

4.16 GREENHOUSE GASES AND ENERGY

4.16.1 Introduction

This analysis of greenhouse gases (GHGs) provides a discussion of the proposed project, the physical setting of the project area, and the regulatory framework for global climate change. The report provides data on the existing global climate setting and evaluates potential global climate-related emissions associated with the proposed project. Modeled project emissions are based on project design, vehicle data, and the project trip generation estimate prepared for this project.

The emissions from vehicle exhaust comprise approximately 85–90 percent of the total global climate change-related emissions (GHG emissions); however, vehicle “tail pipe” emissions standards are regulated by the State and federal governments and are outside the control of this project or the Lead Agency. The remaining 10–15 percent of the emissions are split between building heating systems, which are within the control of the project and will be minimized by compliance with State Title 24 regulations for building energy efficiency, and off-site electrical power plant emissions caused by producing electricity to serve the project (including the treatment and delivery of water). State law defines GHG to include the following: carbon dioxide (CO₂), methane (CH₄), nitrous oxide (N₂O), hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride (Health and Safety Code, Section 38505(g)). The most common GHG that results from human activity is CO₂, followed by CH₄ and N₂O.

This evaluation was prepared in conformance with appropriate standards, utilizing procedures and methodologies in the South Coast Air Quality Management District (SCAQMD) California Environmental Quality Act (CEQA) Air Quality Handbook and the State CEQA Guidelines. Note, the SCAQMD Air Quality Handbook was used because the San Diego Air Pollution Control District (APCD) has not published any such guidelines and SCAQMD is the next nearest district to the project site.

This section provides information on GHG emissions and energy efficiency, including current policies of the Cities of Del Mar and San Diego, and the County of San Diego programs implemented by the 22nd District Agricultural Association (DAA) and potential impacts of the near-term and long-term proposed projects.

4.16.2 Existing Environmental Setting

Global Setting. The earth’s climate is continuously evolving, as evidenced by the extremes in climate over the last 500,000 years. Over the last 10,000 years, the global climate has been fairly stable; however, there has recently been a rapid change in the global climate and an increase in the pollutants that affect climate change that are attributable to human activities (Climate Action Team, Biennial Report, March 2009).

Global climate change describes alterations in weather features (e.g., temperature, wind patterns, precipitation, and storms) that occur across the earth as a whole. Global temperatures are modulated by naturally occurring components in the atmosphere (e.g., water vapor, CO₂, CH₄, and N₂O) that capture heat radiated from the earth’s surface, which in turn warms the atmosphere. This phenomenon is known as the “greenhouse effect.”

Climate change refers to any significant change in measures of climate (such as temperature, precipitation, or wind) lasting for an extended period (decades or longer). Climate change may result from:

- Natural factors, such as changes in the sun's intensity or slow changes in the earth's orbit around the sun
- Natural processes within the climate system (e.g., changes in ocean circulation, reduction in sunlight from the addition of GHGs and other gases to the atmosphere from volcanic eruptions)
- Human activities that change the atmosphere's composition (e.g., through burning fossil fuels) and the land surface (e.g., deforestation, reforestation, urbanization, desertification)

The impact of anthropogenic activities on global climate change is readily apparent in the observational record. For example, surface temperature data shows that 11 of the 12 years from 1995 to 2006 rank among the 12 warmest since 1850, the beginning of the instrumental record for global surface temperature.¹ In addition, the atmospheric water vapor content has increased since at least the 1980s over land, sea, and in the upper atmosphere, consistent with the capacity of warmer air to hold more water vapor; ocean temperatures are warmer to depths of 3,000 feet (ft); and a marked decline has occurred in mountain glaciers and snow pack in both hemispheres, polar ice, and ice sheets in both the Arctic and Antarctic regions.

Air trapped by ice has been extracted from core samples taken from polar ice sheets to determine the global atmospheric variation of CO₂, CH₄ and N₂O from before the start of industrialization (around 1750) to over 650,000 years ago. For that period, it was found that CO₂ concentrations ranged from 180 parts per million (ppm) to 300 ppm. For the period from around 1750 to the present, global CO₂ concentrations increased from a preindustrialization period concentration of 280 ppm to 379 ppm in 2005, with the 2005 value far exceeding the upper end of the preindustrial period range.

Global warming is the observed increase in the average temperature of the earth's atmosphere and oceans in recent decades. The earth's average near-surface atmospheric temperature rose $0.6 \pm 0.2^\circ$ Celsius ($^\circ\text{C}$) ($1.1 \pm 0.4^\circ$ Fahrenheit [$^\circ\text{F}$]) in the 20th century. The prevailing scientific opinion on climate change is that "most of the warming observed over the last 50 years is attributable to human activities."² The increased amounts of CO₂ and other GHGs are the primary causes of the human-induced component of warming. They are released by the burning of fossil fuels, land clearing, agriculture, and smaller activities, and lead to an increase in the greenhouse effect.

GHGs are present in the atmosphere naturally, released by natural sources, or formed from secondary reactions taking place in the atmosphere. As previously indicated, human activities are altering the chemical composition of the earth's atmosphere through the release and buildup of climate change emissions. However, GHGs such as water vapor, CO₂, CH₄, N₂O, and ozone (O₃) can also be associated with natural sources. Conversely, several classes of halogenated substances that contain fluorine, chlorine, or bromine are also climate change emissions, but they are for the most part solely a product of industrial activities. In the last 200 years, substantial quantities of GHGs have been

¹ Intergovernmental Panel on Climate Change, *Climate Change 2007: The Physical Science Basis, Summary for Policymakers*, February 2007.

² Intergovernmental Panel on Climate Change (IPCC), *Climate Change 2001: The Scientific Basis*, www.grida.no/climate/ipcc_tar/wg1/index.htm, accessed March 28, 2007.

released into the atmosphere. These extra emissions are increasing GHG concentrations in the atmosphere and enhancing the natural greenhouse effect, which is believed to be causing global warming. While GHGs include CO₂, CH₄, and N₂O, which occur naturally, others, such as chlorofluorocarbons (CFCs), are completely new to the atmosphere.

Natural sources of CO₂ include the respiration (breathing) of animals and plants and evaporation from the oceans. Together, these natural sources release approximately 150 billion tons of CO₂ each year, far outweighing the 7 billion tons of humanmade emissions from fossil fuel burning, waste incineration, deforestation, and cement manufacture. Nevertheless, natural removal processes, such as photosynthesis by land- and ocean-dwelling plant species, cannot keep pace with this extra input of manmade CO₂, and consequently, the gas is building up in the atmosphere.

CH₄ is produced when organic matter decomposes in environments lacking sufficient oxygen. Natural sources include wetlands, termites, and oceans. Manmade sources include the mining and burning of fossil fuels; digestive processes in ruminant animals such as cattle; rice paddies; and the burying of waste in landfills. Total annual emissions of CH₄ are approximately 500 million tons, with manmade emissions accounting for the majority. As with CO₂, the major removal process of atmospheric CH₄—chemical breakdown in the atmosphere—cannot keep pace with source emissions, and CH₄ concentrations in the atmosphere are increasing.

California is a substantial contributor of global GHGs, emitting over 400 million tons of CO₂ a year.¹ Climate studies indicate that California is likely to see an increase of 3–4°F over the next century. Because primary GHGs have a long lifetime in the atmosphere, accumulate over time, and are generally well-mixed, their impact on the atmosphere is mostly independent of the point of emission.

State and Regional Setting. Worldwide, California is the 12th to 16th largest emitter of CO₂ (CEC 2006) and is responsible for approximately 2 percent of the world's CO₂ emissions (CEC 2006). Transportation is responsible for 41 percent of the State's GHG emissions, followed by the industrial sector (23 percent), electricity generation (20 percent), agriculture and forestry (8 percent), and other sources (8 percent) (CEC 2006). Emissions of CO₂ and N₂O are byproducts of fossil fuel combustion, among other sources. CH₄, a highly potent GHG, results from off-gassing associated with agricultural practices and landfills, as well as other sources. Table 4.16.A presents regional, State, and national GHG emissions.² (See Section 4.16.4 for an explanation of carbon dioxide equivalent.)

¹ California Energy Commission, *Inventory of California GHG Emissions and Sinks: 1990 to 2004*, 2006. http://www.energy.ca.gov/global_climate_change/inventory/documents/index.html.

² California Energy Commission. *Inventory of California Greenhouse Gas Emissions and Sinks 1990 to 2004*.

Table 4.16.A: Annual Greenhouse Gas Emissions

Region	Region Carbon Dioxide Equivalent (CO ₂ e) Terragrams (Tg) ¹
San Diego County ²	40
California ³	492
United States ⁴	7,065

Source: California Energy Commission 2006.

¹ Totals do not include land use, land-use changes, and forestry.

² SANDAG 2007

³ CEC 2006

⁴ EPA 2007

CEC = California Energy Commission

EPA = United States Environmental Protection Agency

SANDAG = San Diego Associated Governments

Terragrams = 1 million metric tons = 1.1 million short tons

Water Resources. Water cycles and carbon cycles are complex processes that are partially interrelated together. Therefore, changes to the carbon cycle can substantially affect the water cycle. The Draft Supplemental EIS/EIR to the Environmental Water Account Final EIS/EIR prepared by the United States Department of the Interior lists multiple potential impacts of global climate change on the water cycle. Table 4.16.B presents potential effects of global warming on water resources in California.

Anticipated Changes to the Existing Environment as a Result of Global Climate Change. The impact of anthropogenic activities on global climate change is a rise in the average global tropospheric¹ temperature of 0.2°C per decade, determined from meteorological measurements worldwide between 1990 and 2005.² Climate change modeling using 2000 emission rates shows that further warming would occur under these circumstances that would induce further changes in the global climate system during the current century.³ Changes to the global climate system and ecosystems and to California would be expected to include, but would not be limited to:

- The loss of sea ice and mountain snow pack, resulting in higher sea levels and higher sea surface evaporation rates with a corresponding increase in tropospheric water vapor due to the atmosphere's ability to hold more water vapor at higher temperatures⁴

¹ The troposphere is the lowest portion of the earth's atmosphere.

² Intergovernmental Panel on Climate Change, *Climate Change 2007: The Physical Science Basis, Summary for Policymakers*, February 2007.

³ Ibid.

⁴ Ibid.

Table 4.16.B: Potential Impacts of Global Warming on Water Resources and Expected Consequences for California

Potential Water Resource Impacts	Anticipated Consequences Statewide
<ul style="list-style-type: none"> • Reduction of the State’s average annual snowpack 	<ul style="list-style-type: none"> • Potential loss of 5 million acre-feet or more of average annual water storage in the State’s snowpack • Increased challenges for reservoir management and balancing the competing concerns of flood protection and water supply
<ul style="list-style-type: none"> • Changes in the timing, intensity, location, amount, and variability of precipitation 	<ul style="list-style-type: none"> • Potential increased storm intensity and increased potential for flooding • Possible increased potential for droughts • Long-term changes in vegetation and increased incidence of wildfires • Changes in the intensity and timing of runoff • Possible increased incidence of flooding and increased sedimentation • Sea level rise and inundation of coastal marshes and estuaries • Increased salinity intrusion into the Sacramento-San Joaquin River Delta • Increased potential for Delta levee failure • Increased potential for salinity intrusion into coastal aquifers (groundwater) • Increased potential for flooding near the mouths of rivers due to backwater effects
<ul style="list-style-type: none"> • Increased water temperatures • Possible critical effects on listed and endangered aquatic species 	<ul style="list-style-type: none"> • Increased environmental water demand for temperature control • Possible increased problems with foreign invasive species in aquatic ecosystems • Potential adverse changes in water quality, including the reduction of dissolved oxygen levels
<ul style="list-style-type: none"> • Changes in urban and agricultural water demand 	<ul style="list-style-type: none"> • Changes in demand patterns and evapotranspiration

Source: Environmental Water Account Draft Supplemental EIS/EIR to the Environmental Water Account Final EIS/EIR, October 2007, United States Department of the Interior, Bureau of Reclamation Mid-Pacific Region, Sacramento, California

- Rise in global average sea level, primarily due to thermal expansion and melting of glaciers and ice caps in the Greenland and Antarctic ice sheets¹
- Changes in weather that include widespread changes in precipitation, ocean salinity, and wind patterns, and more energetic aspects of extreme weather, including droughts, heavy precipitation, heat waves, extreme cold, and the intensity of tropical cyclones²
- Decline of the Sierra snowpack, which accounts for approximately half of the surface water storage in California by 70 percent to as much as 90 percent over the next 100 years³

¹ Intergovernmental Panel on Climate Change, *Climate Change 2007: The Physical Science Basis, Summary for Policymakers*, February 2007.

² Ibid.

³ California Environmental Protection Agency, *Climate Action Team, Climate Action Team Report to Governor Schwarzenegger and the Legislature (Executive Summary)*, March 2006.

- Increase in the number of days conducive to O₃ formation by 25–85 percent (depending on the future temperature scenario) in high O₃ areas of Los Angeles and the San Joaquin Valley by the end of the 21st century¹
- High potential for erosion of California’s coastlines and seawater intrusion into the delta and levee systems due to the rise in sea level²

Changes to the environment as a result of climate change may affect the Fairgrounds site and the near-term and long-term projects.

Rising Ocean Levels. Rising ocean levels, more intense coastal storms, and warmer water temperatures may increasingly threaten the San Diego coastal region. Under the higher warming scenario, the IPCC anticipates that ocean levels will rise 4–30 inches by 2100. Based on information included in “The Impacts of Sea-level Rise on the California Coast” (Pacific Institute, March 2009),³ under medium to medium-high greenhouse gas emissions scenarios, mean sea level along the California coast is expected to rise from 3.28–4.59 ft by 2100. These forecasts provide an “order of magnitude” perspective regarding the potential effect of global climate change; however, the accuracy of the forecasts is not yet known, and there is an even greater level of uncertainty for shorter-term forecasts. The estimated life expectancy of the proposed improvements to the Fairgrounds is approximately 50 years. Elevations of the sea level may result in inundation of coastal areas with salt water, accelerate coastal erosion, threaten vital levees and inland water systems, and disrupt wetlands and other natural habitats.

Rising sea levels may affect the natural environment in the coming decades by eroding beaches, converting wetlands to open water, exacerbating coastal flooding, and increasing the salinity of estuaries and freshwater aquifers. Coastal headlands and beaches are expected to erode at a faster pace in response to future sea level rise. The Pacific Institute (2009) estimates that 430,000 acres of wetlands exist along the California coast, but additional work is needed to evaluate the extent to which these wetlands would be degraded over time, or to what extent new wetland habitat would be created if those lands are protected from further development. At the Fairgrounds site, there is the potential for the sea level change to adversely affect the ecosystem functions of the San Dieguito River and Stevens Creek, including storm surge buffer, habitat, and nursery functions. Cumulatively, the effects of sea level rise may be combined with other potential long-term factors such as changes in sediment input and nutrient runoff. The cumulative impacts of physical and biological change due to sea level rise on the quality and quantity of coastal habitats are not well understood.⁴ The San Dieguito Lagoon south of the project site provides habitat for a variety of special-status (i.e., federally or State-listed as threatened, endangered, or candidate) species. This coastal lagoon area is

¹ California Environmental Protection Agency, *Climate Action Team, Climate Action Team Report to Governor Schwarzenegger and the Legislature (Executive Summary)*, March 2006.

² Ibid.

³ Pacific Institute, California Climate Change Center, *The Impacts of Sea-Level Rise on the California Coast*, March 2009.

⁴ Climate Change Science Program (CCSP) 4.1 January 15, 2009, 1 of 784 Final Report, United States CCSP, Synthesis and Assessment Product 4.1. Coastal Sensitivity to Seal Level Rise: A Focus on the Mid-Atlantic Region. Lead Agency: United States Environmental Protection Agency, Other Key Participating Agencies: United States Geological Survey, National Oceanic and Atmospheric Administration. Contributing Agencies: Department of Transportation.

undergoing extensive habitat restoration efforts as part of Southern California Edison's (SCE) mitigation for the San Onofre Nuclear Generating Station (SONGS). The restoration is being conducted as a result of the San Dieguito Wetland Restoration Project and is located just upstream of the project site. The restoration area may introduce some ability for the river course to change and migrate inland; however, the specific mechanics, timing, and scope of such changes are not predictable at this time.

Rising sea levels may also affect the built environment, including coastal development such as buildings, roads, and infrastructure. The Pacific Institute (2009) estimates that nearly \$1000 billion (in year 2000 dollars) worth of property is at risk of flooding from a 100-year event with a 4.59 ft sea level rise if no adaption actions are taken. The Fairgrounds is a relatively flat, low-lying, developed coastal site that may be directly affected by the change in sea level. Potential effects to the existing and proposed built environmental at the Fairgrounds include increased risk of flooding from rainstorms and from the possible creation of an elevated base for storm surges to build upon. Potential increases in shore erosion could also contribute to increased flooding by removing protective beach area. The increased flooding could adversely affect the usability of some or all of the existing and planned improvements at the Fairgrounds site (including the fire station), as well as adversely affect coastal access via roadways along the San Dieguito River Trail and other locations at and near the project site.

