

B1

APPENDIX GREENHOUSE GAS EMISSIONS

B1.1 CEQA Thresholds and Screening Tables

The Ontario Climate Action Plan (CAP) includes reducing 39,769 Metric Tons of Carbon Dioxide Equivalents per year from new development by 2020 as compared to the 2020 unmitigated conditions. This requires new development to be 25% more efficient. Reductions related to transportation, water, solid waste, energy, and renewable energy sources all play a part in gaining this level of efficiency within new development.

The purpose of this Screening Table is to provide preliminary guidance for the Colony Commerce Center Specific Plan in measuring the reduction of greenhouse gas emissions. The actual design features, choices, and construction measures to be incorporated into the development projects will be presented during the Development Plan submittal process to the City.

The Screening Table assigns points for each option incorporated into a project as mitigation or a project design feature (collectively referred to as “feature”). The point values correspond to the minimum emissions reduction expected from each feature. The menu of features allows maximum flexibility and options for how development within the Colony Commerce Center Specific Plan can implement the GHG reduction measures.

The point levels are based upon improvements compared to 2008 emission levels of efficiency. Projects within the Specific

Plan that garner at least 100 points will be consistent with the reduction quantities anticipated in the City’s CAP.

As such, those projects that garner a total of 100 points or greater would not require quantification of project specific GHG emissions. Consistent with CEQA Guidelines, such projects would be determined to have a less than significant individual and cumulative impact for GHG emissions.

CEQA THRESHOLDS AND SCREENING TABLES

Table 2: Screening Table for Implementation of GHG Reduction Measures for Commercial/Industrial Development

Feature	Description	Assigned Point Values	Project Points
Reduction Measure PS E3: Commercial/Industrial Energy Efficiency Development			
Building Envelope			
Insulation	2008 baseline (walls R-13; roof/attic R-30)	0 points	15
	Modestly Enhanced Insulation (walls R-13, roof/attic R-38))	15 points	
	Enhanced Insulation (rigid wall insulation R-13, roof/attic R-38)	18 points	
	Greatly Enhanced Insulation (spray foam insulated walls R-15 or higher, roof/attic R-38 or higher) <i>(Applies to the conditioned space, defined as those areas within the building that have air conditioning and heating.)</i>	20 points	
Windows	2008 Baseline Windows (0.57 U-factor, 0.4 solar heat gain coefficient [SHGC])	0 points	8
	Modestly Enhanced Window Insulation (0.4 U-factor, 0.32 SHGC)	7 points	
	Enhanced Window Insulation (0.32 U-factor, 0.25 SHGC)	8 points	
	Greatly Enhanced Window Insulation (0.28 or less U-factor, 0.22 or less SHGC) <i>(Applies to the conditioned space, defined as those areas within the building that have air conditioning and heating.)</i>	12 points	
Cool Roof	Modest Cool Roof (CRRC Rated 0.15 aged solar reflectance, 0.75 thermal emittance)	12 points	12
	Enhanced Cool Roof (CRRC Rated 0.2 aged solar reflectance, 0.75 thermal emittance)	14 points	
	Greatly Enhanced Cool Roof (CRRC Rated 0.35 aged solar reflectance, 0.75 thermal emittance)	16 points	
Air Infiltration	Minimizing leaks in the building envelope is as important as the insulation properties of the building. Insulation does not work effectively if there is excess air leakage.		-
	Air barrier applied to exterior walls, caulking, and visual inspection such as the HERS Verified Quality Insulation Installation (QII or equivalent)	12 points	
	Blower Door HERS Verified Envelope Leakage or equivalent <i>(Applies to the conditioned space, defined as those areas within the building that have air conditioning and heating.)</i>	10 points	
Thermal Storage of Building	Thermal storage is a design characteristic that helps keep a constant temperature in the building. Common thermal storage devices include strategically placed water filled columns, water storage tanks, and thick masonry walls.		

