Freeway Commercial North
Air Quality Impact Plan
(AQIP)

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1. EXECUTIVE SUMMARY

A. Intent of AQIP

This Air Quality Improvement Plan (AQIP) has been prepared in conjunction with the Otay Ranch Freeway Commercial Sectional Planning Area (SPA) Plan amendment, required for the proposed development of Freeway Commercial North (FC-2) site as a mixed use project. The Otay Ranch Freeway Commercial SPA plan covers both Freeway Commercial South site, which was developed as Otay Ranch Town Center mall in 2006, and Freeway Commercial North site. The two parcels correspond to two major ownerships of the property. Because of the independent ownerships, project plans have been designed and structured to allow the two parcels develop separately but in a coordinated manner.

The purpose of the AQIP is to provide an analysis of air pollution impacts that would result from the proposed development in FC-2 and to demonstrate how the site design reduces vehicle trips, maintains or improves traffic flow, reduces vehicle miles traveled, and reduces direct or indirect greenhouse gas (GHG) emissions. This AQIP also demonstrates how FC-2 has been designed consistent with the City's Green Building Standards, (CVMC 15.26) and Energy Code (15.12) and represents the best available design in terms of improving energy efficiency and reducing GHG emissions. GHG emissions include gases such as Carbon Dioxide (CO_2), Methane (CH_4), and Nitrous Dioxide (N_20). They occur both naturally, and are produced by human activities, such as by automobile emissions and emissions from production of electricity to provide power to homes and businesses. These gases prevent heat from escaping the earth's atmosphere, while allowing in sunlight, which has the affect of warming the air temperature. Applicable action measures contained in the City's Carbon Dioxide (CO_2) Reduction Plan are also addressed.

B. Community Site Design Goals

Otay Ranch is a 23,000-acre master-planned community and includes a mix of land uses within 20 villages and/or planning areas. FC-2 is a mixed use site proposed to be developed with two commercial hotels, up to 600 multi-family residential units, 15,000 sq. ft. mixed use commercial retail, and a 2-acre public park. The project is located south of Olympic Parkway and east of SR-125.

The proposed project establishes a unified walkable mixed-use plan for the FC-2 site. It is intended to enhance living, working, shopping, and transit options in the area. It creates a walkable neighborhood that offers urban-style, smaller-scale living accommodations within walking distance to the already established local shops, services, schools, entertainment and dining, as well as a regional system of trails and open spaces.

The vision for this community is to develop a cohesive neighborhood with inter-connected uses and densities. The mix of proposed residential, commercial, and community uses is intended to provide a mixed-use environment that serves the needs of residents and employees. The increased density and housing choices will provide additional ridership opportunities for the regional Bus Rapid Transit and local bus system increasing the viability of transit and reducing automobile dependence. The densities and design patterns envisioned for FC-2 focus on promoting a walkable and bikeable community with less emphasis on automobile trips.

C. Planning Features

FC-2 project includes the following planning features to achieve the community site design goals:

Land Use features:

1) Integrated Circulation System. Project residents and visitors are afforded non-automobile related circulation options that include walking, bicycling, and transit. Town Center Drive – the main roadway with ground-floor mixed use commercial – as well as interior streets – are designed to provide a comfortable walking environment.
2) Mixed Uses. A 36-acre project houses a mix of residences, shops, restaurants, a park, and hotels. This type of development makes it easy for residents, visitors and employees to walk or bike to destinations, helping to efficiently connect the city's neighborhoods through sustainable mobility.
3) Residential Density. The high-density multi-family project is intended to promote walking and biking as a feasible alternative to driving due to reduced distances and the resulting close proximity of various services and destinations.
4) Street Widths, Pavement and Street Trees. Otay Ranch street sections are narrower than typical standards which reduces asphalt pavement and the "urban heat-island effect" by limiting the amount of reflective surfaces. Street trees provide shade which further reduces heat-gain. Widened landscape medians and parkways to reduce paving, thereby reducing heat gain and the demand for air conditioning. Street trees within the parkways and medians provide shade to further reduce ambient air temperatures.
5) Public Transportation. The design plan for the development is transit ready. In conformance with General Plan policy, public transportation is an integral part of Otay Ranch. Public transit lines and stops are integrated into the plan and are adjacent to the project. This is intended to help reduce the dependence on the passenger vehicle and encourage walking, biking, and transit trips. Bus Rapid Transit service is planned along the southern boundary of the site. In addition, Local Bus routes 709, 707, and 635 serve the project, with an additional new bus stop proposed near the hotels.
6) Alternative Travel Modes. FC-2 site will be connected to the regional trail network and will feature sharrow lanes through the project. Sidewalks will be provided throughout the project site. All internal roadways are designed to local street standards with speed limits of 25 to 30 mph. Slow traffic speeds are conducive to both walking and bicycling and provide the necessary linkage to the regional bicycle circulation network.

Building and Design Element Features:

1) Use of low-VOC paints as required under SDAPCD Rule 67.
2) Project-wide recycling as required under the County's recycling Ordinance.
3) Energy efficiency as required under the 2013 California Energy Code and CalGreen.
4) Indoor residential appliances that carry the Environmental Protection Agency's (EPA) ENERGYSTAR® certification, as applicable and feasible.
5) Inclusion of all residential units in the local utility demand response program to limit peak energy usage for cooling.
6) Indoor residential plumbing products that carry the EPA's WaterSense certification.
7) Passive solar design and building orientation principles to take advantage of the sun in the winter for heating and reduce heat gain and cooling needs during summer.
8) Energy efficient lighting for streets, parks, and other public spaces as well as for private development projects.

9) Installation of only electric or natural gas fireplaces in new development. No wood burning fireplaces are permitted.
10) Installation of solar water heater preplumbing.
11) Installation of solar photovoltaic prewiring.
12) Installation of residential graywater stub-out.

Landscape Features:

1) Watering three times daily to control fugitive dust to meet the requirements SDAPCD.
2) High-efficiency irrigation equipment, such as evapotranspiration controllers, soil moisture controllers and drip emitters for all projects that install irrigation water meters, per the City of Chula Vista Landscape Water Conservation Ordinance of the City of Chula Vista Municipal Code Chapter 20, Section 12.
3) Water efficient vegetation, including native species, planted in public and private landscape areas.
4) Natural turf in residential development limited to no more than 30% of the outdoor open space.
5) Vertical landscape elements, such as trees, large shrubs, and climbing vines, shall be installed in order to shade southern and western building facades to reduce energy needs for heating and cooling.
6) Compliance with the City's Shade Tree Policy for parking lot design to achieve 50% shade cover in five to fifteen years through tree canopies, shade structures, or light colored "cool" paving.

D. Modeled Effectiveness of Community Design

With implementation of the proposed site design features, the project is consistent with the City of Chula Vista INDEX CO2 model requirements, as shown in Tables ES1 and ES2 which describe the LEED-ND equivalency analysis (LEA) prepared for the project.

