4.6 GREENHOUSE GAS EMISSIONS AND CLIMATE CHANGE

The following section includes a summary of climate change, and addresses how the project would contribute to GHG emissions. Emission rates were generated using standard emission factors and the CalEEMod modeling program, as applicable. CalEEMod data sheets and other emission calculations are included in the Air Quality and GHG Emissions Appendix (Appendix C). This analysis attempts to provide a reasonable worst-case scenario of potential air emissions resulting from construction and operation of the project, and recommends mitigation to reduce those impacts to a less than significant level where feasible.

4.6.1 Existing Conditions

Climate change refers to any substantial change in measures of climate (such as temperature or precipitation) lasting for an extended period (decades or longer). Climate change may result from natural factors and processes or from human activities (US EPA 2014).

GHGs trap heat (energy) in the lower part of the atmosphere, also known as the "Greenhouse Effect." As GHGs accumulate, more heat is trapped. This extra heat leads to higher air temperatures near the Earth's surface, alters weather patterns, and raises the temperature of the oceans. As defined in AB 32, the California Global Warming Solutions Act of 2006, GHGs include the following gases: carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF_6), and nitrogen trifluoride (NF_3). A brief summary of each GHG is summarized below (US EPA 2014).

- **Carbon dioxide.** CO_2 is primarily emitted through the burning of fossil fuels (oil, natural gas, and coal), solid waste, trees, and wood products. Changes in land use also contribute. Deforestation and soil degradation add CO_2 to the atmosphere, while forest regrowth takes it out of the atmosphere (also known as carbon sequestration).

- **Methane.** CH_4 is emitted during the production and transport of coal, natural gas, and oil. Methane emissions also result from livestock, agricultural practices, and the anaerobic decay of organic waste in landfills. This gas remains in the atmosphere for 12 years.

- **Nitrous oxide.** N_2O is emitted during agricultural and industrial activities, and during combustion of fossil fuels and solid waste. This gas remains in the atmosphere for 121 years.

- **Fluorinated gases.** HFCs, PFCs, SF_6, and NF_3 do not occur naturally, and are emitted from industrial processes and commercial and household uses. These gases remain in the atmosphere for a few weeks to thousands of years.

In California, the main sources of GHG emissions are from the transportation and energy sectors. According to the CARB GHG emission inventory for 2012, 36% of GHG emissions result from transportation and 21% of GHG emissions result from electricity generation. California produced 459 million metric tons of CO_2 equivalent ($MMtCO_2e$) in 2012 (CARB 2014a). Between 2000-2012, GHG emissions have decreased by 1.6% (CARB 2014b).

The US EPA's Climate Change Indicators report (US EPA 2014) presents 30 indicators of long-term trends related to the causes and effects of climate change, the significance of the changes, and the possible consequences for people, the environment, and society. These indicators are

categorized as GHGs, weather and climate, oceans, snow and ice, health and society, and ecosystem. Indicators are summarized below.

- **U.S. Greenhouse Gas Emissions.** In the U.S., GHG emissions caused by human activities increased by 5% from 1990 to 2012. Since 2005, total U.S. GHG emissions have decreased by 10%. Carbon dioxide accounts for most of the nation's emissions and most of the increase since 1990. Electricity generation is the largest source of GHG emissions in the United States, followed by transportation. Emissions per person have decreased slightly in the last few years.

- **Atmospheric Concentrations of Greenhouse Gases.** Concentrations of carbon dioxide and other GHGs in the atmosphere have increased since the beginning of the industrial era, and a majority of the increase is attributable to human activities. Historical measurements show that current levels of many GHGs are higher than any levels recorded for hundreds of thousands of years, even after accounting for natural fluctuations.

- **Climate Forcing.** Climate forcing refers to a change in the Earth's energy balance, leading to either a warming or cooling effect. Since 1990, the total warming effect from GHGs added by humans to the Earth's atmosphere increased by 34%. The warming effect associated with carbon dioxide alone increased by 27%.

- **U.S. and Global Temperature.** Average temperatures have risen across the contiguous 48 states since 1901, with an increased rate of warming over the past 30 years. Seven of the top 10 warmest years on record have occurred since 1998. Average global temperatures show a similar trend, and the top 10 warmest years on record worldwide have all occurred since 1998. Within the United States, temperatures in parts of the North, the West, and Alaska have increased the most.