The potential rise in ocean levels may result in increased levels and frequency of flooding and erosion of the Del Mar Fairgrounds and fire station sites, which are essentially at sea level. The majority of the Fairgrounds is located within the 100-year floodplain and would remain so with implementation of the proposed project. According to the Flood Plain Study Report (Fusco Engineering, Inc., March 2008) included in Appendix I, Hydrology and Water Quality Report, the proposed project would result in a minor change in water surface elevation ranging from a 0.02 ft drop to a 0.03 ft rise within the project limits during a 100-year flood event. Although the proposed project would result in a negligible change in 100-year flood levels, the proposed hotel would be placed within a 100-year flood hazard area as mapped on the Flood Insurance Rate Map (FIRM). The elevation of new habitable spaces, including the proposed hotel, would be set at least 1 ft above the 100-year flood elevation. Potential impacts related to the 100-year flood hazard area would be reduced to a less than significant level with implementation of mitigation (Section 4.11), which requires that the 22nd DAA to ensure that all habitable areas have been designed to be at least 1 ft above the 100-year flood level and mitigation that requires the 22nd DAA to provide proof to the City of Del Mar that all habitable areas have been designed to be at least 1 ft above the 100-year flood level. This mitigation ensures that the proposed project will comply with current flood control standards; however, the current standards do not take into account accelerated sea level rise or possible changes in storm intensity as a result of global climate change.

There is uncertainty with regard to methodology for assessing the timing and magnitude of sea level rise impacts and quantifying the projected costs and benefits of implementing adaptation measures. Potential adaptations for the built environment include the construction of dikes and seawalls; beach nourishment; and elevating structures and roadways.

Under the higher warming scenario, the Intergovernmental Panel on Climate Change (IPCC) anticipates that ocean levels will rise 4–30 inches by 2100. The Pacific Institute (2009) estimates a rise of 3.28–4.59 ft by 2100. According to the Scenarios for Climate Change in California published

by California Climate Change Center in 2006, San Diego is expected to experience moderate to very extensive sea level rises within this century; ocean level rises are expected to substantially exceed the historical rate of ocean level rise. Elevations of this magnitude are known to inundate coastal areas with salt water, accelerate coastal erosion, threaten vital levees and inland water systems, and disrupt wetlands and other natural habitats. As described above, rising ocean levels may threaten the location of the Del Mar Fairgrounds. The elevation of the project site is essentially at sea level, and therefore the rising of the ocean levels could result in on-site flood conditions if additional GHG reduction strategies are not implemented at the State, national, and international level. In November 2006, California voters passed Propositions 1E and 84 to provide \$4.9 billion in new flood management investments (which will help prepare for more frequent and intense floods and sea level rise), and nearly \$1 billion in integrated regional water management and climate change evaluation and adaptation. Recommended actions in the Pacific Institute Report (2009) included integrating climate change into insurance policies and strategies, protecting wetlands and potential migratory paths, limiting development in areas at risk from rising seas, involving communities most vulnerable to harm in developing preparation and adaptation strategies, considering phased abandonment of low- and medium-density areas at high risk, protecting vital coastal-dependent resources, considering the cost-benefit of building coastal protection structures, improving disaster response and recovery in coastal communities, and considering adoption of a principle of “No Adverse Impact” when designing and permitting flood protection, beach nourishment, and other coastal protection projects.

Water Supply. With the change in the temperatures that could occur with global warming, the evaporation of water will accelerate in some regions, whereas the precipitation of water will increase in other regions. As a result, hydrologic cycles will be affected, and some regions may experience more frequent droughts, while others may experience frequent floods. Rising temperatures will decrease snow zones in the mountains and will cause the snow pack to melt more rapidly. According to the California Water Plan Update, Climate Change, and California Water Resources Report 2005 (CWPU) published by the CEC, decreasing snowpack in the Sierra Nevada Mountains will affect water resources in California. The California Department of Water Resources (DWR) indicates that scientists project a loss of at least 25 percent of the Sierra snowpack by 2050, which amounts to a reduction of approximately 4.5 million acre feet (af).¹ Other changes to the water supply that could occur as a result of global climate change identified by DWR include changes to river flow, increased runoff and flooding, more frequent droughts, and a lower groundwater table.

Changes to the hydrologic cycle caused by rising temperatures and decreased snowpack in the mountains will ultimately affect river and creek ecosystems in California. The rapid changes to local temperatures and precipitation patterns may ultimately result in physical changes to the San Dieguito River ecosystem and its estuarine systems in the long term of the river. Warmer air and less snow pack may raise the average stream and estuary water temperatures, thus affecting cold-water fisheries. Saltwater intrusion is known to degrade estuaries, wetlands, and groundwater aquifers. Alteration of the water supply could also affect California agriculture, causing variations in crop quality and yield. These potential effects could adversely affect the natural resources in the Fairgrounds area and could adversely affect regional water supply. Currently, there is sufficient water availability and infrastructure to serve the proposed project; however, long-term viability of the water supply is unknown. The direct effects of water supply to the proposed near-term projects would be somewhat

¹ <http://www.water.ca.gov/climatechange/>; site accessed February 19, 2009.

offset by the incorporation of water-saving features in the project design in accordance with LEED-NC Silver standards. While it is not anticipated that the projects would necessitate development of new sources of water, the long-term changes in availability of water in the San Diego region as a result of climate changes have not been quantified at this time.

Groundwater. Currently, there are not enough data to derive the potential impacts of climate change to groundwater levels. However, DWR reports that historic patterns of groundwater recharge may change considerably as a result of climate change.¹ According to the CWPU (2005), impacts of climate change will differ and will depend on the specific groundwater basin characteristics such as percolation rate, recharge rate, and water quality. Alteration of groundwater recharge as a result of global warming may occur from changes in rainfall events and changes in timing of the recharge season. Continuing salt water intrusion and rising sea levels may also impact the quality of the aquifers.

Groundwater at the project sites is anticipated to be at depths ranging from 5 to 10 ft below ground surface (bgs) and is subject to tidal influence and seasonal variations, resulting in saline conditions for such features as the infield lakes, which are influenced by groundwater conditions in the area. The groundwater at the Fairgrounds site may be subject to increased salinity as a result of climate changes resulting from global warming; however, groundwater at the Fairgrounds site is not a source of potable water.

Wildfires. Global warming is expected to intensify the occurrence of wildfires Statewide. Even though the Fairgrounds is located in a built-out environment, the southeast portion of the Fairgrounds is located near natural open space considered a High Fire Hazard Area in the City of San Diego General Plan. As global warming increases the fire risk, the resultant wildfires may emit more CO₂ that will continue to accelerate global warming.

Existing GHG Emissions from Fairgrounds Operations. Table 4.16.C presents the summary of the existing GHG emissions at the Del Mar Fairgrounds from energy use for daily operations (electricity consumption and natural gas combustion) and manure management.

According to Table 4.16.C, the Fairgrounds emitted large amounts of CO₂, followed by CH₄ and N₂O. The existing Fairgrounds buildings and other daily operations emit approximately 15,000 tonnes of CO₂e/year. Traffic on the roadways near the Fairgrounds has been quantified by conducting traffic counts. The portion of roadway traffic that is attributable to the Fairgrounds is not known; therefore, emissions from current Fairgrounds trips cannot be estimated.

¹ *Managing an Uncertain Future: Climate Change Adaptation Strategies for California's Water,* State of California, The Resources Agency, Department of Water Resources, October 2008.

Table 4.16.C: Summary of Estimated Existing GHG Emissions (Tonnes/Year)

Emission Source	CO ₂	CH ₄	N ₂ O	CO ₂ e	Total CO ₂ e. (Tg per year)
Electricity production	2,600	0.028	0.016	2,600	0.0026
Natural gas combustion ¹	700	0.0083	0.008	700	0.0007
Solid waste	--	--	--	53	0.000053
Manure decomposition	--	29	0.15	770	0.00077
Other area sources ²	2.3	--	--	2.3	0.0000023
Total annual emissions	14,000	30	1.1	15,000	0.004

Source: LSA Associates, Inc., March 2009.

Numbers in table may not appear to add up correctly due to rounding of all numbers to two significant digits.

¹ CO₂ emissions for Natural Gas from URBEMIS 2007 outputs.

² Includes CO₂ emissions for hearth combustion and landscaping equipment from URBEMIS 2007 outputs.

- Electricity use from SDG&E Web site, February 13, 2008, averaged over the last 5 years
- CO₂, CH₄, N₂O emission factors for electricity production from the United States Energy Information Administration www.eia.doe.gov/oiaF/1605/ee-factors.html
- Natural gas consumption rate based on URBEMIS 2007 rates for building type and square footage
- Manure use from DMF records. Emission factors from Environmental Pollution, Volume 146, Issue 1, March 2007, pages 219–224

CO₂ = carbon dioxide

CO₂e. = carbon dioxide equivalent

CH₄ = methane

DMF = Del Mar Fairgrounds

GHG = greenhouse gas

N₂O = Nitrous Oxide

SDG&E = San Diego Gas & Electric Company

Tg = terragrams = 1 million metric tons = 1.1 million short tons

Tonnes = metric ton

URBEMIS 2007 = urban emissions model 2007

The 22nd DAA currently implements the following energy efficiency measures and policies:

- A 1 megawatt (mW) photovoltaic system generates solar energy in the Backstretch Area.
- A total of 9,700 solar panels that measure 2 x 4 ft are installed in the Backstretch Area on top of the horse barns. This \$4.8 million project provides a saving of approximately 25 percent, providing approximately 1,213,597 kilowatt hours (kWh), which accounts for approximately 20 percent of the Fairgrounds electricity consumption.
- Energy-efficient T5 high output fluorescent fixtures with electronic ballasts have been installed at the Wyland and Sport Center.
- Energy Efficient T8 Fluorescent fixtures with electronic ballasts have been installed in miscellaneous areas throughout the Fairgrounds.
- Energy Use reduction devices like time clocks, photo cells, and motion sensors are utilized where practical to control time of use.
- All new building construction incorporates energy-efficient design, fixtures, and equipment.
- The 22nd DAA supports and emphasizes energy efficiency and savings.

- The purchase of energy-efficient equipment is strongly encouraged by the 22nd DAA management.

Incorporation of these measures and policies has helped to substantially reduce energy consumption, and consequently GHG emissions, at the Fairgrounds.

Recycling and waste reduction are a source of energy conservation. Reducing waste conserves energy directly by eliminating the need to collect, process, and dispose of it. Recycling conserves energy indirectly by maximizing the use a given material provides, thereby reducing the need to produce new raw materials and reducing the amount of waste to collect, process, and dispose of.

The 22nd DAA initiated its first paper reduction program in 1985.¹ After 15 years, the number of programs implemented by DAA has increased and, as a result, the DAA is frequently awarded and recognized by the California Integrated Waste Management Board (CIWMB).² The 22nd DAA was recognized by the CIWMB for successful implementation of the waste reduction program in 2000 and Casa de Worms Program in 2001;³ in addition, it won approximately 15 awards for its Resource Conservation. The waste reduction program was acknowledged to be an exemplary model for other State agencies and large State facilities throughout California. The Del Mar Racetrack, a facility on the Fairgrounds site, successfully diverted more than 41 million pounds (91 percent of its total waste) from being disposed in 2000. The following programs are being implemented by the 22nd DAA and its tenants:

- Office recycling program which recycles paper and the Casa de Worms composting program that composts fruit and food leftovers. The programs recycle and send to compost nearly 90 percent of solid waste (well above the AB 75 requirements described in the following section).
- Annual Environ Fair, which is an exhibition and comprehensive seminar that highlights environmental challenges and advances in renewable resources, conservation, and recycling.
- The 22nd DAA uses reclaimed water for grounds irrigation, which preserves 66 acre-feet of potable water on an annual basis.
- The 22nd DAA reduces impact on local sewer systems by keeping food out of sinks and completely removing garbage disposals, saving \$45,000 annually on sewer rates.
- The 22nd DAA works with local communities and nonprofit organizations to bring household hazardous waste collection events and a home compost bin sale to the Fairgrounds for the benefit of the community.
- The 22nd DAA reduces energy consumption by 15 percent.⁴
- Del Mar Racetrack recycles 1,200 cubic yards of straw, shavings, and manure each day from the stable area during the Race Season.

¹ 22nd DAA Web site, www.sdfair.com/index.php?Fuseaction=about.environment, accessed November 2007.

² CIWMB Web site, www.ciwmb.ca.gov/pressroom/2002/June/040.htm, accessed November 2007.

³ A vermiculture composting program.

⁴ <http://www.sdfair.com>; January 19, 2009.

- The Del Mar Fairgrounds participates in SANDAG's Ridelink program to promote and facilitate commuter carpooling by matching interested employees.

The Del Mar Thoroughbred Club, a long-term leasing partner of DAA, has also committed to energy conservation and waste reduction. The Del Mar Thoroughbred Club and 22nd DAA installed a composite Racetrack surface to increase the efficiency of the Racing operations. The 22nd DAA upgraded the original dirt track to the Polytrack synthetic surface in 2007, which provides significant water savings. The track is self-sustaining and does not require watering. It consists of sand, rubber, carpet fibers, and spandex, which are coated in hot wax, preserving the original form of the elements. This particular mixture leads to an average savings of 75,000 gallons of water each day, totaling approximately 3,225,000 gallons over the 43-day event. Along with the water conservation measures, the Del Mar Thoroughbred Club currently recycles approximately 8,900 tons per year (tpy) of straw and manure that is shipped to a mushroom farm. The 22nd DAA and Del Mar Thoroughbred Club recycle approximately 2,400 tpy of manure and shavings from the Fairgrounds that are used for compost.¹

The Fairgrounds holds several major equestrian-related events: Thoroughbred Race Meet, Charity Fair Horse Show, and Youth Horse Show, as well as the San Diego County Fair, which includes other domestic animals. According to the Del Mar Fairgrounds Nutrients Management Plan 2008, the equestrian events generate a large amount of manure waste that is temporarily stored at the end of each barn row and hauled to either a recycling facility for compost or to a mushroom farm in Escondido. It takes approximately 4 months for the straw and manure waste to compost at the farm, with the product ultimately used in the mushroom-growing process. The current CH₄ emissions from horse manure in the Fairgrounds are included in Table 4.16.C. The CH₄ emissions are calculated on the basis of data published in Environmental Pollution, Vol. 146, Issue 1, March 2007.

The proposed near-term and long-term projects do not include any changes to existing horse operations. The replacement barns will continue to accommodate temporary manure storage. Therefore, no change in CH₄ emissions from horse operations will occur as a result of the Master Plan.

4.16.3 Regulatory Setting

International and Federal Policies and Regulations.

Kyoto Protocol. The United States participates in the United Nations Framework Convention on Climate Change (UNFCCC) (signed on March 21, 1994). The Kyoto Protocol is a treaty reached under the UNFCCC and was the first international agreement to regulate GHG emissions. It has been estimated that if the commitments outlined in the Kyoto Protocol are met, global GHG emissions could be reduced by an estimated 5 percent from 1990 levels during the first commitment period of 2008–2012. Although the United States is a signatory to the Kyoto Protocol, Congress has not ratified the Protocol, and the United States is not bound by the Protocol's commitments.

¹ <http://www.dmtc.com/>, accessed November 2007, and email communication from Nancy Strauss, Del Mar Fairgrounds Recycling Coordinator, February 3, 2009.

Because it will affect virtually all major sectors of the economy, the Kyoto Protocol is considered to be the most far-reaching agreement on environment and sustainable development ever adopted. However, any treaty not only has to be effective in tackling a complicated worldwide problem, it must also be politically acceptable. Most of the world's countries eventually agreed to the Protocol, but some nations chose not to ratify it. Following ratification by Russia, the Kyoto Protocol entered into force on February 16, 2005.

As of December 2006, 169 countries had ratified the agreement with the exception of the United States and Australia. Participating nations are separated into Annex 1 (i.e., industrialized) and Non-Annex 1 (i.e., developing) countries that have different requirements for GHG reductions. The goal of the Protocol is to achieve overall emissions reduction targets for six GHGs by the period of 2008 to 2012. The six GHGs regulated under the Protocol are CO₂, CH₄, N₂O, sulfur hexafluoride, hydrofluorocarbons, and perfluorocarbons. Each nation has an emissions reduction target to reduce GHG emissions a certain percentage below 1990 levels (e.g., 8 percent reduction for the European Union, 6 percent reduction for Japan). The average reduction target for nations participating in the Kyoto Protocol is approximately 5 percent below 1990 levels. Although the United States has not ratified the Protocol, on February 14, 2002, it established a goal of an 18 percent reduction in GHG emissions intensity by 2012. GHG intensity is the ratio of GHG emissions to economic output (i.e., gross domestic product).

Climate Change Technology Program. The United States has opted for a voluntary and incentive-based approach toward emissions reductions in lieu of the Kyoto Protocol's mandatory framework. In February 2002, the United States government announced a comprehensive strategy to reduce the GHG intensity of the American economy by 18 percent over the 10-year period from 2002 to 2012. GHG intensity measures the ratio of GHG emissions to economic output. New and refined technologies offer great promise to reduce GHG emissions significantly. The federal government established the multiagency Climate Change Technology Program (CCTP) in February 2002 to accelerate the development and deployment of key technologies.