2. INTRODUCTION

A. Need for an AQIP

The objective of this AQIP is to fulfill the City of Chula Vista's Growth Management policy to improve air quality from existing conditions. As the result of rapid development not keeping pace with the demand for facilities and improvements, the City Council adopted Growth Management policy measures that would prohibit new development to occur unless adequate public facilities, improvements and environmental quality of life standards were put in place. The purpose of City of Chula Vista's Growth Management ordinance (CVMC Chapter 19.09) is to provide the following:

1. Provide quality housing opportunities for all economic sections of the community;
2. Provide a balanced community with adequate commercial, industrial, recreational and open space areas to support the residential areas of the City;
3. Provide that public facilities, services and improvements meeting City standards exist or become available concurrent with the need created by new development;
4. Balance the housing needs of the region against the public service needs of Chula Vista residents and available fiscal and environmental resources;
5. Provide that all development is consistent with the Chula Vista general plan;
6. Prevent growth unless adequate public facilities and improvements are provided in a phased and logical fashion as required by the general plan;
7. Control the timing and location of development by tying the pace of development to the provision of public facilities and improvements to conform to the City's threshold standards and to meet the goals and objectives of the growth management program;
8. Provide that the air quality of the City of Chula Vista improves from existing conditions;
9. Provide that the City of Chula Vista conserves water so that an adequate supply be maintained to serve the needs of current and future residents.

This AQIP is provided in accordance with CVMC 19.09.050B. The Growth Management Ordinance requires that no application for a SPA Plan or Tentative Map shall be deemed complete or accepted for review unless an AQIP is provided and approved as part of the approval of the SPA Plan or Tentative Map by the City.

B. AQIP as Tool for Implementation of Ordinances

This AQIP has been prepared based on the best available design practices and also serves to implement several of the key aspects of the City's CO_2 Reduction Plan, the Green Building Standards (CVMC Chapter 15.26) and the City's Energy Code (CVMC 15.12).

2a. PURPOSE & GOALS

A. Purpose of AQIP

The purpose of the AQIP is to provide an analysis of air pollution impacts that would result from development of the FC-2 site and to demonstrate how the project design reduces vehicle trips, maintains or improves traffic flow, reduces vehicle miles traveled, and reduces direct or indirect greenhouse gas (GHG) emissions. This AQIP also demonstrates how the project has been designed consistent with the City's Green Building Standards, (CVMC 15.26) and Energy Code (15.12) and represents the best available design in terms of improving energy efficiency and reducing GHG emissions. GHG emissions include gases such as Carbon Dioxide (CO2), Methane (CH4), and Nitrous Dioxide (N20). They occur both naturally, and are produced by human activities, such as by automobile emissions and emissions from production of electricity to provide power to homes and businesses. These gases prevent heat from escaping the earth's atmosphere, while allowing in sunlight, which has the effect of warming the air temperature. Applicable action measures contained in the City's Carbon Dioxide (CO2) Reduction Plan are also addressed.

B. Regulatory Framework Related to Air Quality

There are a number of actions that Federal, State and Local jurisdictions have taken to improve air quality, increase energy efficiency, and reduce GHG emissions. This section summarizes those actions.

Air quality is defined by ambient air concentrations of specific pollutants determined by the Environmental Protection Agency (EPA) to be of concern with respect to the health and welfare of the public. The subject pollutants monitored by the EPA include the following:

- Carbon Monoxide (CO),
- Sulfur Dioxide (SO_2),
- Nitrogen Dioxide (NO_2),
- Nitrogen Oxides (NO_x)
- Ozone (O_3),
- Respirable 10- and 2.5-micron particulate matter (PM_{10} and $PM_{2.5}$),
- Volatile Organic Compounds (VOC),
- Reactive Organic Gasses (ROG),
- Hydrogen Sulfide (H_2S),
- Sulfates,
- Lead (Pb),
- Vinyl Chloride, and
- Visibility reducing particles (VRP).

The EPA has established ambient air quality standards for these pollutants. These standards are called the National Ambient Air Quality Standards (NAAQS). The California Air Resources Board (CARB) subsequently established the more stringent California Ambient Air Quality Standards (CAAQS). Both sets of standards are shown in Figure 1 on the following page. Areas in California where ambient air concentrations of pollutants are higher than the state standard are considered to be in "non-attainment" status for that pollutant.

Regulation of air emissions from non-mobile sources within San Diego County has been delegated to the San Diego County Air Pollution Control District (APCD). As part of its air quality permitting process, the APCD has established thresholds for the preparation of Air Quality Impact Assessments (AQIAs) and/or Air

Quality Conformity Assessments (AQCAs). APCD has also established an "emissions budget" or Regional Air Quality Strategy (RAQS) for the San Diego Air Basin. This budget takes into account existing conditions, planned growth based on General Plans for cities within the region, and air quality control measures implemented by the APCD.

Figure 1: Ambient Air Quality Standards Matrix

POLLUTANT	AVERAGE TIME	CALIFORNIA STANDARDS		NATIONAL STANDARDS		
		Concentration	Measurement Method	Primary	Secondary	Measurement Method
Ozone (O_3)	1 hour	0.09 ppm (180 µg/m^3)	Ultraviolet Photometry	--	--	Ethylene Chemiluminescence
	8 hour	0.070 ppm (137 µg/m^3)		0.075 ppm (147 µg/m^3)	0.075 ppm (147 µg/m^3)	
Carbon Monoxide (CO)	8 hours	9.0 ppm (10 mg/m^3)	Non-Dispersive Infrared Spectroscopy (NDIR)	9 ppm (10 mg/m^3)	None	Non-Dispersive Infrared Spectroscopy (NDIR)
	1 hour	20 ppm (23 mg/m^3)		35 ppm (40 mg/m^3)		
Nitrogen Dioxide (NO_2)	Annual Average	0.030 ppm (56 µg/m^3)	Gas Phase Chemiluminescence	0.053 ppm (100 µg/m^3)	0.053 ppm (100 µg/m^3)	Gas Phase Chemiluminescence
	1 hour	0.18 ppm (338 µg/m^3)		0.100 ppm (188 µg/m^3)	--	
Sulfur Dioxide (SO_2)	24 hours	0.04 ppm (105 µg/m^3)	Ultraviolet Fluorescence	--	--	Pararosaniline
	3 hours	--		--	0.5 ppm (1300 µg/m^3)	
	1 hour	0.25 ppm (655 µg/m^3)		75 ppb (196 µg/m^3)	--	
Respirable Particulate Matter (PM_{10})	24 hours	50 µg/m^3	Gravimetric or Beta Attenuation	150 µg/m^3	150 µg/m^3	Inertial Separation and Gravimetric Analysis
	Annual Arithmetic Mean	20 µg/m^3		--	--	
Fine Particulate Matter ($PM_{2.5}$)	Annual Arithmetic Mean	12 µg/m^3	Gravimetric or Beta Attenuation	12 µg/m^3	15 µg/m^3	Inertial Separation and Gravimetric Analysis
	24 hours	--		35 µg/m^3	35 µg/m^3	
Sulfates	24 hours	25 µg/m^3	Ion Chromatography	--	--	--
Lead (Pb)	30-day Average	1.5 µg/m^3	Atomic Absorption	--	--	Atomic Absorption
	Calendar Quarter	--		1.5 µg/m^3	1.5 µg/m^3	
	3-month Rolling Average	--		0.15 µg/m^3	0.15 µg/m^3	
Hydrogen Sulfide (H_2S)	1 hour	0.03 ppm (42 µg/m^3)	Ultraviolet Fluorescence	--	--	--
Vinyl Chloride	24 hours	0.010 ppm (26 µg/m^3)	Gas Chromatography	--	--	--

ppm= parts per million
µg/m^3 = micrograms per cubic meter
mg/m^3= milligrams per cubic meter
Source: California Air Resources Board 2013

According to a report by the California Air Pollution Control Officers' Association (CAPCOA), 2013 was the cleanest year on record for the APCD. Accordingly, in 2013, the U.S. EPA redesignated the APCD as an attainment area for the 1997 8-hour federal ozone standard. The APCD has also been designated as a marginal non-attainment area for the more health-protective 2008 8-hour federal ozone standard, and monitoring data show continued progress toward achieving this standard (marginal non-attainment requires attainment by the year 2015). The APCD also continues to meet all air quality standards for PM2.5, including the tightened annual standard that the U.S. EPA promulgated in early 2013, which brings the federal standard in line with the state standard.

