

2.9 Hydrology and Water Quality

This section evaluates the existing conditions related to hydrology and water quality including water quality standards and requirements, groundwater supply and recharge, stormwater capacity, erosion and siltation, flood hazards from dam inundation or levee collapse, alteration of floodways, housing in flood-prone areas, and other flood hazards including those related to seiche, tsunami, and mudflow and the potential effects that could result from implementation of the project.

The County received comments concerning groundwater consumption during the Notice of Preparation (NOP) scoping process. A copy of the NOP and comment letters received in response to the NOP are included in Appendix A of this Draft Supplement to the 2011 General Plan Update (GPU) Program Environmental Impact Report (2011 GPU PEIR) (Draft SEIR).

2.9.1 Existing Conditions

The 2011 GPU PEIR included a discussion of existing conditions related to hydrology and water quality in Section 2.8, on pages 2.8-1 through 2.8-25, which includes all lands within the unincorporated County. No changes to the existing conditions have been identified that would alter the conclusions in the 2011 GPU PEIR. Therefore, the existing conditions in the 2011 GPU PEIR apply to the project and are hereby incorporated by reference.

2.9.2 Regulatory Framework

The 2011 GPU PEIR included a summary of the Regulatory Framework related to hydrology and water quality in Chapter 2.8, pages 2.8-25 through 2.8-30, and it is hereby incorporated by reference. Specific regulations discussed in the 2011 GPU PEIR and applicable to the project include the following:

Federal

- Clean Water Act
- National Flood Insurance Act
- National Flood Insurance Reform Act

State

- Porter-Cologne Water Quality Control Act
- Cobey-Alquist Floodplain Management Act of 1965
- National Pollution Discharge Elimination System (NPDES) Permits
- California Groundwater Rights
- California Water Code
- Assembly Bill 3030 – Groundwater Management Act

Local

- San Diego Basin Plan
- Colorado River Basin Plan
- San Diego County BOS Policy I-45, Definition of Watercourses in the Subject of Flood Control
- San Diego County BOS Policy I-68, Proposed Projects in Floodplains with Defined Floodways
- San Diego County BOS Policy I-73, Hillside Development Policy
- County of San Diego Code of Regulatory Ordinances Section 91.1.105.10, Flood Damage Prevention Ordinance
- County of San Diego Code of Regulatory Ordinances Sections 86.601-86.608, Resource Protection Ordinance (RPO)
- County of San Diego Code of Regulatory Ordinances Sections 67.801-67.814, Watershed Protection, Stormwater Management, and Discharge Control Ordinance (WPO)
- San Diego County Code of Regulatory Ordinances Sections 67.701-67.703, 67.710-67.711, 67.720-67.722, Groundwater Ordinance
- San Diego County Code of Regulatory Ordinances Sections 67.701-67.703, 67.710-67.711, 67.720-67.722, Groundwater Ordinance
- San Diego County Code of Regulatory Ordinances Sections 87.101-87.804, Grading Ordinance

Adopted 2011 GPU Policies

The policies addressing hydrology and water quality that were adopted as part of the 2011 GPU and are applicable to the project include the following:

Policy LU-6.5 Sustainable Stormwater Management. Ensure that development minimizes the use of impervious surfaces and incorporates other Low Impact Development techniques as well as a combination of site design, source control, and stormwater best management practices, where applicable and consistent with the County's LID Handbook.

Policy LU-6.9 Development Conformance with Topography. Require development to conform to the natural topography to limit grading; incorporate and not significantly alter the dominant physical characteristics of a site; and to utilize natural drainage and topography in conveying stormwater to the maximum extent practicable.

Policy LU-6.10 Protection from Hazards. Require that development be located and designed to protect property and residents from the risks of natural and man-induced hazards.

Policy LU-6.12 Flooding. Document and annually review areas within floodways and 100- and 200-year floodplains to ensure areas subject to flooding are accurately mapped in accordance with AB 162 (enacted January 1, 2008). (See also Policy S-9.1)

Policy LU-8.1 Density Relationship to Groundwater Sustainability. Require land use densities in groundwater dependent areas to be consistent with the long-term sustainability of groundwater supplies, except in the Borrego Valley.

Policy LU-8.2 Groundwater Resources. Require development to identify adequate groundwater resources in groundwater dependent areas, as follows:

- In areas dependent on currently identified groundwater overdrafted basins, prohibit new development from exacerbating overdraft conditions. Encourage programs to alleviate overdraft conditions in Borrego Valley.
- In areas without current overdraft groundwater conditions, evaluate new groundwater-dependent development to assure a sustainable long-term supply of groundwater is available that will not adversely impact existing groundwater users.

Policy LU-13.1 Adequacy of Water Supply. Coordinate water infrastructure planning with land use planning to maintain an acceptable availability of a high quality sustainable water supply. Ensure that new development includes both indoor and outdoor water conservation measures to reduce demand.

Policy LU-13.2 Commitment of Water Supply. Require new development to identify adequate water resources, in accordance with State law, to support the development prior to approval.

Policy LU-14.1 Wastewater Facility Plans. Coordinate with wastewater agencies and districts during the preparation or update of wastewater facility master plans and/or capital improvement plans to provide adequate capacity and assure consistency with the County's land use plans.

Policy LU-14.2 Wastewater Disposal. Require that development provide for the adequate disposal of wastewater concurrent with the development and that the infrastructure is designed and sized appropriately to meet reasonably expected demands.

Policy LU-14.3 Wastewater Treatment Facilities. Require wastewater treatment facilities serving more than one private property owner to be operated and maintained by a public agency. Coordinate the planning and design of such facilities with the appropriate agency to be consistent with applicable sewer master plans.

Policy LU-14.4 Sewer Facilities. Prohibit sewer facilities that would induce unplanned growth. Require sewer systems to be planned, developed, and sized to serve the land

use pattern and densities depicted on the Land Use Map. Sewer systems and services shall not be extended beyond either Village boundaries or extant Urban Limit Lines, whichever is more restrictive, except:

- When necessary for public health, safety, or welfare;
- When within existing sewer district boundaries;
- When necessary for a conservation subdivision adjacent to existing sewer facilities; or
- Where specifically allowed in the community plan.

Policy COS-4.1 Water Conservation. Require development to reduce the waste of potable water through use of efficient technologies and conservation efforts that minimize the County's dependence on imported water and conserve groundwater resources.

Policy COS-4.2 Drought-Efficient Landscaping. Require efficient irrigation systems and in new development encourage the use of native plant species and non-invasive drought tolerant/low water use plants in landscaping.

Policy COS-4.3 Stormwater Filtration. Maximize stormwater filtration and/or infiltration in areas that are not subject to high groundwater by maximizing the natural drainage patterns and the retention of natural vegetation and other pervious surfaces. This policy shall not apply in areas with high groundwater, where raising the water table could cause septic system failures, moisture damage to building slabs, and/or other problems.

Policy COS-4.4 Groundwater Contamination. Require land uses with a high potential to contaminate groundwater to take appropriate measures to protect water supply sources.

Policy COS-5.1 Impact to Floodways and Floodplains. Restrict development in floodways and floodplains in accordance with policies in the Flood Hazards section of the Safety Element.

Policy COS-5.2 Impervious Surfaces. Require development to minimize the use of directly connected impervious surfaces and to retain stormwater run-off caused from the development footprint at or near the site of generation.

Policy COS-5.3 Downslope Protection. Require development to be appropriately sited and to incorporate measures to retain natural flow regimes, thereby protecting downslope areas from erosion, capturing runoff to adequately allow for filtration and/or infiltration, and protecting downstream biological resources.

Policy COS-5.5 Impacts of Development to Water Quality. Require development projects to avoid impacts to the water quality in local reservoirs, groundwater resources, and recharge areas, watersheds, and other local water sources.

Policy S-8.1 Landslide Risks. Direct development away from areas with high landslide, mudslide, or rock fall potential when engineering solutions have been determined by the County to be infeasible.

Policy S-8.2 Risk of Slope Instability. Prohibit development from causing or contributing to slope instability.

Policy S-9.1 Floodplain Maps. Manage development based on federal floodplain maps. County maps shall also be referred to and in case of conflict(s) between the County floodplain maps and the federal floodplain maps, the more stringent of restrictions shall apply.

Policy S-9.2 Development in Floodplains. Limit development in designated floodplains to decrease the potential for property damage and loss of life from flooding and to avoid the need for engineered channels, channel improvements, and other flood control facilities. Require development to conform to federal flood proofing standards and siting criteria to prevent flow obstruction.

Policy S-9.3 Development in Flood Hazard Areas. Require development within mapped flood hazard areas be sited and designed to minimize on and off-site hazards to health, safety, and property due to flooding.

Policy S-9.4 Development in Villages. Allow new uses and development within the floodplain fringe (land within the floodplain outside of the floodway) only when environmental impacts and hazards are mitigated. This policy does not apply to floodplains with unmapped floodways. Require land available outside the floodplain to be fully utilized before locating development within a floodplain. Development within a floodplain may be denied if it will cause significant adverse environmental impacts or is prohibited in the community plan. Channelization of floodplains is allowed within villages only when specifically addressed in community plans.

Policy S-9.5 Development in the Floodplain Fringe. Prohibit development in the floodplain fringe when located on Semi-Rural and Rural Lands to maintain the capacity of the floodplain, unless specifically allowed in a community plan. For parcels located entirely within a floodplain or without sufficient space for a building pad outside the floodplain, development is limited to a single-family home on an existing lot or those uses that do not compromise the environmental attributes of the floodplain or require further channelization.

Policy S-9.6 Development in Dam Inundation Areas. Prohibit development in dam inundation areas that may interfere with the County's emergency response and evacuation plans.