- **High and Low Temperatures.** Many extreme temperature conditions are becoming more common. Since the 1970s, unusually hot summer temperatures have become more common in the United States, and heat waves have become more frequent—although the most severe heat occurred during the "Dust Bowl" in the 1930s. Record-setting daily high temperatures have become more common than record lows. The decade from 2000 to 2009 had twice as many record highs as record lows.

- **U.S. and Global Precipitation.** Total annual precipitation has increased in the United States and over land areas worldwide. Since 1901, precipitation has increased at an average rate of 0.5% per decade in the contiguous 48 states and 0.2% per decade over land areas worldwide. However, shifting weather patterns have caused certain areas, including California, to experience less precipitation than usual.

- **Heavy Precipitation.** In recent years, a higher percentage of precipitation in the United States has come in the form of intense single-day events. Nationwide, nine of the top 10 years for extreme one-day precipitation events have occurred since 1990. The occurrence of abnormally high annual precipitation totals (as defined by the National Oceanic and Atmospheric Administration) has also increased.

- **Drought.** Average drought conditions across the nation have varied since records began in 1895. The 1930s and 1950s saw the most widespread droughts, while the last 50 years have generally been wetter than average. The southwestern United States is

particularly sensitive to changes in temperature and thus vulnerable to drought, as even small decreases in water availability can threaten natural systems and society. In California, Governor Jerry Brown declared a Drought State of Emergency in January 2014, and directed state officials to take all necessary actions to prepare for water shortages. This has resulted in both mandatory and voluntary water restrictions across the state.

- **Ocean Heat.** The amount of heat stored in the ocean has increased substantially since the 1950s. Ocean heat content not only determines sea surface temperature, but also affects sea level and currents.

- **Sea Level.** When averaged over all the world's oceans, sea level has increased at a rate of roughly six-tenths of an inch per decade since 1880. The rate of increase has accelerated in recent years to more than an inch per decade. Changes in sea level relative to the land vary by region.

- **Ocean Acidity.** The ocean has become more acidic over the past few centuries because of increased levels of atmospheric carbon dioxide, which dissolves in the water. Higher acidity affects the balance of minerals in the water, which can make it more difficult for certain marine animals to build their skeletons and shells.

- **Heating and Cooling Degree Days.** As the U.S. climate has warmed in recent years, heating degree days have decreased and cooling degree days have increased overall, suggesting that Americans need to use less energy for heating and more energy for air conditioning.

- **Heat-Related Deaths.** Over the past three decades, nearly 8,000 Americans were reported to have died as a direct result of heat-related illnesses such as heat stroke. The annual death rate is higher when accounting for other deaths in which heat was reported as a contributing factor. Considerable year-to-year variability in the data and certain limitations of this indicator make it difficult to determine whether the United States has experienced long-term trends in the number of deaths classified as "heat-related."

- **Length of Growing Season.** The average length of the growing season in the contiguous 48 states has increased by nearly two weeks since the beginning of the 20th century. A particularly large and steady increase has occurred over the last 30 years. The observed changes reflect earlier spring warming as well as later arrival of fall frosts. The length of the growing season has increased more rapidly in the West than in the East.

- **Ragweed Pollen Season.** Warmer temperatures and later fall frosts allow ragweed plants to produce pollen later into the year, potentially prolonging the allergy season for millions of people. The length of ragweed pollen season has increased at 10 out of 11 locations studied in the central United States and Canada since 1995. The change becomes more pronounced from south to north.

- **Wildfires.** Since 1983, the United States has had an average of 72,000 recorded wildfires per year. Of the 10 years with the largest acreage burned, nine have occurred since 2000, with many of the largest increases occurring in western states. The proportion of burned land suffering severe damage each year has ranged from 5 to 22%.

- **Streamflow.** Changes in temperature, precipitation, snowpack, and glaciers can affect the rate of streamflow and the timing of peak flow. Over the last 73 years, minimum, maximum, and average flows have changed in many parts of the country—some higher, some lower. Nearly half of the rivers and streams measured show peak winter-spring runoff happening at least five days earlier than it did in the mid-20th century.

- **Bird Wintering Ranges.** Some birds shift their range or alter their migration habits to adapt to changes in temperature or other environmental conditions. Long-term studies have found that bird species in North America have shifted their wintering grounds northward by an average of more than 40 miles since 1966, with several species shifting by hundreds of miles. On average, bird species have also moved their wintering grounds farther from the coast, consistent with inland winter temperatures becoming less severe.