Figure 2 shows the APCD air quality emissions budget.

Figure 2: APCD Air Quality Emissions Budget

Pollutant	Construction	Operation
Criteria Pollutants Mass Daily Thresholds		
NO_x	100 lbs/day	55 lbs/day
ROG	75 lbs/day	55 lbs/day
PM_{10}	150 lbs/day	150 lbs/day
$PM_{2.5}$	55 lbs/day	55 lbs/day
SO_x	150 lbs/day	150 lbs/day
CO	550 lbs/day	550 lbs/day
Lead	3 lbs/day	3 lbs/day
TAC, AHM, and Odor Thresholds		
Toxic Air Contaminants (TACs)	Maximum Incremental Cancer Risk ≥ 10 in 1 million Cancer Burden > 0.5 excess cancer cases Hazard Index ≥ 1.0 (project increment)	
Odor	Project creates an odor nuisance pursuant to SCAQMD Rule 402	
GHG	10,000 Metric tons/year CO_2e for industrial facilities	
Ambient Air Quality for Criteria Pollutants		
NO_2 1-hour NO_2 annual	0.18 ppm (state) 0.03 ppm (state) and 0.0534 ppm (federal)	
PM_{10} 24-hour PM_{10} annual average	10.4 µg/m^3 (construction) and 2.5 µg/m^3 (operations) 1.0 µg/m^3	
$PM_{2.5}$ 24-hour	10.4 µg/m^3 (construction) and 2.5 µg/m^3 (operations)	
SO_2 24-hour SO_2 annual average	0.25 ppm (state) and 0.075 ppm (federal – 99th percentile) 0.04 ppm (state)	
Sulfate 24-hour average	25 µg/m^3	
CO 1-hour average CO 8-hour average	20 ppm (state) and 35 ppm (federal) 9.0 ppm (state/federal)	
Lead 30-day average Lead rolling 3-month average Lead quarterly average	1.5 µg/m^3 0.15 µg/m^3 1.5 µg/m^3	

µg/m^3 = microgram per cubic meter; pphm = parts per hundred million; mg/m^3 = milligram per cubic meter; ppm = parts per million; TAC = toxic air contaminant; GHG = greenhouse gases; CO_2e = CO_2-equivalent

Summary of Energy Efficiency Standards

Title 24, Part 6 of the California Building Standards Code regulates energy use including space heating and cooling, hot water heating, and ventilation. The energy code allows new buildings to meet a "performance" standard that allows a builder to choose the most cost effective energy saving measures to meet the standard from a variety of measures. These choices may include the following:

- Added insulation,
- Improved windows,
- Radiant barriers,
- Cool roofs,
- Improved HVAC systems,
- Alternative heating and cooling systems,
- More efficient water heating systems, and
- More efficient lighting systems.

The California Energy Commission's (CEC) 2013 Building Energy Efficiency Standards are 25% more efficient than previous standards for residential construction and 30% better for nonresidential construction. These standards took effect on July 1, 2014. On average, the standards increase the cost of constructing a new home by $2,290 but will return more than $6,200 in energy savings over 20 years. These new energy efficiency standards are designed toward the "Zero Net Energy" (ZNE) goal for new homes by 2020 and commercial buildings by 2030. The ZNE goal means that new buildings must use a combination of improved efficiency and distributed renewable generation to meet 100 percent of the annual energy need.

The City's Energy and Water Conservation Regulations (CVMC 20.04) require that all new residential units include the necessary plumbing to encourage the later installation of solar hot water heating. In addition, the electrical conduit necessary for installation of solar photovoltaic system is also required for all new residential units.

Water-related energy use consumes 19 percent of California's electricity, 30 percent of its natural gas, and 88 billion gallons of diesel fuel every year. The water-related energy use includes water and wastewater treatment as well as the energy needed to transport the water from it source (either northern California or the Colorado River). California Green Building Code Title 24, Part 11 (CALGreen) requires that indoor water use be reduced through stringent new water fixture flow rates. The City has also reduced the demand for outdoor water use through the adoption of the Landscape Water Conservation requirements (CVMC 20.12). The City of Chula Vista recently adopted a residential graywater sub-out requirement to allow the future installation of a clothes washer graywater irrigation system (CVMC 15.28.020).

CALGreen also requires that a minimum of 50% all new construction waste generated at the site be diverted to recycle or salvage. Additionally, the State has set per capita disposal rates of 5.3 pounds per person per day for the City of Chula Vista. The City requires new construction to divert 100% of the inert waste and not less than 50% of the remaining waste generated during construction (CVMC 8.25.020).

Summary of Greenhouse Gas (GHG) Reduction

Greenhouse gasses (GHGs) include carbon dioxide (CO_2), methane (CH_4) and nitrous oxide (N_20). These gases allow solar radiation (sunlight) into the Earth's atmosphere but prevent radiative heat from escaping, thus warming the earth's atmosphere. GHGs are emitted by both natural processes and human activities. As directed by Assembly Bill (AB) 32, the Climate Change Scoping Plan (December 2008 prepared by CARB) includes measures to reduce statewide GHGs to 1990 levels by 2020 from forecasted business-as-usual (BAU) 2020 emissions.

The majority of the reduction strategies are to come from the two sectors that generate the most CO_2 emissions statewide: transportation and electricity generation. The majority of the reduction in transportation-related and energy-related CO_2 emissions are to be achieved through statewide regulatory mandates affecting vehicle emissions and types of fuel the vehicles use, public transit, and public utilities. The remaining reductions are to be achieved through direct regulation and price incentive measures affecting oil and gas extraction industries and forestry practices (including increased tree planting programs).

BAU is defined as the emissions that would have occurred in the absence of reductions mandated under AB 32, including CHG reductions from the following:

- Implementation of Pavley 1 and Pavley 2 motor vehicle standards
  Pavley regulations establish specific GHG emissions levels for both passenger cars and light-duty trucks. The standards become more stringent each year through 2016.
- Implementation of the Low Carbon Fuel Standard (LCFS
  CARB has also adopted a LCFS that sets carbon reduction standards for the types of fuels that can be sold in California, particularly renewable fuels. This will reduce the GHG emissions even if total fuel consumption is not reduced.
- Implementation of the Renewable Portfolio Standard (RPS)
  RPS requires investor-owned utilities, electric service providers, and community choice aggregators to increase renewable energy resources to 33% by 2020.
- Increased energy efficiency measures codified in Title 24 as of 2013
  BAU uses the energy efficiency standards codified in Title 24 as of 2005.
- Implementation of Federal Corporate Average Fuel Economy (CAFE) standards
  The CAFE standards determine the fuel efficiency of certain vehicle classes.