Policy S-10.1 Land Uses within Floodways. Limit new or expanded uses in floodways to agricultural, recreational, and other such low-intensity uses and those that do not result in any increase in flood levels during the occurrence of the base flood discharge, do not include habitable structures, and do not substantially harm, and fully offset, the environmental values of the floodway area. This policy does not apply to minor renovation

projects, improvements required to remedy an existing flooding problem, legal sand or gravel mining activities, or public infrastructure.

Policy S-10.2 Use of Natural Channels. Require the use of natural channels for County flood control facilities except where necessary to protect existing structures from a current flooding problem and where natural channel use is deemed infeasible. The alternative must achieve the same level of biological and other environmental protection, such as water quality, hydrology, and public safety.

Policy S-10.3 Flood Control Facilities. Require flood control facilities to be adequately sized, constructed, and maintained to operate effectively.

Policy S-10.4 Stormwater Management. Require development to incorporate low impact design, hydromodification management, and other measures to minimize stormwater impacts on drainage and flood control facilities.

Policy S-10.5 Development Site Improvements. Require development to provide necessary on- and off-site improvements to stormwater runoff and drainage facilities.

Policy S-10.6 Stormwater Hydrology. Ensure development avoids diverting drainages, increasing velocities, and altering flow rates to off-site areas to minimize adverse impacts to the area's existing hydrology.

Adopted 2011 GPU PEIR Mitigation Measures

The mitigation measures addressing hydrology and water quality that were adopted as part of the 2011 GPU PEIR and are applicable to the project include the following:

Hyd-1.1 requires the County to update and implement the County of San Diego's Jurisdictional Urban Runoff Management Program (JURMP). The JURMP ensures the County's compliance with the Municipal Stormwater Permit, thereby minimizing potential violation of standards or degradation of water quality.

Hyd-1.2 requires the County to implement, and revise as necessary, the Watershed Protection Ordinance. In addition, the County must encourage the removal of invasive species and restore natural drainage systems. This measure reduces potential adverse effects of polluted runoff discharges on waters.

Hyd-1.3 requires the County to establish and implement low impact development (LID) standards for new development to minimize runoff and maximize infiltration. This will reduce potential impacts to the quality of surface or groundwater.

Hyd-1.4 requires the County to implement, and revise as necessary, the Stormwater Standards Manual. This manual requires application of appropriate measures for land use with a high potential to contaminate surface water or groundwater resources. As such, this measure will reduce potential contribution to any violations of water quality standards from land use projects permitted by the County.

Hyd-1.5 is the utilization of the County Guidelines for Determining Significance for Surface Water Quality, Hydrology, and Groundwater Resources to identify adverse environmental effects. Application of these guidelines help County staff to identify and mitigate potential water quality impacts associated with public or private projects in the County.

Hyd-1.6 requires the County to implement, and revise as necessary, Board Policy I-84 requiring that discretionary project applications include commitments from available water and sanitation districts. This measure ensures early coordination with utility providers and helps identify water quality standards and regulations that must be met.

Hyd-1.7 is the County planning staff participation in the review of wastewater facility long range and capital improvement plans. This will reduce potential violation of water quality standards in place or being updated by planning staff and will also allow for identification of land use conflicts that may result in water quality impacts.

Hyd-1.8 is the requirement for a Major Use Permit when projects propose wastewater facilities. This will ensure that such facilities are adequately sized and that they meet applicable standards and regulations for waste discharge.

Hyd-1.9 requires the County to review septic system design, construction, and maintenance in cooperation with the Regional Water Quality Control Board (RWQCB) through the Septic Tank Permit Process. This coordination will minimize potential violation of water quality standards or waste discharge requirements since the RWQCP oversees the County's permitting process.

Hyd-1.10 requires the County to coordinate with the State Water Resources Control Board to develop statewide performance and design standards for conventional and alternative On-site Wastewater Treatment Systems (OWTS). When alternative OWTS are permitted, this step will help prevent potential conflicts with applicable standards and regulations.

Hyd-2.1 is the implementation, and revision when necessary, of Board Policy I-84 requiring that discretionary project applications include commitments from available water districts. This measure helps reduce unnecessary reliance on groundwater for land use projects. Hyd-2.1 also requires implementation of Board Policy G-15, which directs the conservation of water at County facilities.

Hyd-2.2 is the implementation of the Groundwater Ordinance to balance groundwater resources with new development. This ordinance minimizes impacts to groundwater supplies from applicable projects. Hyd-2.2 also includes revision of the Ordinance Relating to Water Conservation for Landscaping (currently Zoning Ordinance Sections 6712 through 6725) to further water conservation through the use of recycled water.

Hyd-2.3 requires the County to establish a water credits program between the County and the Borrego Water District to provide a streamlined and consistent process for the permanent cessation of outdoor water intensive uses such as irrigated agricultural or golf course land. This will help reduce impacts to groundwater supplies in the Borrego community.

Hyd-2.4 requires the County to coordinate with the San Diego County Water Authority and other water agencies to correlate land use planning with water supply planning and implementation and enhancement of water conservation programs. This cooperation can help minimize adverse effects of future development on water supplies.

Hyd-2.5 is the implementation, and revision when necessary, of the Resource Protection Ordinance and Policy I-68 Proposed Projects in Flood Plains / Floodways to restrict development in flood plains / floodways. Such development could otherwise substantially interfere with groundwater recharge.

Hyd-3.1 requires the County to implement, and revise as necessary, ordinances that require new development to be located down and away from ridgelines, conform to the natural topography, not significantly alter dominant physical characteristics of the site, and maximize natural drainage and topography when conveying stormwater. As these restrictions are applied to new projects, drainage patterns will not be adversely affected in ways that lead to erosion and siltation.

Hyd-3.2 requires the County to implement and revise as necessary the Resource Protection Ordinance to limit development on steep slopes. It also incorporates the Hillside Development Policy into the Resource Protection Ordinance to the extent that it will allow for one comprehensive approach to steep-slope protections. By minimizing development on steep slopes, erosion and siltation impacts will be avoided.

Hyd-3.3 is the implementation the Grading, Clearing and Watercourses Ordinance to protect development sites against erosion and instability. This ordinance includes many requirements to avoid erosion and siltation, such as: removal of loose dirt; installation of erosion control or drainage devices; inclusion and maintenance of sedimentation basins; planting requirements; slope stabilization measures; provision of drainage calculations; proper irrigation systems; etc.

Hyd-4.1 requires the County to implement the Flood Damage Prevention Ordinance (Regulatory Code 91.1.105.10) to reduce flood losses in specified areas. This ordinance regulates development within all areas of special flood hazards and areas of flood-related erosion hazards, and establishes policies that minimize public and private losses due to flood conditions.

Hyd-4.2 requires the County to implement the Grading, Clearing and Watercourses Ordinance to limit activities affecting watercourses. This will minimize any alteration of drainage patterns and prevent flooding associated with development projects.

Hyd-4.3 requires the County to update and implement the following Board Policies: Policy I-68, which establishes procedures for projects that impact floodways; Policy I-45, which defines watercourses that are subject to flood control; and Policy I-56, which permits, and establishes criteria for, staged construction of off-site flood control and drainage facilities by the private sector when there is a demonstrated and substantial public, private or environmental benefit. These policies further minimize potential impacts from flooding by regulating activities in flood-prone areas.

Hyd-6.1 requires that the County implement the Resource Protection Ordinance to prohibit development of permanent structures for human habitation or employment in a floodway and require planning of hillside developments to minimize potential soil, geological and drainage problems. As such, any proposed housing projects that are subject to this ordinance would be required to avoid flood-hazard areas.

Hyd-8.1 requires the County to perform regular inspections and maintenance of County reservoirs to prevent dam failure. This measure would minimize the potential for inundation of the surrounding area or zone and prevent losses or injuries.

Hyd-8.2 requires that the County review discretionary projects for dam inundation hazards through application of the County's Guidelines for Determining Significance for Hydrology and Guidelines for Determining Significance for Emergency Response Plans. These guidelines help identify potential flooding and inundation hazards and apply methods for avoiding or mitigating those hazards.

2.9.3 Issues Not Discussed Further

As described in Chapter 1.0, Project Description, in response to litigation and considering legislative changes that have occurred since preparation of the 2012 Climate Action Plan (CAP), the County prepared a new CAP (subject of this Draft SEIR). The CAP and the targets and strategies identified therein necessitate changes to Goal COS-20 and Policy COS-20.1 of the County's General Plan (2011 GPU) and mitigation adopted in the 2011 GPU PEIR, Mitigation Measures CC-1.2, CC-1.7, and CC-1.8 to attain consistency with current legislative requirements. These changes require a General Plan Amendment to the County's General Plan and revision to the associated mitigation monitoring and reporting program (hereafter these two actions collectively refer to as (GPA)) as part of the administrative approval process. The Draft SEIR evaluates the GPA as part of the actions associated with the CAP because the changes reflected in the GPA support and are consistent with implementation of the CAP, its GHG targets, and GHG reduction measures. Therefore, the GPA is not addressed as a separate impact discussion below, but its impacts are included within the overall impact analysis of the CAP.

The Draft SEIR also evaluates the impacts associated with the implementation of proposed GHG Threshold, Guidelines for Determining Significance for Climate Change (Guidelines), and the Report Format and Content Requirements. The proposed GHG Threshold requires consistency with the CAP, and is the level below which a project would be determined to result in less-than-significant GHG impacts. To achieve consistency, a project will be required to implement the applicable GHG reduction measures outlined in the CAP. All measures have been evaluated throughout the Draft SEIR. Therefore, adoption of a GHG Threshold that establishes a requirement to be consistent with the CAP, the individual measures of which have been evaluated throughout this Draft SEIR, would not require a separate impact analysis because the impacts of establishing that threshold and what it would take to meet the threshold have been fully evaluated.