In February 2002, the United States government announced a climate change research initiative to focus on key remaining gaps in climate change science. To meet this goal, the federal multiagency Climate Change Science Program (CCSP) was established to investigate natural and human-induced changes in the earth's global environmental system; to monitor, understand, and predict global change; and to provide a sound scientific basis for national and international decision-making. The United States Environmental Protection Agency's (EPA's) primary role in CCSP is evaluating the potential consequences of climate variability and the effects on air quality, water quality, ecosystems, and human health in the United States. (CCTP 2006)

Currently there are no adopted regulations to control global climate change on a national level. However, recent statutory authority has been granted to the EPA that may change the voluntary approach taken under the current administration to address this issue. On April 2, 2007, the United States Supreme Court ruled that the EPA has the authority to regulate CO₂ emissions under the federal Clean Air Act (CAA). Consequently, the regulation of GHG emissions on a national level by the EPA is forthcoming.

EPA ENERGY STAR and WaterSense Programs. ENERGY STAR is a joint program of the EPA and the United States Department of Energy that is focused on reducing costs and increasing environmental protections through the promotion of energy-efficient products and practices. In 1992 the EPA introduced ENERGY STAR as a voluntary labeling program designed to identify and promote energy-efficient products to reduce GHG emissions. Computers and monitors were the first labeled products. Through 1995, EPA expanded the label to additional office equipment products and residential heating and cooling equipment. In 1996, EPA partnered with the United States Department of Energy for particular product categories. The ENERGY STAR label is now on major appliances, office equipment, lighting, home electronics, and more. EPA has also extended the label to cover new homes and commercial and industrial buildings.

WaterSense, a partnership program sponsored by the EPA, seeks to protect the future of the nation's water supply by promoting water efficiency and enhancing the market for water-efficient products, programs, and practices. WaterSense helps consumers identify water-efficient products and programs. The WaterSense label indicates that these products and programs meet water efficiency and performance criteria. WaterSense-labeled products will perform well, help save money, and encourage innovation in manufacturing. WaterSense is partnering with irrigation professionals and irrigation certification programs to promote water-efficient landscape irrigation practices. WaterSense is also partnering with manufacturers, retailers, distributors, and utilities to bring WaterSense products to the marketplace and make it easy to purchase high-performing, water-efficient products.

State Policies and Regulations.

Title 24 (California Energy Code). The Energy Efficiency Standards for Residential and Nonresidential Buildings, commonly referred to as Title 24 of the California Code of Regulations (CCR), were established by the Energy Commission in 1978. All new projects in California are required to meet the standards, which are updated approximately every three years. The most current standards are from 2005 and superseded standards from 2001. Currently, the California Energy Commission proposes to adopt changes to the Building Energy Efficiency Standards contained in CCR, Title 24, Part 6, and associated administrative regulations in Part 1.

The current standards significantly reduce energy consumption as compared to previously constructed projects, particularly those built before 1990. Generally, standards from 2005 mandate efficient outdoor and indoor lighting, cool roofs, demand control ventilation, efficient space conditions systems and duct and pipe insulations, etc. The premise for the standards is that energy-efficient buildings require less electricity, natural gas, and other fuels. Electricity production from fossil fuels and on-site fuel combustion (typically for water heating) results in GHG emissions. Therefore, increased energy efficiency in buildings results in fewer GHG emissions.

Assembly Bill 1493 Vehicular Emissions of Greenhouse Gases. In a response to the transportation sector accounting for more than half of California's CO₂ emissions, Assembly Bill (AB) 1493 (Pavley) was enacted on July 22, 2002. AB 1493 requires the California Air Resources Board (ARB) to set GHG emission standards for passenger vehicles, light duty trucks,

and other vehicles determined to be vehicles whose primary use is noncommercial personal transportation in the State manufactured in 2009 and all subsequent model years. In setting these standards, the ARB considered cost effectiveness, technological feasibility, and economic impacts. ARB adopted the standards in September 2004. When fully phased in, the near-term (2009 to 2012) standards would result in a reduction of approximately 22 percent in GHG emissions compared to the emissions from the 2002 fleet, while the midterm (2013 to 2016) standards would result in a reduction of approximately 30 percent. Some currently used technologies that achieve GHG reductions include small engines with superchargers, continuously variable transmissions, and hybrid electric drives. To set its own GHG emissions limits on motor vehicles, California must receive a waiver from the EPA. The EPA approved the waiver in June 2009.

Executive Order S-03-05. In June 2005, Governor Schwarzenegger established California's GHG emissions reduction targets in Executive Order (EO) S-3-05. The EO established the following goals: GHG emissions should be reduced to 2000 levels by 2010; GHG emissions should be reduced to 1990 levels by 2020; and GHG emissions should be reduced to 80 percent below 1990 levels by 2050. Furthermore, EO S-03-05 requires the Secretary of the California Environmental Protection Agency (Cal EPA) to evaluate the impacts of climate change and establish mitigation measures that would reduce potential impacts. These responsibilities are further delegated to the California Climate Action Team (CAT), which was also created in an effort to support the ARB in its responsibilities under the California Global Warming Solutions Act (described below). The CAT is chaired by the Secretary of Cal EPA and consists of representatives from major California agencies (Secretary of the Business, Transportation, and Housing Agency; Secretary of the Department of Food and Agriculture; Secretary of the Resources Agency; ARB Chairperson; Chairperson of the Energy Commission; and President of the Public Utilities Commission). The CAT is divided into 11 subgroups that develop various strategies to address aspects of global warming, including, but not limited to, land use, transportation, and planning.

Assembly Bill 32—California Global Warming Solutions Act 2006. California's major initiatives for reducing GHG emissions are outlined in AB 32, the "Global Warming Solutions Act," passed by the California State legislature on August 31, 2006, the 2005 EO discussed above, and a 2004 ARB regulation to reduce passenger car GHG emissions. The statute begins with several legislative findings and declarations of intent, including the following:

Global warming poses a serious threat to the economic well-being, public health, natural resources, and the environment of California. The potential adverse impacts of global warming include the exacerbation of air quality problems, a reduction in the quality and supply of water to the state from the Sierra snow pack, a rise in sea levels resulting in the displacement of thousands of coastal businesses and residences, damage to marine ecosystems and the natural environment, and an increase in the incidences of infectious diseases, asthma, and other human health-related problems. (Health and Safety Code, Section 38501.)

The State goal is to reduce GHG emissions to 1990 levels by 2020, a reduction of approximately 25 percent, and then an 80 percent reduction below 1990 levels by 2050. The main strategies for making these reductions are outlined in the Scoping Plan, which when completed will include a range of GHG reduction actions that can include direct regulations, alternative compliance mechanisms, monetary and nonmonetary incentives, voluntary actions, and market-based mechanisms such as a cap-and-trade system.

Pursuant to the requirements of AB 32, the State's reduction in global warming emissions will be accomplished through an enforceable Statewide cap on global warming emissions that will be phased in starting in 2012. Additional early action items include a comprehensive framework of regulatory and nonregulatory elements that will result in significant and effective GHG emission reductions. ARB was required to prepare a plan demonstrating how the 2020 deadline can be met by January 1, 2009. The ARB Board approved the Scoping Plan in December 2008. The Scoping Plan provides the outline for actions to reduce GHG emissions. In addition, AB 32 directed ARB and the newly created CAT to identify a list of "discrete early action GHG reduction measures" that can be adopted and made enforceable by January 1, 2010. CAT is a consortium of representatives from State agencies who have been charged with coordinating and implementing GHG emission reduction programs that fall outside of ARB's jurisdiction.

AB 32 requires the ARB to adopt GHG emission limits and emission reduction measures by January 1, 2011, both of which are to become effective on January 1, 2012. The ARB must also evaluate whether to establish a market-based cap and trade system. AB 32 does not identify a significance level of GHG for CEQA/National Environmental Policy Act (NEPA) purposes, nor has the ARB adopted such a significance threshold.

ARB 2007 Expanded List of Early Action Measures to Reduce GHG Emissions in California. ARB, pursuant to the requirements of the California Global Warming Solutions Act of 2006 (AB 32), has directed its staff to pursue and adopt so-called early action measures that would help the State in achieving its 2020 GHG reduction goals. The Early Action Measures to Reduce Greenhouse Gas Emissions in California Report published in 2007 adopted the first 37 measures. Based on additional meetings with stakeholders that included SCAQMD, ARB, and the California Air Pollution Control Officers Association (CAPCOA), existing measures were revised and new action measures were proposed. To report the findings, an Expanded List of Early Action Measures to Reduce Greenhouse Gas Emissions Report was published later the same year. In the report, ARB recommends expansion of the adopted 37 strategies to a total of 44 measures. The broad spectrum of strategies includes Low Carbon Fuel Standards, regulations for refrigerants with high global warming potentials (GWPs), guidance and protocols for local governments to facilitate GHG reductions, and green ports, etc. The report describes each measure and either recommends its approval or reclassification, or reports on the input received from the stakeholder group. The report analyzes the potential emissions reductions achieved from each measure, estimates the cost of implementation, and analyzes their feasibility.

ARB Climate Change Scoping Plan. Subsequent to approval of the early action measures, ARB developed a Climate Change Scoping Plan to lower the State's GHG emissions to meet the AB 32 2020 limit. The Scoping Plan evaluates opportunities for sector-specific reductions, integrates synergistically all ARB and CAT early actions and additional GHG reduction measures, and defines the role of any potential market mechanisms. The Scoping Plan proposes a comprehensive set of actions designed to reduce overall carbon emissions in California through reduction of oil dependency, diversification of energy sources, energy savings, and enhanced public health while maintaining growth in California's economy.

Executive Order S-01-07. EO S-01-07 was put forth by Governor Arnold Schwarzenegger on January 18, 2007. California further solidified its dedication to reducing GHGs above what was intended in EO S-03-05 by setting a new Low Carbon Fuel Standard for transportation fuels sold within the State. EO S-1-07 sets a declining standard for GHG emissions measured in CO₂ equivalent grams per unit of fuel energy sold in California. The target of the Low Carbon Fuel Standard is to reduce the carbon intensity of California passenger vehicle fuels by at least 10 percent by 2020. Essentially, the order mandates the following: (1) that a Statewide goal be established to reduce the carbon intensity of California's transportation fuels by at least 10 percent by 2020; and (2) that a Low Carbon Fuel Standard (LCFS) for transportation fuels be established for California.

Executive Order S-13-08. EO S-13-08, pertaining to sea level rise assessment, was issued by Governor Arnold Schwarzenegger on November 14, 2008. There are four key actions in the EO, including: (1) initiate California's first Statewide climate change adaptation strategy that will assess the State's expected climate change impacts, identify where California is most vulnerable, and recommend climate adaptation policies by early 2009; (2) request that the National Academy of Science establish an expert panel to report on sea level rise impacts in California to inform State planning and development efforts; (3) issue interim guidance to State agencies for how to plan for sea level rise in designated coastal and floodplain areas for new projects; and (4) initiate a report on critical existing and planned infrastructure projects vulnerable to sea level rise. As a result of the EO, all State agencies are to consider a range of sea level rise scenarios for 2050 and 2100 in order to assess project vulnerability and, to the extent feasible, reduce expected risks. However, all projects that have filed a Notice of Preparation and/or are programmed for construction funding in the next five years, or are routine maintenance projects as of the date of the order, may, but are not required to, account for these planning guidelines.

The EO is intended to facilitate California's first comprehensive climate adaptation strategy. This effort will improve coordination within State government and adapt the way it works so that better planning can more effectively address climate impacts to human health, the environment, the State's water supply, and the economy. The EO is intended to provide consistency and clarity to State agencies on how to address sea level rise in current planning efforts, reducing time and resources unnecessarily spent on developing different policies using different scientific information.

Development of the State's comprehensive climate adaptation strategy is occurring concurrently with preparation of this Draft EIR for the Del Mar Fairgrounds Master Plan. The Notice of

Preparation (NOP) for the Del Mar Fairgrounds Master Plan EIR was issued in March 2008, and therefore, the Master Plan projects are exempt from the provisions of the State's comprehensive climate adaptation strategy. However, as an agency of the State, the 22nd DAA will comply with applicable requirements that result from the climate adaptation strategy as specific plans or regulations are specified in law or adopted by the State legislature.

Senate Bill 97. To address GHG emission and global climate change in General Plans and CEQA documents, Senate Bill (SB) 97 (Chapter 185, 2007) requires the Governor's Office of Planning and Research (OPR) to develop CEQA guidelines on how to address global warming emissions and mitigate project-specific GHG. OPR is required to prepare, develop, and transmit these guidelines on or before July 1, 2009. As described below, OPR has issued a Technical Advisory (TA) in advance of developing amendments to the CEQA Guidelines, and has submitted its proposed amendments to the Secretary of Natural Resources. The public comment period for the California Natural Resources Agency's SB 97 rulemaking closed on August 27, 2009. During the public comment period, the Agency received over 75 comment letters. The Agency is currently reviewing all comments received and will be preparing responses to those comments. All comments and transcripts from the Agency's public hearings have been posted on the Agency's website.

Senate Bill 375. SB 375, which was signed into law on October 1, 2008, provides emissions reduction goals and provides incentives for local governments and developers to follow new conscientiously planned growth patterns. SB 375 enhances the ARB's ability to reach AB 32 goals by directing the ARB to develop regional GHG emission reduction targets to be achieved by the automobile and light truck sectors for 2020 and 2035. The ARB will also work with California's 18 metropolitan planning organizations to align their regional transportation, housing and land use plans; prepare a "sustainable communities strategy" to reduce the number of vehicle miles traveled in their respective regions; and demonstrate the region's ability to attain its GHG reduction targets.

Additionally, SB 375 provides incentives for creating attractive, walkable, and sustainable communities and revitalizing existing communities. The bill exempts homebuilders from certain CEQA requirements if they build projects consistent with the new sustainable community strategies. It will also encourage the development of more alternative transportation options to promote healthy lifestyles and reduce traffic congestion.

OPR Guidelines. OPR issued a TA titled "CEQA and Climate Change: Addressing Climate Change Through CEQA Review" on June 18, 2008. The TA was intended as a guide to planners and CEQA practitioners for addressing climate change in CEQA documents. The TA noted that neither the CEQA statute nor the CEQA Guidelines prescribe thresholds of significance or particular methodologies for performing an impact analysis. However, even in the absence of clearly defined thresholds for GHG emissions, the emissions from projects must be disclosed. OPR identified three basic steps for the GHG approach in CEQA documents: (1) Identify and quantify the GHG emissions; (2) assess the significance of the impact on climate change, and

(3) if the impact is found to be significant, identify alternatives and/or mitigation measures that will reduce the impact below significance.

OPR released draft amendments to the CEQA Guidelines in January 2009, providing informal guidance for public agencies as they address the issue of climate change in CEQA documents. OPR submitted to the Secretary for Natural Resources its proposed amendments to the State CEQA Guidelines for greenhouse gas emissions, as required by SB 97. These proposed amendments to the CEQA Guidelines would provide guidance to public agencies regarding the analysis and mitigation of the effects of greenhouse gas emissions in draft CEQA documents. The public comment period for the California Natural Resources Agency's SB 97 rulemaking closed on August 27, 2009. During the public comment period, the Agency received over 75 comment letters. The Agency is currently reviewing all comments received and will be preparing responses to those comments. All comments and transcripts from the Agency's public hearings have been posted on the Agency's website. The Natural Resources Agency must certify and adopt the guidelines on or before January 1, 2010. The proposed draft amendments were prepared by OPR in collaboration with the California Resources Agency, Cal EPA, and the ARB. The TA provides OPR's perspective on the issue and precedes the development of draft implementing regulations for CEQA in accordance with SB 97 (Chapter 185, Statutes of 2007). The proposed amendments are to 14 sections of the CEQA Guidelines, and it is anticipated that amended regulations will be adopted by 2010.

Waste Diversion. AB 75 was passed in 1999, and the State Agency Model Integrated Waste Management Act (Chapter 764, Statutes of 1999, Strom-Martin) took effect on January 1, 2000. This bill added new provisions to the Public Resources Code (PRC), mandating that State agencies develop and implement an integrated waste management plan (IWMP); AB 75 also mandated that community service districts providing solid waste services report disposal and diversion information to the city, county, or regional agency in which the community service district is located.

The provisions of AB 75 are listed below. Specifically, PRC Sections 40148, 40196.3, and 42920–42926 require State agencies to:

- Develop and submit an IWMP by July 15, 2000;
- Divert at least 25 percent of their solid waste from landfills or transformation facilities by January 1, 2002, and divert 50 percent on and after January 1, 2004; and
- Submit an annual report to the CIWMB on the previous year's diversion amounts and activities by April 1 of each year.

Other Programs.

Manure Management. The ARB currently develops manure management strategies as a part of the State's strategy for achieving GHG reductions under AB 32. Manure from California's confined animals is a source of reactive organic gases (ROGs), GHGs, particulate matter (PM₁₀), and ammonia (NH₃). CH₄ is the main GHG that is released from manure decomposition. In June 2007, ARB adopted the Manure Management Protocol (Protocol), which describes the ways to capture and combust CH₄ from manure management systems to avoid excessive GHG emissions into the atmosphere. The Protocol is written with respect to livestock operations and does not focus on equestrian facilities. According to the EPA's "*Inventory of US Greenhouse Gas Emissions and Sink 1990–2005*" nationwide emissions of CH₄ and N₂O from horse manure management were approximately 0.7 Tg CO₂e in both 1990 and 2005.

The ARB prepared an inventory of the GHG emissions from the baseline years 1990 and 2004, and the results indicate that GHG emissions from horse manure management were approximately 0.06 Tg of CO₂e in both 1990 and 2004. In both of these years, the emissions accounted for approximately 0.02 percent of the total GHG emissions in California.