The three most applicable measures to land use planning and development within the City of Chula Vista's control include the Regional Transportation-related GHG targets, support for the Million Solar Roofs program, and energy efficiency measures. Since the early 1990s, the City has been engaged in multiple climate change forums including the United Nations Framework Convention on Climate Change (UNFCCC), the Cities for Climate Protection campaign and the U.S. Conference of Mayor's Climate Protection Agreement. The key plans and ordinances that the City has adopted and implemented to achieve citywide GHG emissions reductions are summarized below.

Each participant in the International Council of Environmental Initiatives (ICLEI) was to create local policy measures to ensure multiple benefits in the City and at the same time identify a carbon reduction goal through the implementation of those measures. In its CO_2 Reduction Plan developed in 1995 and officially adopted in 2000, Chula Vista committed to lowering its CO_2 emissions by diversifying its transportation system and using energy more efficiently in all sectors. To focus efforts in this direction, the City adopted

the CO_2reduction goal of 20% below 1990 levels by 2010. In order to achieve this goal, seven actions were identified (see page 23), which when fully implemented, were anticipated to save 100,000 tons of CO_2 each year.

The 2008 GHG Emissions Inventory noted that compared to 1990, Chula Vista's citywide GHG emissions have increased by 29%, however, per capita and per housing unit levels are approximately 25% and 17% below 1990 levels, respectively. The Climate Change Working Group (CCWG) helped develop recommendations to reduce the community's GHGs in order to meet the City's 2010 GHG emissions reduction targets. The CCWG ultimately chose seven measures that were adopted by the City Council and the horizon date was delayed until 2012 instead of 2010.

During 2014, a CCWG is being reconvened to help update the City's Climate Action Plan. Specifically, the CCWG will develop recommendations, through an open and transparent public process, for new greenhouse gas reduction strategies to assist Chula Vista in reaching its carbon reduction goals. Information on upcoming CCWG meetings can be found below.

3. PROJECT DESCRIPTION

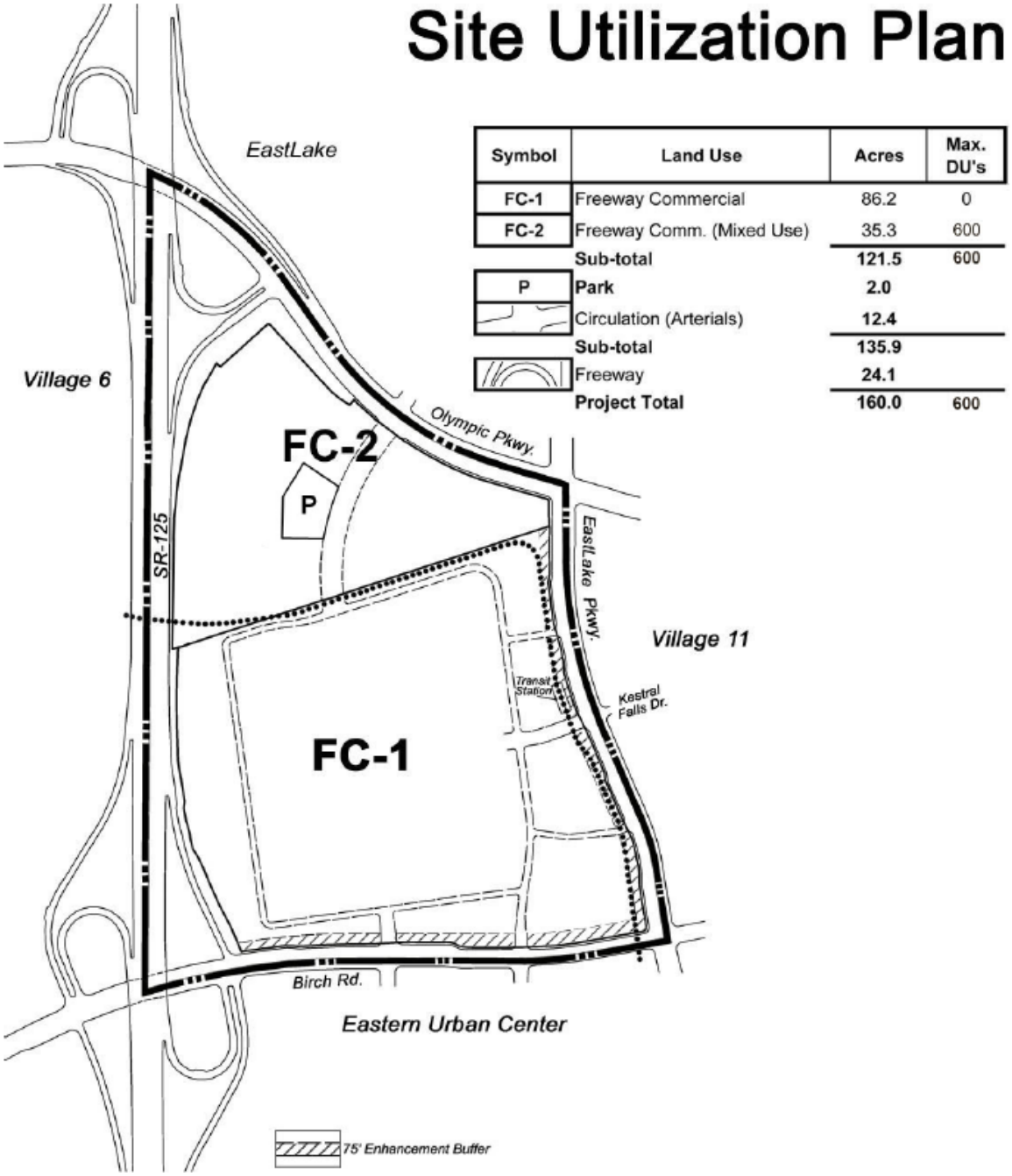
The FC-2 site is entitled for the construction of 600 multi-family residential units, 15,000 square-feet of commercial space in a mixed use format, and 2.0 acres of public parkland, as shown on Figures 3 and 4. A SPA Plan Amendment is required to reflect the approved General Plan and General Development Plan Amendments.

The mixed-use residential would be located along Town Center Drive and would consist of ground floor commercial with residential above (approximately 310 units) on approximately 10.4 acres, resulting in a density of 30 dwelling units per acre. These residential units would be comprised of studio units, and one- and two-bedroom units.

The residential land uses within the western portion of the site would be comprised of approximately 290 multi-family units at the density between 30 and 17 dwelling units per acre. The land uses for the western residential area would include a variety of building heights to enhance the visual appearance and to avoid adverse bulk and massing. Shared one-way streets for pedestrian, vehicular, and bicycle use, would be included in the circulation plan for this area.

The park is located near the center of the site and would be available for use by residents, retail employees, hotel guests, and visitors. The design of the park would incorporate flexibility for events for all potential users (hotel, residents, the City, etc.). The park would include an open lawn area, shaded picnic grove area, a water feature, food truck parking and plaza, a location for outdoor screening of movies, amphitheater seating, a boulder field, and hillsides.

Town Center Drive generally bisects the site in a north to south direction. The design of Town Center Drive would promote a walkable, safe, and visually appealing roadway. The roadway would have a narrower street to encourage slower travel and multimodal travel, angled parking, a landscaped median, landscaped buffers along the edges, and wide pedestrian sidewalks.