The Guidelines would provide direction to project applicants on how a project could achieve consistency with the CAP. The Guidelines are proposed to include a checklist that would require applicants to demonstrate how a project would be consistent with the CAP including through implementation of GHG reduction measures. The specific actions that would result from the Guidelines would be project-specific implementation of approved GHG reduction measures, the environmental impacts of which have been evaluated throughout this Draft SEIR. Therefore, evaluation of the Guidelines as a separate impact discussion is not provided below.

Finally, the Report Format and Content Requirements document would not result in any physical impacts on the environment as it simply details the format for how reports should be written. As a result, this document is also not separately discussed below.

In summary, the GPA, GHG Threshold, Guidelines, and Report Format and Content Requirements are not addressed as a separate impact discussion below. The GPA, GHG Threshold, and Guidelines are combined in the overall impact analysis of the CAP, while the Report Format and Content Requirement document provides technical direction to future project applicants and would not result in any physical impacts.

2.9.4 Analysis of Project and Cumulative Impacts

The scope of the project and cumulative impact analysis study area for hydrology and water quality in the 2011 GPU PEIR was identified as the entire unincorporated County. This analysis uses the same scope identified in the 2011 GPU PEIR.

Proposed GHG Reduction Measures

Table 1-1 of this Draft SEIR, provides a list of all the proposed GHG reduction measures and supporting efforts that would be implemented by the CAP. However, only those measures that are relevant to hydrology and water quality and could potentially result in a significant impact within the County are described and evaluated below. None of the proposed measures or actions indicate where specific improvements would be constructed, their size, or specific characteristics. As a program EIR, the Draft SEIR does not, and cannot, speculate on the individual environmental impacts of specific future projects/improvements. However, implementation of all GHG reduction measures and supporting efforts were considered during preparation of the Draft SEIR, to the degree information about the measures are known. Consistent with the requirements of CEQA Guidelines Section 15168, this Draft SEIR provides a programmatic discussion of the potential general impacts of implementation of these measures and actions, and not project-level or site-specific physical impacts of such actions. This is consistent with the scope of analysis in the 2011 GPU PEIR.

Strategy T-2: Shift Towards Alternative Modes of Transportation

Measure T-2.1: Improve Roadway Segments as Multi-Modal. Improve roadway segments, intersections, and bikeways to implement multi-modal enhancements for pedestrian and cyclist comfort and safety along County-

maintained public roads by improving 700 centerline miles of roadway segments, including 250 intersections and 210 lane miles of bikeway improvements by 2030 and an additional 500 centerline miles of roadway segments, including 250 intersections and 210 lane miles of bikeway improvements by 2050. Would implement roadway improvements to reduce Vehicle Miles Traveled (VMT) by calming traffic and improving the bicyclist and pedestrian infrastructure and would occur as part of resurfacing projects within existing paved areas.

Strategy T-3: Decarbonize On-Road and Off-Road Vehicle Fleet

Measure T-3.5: Install Electric Vehicle Charging Stations. Install a total of 2,040 Level 2 electric vehicle charging stations (EVCS) through public-private partnerships at priority locations in the unincorporated county by 2030. This could result in construction activities.

Strategy T-4: Invest in Local Projects to Offset Carbon Emissions

Measure T-4.1: Establish a Direct Investment Program. Close the 2030 GHG emissions target gap of ~~195,514~~ 175,460 MTCO_{2e} through direct investments in local projects that would offset carbon emissions within the unincorporated county by 2030. This measure would result in direct investment of local projects. The specific protocols that would be utilized are not known and evaluation of such actions would be speculative. However, this Draft SEIR conservatively assumes that some construction-related activities may occur with individual project implementation. Please see Chapter 2.7 and Appendix B of this SEIR for additional information on direct investment projects and protocols. Protocols could include the following types of projects:

- Biomass Conversion,
- Boiler Efficiency Retrofits,
- Wetland Creation,
- Forest Restoration,
- Compost Additions to Rangeland,
- Organic Waste Digestion Capture,
- Manure Management,
- Building Weatherization Programs, and
- Urban Forest Management.

Supporting Efforts for the Built Environment and Transportation Category

- Collaborate with incorporated cities, California Department of Transportation (Caltrans), and SANDAG to consider additional park-and-ride facilities.
- Collaborate with SANDAG to encourage installation of EV charging stations in new residential and non-residential developments.

Strategy E-2: Increase Renewable Energy Use

Measure E-2.1: Increase Renewable Electricity. Achieve 90% renewable electricity for the unincorporated county by 2030. This measure would result in the construction of distributed generation (small-scale renewables) on new and existing buildings, including solar photovoltaics, small wind-turbines, and energy storage solutions. This may also directly or indirectly require the construction of large-scale renewable energy generation systems to satisfy increased demand. This could include the construction of large-scale photovoltaic solar, photovoltaic concentrator, geothermal and/or wind turbine projects. This may result in physical changes resulting from construction, operation, and maintenance of infrastructure.

Strategy SW-1: Increase Solid Waste Diversion in the Unincorporated County

Measure SW-1.1: Increase Solid Waste Diversion. Achieve 75% solid waste diversion by 2030. Would result in new/expanded composting projects and facilities throughout the unincorporated County.

Supporting Efforts for the Water and Wastewater Category

Work with Padre Dam Municipal Water District (MWD) to advance the Advanced Water Purification (AWP) Program

Strategy A-2: Increase Carbon Sequestration

Measure A-2.1: Increase Residential Tree Planting. Require trees to be planted per every new residential dwelling unit constructed in the unincorporated county at a rate of two trees per new dwelling unit. This measure would result in the development of a county-wide tree planting program to increase tree canopy coverage. Would result in beneficial impacts that would allow an increase in carbon sequestration throughout the unincorporated County. Physical impacts may occur related to the consumption of water during the tree establishment period, however, preference would be given to areas with recycled and graywater infrastructure. Small impacts related to distribution, installation, and early maintenance of trees could occur.

Measure A-2.2: Increase County Tree Planting. Prepare and adopt a tree planting program for the unincorporated county to plant a minimum of 3,500 trees annually starting in year 2017. This measure would result in the development of a county-wide Tree Planting Program to increase tree canopy coverage. Would result in beneficial impacts that would allow an increase in carbon sequestration throughout the unincorporated County. Physical impacts may occur related to the consumption of water during the tree establishment period, however, preference would be given to areas with recycled and graywater infrastructure.

Small impacts related to distribution, installation, and early maintenance of trees could occur.

2.9.4.1 Issue 1: Violate Water Quality Standards, Exceed Stormwater Capacity, or Degrade Water Quality

This section describes potential project and cumulative impacts related to violation of water quality standards, contribution of runoff water that would exceed the capacity of stormwater drainage systems or provide runoff, or otherwise substantially degrade water quality with implementation of the project. The evaluation of these water quality-related topics has been consolidated into one discussion for the sake of brevity because the physical changes resulting from implementation of the GHG reduction measures and supporting efforts would be based upon construction activities and would result in the same discussion for each issue area.

Guidelines for Determination of Significance

Based on Appendix G of the CEQA Guidelines and the County of San Diego Guidelines for Determining Significance, Hydrology, the project would have a significant impact if it would:

- Would violate any water quality standards, otherwise degrade water quality or violate any water quality standards or waste discharge requirements;
- 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; or
- Otherwise substantially degrade water quality.

Impact Analysis

2011 GPU PEIR Determination

The 2011 GPU PEIR evaluated impacts related to stormwater capacity, violation of water quality standards, and degradation of water quality related to the adoption of the goals and policies contained within the plan and buildout of the land use map, and determined that buildout under the 2011 GPU would result in significant water quality impacts from activities associated with small (i.e., less than one acre) construction sites, from land uses and development that would contribute additional point and nonpoint source pollutants within WMAs that are in violation of water quality requirements, and from the development of future land uses as designated in the proposed 2011 GPU would have the potential to contribute run-off in a manner that would exceed existing stormwater drainage facilities. The 2011 GPU EIR also determined that groundwater dependent land uses in proposed areas identified as having potential water quality impacts would potentially be dependent on a groundwater supply that contains water quality constituents at concentrations above Primary Federal or State Maximum Contaminant Levels, thus violating water quality

standards, including those for nitrates, naturally occurring radionuclides, leaking underground fuel tanks, and other constituents of concern. The discussion of impacts can be found in Chapter 2.8 Hydrology and Water Quality, pages 2.8-30 through 2.8-36; 2.8-48 through 2.8-50; and 2.8-58 through 2.8-59; and 2.8-61 of the 2011 GPU PEIR, and is hereby incorporated by reference.

Although these impacts were reduced with implementation of the adopted 2011 GPU policies, 2011 GPU PEIR mitigation measures, and compliance with applicable regulations related to maintaining water quality standards, direct and cumulative groundwater quality impacts remained significant and unavoidable because even with mitigation measures in place, implementation of the 2011 GPU would allow land uses and development to occur in areas that are currently experiencing groundwater contamination, thereby exacerbating water quality impacts. Additional mitigation was considered but rejected as infeasible that would have required water to be imported from outside the area where groundwater was contaminated, would have required the construction of water treatment systems to reduce constituents in groundwater impaired areas, or placed a moratorium on building permits and development applications in groundwater constrained areas. Specific policies and mitigation measures related to the protection of water quality and storm drainage are listed above under Section 2.9.2, Regulatory Framework.