The composition of gases being released while manure is drying partially depends on a horse's diet. Proper diet and incorporation of manure management techniques can partially limit CH₄, which is released to the air via manure decomposition. Incorporation of the manure management techniques is prescribed in Equestrian Related Water Quality BMPs. In February 2008, the 22nd DAA filed a National Pollution Discharge Elimination System (NPDES) application and Report of Waste Discharge (ROWD), Nutrient Management Plan (NMP), and NPDES application to obtain Waste Discharge Requirements (WDRs) from the San Diego Regional Water Quality Control Board (RWQCB) specific to Confined Animal Feeding Operations (CAFO) discharges. The application and NMP are currently under review by the San Diego RWQCB. The NMP describes practices, operations, and BMPs specific to manure and CAFO-related waste collection, storage, and removal from the site. The 22nd DAA has implemented measures as part of the NMP to eliminate the discharge of processed wastewater from the CAFO production areas at Del Mar Fairgrounds through a combination of practices, including removal of temporary manure stockpiles on a daily basis. See Section 4.11, Hydrology and Water Quality, for more information.

Assembly Bill 75. AB 75 was passed in 1999 and mandates State agencies to develop and implement an integrated waste management plan. In addition, the bill mandates that community service districts providing solid waste services should report the disposal and diversion information to the city, county, or regional jurisdiction. Since 2004 the bill requires diversion of at least 50 percent of the solid waste from landfills and transformation facilities and submission of an annual report describing the diversion rates to the CIWMB.

United States Mayors Climate Protection Agreement. The Cities of Del Mar and San Diego participate in the Cool Cities Program promoted by the nongovernmental organization, Sierra Club. The Cool Cities Program, in partnership with the International Council on Local Environment Initiatives (ICLEI), adopted a voluntary program that strives to meet sustainable

goals by reducing GHGs and increasing energy efficiency. The participating cities make commitments to stop global warming by signing the United States Mayors Climate Protection Agreement and also strive to meet the 2030 Challenge (refer to next section for a detailed description of this program). The Cool Cities Program also encourages its members to gradually achieve and complete five milestones: (1) establish a Cool Cities campaign, (2) engage the community to participate, (3) sign the United States Mayors Agreement, (4) take initial solution steps (initiation of early implementation actions), and (5) ultimately perform a global warming audit by adopting milestone 5, “Advanced Smart Energy Solutions.” The Cities of Del Mar and San Diego are currently on level 3 out of a possible five levels in achieving their milestones by being a signatory to United States Mayors Agreement.

The United States Mayors Agreement attempts to enact policies and programs that would reduce global warming pollution levels to 7 percent below 1990 levels by 2012, including efforts for conservation, CH₄ recovery for energy generation, waste to energy, wind and solar energy, fuel cells, efficient motor vehicles, and biofuels. The Agreement also aims to meet or exceed Kyoto Protocol targets for reducing global warming pollution by taking the following 12 actions in participating cities communities:

- Inventory global warming emissions in City operations and in the community, set reduction targets, and create an action plan
- Adopt and enforce land use policies that reduce sprawl; preserve open space; and create compact, walkable urban communities
- Promote transportation options such as bicycle trails, commute trip reduction programs, incentives for carpooling, and public transit
- Increase the use of clean, alternative energy by, for example, investing in “green tags,” advocating for the development of renewable energy resources, and recovering landfill CH₄ for energy production
- Make energy efficiency a priority through building code improvements, retrofitting city facilities with energy efficient lighting, and urging employees to conserve energy and save money
- Purchase only ENERGY STAR equipment and appliances for city use
- Practice and promote sustainable building practices using the United States Green Building Council’s Leadership in Energy and Environmental Design (LEED-NC Silver) program or a similar system
- Increase the average fuel efficiency of municipal fleet vehicles; reduce the number of vehicles; launch an employee education program including anti-idling messages; convert diesel vehicles to bio-diesel
- Evaluate opportunities to increase pump efficiency in water and wastewater systems; recover wastewater treatment CH₄ for energy production
- Increase recycling rates in city operations and in the community
- Maintain healthy urban forests; promote tree planting to increase shading and to absorb CO₂

- Help educate the public, schools, other jurisdictions, professional associations, business, and industry regarding reducing global warming pollution

2030 Challenge. 2030 Challenge is a global initiative proposed in January 2006 by Architecture 2030, a nongovernmental organization, and adopted by many organizations worldwide. The initiative proposes a dramatic reduction of the building's fossil fuel GHG emissions to reach a carbon-neutral level by 2030. The American Institute of Architects (AIA) is one of the lead organizations responsible for implementing the targets. The 2030 Challenge has been also adopted by the United States Green Building Council (USGBC), Leadership in Energy and Environmental Design-New Construction (LEED-NC) Silver, EPA/Target Finder, Royal Architecture Institute of Canada (RAIC), and the International Council for Local Environmental Initiatives (ICLEI).

Leadership in Energy and Environmental Design. LEED is an internationally recognized green building certification program that is implemented through USGBC. USGBC is a consensus nonprofit organization representing the entire building industry and consisting of almost 20,000 companies and organizations. The first LEED-NC was initiated in 2000. (In 1998, the first project under LEED-NC was in the pilot stage.) Currently, there are programs for other types of construction as well, including Existing Buildings: Operations and Maintenance, Core and Shell, Commercial Interiors, Homes, Schools, Healthcare, Retail and Neighborhood Development. The LEED rating system is based on six major sections (Sustainable Sites, Water Efficiency, Energy and Atmosphere, Materials Resources, Indoor Air Quality, and Innovation in Design) in which the buildings can achieve credits toward certification. In addition to the basic level of certification, Silver, Gold, and Platinum certification programs are also available.

State Regulations for State Buildings, Executive Order S-20-04. This EO was signed by Governor Arnold Schwarzenegger in December 2004 for State-owned facilities in order to reduce building energy consumption and promote energy efficiency according to the LEED-NC Silver standards. In general, the order requires State-owned facilities to take actions to reduce State building electricity usage by retrofitting, building, and operating the most energy- and resource-efficient buildings in a cost-effective manner, as described in the Green Building Action Plan. The Green Building Action Plan was established to direct progress toward the goals assigned in EO S-20-04 as well as include recommendations for any additional actions. Among many goals established in EO S-20-04, the State commits to design, construct, and operate all new and renovated State-owned facilities paid by State funds as "LEED-NC Silver" or higher certified building and purchase and operate ENERGY STAR electrical equipment when feasible.

Regional Policies: 2030 Regional Transportation Plan. The Regional Transportation Plan (RTP), MOBILITY 2030, serves as a blueprint to address the mobility challenges created by the San Diego region's growing population and employment. It contains an integrated set of public policies, strategies, and investments to maintain, manage, and improve the transportation system in the San Diego region. Land Use Transportation Connection: Growing Smarter, Chapter 5 of the RTP, includes GHG strategies that would reduce regional GHG emissions. Two main

approaches to reduce GHGs described in the RTP include reduction in vehicle miles traveled (VMT) and use of cleaner energy while traveling.

Local Policies and Regulations: City of Del Mar Sustainable Development Programs and Policies.

City of Del Mar Solar Energy Ordinance. In its Municipal Code (Section 23.20), the City of Del Mar adopts a Solar Energy Ordinance. The purpose of this ordinance is to decrease the City's dependence upon nonrenewable energy systems for sources through the encouragement of solar energy systems for the heating of buildings and water. The ordinance incorporates provisions regarding space heating and space cooling devices. The City ordinance requires that all space heating be provided with an active, passive, or hybrid solar space heating system.

Space Heating. *“Required Solar Space Heating systems will at minimum meet or exceed guidelines of this policy, or shall consist of an alternative design, which is sufficient to meet or exceed the stated intent of this Chapter.”*

Space Cooling. *“The installation of conventional air refrigeration systems will be discouraged in all structures. This policy will not apply to rooms where air refrigerants are necessary such as medical rooms, or rooms designed for storage, maintenance, or processing of temperature sensitive materials or equipment.”*

The Ordinance also requires swimming pool heating utilizing solar heating devices.

City of Del Mar General Plan 1976. The Community Plan for the City of Del Mar was adopted in 1976. The Plan mainly focuses on environmental management, transportation, and community development. The Conservation Element of the environmental management section provides goals related to sustainability and energy efficiency. These goals and related policies are presented in Table 4.16.D.

Local Policies and Regulations: City of San Diego.

City of San Diego Sustainable Development Programs and Policies. The City of San Diego has taken a leadership position in fighting against climate change since 2002. The first action taken by the City was the establishment of the Sustainable Community Programs and indicators followed by adoption of a comprehensive strategy regarding energy efficiency and GHG reduction.

City of San Diego Adopted Sustainable Community Program Indicators. The City of San Diego adopted a Sustainable Communities Program in 2002 and in 2004 published and adopted numerous sustainable indicators that would measure and ultimately reduce the following areas of

Table 4.16.D: Del Mar Community Plan Objectives and Policies

Goal	Objectives as Related to the Conservation and Energy Efficiency
<p>Goal 1 Establish without delay a comprehensive program to preserve and acquire permanent open space sufficient to meet the long-range needs of the community, preserve and enhance natural and man-made resources, and protect areas susceptible to seismic and flooding hazards.</p>	<p>Objective L: Reduce energy consumption and encourage material recycling:</p> <ul style="list-style-type: none"> • Encourage the maximum feasible insulation in buildings • Encourage energy-efficient heating, lighting, and ventilation systems and discourage completely air-conditioned building (encourage building with windows that allow for ventilation) • Encourage an increased degree of energy self-sufficiency through solar heating, particularly for swimming pools. • Establish and publicize a local recycling program for solid waste materials • Support Statewide use of returnable beverage containers <p>Objective M: Promote prudent use of water resources by encouraging natural landscaping that requires little watering.</p> <p>Objective N: Support gasoline conservation activities such as carpooling and public transportation.</p>
<p>Goal 2 Minimize impact for the automobile on the character of Del Mar and emphasize a more pedestrian oriented environment, safer sidewalks, landscaped buffer zones, and alternate means of transportation.</p>	<p>Objective A: Encourage a pedestrian-oriented nonmotorized community by developing a system of bicycle rights-of-way and pedestrian paths and discouraging high speed traffic along City streets.</p> <p>Objective C: Encourage alternate solutions to the transportation needs of Del Mar such as local transit and delivery systems and regional rapid transit.</p> <p>Objective E: Minimize air pollution by encouraging alternatives to the use of the automobile.</p>

Source: The Community Plan of the Del Mar 1976.

concern: traffic congestion, beach and bay clean up, design of sustainable and safe communities, adoption of “living wages,” pursuit of energy independence, adoption of water conservation measures, energy efficiency, and adoption of species conservation plans. These indicators are being implemented by the Climate Protection Action Plan 2005.

City of San Diego: “The Climate Protection Action Plan 2005.” In 2005, the City of San Diego adopted its cornerstone document for climate change, “The Climate Protection Action Plan 2005.” The Plan is loosely based on the criteria set by the Cities for Climate Protection Campaign prepared by the ICLEI. The City, a partner of ICLEI, prepared and implemented the program that aims to achieve sustainable development goals. The Plan addresses both GHG from emissions from communities (commercial, industrial, residential, and other) and from operation of the City as a government. The Plan consists of five major elements and depicts their relationship to climate change: Transportation, Energy, Waste, Urban Heat Island Effect, and Environmentally Preferable Purchasing. The Plan discusses local impacts of climate change, actions adopted by the City to achieve sustainable development goals, emissions baselines and forecasts, emissions reduction strategies, and mitigation measures. The City initiated implementation of the GHG reduction strategies by conducting a baseline GHG emissions inventory and setting up a baseline year of 1990 (Kyoto Protocol). A 15 percent reduction target relative to the 1990 baseline was set to be achieved by 2010.

Preferable Purchasing. The Plan discusses local impacts of climate change, actions adopted by the City to achieve sustainable development goals, emissions baselines and forecasts, emissions reduction strategies, and mitigation measures. The City initiated implementation of the GHG reduction strategies by conducting a baseline GHG emissions inventory and setting up a baseline year of 1990 (Kyoto Protocol). A 15 percent reduction target relative to the 1990 baseline was set to be achieved by 2010.

Following are the City’s major milestones in completing the goals of the Climate Protection Action Plan 2005:

- Establish a 15 percent GHG reduction goal set for 2010, using 1990 as a baseline
- Adopt Resolution R-298412 (R-2004-227), 50 mW Renewable Energy Goal, established the goal for adding 50 mW of renewable energy for City operations by 2013
- Establish a GHG emissions inventory
- Set emissions reduction targets and develop comprehensive strategies to meet these targets
- Implement emissions reduction actions and measure their results
- Adopt a City Environmentally Preferable Purchasing Policy

The Climate Protection Action Plan is intended to guide City actions and is not directly applicable to the Del Mar Fairgrounds, which is owned and operated by the 22nd DAA. The 22nd DAA’s current procedures for reducing waste, proposed project components such as improved landscaping at the Fairgrounds site, and mitigation measures listed later in this section regarding energy conservation are consistent with the intent and content of the City’s Climate Protection Action Plan.

Local Policies and Regulations: County of San Diego.

San Diego County Sustainable Development Programs and Policies. The County of San Diego has been one of the first to set up stringent goals concerning energy efficiency and impacts on energy resources. The County General Plan includes a discretionary Energy Element, which set the foundation for the future development of programs and incentives throughout the County.

San Diego County General Plan Energy Element 1990. The Energy Element of the San Diego County General Plan was initially adopted in 1977 and incorporated into the County General Plan in 1990. The Energy Element sets the foundation for the County energy-related policies and attempts to develop strategy that will help the County to conserve energy. Following are the goals as they relate to energy conservation:

- Goal 2:** Encourage the utilization of alternative passive and renewable energy resources
- Goal 3:** Maximize energy conservation and efficiency of utilization
- Goal 4:** Minimize environmental impact of energy resources
- Goal 5:** Minimize economic or social impacts of energy supply and demand
- Goal 8:** Encourage compatibility with national and State energy goals and community general plans/regional comprehensive plans.

As stated in the San Diego County General Plan, the primary objective of the plan is to “achieve maximum conservation practices and maximum development of renewable alternative sources of energy.” This objective is being implemented by the incorporation of a number of policies and action programs, as presented in Table 4.16.E.

As stated above, the County prepared a set of policies that set a foundation for city policies, actions, and other programs as they relate to energy efficiency.

San Diego County Green Building Incentive Program. The County of San Diego adopted the Green Building Incentive Program in 1998. The program applies to new construction of all County buildings, requiring LEED–NC Silver certification, and promotes the efficient use of construction materials, water conservation, and energy efficiency in residential and commercial buildings. The program offers incentives for reduced plan check turnaround time and a 7.5 percent reduction in plan check and building permit fees for projects meeting program requirements. Among many policies the County adopts are energy conservation programs in compliance with California Energy Efficiency Standards, the Resource Protection Ordinance, and the County’s Construction and Demolition Recycling Guide.

Table 4.16.E: Applicable Policies and Action Plans from the Energy Element, San Diego County General Plan 1990

Policy Number	Policy/Action Plan
Resources, Information, and Coordination Policies	
Policy RIC-1	Promote public information on the issues that surround energy and on methods for conserving energy.
Action Program RIC-1.3	Provide information on energy related topics to residents of the County.
Conservation Policies	
Policy UT-1	Encourage conservation in residential and commercial space heating (Performance Expectation 6.8 percent).
Policy UT-2	Encourage energy conservation in residential and commercial space cooling (air conditioning) (Performance Expectation 1.1 percent).
Policy UT-3	Promote energy conserving measures in residential and commercial water heating (Performance Expectation 1.5 percent).
Policy UT-4	Promote restrictions on the use of electricity and fossil fuels for advertising and decorative purposes. (Performance Expectation 1.3 percent).
Policy UT-5	Encourage reduced levels of nonessential lighting in all sectors (Performance Expectation 1.2 percent).
Policy UT-7	Promote solid waste recycling (Performance Expectation 1.2 percent).
Policy UT-9	Encourage efficiency standards and labeling of major appliances.
Policy UT-12	Promote strict County water conservation and recycling measures as a means of conserving energy. (Through new dual-flush toilet installations, drip or trickle irrigations systems).
Urban and Site Design Policies	
Policy US-5	Promote changes in technology utilization construction practice that will reduce energy consumption in new development.
Transportation Policies	
Policy T-1	Promote the availability of safe and practical walking and bicycling routes within the County. (Performance Expectation 0.2 percent).

Source: Part XI, Energy Element, San Diego County General Plan – 1990.

4.16.4 Methodology

For the purpose of this section of the EIR, CO₂e is used in all emissions calculations. Individual GHG have a varying GWP and atmospheric lifetimes. The CO₂ equivalent is a consistent methodology for comparing GHG emissions since it normalizes various GHGs to the same metric. The reference gas is CO₂, which has a GWP equal to 1. Table 4.16.F presents set of GHGs and their GWPs and lifetimes.

Table 4.16.F: Global Warming Potentials and Atmospheric Lifetimes

Gas	Atmospheric Lifetime	Global Warming Potential (100-year Time Horizon)
Carbon Dioxide	50–200	1
Methane	12 ± 3	21
Nitrous Oxide	120	310
HFC-23	264	11,700
HFC-134a	14.6	1,300
HFC-152a	1.5	140
PFC	50,000	6,500
PFC	10,000	9,200
Sulfur hexafluoroethane	3,200	23,900
Sulfur hexafluoride	50–200	1

Source: AEP, Alternative Approached to Analyzing Greenhouse Gas Emissions and Global Climate Change in CEQA Documents, November 2007.