- **Leaf and Bloom Dates.** Leaf growth and flower blooms are examples of natural events whose timing can be influenced by climate change. Observations of lilacs and honeysuckles in the contiguous 48 states suggest that first leaf dates and bloom dates show a great deal of year-to-year variability. Leaf and bloom events are generally happening earlier throughout the North and West.

4.6.2 Regulatory Setting

Federal Policies and Regulations

On October 30, 2009, the US EPA published the Mandatory Reporting Rule (codified in 40 Code of Federal Regulations [CFR] Part 98), which requires mandatory reporting of GHG emissions from large sources and suppliers in the United States In general, suppliers of fossil fuels or industrial GHGs, manufacturers of vehicles and engines, facilities that inject CO2 underground, and facilities that emit 25,000 metric tons or more per year of CO_2e emissions are required to submit annual reports to the US EPA.

On December 7, 2009, the US EPA Administrator signed two findings regarding GHGs. The first finds that the current and projected concentrations of the six key well-mixed GHGs in the atmosphere (CO_2, CH_4, N_2O, HFCs, PFCs, and SF_6) threaten the public health and welfare of current and future generations. The second finds that the combined emissions of these well-mixed GHGs from new motor vehicles and new motor vehicle engines contribute to the GHG pollution that threatens public health and welfare. The CAA requires every engine and motor vehicle within the chain of commerce in the United States to meet a set of emission standards and conformity requirements. Anyone wishing to sell an engine or vehicle within the United States must demonstrate compliance with the CAA and all applicable US EPA regulations. Upon adequate representation of conformity by the manufacturer and possibly confirmatory testing by US EPA, US EPA may issue a Certificate of Conformity which provides authorization for production and sales within the United States.

State Policies and Regulations

The California CAA was signed into law in September of 1988. It requires all areas of the state to achieve and maintain the California ambient air quality standards by the earliest practicable date. These standards are generally more stringent than the Federal CAA standards; thus, emission controls to comply with the State law will generally be sufficient to comply with the Federal standards as well. The California CAA requires that all APCDs adopt and enforce regulations to achieve and maintain the state ambient air quality standards for the area under its

jurisdiction. Pursuant to the requirements of the law, the SLOAPCD has adopted the CAP for San Luis Obispo County, which undergoes subsequent updates as required.

The California Global Warming Solutions Act of 2006 (AB 32, Health and Safety Code §38500 et seq.) requires the CARB to design and implement emission limits, regulations, and other measures. These will reduce, by 2020, statewide GHG emissions in a technologically feasible and cost-effective manner to 1990 levels (representing a 25% reduction). The following summarizes the process and schedule for implementing AB 32 (CARB 2014c):

- June 30, 2007: CARB publishes a list of discrete early action GHG emission reduction measures that can be implemented prior to the measures and limits to be adopted to meet the 2020 limit.
- September 7, 2007: CARB released a list of additional early action measures and discrete early actions.
- January 1, 2008: CARB determines what the statewide GHG emissions level was in 1990 and approves a statewide GHG limit that is equivalent to that level.
- January 1, 2008: CARB adopts regulations requiring the reporting and verification of statewide GHG emissions.
- January 1, 2009: CARB adopts a scoping plan for achieving the maximum technologically feasible and cost-effective reductions in GHG emissions from sources or categories of sources of GHGs by 2020.
- January 1, 2010: CARB adopts and enforces regulations to implement the GHG emission reduction measures identified on the early action list in 2007.
- January 1, 2011: CARB adopts regulations to achieve the required reduction of GHG emissions to 1990 levels by 2020.
- January 1, 2012: GHG emission limits and emission reduction measures adopted by January 1, 2011, become enforceable.
- November 14, 2012: CARB holds its first quarterly auction of GHG emissions allowances as part of the Cap-and-Trade program.
- January 1, 2013: Cap-and-Trade program begins with a GHG emissions cap that will decline over time.
- September 17, 2013: CARB issues first carbon offset credits as part of the Cap-and-Trade program.
- May 22, 2014: CARB approves First Update to the Climate Change Scoping Plan.