CAP Impact Analysis

Implementation of the GHG reduction measures and supporting efforts above has the potential to result in significant impacts related to water quality standards or waste discharge from the construction of projects that would improve bicycle and pedestrian and park-and-ride infrastructure, direct investment projects, result in the construction of large-scale photovoltaic solar, concentrated solar, wind turbines, geothermal renewable energy systems, develop or expand waste facilities, and tree planting efforts that were not explicitly evaluated within the 2011 GPU PEIR. The County's 2012 Wind Energy Ordinance EIR (2012 Wind Energy EIR) evaluated impacts specifically related to the development of large-scale wind turbines and impacts from that document are summarized below and hereby incorporated by reference (San Diego County 2012). Additionally, the Padre Dam Municipal Water District's Comprehensive Facilities Master Plan PEIR (2017 Padre Dam PEIR) evaluated impacts related to the development/expansion of water purification infrastructure and impacts that are associated with the Supporting Effort for the Water and Wastewater Category. The analysis from that document is summarized below and hereby incorporated by reference (Padre Dam 2017).

The following section describes the potentially significant impacts related to water quality standards or waste discharge requirements that could result from the implementation of the measures.

Bicycle, Pedestrian, EVCS, Park-and-Ride; Large-Scale Renewable Energy Systems; and Solid Waste Expansion

Implementation of GHG Reduction Measures T-2.1, T-3.5, and T-4.1 and Supporting Efforts within the Built Environment and Transportation Category, GHG Reduction Measure E-2.1, and SW-1.1 could result in new or expanded park-and-ride facilities, new or expanded pedestrian and bicycle improvements, installation of new EVCS, new large-scale renewable energy systems including solar photovoltaic, solar concentrator, wind turbines, or geothermal, and new or expanded solid waste facilities. Specific locations for such improvements have not been identified; however, because of the nature of these improvements, these would most likely occur near residential and commercial areas throughout the unincorporated County. The use of heavy equipment, paving, ground disturbance, and other typical construction activities associated with new transportation-related facilities, renewable energy facilities, and solid waste facilities associated with implementing these GHG reduction measures could adversely affect water quality standards where projects are located near waterways or discharges runoff to stormwater drainage systems.

All development projects related to these GHG reduction measures would be discretionary. Future discretionary projects would be required to be evaluated for project-specific impacts under CEQA at the time of application and project-specific mitigation would minimize or eliminate impacts to hydrology and water quality to the extent feasible in compliance with CEQA Guidelines Section 15126.4. These projects would be required to comply with County development requirements, ordinances, and permitting procedures in addition to compliance with federal, state, and local regulations and policies (e.g., CWA, NPDES permits, WPO) described in Section 2.9.2, Regulatory Framework, that are in place to protect water quality and maintain adequate capacity in stormwater drainage systems in the County. Furthermore, implementation of the 2011 GPU policies and 2011 GPU PEIR mitigation measures listed above reduce potential impacts to water quality and stormwater capacity from development projects.

As described on page 3.1.2-13 of the 2012 Wind Energy EIR, large-scale wind turbines must obtain a Major Use Permit (MUP). Similarly, any large-scale renewable energy projects must obtain a MUP. These projects would be required to comply with County development requirements, ordinances, and permitting procedures in addition to compliance with federal, state, and local regulations and policies (e.g., CWA, NPDES permits, WPO) described in Section 2.9.2, Regulatory Framework, that are in place to protect water quality and maintain adequate capacity in stormwater drainage systems in the County. Taken together, these development requirements would ensure that large-scale renewable energy projects have a less-than-significant impact on water quality and stormwater drainage systems.

With implementation of the applicable 2011 GPU policies and 2011 GPU PEIR mitigation measures; compliance with existing federal, state, and local regulations that protect sensitive resources; and completion of subsequent project-level planning and environmental review, potential direct impacts to water quality standards and contribution of stormwater runoff because of implementation of measures that could result in the

construction of bicycle, pedestrian, EVCS, park-and-ride, large-scale renewable energy infrastructure, and solid waste expansion would be **less than significant**.

Cumulative Impacts

Impacts would be cumulative in nature if in combination with effects of other projects, they would contribute to a local or regional increase in water quality violations or stormwater runoff flows that would exceed the capacity of stormwater drainage facilities in the unincorporated County. CEQA Guidelines Section 15130 describes two methods for establishing the cumulative environment in which the project is to be considered: the use of a list of past, present, and probable future projects; or the use of adopted projections from a general plan, other regional planning document, or a certified EIR for such a planning document. This analysis uses a combination of the list and planning document approach, as described in Chapter 1, Project Description. Physical improvements resulting from implementation of the CAP have the potential to combine with the physical impacts of other past, present, or probable future projects in the County and could result in a cumulative impact based upon proximity and construction schedule. **Table 1-3** in the Project Description contains a list of past, present, and probable future projects that when combined with the project, could result in a cumulatively considerable effect. Cumulative impacts could also result when the physical improvements resulting from implementation of the CAP interact with development associated with build-out of the County's General Plan and potentially increase those impacts resulting in a cumulatively considerable effect.

The 2011 GPU PEIR concluded that although cumulative impacts to water quality and capacity of stormwater drainage systems resulting from the build-out associated with the General Plan would be reduced with implementation of the 2011 GPU policies and 2011 GPU PEIR mitigation measures listed above, and compliance with applicable state and federal regulations, the cumulative impacts associated with placing development in groundwater quality impaired areas would remain significant and unavoidable. However, as described above, implementation of measures that could result in the construction of bicycle, pedestrian, EVCS, park-and-ride, large-scale renewable energy infrastructure, solid waste expansion would not result in any significant direct impacts, therefore, the project **would not result in a considerable contribution** to a significant cumulative impact.

Local Direct Investment Program

Implementation of GHG Reduction Measure T-4.1 would require the County to implement or fund direct investment of projects to offset carbon emissions. As described in detail in Chapter 2.7 of this Draft SEIR, projects that could result from implementation of this measure could include but are not limited to: biomass conversion to energy or soil application (i.e., conversion of biomass waste to fuel for electricity generation, or conversion of forestry and agricultural residues to soil compost), boiler efficiency upgrades (i.e., implementing retrofits to increase thermal efficiency in natural-gas fired boilers or process heaters), coastal wetlands creation (i.e., restoring degraded wetlands to recapture soil carbon stock), reforestation projects (i.e., planting of trees to recapture CO₂ sinks), compost additions to rangeland (i.e., increasing soil carbon sequestration and

improving quality of soils), organic waste digestion (i.e., diverting organic waste and/or wastewater to a biogas control system), livestock management (i.e., installing biogas control systems for manure management on dairy cattle and swine farms), urban forest and urban tree planting projects (i.e., tree planting, maintenance, and/or improved management activities to increase carbon storage through trees), and winterization (i.e., energy efficiency upgrades to buildings). This list is not intended to be exhaustive, but represents some of the types of projects that could be considered in the future. Protocols for these projects and others that could be considered are described in Chapter 2.7 with page numbers to review the protocols contained in Appendix B.

Most direct investment projects would involve some level of construction and physical disturbance of the land. This analysis assumes that implementation of direct investment projects under GHG Reduction Measure T-4.1 would result in construction activities that could include: the use of heavy equipment for earthmoving, materials processing, or compost spreading; vehicle trips during construction/equipment replacement/monitoring activities; possible changes in land form and views; and installation or upgrades of mechanical equipment or facilities. Construction activities and project operations associated with these measures could result in direct and indirect ground disturbance, watering during implementation of tree planting, or conversion of habitat. Depending on the location of these projects, construction could result in erosion or water quality issues.

Because the variety of projects that may be approved and ultimately undertaken by the County under the Local Direct Investment Program is not known, it is too speculative to determine the types of impacts that could occur and whether regulations or mitigation measures would be available to minimize potential environmental impacts. However, all projects would be required to comply with applicable existing federal, state, and local regulations. Specifically, projects would be evaluated for their consistency with 2011 GPU policies, 2011 GPU PEIR mitigation measures, County Grading Ordinance regulations, County Resources Protection Ordinance regulations, etc. Future discretionary projects may also be required to undergo additional CEQA analysis to evaluate their project-specific impacts. If a determination is made that potentially significant impacts would result from implementation of direct investment projects, then all feasible mitigation would be required to be implemented in accordance with CEQA Guidelines Section 15126.4.

While all feasible mitigation would be applied at the project level as part of the County's discretionary review process, construction of projects associated with GHG Reduction Measure T-4.1 could still adversely affect water quality issues because of the nature of the projects. At the programmatic level, it is not possible to determine with certainty that impacts resulting from construction activities to water quality would be reduced to a level below significance. Therefore, the impacts related to water quality issues would be a **potentially significant (Impact HYD-1)**.

Cumulative Impacts

Impacts would be cumulative in nature if in combination with effects of other projects, they would contribute to a local or regional increase in water quality violations or stormwater runoff flows that would exceed the capacity of stormwater drainage facilities in the

unincorporated County. The methodology for determining the cumulative environment described in Chapter 1, Project Description, and summarized above in Section 2.9.4.1 applies for this cumulative discussion.

Implementation of GHG Reduction Measure T-4.1, would result in direct investment projects as described above. The 2011 GPU PEIR concluded that although cumulative impacts to water quality resulting from the build-out associated with the General Plan would be reduced with implementation of the 2011 GPU policies and 2011 GPU PEIR mitigation measures listed above, and compliance with applicable state and federal regulations, they would remain significant and unavoidable. Further projects would be required to be evaluated under CEQA and to reduce and minimize impacts to the maximum extent feasible, as well as comply with existing federal, state, and local regulations that protect sensitive resources. However, because the exact location and nature of direct investment projects is not known, the potential for projects implemented under a Local Direct Investment Program to contribute to a cumulatively significant impact would remain. Therefore, implementation of GHG Reduction Measure T-4.1 **could have a considerable contribution** to a significant cumulative impact (**Impact HYD-2**).

