.1.4, the Laguna Plant Upgrade will have no impacts based on evaluation criteria 3 and 4. Measure 3.2.21, Prevent Storm Runoff beyond Capacity of Drainage Facilities is included in the IRWP to reduce impacts.

INDOOR WATER CONSERVATION COMPONENT

As evaluated in the Program EIR under Impacts 15.2.1, 15.2.2, 15.2.3 and 15.2.4, indoor water conservation will have no impacts on public services, utilities, or recreation based on evaluation criteria 1 through 4.

URBAN IRRIGATION COMPONENT

As evaluated in the Program EIR under Impacts 15.4.1, 15.4.2 and 15.4.4, urban irrigation will have no impact on public services, utilities, or recreation based on evaluation criteria 1, 2 and 4.

As evaluated in the Program EIR under Impact 15.4.3 urban irrigation will have no impact on public services, utilities, or recreation based on evaluation criteria 3. Measure 3.2.22, Adjust Facility Design to Avoid Impacts on Utilities is included in the IRWP to reduce impacts.

AGRICULTURAL IRRIGATION COMPONENT

As evaluated in the Program EIR, Impacts 15.5.1, 15.5.2 and 15.5.4, agricultural irrigation could create a small amount of additional seasonal employment. Thus, there will be a less-than-significant impact to public services, utilities or recreation.

As evaluated in the Program EIR under Impact 15.5.3, agricultural irrigation will not have an impact on public services, utilities, or recreation based on evaluation criteria 3. Measure 3.2.22, Adjust Facility Design to Avoid Impacts on Utilities is included in the IRWP to reduce impacts.

PIPELINES COMPONENT

As evaluated in the Program EIR, Impacts 15.6.1, 15.6.2 and 15.6.4, the component will have no impact based on evaluation criteria 1, 2, and 4.

As evaluated in the Program EIR under Impact 15.6.3, the component will not have an impact on public services, utilities, or recreation based on evaluation criteria 3. Measure 3.2.22, Adjust Facility Design to Avoid Impacts on Utilities is included in the IRWP to reduce impacts.

STORAGE COMPONENT

As evaluated in the Program EIR under Impacts 15.7.1 through 15.7.4, the storage component will not require additional staff for operation and maintenance and therefore will not impact public services, utilities, or recreation. Measure 3.2.21, Prevent Storm Runoff beyond Capacity of Drainage Facilities and Measure 3.2.22, Adjust Facility Design to Avoid Impacts on Utilities are included in the IRWP to reduce impacts.

CREATED WETLANDS COMPONENT

As evaluated in the Program EIR under Impacts 15.8.1 through 15.8.4, the created wetlands component will not impact public services, utilities, or recreation. Measure 3.2.21, Prevent Storm Runoff beyond Capacity of Drainage Facilities and Measure 3.2.22, Adjust Facility Design to Avoid Impacts on Utilities are included in the IRWP to reduce impacts.

PUMP STATIONS AND TANKS COMPONENT

As evaluated in the Program EIR under Impacts 15.9.1 through 15.9.4, the component will not impact public services, utilities, or recreation. Measure 3.2.21, Prevent Storm Runoff beyond Capacity of Drainage Facilities and Measure 3.2.22, Adjust Facility Design to Avoid Impacts on Utilities are included in the IRWP to reduce impacts.

GEYSERS STEAMFIELD EXPANSION COMPONENT

As evaluated in the Program EIR under Impacts 15.10.1 through 15.10.4, the component will not impact public services, utilities, or recreation. Measure 3.2.21, Prevent Storm Runoff beyond Capacity of Drainage Facilities and Measure 3.2.22, Adjust Facility Design to Avoid Impacts on Utilities are included in the IRWP to reduce impacts.

DIRECT DISCHARGE COMPONENT

As evaluated in the Program EIR under Impact 15.11.1 through 15.11.4, the direct discharge component will have no impacts to public services, utilities, or recreation.

INDIRECT DISCHARGE COMPONENT

As evaluated in the Program EIR under Impacts 15.12.1 through 15.12.4, indirect discharge component will have no impact on public services, utilities, or recreation impacts based on criteria 1 through 4.