AEP = Association of Environmental Professionals

CEQA = California Environmental Quality Act

The equation below provides the basic calculation required to determine CO₂e from the total mass of a given GHG using the GWPs published by the IPCC.

$$\text{Metric Tons of CO}_2\text{e} = \text{Metric Tons of GHG} \times \text{GWP.}$$

This method was used to evaluate GHG emissions during construction and operation of the proposed project. For this analysis only CO₂, CH₄, and N₂O are considered. This is due to the relatively large contribution of these gases in comparison to other GHGs produced during the project construction and operation phase. See Table 4.16.D for the modeling source information.

The GHG emission estimates were calculated using URBEMIS2007. URBEMIS is a computer program that can be used to estimate emissions associated with land development projects in California such as residential neighborhoods, shopping centers, and office buildings; area sources such as gas appliances, wood stoves, fireplaces, and landscape maintenance equipment; and construction projects. URBEMIS stands for “Urban Emissions.” URBEMIS 2007 is an air quality modeling program that estimates air pollution emissions in pounds per day (lbs/day) or tpy for various land uses, area sources, construction projects, and project operations. Mitigation measures can also be specified to analyze the effects of mitigation on project emissions. The URBEMIS 2007 model uses the ARB EMFAC2007 model for on-road vehicle emissions and the OFFROAD2007 model for off-road vehicle emissions. URBEMIS 2007 includes CO₂ emissions factors, the principal GHG constituent.

4.16.5 Impact Significance Criteria

Currently, CEQA guidelines do not provide thresholds for GHG emissions, and GHGs are not listed as a topic for review on the CEQA Checklist. However, CEQA does provide guidance regarding topics related to climate change. Sections 15144 and 15145 of the CEQA Guidelines address forecasting and speculation. Section 15144 notes that drafting an EIR necessarily involves some

degree of forecasting, whereas Section 15145 deals with the difficulty of forecasting when reasonable investigation is unable to resolve the issues and thus may result in speculative answers. As stated in the CEQA Guidelines, the Lead Agency is not required to engage in speculation discussion but is required to inform the decision makers of the potential impacts of the proposed activity. CEQA Guidelines Section 15002(a)(1) states that one of the basic purposes of CEQA is to “inform governmental decision-makers and the public about the potential, significant environmental effects of proposed activities.” The Governor of California and the State Legislature have expressed their interest in and importance of Global Climate Change to the citizens of California through the passage of AB 32 in the Legislature and the Governor’s EOs, which call for reductions of GHG emissions. Therefore, the presented discussion is warranted to inform decision makers of the potential effects of the proposed project. In addition, in a published CEQA and Climate Change White Paper, CAPCOA offers views on CEQA and addressing climate change issues.

Climate change is a global issue and is described in the context of the cumulative environment. Development projects potentially contribute to global climate change and increase GHG emissions. However, it is impossible to measure each individual direct impact in the context of its effect on global climate change. Therefore, individual impact discussions are not applicable for the proposed project, and the project is considered in the context of multiple sectors and the combined efforts of many industries, including development. The following threshold was prepared on the basis of the GHG programs being initiated by the State, San Diego County, as well as GHG applicable methodology from the CAPCOA white paper. The effects of the project on GHG emissions may be considered to be cumulatively considerable if the proposed project:

Threshold 4.16.1 Results in an increase in GHG emissions above current levels for the project site.

Climate change is a global environmental problem; therefore, this study addresses climate change as a cumulative impact. To the extent possible, this study assesses potential sources of GHG emissions from the project and quantifies those emissions.

4.16.6 Cumulative Impacts

The 2008 Master Plan for Del Mar Fairgrounds includes near-term projects as well as conceptual long-term projects to be constructed over a period of 15 years. The near-term projects are intended to provide maintenance and improvement to the current Fairgrounds facilities, including renovation and modernization of several structures and parking areas, construction of new structures, demolition of structures, and relocation of a maintenance yard and fire station. The near-term projects have the potential to affect operational GHG emissions in two ways: by changing energy use and changing vehicular trips as a result of uses and facilities at the Fairgrounds site. Opportunities for energy conservation occur with the replacement of older structures with newer, more energy-efficient structures. Conversely, greater square footage of structures to be heated and/or cooled may result in an increase in energy consumption. The number of vehicle trips associated with the near-term projects increase compared to existing conditions. See Section 4.2, Transportation and Circulation, for more information.

The long-term projects are conceptual and will provide for the maintenance of existing facilities as well as construction of new structures. The long-term projects will require additional planning in the future to define precise building parameters and may require additional environmental analysis. The long-term projects include a parking structure to replace surface parking lost as a result of habitat restoration and a new seasonal train platform on or adjacent to the Fairgrounds site to promote increased use of transit by patrons of the Fair, Race Meet, and other events at the Fairgrounds.

A third source of GHG emissions at the Fairgrounds (in addition to energy consumption and vehicle miles travelled) is manure produced and stored on site. Manure is a source of CH₄ gas. Neither the near-term nor long-term projects include any changes to the current number of horses on site during the racing season or other livestock during the Fair. Therefore, no overall increase or reduction in CH₄ emissions is expected as a result of project implementation.

The buildings proposed as part of the near-term and long-term projects in the Fairgrounds Master Plan will obtain the LEED-NC Silver certification. Many of the design components that are incorporated into the building plans as part of the LEED-NC Silver credit system reduce energy use and conserve water, thereby reducing GHG emissions overall.

Project Design Features: LEED-NC Certification. The LEED-NC Silver Green Building Rating System™ promotes sustainable green building and development practices through the creation and implementation of accepted tools and performance criteria. LEED-NC Silver is a third-party certification program and the nationally accepted benchmark for the design, construction, and operation of high-performance green buildings. LEED-NC Silver gives building owners and operators a menu of optional design features that, when combined, can have measurable impact on a building's performance. Depending on the number of points or credits a building is able to achieve, it may qualify for basic certification, or Silver-, Gold-, or Platinum-level certification.

According to the State of California, Green Building Plan, all State-owned facilities must reduce energy consumption levels by 20 percent by 2015 and are to be designed, constructed, and certified at LEED-New Construction (LEED-NC) Silver level or higher if the area exceeds 10,000 square feet (sf). To become a LEED-NC Silver certified building, the project must achieve a minimum of 33 points from the LEED-NC Silver Version 2.2, Project Checklist.

Addressed earlier, LEED-NC Silver promotes a whole-building approach to sustainability by recognizing performance in five key areas of human and environmental health: sustainable site development, water savings, energy efficiency, materials selection, and indoor environmental quality. There is also an opportunity to pursue LEED-NC Silver certification for Multiple Buildings and an On-Campus Building using a rating system that provides direction in applying LEED-NC Silver for New Construction to projects in a campus or multiple building setting such as the Del Mar Fairgrounds. The Multiple Buildings certification is intended for projects where either several buildings are constructed at once or in phases, or a single building is constructed in a setting of existing buildings with common ownership or planned with the ability to share amenities or common design features. The 22nd DAA will identify the appropriate certification approach prior to final design of the near-term projects involving new building construction (hotel, Health Club/Sports Training Facility, exhibit space, replacement administration building, and replacement maintenance buildings).

The LEED-NC Silver New Construction checklist is divided into seven sections that are subdivided into individual credits that the project can achieve if it designs, constructs, or implements measures as prescribed in each credit. It is anticipated that the credits that will be applied at the Del Mar Fairgrounds to achieve LEED-NC Silver certification will include, but may not be limited to the following:

Alternative Transportation/Bicycle Storage and Changing Rooms. A project's conformance with this standard is achieved by incorporation of project components that foster use of alternative transportation to reduce GHG emissions from automobiles. The proposed Master Plan includes a seasonal new train platform in the long term to improve rail access to the site. The provision of bicycle storage and changing rooms for employees and Fairgrounds users, as stipulated in the Sustainability Component of the Master Plan, would also encourage alternative transportation to the site.

Heat Island Effect Non-Roof. Conformance with this credit will be achieved by reduction of a project's heat island effect (which is a thermal gradient difference between developed and undeveloped areas) to minimize impacts on microclimate and human and wildlife habitat. Methods of reducing the heat island effect (nonroof) include use of light-colored paint and building materials to reflect heat, use of light-colored materials on the roof-top fields, covered parking, and incorporation of landscaping in parking lots to reduce heat generated by asphalt parking lots. The proposed hotel parking will be a semisubterranean parking structure that reduces the heat island effect compared to an open asphalt parking lot.

Water Use Reduction (20 percent). Building design components that can reduce water use in new buildings include the use of high-efficiency fixtures, dry fixtures (composting toilet systems), nonwater-using urinals, and occupant sensors to reduce the potable water demand. Other strategies include reuse of storm water and gray water for nonpotable applications such as toilet and urinal flushing and custodial uses. Compliance with the Water Efficiency Credit will reduce the project's water use by up to 20 percent. Compliance will minimize the increased burden on municipal water suppliers and wastewater system and reduce the additional energy consumption as a result of collection, treating, and distribution of potable water.

Optimize Energy Performance. This credit intends to achieve increased levels of energy performance above current building energy efficiency standards. The credit reduces environmental and economic impacts associated with excessive energy use. All new buildings are required to achieve at least a 10.5–42 percent reduction above the baseline scenario to obtain this credit.

Enhanced Refrigerant Management. This credit reduces or eliminates the use of CFC-based refrigerants. The intent of the credit is to reduce O₃ depletion and minimize direct contributions to global warming.

Enhanced Commissioning. This credit is achieved by designation of an independent commissioning authority to lead, review, and oversee the completion of all commissioning process activities. The systems to be commissioned include heating, ventilation, and air-conditioning (HVAC) systems, building envelopes, storm water management systems, water treatment systems, and information technology systems.

Green Power. The Green Power credit can be achieved by using off-grid sources of power and renewable energy technologies. Implementation of this credit is dependent on the local availability of green power by the service provider serving the project site. The intent of the credit is to provide at least 35 percent of the building's electricity from renewable sources by engaging in at least a 2-year renewable energy contract.

Construction Waste Management—Divert 50 Percent from Disposal. This credit is executed by diversion of 50 percent of nonhazardous construction waste and demolition debris from disposal in landfill and incinerators. The materials used for recycling could include: cardboard, metal, brick, acoustical tile, concrete, plastic, clean wood, glass, gypsum wallboard, carpet, and insulation. The credit also anticipates the redirection of recyclable recovered resources back to the manufacturing process and redirection of reusable materials to appropriate sites. A construction waste management plan is prepared to achieve this credit.

Regional Materials—10 Percent Extracted, Processed, and Manufactured Regionally. In order to achieve this credit, the project is expected to use construction materials that have been extracted, harvested, or recovered, as well as manufactured, within 500 mi of the project site for a minimum of 10 percent of the total materials value (based on the cost). The intent of this strategy is to support the use of indigenous resources and reduce environmental impacts resulting from transportation. To ensure compliance with this credit, the contractor will identify materials and material suppliers that can achieve this goal.

Minimum Indoor Air Quality Performance. Minimum Indoor Air Quality performance is intended to prevent the development of indoor air problems in buildings, thus contributing to the comfort and well-being of the occupants. The project site's location in close proximity to the ocean lends itself to implementation of passive ventilation (naturally ventilated buildings). While intended to promote comfort, this strategy can also have the effect of reducing energy use for cooling.

There are several LEED-NC Silver credit strategies that could be implemented by the 22nd DAA to achieve LEED-NC Silver certification that do not directly lead to a reduction in GHG emissions. These credit strategies include the following:

Environmental Tobacco Smoke (ETS) Control. According to LEED-NC Silver standards, indoor environmental quality shall be achieved by preventing exposure of building occupants and systems to ETS, or secondhand smoke. Conformance with this standard will be achieved through designation as a nonsmoking facility and posting signage preventing smoking within 25 feet of the building entrances, outdoor air intakes, and operable windows.

Low-Emitting Materials (Adhesives and Sealants). Improved indoor environmental quality can be achieved through a reduction of indoor air contaminants by using low VOC interior construction materials. Conformance with this standard will be implemented by compliance with Adhesive, Sealants, and Sealant Primers: SCAQMD Rule 1168, which set limits on VOCs adhesives.

Indoor Chemical and Pollutant Sources Control. Implementation of this LEED-NC Silver standard minimizes the exposure of building occupants to potentially hazardous particulates and chemical pollutants. Conformance with this standard will be implemented by designing the building to minimize a control pollutant entry into buildings and later cross-contamination of regularly occupied areas. For example, new structures such as the three proposed maintenance structures could be designed to include isolated exhaust systems and entryway grilles.

Innovation and Design Process. The LEED-NC Silver program promotes the incorporation of additional measures that are not already prescribed in the LEED-NC Silver system. Conformance with this standard shall be achieved by incorporation of strategies that demonstrate a comprehensive approach and have substantial, measurable environmental benefit. The 22nd DAA may choose to pursue compliance with this standard through comprehensive educational programs that will teach about LEED-NC Silver design through the provision of information through interactive display, Web site and/or-video, including educational programs incorporated into the County Fair at the Del Mar Fairgrounds.

As described above, there are a number of strategies identified by LEED for new construction projects. An appropriate combination of strategies will be applied to the Master Plan projects to achieve LEED-NC Silver certification, as committed to in the Project Design Feature (PDF) identified below.

PDF GHG-1. The 22nd DAA will work with the State Architect, California Construction Authority (CCA), and the project designers and engineers to identify LEED-NC Silver credit design components to be incorporated into the construction plans for the proposed near-term and long-term projects, including the hotel, Health Club/Sports Training Facility, and exhibit halls, as well as the replacement administration building, replacement Horseman's Village, and replacement maintenance buildings. Prior to final design, register the subject buildings in the LEED-NC Silver program prior to initiation of construction, and seek LEED-NC Silver certification after construction.

Consistency with Policies. Section 15064(h)(3) of the CEQA Guidelines states that a Lead Agency may determine that a project’s incremental contribution to a cumulative effect is not cumulatively considerable if the project will comply with the requirements in a plan or regulation that apply to the project that is specified in law or adopted by the public agency and has specific requirements to reduce the emissions of GHG. The consistency of the proposed Master Plan projects for the Del Mar Fairgrounds with applicable plans is discussed below. It is noted, however, that the currently applicable plans do not include specific requirements or mitigation that ensure reductions of GHG. Inasmuch as specific quantifiable reductions cannot be assumed to be realized as a result of implementation of these policies and strategies, the EIR also includes a quantitative analysis of GHG emissions pursuant to Threshold 4.16.1.

The Cities and County General Plan goals and Climate Action Protection Program strategies are intended to reduce energy consumption and GHG emissions that are being implemented pursuant to State requirements. The consistency of the Master Plan projects with adopted policies, including the City of Del Mar General Plan requirements and applicable Municipal Code sections, the City of San Diego Climate Protection Action Plan, and, as adopted by both Cities, the United States Mayors Climate Protection Agreement, are presented in Table 4.16.G. In addition, GHG reduction strategies as adopted or recommended by the ARB, State and Consumer Service Agency, County of San Diego Regional Transportation Plan, and California Climate Action Team are presented in Table 4.16.H along with the proposed project consistency discussion.

As presented in Tables 4.16.G and 4.16.H, the proposed project is, on balance, consistent with the applicable adopted policies and strategies. Implementation of the Sustainability Component of the Master Plan, commitment to LEED-NC Silver certification, and implementation of mitigation result in the incorporation of features and measures that promote energy conservation and alternative modes of transportation and reduce project emissions of GHG overall, consistent with adopted policies and strategies. A summary of the project’s consistency with adopted policies and strategies is included in Tables 4.16.G and 4.16.H.

Threshold 4.16.1 Results in an increase in GHG emissions above current levels for the project site.