Padre Dam Water and Wastewater Supporting Effort

As described in Chapter 1, Project Description, the CAP includes a Water and Wastewater Supporting Effort, that would support participation in the Padre Dam AWP project. The Padre Dam MWD prepared the Padre Dam PEIR and that analysis is hereby incorporated by reference. As described on pages 4.9-17 through 4.9-34 of the Padre Dam PEIR, potentially significant direct and indirect impacts were identified for water quality. However, all impacts were reduced to a level below significance with implementation of Mitigation Measures HYD-1, HYD-2, and HYD-3 as described in the Padre Dam PEIR. Therefore, the impacts related to water quality because of the Padre Dam AWP would be **less than significant**.

Cumulative Impacts

The Padre Dam PEIR evaluated the cumulative water quality impacts of the project on page 6-24. As described therein, the AWP project would result in less-than-significant impacts to water quality with implementation of Mitigation Measures Hyd-1 through Hyd-3, and it **would not have a considerable contribution** to a significant cumulative impact.

Impact Summary

Compliance with existing federal, state, and local regulations related to water quality or sewage discharge standards would ensure that project and cumulative impacts associated with violations of regulations because of implementation of GHG reduction measures and supporting efforts that would result in the construction of alternative transportation infrastructure, large-scale wind turbines, large-scale photovoltaic solar, concentrated solar, geothermal renewable energy systems, and waste facilities would be **less than significant** and **would not result in a considerable contribution** to a significant cumulative impact. The County's participation in the AWP project would result

in **less-than-significant** impacts related to water quality, and **would not have a considerable contribution** to a significant cumulative impact to water quality.

Regarding local direct investment projects even with implementation of the 2011 GPU policies, 2011 GPU PEIR mitigation measures additional significant direct and cumulative impacts to water quality could result because of the uncertainty of types and locations of projects. Therefore, project impacts to water quality which would result from the development of local direct investment projects would be a **potentially significant impact** and these projects **could have a considerable contribution** to a significant cumulative impact on water quality.

2.9.4.2 Issue 2: Groundwater Supplies and Recharge

This section describes potential project and cumulative impacts related to groundwater supply and recharge with implementation of the project.

Guidelines for Determination of Significance

Based on Appendix G of the CEQA Guidelines and the County of San Diego Guidelines for Determining Significance, Hydrology, the project would result in a significant impact if it would:

- 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 a lowering of the local groundwater table level (e.g., the production rate of preexisting nearby wells would drop to a level that would not support existing land uses or planned uses for which permits have been granted).

Impact Analysis

2011 GPU PEIR Determination

The 2011 GPU PEIR evaluated impacts related to groundwater supply and recharge related to the adoption of the goals and policies contained within the plan and buildout of the land use map, and determined that buildout under the 2011 GPU would result in an exacerbation of groundwater supply impacts that are already being experienced in unincorporated parts of the county. Maximum buildout of the land uses proposed in the 2011 GPU would cause impacts in four geographic areas: (1) areas that experience a 50% reduction in of groundwater storage; (2) areas that may be currently impacted by the combined drawdown of existing wells; (3) areas that experience a high frequency of low well yield; and (4) Borrego Valley. The discussion of impacts can be found in Chapter 2.8 Hydrology and Water Quality, pages 2.8-37 through 2.8-42 and 2.8-59 through 2.8-60, and is hereby incorporated by reference.

Although these impacts were reduced with implementation of the adopted 2011 GPU policies and 2011 GPU PEIR mitigation measures, and compliance with applicable regulations related to groundwater supply and recharge, direct and cumulative impacts remained significant and unavoidable because even with mitigation measures in place,

implementation of the 2011 GPU would allow land uses and development to occur in areas that are already experiencing groundwater supply impacts, thereby worsening the unsustainable use of groundwater supplies. Additional mitigation was considered but rejected as infeasible that would have required all projects to share well water, secure water contracts to import groundwater from other non-impacted groundwater basins, or place a moratorium on building permits and development applications. Specific policies and mitigation measures related to the protection of water quality and storm drainage are listed above under Section 2.9.2, Regulatory Framework.

CAP Impact Analysis

Implementation of GHG Reduction Measure E-2.1 and GHG Reduction Measures A-2.1 and A-2.2 above has the potential to result in significant impacts related to groundwater supplies and recharge from the construction of large-scale renewable energy systems including wind turbines, geothermal energy systems, and solar photovoltaic systems, and the development of a tree planting program that were not explicitly evaluated within the 2011 GPU PEIR. GHG reduction measures that would result in the development of bicycle, pedestrian, EVCS, park-and-ride, and solid waste facilities would not result in significant water consumption and are not further evaluated in this issue area. The 2012 Wind Energy Ordinance EIR (2012 Wind Energy EIR) evaluated impacts specifically related to the development of small and large-scale wind turbines and impacts from that document are summarized below and hereby incorporated by reference (San Diego County 2012).

The following section describes the potentially significant impacts related to groundwater supply and recharge that could result from the implementation of the measures.

Large-Scale Renewable Energy Infrastructure

Implementation of GHG Reduction Measure E-2.1 could result in the construction of new, large-scale renewable energy systems, including large-scale photovoltaic solar, concentrated solar, geothermal systems, and/or wind turbines. Because the amount of demand generated by such a program and the mix of renewable energy types that would be constructed to satisfy demand is unknown, this Draft SEIR evaluates the potential for impacts at the program level. The potential for the construction of large-scale renewable energy infrastructure was not evaluated in the 2011 GPU PEIR but potential wind energy impacts were evaluated in the 2012 Wind Energy EIR and a summary of that analysis is provided below and is hereby incorporated by reference.

Large-scale renewable energy infrastructure would generally be constructed in undeveloped locations that are productive for generating the renewable energy source. Specific locations that may be chosen for these large-scale utility projects are unknown; however, it is likely that suitable locations would include areas that are not highly developed with residential and commercial uses because of the size, massing, coverage, and scale of this type of infrastructure which relies upon large amounts of land unencumbered by buildings or shadowed by buildings or trees.

Water consumption from renewable energy resources varies considerably depending on the type of technology and cooling features used.

There are two types of centralized solar power generating facilities – concentrator solar power plants (CSP), and photovoltaic power plants. CSP facilities face challenges focused on water consumption because of the large amounts of water required for cooling and steam generation. The result is that water consumption at CSP facilities are comparable to water-intensive, traditional thermal power technologies (Mielke et. al. 2010:36). Solar photovoltaic systems, meanwhile, do not require significant quantities of water during normal operation (DOE 2006). Concentrated solar photovoltaic systems require more water than traditional solar photovoltaic technologies, but in amounts that are still less than traditional, nonrenewable thermal power plants (Mielke et. al. 2010:37). Photovoltaic technology has the potential to offset negative water consumption trends associated with nonrenewable energy resources. However, depending on the mix of new solar technologies that may be developed, if they favor CSP facilities, there could be significant and unavoidable impacts related to groundwater consumption.

Water consumption estimates for geothermal power generation are difficult to estimate due to differences in the types of water included in consumption figures. Geothermal power plants rely on power generation from high-temperature, mineralized geothermal fluids that are often deep in the earth's crust, beneath traditional groundwater reservoirs. Generally, geothermal power generation requires little in the way of fresh or potable water sources. While freshwater consumption for geothermal power production is relatively low, overall groundwater consumption is, on average, more intensive than traditional thermal power plants. Consequently, development of large-scale geothermal power facilities could lead to stress on currently overdrawn groundwater basins, and result in a significant and unavoidable impact.

The 2012 Wind Energy EIR evaluated impacts to groundwater resources associated with the development of large-scale wind turbine facilities on pages 3.2-16 to 3.2-17. All projects would be subject to discretionary review, and would be required to obtain a MUP. As part of the County's discretionary review process, all large wind projects would be evaluated under CEQA and would be required to implement measures to minimize impacts to groundwater resources, as necessary. MUPs are subject to the county Groundwater Ordinance, WPO, and other local or regional plans, policies, or regulations. The 2012 Wind Energy EIR concluded on page 3.1.2-35 that there would be no significant impacts to groundwater resources and, therefore, no mitigation would be required.

Depending on the type and scale of large-scale renewable energy projects that would be developed under the CAP, there could be an increase in the overall quantity of groundwater drawn from local groundwater basins. Future discretionary large-scale renewable energy projects would be required to be evaluated for project-specific impacts under CEQA at the time of application and project-specific mitigation would minimize or eliminate impacts to groundwater resources to the extent feasible in compliance with CEQA Guidelines Section 15126.4. In addition, MUPs are subject to the county Groundwater Ordinance, WPO, and other local or regional plans, policies, or regulations implemented to reduce impacts on groundwater resources. However, additional water

consumption, especially in the large quantities required for CSP facilities, could result in a **potentially significant** impact to groundwater supply and recharge because there is no way to ensure at the program level that all impacts to groundwater resources would be reduced to a level below significance (**Impact HYD-3**).

Cumulative Impacts

Impacts of the project would be cumulative in nature if in combination with effects of other projects, they would contribute to the regional drawdown of groundwater in the County. The methodology for determining the cumulative environment described in Chapter 1, Project Description, and summarized above Section 2.9.4.1 above applies for this cumulative discussion.

The 2011 GPU PEIR concluded that although cumulative impacts to groundwater resulting from the build-out associated with the 2011 GPU would be reduced with implementation of the 2011 GPU policies and 2011 GPU PEIR mitigation measures listed above, and compliance with applicable state and federal regulations, they would remain significant and unavoidable. Additionally, even with implementation of the 2011 GPU policies, 2011 GPU PEIR mitigation additional significant cumulative impacts to groundwater could result from GHG Reduction Measure E-2.1 because the location of projects is unknown and multiple projects could be constructed in the same groundwater basins. Therefore, implementation of large-scale renewable energy projects **could have a considerable contribution** to significant cumulative groundwater impacts (**Impact HYD-4**).