Symbol	Land Use	Acres	Max. DU's
FC-1	Freeway Commercial	86.2	0
FC-2	Freeway Comm. (Mixed Use)	35.3	600
	Sub-total	**121.5**	600
P	**Park**	**2.0**	
	Circulation (Arterials)	**12.4**	
	Sub-total	**135.9**	
	Freeway	**24.1**	
	Project Total	**160.0**	600

Figure 3: SPA Land Use Plan

Figure 4: Site Plan Illustration

4. EFFECT OF PROJECT ON LOCAL/REGIONAL AIR QUALITY

This section includes a generalized discussion of the short-term and long-term effects on local and regional air quality including its contribution to global climate change.

The project site is currently served by three Metropolitan Transit Service (MTS) Routes. The project is also anticipating future BRT service along the future extension of East Palomar Street adjacent to the southern boundary of the project site.

Construction Related Emissions
Air pollutant emission sources during project construction include exhaust and particulate emissions generated from construction equipment; fugitive dust from site preparation, grading, and excavation activities; and volatile compounds that evaporate during site paving and painting of structures. Because of their temporary nature, construction activity impacts have often been considered as having a less-than-significant air quality impact. However, the cumulative impact from all simultaneous construction in the basin is a contributor to the overall pollution burden.

Construction emissions as estimated in the air quality technical report would be below all significance thresholds for criteria air pollutants, and would not exceed those levels identified in the project FEIR. The site would be watered at least three times daily to control fugitive dust emissions, and vehicle speeds would not exceed 15 miles per hour, per FEIR mitigation measure 5.4-2. In addition, low-VOC paints would be utilized during architectural coatings. With incorporation of these design features, construction emissions were estimated to be below construction emissions estimated in the FEIR. The FEIR also identified mitigation measures 5.4-1 and 5.4-2, which reflect dust control measures and measures to reduce VOC and NOx emissions.

This development is subject to SDAPCD Rule 55 - Fugitive Dust Control that requires restrictions of visible emissions of fugitive dust beyond the property line. Construction fugitive dust will be reduced by implementing the following dust control measures:

- Watering active grading sites and unpaved roads three times daily to control fugitive dust to meet the requirements of SDAPCD Rule 55.
- Use of low-VOC as required under SPAPCD Rule 67.0.
- Replacement of ground cover as quickly as possible.
- Reducing speeds on unpaved roads to 15 miles per hour or less.
- Reduce dust during loading and unloading operations.

According to the Air Quality Report, maximum daily emissions of all criteria pollutants would be below the significance thresholds for all criteria pollutants.

Operational Related Emissions

Operational impacts associated with the FC-2 project would include impacts associated with vehicular traffic, as well as area sources such as energy use, consumer products use, and architectural coatings use for maintenance purposes. Emissions associated with project operations were estimated in the Air Quality Report using the CalEEMod Model. With reductions for a mix of uses and access to transit (15%), the net project trip generation would be 7,506 ADT.

Figure 5 provides a summary of the estimated operational emissions for the project.

Figure 5: FC-2 Project Operational Emissions

	VOC	NOx	CO	SO_x	PM_{10}	$PM_{2.5}$
Summer Day, Lbs/day						
Area Sources	34.43	0.62	53.84	0.003	0.30	0.30
Energy Use	0.95	8.47	6.28	0.052	0.65	0.65
Vehicular Emissions	20.15	34.89	174.45	0.47	31.80	8.83
TOTAL	**55.52**	**43.98**	**234.57**	**0.52**	**32.75**	**9.78**
Significance Threshold	55	55	550	150	150	55
Above Threshold?	*Yes*	*No*	*No*	*No*	*No*	*No*
Winter Day, Lbs/day						
Area Sources	34.43	0.62	53.84	0.003	0.30	0.30
Energy Use	0.95	8.47	6.28	0.052	0.65	0.65
Vehicular Emissions	21.54	37.03	189.78	0.45	31.80	8.84
TOTAL	**56.91**	**46.12**	**259.90**	**0.50**	**32.75**	**9.78**
Significance Threshold	55	55	550	150	150	55
Above Threshold?	*Yes*	*No*	*No*	*No*	*No*	*No*
Total Operational Emissions, lbs/day, 2002 EIR[a]	319	790	3,145	NA	389	NA

[a]Table 5.4-5 erroneously labeled the table as tons/year; however, the significance threshold is in terms of lbs/day and it is therefore assumed that the table should have been labeled lbs/day. SO_2 and $PM_{2.5}$ emissions were not reported in the 2002 EIR.

As shown in above table, operational emissions associated with the project would be below the significance criteria for operations for all criteria pollutants except VOCs. VOC emissions are associated with area sources, including use of consumer products and periodic architectural coatings use, as well as with vehicles. With future years, vehicle emissions would decrease due to phase-out of older, more polluting vehicles, and would be below the significance threshold of 55 lbs/day by the year 2025. VOC emissions would exceed the significance threshold for a temporary period, but would eventually be reduced below the City's significance thresholds. Emissions are well below the levels reported in the 2002 EIR, and therefore no new air quality impact is identified. No additional mitigation measures are proposed. All applicable measures have already been incorporated into the SPA plan, such as provision of bike lanes, providing services near residences, and providing transit support facilities such as bus stops. There are no other feasible mitigation measures available at the project level to reduce vehicular emissions other than reducing vehicle trips.

The project trip generation rates account for a reduction in vehicle trips that would occur as a result of the mixed-use areas and proximity to transit use proposed as part of the SPA plan. In addition, future vehicular emissions may be lower than estimated due to increasingly stringent California fuel efficiency requirements. Some measures cannot be implemented at the SPA level, such as providing video-conference facilities in

work places or requiring flexible work schedules. Additionally, there are no feasible mitigation measures currently available to reduce area sources of emissions without regulating the purchases of individual consumers.

The project will provide a mixed-use development with access to transit. This purpose meets the goals of the Regional Air Quality Strategy (RAQS) and the State Implementation Plan (SIP), which include measures to encourage transit use and mixed-use developments. As indicated in the Traffic Analysis (Chen Ryan 2013), the project would achieve a 15% reduction in vehicle trips by providing a mix of uses and access to transit. Accordingly, the project will meet the goals of the RAQS and SIP to reduce vehicle trips and therefore to improve air quality. The impacts associated with operations would be less than significant by the year 2025. Emissions are below the levels evaluated in the 2002 EIR, and no new air quality impacts are identified. No additional mitigation measures are required. Furthermore, the potential for health risks to residents of the project from surrounding land uses was evaluated in a screening health risk analysis. No adverse health risks would result from exposure to existing land uses. The project would therefore not result in a significant direct or cumulative impact on the ambient air quality.

5. QUANTITATIVE PROJECT DESIGN EVALUATION

Criterion Planners Inc. has performed a quantitative analysis for FC-2 project using Option (2): Alternative Modeling Programs, specifically LEED-ND equivalency analysis (LEA).
This analysis only pertains to the FC-2 site, and represents implementation of the 2004 full Freeway Commercial SPA AQIP which acknowledged that detailed FC-2 site planning had not yet occurred. With that planning now complete, sufficient data is available to support an LEA and fulfill the SPA AQIP requirements for FC-2.