Near-Term Project Impact Analysis. The proposed near-term projects include the construction of new structures including a 330-room hotel, a 60,000 sf Health Club/Sports Training Facility, and a new exhibit building. The near-term projects also include replacement structures for the

Table 4.16.G: Consistency with Policies

Policy	Del Mar Fairgrounds Master Plan Project Consistency with Policy
City of Del Mar, Municipal Code 23.20 “Solar Energy Ordinance”	
Require solar space cooling and heating	Consistent. Proposed project mitigation requires consideration of incorporating solar panels in the proposed structures, and specifically in Maintenance Building Complex B
Consistency with Environmental Management and Transportation Elements of City of Del Mar General Plan 1976	
Objective L: Reduce energy consumption and	Consistent. The proposed project implements LEED-NC

Table 4.16.G: Consistency with Policies

Policy	Del Mar Fairgrounds Master Plan Project Consistency with Policy
encourage material recycling (Community Plan Objectives)	Silver strategies so that energy consumption reduction exceeds Title 24 requirements. The project will include a Recycling Plan that will reuse materials from the demolition of the administrative, exhibition, and other buildings. The Sustainability Component of the Master Plan commits to regular energy audits and commissioning.
Encourage the maximum feasible insulation in buildings	Consistent. The proposed structures that use heating and/or cooling systems will be constructed with insulation in accordance with or exceeding the requirements of Title 24.
Encourage energy-efficient heating lighting and ventilation systems and discourage completely air-conditioned buildings (encourage buildings with windows that allow for ventilation)	Consistent. The proposed project complies with the strategies by installation of ENERGY STAR-rated appliances and natural ventilation systems, as required by LEED-NC Silver.
Encourage an increased degree of energy self-sufficiency through solar heating, particularly for swimming pools	Consistent. Use of solar heating is required for the hotel swimming pool.
Establish and publicize a local recycling program for solid waste materials	Consistent. The 22nd DAA currently employs aggressive recycling strategies. The Del Mar Fairgrounds achieved a 91.3 percent (over 41 million pounds) diversion rate for its solid waste in 2005 and has set an ultimate goal of “zero waste.” The 22nd DAA will implement a Recycling Plan as a part of the LEED-NC Silver certification process.
Support Statewide use of returnable beverage containers	Neutral. Most beverages dispensed at Fairgrounds activities are fountain drinks for which returnable packaging is not applicable.
Objective M: Promote prudent use of water resources by encouraging natural landscaping that requires little watering.	Consistent. The proposed project includes areas of native landscaping that can be self-sustainable once established and will not require additional irrigation.
Objective N: Support gasoline conservation activities such as car-pooling and public transportation. Goal 2: Minimize impacts for the automobile on the character of Del Mar and emphasize a more pedestrian-oriented environment, safer sidewalks, landscaped buffer zones, and alternate means of transportation.	Consistent. Plans for the new administration building will include bicycle racks and temporary storage rooms, as required by the Sustainability Component of the Master Plan. The long-term projects include construction of a seasonal train platform to the Fairgrounds to promote use of public transportation. Sidewalk improvements will be made to a portion of Jimmy Durante Boulevard at the time of hotel construction and at the Solana Gate entry. The 22nd DAA is assisting the Joint Powers Authority (JPA) with construction of a portion of the Coast to Crest Trail. The Sustainability Component of the Master Plan includes promotion of commuter carpooling and transit use by the 22nd DAA.
Objective A: Encourage a pedestrian-oriented nonmotorized community by developing a system of bicycle rights-of-way and pedestrian paths and discouraging high speed traffic along city streets.	Consistent. The 22nd DAA will construct a sidewalk on Jimmy Durante Boulevard; sidewalks are included with the new Solana Gate design, and bike racks will be provided at the Administration Building.

Table 4.16.G: Consistency with Policies

Policy	Del Mar Fairgrounds Master Plan Project Consistency with Policy
Objective C: Encourage alternate solutions to the transportation needs of Del Mar such as local transit and delivery systems and regional rapid transit.	Consistent. Long-term projects include construction of a seasonal train platform to support visitor transit use.
Objective E: Minimize air pollution by encouraging alternatives to the use of the automobile.	Consistent. Long-term projects include construction of a seasonal train platform to support visitor transit use. Bicycle racks will be provided as committed to in the Sustainability Component of the Master Plan.
Consistency with City of San Diego, The Climate Protection Action Plan 2005	
Resolution R-298412 (R-2004-227), 50-Megawatt Renewable Energy Goal, established the goal for adding 50 megawatts of renewable energy for City operations by 2013.	Neutral. The 22nd DAA may enter into a green energy contract for at least two years as part of the LEED-NC Silver certification. The project includes incorporation of the solar panels in Maintenance Building Complex B.
Greenhouse Gas Inventory	Consistent. A project GHG inventory has been prepared for existing and future conditions.
Set reduction targets and develop comprehensive strategies to meet these targets	Consistent. Key actions defined in the plan are in the waste sector. The Del Mar Fairgrounds achieved a 91.3 percent (over 41 million pounds) diversion rate for its solid waste in 2005 and has set an ultimate goal of zero waste. The proposed project also includes GHG reduction strategies as project design features, mitigation measures, and through meeting the objectives of the LEED-NC Silver certification.
Implement emissions reduction actions and measure their results	Consistent. The 22nd DAA tracks energy usage on an annual basis and will use independent energy audit commissions to ensure energy savings in new structures, as stated in the Sustainability Component of the Master Plan.
Policy/Resolution No. 200-17 Alternative Fuels	Consistent. The proposed project mitigation promotes use of alternative fuels by offering discounted parking fees and/or preferential parking for electric and hybrid vehicles.
Policy/Resolution No. 400-11 Action Plan for Implementation of Water Conservation Techniques	Consistent. The project will provide high-efficiency fixtures. Dry fixtures (composting toilet system), non-water urinals, and occupant sensors to reduce potable water demand will be implemented to obtain LEED-NC Silver certification.
Policy/Resolution No. 400-12 Implementation of Water Reclamation/Reuse	Consistent. The Sustainability Component of the Master Plan commits to continued use of reclaimed water for grounds irrigation and implementation of a comprehensive water consideration strategy for potable water.
Policy/Resolution No. 600-14 Development Within Areas of Special Flood Hazard	Neutral. The proposed project site, including the fire station site, is prone to flooding. All proposed projects in the floodplain would be designed at elevations to protect public safety and minimize flooding impacts on existing structures upstream and downstream. New habitable spaces, including the proposed hotel, would be set at least 1 ft above the 100-year flood elevation. In addition, a

Table 4.16.G: Consistency with Policies

Policy	Del Mar Fairgrounds Master Plan Project Consistency with Policy
	response plan would be prepared to evacuate the hotel parking structure if necessary in the event of flooding of the San Dieguito Lagoon.
Policy/Resolution No. 600-23 Open Space Preservation and Maintenance	Consistent. Project mitigation includes habitat restoration of the South Lot in the long term.
Policy/Resolution No. 600-34 Transit Planning and Development	Consistent. Long-term projects include construction of a seasonal train platform to support visitor transit use.
Policy/Resolution No. 900-01 Economic Development	Neutral. The 22nd DAA does not establish policies regarding sustainable economic prosperity. However, the Sustainability Component of the Master Plan promotes sustainable business practices to be implemented by the 22nd DAA and its tenants.
Policy/Resolution No. 900-02 Energy Conservation and Management	Consistent. The proposed project will incorporate energy-efficient design and energy-efficient appliances. All new buildings will be LEED-NC Silver certified. Mitigation includes enhanced building insulation and limited air leakage in new buildings, as well as ENERGY STAR-rated windows, light fixtures, and appliances. The Sustainability Component of the Master Plan includes energy efficiency commitments, including the planting of shade trees adjacent to buildings.
Policy/Resolution No. 900-06 Solid Waste Recycling	Consistent. The proposed project mitigation requires preparation of a Building Materials Recycling Plan to identify how building materials from demolished structures can be reused on site.
Policy/Resolution No. 900-14 Green Building	Consistent. The proposed project will incorporate energy-efficient design, and new buildings will be LEED-NC Silver certified. The project includes incorporation of the solar panels in Maintenance Building Complex B.
Policy/Resolution No. 900-18 Purchase of Energy Efficient Products	Consistent. The proposed project will use construction materials from within 500 miles of the site to the extent feasible. The proposed project mitigation requires ENERGY STAR-rated appliances.
Recycling Ordinance adopted in November 2007	Consistent. The 22nd DAA currently employs aggressive recycling strategies. The Del Mar Fairgrounds achieved a 91.3 percent (over 41 million pounds) diversion rate for its solid waste in 2005 and has set an ultimate goal of “zero waste.” The 22nd DAA will implement a Recycling Plan as a part of the LEED-NC Silver certification process.
Consistency with US Mayors Climate Protection Agreement	
Implement policies and programs that would reduce global warming pollution levels to 7 percent below 1990 levels by 2012, including efforts to conservation, methane recovery for energy generation, waste to energy, wind and solar energy, fuel cells, efficient motor vehicles, and biofuels.	Neutral. The Mayor’s Agreement is intended to guide City policies and is not project-specific. The Sustainability Component of the Master Plan promotes sustainable business practices to be implemented by the 22nd DAA and its tenants.

Table 4.16.H: Project Compliance with Greenhouse Gas Reduction Strategies

California Air Resources Board (ARB)	
Vehicle Climate Standards Heavy-Duty Vehicle Emission Reduction Measures	Neutral. The vehicles that access the project will be in compliance with any vehicle standards that ARB proposes. Mitigation Measures 4.16.2 and 4.16.11 are incorporated to further reduce the emissions.
HFC Reduction Strategies	Consistent. The project will seek to achieve LEED EA Prerequisite 3, which requires zero net use of chlorofluorocarbon (CFC)-based refrigerants. In addition, the proposed project will implement a strategy that replaces high global warming potential (GWP) hydrofluorocarbon (HFC) refrigerants with low GWP refrigerants.
Energy Consumption – Title 24 Requirements	
Building Energy Efficiency Standards Appliance Energy Efficiency Standards	Consistent. The proposed project will comply with and exceed Title 24 standards by meeting the LEED-NC Silver certification. ENERGY STAR-rated appliances will also be required.
Executive Order (EO) S-20-04	
Green Building Initiative “Future construction and renovation projects larger than 10,000 square feet (sf) will meet LEED-NC Silver criteria in order to assure their energy and environmental performance”	Consistent. The project will be designed to qualify for LEED-NC Silver certification.
“All state owned buildings will reduce the volume of energy purchased from the grid, with a goal to reduce their consumption by at least 20% by 2015 (as compared to 2003 baseline) by taking energy efficiency an cost-effective measures.”	Consistent. The proposed buildings will be constructed to exceed Title 24 standards as part of the LEED-NC Silver certification design. The project includes incorporation of solar panels in Maintenance Building Complex B.
Manure Management Strategies (Manure Management Protocol, Equestrian Related Water Quality Best Management Practices)	
Manure Management: The implementation of Manure Management strategies to reduce volatile organic compounds from confined animal facilities.	Consistent. The implementation of concentrated animal feeding operations (CAFO) best management practices (BMPs) will reduce volatile organic compounds from confined animal facilities.
Manure Management Practices according to the “Equestrian Related Water Quality BMPs 2004” prepared to comply with San Diego and Orange Counties National Pollutant Discharge Elimination System (NPDES) permits	Consistent. The project will implement BMPs as described in the document.
California Climate Action Team (CAT) Strategies	
Recommendations of the California Climate Action Team (CAT) to significantly reduce the greenhouse gas (GHG) emissions by incorporating Measures to Improve Transportation Energy Efficiency, Smart Land Use, and Intelligent Transportation	Consistent. The proposed project will not impede the implementation of CAT strategies and early action measures.
2030 Regional Transportation Plan (RTP), San Diego Association of Governments (SANDAG)	
Two approaches are discussed in the RTP that strive to reduce GHG emissions and promote energy	Neutral. The proposed project does not reduce vehicle miles traveled (VMT) in the region. The

Table 4.16.H: Project Compliance with Greenhouse Gas Reduction Strategies

<p>efficiency:</p> <ul style="list-style-type: none"> Reduction of vehicle miles traveled (VMT) 	<p>proposed Master Plan projects include improvements to existing facilities that will increase use of the Fairgrounds. Increased transit use in the long term is expected with implementation of a seasonal train platform.</p>
<ul style="list-style-type: none"> Use cleaner vehicles when traveling 	<p>Consistent. The proposed project will encourage Fairgrounds visitors to use “green cars” by offering them discounts on the parking fees and/or preferential parking.</p>
<p>Zero Waste –High Recycling: Additional recycling beyond Title 24</p>	<p>Consistent. The project will reuse and recycle demolition materials. The 22nd DAA currently employs aggressive recycling strategies and will implement a Recycling Plan as a part of the LEED-NC Silver certification process.</p>
<p>Compliance with Green Building Initiative: Green Building EO, S-20-04, sets a goal of reducing energy use in public and private buildings by 20 percent by 2015 as compared to 2003 levels.</p>	<p>Consistent. The proposed project will incorporate energy-efficient design, and all new buildings will be LEED-NC Silver certified.</p>
<p>Appliance Energy Efficiency Standards in place and in Progress.</p>	<p>Consistent. Project mitigation requires ENERGY STAR-rated appliances.</p>

administration building, maintenance buildings, and fire station. Other improvements include the realignment of Solana Gate and improvements to the East Parking Lot.

Construction. The proposed project will result in emissions associated with the use of construction equipment and construction crew commutes. Construction of the proposed near-term projects will generate emissions of GHGs, primarily in the form of vehicle and equipment exhaust. It is estimated (using URBEMIS2007, see Section 4.3, Air Quality) that construction activities will generate up to 18,800 lbs/day of CO₂. As a comparison, the entire State generated approximately 2.2 billion (2,197,992,329) lbs/day of CO₂ in 2004. Project construction equipment and vehicles are not an ongoing source of GHG emissions, as the emissions from these sources cease when construction is completed.

The proposed project will be required to implement mitigation measures specified in Section 4.3, Air Quality, and in this EIR section that will limit GHG emissions during construction activities. Mitigation Measure 4.3.2 requires that construction equipment shall be shut off when not in use and shall not idle for more than 15 minutes. Mitigation Measure 4.16.3 requires that, to the extent feasible, all diesel- and gasoline-powered construction equipment shall be replaced with equivalent electric equipment. These measures are intended to reduce GHG emissions from the operation of construction equipment.

Mitigation Measure 4.3.3 requires that construction activities be timed so as to avoid peak-hour traffic, thereby minimizing congestion and additional GHG emissions from idling vehicles. Mitigation Measure 4.3.4 promotes ridesharing and transit use by construction workers. These measures are included in Section 4.3 of this EIR and are repeated at the end of this section.

Additional mitigation measures (Mitigation Measures 4.16.1–4.16.3) are specified to further reduce GHG emissions during construction. Mitigation Measure 4.16.1 requires equipment and materials delivery to be scheduled so as to avoid queuing of trucks, and Mitigation Measure 4.16.2 requires that truck engines be turned off to avoid idling for more than 5 minutes. Mitigation Measure 4.16.2 requires that delivery of construction equipment and materials be scheduled such that queuing of trucks on and off site shall be minimized. Mitigation Measure 4.16.3 requires that on-road construction trucks and other vehicles greater than 10,000 pounds shall be shut off when not in use and shall not idle for more than 5 minutes. These mitigation measures are intended to reduce emissions from the operation of construction-related trucks. In addition, the Sustainability Component of the Master Plan, identified in Section 3.5.3 of this EIR, includes a commitment by the 22nd DAA to require that contractors use zero- or low-emission vehicles and equipment when possible, find alternative uses for deconstruction materials, and participate in the Fairgrounds recycling program to the fullest extent feasible.

The 22nd DAA has developed a phasing plan to implement the Master Plan near-term projects based on anticipated funding and time constraints from other events held on site. The long-term projects proposed in the Master Plan require additional environmental analysis and/or will be implemented by another Lead Agency (i.e., SANDAG is the Lead Agency for the seasonal train platform) and therefore have not been included in the proposed phasing plan.

The phasing plan consists of two phases for a total of 38 months of construction, including demolition, site work, and structural completion of each near-term project. Construction activities will be minimized during the San Diego County Fair and Race Meet events for projects implemented on the Fairgrounds project site; therefore, the 22nd DAA has planned for a 9-month construction schedule for each year, commencing in September 2011 and concluding in late 2014.

Under the first phase, the following projects would be implemented: construction of new official gate/administration office facility and ticket box office (10 months); relocation of the fire station (13 months); relocation of the existing Fairgrounds maintenance buildings/yard (4 months); realignment of the Solana Gate (3 months); pavement of the East Parking Lot and BMPs (4 months); construction of the Health Club/Sports Training Facility (12 months); sewer hook-up facilities added to the recreational vehicle (RV) lot at Surf and Turf (2 months); widening of the turf track (6 months); and construction of the electronic reader board sign (2 months). The second phase consists of construction of the exhibit building (13 months) and hotel with accompanying conference facilities (20 months).

Sections 4.2, 4.3, and 4.4 of this EIR include details on how the proposed phasing plan factors into construction traffic, air quality, and noise, respectively. Inasmuch as project emissions of GHGs are contributing to a cumulative condition, the sequencing and timing of construction phasing does not affect the overall contribution of construction activities to the cumulative environment pertaining to global climate change.

Manure Management. Operational emissions from the new structures include emissions from increased energy use and emissions from the trips generated by the new uses. CH₄ and other GHG emissions from the decomposition of manure from the horses stabled on site during the Race Season are considered existing sources of GHG emissions.

The Fairgrounds generated 1,944.45 tons of horse manure and shavings in 2008 that were sent to compost. The Del Mar Thoroughbred Club generated approximately 2,380 tons of horse manure and shavings in 2008, which were sent to compost. In addition, the Del Mar Thoroughbred Club sends approximately 8,890 tons of straw and manure each year during the Race Meet to a mushroom grower, where it is used to grow mushrooms.

The proposed near-term and long-term projects do not include any changes to existing horse operations. For example, there is no proposed net increase in the number of stables, no increase in the number of horses boarded on site during the racing season, and no increase in the number of livestock during the Fair. Therefore, no change in GHG emissions from horse or livestock operations will occur as a result of the Master Plan. The Sustainability Component of the Master Plan, listed in Section 3.5.3 of this EIR, includes a commitment to continue to recycle manure from Fairgrounds events and the Race Meet.

