

APPENDIX C

AIR QUALITY/ GLOBAL CLIMATE CHANGE ANALYSIS

Prepared for the County of San Diego

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December 2012

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Revised by the County of San Diego

August 2015

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EXECUTIVE SUMMARY

The proposed Project involves a General Plan Amendment (GPA) to re-designate the former Forest Conservation Initiative (FCI) lands to be consistent with the Guiding Principles and Policies of the adopted General Plan. In addition, the Project involves proposed changes in land use designations for approximately 400 acres of private lands adjacent to former FCI lands to ensure that the uses anticipated for these lands are consistent with the changes proposed for the former FCI lands.

This report identifies the overall air quality and global climate change impacts associated with the proposed land use designations for the Project areas, which encompass nine community and sub-regional planning areas, and recommends mitigation measures to reduce potentially significant impacts. This report does not evaluate the detailed impacts of individual Project parcels that may develop within the affected communities. The individual impacts from future development of these parcels will be addressed on a case-by-case basis and reviewed by the County of San Diego when applications are filed.

The results of this air analysis showed that the proposed Project would result in potentially significant direct and cumulative impacts with respect to air quality violations, non-attainment criteria pollutants, sensitive receptors, and global climate change. The Project would implement the same combination of federal, State, and local regulations; existing County regulatory processes; the adopted County General Plan Update goals and policies; and, specific mitigation measures/implementation programs identified in the certified 2011 General Plan Program Environmental Impact Report (2011 General Plan EIR) to reduce these impacts. As with the 2011 General Plan EIR, however, even with the incorporation of these programs, impacts associated with air quality violations, non-attainment criteria pollutants, sensitive receptors, and global climate change would remain significant and unavoidable.

1.0 INTRODUCTION

On August 3, 2011, the County of San Diego Board of Supervisors adopted the County General Plan and certified the corresponding EIR. The land use map changes that occurred under the 2011 General Plan excluded approximately 75,000 acres of private lands within the Cleveland National Forest in the unincorporated County that were formerly designated as FCI lands.

The 2011 General Plan EIR included a number of assumptions for the former FCI lands for assessing potential impacts. For example, the traffic impact analysis generally assumed a density of one dwelling unit per 40 acres (1 dwelling unit/40 acres) for a majority of the affected parcels, consistent with the restrictions imposed by the previous FCI; however, some parcels were assumed at a density of 1 dwelling unit/80 acres. Additionally, for purposes of the cumulative analysis in the 2011 General Plan EIR, general development assumptions were made for the former FCI lands.

The voter-approved initiative in 1993 that required a minimum lot size of 40 acres for the FCI lands expired on December 31, 2010. With its expiration, the former FCI lands reverted to the land use designations in effect before the FCI was enacted. As a result, the 2011 General Plan land use designations and the Guiding Principles and Policies are not consistent with those currently applied to the former FCI lands.

2.0 PROJECT DESCRIPTION

The proposed Project involves a GPA to re-designate these lands to be consistent with the Guiding Principles and Policies of the adopted General Plan. In addition, the Project involves proposed changes in land use designations for approximately 400 acres of private lands adjacent to former FCI lands to ensure that the uses anticipated for these lands are consistent with the changes proposed for the former FCI lands.

The nine community and sub-regional planning areas affected by the proposed Project's land use changes include: Alpine, Central Mountain, Desert, Jamul, Julian, Mountain Empire, North Mountain, Pendleton/De Luz, and Ramona. The GPA is intended to ensure that the Project areas are consistent with the 2011 General Plan land use designations and the Guiding Principles and Policies. This air quality analysis report evaluates the impacts of the change in land use that would apply with buildout of the **Community Planning Group Recommended** Land Use Maps for areas in each of the affected nine community and sub-regional planning areas (These maps are available at the following link: <http://www.sdcountry.ca.gov/pds/advance/FCI.html>).

3.0 AIR QUALITY ANALYSIS OF PROJECT IMPACTS AND DETERMINATION OF SIGNIFICANCE

In general, air quality impacts from development projects are typically the result of emissions from the following general source categories:

- **Stationary sources:** Fuel combustion, waste disposal processes, cleaning and surface coating processes, petroleum production and marketing, and industrial processes
- **Area-wide sources:** Solvent evaporation sources from the use of consumer products and architectural coatings, and miscellaneous processes such as residential fuel combustion and fugitive dust generation
- **Mobile sources:** On-road and off-road vehicles

The Federal Clean Air Act (CAA) required the Environmental Protection Agency (EPA) to establish National Ambient Air Quality Standards (NAAQS), which identify concentrations of pollutants in the ambient air below which no adverse effects on the public health and welfare are anticipated. The CAA allows states to adopt AAQS and other regulations provided they are at least as stringent as federal standards. The California Air Resources Board (CARB) has established the more stringent California Ambient Air Quality Standards (CAAQS) through the California CAA of 1988, and also has established CAAQS for additional pollutants, including sulfates, hydrogen sulfide (H₂S), vinyl chloride and visibility-reducing particles. Areas that do not meet the NAAQS or the CAAQS for a particular pollutant are considered to be “nonattainment areas” for that pollutant.

If buildout occurs according to San Diego Association of Governments’ (SANDAG) projections, and all San Diego Air Pollution Control District (APCD) rules and regulations are adhered to, then new development would not be expected to have a significant air quality impact. If such development, however, results in growth greater than what was anticipated in the SANDAG projections, creates significant traffic impacts, and/or results in substantial grading, then it would need to be evaluated against the NAAQS or CAAQS to determine if it would impede any of the attainment or non-attainment-criteria pollutants (particulate matter in the range of 10 microns [PM₁₀], particulate matter in the range of 2.5 microns [PM_{2.5}], nitrogen dioxide [NO₂], sulfur dioxide [SO₂], volatile organic compounds [VOCs] and nitrous oxides [NO_x], and carbon monoxide[CO])for the San Diego Air Basin (SDAB), and/or if it would create a cumulatively considerable net increase of PM₁₀, PM_{2.5}, or O₃ precursors (consisting [VOCs] and [NO_x]).