SB 97, signed in August 2007, required the California Office of Planning and Research to develop, and the Natural Resources Agency to adopt, amendments to the CEQA Guidelines addressing the analysis and mitigation of GHG emissions. Those CEQA Guidelines amendments clarified several points, including the following:

- Lead agencies must analyze the GHG emissions of proposed projects, and must reach a conclusion regarding the significance of those emissions. (CEQA Guidelines §15064.4)

- When a project's GHG emissions may be significant, lead agencies must consider a range of potential mitigation measures to reduce those emissions. (CEQA Guidelines §15126.4(c))

- Lead agencies must analyze potentially significant impacts associated with placing projects in hazardous locations, including locations potentially affected by climate change. (CEQA Guidelines §15126.2(a))

- Lead agencies may significantly streamline the analysis of GHGs on a project level by using a programmatic GHG emissions reduction plan meeting certain criteria. (CEQA Guidelines §15183.5(b))

- CEQA mandates analysis of a proposed project's potential energy use (including transportation-related energy), sources of energy supply, and ways to reduce energy demand, including through the use of efficient transportation alternatives (CEQA Guidelines, Appendix F)

As part of the administrative rulemaking process, the Natural Resources Agency developed a Final Statement of Reasons explaining the legal and factual bases, intent, and purpose of the CEQA Guidelines amendments. Other rulemaking documents can be accessed on the Natural Resources Agency's rulemaking website (http://ceres.ca.gov/ceqa/guidelines/). The amendments to the CEQA Guidelines implementing SB 97 became effective on March 18, 2010.

Local Policies and Regulations

Local efforts to quantify and reduce GHG emissions have primarily been undertaken by the SLOAPCD. Many of the programs currently implemented by SLOAPCD to reduce emissions and exposure to criteria and toxic air pollutants may also reduce GHG emissions. The following is a brief summary of these programs:

- **Rules and Regulations:** Numerous rules adopted by the County Board of Supervisors and implemented by SLOAPCD to address criteria pollutant emissions also have the side benefit of reducing GHGs. For instance, several SLOAPCD rules address conventional emissions from combustion sources such as boilers, heaters, and engines that often result in equipment modifications or replacement that improves the energy efficiency of those units and reduces fossil fuel use. Similarly, rules that regulate or prohibit open burning activities reduce CO_2 emissions from that activity. SLOAPCD Rule 426 regulates landfill emissions of methane.

- **Clean Fuels:** SLOAPCD is actively involved in and supports the efforts of C5, a local nonprofit coalition which promotes the use of cleaner alternative fuel technologies. With over 40% of the GHG emissions coming from mobile sources, these efforts are an essential tool in reducing fossil fuel use and associated CO_2 emissions.

- **Development Review:** Through the CEQA review process, SLOAPCD evaluates impacts from land use development projects and recommends measures to reduce emissions. Mitigation measures focus on reducing emissions from motor vehicles and improving energy efficiency, both of which directly reduce criteria pollutants and GHGs.

Such strategies include incorporation of energy efficiency measures (increased insulation, high efficiency appliances and lighting, passive and active solar systems, etc.) that go beyond current building standards, and including Smart Growth principles into the project design to reduce vehicle trips and increase the viability of alternative transportation.

- **Grant Programs:** Many emission reduction projects funded through the various grant programs administered by SLOAPCD result in replacement or retrofit of older, high emission engines with cleaner and more efficient engines that simultaneously reduce fuel use, thus reducing CO_2 emissions. Conversion of stationary and mobile diesel engines to natural gas or electric motors also serves to reduce CO_2 emissions.

- **Transportation Choices Program:** In partnership with San Luis Obispo Regional Rideshare, Ride-On, and SLOAPCD, the TCP is a free program offered to businesses and organizations throughout San Luis Obispo County to reduce employee and student commute trips and promote the use of alternative transportation.

- **Pollution Prevention:** The Pollution Prevention Program promotes the use of, and publicly recognizes small businesses which successfully employ, pollution prevention and emission reduction techniques as part of routine operating procedures. Many of the businesses so recognized have incorporated operational changes that reduce their emissions through efficiency improvements that also reduce fuel and product use and save energy.

- **Public Outreach:** SLOAPCD implements a number of outreach campaigns to promote a variety of clean air programs, including backyard burning reduction programs, clean car awareness, pollution prevention, energy efficiency, and transportation alternatives, all of which promote community consciousness and lifestyle choices that can help reduce our impacts on climate change."