Agriculture and Conservation Improvements

Implementation of GHG Reduction Measures A-2.1 and A-2.2 would involve implementation of a Tree Planting Program which would establish a minimum number of 3,000 trees to be planted by the county annually. Newly planted trees require consistent, regular watering until root systems have established because tree root systems have been containerized during nursery management and therefore require time to grow and extend much wider than the aboveground portion of the plant. During this growth phase, consistent, daily watering is necessary to prevent stress and properly establish the tree. While the watering regime for newly planted trees is intensive, the tree planting program would be focused in areas that rely on municipal water and on the use of recycled water; therefore, impacts on groundwater supply and recharge would be **less than significant**.

Cumulative Impacts

Impacts of the project would be cumulative in nature if, in combination with effects of other projects, they would contribute to depletion of the local or regional supply of groundwater in the unincorporated County. The methodology for determining the cumulative environment described in Chapter 1, Project Description, and summarized above Section 2.9.4.1 above applies for this cumulative discussion.

The 2011 GPU PEIR concluded that cumulative impacts resulting from the combined groundwater uses of neighboring communities that share aquifers with parts of the unincorporated county would not be considerable. As described above, implementation

of the tree program would not result in direct impacts because the program would focus these efforts in areas that rely on municipal water and would utilize recycled water. With implementation of the 2011 GPU policies and 2011 GPU PEIR mitigation measures listed above, the project **would not result in a considerable contribution** to a significant cumulative groundwater supply and recharge impact.

Local Direct Investment Program

Implementation of GHG Reduction Measure T-4.1 would require the County to implement or fund the direct investment of projects to offset carbon emissions. As described in detail in Chapter 2.9 of this Draft SEIR and Impact HYD-1 above there are a variety of projects that could result from implementation of this measure. This list is not intended to be exhaustive, but represents some of the types of projects that could be considered in the future. Protocols for these projects and others that could be considered are described in Chapter 2.7 with page numbers to review the protocols contained in Appendix B.

Most direct investment projects would involve some level of construction and physical disturbance of the land. This analysis assumes that implementation of direct investment projects under GHG Reduction Measure T-4.1 would result in construction activities that could include: the use of heavy equipment for earthmoving, materials processing, or compost spreading; vehicle trips during construction/equipment replacement/monitoring activities; possible changes in land form and views; and installation or upgrades of mechanical equipment or facilities. Construction activities and project operations associated with these measures could result in direct and indirect disturbances to riparian habitat through ground disturbance, or conversion of habitat. Depending on the location of these projects, construction could result in erosion or water quality issues.

Because the variety of projects that may be approved and ultimately undertaken by the County under the Local Direct Investment Program is not known, it is not possible to speculate upon the types of impacts that could occur and whether regulations or mitigation measures would be available to minimize potential environmental impacts. However, all projects would be required to comply with applicable existing federal, state, and local regulations. Specifically, projects would be evaluated for their consistency with 2011 GPU policies, 2011 GPU PEIR mitigation measures, County Grading Ordinance regulations, County Resources Protection Ordinance regulations, etc. Future discretionary projects may also be required to undergo additional CEQA analysis to evaluate its project-specific impacts. If a determination is made that potentially significant impacts would result from implementation of direct investment projects, then all feasible mitigation would be required to be implemented in accordance with CEQA Guidelines Section 15126.4.

While all feasible mitigation would be applied at the project level as part of the County's discretionary review process, construction of projects associated with GHG Reduction Measure T-4.1 could still adversely affect groundwater basins because of the location of projects. At the programmatic level, it is not possible to determine with certainty that impacts to groundwater because of construction activities, reforestation, or wetland creation, for example, would be reduced below a level of significance. Therefore, the impacts related to groundwater would be a **potentially significant (Impact HYD-5)**.

Cumulative Impacts

Impacts would be cumulative in nature if the project, in combination with cumulative development, would contribute to the local or regional loss of groundwater resources in the County. The methodology for determining the cumulative environment described in Chapter 1, Project Description, and summarized above Section 2.9.4.1 above applies for this cumulative discussion.

Implementation of GHG Reduction Measure T-4.1, would result in direct investment projects as described above. The 2011 GPU PEIR concluded that although cumulative impacts to groundwater resulting from the buildout associated with the General Plan would be reduced with implementation of the 2011 GPU policies and 2011 GPU PEIR mitigation measures listed above, and compliance with applicable state and federal regulations, they would remain significant and unavoidable. Projects would be required to be evaluated under CEQA and to reduce and minimize impacts to the maximum extent feasible, as well as comply with existing federal, state, and local regulations that protect groundwater resources. However, because the exact location and nature of direct investment projects is not known, the potential for a contribution to a cumulatively significant impact remains. Therefore, implementation of direct investment projects **could have a considerable contribution** to a significant cumulative impact (**Impact HYD-6**).

Padre Dam Water and Wastewater Supporting Effort

As described in Chapter 1, Project Description, the CAP includes a Water and Wastewater Supporting Effort, that would support participation in the Padre Dam AWP project. The Padre Dam MWD prepared the Padre Dam PEIR and that analysis is hereby incorporated by reference. As described on pages 4.9-31 through 4.3-29 of the Padre Dam PEIR, potentially significant direct and indirect impacts were identified for groundwater. However, all impacts were reduced to a level below significance with implementation of Mitigation Measures HYD-3 as described in the Padre Dam PEIR. Therefore, the potential impacts related to groundwater because of the Padre Dam AWP would be **less than significant**.

Cumulative Impacts

The Padre Dam PEIR evaluated the cumulative groundwater impacts of the project on page 6-25. As described therein, the AWP project would result in less-than-significant impacts to groundwater with implementation of Mitigation Measures Hyd-3 and it **would not have a considerable contribution** to a significant cumulative impact.

Impact Summary

Even with implementation of the GPU policies and GPU PEIR mitigation measures, additional significant direct and cumulative impacts to groundwater resources could result from measures that would result in new large-scale renewable energy projects. Therefore, impacts to groundwater resources related to the implementation of measures which would result in the development of direct investment projects, large-scale photovoltaic, concentrated solar, wind turbines, and geothermal energy systems would be **potentially significant** and these measures would have a **potentially considerable contribution**

to a significant and unavoidable cumulative impact on groundwater resources. In addition, the specific water needs of the proposed tree planting program would result in **less-than-significant** groundwater impacts and **would not have a considerable contribution** to a significant cumulative impact. The County's participation in the AWP project would result in **less-than-significant** groundwater impacts, and **would not have a considerable contribution** to a significant cumulative impact to groundwater.

2.9.4.3 Issue 3: Alter Drainage Pattern of a Site Resulting in Erosion or Siltation, or Flooding

This section describes potential project and cumulative impacts related to erosion, sedimentation, and local onsite or offsite flooding with implementation of the project. The evaluation of these drainage-related topics has been consolidated into one discussion for the sake of brevity because the physical changes resulting from implementation of the GHG reduction measures and supporting efforts would result in the same discussion for both issue areas.

Guidelines for Determination of Significance

Based on Appendix G of the CEQA Guidelines and the County of San Diego Guidelines for Determining Significance, Hydrology, the project would result in a significant impact if it 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; or
- 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.

Impact Analysis

2011 GPU PEIR Determination

The 2011 GPU PEIR evaluated impacts related to erosion, siltation, and flooding associated with the adoption of the goals and policies contained within the plan and buildout of the land use map. The 2011 GPU EIR found that land-disturbing construction activities, as well as the installment of permanent, new development would have the potential to alter drainage patterns, and therefore result in changes to the magnitude and frequency of stream flows that could cause potentially significant erosion, siltation, or flooding impacts. The discussion of impacts can be found in Chapter 2.8 Hydrology and Water Quality, pages 2.8-42 through 2.8-47; and 2.8-60, and is hereby incorporated by reference.

Direct and cumulative impacts from implementation of the 2011 GPU PEIR were reduced to a less-than-significant level with implementation of the adopted 2011 GPU policies and 2011 GPU PEIR mitigation measures, and compliance with applicable regulations related

to site drainage characteristics affecting erosion, siltation, and flooding. Specific policies and mitigation measures related to the protection of water quality and storm drainage are listed above under Section 2.9.2, Regulatory Framework.

CAP Impact Analysis

Bicycle, Pedestrian, EVCS, Park-and-Ride; Large-Scale Renewable Energy Systems; and Solid Waste Expansion

Implementation of GHG Reduction Measures T-2.1, and T-4.1 and Supporting Efforts within the Built Environment and Transportation Category, GHG Reduction Measure E-2.1, and SW-1.1 could result in new or expanded park-and-ride facilities, new or expanded pedestrian and bicycle improvements, installation of new EVCS, new large-scale renewable energy systems including solar photovoltaic, solar concentrator, wind turbines, or geothermal, and new or expanded solid waste facilities. Specific locations for such improvements have not been identified; however, because of the nature of these improvements, these would most likely occur near residential and commercial areas throughout the unincorporated County. The use of heavy equipment, paving, ground disturbance, and other typical construction activities associated with new transportation-related facilities, renewable energy facilities, and solid waste facilities associated with implementing these GHG reduction measures could adversely affect water quality standards where projects are located near waterways or discharges runoff to stormwater drainage systems.

Development of these projects could alter local drainage characteristics of individual sites and influence onsite or offsite flooding. Compliance with regulations relating to grading and drainage would limit these effects for projects that are subject to the requirements of the county grading ordinance. In areas where new construction for projects would take place, the peak flow and volume of storm water runoff generated from such areas would be affected by development through conversion of vegetated or otherwise pervious surfaces to impervious surfaces (e.g. roads, roofs, driveways, walkways) and by the development of drainage systems that might more effectively connect these impervious surfaces to waterbodies. The travel time of runoff originally traveling as overland sheet flow could be reduced when routed into constructed conveyance systems directly from impervious surfaces. Soil compaction from activities at energy facilities could also reduce the local permeability of natural surfaces. Overall, an increase in impervious surfaces could increase the rate and volume of runoff and eliminate some natural storage and infiltration capacity along drainage paths. Consequently, sites could be subject to onsite ponding, or onsite or offsite flooding, especially during the wet season or during storm events.