3.1 Air Quality Violations/Non-Attainment Pollutants

Guidelines for Determination of Significance

Based on Appendix G of the California Environmental Quality Act (CEQA) Guidelines, and the County of San Diego Guidelines for Determining Significance, Air Quality, the proposed Project would have a significant impact if it would exceed the quantitative screening-level thresholds (SLTs) for the attainment-criteria pollutants (NO₂, SO₂, and CO), and for nonattainment-criteria pollutants (O₃ precursors and particulate matter). Specifically, the proposed Project would result in a significant impact if it would result in:

- a. Emissions that exceed 250 pounds per day of NO_x, or 75 pounds per day of VOCs;

- b. Emissions of CO that, when totaled with the ambient concentrations, will exceed a 1-hour concentration of 20 parts per million (ppm) or an 8-hour average of 9 ppm, or exceed 550 pounds per day of CO, or 100 pounds per year of CO;
- c. Emissions of PM_{2.5} that will exceed 55 pounds per day; or,
- d. Emissions of PM₁₀ that exceed 100 pounds per day and increase the ambient PM₁₀ concentration by 5 micrograms per cubic meter (µg/m³) or greater at the maximum exposed individual.

Impact Analysis

Emissions of Attainment and Non-Attainment Pollutants

Stationary Sources

All new stationary sources would be subject to the APCD's requirements for permitting. Future emissions from stationary sources developed under the Project would be required to demonstrate that they would not contribute to or violate any air quality standards in order to obtain required permits from the APCD. Future development of stationary sources, under the Project, would be required to conduct environmental review pursuant to CEQA prior to approval. To the extent feasible, air quality impacts would be reduced to below a level of significance, consistent with CEQA.

Area-Wide/Mobile Source

Emissions from area-wide and mobile sources associated with buildout under the 2011 General Plan EIR were calculated assuming 71,540 housing units; 480,415,904 square feet of commercial/industrial development; and, 4,899,712 square feet of development on tribal lands. As noted in the 2011 General Plan EIR, such future development would exceed SLTs for PM₁₀, PM_{2.5}, VOCs and NO_x.

The Project would result in development on County FCI lands at a greater density than that which was analyzed in the 2011 General Plan EIR. The 2011 General Plan EIR analyzed the proposed project lands at densities of one dwelling unit per 40 acres. In order to determine potential impacts associated with the Project, an impact analysis can be derived by utilizing the data from the 2011 General Plan and applying a percent ratio to the 2011 General Plan development assumptions to determine the potential air quality impacts associated with the proposed Project.

In order to determine the percent ratio difference, the net increase in projected average daily trips (ADT) from Project buildout was derived from the Project's Traffic Impact Assessment included as Appendix C to this SEIR and included herein as [Table 1, Forecast Trip Generation by Community](#). According to the TIA, the proposed Project would result in a net increase of 114,264 ADT in the buildout scenario. In contrast, the buildout ADT generated under the 2011 General Plan EIR was estimated to be 5,237,405, including truck and non-truck trips. As such, since the proposed Project total ADT represents 2.18 percent of the total 2011 General Plan EIR ADT, the Project would result in mobile source emissions in the buildout scenario equal to 2.18 percent of that evaluated in the 2011 General Plan EIR. Applying the same approach to the buildout housing units and commercial/industrial development to assess area-source emissions, the proposed Project housing and commercial/industrial development represents 3.39 percent

of the total 2011 General Plan EIR housing and commercial/industrial development. As such, the proposed Project would result in area-source emissions in the buildout scenario equal to 3.39 percent of that evaluated in the 2011 General Plan EIR. Therefore, the proposed Project would result in overall (area-wide plus mobile source) emissions in the buildout scenario equal to 5.57 percent of the 2011 General Plan EIR. The same percent approach was applied to determine the project's percent of mitigated emission reductions.

Based on this overall percent ratio difference, Table 2, Area- Wide and Mobile Source Emissions for the Proposed Project indicates that the proposed Project would exceed the SLTs for VOCs, NO_x, CO, PM₁₀, and PM_{2.5} criteria air pollutants, similar to the conclusions reached in the 2011 General Plan EIR. Therefore, the proposed Project would result in potentially significant direct impacts related to area-wide and mobile source emissions of criteria pollutants, and mitigation measures would be required.

**TABLE 1.
FORECAST TRIP GENERATION BY COMMUNITY**

Community	General Plan Update ADT	General Plan Amendment ADT	Net Increase in ADT
Alpine	18,937	127,159	108,222
Central Mountain	13,222	14,863	1,641
Desert	26	26	0
Jamul	804	732	(72)
Julian	4,056	4,612	556
Mountain Empire	216	231	15
North Mountain	11,044	14,704	3,660
Pendleton/De Luz	336	264	(72)
Ramona	2,296	2,610	314
Total	50,937	165,201	114,264

CO "Hot Spots"

CO emissions are the result of the combustion process and therefore primarily associated with mobile source emissions. Impacts related to CO can be analyzed on a non-localized level where emissions are compared to established SLTs. As previously stated and noted in Table 2, CO emissions would be above the CO screening level threshold of 100 tons per day and therefore, non-localized CO emissions would result in a potentially significant air quality impact. CO impacts can also be analyzed on a localized level. Localized CO "hot spots" or pockets where CO concentration exceeds the NAAQS and/or CAAQS are found to occur only at signalized intersections which have severe degradation in traffic flow (i.e., levels of service [LOS] "E" or below and over 3,000 peak-hour trips). Therefore, at those intersections the possibility of microscale CO "hot spots" exists. According to the Project's TIA (see Appendix D, Table D-7), roadways/segments forecast to operate at a deficient LOS (LOS "E" or below) in the buildout year are listed below, and limited to the community of Alpine:

- Alpine Boulevard segments include:
 - Tavern Rd. to Boulders Rd.
 - Boulders Rd. to Alpine Special Treatment Center
 - Alpine Special Treatment Center to W. Victoria Dr.
 - W. Victoria Dr. to Louise Dr.
 - Louise Dr. to Viejas View Pl.
 - Viejas View Pl. to West Willows Rd.
 - West Willows Rd. to eastern end of Willows Road
- South Grade Road (Eltinge Dr. to Olive View Rd.)
- West Willows Road (Alpine Blvd. to Otto Ave./Willows Road)
- Willows Road, segments include:
 - Otto Ave to Viejas Casino Rd.
 - Viejas Casino Rd. east to westbound Interstate 8 on-ramp

Based on the estimated traffic generation from Project buildout, as evaluated in the Project's TIA, none of these roadways/segments would exceed 100,000 ADT, which was the threshold utilized in the 2011 General Plan EIR (and applied to this analysis) above which high concentrated CO (CO "hotspots") would occur. Since CO hotspots are not expected, impacts would be less than significant.