- LEED-ND criteria are proposed as being more appropriate than INDEX indicators for FC-2 for four reasons:
- INDEX indicators and thresholds were originally developed using residential pilot projects in contrast to the mixed uses of FC-2. This difference was acknowledged in the2004 full SPA AQIP, Section II.7.3.
- INDEX indicators are primarily internal-focused, whereas FC-2 is an infill project whose AQIP value derives in large part from surrounding uses that will interact with FC-2 uses. LEED-ND criteria measure these benefits to a greater and more accurate extent.
- The INDEX approach uses only 16 indicators, whereas LEED-ND has 56 indicators that are able to characterize a project much more comprehensively and thoroughly, and ultimately capture more contributors to GHG emission reductions.
- The underlying basics of the INDEX approach are nearly 15 years old, in contrast to LEED-ND's latest update in 2014. Consequently, current best practices in urban design, green infrastructure, and resilient neighborhoods are not addressed by INDEX indicators, but are covered by LEED-ND criteria.

Based on the FC-2 site, development plan, and surrounding conditions, the LEA finds that FC-2 scores the equivalent of 56 points, which would earn a Silver certification under the LEED-ND rating system (see following scorecard table). Moreover, every INDEX indicator is addressed by at least one corresponding LEED-ND credit, and, on average, by four corresponding ND credits (see following INDEX/LEED-ND crosswalk table). Overall, the ND credits double or triple the depth and extent of measurements compared to INDEX indicators. This is particularly true for auto driving and building energy, the two most important sources of GHG emissions. The base ND certification of 40 points is the functional equivalent of INDEX indicator thresholds. A score of 56 points therefore represents a notable exceedance of the thresholds, and clear AQIP compliance.

Table ES2 identifies the INDEX indicators which correspond to each of the LEED ND credits achieved by FC North. Each INDEX indicator has at least one corresponding ND credit, and on average each indicator has four corresponding ND credits. Where it matters the most for GHG emissions, auto driving and building energy, the ND coverage jumps to 10 and 8 credits, respectively. Overall, the ND approach is able to double or triple the depth and extent of measurements in relation to INDEX indicators.

6 COMMUNITY DESIGN AND SITE PLANNING FEATURES

This section describes the specific strategies that have been integrated into the project to create a sustainable community, including those project attributes designed to reduce air quality impacts by promoting walking and alternative travel modes, reducing vehicle miles traveled, and improving energy conservation. Figure 6: Community Design and Site Plan Features includes the list of specific measures that have been included in the FC-2 project.

Figure 6: Community Design and Site Plan Features

Transportation Related Measures
An integrated circulation system provides residents with non-automobile related circulation options that include walking, bicycling, and transit.
The mix of proposed residential, commercial, and community uses provide a complementary, mixed-use environment with a focus on promoting a walkable and bikeable community that promotes pedestrian activity in and around the project.
Higher density uses support walking as distances are reduced, which results in lower GHG emissions from vehicles.
Direct pedestrian links, including the proposed pedestrian bridge over the SR-125, extend from the surrounding neighborhoods directly to the project site.
Bike lanes and bike racks will be provided through the project.
All internal roadways are designed to local street standards with speed limits of 25 to 30 mph. Slow traffic speeds are conducive to walking and bicycling and provide the necessary linkage to the regional bicycle circulation network.
LSVs may travel on all internal streets with a maximum travel speed of 35 miles per hour.
The current regional transit plan includes BRT transit lines the extension of East Palomar Street along the southern boundary of the project.
A future local transit stop is planned at the southeast intersection of Olympic Parkway and Town Center Drive, closest to the hotels and mixed use commercial uses.
Synchronization of the traffic lights is required as part of an individual development project with previously installed traffic lights in order to reduce traffic congestion.
Energy Conservation Related Measures
All of the residential units will be multi-family, which use less energy for heating and cooling when compared to single-family detached homes.
California Green Building Code Title 24, Part 11 (CALGreen) requires that a minimum of 50% all new construction waste generated at the site be diverted to recycle or salvage. Additionally, the State has set per capita disposal rates of 5.3 pounds per person per day for the City of Chula Vista. Reducing waste could reduce the amount of vehicle trips transporting materials to and from the site.
CVMC 8.25.095 requires all new construction and demolition projects to divert 100% of inert waste (asphalt, concrete, bricks, tile, trees, stumps, rocks and associated vegetation and soils resulting from land clearing from landfill disposal); and 50% of all remaining waste generated. Contractors will be required to put up a performance deposit and prepare a Waste Management Report form to ensure that all materials are responsibly handled. Upon verification that the diversion goals have been met the performance deposit will be refunded.
Utilize solar heating technology as practical. Generally, solar panels can be cost-effectively used to heat water for domestic use and for swimming pools. Advances in solar technology in the future may make other applications appropriate.
Enhance energy efficiency in building designs and landscaping plans.
Installation of solar water heater preplumbing.
Installation of solar photovoltaic prewiring.
Installation of residential graywater stub-out.

Other Measures to Improve Air Quality
Install only electric or natural gas fireplaces in new development. No wood burning fireplaces are permitted.
When siting sensitive land uses such as residences, schools, day care centers, playgrounds and medical facilities the recommendations set forth in Table 1-1 of California Air Resources Board's (CARB) Land Use and Air Quality Handbook (CARB 2004) will be use as a guideline. Specifically, new sensitive uses would not be located within 50 feet of any typical-sized gas station (one that has a throughput of less than 3.6 million gallons per year). No gas stations with a throughput of 3.6 million gallons per year or greater shall be developed within the project.
Compliance with the City's Shade Tree Policy for parking lot design to achieve 50% shade cover in five to fifteen years through tree canopies, shade structures, or light colored "cool" paving.

7. CHULA VISTA CO_2 REDUCTION PLAN

This section provides a comparative evaluation between the community/site design features and the energy efficiency emission reduction action measures contained in the City's Carbon Dioxide CO_2 Reduction Plan Appendix C.

The City of Chula Vista original CO_2 Reduction Plan adopted in November 2000, was intended to reduce GHG emissions by 20% below 1990 levels. The CO_2 Reduction Plan outlined steps for Chula Vista to reduce energy consumption, promote alternative transportation and design transit-friendly, walkable communities. The City staff conducted a 2005 GHG emissions inventory to evaluate the City's progress in reaching its emissions goals. The 2005 inventory indicated that Chula Vista's annual citywide GHG levels had increased by 35% since 1990 due primarily to residential growth. During the same period, the City made significant progress in reducing annual per capita emissions by 17% and avoiding nearly 200,00 tons of GHG emissions annually. In addition, GHG emissions from municipal sources decreased by 18% mainly due to traffic signal energy-efficiency improvements. As a result of the 2005 Greenhouse Gas Emissions Inventory Report, in 2008, the City Council directed the re-evaluated of the program and convened a Climate Change Working Group (CCWG) to develop recommendations to reduce the community's greenhouse gas emissions or "carbon footprint" in order to meet the City's 2010 greenhouse gas emissions reduction targets. The CCWG (comprised of residential, business and community-group representatives) selected seven measures which the City Council adopted on July 10, 2008. These Implementation measures include the following:

1. Clean Vehicle Replacement Policy for City Fleet
The City requires that 100% of the replacement vehicles purchased for the municipal fleet be high efficiency (hybrid) or alternative fuel vehicles (AFVs). However, factors such as the appropriateness for the vehicle task, fueling infrastructure, petroleum displacement, and the overall cost and environmental benefit must be considered prior to purchasing each replacement vehicle.

City vehicles will be replaced with hybrids or AFVs on an ongoing basis, as appropriate funding becomes available. By the end of Fiscal Year 2014, it is estimated that six additional alternative fuel vehicles will be purchased.