All discretionary projects would be required to comply with the Watershed Protection, Stormwater Management, and Discharge Control Ordinance, the Flood Damage Prevention Ordinance, the Grading Ordinance and the Resource Protection Ordinance. The configuration of individually proposed new projects would be designed to address onsite ponding and discharges to offsite waterways. While development projects would divert stormwater flows differently from the current pattern of drainage on both developed and undeveloped land, new drainage systems would be designed in a

manner to minimize erosion, sedimentation and flooding, in compliance with local and state laws and regulations.

The 2012 Wind Energy EIR evaluated impacts relating to erosion, sedimentation, and flooding associated with the development of large-scale wind turbine facilities on pages 3.2-17 to 3.2-20 and determined impacts to be less than significant. All large-scale renewable energy projects would be required to obtain a grading permit as part of the MUP discretionary review process and comply with the Grading, Clearing, and Watercourses Ordinance (Grading Ordinance). Additionally, projects would be required to prepare and implement a Stormwater Management Plan (SWMP), which would contain construction and post-construction best management practices (BMPs), and low impact development (LIDs) strategies to control for erosion and flood control. Priority Development Projects (PDPs) are required to have a Major SWMP and subject to hydromodification control requirements. The criteria that define PDPs commonly apply to large-scale renewable energy facilities (non-residential and one acre in size or greater; hillside development greater than one acre; new paved surfaces that are greater than 5,000 square feet and intended for transportation). Therefore, through the discretionary review process, the project would result **less-than-significant** drainage and associated erosion or sedimentation impacts.

Cumulative Impacts

Impacts would be cumulative in nature if in combination with effects of other projects, they would alter drainage patterns such that sedimentation or erosion occurred. The methodology for determining the cumulative environment described in Chapter 1, Project Description, and summarized above Section 2.9.4.1 above applies for this cumulative discussion.

The 2011 GPU PEIR concluded that although cumulative impacts to drainage patterns resulting from the build-out associated with the General Plan would be reduced with implementation of the 2011 GPU policies and 2011 GPU PEIR mitigation measures listed above, and compliance with applicable state and federal regulations, the cumulative impacts associated with constructing new development were determined to be less than significant. As described above, implementation of measures that could result in the construction of bicycle, pedestrian, EVCS, park-and-ride, large-scale renewable energy infrastructure, solid waste expansion would not result in any significant direct impacts, therefore, the project **would not result in a considerable contribution** to a significant cumulative impact.

Local Direct Investment Program

Implementation of GHG Reduction Measure T-4.1 would require the County implement or fund the direct investment of projects to offset carbon emissions. As described in detail in Chapter 2.7 of this Draft SEIR and Impact HYD-3 above there are a variety of projects that could result from implementation of this measure. This list is not intended to be exhaustive, but represents some of the types of projects that could be considered in the

future. Protocols for these projects and others that could be considered are described in Chapter 2.7 with page numbers to review the protocols contained in Appendix B.

Most direct investment projects would involve some level of construction and physical disturbance of the land. This analysis assumes that implementation of direct investment projects under GHG Reduction Measure T-4.1 would result in construction activities that could include: the use of heavy equipment for earthmoving, materials processing, or compost spreading; vehicle trips during construction/equipment replacement/monitoring activities; possible changes in land form and views; and installation or upgrades of mechanical equipment or facilities. Construction activities and project operations associated with these measures could result in direct and indirect disturbances to riparian habitat through ground disturbance, or conversion of habitat. Depending on the location of these projects, construction could result in erosion or water quality issues.

Because the variety of projects that may be approved and ultimately undertaken by the County under the Local Direct Investment Program is not known, it is not possible to speculate upon the types of impacts that could occur and whether regulations or mitigation measures would be available to minimize potential environmental impacts. However, all projects would be required to comply with applicable existing federal, state, and local regulations. Specifically, projects would be evaluated for their consistency with 2011 GPU policies, 2011 GPU PEIR mitigation measures, County Grading Ordinance regulations, County Resources Protection Ordinance regulations, etc. Future discretionary projects may also be required to undergo additional CEQA analysis to evaluate its project-specific impacts. If a determination is made that potentially significant impacts would result from implementation of direct investment projects, then all feasible mitigation would be required to be implemented in accordance with CEQA Guidelines Section 15126.4.

While all feasible mitigation would be applied at the project level as part of the County's discretionary review process, construction of projects associated with GHG Reduction Measure T-4.1 could still adversely affect drainage patterns and result in sedimentation or erosions because of the type of projects that may be undertaken such as wetland creation. At the programmatic level, it is not possible to determine with certainty that impacts to drainage patterns because of construction activities, reforestation, or wetland creation, for example, would be reduced below a level of significance. Therefore, the potential impacts related to drainage patterns would be a **potentially significant (Impact HYD-7)**.

Cumulative Impacts

Impacts would be cumulative in nature if the project, in combination with cumulative development, would contribute to the alteration of drainage patterns such that erosion or sedimentation were to occur. The methodology for determining the cumulative environment described in Chapter 1, Project Description, and summarized above Section 2.9.4.1 above applies for this cumulative discussion.

Implementation of GHG Reduction Measure T-4.1, would result in direct investment projects as described above. The 2011 GPU PEIR concluded that although cumulative

impacts to drainage patterns resulting from the buildout associated with the General Plan would be reduced with implementation of the 2011 GPU policies and 2011 GPU PEIR mitigation measures listed above, and compliance with applicable state and federal regulations, and impacts would be less than significant. Future discretionary projects would be required to be evaluated under CEQA and to reduce and minimize impacts to the maximum extent feasible, as well as comply with existing federal, state, and local regulations that guide development. However, because the exact location and nature of direct investment projects is not known, the potential for a contribution to a cumulatively significant impact remains. Therefore, implementation of direct investment projects **could result in a considerable contribution** to a significant cumulative impact (**Impact HYD-8**).

Padre Dam Water and Wastewater Supporting Effort

As described in Chapter 1, Project Description, the CAP includes a Water and Wastewater Supporting Effort, that would support participation in the Padre Dam AWP project. The Padre Dam MWD prepared the Padre Dam PEIR and that analysis is hereby incorporated by reference. As described on pages 4.9-25 through 4.9-28 of the Padre Dam PEIR, potentially significant direct and indirect impacts were identified for drainage patterns. However, all impacts were reduced to a level below significance with implementation of Mitigation Measure HYD-2 as described in the Padre Dam PEIR. Therefore, the impacts related to water quality because of the Padre Dam AWP would be **less than significant**.

Cumulative Impacts

The Padre Dam PEIR evaluated the cumulative water quality impacts of the project on page 6-24. As described therein, the AWP project would result in less-than-significant impacts to water quality with implementation of Mitigation Measures Hyd-1 through Hyd-3, and it **would not have a considerable contribution** to a significant cumulative impact.

Impact Summary

Implementation of General Plan Update policies and mitigation measures, and other plans, policies, laws, and regulations would mitigate impacts relating to erosion, siltation, and flooding risk to a **less-than-significant** level, and ensure that that the project **would not result in a considerable contribution** with implementation of the CAP. The County's participation in the AWP project would result in **less-than-significant** impacts related to drainages, and **would not result in a considerable contribution** to a new significant cumulative impact to drainage.

Regarding local direct investment projects even with implementation of the 2011 GPU policies, 2011 GPU PEIR mitigation measures impacts relating to erosion, siltation, and flooding risk could result because of the uncertainty of types and locations of projects. Therefore, project impacts to erosion, siltation, and flooding risk would be a **potentially significant impact** and these projects **could have a considerable contribution** to a significant cumulative impact.

2.9.4.4 Issue 4: Place Housing or Structures in Flood Hazard Area, Dam Inundation Zone, or Other Flood Hazard

This section describes potential project and cumulative impacts related to hazards related to flooding with implementation of the project.

Guidelines for Determination of Significance

Based on Appendix G of the CEQA Guidelines and the County of San Diego Guidelines for Determining Significance, Hydrology, the project would result in a significant impact if it would:

- Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map;
- Place within a 100-year flood hazard area structures which would impede or redirect flood flows;
- 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; or
- Inundation by seiche, tsunami, or mudflow.

Impact Analysis

2011 GPU PEIR Determination

The 2011 GPU PEIR evaluated impacts related to flood zone hazards with the adoption of the goals and policies contained within the plan and buildout of the land use map, and determined that buildout under the 2011 GPU would result in potentially significant project impacts in the unincorporated County.

Development within a stream floodplain can reduce the capacity of the stream channel to convey water by increasing the stage height (or water level) within the stream and its floodplain at a constant discharge. Additionally, development could result in people and structures being exposed to existing flood risk in areas that could be inundated by flood waters from the failure of a dam or levee breach. Some land use designations under the 2011 GPU, including those which could encompass new or redevelopment projects under the CAP, have the potential to be developed within the 100-year floodplain, or in areas exposed to the risk of failure of existing flood protection structures. The 2011 GPU developed specific measures intended to ensure that existing County policies and regulations intended to reduce impacts associated with structures that impede or redirect flood flows achieved the intended level of environmental protection. Specific policies and mitigation measures related to flooding hazards are listed above under Section 2.9.2, Regulatory Framework. Despite these measures, the 2011 GPU EIR concluded that there was a potentially significant impact associated with dam failure inundation and floodplain

hazards; however, it concluded that with implementation of the 2011 GPU policies and 2011 GPU PEIR mitigation measures, direct and cumulative impacts related to flood hazards would be reduced to less than significant because projects would be expected to comply with applicable federal regulations preventing construction on floodways.