Construction Emissions

Future development under the proposed Project would generate short-term emissions associated with construction activities within the unincorporated County lands, including emissions from off-road equipment, vehicles, fugitive dust from surface disturbance, and architectural coatings. Construction emissions are included in the California Air Resources Board's (CARB's) Almanac under these categories, and the CARB projects a certain amount of construction to occur each year based on growth projections for the region. Since construction emissions for individual projects would be temporary, and the total duration would vary from project to project, such emissions were therefore not modeled. Nevertheless, such emissions would be cumulative in nature, as future construction activities for several projects implementing the GPA could occur simultaneously. As such, the proposed Project would result in a potentially significant cumulative air quality impact with respect to construction-related emissions.

TABLE 2.
AREA-WIDE AND MOBILE SOURCE EMISSIONS FOR THE PROPOSED PROJECT

	VOC	NO _x	CO	SO _x	PM ₁₀	PM _{2.5}
Tons/day (tons/year), Annual Average						
<i>Proposed Project Unmitigated Emissions</i>	232.76	1536.42	269.58	4.69	61.45	32.54
<i>Proposed Project Mitigated Emissions</i>	220.24	1556.67	306.84	4.74	65.45	35.43

	VOC	NO _x	CO	SO _x	PM ₁₀	PM _{2.5}
Tons/day (tons/year), Annual Average						
County of San Diego SLT¹	13.7	40	100	40	15	10
Is threshold exceeded after mitigation	Yes	Yes	Yes	No	Yes	Yes

1. SLTs in the 2011 General Plan EIR are presented as tons/year and have been converted to tons/day for purposes of comparison with the County of San Diego and APCD SLT.

3.2 Sensitive Receptors – Exposure to Toxic Air Contaminants

Toxic Air Contaminants (TACs) are a category of pollutants for which specific NAAQS or CAAQS have not been established. TACs include pollutants known or suspected to cause cancer or other adverse health effects such as respiratory irritation or reproductive effects. The regulatory structure for TACs is different than for criteria pollutants. Regulatory standards for most TACs consider the levels of public health risk from exposure, rather than specific concentrations of the pollutant.

Guidelines for Determination of Significance

Based on Appendix G of the CEQA Guidelines and the County of San Diego Guidelines for Determining Significance, Air Quality, the proposed Project would have a significant impact if it would directly impact a sensitive receptor and result in a cancer risk of greater than 1 in one million without implementation of Toxics Best Available Control Technology (T-BACT), 10 in one million with implementation of T-BACT, or a health hazard index of one or more, consistent with the APCD's Rule 1210 requirements for stationary sources.

Impact Analysis

As established in the 2011 General Plan EIR, current background TAC risks measured in San Diego County are above both the significance threshold of 1 in a million excess cancer risk without T-BACT, and 10 in a million excess cancer risk with application of T-BACT. The risks are mainly attributable to exposure to emissions from on-road vehicles. CARB programs designed to reduce mobile emissions and phase out older vehicles would reduce emissions of these pollutants, but not to less than significant levels, because any additional development associated with the proposed Project would result in a significant unavoidable impact, since the current background risk exceeds the significance threshold.

Since the number of truck trips and other vehicle trips would increase under the proposed Project, emissions of diesel particulates would also increase. The greatest increase in ADT associated with the proposed Project, and therefore increases in TAC emissions, would be concentrated in the Community of Alpine (refer to the Project's TIA). The increase in Project traffic along the identified deficient roadway segments in Alpine would affect existing adjacent sensitive receptors (Table 3). The increase in exposure for the existing sensitive receptors would result in potentially significant emissions of diesel particulate matter. Even though future development under the proposed Project is required to comply with Assembly Bill (AB) 2588, APCD Rule 1210, and CARB standards for diesel engines, and would be required to implement existing County policies and regulations and General Plan goals and policies intended to minimize such impacts to sensitive receptors, specific measures that implement these programs are proposed to ensure that the intended environmental protections are achieved. Therefore, the proposed

Project would result in potentially significant direct impacts to sensitive receptors, and specific implementation programs as provided in the 2011 General Plan EIR are identified as mitigation, and repeated in Section 5.0, Recommendations/Conclusions.

**TABLE 3.
FORECAST PROJECT IMPACTS – GENERAL PLAN UPDATE AMENDMENT**

Roadway	Segment Limits	Sensitive Receptors
Alpine Boulevard	Tavern Rd to Boulders Rd	Julian Charter School
		Alpine Community Center
		Alpine Elementary School
		Alpine Anglican Church
		Alpine Community Day School
Alpine Boulevard	Boulders Rd to Alpine Special Treatment Center	Alpine Special Treatment Center
Alpine Boulevard	Alpine Special Treatment Center to W. Victoria Dr.	Alpine County Library
Alpine Boulevard	W. Victoria Dr to Louise Dr.	Quest Academy
Alpine Boulevard	Louise Dr. to Viejas View Pl	--
Alpine Boulevard	Viejas View Pl to West Willows Rd	--
Alpine Boulevard	West Willows Rd to East Willows Rd	--
South Grade Road	Eltinge Dr to Olive View Rd	--
Tavern Road	Victoria Park Terrace to Alpine Boulevard	Ayers Lodge
Tavern Road	Arnold Way to Huey Ln/White Oak Dr	Joan MacQueen Middle School
		Alpine Lutheran Church
		The Church of Jesus Christ of Latter Day Saints
West Willows Road	Alpine Blvd to Otto Ave/Willows Road	--
Willows Road	Otto Ave to Viejas Casino Rd	--
Willows Road	Viejas Casino Rd. east to I-8 on ramp	--

-- No sensitive receptors identified.

3.3 Cumulative

Cumulative projects in the San Diego region would have the potential to result in a significant cumulative air quality violation associated with nonattainment criteria pollutants and sensitive receptors if, in combination, they would:

- violate any air quality standard or contribute to an existing or projected air quality violation, or
- result in a net increase of any criteria pollutant for which the San Diego Air Basin (SDAB) is in non-attainment, or

- expose sensitive receptors to a substantial concentration of TACs or hazardous air pollutants (HAP)s that would significantly increase cancer risk .