The County has prepared an EnergyWise Plan (Climate Action Plan) – Designing Energy and Climate Solutions for the Future. This plan identifies strategies to reduce the county's GHG emissions by 15% below the baseline year of 2006 by the year 2020. This goal is consistent with AB 32. The plan includes the following:

- Scientific and regulatory framework for addressing climate change and GHGs at the local level.

- Identifies sources of GHG emissions from sources within the unincorporated county and estimates how these emissions may change over time.

- Forecasts emissions to reflect the County's desired growth projections without regulatory or technical intervention to reduce GHG emissions and provides an emissions reduction target consistent with AB 32 and the County's General Plan.

- Provides energy use, transportation, land use, water use, and solid waste strategies to reduce San Luis Obispo County's GHG emissions and quantifies the potential emissions reductions that will be achieved by implementing each strategy.

- Identifies existing and proposed strategies to reduce emissions from County operations and facilities.

- Addresses adaptation to climate change – climate adaptation is an adjustment in natural or human systems in response to actual or expected climatic change and its effects.

- Presents an implementation program to assist with monitoring and prioritization of the reduction strategies through 2020.

4.6.3 Thresholds of Significance

The significance of potential air quality impacts is based on thresholds identified within Appendix G of the CEQA Guidelines, the San Luis Obispo County Initial Study Checklist, and standards established within the SLO APCD CEQA Air Quality Handbook. The specifics of these guidelines are defined below.

CEQA Guidelines and San Luis Obispo County Initial Study Checklist

The significance of potential impacts is based on thresholds identified within Appendix G of the CEQA Guidelines and the County Initial Study Checklist, which provide the following thresholds for determining impact significance with respect to air quality and climate change. Impacts would be considered significant if the proposed project would:

a. Generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment.

b. Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs.

SLOAPCD Greenhouse Gas Thresholds and Supporting Evidence

In March 2012, the SLOAPCD approved thresholds for GHG emission impacts, and these thresholds have been incorporated into the CEQA Air Quality Handbook (SLOAPCD 2012a, 2012b). The APCD's approach to developing a threshold of significance for GHG emissions is to identify the emissions level for which a project would not be expected to substantially conflict with existing California legislation adopted to reduce statewide GHG emissions. If a project has the potential to generate GHG emissions above the threshold level, it would be considered a substantial contribution to a cumulative impact and therefore significant. If mitigation can be applied to lessen the emissions such that the project meets its share of emission reductions needed to address the cumulative impact, the project would normally be considered less than significant.

SLOAPCD determined that a tiered process for residential / commercial land use projects was the most appropriate and effective approach for assessing the GHG emission impacts. The tiered approach includes three methods, any of which can be used for any given project:

1. Qualitative GHG Reduction Strategies (e.g., Climate Action Plans): A qualitative threshold that is consistent with AB 32 Scoping Plan measures and goals; or,

2. Bright-Line Threshold: Numerical value to determine the significance of a project's annual GHG emissions; or,

3. Efficiency-Based Threshold: Assesses the GHG impacts of a project on an emissions per capita basis.

Residential and commercial projects may use any of the three thresholds listed above. For most projects the Bright-Line Threshold of 1,150 metric tons CO_2 per year ($MTCO_2e$/yr) will be the most applicable threshold. In addition to the residential/commercial threshold options proposed above, a bright-line numerical value threshold of 10,000 $MTCO_2e$/yr was adopted for stationary source (industrial) projects.

It should be noted that projects that generate less than the above mentioned thresholds will also participate in emission reductions because air emissions, including GHGs, are under the purview of the California Air Resources Board (or other regulatory agencies) and will be "regulated" either by CARB, the Federal Government, or other entities. For example, new vehicles will be subject to increased fuel economy standards and emission reductions, large and small appliances will be subject to more strict emissions standards, and energy delivered to consumers will increasingly come from renewable sources. Other programs that are intended to reduce the overall GHG emissions include Low Carbon Fuel Standards, Renewable Portfolio standards and the Clean Car standards. As a result, even the emissions that result from projects that produce fewer emissions than the threshold will be subject to emission reductions.

4.6.4 Impact Assessment and Methodology

The latest version of (CalEEMod; Version 2013.2.2) was used to estimate GHG emissions. Model outputs were compared to applicable thresholds to determine level of impact severity.