2. Clean Vehicle Replacement Policy for City-Contracted Fleets
City staff work with City-contracted fleets to influence their expanded use of alternative fuels and high efficiency/alternative fuel vehicles (AFV) including electric, biodiesel, ethanol, hybrid, hydrogen, and compressed natural gas (CNG) based on appropriateness for vehicle task, fueling infrastructure, petroleum displacement, overall cost, and environmental benefit.

The City will continue to work with contractors and community partners to promote local alternative fuel use and infrastructure, as outlined in the Chula Vista Clean Transportation Energy Roadmap. As such, staff is currently developing a Chula Vista-specific alternative fuel infrastructure map to distribute to community members and local car dealerships, who sell alternative fuel vehicles.

3. Business Energy Assessments
This measure, as revised by City Council, states that businesses with storefronts or offices need to participate in a no-cost energy and water evaluation of their premises when a new business license is issued or once every 3-5 years for a renewed business license. The measure helps businesses identify

efficiency opportunities at their facilities, access rebates and financing for efficiency improvements, and lower their monthly utility costs. Businesses are not required to implement any of the identified energy or water efficiency opportunities and are not required to complete evaluations for facility areas beyond their operational control (ex. whole-building systems operated and maintained by a Property Manager/Landlord).

As part of the South Bay Energy Action Collaborative (SoBEAC), Chula Vista is working with neighboring jurisdictions, SANDAG, and SDG&E to launch a new business engagement effort in 2014 to facilitate no and low-cost energy efficiency improvements. In addition, a Chula Vista-specific PACE program is expected to be available by April 2014 to help commercial property-owners finance energy efficiency, renewable energy, and water conservation upgrades.

4. Green Building Standard

The City has adopted regulations mandating new and renovated residential and non-residential projects to incorporate early the requirements of the Housing and Community Development's California Green Building Standards Code (CalGreen) and to be more energy efficient than the 2008 Building Energy Efficiency Standards (Title 24) by a specific percentage. In addition, the measure directed staff to implement a green building awareness program and update/establish design and regulatory provisions that incorporate sustainable practices at a community-scale.

City staff continues to investigate options for revising Chula Vista's Enhanced Energy Efficiency standard in July 2014, when the new statewide Title-24 code is updated. The City has determined that the cost-effectiveness analysis software (which is required for proposing increased standards) has only recently become available. Therefore, staff expects to bring forward recommendations to City Council on a new Enhanced Energy Efficiency standard in the next 6 months.

5. Solar & Energy Efficiency Conversion Program

The "Solar & Energy Efficiency Conversion" program was recommended to help facilitate energy efficiency and renewable energy retrofits in the community and at municipal facilities. The community component, called the Home Upgrade, Carbon Downgrade program, is intended to help the average resident and small business overcome common institutional barriers, upfront capital costs, complicated application processes, and time constraints. The program also strives to promote local job creation and economic development by linking community participants with local contractors and vendors. This measure also included the implementation of a pre-wiring and pre-plumbing requirement for solar photovoltaic (PV) and solar hot water systems, respectively, in all new residential units.

6. Smart Growth Around Trolley Stations

This measure is intended to accomplish the remaining planning groundwork necessary to support realization of the "Smart Growth" development densities and intensities envisioned in both the General Plan and the Urban Core Specific Plan (UCSP). Specifically, the measure's four components are focused on the areas surrounding the E Street, H Street, and Palomar Street trolley stations.

The City continues to pursue "Smart Growth" development surrounding Chula Vista's three Trolley Stations. SANDAG's 2050 Regional Transportation Plan shows various grade separation projects for the Blue Line corridor, which includes E Street, H Street, & Palomar Street. With support through an EPA Smart Growth Technical Assistance grant and the SDG&E Local Government Partnership, the City expects to complete the development of the new "Climate Neighbor" tool which helps local developers implement sustainably designed and constructed projects using the LEED-ND framework.

7. Turf Lawn Conversion Program
Because water movement and treatment requires a large amount of energy (leading to GHG emissions), this measure helps residents and businesses replace turf lawn areas with "WaterSmart" landscaping. Specifically, the program's components include (1) continuation and expansion of the NatureScape program to promote water conserving and nature-friendly landscaping, (2) coupling of residential and business turf lawn replacement with the solar and energy efficiency conversion program,(3) converting select municipal facilities to low water use plantings and irrigation, and (4) updating various municipal landscape regulations and guidelines to comply with new state requirements and further promote outdoor water use efficiency.

City staff continues to pursue funding sources to support turf conversions. For municipal facilities, staff continues to develop a resource reinvestment fund, in which a portion of utility savings from energy and water retrofit projects can be reinvested in similar projects. In the community, a PACE program to help finance water conservation upgrades at homes and businesses will be formally considered by City Council.

Figure 7 includes a summary of the action measures identified in the CO_2 Reduction Plan and must be included in each AQIP to demonstrate how the project has been designed to help implement the action measures listed in the City's CO_2 Reduction Plan. as required in the AQIP guidelines (August 2011).

Figure 7: Consistency with CO_2 Reduction Action Measures

Action Measure	Project/Community Design Features	Describe how project design will Implement CO_2 Reduction Action Measures
Measure 6 (Enhanced Pedestrian Connections to Transit): Installation of walkways and crossings between bus stops and surrounding land uses.	The SPA provides a detailed Circulation Network that links with the potential transit stops. The project is within walking distanced of 3 MTS bus routes.	Reduces vehicle-miles traveled that in turn reduces the GHG emissions.
Measure 7: Increased Housing Density near Transit: General increase in land use and zoning designations to reach an average of at least 14-18 dwelling units per net acre within ¼ mile of major transit facilities.	The residential uses in the project are Multi-Family high-density.	Reduces vehicle-miles traveled that in turn reduces the GHG emissions.
Measure 8 (Site Design with Transit Orientation): Placement of buildings and circulation routes to emphasize transit rather than auto access; also includes bus turn-outs and other transit stop amenities.	The mixed-use nature of the project encourages pedestrian and bicycle travel as an alternative to the automobile. Streets are designed to accommodate bicycle travel.	Promotes bicycling that can reduce vehicle-miles traveled that in turn reduces the GHG emissions.

Figure 7: Consistency with CO_2 Reduction Action Measures (Constinued)