ADVANCED MEMBRANE TREATMENT COMPONENT

As evaluated in the Program EIR under Impacts 15.13.1 through 15.13.4, AMT facilities would not impact public services, utilities, or recreation. Project Measure 3.2.21, Prevent Storm Runoff beyond Capacity of Drainage Facilities and Project Measure 3.2.22, Adjust Facility Design to Avoid Impacts on Utilities are included in the IRWP to reduce impacts.

CUMULATIVE IMPACTS

The cumulative public services impacts of Program facilities are evaluated in Section 4.15 of the Program EIR. New cumulative projects as identified in Section 4.0 of this chapter are evaluated below.

The Casino, located west of Rohnert Park, may contribute to cumulative impacts to public services. The proponents of the Casino have not disclosed any information pertaining to such impacts, or to potential ways of mitigating these impacts. The Casino may, however, generate increased demand for water supplies, sewer services, or other public services, and this demand could contribute to cumulatively significant impacts on public services. The nature and magnitude of this contribution cannot be determined at this time. Public utility and service needs of the Preferred Program are extremely small and are generated only by a potential increase of up to 10 employees. The public services impacts of the Preferred Program are not cumulatively considerable. This conclusion remains appropriate, notwithstanding the Casino proposal.

ENVIRONMENTAL IMPACTS FOR THE COMBINED ALTERNATIVES - PREFERRED PROGRAM

The Preferred Program combines five alternatives from the Program EIR and establishes both a target for recycled water use and a permissible range of recycled water use. The following illustrates the potential environmental impacts of the combined alternatives for the target and for the maximum amount of recycled water use identified for the range. The analysis of the environmental impacts of the combined alternatives that make up the Preferred Program follows the same methodology used in the Program EIR (Chapter 5). Details used in the analysis of environmental impacts for the Target and Range are presented in Appendix A.

Target

Combining alternatives will not change the conclusion that the IRWP components will not increase demand for public services, or other public facilities. The Preferred Program will be designed to avoid conflicts with other utilities, including wells and septic fields. The impacts

of the target in the Preferred Program will not cause public services impacts differing from those identified in the Program EIR for Alternative 6.

Range

Combining alternatives will not change the conclusion that the IRWP components will not increase demand for public services, or other public facilities. The Preferred Program will be designed to avoid conflicts with other utilities, including wells and septic fields. The impacts of the upper range of the Preferred Program will not cause public services impacts differing from those identified in the Program EIR. Impacts of the Preferred Program would not exceed levels evaluated in Combination of Alternatives 12 from the Program EIR.

4.16 ENERGY

Table 4.16-1 from the Program EIR presents the criterion for Energy, and is presented below.

Table 4.16-1

Evaluation Criteria with Significance Thresholds – Energy

| Evaluation Criteria | As Measured by | Significance Thresholds | Sources of Criteria |
|--|----------------------------|--|--|
| 16.1.1. Will the Program require more energy than providers could deliver? | Report of energy providers | Need for electric facilities beyond capability of provider to supply | California Energy Commission and Public Utilities Commission planning requirements |

LAGUNA PLANT UPGRADE COMPONENT

As evaluated in the Program EIR under Impact 16.1.1 the Laguna Plant Upgrade component will require an additional 11 million kilowatt hours (kWh) annually to operate. Energy providers will be able to provide electricity to the plant, therefore this impact is considered less than significant.

INDOOR WATER CONSERVATION COMPONENT

As evaluated in the Program EIR under Impact 16.2.1 the Indoor Water Conservation component does not require additional energy for operation. In fact, there will be a slight reduction in energy use as a result of reduction of flow to the Laguna Plant that will equate to an energy savings. Therefore, this impact is considered a beneficial impact.

URBAN IRRIGATION COMPONENT

As evaluated in the Program EIR under Impact 16.4 the Urban Irrigation component involves the replacement of other irrigation water sources with recycled water, and the change in source of water will not change energy requirements for the application of water to the irrigation sites. Therefore there is no impact.

AGRICULTURAL IRRIGATION COMPONENT

As evaluated in the Program EIR, under Impact 16.5.1, this component could lead to installation of new agricultural irrigation systems. Operation of these irrigation systems will likely require a small amount of energy for small pumps on individual irrigation sites. Energy requirements will be within the delivery capacity of providers, and therefore this impact is considered less than significant.

PIPELINES COMPONENT

As evaluated in the Program EIR under Impact 16.6.1, the pipeline component does not consume energy, and therefore there is no impact.