Energy Consumption. Implementation of PDF GHG-1, described above, will reduce the level of new emissions from energy use by requiring that new structures be LEED-NC Silver certified, consistent with provisions of EO S-20-04, whereby the State commits to design, construct, and operate all new and renovated State-owned facilities paid by State funds as “LEED-NC Silver” or higher certified building and purchase and operate ENERGY STAR electrical equipment when feasible. In addition, implementation of the Sustainability Component of the Master Plan, as described in Section 3.5.3 of this EIR, will support continued reductions in energy consumption and waste generation at the Fairgrounds. The incorporation of solar panels in the proposed Maintenance Building Complex B will generate approximately 50,000 Kilowatt hours (KWh) per year (or 50 Megawatt hours [MWh]), which will offset some of project energy emissions by contributing energy to the power grid.

Furthermore, Mitigation Measures 4.16.4 through 4.16.14 in this section of the EIR further reduce GHG emissions from operation of the project. The measures require that energy savings and efficiency measures be applied to the Master Plan projects. For example, mitigation measures require the use of energy-efficient T-8 high-output fixtures and/or compact fluorescent and other comparable energy-saving lighting fixtures in new construction, use of ENERGY STAR-rated (or better) light fixtures, use of energy-efficient hot water systems, and use of ENERGY STAR-rated (or better) appliances to minimize the extent of additional demand generated by the new uses. Maximization of heating and cooling efficiency is also intended to reduce the demand generated by the new uses with implementation of enhanced insulation, limited air leakage, and use of ENERGY STAR-rated (or better) windows. In addition, the Sustainability Component of the Master Plan, identified in Section 3.5.3 of this EIR and repeated later in this section, includes a requirement for regular energy audits and retrocommissioning for existing buildings and energy commissioning for new and renovated structures, as appropriate, with implementation of follow-up improvements to reduce energy waste and overall consumption.

The Sustainability Component of the Master Plan includes a requirement for LEED-NC Silver certification for new buildings (as required by EO S-20-04, described above), prompting energy and water conservation among other sustainability objectives. The Sustainability Component also includes the requirement that landscape plans for the proposed buildings or structures be designed

to include the planting of shade trees around buildings, as feasible, particularly along southern elevations, to reduce energy requirements for heating and cooling. In addition, mitigation at the end of this section requires solar heating for the hotel swimming pool to minimize energy consumption.

In addition to reducing energy consumption by the new facilities, the 22nd DAA will consider opportunities for the design of proposed buildings or structures to include installation/operation of renewable electric generation systems, particularly the incorporation of solar panels where feasible. The installation of additional renewable energy generation on site contributes electricity to the power grid, thereby offsetting some of the increased usage as a result of the proposed Master Plan projects by the amount that is generated. Other potential sources of alternative energy that could become more feasible and cost effective over time as technologies develop include wind- and methane-based generation. The installation and operation of additional renewable electric generation systems may require subsequent environmental review. The commitment to continue to evaluate and implement energy efficiency programs and procedures in the future, including the use of solar photovoltaic panels on barns, use of energy-efficient light fixtures, implementation of energy-saving devices and equipment, and energy-efficient design of new facilities, is identified in the Sustainably Component of the Master Plan (Section 3.5.3 of this EIR).

Energy is used to extract, manufacture, and transport materials used for construction. The City of San Diego adopted a Construction and Demolition (C&D) Debris Deposit Ordinance (July 2008) that requires the majority of construction, demolition, and remodeling projects requiring building, construction, and demolition permits pay a refundable C&D Debris Recycling Deposit and divert at least 50 percent of their debris by recycling, reusing, or donating usable materials. The ordinance is designed to keep C&D materials out of local landfills and ensure that they get recycled. As a State agency, the 22nd DAA is not subject to this requirement; however, the 22nd DAA is committed to mitigation (Mitigation Measure 4.16.13) that requires preparation of a Building Materials Recycling Plan at the time structures are demolished to identify how deconstructed building materials can be salvaged and reused on site. The reuse of materials reduces the need for new materials to be extracted, produced, and transported and therefore reduces life-cycle energy consumption. The Recycling Plan will also identify the availability of certified Recycling Facilities that will take salvaged materials that cannot be reused on site. The objectives of the 22nd DAA's Building Materials Recycling Plan for facilities intended to be demolished are to reduce air pollution in general and GHG emissions in particular, reduce the number of trips needed to haul debris from the project site, and reduce the need for mining raw materials. Other benefits include potential cost savings in construction materials by recycling on site and reducing project disposal costs.

Tables 4.16.I and 4.16.J show the expected additional energy consumption from the proposed near-term projects and subsequent GHG emissions as a result of that energy consumption.

Table 4.16.I: Energy Consumption

Emission Source	Project (2013)
Electricity from power company (MWh/year)	8,400
Electricity generated on site (Solar Panels) (MWh/year)	50
Natural gas burned (mscf/year)	20
Solid waste (tonnes/year)	300

mscf/year = million standard cubic feet per year

MWh/year = megawatt hours per year

Table 4.16.J: Summary of Greenhouse Gas Emissions (tpy)

Emission Source	CO ₂	CH ₄	N ₂ O	CO ₂ e
Vehicles	8,500	0.43	0.91	8,800
Electricity Production	2,100	0.023	0.013	2,100
Natural Gas Combustion	1,100	0.021	0.02	1,100
Solid Waste	--	--	--	63
Total Annual Emissions	12,000	0.47	0.94	12,000

CO₂ = carbon dioxide

CH₄ = methane

N₂O = nitrous oxide

tpy = tonnes per year

The emissions identified above are based on application of the land use and energy consumption factors described in this EIR. The proposed project replaces old administrative and exhibition buildings (Pat O'Brien Exhibit Hall, Bing Crosby Exhibit Hall, and tent structure) that do not comply with the current Title 24 energy efficiency standards. Since construction of the existing buildings, the energy standards have been updated several times. At a minimum, construction of the proposed near-term projects (including new exhibit halls, a 330-room hotel, and a 60,000 sf Health Club/Sports Training Facility) would have to comply with existing Title 24-2005 standards. However, the proposed structures will exceed current Title 24-2005 energy conservation standards because EO S-20-04 requires implementation of the LEED-NC Silver certification. Removal of the energy-inefficient buildings and replacement with energy-efficient structures would result in a reduction in emissions on a per square foot comparison basis because of the improved energy efficiency. The proposed project would result in a net increase in energy consumption overall because of the increased building area on site. In other words, the increase in GHG emissions from the site as a result of project implementation would be greater if LEED-NC Silver certification requirements were not being applied to the new construction. For example, in order to comply with LEED-NC Silver certification standards, the project will implement high-performance architecture and low-energy systems and will incorporate water conservation measures. The proposed project is also subject to compliance with the Sustainability Component of the Master Plan and with mitigation measures described above and listed at the end of this EIR section.

Energy and Natural Gas Use. Buildings represent 39 percent of the United States' primary energy usage and 70 percent of electricity consumption.¹ The proposed project would increase the demand for electricity and natural gas due to the increased building area and number of employees. The project would indirectly result in increased GHG emissions from off-site electricity generation at power plants (a portion of the total 2,100 tonnes of CO₂e/year emissions shown in Table 4.16.J for electricity production and 1,100 tonnes of CO₂e/year for natural gas consumption).

Water Use. Water-related energy use consumes 19 percent of California's electricity every year.² Energy use and related GHG emissions are based on electricity used for water supply and conveyance, water treatment, water distribution, and wastewater treatment. The project would indirectly result in increased GHG emissions from the off-site electricity generation at power plants (the remainder of the 2,100 tonnes of CO₂e/year).

Solid Waste Disposal. The proposed project would also generate solid waste during the operation phase of the project. Average waste generation rates from a variety of sources are available from the CIWMB.³ This analysis uses an average waste generation rate of 0.0024 dry tonnes per square foot per year for commercial uses and 0.0108 dry tonnes per square foot per year for hotel uses. The project would indirectly result in increased GHG emissions from solid waste treatment at treatment plants (approximately 63 tonnes of CO₂e/year).

Although on a per-square-footage basis the new structures will be more energy efficient, there will be a net increase in building square footage as a result of implementation of the near-term projects and therefore an increase in energy consumption even with the implementation of energy conservation design. Therefore, there will still be a net increase in GHG emissions from energy use at the project site. The proposed near-term projects will result in an increase in GHG emissions above current levels for the project site from energy consumption of approximately 4,800 lbs/day.

Vehicular Emissions. As described above, operational emissions from the Master Plan projects also include emissions from the trips generated by the new uses. The maximum increase in average daily traffic (ADT) is expected to occur during the Interim Season, when existing Fairgrounds use is relatively low, because proposed use of the site will include a hotel and the new exhibit space, plus the Health Club/Sports Training Facility. The 22nd DAA currently promotes carpooling and transit access to the Fairgrounds site and will continue to do so as documented in the Sustainability Component of the Master Plan. Also, the 22nd DAA has committed to working with SANDAG to implement a seasonal train platform on site in the long

¹ United States Department of Energy. 2003. *Buildings Energy Data Book*.

² State of California, 2005. California Energy Commission. California's Water-Energy Relationship. November.

³ California Integrated Waste Management Board, 2009. Estimated Solid Waste Generation Rates for Residential Developments. Available at <http://www.ciwmb.ca.gov/wastechar/wastegenrates/Residential.htm>.

term, which is intended to reduce the overall number of trips and VMT for the Fair and Race Meet. However, in spite of these efforts, the number of vehicular trips is expected to increase as a result of project implementation.

Implementation of the near-term projects is expected to result in 6,960 new daily trips on weekdays and 7,160 new daily trips on Saturdays.¹ SANDAG provides vehicular traffic generation rates for the San Diego region in its April 2002 “San Diego Traffic Generators” report. This report includes average trip lengths for many land uses as weighted averages for all trips to and from general land use sites. The systemwide average trip length is 6.9 mi. The average trip length for a hotel use is 7.6 mi, for recreation uses is 6.3 mi, for parks is 5.4 mi, and for regional commercial uses is 5.2 mi. The average trip length associated with the new trips that would be generated at the Fairgrounds site is difficult to estimate because of the unusual nature of the Fairgrounds facility; a conservative estimate of 10 mi average trip length has been assumed. This average trip length applies to new trips generated by the proposed hotel, Health Club/Sports Training Facility, and other near-term projects. The project-related increase in ADT for each season is multiplied by an average trip length of 10 mi, resulting in a total VMT generated by the project of 25,500,000 mi per year. The CO₂e emissions generated by this VMT, using EMFAC2007 emissions factors, is 8,800 tpy.

The majority of the existing GHG emissions generated by the proposed near-term projects is associated with transportation to and from the site. Transportation emissions are usually attributable to three factors: (1) the chemical composition for gasoline, (2) the efficiency and design of automobiles, and (3) VMT. The Fairgrounds does not regulate fuel composition, automobile design, or tailpipe emission requirements; however, it can provide opportunities for alternative modes of transportation or preferential parking spaces for automobile users who use environmentally friendly vehicles. Mitigation measures are included to reduce emissions from transportation sources, including Mitigation Measures 4.16.11, 4.16.15, and 4.16.16, which require the 22nd DAA to provide bicycle racks and temporary storage lockers at the new administration building, to offer reduced parking rates and/or preferential parking for electric and hybrid vehicles at all major events, and to post signage that on-road delivery trucks and other vehicles greater than 10,000 pounds shall be shut off when not in use and shall not idle for more than 5 minutes. In addition, the Sustainability Component of the Master Plan, identified in Section 3.5.3 of this EIR, includes a requirement that the 22nd DAA will evaluate and phase in effective replacement of its existing fleet (as vehicles age) with low- and zero-emission vehicles and will require comparable efforts by the Race Meet operator.

Long-Term Project Impact Analysis. The proposed Master Plan has several long-term projects that are in the conceptual phase that either constitute replacement of existing structures and/or construction of new facilities (i.e., multilevel parking structure, seasonal train platform). The long-term projects include construction of the seasonal train platform, truck tunnel, and multilevel parking structure in the East Parking Lot, additional improvements to the Backstretch Area, and replacement of the existing Horseman’s Village.

¹ LLG, Traffic Impact Analysis, 22nd District Agricultural Association 2008 Master Plan, April 2009. Included in Appendix K of this EIR.

Construction. Construction of the proposed long-term projects will generate emissions of GHGs, primarily in the form of vehicle and equipment exhaust. Project construction equipment and vehicles are not an ongoing source of GHG emissions, as the emissions from these sources cease when construction is completed. The proposed long-term projects will be required to implement the same mitigation measures (Mitigation Measures 4.16.1 through 4.16.4) to limit GHG emissions as the near-term projects during construction activities.

Manure Management. The long-term projects do not directly affect manure management and related emissions. Improvements to horse facilities in the Backstretch will replace existing aging structures. There is no planned increase in stable capacity at the Fairgrounds, and increased capacity is not warranted based on the relatively constant duration of the Race Meet season and the level of racing that occurs at the project site. There are no proposed changes to the number of horses stabled on site during Race Meets in the near term or long term; therefore, the replacement stables are not expected to result in an increase in the quantity of manure stored on site.

Energy Consumption. The proposed long-term projects are improvement projects, most of which (the seasonal train platform, construction of the multilevel parking structure in the East Parking Lot, additional improvements to the Backstretch area, and the truck tunnel) will not involve new energy consumption for heating and cooling or water conveyance. The new Horseman's Village will replace an older and presumed inefficient existing structure with a new energy-efficient building. Therefore, as the only proposed fully enclosed long-term project, the Horseman's Village will incorporate energy conservation features as required by the LEED-NC Silver certification and by Mitigation Measures 4.16.5 through 4.16.13. The application of the energy conservation features will result in a reduction in emissions on a per-square-foot comparison basis. The proposed Horseman's Village would result in a net increase in energy use because of the increased building area compared to the existing structure.

Vehicular Emissions. The long-term projects (the seasonal train platform, the multilevel parking structure in the East Parking Lot, additional improvements to the Backstretch Area, replacement of the existing Horseman's Village, and a new truck tunnel at the Racetrack) are not expected to be trip-generating uses. Therefore, the proposed long-term projects are not expected to result in an increase in GHG emissions above current operational levels from vehicular traffic.

The seasonal train platform is intended to convert a portion of the vehicular traffic to the Fairgrounds for major events to transit mode, which is expected to result in a net decrease in CO₂ emissions. A train platform is proposed to be constructed on site as one of the long-term projects identified in the Master Plan. The seasonal train platform has the potential to reduce vehicular trips by making rail transit to the site, especially for major events, very convenient. The seasonal train platform would be pursued as a joint effort by the 22nd DAA and the appropriate transit agency, with SANDAG as the likely Lead Agency under CEQA. The majority of the new GHG emissions associated with the Master Plan projects are from vehicular sources; therefore, the 22nd DAA is committed to working with other agencies to implement the platform as soon as possible. The potential reduction in VMT as a result of the on-site seasonal train platform will be estimated

based on information that will be available as the project-level CEQA review is conducted, including the anticipated train schedule, number of cars, and car capacity.

Conclusion. The near-term projects will not increase the capacity for horses stabled on site during the Race Meet. Therefore, the near-term project will not result in an increase in methane emissions from horse manure. Also, the Sustainability Component of the Master Plan, included in Section 3.5.3 of this EIR, includes a provision whereby the 22nd DAA will identify possible BMPs for animal operations to reduce emissions, conserve energy and water, utilize alternate energy sources, and include practical and efficacious BMPs in the contracts for the Race Meet operator. The impact of near-term projects on horse operations-related GHG emissions is less than significant.

Construction of the near-term projects will result in emissions during the 3-year construction period. Emissions from construction activity will be reduced with implementation of Mitigation Measures 4.16.1 through 4.16.3, which require that construction equipment and trucks not in use be turned off, queuing of trucks be minimized through careful scheduling delivery of equipment and materials, and electric equipment be used to the extent feasible. While these emissions are not an ongoing source of GHG emissions, as the emissions from these sources cease when construction is completed, they will be combined with other emissions generated on site and in the region.

The near-term projects will comply with PDF GHG-1 and EO S-20-04, which ensure LEED-NC Silver certification of new construction. Compliance with LEED will necessitate a project design that results in reduced energy consumption compared to standard Code-compliant construction techniques and design. In addition, Mitigation Measures 4.16.4 through 4.16.14 complement and supplement the LEED-NC Silver design by requiring energy-efficient light fixtures, enhanced insulation, limited air leakage, energy audits and/or commissioning for new buildings, ENERGY STAR-rated windows, and increased incorporation of solar panels in new structures, as appropriate. Even with these energy-conservation measures in place, the net increase in building square footage, including the proposed hotel and Health Club/Sports Training Facility, results in greater energy use compared to existing conditions. The net increase in energy consumption with implementation of the near-term projects will result in approximately 3,200 tpy of GHG, measured as CO₂e.

Mitigation Measures 4.16.15 and 4.16.16 require that delivery trucks serving the operation of the Fairgrounds be turned off when not in use, bicycle racks and temporary storage lockers be provided to encourage use of bicycles to access the site, and reduced parking rates and/or preferential parking for electric and hybrid vehicles. However, even with implementation of these measures, the proposed near-term projects will result in an increase in average annual daily traffic (AADT) and VMT. The vehicular emissions associated with these additional trips and miles traveled will result in approximately 8,800 tpy of GHG, measured as CO₂e.

The long-term projects will also result in construction emissions from the use of equipment and vehicles. While these emissions are not an ongoing source of GHG emissions, as the emissions from these sources cease when construction is completed, they will be combined with other emissions generated on site and in the region.