For the purposes of this analysis, the cumulative projects include:

- projections based on adopted general or regional plans;
- projects that were in process or under construction in the County outside the 2011 General Plan process;
- planned development on tribal lands;
- utility improvements;
- transportation improvements; and,
- development projects proposed on lands under the governance of the National Park Service (NPS), NFS, and Bureau of Land Management (BLM).

Any newly proposed or anticipated projects since the August 2011 adoption of the General Plan that may be pertinent to this cumulative analysis are also addressed herein. As previously noted, buildout development under both the 2011 General Plan EIR and proposed Project would result in significant direct impacts related to air quality violations, non-attainment criteria pollutants, and sensitive receptors.

Future development under the proposed Project would increase vehicle trips throughout the unincorporated County and would have the potential to result in an associated air quality violation of the CAAQS or NAAQS from emissions of criteria pollutants. In addition, development of cumulative projects in the region would have the potential to result in new sources of ozone precursors and particulate matter from construction activities. These projects and other cumulative projects in the San Diego region (adjacent counties and federal and State-managed lands) would be required to comply with NAAQS and CAAQS pursuant to CEQA prior to approval. To the extent feasible, some of the air quality impacts would be mitigated consistent with CEQA. However, some impacts may be significant and unavoidable, such as the total area-wide/mobile-source emissions of nonattainment criteria pollutants and GHG emissions. Additionally, cumulative projects in Mexico and Tribal lands would not be required to comply with the NAAQS or CAAQS, and would contribute to the exceedance of these standards. Therefore, cumulative projects in the region would result in a significant cumulative impact associated with air quality violations. In combination with other cumulative projects, the proposed Project's contribution to this significant cumulative impact would be cumulatively considerable.

The construction of cumulative projects would also have the potential to result in new sources of TACs or HAPs, especially diesel particulate matter, related to temporary increases in truck trips to haul construction materials to and from the sites. In addition, new industrial or commercial developments would have the potential to result in permanent increases in truck trips due to project operations. Cumulative projects in the San Diego region (adjacent counties and federal and State-managed lands), as applicable would implement the CARB's recommendations for siting new sensitive receptors, and stationary sources in the SDAB would be required to comply with emission thresholds for TACs or HAPs through APCD's permitting process. However, some cumulative projects are located outside of the SDAB and/or may not be subject to State and local emissions regulations, such as projects located in

Mexico or on Tribal lands. Therefore, cumulative projects in the region would result in a significant cumulative impact associated with sensitive receptors. In combination with other cumulative projects, the proposed Project's contribution to this significant cumulative impact would be cumulatively considerable.

3.4 Air Quality Plans

Guidelines for the Determination of Significance

Based on Appendix G of the CEQA Guidelines, and the County of San Diego Guidelines for Determining Significance, Air Quality, the proposed Project would have a significant impact if it would conflict with or obstruct implementation of the Regional Air Quality Strategies (RAQS), applicable portions of the State Implementation Plan (SIP), and/or any local air quality plans.

Impact Analysis

The General Plan Update Program EIR determined that buildout under the General Plan Update would result in less than significant direct and cumulative impacts related to consistency with air quality plans due to the implementation of a combination of federal, State and local regulations and existing County regulatory processes.

Similar direct and cumulative impacts related to consistency with air quality plans would occur with the proposed Project. As previously noted, the proposed Project would result in an increase in development within the unincorporated County lands resulting in corresponding increases in air pollutant emissions. However, such future development would be required to demonstrate compliance with the strategies and measures adopted as part of the RAQS and SIP during the County's environmental review process for each development application, as well as with the requirements of the County and/or San Diego Air Pollution Control Board (APCD) to reduce emissions of ozone precursors and particulate matter. Because the proposed Project is also required to comply with these same programs, future development of the Project areas addressed in this Air Quality Study would also not result in significant direct and cumulative impacts related to the consistency with air quality plans. Therefore, mitigation would not be required.

3.5 Odors

Guidelines for the Determination of Significance

Based on Appendix G of the CEQA Guidelines, and the County of San Diego Guidelines for Determining Significance, Air Quality, future development under the proposed Project would have a significant impact if it would result in the emission of objectionable odors to a considerable number of persons.

Analysis

The General Plan Update Program EIR determined that buildout under the General Plan would result in less than significant direct and cumulative impacts related to the production of objectionable odors due to the implementation of a combination of federal, State and local regulations; existing County regulatory processes; and adopted General Plan goals and policies. Because the proposed Project is also required to comply with these same programs, future development of the Project areas addressed in this Air Quality

Study would also not result in significant direct and cumulative impacts related to objectionable odors. Therefore, mitigation would not be required.

4.0 GLOBAL CLIMATE CHANGE ANALYSIS OF PROJECT IMPACTS AND DETERMINATION OF SIGNIFICANCE

In general, global climate change refers to any substantial change in measures of climate (such as temperature, precipitation, or wind) lasting decades or longer. Global climate change is cumulative by nature, as it is the result of combined worldwide contributions of greenhouse gases (GHGs) to the atmosphere over many years. State law defines GHGs to include the following compounds: carbon dioxide (CO₂), methane (CH₄), nitrous oxide (N₂O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF₆). The accumulation of GHGs in the atmosphere regulates the earth's temperature. Without the natural heat-trapping effects of GHGs, the earth's temperature would be about 34 degrees Celsius (°C) cooler. However, it is believed that emissions from human activities, such as electricity production and vehicle use, have elevated the concentration of these gases in the atmosphere beyond the level of naturally occurring concentrations.

As global climate change and the effect of GHG emissions are cumulative in nature, the following impacts analysis serves as the proposed Projects' direct and cumulative impact analysis as relates to compliance with AB 32 and potential effects of global climate change on the proposed Project. AB 32 requires that California as a whole reduce GHG emissions by 2020 to 1990 levels. AB 32 directs the California Air Resources Board (ARB) to develop and implement regulations that reduce statewide GHG emissions. The Climate Change Scoping Plan (Scoping Plan) was approved by ARB in December 2008 and outlines California's plan to achieve the GHG reductions required in AB 32. The Scoping Plan contains the primary strategies California will implement to achieve a reduction of 169 million metric tons of carbon dioxide equivalent, or approximately 28% from state projected 2020 emissions levels.

In the Scoping Plan, ARB encourages local governments to adopt a reduction goal for municipal operations emissions and to move toward establishing similar goals for community emissions that parallel the state's commitment to reduce GHGs. The Scoping Plan identifies California's cities and counties as "essential partners" within the overall statewide effort, and recommends that local governments set a GHG reduction target of 15% below 2005–2008 levels by 2020. Although the specific role local governments will play in meeting California's GHG reduction goals is still being defined, they will nonetheless be key players.