Measure 9 (Increased Land Use Mix): Provide a greater dispersion/variety of land uses such as siting of neighborhood commercial uses in residential areas and inclusion of housing in commercial and light industrial areas.	The mixed-use nature of the project encourages pedestrian and bicycle travel as an alternative to the automobile. Streets are designed to accommodate bicycle travel. Pedestrian pathways and trails accommodate pedestrian movement from the residential areas to schools, parks and commercial uses.	Reduces vehicle-miles traveled that in turn reduces the GHG emissions.
Measure 10 (Reduced Commercial Parking Requirements): Lower parking space requirements; allowance for shared lots and shared parking; allowance for on-street spaces.	Commercial business association will be enforcing the parking program for commercial spaces.	Promotes alternatives to vehicle use thereby reducing vehicle-miles traveled that in turn reduces the GHG emissions.
Measure 11 (Site Design with Pedestrian/bicycle Orientation): Placement of buildings and circulation routes to emphasize pedestrian and bicycle access without excluding autos; includes pedestrian benches, bike paths, and bike racks.	Building and site design anticipates and accommodates pedestrian and vehicle circulation to reduce traffic impacts on neighboring streets and jointly optimize pedestrians and vehicles. Buildings are oriented toward sidewalks. Bike parking is required for all uses.	Promotes bicycling and walking thereby reducing vehicle-miles traveled that in turn reduces the GHG emissions.
Measure 12 (Bicycle Integration with Transit and Employment): Provide storage at major transit stops and employment areas. Encourage employers to provide showers at the place of employment near major transit nodes.	CALGreen requires nonresidential buildings anticipated to generate visitor traffic to provide short-term bicycle racks within 200 feet of the visitors' entrance. For buildings with over 10 tenant-occupants changing/shower facilities shall be provided per CALGreen.	Promotes bicycling that can reduce vehicle-miles traveled that in turn reduces the GHG emissions.
Measure 13 (Bike Lanes, paths, and Routes): Continued implementation of the City's bicycle master plan. Emphasis is to be given to separate bike paths as opposed to striping bike lanes on streets.	The SPA implements the City's bicycle master plan. Sharrow lanes will be provided.	Promotes bicycling that can reduce vehicle-miles traveled that in turn reduces the GHG emissions.
Measure 14 (Energy Efficient Landscaping): Installation of shade trees for new single-family homes as part of an overall City-wide tree planting effort to reduce ambient temperatures, smog formation, energy use, and CO_2.	The land use plan includes widened landscape medians and parkways to reduce paving. Street trees will be planted to reduce heat build-up and demand for air conditioning.	Reduces energy consumption that reduces GHG emissions.
Measure 15 (Solar Pool Heating): Mandatory building code requirements for solar heating of new pools or optional motorized insulated pool cover.	▪ Compliance with CVMC 20.04.030 that requires solar water heater preplumbing in all new residential units. ▪ Compliance with CVMC 20.04.040 that requires solar photovoltaic prewiring in all new residential units.	Reduces energy consumption that reduces GHG emissions.

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Figure 7: Consistency with CO2 Reduction Action Measures (Continued)

Measure 16 (Traffic Signal & System Upgrades): Provide high-efficiency LED lamps or similar as approved by the City Engineer.	Energy efficient light for streets, parks and other public spaces is required.	Reduces energy consumption that reduces GHG emissions.
Measure 18 (Energy Efficient Building Recognition Program): Reducing CO_2 emissions by applying building standards that exceed 2008 Title 24 Energy Code requirements.	▪ Compliance with the updated 2013 Title 24, part 6 energy standards. ▪ Installation of energy efficient appliances such Energy Star dishwashers. ▪ Compliance with CVMC 8.25.050 that requires all generators of recyclables to separate them from refuse. ▪ Compliance with the Recycling and Solid Waste Planning Manual to provide for adequate space allocated to recycling and solid waste within individual projects. ▪ Compliance with CVMC 8.25.095 that all new construction and demolition projects divert from landfill disposal 100% of inert waste and 50% of all remaining waste generated.	Reduces energy consumption that reduces GHG emissions.
Measure 20 (Increased Employment Density Near Transit): General increase in land-use and zoning designations to focus employment-generating land-uses within ¼ mile of major transit stops throughout the City.	The project contains a mix of land uses that include employment-generating land uses near the potential transit stops.	Reduces vehicle-miles traveled that in turn reduces the GHG emissions

8. CREDIT TOWARDS INCREASED MINIMUM ENERGY EFFICIENCY STANDARDS

Note: Detailed provisions related to the calculation and application of credits are currently under development and subject to subsequent review and approval of City Council.

9. Compliance Monitoring

This section includes a written description and a checklist (Figure 8) summarizing the project design features and mitigation measures that have been identified to reduce the development's effects on air quality and improve energy efficiency.

Figure 8: Air Quality Improvement Plan Compliance Checklist

	Method of Verification[1]	Timing of Verification	Responsible Party[2]	Project Consistency & Compliance Documentation[3]
PLANNING				
AQIP Project Design Features/Principles				
Pedestrian oriented development	Plan Review	Precise Plan	City of Chula Vista	
Widened landscape medians and parkways with street trees	Plan Review	Precise Plan	City of Chula Vista	
Integrated circulation system	Plan Review	Precise Plan	City of Chula Vista	
Mix of uses	Plan Review	Precise Plan	City of Chula Vista	
Higher density	Plan Review	Precise Plan	City of Chula Vista	
Class II Bicycle facilities	Plan Check	Tentative Tract Final Map, Improvement Plans	City of Chula Vista	
Opportunity for employee services to be located near employers	Plan Review	Precise Plan	City of Chula Vista	
Circulation pattern w/less than 35mph	Plan Review	Tentative Tract Final Map, Improvement Plans	City of Chula Vista	
Available public transportation	Plan Review	Precise Plan	City of Chula Vista	
Transit Plan	Transit Review	Per SANDAG	SANDAG/MTS/City	
Compliance with the City's Shade Tree Policy for parking lots	Plan Review	Precise Plan	City of Chula Vista	
Air Quality Mitigation Measures				
Construction related emissions	Permit Review	Grading Permit	City of Chula Vista	
Siting of sensitive land uses	Permit Review	Building Permit	City of Chula Vista	
TAC Emission Compliance	Permit Review	Building Permit	City of Chula Vista	

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Figure 8: Air Quality Improvement Plan Compliance Checklist (Continued)

	Method of Verification[1]	Timing of Verification	Responsible Party[2]	Project Consistency & Compliance Documentation[3]
BUILDING				
Green Building Standards				
New Construction Recycling Plan	Waste Management Report Review	Construction or demolition permit	City of Chula Vista	
Project wide recycling	Plan Check	Tentative Tract OR Building Permit	San Diego County	
Energy Efficiency Standards				
Size of dwellings units	Plan Check	Building Permit	City of Chula Vista	
Compliance with 2013 California Energy Code	Plan Check	Building Permit/ Title 24 Energy Report	City of Chula Vista	
Installation of energy efficient appliances	Plan Check	Building Permit	City of Chula Vista	
Participation in a Utility Demand Response program	Plan Check	Building Permit	City of Chula Vista	
Compliance with 2013 CalGreen Indoor Water Use requirements	Plan Check	Plumbing Permit	City of Chula Vista	
Compliance with EPA's WaterSense certification	Plan Check	Plumbing Permit	City of Chula Vista	
Compliance with EPA's Energystar certification for indoor residential appliances	Plan Check	Plumbing Permit	City of Chula Vista	
Efficient irrigation equipment	Plan Check	Landscape Plan	City of Chula Vista	
Water efficient vegetation	Plan Check	Landscape Plan	City of Chula Vista	
Turf limited to 30% in residential areas	Plan Check	Landscape Plan	City of Chula Vista	
Solar access - use passive solar design and building orientation principles	Plan Check	Building Permit	City of Chula Vista	
Solar access - Use of vertical landscape elements to reduce heating/cooling loads	Plan Check	Building Permit	City of Chula Vista	
Energy efficient light of streets, parks and public spaces	Plan Check	Building Permit	City of Chula Vista	
Installation of solar water heater preplumbing	Plan Check	Building Permit	City of Chula Vista	
Installation of solar photovoltaic prewiring	Plan Check	Building Permit	City of Chula Vista	
Installation of residential graywater stub-out	Plan Check	Building Permit	City of Chula Vista	

Notes:

1. Method of verification may include, but is not limited to, plan check, permit review, site inspection.
2. Identify the party responsible for ensuring compliance (City of Chula Vista, San Diego APCD, Other)
3. This column shall include all pertinent information necessary to confirm compliance including document type, date of completion, plan/permit number, special notes/comments, and contact information.