STORAGE COMPONENT

As evaluated in the Program EIR under Impact 16.7.1, the storage component will require a small amount of energy use from a single light and a dam gate that will be located at each reservoir, both of which will expend energy a few times a year for a short period of time. Energy requirements will be within the delivery capacity of providers, and therefore this impact is considered less than significant.

CREATED WETLANDS COMPONENT

As evaluated in the Program EIR under Impact 16.8.1, the Created Wetlands component could require small amounts of energy to operate small pumps to move water within the wetlands or to operate other control equipment. Energy requirements will be within the delivery capacity of providers, and therefore, this impact is considered less than significant.

PUMP STATIONS AND TANKS COMPONENT

As evaluated in the Program EIR under Impact 16.9.1, depending on the alternative, energy consumption ranges from 635,500 kWh to 11 million kWh annually. Energy requirements will be within the delivery capacity of providers, and therefore this impact is considered less than significant.

GEYSERS STEAMFIELD EXPANSION COMPONENT

As evaluated in the Program EIR under Impact 16.10.1, operation of the Geysers Steamfield Expansion component will require energy to pump the recycled water from the Calpine terminal tank to the injection wells. The energy will be supplied directly from The Geysers steamfield. Also, injection of the recycled water will allow The Geysers operators to continue use of the steamfield for electric generation. Therefore this is considered a beneficial impact.

DIRECT DISCHARGE COMPONENT

As evaluated under Impact 16.11.1 in the Program EIR, the Direct Discharge component could require small amounts of energy to operate controls or other ancillary equipment. Energy requirements will be within the delivery capacity of providers, and therefore this impact is considered less than significant.

INDIRECT DISCHARGE COMPONENT

As evaluated in the Program EIR under Impact 16.12.1, the Indirect Discharge component could require small amounts of energy to operate controls or other ancillary equipment.

Energy providers will be able to provide electric power to serve this component, and therefore, this impact is considered less than significant.

ADVANCED MEMBRANE TREATMENT COMPONENT

As evaluated in the Program EIR under Impact 16.13.1, the AMT facilities could require between 88 and 127 million kWh annually to operate controls or other ancillary equipment. Energy providers will be able to provide electric power to serve this component, and therefore, this impact is considered less than significant.

CUMULATIVE IMPACTS

The cumulative energy impacts of Program facilities are evaluated in Section 4.16 of the Program EIR. As noted there, cumulative development identified in the General Plans for jurisdictions in the project area will result in an ongoing increase in the requirement for energy. However, Impact 16.1C will be less than significant because the energy providers will keep pace with demand by installing new facilities according to the California Energy Commission and Public Utilities Commission requirements. Thus, it is expected that energy providers will be able to keep pace with energy demand in the area, and that energy impacts will be less than significant. The proposed Casino will further increase the demand for energy. The proponents of the Casino have not estimated energy demand, or indicated how energy will be supplied to the site. It is anticipated, however, that cumulative energy impacts will be less than significant.

ENVIRONMENTAL IMPACTS FOR THE COMBINED ALTERNATIVES - PREFERRED PROGRAM

The Preferred Program combines five alternatives from the Program EIR and establishes both a target for recycled water use and a permissible range of recycled water use. The following illustrates the potential environmental impacts of the combined alternatives for the target and for the maximum amount of recycled water use identified for the range. The analysis of the environmental impacts of the combined alternatives that make up the Preferred Program follows the same methodology used in the Program EIR (Chapter 5). Details used in the analysis of environmental impacts for the Target and Range are presented in Appendix A.

Target

Energy use is primarily associated with operation of pump stations. Combined energy use for Urban Reuse, Agricultural Reuse, Geysers Steamfield Expansion, and Direct Discharge would be less than 101 million kilowatt hours (kWh) for pumping. The Laguna Plant Upgrade would use approximately 11 million kilowatt hours (kWh). However, the steamfield expansion would generate energy that would offset approximately 22 million kWh of this energy use and energy providers could provide the remaining 12 million kWh.

Range

Energy use is primarily associated with operation of pump stations. Combined energy use for Urban Reuse, Agricultural Reuse, Geysers Steamfield Expansion and Direct Discharge could be as high as 101 million kilowatt hours (kWh) for pumping. The Laguna Plant Upgrade would use approximately 11 million kilowatt hours (kWh). However, the steamfield expansion would generate energy that would offset this energy use.