4.1 Compliance with AB 32

Guidelines for Determination of Significance

The CARB has authority to regulate GHG emissions as necessary to meet the emission reduction goals of AB 32. This may include establishing GHG emission reduction requirements for new land use projects and recommendations for Statewide GHG significance thresholds for CEQA studies. However, the CARB has not yet acted on either item.

CEQA gives a lead agency the discretion to determine the significance of environmental impacts identified in its CEQA documents. The County of San Diego has approved guidelines for determining significance for determining the significance of GHG impacts. The 2011 General Plan EIR selected achievement of 1990 emission levels by 2020 as the GHG emissions significance threshold. Since the adoption of the General Plan, the County of San Diego also adopted a Climate Action Plan (CAP) to address the issues of growth and climate change, and to safeguard the environment for residents and visitors. The CAP includes strategies that show compliance with CARB's Scoping Plan for local governments, which is to achieve a reduction of 15% below current levels by 2020. Although the CAP has been challenged in court, the policies and measures of the CAP are implemented through existing policies of the adopted General Plan. Implementation of the goals and policies of the General Plan relative to GHG is the mechanism in which the County will utilize to ensure that the proposed project is consistent with AB 32.

The CAP and GHG policies in the General Plan were designed to support the following primary functions:

- Mitigate the impacts of climate change by achieving meaningful greenhouse gas (GHG) reductions within the County, consistent with Assembly Bill (AB) 32, the governor's Executive Order S-3-05, and California Environmental Quality Act (CEQA) guidelines.
- Allow lead agencies to adopt a plan or program that addresses the cumulative impacts of a project.
- Provide a mechanism that subsequent projects may use as a means to address GHG impacts under CEQA, in accordance with the 2011 statement by the Attorney General.
- Comply with the 2011 adopted County General Plan Environmental Impact Report (EIR) Mitigation Measure CC-1.2, Preparation of a Climate Action Plan.

Impact Analysis

As part of the 2011 General Plan EIR, the County of San Diego conducted an inventory of GHG emissions for the unincorporated County for the years 1990, 2006, and 2020. By the year 2020, GHG emissions are projected to increase to 7.1 million metric tons carbon dioxide equivalent (MMT CO_{2e}) (from 5.3 MMT CO_{2e} in 1990) without incorporation of any GHG-reducing policies or mitigation measures. This amount represents an increase of 24 percent over 2006 levels, and a 36 percent increase from estimated 1990 levels. This is considered a potentially significant impact.

As previously noted, the purpose of the proposed Project is to re-designate the former FCI lands to be consistent with the Guiding Principles and Policies of the adopted General Plan and to change land use designations for approximately 400 acres of private lands adjacent to former FCI lands to ensure that the uses anticipated for these lands are consistent with the changes proposed for the former FCI lands. The proposed land use designations would result in development that is consistent with specific General Plan development goals and policies, such as Goal LU-5. Goal LU-5 addresses climate change impacts by creating land use plans and associated development techniques and patterns with the intent of reducing local GHGs to 1990 levels by 2020. The proposed Project would result in an increase in development; however, much of this future growth would be concentrated within town centers, such as in the

community of Alpine, which would preserve existing undeveloped rural areas for the most part. Nevertheless, global climate change and the effect of GHG emissions are cumulative in nature. As such, any additional GHG emissions associated with future development under the proposed Project would further add to the GHG emissions projected for the region. Therefore, in combination with other cumulative projects, the proposed Project's contribution to this significant cumulative impact would be cumulatively considerable.

4.2 Potential Effects of Global Climate Change on the Proposed Project

Guidelines for Determination of Significance

For purposes of this report, the impacts of global climate change on the project would be considered to have a significant effect if future development associated with the proposed Project would be subject to substantial climate-related risks to public health or safety.

Impact Analysis

As noted in the 2011 General Plan EIR, and equally applicable to the proposed Project, climate change impacts that would be most relevant to the unincorporated County are the effects on available water supply, increased frequency of wildfires, increased demand for energy as a result of the greater need for summer cooling, and impacts to public health related to increased heat, air pollution, wildfires, and infectious diseases. The climate system is inherently complex and predictions of effects are likely to be refined as information becomes more readily available. Regardless, impacts that may affect sensitive receptors (e.g., residential, hospitals, schools, day care centers, and playgrounds) and biological resources in the County of San Diego, including those in the proposed Project areas, as a result of climate change are considered potentially significant. Therefore, in combination with other cumulative projects, the effects of global climate change on the region would be cumulatively considerable.

5.0 RECOMMENDATIONS/CONCLUSIONS

5.1 Air Quality

Similar to the 2011 General Plan EIR, the proposed Project would result in potentially significant direct and cumulative impacts associated with air quality violations, non-attainment criteria pollutants, and sensitive receptors. The proposed Project would implement the same County regulatory processes, adopted 2011 General Plan goals and policies, and mitigation measures/implementation programs (repeated later in this section) as identified in the 2011 General Plan EIR to reduce potentially significant air quality impacts. However, even with incorporation of these programs, the Project impacts associated with air quality violations, non-attainment criteria pollutants, and sensitive receptors would remain significant and unavoidable because the County has determined that the following measures are infeasible for the reasons given below, and would therefore not be implemented:

Air Quality Violations and Criteria Air Pollutants

- Require all construction activities to use equipment that is CARB certified Tier 3 or better. This measure could not be accomplished because it would require all construction contractors working within the County to turn over their existing equipment which remains usable, and would require a more stringent emissions standard than implemented by CARB. The CARB is currently implementing regulations that will require turnover of equipment to meet its regulatory standards for large vehicle fleets. The measure would limit which construction contractors would be allowed to work within the County and could result in undue costs to project applicants.
- Prohibit new development that would result in emissions from new vehicle trips that would exceed the screening level thresholds. This measure would result in restrictions on future development in areas identified for increased growth under the proposed Project because, with current vehicle emissions standards, it would severely limit development densities. This would conflict with the project's objective to support a reasonable share of projected regional population growth, because it would prohibit new development in the unincorporated County. In addition, if vehicle trips exceed screening level thresholds but a project is not proposing densities greater than what was expected by the general plan, those trips are accounted for in the RAQS and does not automatically mean the actual ambient air quality standards will be exceeded.
- Prohibit use of architectural coatings or other building materials that may result in emissions of VOCs. Only zero-VOC coatings and building materials would be allowed for use in the County. This measure would result in undue hardship on the entitlement process because most architectural coatings contain some VOCs and the measure would restrict the types of coatings that could be used to a limited type and number of formulations that may not be feasible for all applications. The VOC content in architectural coatings is regulated by the APCD, which has established a phase-in schedule for reduction of VOCs in accordance with the SIP requirements. The measure would also require the County to monitor and enforce the use of architectural coatings at all construction projects within its jurisdiction, which it does not have the funding or staffing available to accomplish.
- Encourage the construction of new development that would result in a reduction of vehicle trips because developers are able to demonstrate that they tie into an existing or planned alternative transportation network, such as transit (bus, train, trolley), bicycle network, walkways, and trails. This measure would result in restrictions on future development in areas identified for increased growth under the proposed Project because not all areas of planned growth have an existing or planned alternative transportation network that new development could tie into. Implementation of this mitigation measure would conflict with the Project objective to reinforce the vitality, local economy and individual character of existing communities by restricting future development to areas with existing alternative transportation networks, which excludes many rural areas.
- Require all applicants to provide on-site renewable energy systems, including solar, wind, geothermal, low-impact hydro power, biomass, and bio-gas. This measure would not be feasible because all applicants may not be able to provide renewable energy systems at all proposed locations. In addition, some energy systems may trigger additional regulatory requirements from

the CPUC or CEC that would make individual projects infeasible to construct. Implementation of this measure would potentially increase infrastructure costs, which would conflict with the Project objective to minimize public costs of infrastructure and services. However, in circumstances where feasible, applicants will be encouraged to provide on-site renewable energy systems.

- Install vegetated roofs that cover at least 50 percent of roof area. This measure would be infeasible because residential and commercial buyers may find vegetated roofs to be undesirable, and it places the burden of developing the vegetated roof on the project applicant. The measure may also add additional monitoring requirements on the County to verify that vegetated roofs are properly maintained.
- Provide a spur at nonresidential projects to use nearby rail for goods movement. This measure would not be feasible because it would depend on the rail system and the availability of rail transit to individual projects, most of which would not be located near railroad networks. Implementation of this measure would conflict with the Project objective to ensure that development accounts for physical constraints, since much of the unincorporated County has limited access to the existing rail system.
- Require the use of locally made building materials for construction projects. This measure would not be feasible because it would severely limit development projects, as some specialized building materials for projects may not be available locally. The measure would also require the County to monitor and enforce building material purchases at construction projects within its jurisdiction, which it does not have the funding or staffing available to accomplish.

Sensitive Receptors

- Require that all off-road or non-road diesel engines, such as those associated with construction or extraction operations, be replaced by an alternative power source, such as electricity. This measure would limit which construction contractors would be allowed to work within the County because not all contractors have alternative power source equipment available and the measure could result in undue costs to the project applicant. Limiting the construction contractors allowed to work within the County would conflict with the Project objective to reinforce the vitality, local economy, and individual character of existing communities while balancing housing, employment and recreational opportunities. In addition, the County cannot monitor and enforce all construction activities within its jurisdiction due to funding and staffing deficiencies and ultimately because CARB has the responsibility of regulating emissions from off-road construction equipment.
- Require all diesel trucks that travel on County roads to be equipped with filters or other devices that would limit diesel emissions to below a significant level. This measure is considered to be infeasible because the County cannot monitor all diesel traffic within its jurisdiction due to funding and staffing deficiencies and ultimately because CARB has the responsibility of regulating emissions from vehicles. Implementing this measure would result in increased public

costs, which would conflict with the Project objective to minimize public costs of infrastructure and services.

Because the measures listed above have been found to be infeasible, impacts would remain significant and unavoidable.

General Plan Update Policies – Air Quality Violations and Criteria Air Pollutants

Implementation of the following policies would reduce Project impacts associated with air quality violations, but not to below a level of significance for the reasons stated above:

- COS-14.1 Land Use Development Form.** Require that development be located and designed to reduce vehicular trips (and associated air pollution) by utilizing compact regional and community-level development patterns while maintaining community character.
- COS-14.2 Villages and Rural Villages.** Incorporate a mixture of uses within Villages and Rural Villages that encourage people to walk, bicycle, or use public transit to reduce air pollution and GHG emissions.
- COS-14.8 Minimize Air Pollution.** Minimize land use conflicts that expose people to significant amounts of air pollutants.
- COS-14.9 Significant Producers of Air Pollutants.** Require projects that generate potentially significant levels of air pollutants and/or GHGs such as quarries, landfill operations, or large land development projects to incorporate renewable energy, and the best available control technologies and practices into the project design.
- COS-14.10 Low-Emission Construction Vehicles and Equipment.** Require County contractors and encourage other developers to use low-emission construction vehicles and equipment to improve air quality and reduce GHG emissions.
- COS-15.1 Design and Construction of New Buildings.** Require that new buildings be designed and constructed in accordance with “green building” programs that incorporate techniques and materials that maximize energy efficiency, incorporate the use of sustainable resources and recycled materials, and reduce emissions of GHGs and toxic air contaminants.
- COS-15.3 Green Building Programs.** Require all new County facilities and the renovation and expansion of existing County buildings to meet identified “green building” programs that demonstrate energy efficiency, energy conservation, and renewable technologies.
- COS-15.4 Title 24 Energy Standards.** Require development to minimize energy impacts from new buildings in accordance with or exceeding Title 24 energy standards.
- COS-15.5 Energy Efficiency Audits.** Encourage energy conservation and efficiency in existing development through energy efficiency audits and adoption of energy saving measures resulting from the audits.

- COS-16.2** **Single-Occupancy Vehicles.** Support transportation management programs that reduce the use of single-occupancy vehicles.
- COS-16.3** **Low-Emissions Vehicles and Equipment.** Require County operations and encourage private development to provide incentives (such as priority parking) for the use of low- and zero-emission vehicles and equipment to improve air quality and reduce GHG emissions. [Refer also to PolicyM-9.3 (Preferred Parking) in the Mobility Element.]
- COS-20.3** **Regional Collaboration.** Coordinate air quality planning efforts with federal and State agencies, SANDAG, and other jurisdictions.