The long-term projects include improvements to the Backstretch area, but no increases in horse stable capacity. Therefore, the long-term projects will not result in an increase in methane emissions from horse manure.

Energy consumption for heating and cooling interior spaces is primarily applicable to the construction of the new Horseman's Village, which will replace an existing facility. The Horseman's Village will incorporate energy conservation features as required by the LEED-NC Silver certification and by Mitigation Measures 4.16.4 through 4.16.14, which will reduce the net increase in contribution to the Statewide GHG emission inventory. Other structures will also be held to the applicable LEED-NC Silver standards.

Construction of the seasonal train platform would reduce the number of vehicle trips to and from the site. The other long-term projects are neither trip-generating uses nor new structures that use energy. The Horseman's Village and Backstretch Area improvements are replacements of existing facilities. The multilevel parking structure replaces existing parking in the South Lot. The proposed tunnel under the Racetrack is to facilitate operations and will not attract new trips to the site. Therefore, the long-term projects are expected to be GHG emissions-neutral with regard to GHG emissions from vehicles. However, given the long-term cumulative nature of global climate change, Programmatic Impact Avoidance and Mitigation Strategies are identified to ensure that emissions from construction activity are minimized, that opportunities to further reduce VMT by improving transit opportunities are promoted, and that emerging guidance with regard to State-adopted climate adaption strategies are considered.

In summary, the near-term projects result in a significant impact because energy usage and VMT will result in increased GHG emissions above existing conditions. The long-term projects result in a less than significant impact regarding potential increased emissions above existing conditions; because they are projects that improve or replace existing facilities, they will be built to LEED-NC Silver standards, and they are not new trip-generating uses.

4.16.7 Level of Significance prior to Mitigation

Section 15064(h)(3) of the State CEQA Guidelines states that a Lead Agency may determine that a project's incremental contribution to a cumulative effect is not cumulatively considerable if the project will comply with the requirements in a previously approved plan or mitigation program. Global climate change is the result of cumulative actions worldwide. The proposed Master Plan projects for the Del Mar Fairgrounds have been found to be consistent with local policies pertaining to energy and water consumption and transportation modes (Table 4.16.G), as well as with most of the applicable provisions of the State GHG reduction strategies and the 2030 SANDAG Regional Transportation Plan (Table 4.16.H). However, these plans and regulations are not specified in law or adopted by the State with specific requirements to reduce the emissions of GHG. Therefore, the proposed project's incremental contribution to global climate change may be considered cumulatively considerable, and a quantitative analysis was conducted. The results of the quantitative analysis indicate that the proposed project will result in construction emissions of approximately 9.4 tonnes of CO₂e, and operational emissions of 12,000 tonnes annually of CO₂e.

4.16.8 Mitigation Measures

The following Project Design Feature commitments identified in the Sustainability Component of the Master Plan, air quality mitigation measures, and additional GHG mitigation measures are intended to reduce GHG emissions from construction energy consumption and transportation sources.

PDF GHG-1

The 22nd District Agricultural Association (DAA) will work with the State Architect, California Construction Authority (CCA), and the project designers and engineers to identify Leadership in Energy and Environmental Design (LEED) credit design components to be incorporated into construction plans for the proposed hotel, Health Club/Sports Training Facility, and exhibit halls, as well as the replacement administration building and replacement maintenance buildings prior to final design, register the subject buildings in the LEED-New Construction (NC) Silver program prior to initiation of construction, and seek LEED-NC Silver certification after construction.

As demonstrated above, the 22nd DAA is committed to continually seeking ways to reduce waste and energy consumption and to increase the efficiency of its operations in order to minimize impacts to the environment and enhance the sustainability of its operations. Toward that end, the 22nd DAA has incorporated the following Sustainability Commitments into the Fairgrounds Master Plan:

1. The 22nd DAA is committed to evaluating and implementing energy efficiency programs and procedures, including the use of solar photovoltaic panels on new structures in the Backstretch Area, use of energy-efficient light fixtures, implementation of energy-saving devices and equipment, and energy-efficient design of new facilities.
2. The 22nd DAA will continue to implement existing “zero waste” waste reduction programs, including office recycling, source reduction, waste reduction and reuse, purchase of recycled content products, and source separation and recycling of materials, including composting of biodegradable materials.
3. The 22nd DAA is committed to achieving LEED-NC Silver certification for new buildings (see PDF GHG-1, above).
4. The 22nd DAA will conduct regular energy audits and retrocommissioning for existing buildings, and commissioning during new construction and renovation, as appropriate, with implementation of follow-up improvements to reduce energy consumption for its building facilities.
5. The 22nd DAA will require contractors to use zero- or low-emission vehicles and equipment when possible, to find alternative uses for deconstruction materials and to participate in the Fairgrounds recycling program to the fullest extent feasible.
6. The 22nd DAA will evaluate the removal of nonessential, fast-growing, and major maintenance-requiring landscaped materials (which generate large amounts of plant waste), and where appropriate, replant with appropriate low-water-use plants.

7. The 22nd DAA will continue to use reclaimed water for grounds irrigation and implement a comprehensive water conservation strategy for potable water.
8. The 22nd DAA will continue to recycle horse manure from Fairgrounds events and continue to work with the Del Mar Thoroughbred Club to recycle manure from the Race Meet.
9. The 22nd DAA will support and promote public education and information regarding global climate change at appropriate events held at the Fairgrounds, including the Annual Enviro Fair and San Diego County Fair.
10. The 22nd DAA will identify and evaluate possible BMPs for animal operations to reduce emissions, conserve energy and water, and utilize alternate energy sources, and will include Practical and Efficacious BMPs in the contracts for the Race Meet operator.
11. The 22nd DAA will continue to seek new opportunities to promote commuter carpooling and transit use, as well as alternative transportation for Fairgrounds and Racetrack events.
12. The 22nd DAA will evaluate and phase in effective replacement of its existing fleet (as vehicles age) with low- and zero-emission vehicles and will require comparable efforts by the Race Meet operator.
13. The 22nd DAA will evaluate, promote, and provide amenities for alternative transportation modes by providing bicycle racks, accommodating bus stops on site, providing shuttle service, coordinating with transit providers to provide bus connections from the Solana Beach Train Station during the Fair and Race seasons, and working with transit agencies to locate a seasonal train platform on the Fairgrounds site (identified as one of the long-term Master Plan projects).
14. The 22nd DAA will evaluate, develop, and implement an on-site tree planting program that locates trees adjacent to buildings in order to reduce energy consumption and will provide assistance to community groups that promote planting of trees in the communities adjacent to the Fairgrounds.
15. The 22nd DAA will continue to evaluate and implement BMPs for storm water pollution prevention, including compliance with the new Storm Water Management Plan (SWMP), once approved by the Regional Water Quality Control Board.
16. The 22nd DAA is committed to increased use of renewable energy sources, including the incorporation of solar panels on proposed Maintenance Building Complex B.
17. The 22nd DAA will update the Board of Directors on the progress toward each of these sustainability goals on an annual basis.

Implementation of some of the construction mitigation measures listed in Section 4.3, Air Quality, also reduce emissions of GHG, including the following:

Mitigation Measure 4.3.2 Prior to issuance of a building permit, the project plans and specifications shall include a statement that construction equipment

shall be shut off when not in use and shall not idle for more than 15 minutes. The statement in the plans and specifications shall be implemented by the contractor and verified in the field by the California Construction Authority (CCA).

Mitigation Measure 4.3.3

During construction, the construction contractor shall time the construction activities so as not to interfere with peak-hour traffic and to minimize obstruction of through traffic lanes adjacent to the site; if necessary, a flagperson shall be retained to maintain safety adjacent to existing roadways. Implementation shall be verified in the field by the California Construction Authority (CCA).

Mitigation Measure 4.3.4

During construction, the construction contractor shall support and encourage ridesharing and transit incentives for the construction crew. Implementation shall be verified by the California Construction Authority (CCA).

Implementation of operational mitigation measures listed in Section 4.3, Air Quality, also reduce emissions of GHG, including the following:

Mitigation Measure 4.3.14

Prior to issuance of a building permit for a specific facility, the landscape plan for the proposed buildings or structures shall be designed to include the planting of shade trees around buildings, as feasible, particularly along southern elevations. Compliance with this measure shall be verified by the California Construction Authority (CCA).

Mitigation Measure 4.3.15

Prior to the issuance of a building permit, the project engineer shall demonstrate that the proposed buildings or structures are designed to incorporate energy-efficient hot water systems, including central and/or tankless water heaters as appropriate. The State Architect will verify compliance, and the California Construction Authority (CCA) will confirm implementation during construction.

Mitigation Measure 4.3.16

Prior to issuance of a building permit, the project engineer shall demonstrate that the design of the proposed buildings or structures incorporates ENERGY STAR-rated windows or better. Documentation of compliance with this measure shall be provided to the California Construction Authority (CCA) Official for review and approval. Installation of the identified design features or equipment will be confirmed by the CCA prior to issuance of a certificate of occupancy.

Mitigation Measure 4.3.17

Prior to construction of the individual Master Plan projects, the 22nd District Agricultural Association (DAA) shall ensure that energy-efficient lights are used in parking lots and for outdoor fields, including low-sodium lighting, "Light Structure Green" fixtures,

and/or other comparable energy-saving lighting. The State Architect will verify compliance, and the California Construction Authority (CCA) will confirm implementation during construction.

Additional mitigation measures to further reduce greenhouse gas emissions are listed below:

- Mitigation Measure 4.16.1** Prior to initiation of construction, the project plans and specifications shall include a statement that delivery of construction equipment and materials will be scheduled such that queuing of trucks on and off site shall be minimized. The requirement will be implemented by the contractor and verified by the 22nd District Agricultural Association (DAA).
- Mitigation Measure 4.16.2** Prior to initiation of construction, the project plans and specifications shall include a statement that on-road construction trucks and other vehicles greater than 10,000 pounds shall be shut off when not in use and shall not idle for more than 5 minutes. The requirement will be implemented by the contractor and verified by the 22nd District Agricultural Association (DAA).
- Mitigation Measure 4.16.3** Prior to initiation of construction, the project plans and specifications shall include a statement that, to the extent feasible, all diesel- and gasoline-powered construction equipment shall be replaced with equivalent electric equipment. The requirement will be implemented by the contractor and verified by the 22nd District Agricultural Association (DAA).
- Mitigation Measure 4.16.4** Prior to initiation of construction, the project engineer shall demonstrate that the design of the proposed buildings or structures incorporates ENERGY STAR-rated, energy-efficient T-8 high-output fixtures, and/or compact fluorescent and other comparable energy-saving lighting fixtures. Documentation of compliance with this measure shall be provided by the project engineer to the State Architect. Installation of the identified design features or equipment will be confirmed by the California Construction Authority (CCA) prior to issuance of a certificate of occupancy.
- Mitigation Measure 4.16.5** Prior to initiation of construction for a specific facility, the project engineer shall demonstrate that the design of the proposed buildings or structures incorporates enhanced insulation such that heat transfer and thermal bridging is minimized in structures that will be mechanically heated and/or cooled. Documentation of compliance with this measure shall be provided to the State Architect for review and approval. Installation of the identified design features or equipment will be conducted by the contractor and confirmed by the California Construction Authority (CCA) prior to issuance of a certificate of occupancy.

- Mitigation Measure 4.16.6** Prior to issuance of a certificate of occupancy, the 22nd District Agricultural Association (DAA) and the Project Engineer will document, and the California Construction Authority (CCA) or third-party commissioner will verify, installation of the identified design features or equipment designed to limit air leakage through the structure or within the heating and cooling distribution system to minimize energy consumption in structures that will be mechanically heated and/or cooled.
- Mitigation Measure 4.16.7** Prior to initiation of construction, the 22nd Agricultural Association (DAA) shall demonstrate that the design of the proposed buildings or structures incorporates United States Environmental Policy Agency (EPA) WaterSense Program water-efficient products (bathroom sink faucets, low-flush urinals, dual-flush toilets, etc.) Documentation of compliance with this measure shall be provided to the California Construction Authority (CCA) for review and approval. Installation of the identified design features or equipment will be confirmed by the CCA prior to issuance of certificate of occupancy.
- Mitigation Measure 4.16.8** Prior to initiation of construction, the project engineer shall demonstrate that the design of the proposed buildings or structures that will be mechanically heated and/or cooled incorporates space heating and cooling equipment that meets or exceeds ENERGY STAR-rated standards. Documentation of compliance with this measure shall be provided by the project engineer to the State Architect. Installation of the identified design features or equipment will be confirmed by the California Construction Authority (CCA) prior to issuance of a certificate of occupancy.
- Mitigation Measure 4.16.9** Prior to initiation of construction, the project engineer shall demonstrate that the proposed buildings or structures incorporate appliances that meet or exceed the ENERGY STAR-rated standards. Documentation of compliance with this measure shall be provided by the project engineer to the State Architect for review and approval. Installation of the identified design features or equipment will be confirmed by the California Construction Authority (CCA) prior to issuance of a certificate of occupancy.
- Mitigation Measure 4.16.10** Prior to initiation of construction, the project engineer shall demonstrate that the design of proposed buildings or structures considered includes installation/operation of renewable electric generation systems. Documentation of compliance with this measure shall be provided by the project engineer to the State Architect for review and approval. Installation of the identified design features or equipment will be confirmed by the California Construction Authority (CCA) prior to issuance of a certificate of occupancy.

- Mitigation Measure 4.16.11** The 22nd District Agricultural Association (DAA) shall require, through posting of signage and other means, that on-road delivery trucks and other vehicles greater than 10,000 pounds shall be shut off when not in use and shall not idle for more than 5 minutes.
- Mitigation Measure 4.16.12** Prior to the preparation of construction plans for new stable structures, the 22nd District Agricultural Association (DAA) and Del Mar Thoroughbred Club will evaluate the feasibility of incorporating solar panels in the new construction.
- Mitigation Measure 4.16.13** Prior to the demolition of existing facilities, the 22nd District Agricultural Association (DAA) will prepare a Building Materials Recycling Plan to identify how demolished building materials can be reused on site.
- Mitigation Measure 4.16.14** The 22nd District Agricultural Association (DAA) shall require that the hotel swimming pool be heated with solar heating, as reflected in the building plans prior to the initiation of construction. The State Architect will verify compliance, and the California Construction Authority (CCA) will confirm implementation during construction.
- Mitigation Measure 4.16.15** The 22nd District Agricultural Association (DAA) will ensure that construction plans for the new administration building include bicycle racks and temporary storage lockers, as reflected in the building plans prior to the issuance of construction permits. The State Architect will verify compliance, and the California Construction Authority (CCA) will confirm implementation during construction.
- Mitigation Measure 4.16.16** The 22nd District Agricultural Association (DAA) will offer reduced parking rates and/or preferential parking for electric and hybrid vehicles at all major events.

4.16.9 Programmatic Impact Avoidance And Mitigation Strategies

In addition to the above mitigation measures, the following strategies will be implemented as appropriate to address the potential impacts of long-term projects. The following programmatic impact avoidance and mitigation strategies will be considered during long-term project planning and development. Specific mitigation measures will be adopted for each project.

- Strategy 4.16.1** Construction of long-term projects will be subject to mitigation measures intended to reduce the emissions of greenhouse gases (GHGs) from construction activity, including but not limited to Mitigation Measures 4.16.1 through 4.16.16 in this Environmental Impact Report (EIR).

Strategy 4.16.2

The 22nd District Agricultural Association (DAA) will work with the San Diego Association of Governments (SANDAG), the North County Transit District (NCTD), and/or other transit agency to promote the use of alternative modes of transportation to the Fairgrounds site by providing transit-friendly infrastructure.

Strategy 4.16.3

The 22nd District Agricultural Association (DAA) will monitor the development of implementation requirements of Assembly Bill 32 (AB 32), to be issued by State agencies, and any subsequently adopted greenhouse gas (GHG) emissions reduction procedures and technologies relevant to the proposed project. At the time construction plans are prepared for the long-term projects, the 22nd DAA will review the current status of the State's comprehensive climate adaptation strategy and any resultant requirements pertaining to infrastructure and building plans.

4.16.10 Level of Significance after Mitigation

The proposed project is designed to reduce GHG emissions by meeting and exceeding Title 24 standards and by achieving LEED-NC Silver Certification. The near-term projects will implement mitigation measures to further reduce energy consumption and to foster transit use. The 22nd DAA will monitor the development of implementation requirements of AB 32, to be issued by State agencies, and any subsequently adopted GHG emissions reduction procedures and technologies relevant to the proposed project.

The proposed project is consistent with and/or furthers the intent of numerous GHG reduction strategies and is consistent with the Cities and County General Plan goals and Climate Actions Protection Program strategies, which are designed to reduce energy consumption and GHG emissions that are being implemented pursuant to AB 32. These strategies are presented in Tables 4.16.G and 4.16.H. Compliance with the reduction strategies implemented by the Cities and the County will help to achieve the Statewide reduction of GHG to 1990 levels.

The proposed near-term projects will result in the replacement of older, less efficient structures with more energy-efficient buildings. However, the net increase in building area and increase in vehicular trips will result in a net increase in GHG emissions compared to existing conditions. Implementation of LEED-NC Silver certification standards, project components such as a seasonal train platform, and mitigation measures described above cannot fully offset the emissions resulting from implementation of the Master Plan. Therefore, the total emissions for the proposed project exceed current levels and are considered to be cumulatively considerable.

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