CAP Impact Analysis

Bicycle, Pedestrian, EVCS, and Park-and-Ride Infrastructure; Direct Investment Program; Large-Scale Renewable Energy Infrastructure; Solid Waste; and Agricultural Improvements

Implementation of GHG reduction measures that would result in bicycle, pedestrian, EVCS, park-and-ride, direct investment projects, large-scale renewable energy infrastructure, solid waste facilities, and tree planting projects proposed in effort to achieve GHG reduction measures and supporting efforts would not involve construction of new housing or housing developments; therefore, the CAP will not produce new or exacerbate existing flooding risks associated with housing placement, and there would **no impact** associated with implementation.

Implementation of projects described above have the potential to influence flooding risk, and expose individuals and structures to flood hazards with construction and operation of projects. However, while projects under the CAP would occur at a range of sizes, scales, and locations and would involve a diverse assortment of infrastructure and facilities, all projects described above are discretionary. Therefore, future projects would be required to be evaluated for project-specific impacts under CEQA at the time of application and project-specific mitigation would minimize or eliminate impacts to flood hazards to the extent feasible in compliance with CEQA Guidelines Section 15126.4. Compliance with local and state laws, regulations, plans and policies relating to drainage and flood control would be required, including those listed above in Section 2.9.2. Additionally, all projects proposed for development would be expected to conform with flood risk laws and regulations, including the National Flood Insurance Act, National Flood Insurance Reform Act, and Cobey-Alquist Flood Plain Management Act.

As described on pages 3.1.2-19 through 3.1.2-20 of the 2012 Wind Energy EIR, flood impacts would be less than significant because large-scale wind turbines would be required to undergo a discretionary review to obtain a MUP. The MUP review process requires the submittal of pre-project and post-project drainage information to ensure that drainage patterns are not substantially altered with implementation of the project. All large-scale renewable energy projects are subject to obtaining a MUP which would require compliance with all applicable local, state and federal regulations that mitigate for flood hazards. Therefore, implementation of the project would result in **less-than-significant** impacts related to flood hazards.

Cumulative Impacts

Impacts would be cumulative in nature if the project, in combination with cumulative development, would contribute to regional flood hazards. The methodology for

determining the cumulative environment described in Chapter 1, Project Description, and summarized above Section 2.9.4.1 above applies for this cumulative discussion.

The 2011 GPU PEIR concluded that impacts related to flood hazards resulting from the build-out associated with the General Plan would be reduced with implementation of the 2011 GPU policies and 2011 GPU PEIR mitigation measures listed above, and compliance with applicable state and federal regulations. As described above, implementation of measures that could result in the construction of bicycle, pedestrian, EVCS, park-and-ride, direct investment projects, large-scale renewable energy infrastructure, and solid waste expansion would not result in any significant direct impacts, therefore, the project **would not result in a considerable contribution** to a significant cumulative impact.

Padre Dam Water and Wastewater Supporting Effort

As described in Chapter 1, Project Description, the CAP includes a Water and Wastewater Supporting Effort, that would support participation in the Padre Dam AWP project. The Padre Dam MWD prepared the Padre Dam PEIR and that analysis is hereby incorporated by reference. As described on pages 4.9-30 through 4.9-31 of the Padre Dam PEIR, less-than-significant direct and indirect impacts were identified for drainage patterns. Therefore, the impacts related to water quality because of the Padre Dam AWP would be **less than significant**.

Cumulative Impacts

The Padre Dam PEIR evaluated the cumulative water quality impacts of the project on page 6-25. As described therein, the AWP project would result in less-than-significant impacts to flood hazards, and it **would not have a considerable contribution** to a significant cumulative impact.

Impact Summary

Implementation of 2011 GPU policies and 2011 GPU PEIR mitigation measures, and other plans, policies, laws, and regulations would mitigate impacts relating to flood risk, including dam failure inundation and levee failure to a **less-than-significant** level, and ensure that the project **would not result in a considerable contribution** to a significant water quality impact with implementation of the CAP. The County's participation in the AWP project would result in **less-than-significant** impacts related to flood hazards, and **would not have a considerable contribution** to a new significant cumulative impact to flood hazards.

2.9.5 Mitigation

2.9.5.1 Issue 1: Violate Water Quality Standards, Exceed Stormwater Capacity, or Degrade Water Quality

As described in detail in Section 2.9.4.1, impacts related to water quality would be reduced through the discretionary review process to less than significant for all project types, except

those associated with direct investment projects. Project types that may be considered under the Local Direct Investment Program vary greatly, and locations have not been selected. Projects would be required to undergo discretionary review and mitigate any identified impacts to the extent feasible under CEQA in compliance with CEQA Guidelines Section 15126.4. However, because of the uncertainty of the types, locations, and scale of direct investment projects, it is not possible to guarantee that all impacts to water quality would be reduced to a level below significance. Additional mitigation that would implement a development cap upon direct investment projects that could result in significant impacts to water quality was considered but rejected as infeasible because it may reduce the effectiveness of GHG Reduction Measure T-4.1 and achievement of the County's 2030 GHG emissions reduction target. It is unknown how many numbers and types of direct investment projects would be required to meet the GHG reduction goals of the CAP because the design, siting, and economic feasibility characteristics of the options under consideration vary widely. No other additional feasible mitigation is available.

Where a project would comply with existing regulations and would receive applicable permits from regulatory agencies, it would reduce its project-specific impacts to a less-than-significant level and would reduce its contribution to cumulative impacts such that it would not be considerable. However, the project would have a **significant and unavoidable impact** and a **considerable contribution** to a significant cumulative impact to water quality standards.

Less-than-significant project level impacts were identified within the Padre Dam PEIR as described above in Section 2.9.4.1. The County is not currently relying upon GHG reduction from this Water and Wastewater Supporting Effort. No additional mitigation is required.

2.9.5.2 Issue 2: Groundwater Supplies and Recharge

As described in detail in Section 2.9.4.2, impacts related to groundwater would be reduced through the discretionary review process to but not to a level below significance for large-scale renewable energy and direct investment projects. Project types that may be considered under the Local Direct Investment Program vary greatly, and locations have not been selected. Additionally, the number, scale and locations of large-scale renewable energy projects have not been identified. Projects would be required to undergo discretionary review and mitigate any identified impacts to the extent feasible under CEQA in compliance with CEQA Guidelines Section 15126.4. However, because of the uncertainty of the types, locations, and scale of future renewable energy projects and direct investment projects, it is not possible to guarantee that all impacts to groundwater resources would be reduced to a level below significance. Additional mitigation that would implement a development cap upon direct investment projects that could result in significant impacts to groundwater resources was considered but rejected as infeasible because it may reduce the effectiveness of GHG Reduction Measures T-4.1 and E-2.1 and achievement of the County's 2030 GHG emissions reduction target. It is unknown how many numbers and types of direct investment projects or large-scale renewable energy projects would be required to meet the GHG reduction goals of the CAP because the design, siting, and economic feasibility characteristics of the options under consideration vary widely. No other additional feasible mitigation is available.

Where a project would comply with existing regulations and would receive applicable permits from regulatory agencies, it would reduce its project-specific impacts to a less-than-significant level and would reduce its contribution to cumulative impacts such that it would not be considerable. However, the project would have a **significant and unavoidable impact** and a **considerable contribution** to a significant cumulative impact to groundwater resources.

Less-than-significant project level impacts were identified within the Padre Dam PEIR as described above in Section 2.9.4.1. The County is not currently relying upon GHG reduction from this Water and Wastewater Supporting Effort. No additional mitigation is required.

2.9.5.3 Issue 3: Alter Drainage Pattern of a Site Resulting in Erosion or Siltation, or Flooding

As described in detail in Section 2.9.4.3, impacts related to drainage patterns would be reduced through the discretionary review process to less than significant for all project types, except those associated with direct investment projects. Project types that may be considered under the Local Direct Investment Program measure vary greatly, and locations have not been selected. Projects would be required to undergo discretionary review and mitigate any identified impacts to the extent feasible under CEQA in compliance with CEQA Guidelines Section 15126.4. However, because of the uncertainty of the types, locations, and scale of direct investment projects, it is not possible to guarantee that all impacts to drainage patterns would be reduced to a level below significance. Additional mitigation that would implement a development cap upon direct investment projects that could result in significant impacts to water quality was considered but rejected as infeasible because it may reduce the effectiveness of GHG Reduction Measure T-4.1 and achievement of the County's 2030 GHG emissions reduction target. It is unknown how many numbers and types of direct investment projects would be required to meet the GHG reduction goals of the CAP because the design, siting, and economic feasibility characteristics of the options under consideration vary widely. No other additional feasible mitigation is available.

Where a project would comply with existing regulations and would receive applicable permits from regulatory agencies, it would reduce its project-specific impacts to a less-than-significant level and would reduce its contribution to cumulative impacts such that it would not be considerable. However, the project would have a **significant and unavoidable impact** and a **considerable contribution** to a significant cumulative impact to water quality standards.

Less-than-significant project level impacts were identified within the Padre Dam PEIR as described above in Section 2.9.4.1. The County is not currently relying upon GHG reduction from this Water and Wastewater Supporting Effort. No additional mitigation is required.

2.9.5.4 Issue 4: Place Housing or Structures in Flood Hazard Area, Dam Inundation Zone, or Other Flood Hazard

Project level impacts and contributions to cumulative impacts were determined to be less than significant; therefore, no mitigation measures in addition those identified in the 2011 GPU EIR were discussed or required.

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