Mitigation Measures –Air Quality Violations and Criteria Air Pollutants

Implementation of the following mitigation measures would reduce Project impacts associated with air quality violations, but not to below a level of significance for the reasons stated above:

- Air-2.1** Provide incentives such as preferential parking for hybrids or alternatively fueled vehicles such as compressed natural gas (CNG) vehicles or hydrogen- or electric-powered vehicles. The County shall also establish programs for priority or free parking on County streets or in County parking lots for hybrids or alternatively fueled vehicles.
- Air-2.2** Replace existing vehicles in the County fleet as needed with the cleanest vehicles commercially available that are cost-effective and meet vehicle use needs.
- Air-2.3** Implement transportation fleet fueling standards to improve the number of alternatively fueled vehicles in the County fleet.
- Air-2.4** Provide incentives to promote the siting or use of clean air technologies where feasible. These technologies shall include, but not be limited to, fuel cell technologies, renewable energy sources, and hydrogen fuel.
- Air-2.5** Require that the following measures be implemented on all construction projects where project emissions are above the SLTs:
- Multiple applications of water during grading between dozer/scrapper passes
 - Paving, chip sealing or chemical stabilization of internal roadways after completion of grading
 - Use of sweepers or water trucks to remove “track-out” at any point of public street access
 - Termination of grading if winds exceed 25 miles per hour
 - Stabilization of dirt storage piles by chemical binders, tarps, fencing or other erosion control
 - Use of low-sulfur fuels in construction equipment

- Use of low-VOC paints
- Projects exceeding SLTs will require ten percent of the construction fleet to use any combination of diesel catalytic converters, diesel oxidation catalysts, diesel particulate filters and/or CARB certified Tier I, II, III, IV equipment. Equipment is certified if it meets emission standards established by the EPA for mobile non-road diesel engines of almost all types. Standards established for hydrocarbons, oxides of nitrogen (NO_x), carbon monoxide, and particulate matter. Tier I standards are for engines over 50 hp (such as bulldozers) built between 1996 and 2000, and engines under 50 hp (such as lawn tractors) built between 1999 and 2000. Tier II standards are for all engine sizes from 2001 to 2006, and Tier III standards are for engines rated over 50 hp from 2006 to 2008 (EPA 1998). Tier IV standards apply to engines of all sizes built in 2008 or later. Standards are increasingly stringent from Tier I to Tier IV (EPA 2004).

- Air-2.6** Use County Guidelines for Determining Significance for Air Quality to identify and mitigate adverse environmental effects on air quality.
- Air-2.7** Implement County Air Pollution Control District (APCD) regulations for air emissions from all sources under its jurisdiction.
- Air-2.8** Require new source review (NSRs) to prevent permitting projects that are “major sources.”
- Air-2.9** Implement the Grading, Clearing, and Watercourses Ordinance by requiring all clearing and grading to be conducted with dust control measures
- Air-2.10** Revise Board Policy F-50 to strengthen the County’s commitment and requirement to implement resource-efficient design and operations for County-funded renovation and new building projects. This could be achieved by making the guidelines within the policy mandatory rather than voluntary.
- Air-2.11** Implement County Regional Air Quality Strategy (RAQS) to attain State air quality standards for O₃.
- Air-2.12** Revise Board Policy G-15 to require County facilities to comply with Silver Leadership in Energy and Environmental Design (LEED) standards or other equivalent Green Building rating systems.
- Air-2.13** Revise Board Policy G-16 to require the County to:
- Adhere to the same or higher standards it would require from the private sector when locating and designing facilities concerning environmental issues and sustainability; and

- Require government contractors to use low emission construction vehicles and equipment.

Mitigation Measures – Sensitive Receptors

Implementation of the following mitigation measure would reduce Project impacts to sensitive receptors, but not to below a level of significance for the reasons stated above:

- Air-4.1** Use the policies set forth in the CARB’s Land Use and Air Quality Handbook (CARB 2005) as a guideline for siting sensitive land uses. Implementation of this measure will ensure that sensitive land uses such as residences, schools, day care centers, playgrounds, and medical facilities are sited appropriately to minimize exposure to emissions of TACs.

5.2 Global Climate Change

Future development under the proposed Project would contribute to GHG emissions resulting in a potentially significant cumulative impact. While the State’s commitment to AB 32 provides some assurances that GHG reduction efforts will come to fruition, they are beyond the authority of the County. Because climate change is a global issue, the efforts made by the County, and even the State, to reduce GHG emissions will not avoid the consequences of excessive GHG emissions throughout the world. Nevertheless, the County has committed to achieving the 1990 emission levels by 2020. The Project supports this commitment through implementation of the same policies and mitigation measures/implementation programs as identified in 2011 General Plan EIR (and repeated below), which would reduce impacts related to AB 32 and effects of global climate change to below a level of significance.

General Plan Policies

- COS-10.7: Recycling of Debris.** Encourage the installation and operation of construction and demolition (C&D) debris recycling facilities as an accessory use at permitted (or otherwise authorized) mining facilities to increase the supply of available mineral resources.
- COS-15.1: Design and Construction of New Buildings.** Require that new buildings be designed and constructed in accordance with “green building” programs that incorporate techniques and materials that maximize energy efficiency, incorporate the use of sustainable resources and recycled materials, and reduce emissions of GHGs and toxic air contaminants.
- COS-15.2: Upgrade of Existing Buildings.** Promote and, as appropriate, develop standards for the retrofit of existing buildings to incorporate architectural features, heating and cooling, water, energy, and other design elements that improve their environmental sustainability and reduce GHG.

- COS-15.3: Green Building Programs.** Require all new County facilities and the renovation and expansion of existing County buildings to meet identified “green building” programs that demonstrate energy efficiency, energy conservation, and renewable technologies.
- COS-17.1: Reduction of Solid Waste Materials.** Reduce greenhouse gas emissions and future landfill capacity needs through reduction, reuse, or recycling of all types of solid waste that is generated. Divert solid waste from landfills in compliance with State law.
- COS-17.5: Methane Recapture.** Promote efficient methods for methane recapture in landfills and the use of composting facilities and anaerobic digesters and other sustainable strategies to reduce the release of GHG emissions from waste disposal or management sites and to generate additional energy such as electricity.
- COS-18.2: Energy Generation from Waste.** Encourage use of methane sequestration and other sustainable strategies to produce energy and/or reduce GHG emissions from waste disposal or management sites.
- COS-20.1: Climate Change Action Plan.** Prepare, maintain, and implement a climate change action plan with a baseline inventory of GHG emissions from all sources, GHG emissions reduction targets and deadlines, and enforceable GHG emissions reduction measures.
- COS-20.2: GHG Monitoring and Implementation.** Establish and maintain a program to monitor GHG emissions attributable to development, transportation, infrastructure, and municipal operations and periodically review the effectiveness of and revise existing programs as necessary to achieve GHG emission reduction objectives.
- COS-20.4: Public Education.** Continue to provide materials and programs that educate and provide technical assistance to the public, development professionals, schools, and other parties regarding the importance and approaches for sustainable development and reduction of GHG emissions.