4.6.5 Project Specific Impacts and Mitigation Measures

Generation of GHG Emissions

Construction and operation of the proposed project would result in GHG emissions (CO_2, CH_4, N20, HFC, CFC, F_6S) through the use of construction equipment, long-term trip generation, and energy use. Based on emission estimates calculated with CalEEMod (refer to Tables 4.2-4 and 4.2-5 in Section 4.2 Air Quality), development of the project would generate approximately 1,055.74 $MTCO_2e$/yr of during construction of the project, and 1,474.06 $MTCO_2e$ /yr of during the life of the project. Based on the SLOAPCD CEQA Handbook (2012), the total GHG emissions for construction activities was divided by the life of the project (25 years for commercial projects) and added to the annual operational phase GHG emissions. The project's amortized (25 years) construction emissions plus operational-related GHG emissions would equate to approximately 1,640.48 MT/year after implementation of standard mitigation measures included in the CalEEMod model.

Therefore, the project would exceed the APCD's adopted threshold (1,150 MT/year), and additional mitigation is required to reduce potential impacts to less than significant. Many measures identified below (GHG/mm-1) are incorporated in the proposed plans.

GHG Impact 1	
Construction and operation of the proposed project would generate GHG emissions exceeding SLOAPCD thresholds of significance, resulting in a potentially significant impact.	
Mitigation Measures	
GHG/mm-1	*Upon application for construction permits, the Harbor District or their designee shall submit construction plans incorporating LEED certifiable construction measures and additional elements to reduce GHG emissions including, but not limited to, the following:*

GHG Impact 1
a. *Provide pedestrian-friendly features to make walking more convenient, comfortable, and safe, including appropriate signage and crosswalk(s).* b. *Provide good access to/from the development for pedestrians, bicyclists, and transit users.* c. *Incorporate outdoor electrical outlets to encourage the use of electric appliances and tools.* d. *Provide shade tree planting in parking areas to reduce evaporative emissions from parked vehicles. Design shall provide 50% tree coverage within 10 years of construction using low ROG emitting, low maintenance, native, drought resistant trees.* e. *No wood burning appliances in the campground manager residence, hotel/motel units, or cabins.* f. *Incorporate traffic calming modifications to project roads that reduce vehicle speeds and encourage pedestrian and bicycle travel.* g. *Provide onsite housing for employees (campground manager).* h. *Implement on-site circulation design elements in parking areas to reduce vehicle queuing and improve the pedestrian environment.* i. *Provide employee lockers and showers (one shower and five lockers for every 25 employees is recommended).* j. *If feasible, trusses for south-facing portions of roofs shall be designed to handle dead weight loads of standard solar-heated water and photovoltaic panels. If feasible, roof design shall include sufficient south-facing roof surface, based on structures size and use, to accommodate solar panels. For south facing roof pitches, the closest standard roof pitch to the ideal average solar exposure shall be used, if feasible.* k. *Increase the building energy rating by 20% above Title 24 requirements. Measures used to reach the 20% rating cannot be double-counted.* l. *Plant drought tolerant, native shade trees along southern exposures of buildings to reduce energy used to cool buildings in the summer.* m. *Utilize green building materials (materials that are resource efficient, recycled, and sustainable) and available locally, to the maximum extent feasible.* n. *Install high efficiency heating and cooling systems.* o. *Orient buildings to be aligned north/south to reduce energy used to cool buildings in the summer, to the maximum extent feasible.* p. *Design buildings to include roof overhangs that are sufficient to block the high summer sun, but not the lower winter sun, from penetrating south-facing windows (passive solar design), to the maximum extent feasible.* q. *Use high efficiency water gas or solar water heaters.* r. *Utilize built-in energy efficient appliances where applicable.* s. *Utilize double-paned windows where applicable.* t. *Utilize low energy streetlights, where applicable.* u. *Utilize energy efficient interior lighting.* v. *Install door sweeps and weather stripping if more efficient doors and windows are not available.* w. *Install energy-reducing programmable thermostats, where applicable.* x. *Use roofing material with a solar reflectance value meeting the EPA/DOE Energy Star® rating to reduce summer cooling needs, to the maximum extent feasible. Implementation of this measure shall avoid creation of glare visible from public roads and areas.* y. *Provide and require the use of battery powered or electric landscape maintenance equipment to the maximum extent feasible.* z. *Provide secure on-site bicycle storage, lockers, or racks.* aa. *Implement a "no idling" program for heavy-duty diesel vehicles, including signage and citations.*