Mitigation Measures

- CC-1.1** Update the County Green Building Program to increase effectiveness of encouraging incentives for development that is energy efficient and conserves resources through incentives and education.
- CC-1.3** Work with SANDAG to achieve regional goals in reducing GHG emissions associated with land use and transportation.
- CC-1.4** Review traffic operations to implement measures that improve flow and reduce idling such as improving traffic signal synchronization and decreasing stop rate and time.
- CC-1.5** Coordinate with the San Diego County Water Authority and other water agencies to better link land use planning with water supply planning with specific regard to potential

impacts from climate change and continued implementation and enhancement of water conservation programs to reduce demand. Also support water conservation pricing (e.g., tiered rate structures) to encourage efficient water use.

- CC-1.6** Implement and expand County-wide recycling and composting programs for residents and businesses. Require commercial and industrial recycling.
- CC-1.7** Incorporate the California ARB's recommendations for a climate change CEQA threshold into the County Guidelines for Determining Significance for Climate Change. These recommendations will include energy, waste, water, and transportation performance measures for new discretionary projects in order to reduce GHG emissions. Should the recommendation not be released in a timely manner, the County will prepare its own threshold.
- CC-1.8** Revise County Guidelines for Determining Significance based on the Climate Change Action Plan. The revisions will include guidance for proposed discretionary projects to achieve greater energy, water, waste, and transportation efficiency.
- CC-1.9** Coordinate with APCD, SDG&E, and the California Center for Sustainable Energy to research and possibly develop a mitigation credit program. Under this program, mitigation funds will be used to retrofit existing buildings for energy efficiency to reduce GHG emissions.
- CC-1.10** Continue to implement the County Groundwater Ordinance, Watershed Protection Ordinance (WPO), Resource Protection Ordinance (RPO), MSCP and prepare MSCP Plans for North and East County in order to further preserve wildlife habitat and corridors, wetlands, watersheds, groundwater recharge areas and other open space that provide carbon sequestration benefits and to restrict the use of water for cleaning outdoor surfaces and vehicles. The WPO also implements low-impact development practices that maintain the existing hydrologic character of the site to manage storm water and protect the environment. (Retaining storm water runoff on-site can drastically reduce the need for energy-intensive imported water at the site.)
- CC-1.11** Revise the Ordinance Relating to Water Conservation for Landscaping to further water conservation to:
- Create water-efficient landscapes and use water-efficient irrigation systems and devices, such as soil moisture-based irrigation controls.
 - Use reclaimed water for landscape irrigation.
 - Restrict watering methods (e.g., prohibit systems that apply water to non-vegetated surfaces) and control runoff.
 - Provide education about water conservation and available programs and incentives.

- CC-1.12** Continue to coordinate with resource agencies, CALFIRE, and fire districts to minimize potential wildfire risks in the County and to plan for the potential increase in future risk that may result from Climate Change.
- CC-1.13** Continue to implement and revise as necessary the Regional Trails Plan as well as the Community Trails Master Plan to connect parks and publicly accessible open space through shared pedestrian/bike paths and trails to encourage walking and bicycling.
- CC-1.14** Provide public education and information about options for reducing greenhouse gas emissions. In addition to addressing land development, education should also address purchasing, conservation, and recycling.
- CC-1.15** Reduce VMT and encourage alternative modes of transportation by implementing the following measures:
- During Community Plan updates, establish policies and design guidelines that: encourage commercial centers in compact walkable configurations and discourage “strip” commercial development
 - Expand community bicycle infrastructure.
 - Revise the Off-Street Parking Design Manual to include parking placement concepts that encourage pedestrian activity and concepts for providing shared parking facilities.
 - Establish comprehensive planning principles for transit nodes such as the Sprinter Station located in North County Metro.
 - Continue to locate County facilities near transit facilities whenever feasible.
 - Coordinate with SANDAG, Caltrans, and tribal governments to maximize opportunities to locate park and ride facilities.
 - Continue to coordinate with SANDAG, Caltrans, and transit agencies to expand the mass transit opportunities in the unincorporated county and to review the location and design of transit stops. Establish a DPLU transit coordinator to ensure land use issues are being addressed.
 - Update the Zoning Ordinance to require commercial, office, and industrial development to provide preferred parking for carpools, vanpools, electric vehicles, and flex cars.
- CC-1.16** Develop and implement a Strategic Energy Plan to increase energy efficiency in existing County buildings and set standards for any new County facilities that will ultimately reduce GHG emissions. This will include implementation of the following measures as will be detailed within the Plan:

- Improve energy efficiency within existing operations through retrofit projects, updated purchasing policies, updated maintenance/operations standards, and education.
- Improve energy efficiency of new construction and major renovations by applying design criteria and participating in incentive programs.
- Provide energy in a reliable and cost-effective manner and utilize renewable energy systems where feasible.
- Monitor and reduce energy demand through metering, building controls, and energy monitoring systems.
- Increase County fleet fuel efficiency by acquiring more hybrid vehicles, using alternative fuels, and by maintaining performance standards for all fleet vehicles.

CC-1.17 Develop and implement a County Operations Recycling Program. This will include implementation of the following measures as will be detailed within the Program:

- Reuse and recycle construction and demolition waste (including, but not limited to, soil, vegetation, concrete, lumber, metal, and cardboard).
- Provide interior and exterior storage areas for recyclables and green waste and adequate recycling containers located in public areas.
- Recover by-product methane to generate electricity.
- Provide education and publicity about reducing waste and available recycling services.

CC-1.18 Develop and implement a County Operations Water Conservation Program.

CC-1.19 Revise the Zoning Ordinance to facilitate recycling salvaged concrete, asphalt, and rock.