GHG Impact 1
GHG/mm-2 *Prior to issuance of construction permits from the County of San Luis Obispo, the Harbor District or their designee shall include building efficiency improvements with construction permit applications and/or secure SLOAPCD approved off-site reductions in GHG emissions to ensure that GHG emissions to not exceed the SLOAPCD thresholds. Off-site mitigation may include, but not be limited to, the following measures, as approved by the County of San Luis Obispo Environmental Coordinator and SLOAPCD:* *a. Payment of off-site mitigation fees, as approved by the SLOAPCD and the Carl Moyer grant program;* *b. Develop or improve park-and-ride lots;* *c. Retrofit existing homes in the project area with APCD-approved natural gas combustion devices;* *d. Retrofit existing homes in the project area with energy-efficient devices;* *e. Retrofit existing businesses in the project area with energy-efficient devices;* *f. Construct satellite worksites;* *g. Fund a program to buy and scrap older, higher emission passenger and heavy-duty vehicles.* *h. Replace/repower transit buses;* *i. Replace/repower heavy-duty diesel school vehicles (i.e. bus, passenger or maintenance vehicles);* *j. Fund an electric lawn and garden equipment exchange program;* *k. Retrofit or repower heavy-duty construction equipment, or on-road vehicles;* *l. Install bicycle racks on transit buses;* *m. Purchase Verified Diesel Emission Control Strategies (VDECS) for local school buses, transit buses or construction fleets;* *n. Install or contribute to funding alternative fueling infrastructure (i.e. fueling stations for CNG, LPG, conductive and inductive electric vehicle charging, etc.);* *o. Fund expansion of existing transit services;* *p. Fund public transit bus shelters;* *q. Subsidize vanpool programs;* *r. Subsidize transportation alternative incentive programs;* *s. Contribute to funding of new bike lanes;* *t. Install bicycle storage facilities; and,* *u. Provide assistance in the implementation of projects that are identified in city or county Bicycle Master Plans.*
Residual Impacts
The proposed project consists of a campground facility with onsite commercial facilities including a restaurant and market, which would serve onsite visitors and other persons visiting Avila Beach and Port San Luis. The project includes several features that would reduce GHG emissions, including native landscaping and improved access to the beach area. Energy efficiency measures would be implemented to the maximum extent feasible to reduce emissions. Due to the climate in the area, very hot and very cold days are uncommon, and heating and cooling needs are not anticipated to be high. Incorporation of measures consistent with LEED certifiable standards including increased energy efficiency would reduce GHG emissions by approximately 14 percent (although the CalEEMod program does not incorporate all of the measures into the model, and is therefore a conservative estimate of emission reductions). In addition, proposed components classified as hotel units would be constructed as cabins or yurts, and may require less energy consumption than standard defaults for hotel uses. In the event incorporation of measures identified by the SLOAPCD listed above do not prove to reduce GHG emissions below the bright-line threshold, SLOAPCD approved off-site reductions in GHG emissions may be required. Based on implementation of these mitigation measures, the project's contribution to GHG emissions would be mitigated to the maximum extent feasible, and would reduce project specific-impacts to less than significant.

Conflict with Applicable Plan, Policy, or Regulations

Based on incorporation of mitigation measures identified above (GHG/mm-1 and GHG/mm-2), the proposed project would not conflict with the County's Energywise Plan or the SLOAPCD CAP. The proposed use is consistent with the Master Plan for Port San Luis, and anticipated development in the area.

4.6.6 Cumulative Impacts

The SLOAPCD's GHG threshold is defined in terms of CO_2e, a metric that accounts for the emissions from various GHGs based on their global warming potential. If annual emissions of GHGs exceed these threshold levels, the proposed project would result in a cumulatively considerable contribution of GHG emissions and a cumulatively significant impact to global climate change. As discussed above, based on a worst-case scenario, the project would exceed the identified threshold; however, mitigation would be incorporated in the final design of the project, which would reduce potential impacts. In the event energy efficiency measures do not reduce GHG emission below the bright-line threshold, contribution to SLOAPCD's GHG reduction program would be required to reduce cumulative impacts to less than significant.