CEQA THRESHOLDS AND SCREENING TABLES

Feature	Description	Assigned Point Values	Project Points
	Modest Thermal Mass (10% of floor or 10% of walls 12" or more thick exposed concrete or masonry with no permanently installed floor covering such as carpet, linoleum, wood or other insulating materials)	4 points	
	Enhanced Thermal Mass (20% of floor or 20% of walls 12" or more thick exposed concrete or masonry with no permanently installed floor covering such as carpet, linoleum, wood or other insulating materials)	6 points	-
	Enhanced Thermal Mass (80% of floor or 80% of walls 12" or more thick exposed concrete or masonry with no permanently installed floor covering such as carpet, linoleum, wood or other insulating materials)	24 points	
Indoor Space Efficiencies			
Heating/ Cooling Distribution System	Minimum Duct Insulation (R-4.2 required)	0 points	14
	Modest Duct insulation (R-6)	8 points	
	Enhanced Duct Insulation (R-8)	10 points	
	Distribution loss reduction with inspection (HERS Verified Duct Leakage or equivalent) <i>(Applies to the conditioned space, defined as those areas within the building that have air conditioning and heating.)</i>	14 points	
Space Heating/ Cooling Equipment	2008 Minimum HVAC Efficiency (EER 13/60% AFUE or 7.7 HSPF)	0 points	-
	Improved Efficiency HVAC (EER 14/65% AFUE or 8 HSPF)	7 points	
	High Efficiency HVAC (EER 15/72% AFUE or 8.5 HSPF)	8 points	
	Very High Efficiency HVAC (EER 16/80% AFUE or 9 HSPF) <i>(Applies to the conditioned space, defined as those areas within the building that have air conditioning and heating.)</i>	12 points	
Commercial Heat Recovery Systems	Heat recovery strategies employed with commercial laundry, cooking equipment, and other commercial heat sources for reuse in HVAC air intake or other appropriate heat recovery technology. Point values for these types of systems will be determined based upon design and engineering data documenting the energy savings.	TBD	-
Water Heaters	2008 Minimum Efficiency (0.57 Energy Factor)	0 points	-
	Improved Efficiency Water Heater (0.675 Energy Factor)	14 points	
	High Efficiency Water Heater (0.72 Energy Factor)	16 points	
	Very High Efficiency Water Heater (0.92 Energy Factor)	19 points	
	Solar Pre-heat System (0.2 Net Solar Fraction)	4 points	
	Enhanced Solar Pre-heat System (0.35 Net Solar Fraction)	8 points	
Daylighting	Daylighting is the ability of each room within the building to provide outside light during the day reducing the need for artificial lighting during daylight hours.		

CEQA THRESHOLDS AND SCREENING TABLES

Feature	Description	Assigned Point Values	Project Points
	All peripheral rooms within building have at least one window or skylight	1 points	7
	All rooms within building have daylight (through use of windows, solar tubes, skylights, etc.)	5 points	
	All rooms daylighted	7 points	
Artificial Lighting	2008 Minimum (required)	0 points	9
	Efficient Lights (25% of in-unit fixtures considered high efficacy. High efficacy is defined as 40 lumens/watt for 15 watt or less fixtures; 50 lumens/watt for 15-40 watt fixtures, 60 lumens/watt for fixtures >40watt)	9 points	
	High Efficiency Lights (50% of in-unit fixtures are high efficacy)	12 points	
	Very High Efficiency Lights (100% of in-unit fixtures are high efficacy)	14 points	
Appliances	Energy Star Commercial Refrigerator (new)	4 points	8
	Energy Star Commercial Dish Washer (new)	4 points	
	Energy Star Commercial Cloths Washing	4 points	
Miscellaneous Commercial/Industrial Building Efficiencies			
Building Placement	North/South alignment of building or other building placement such that the orientation of the buildings optimizes conditions for natural heating, cooling, and lighting.	6 point	6
Shading	At least 90% of south-facing glazing will be shaded by vegetation or overhangs at noon on June 21st.	6 Points	-
Other	This allows innovation by the applicant to provide design features that increases the energy efficiency of the project not provided in the table. Note that engineering data will be required documenting the energy efficiency of innovative designs and point values given based upon the proven efficiency beyond Title 24 Energy Efficiency Standards.	TBD	-
Existing Commercial building Retrofits	The applicant may wish to provide energy efficiency retrofit projects to existing commercial buildings to further the point value of their project. Retrofitting existing commercial buildings within the City is a key reduction measure that is needed to reach the reduction goal. The potential for an applicant to take advantage of this program will be decided on a case by case basis and must have the approval of the Ontario Planning Department. The decision to allow applicants the ability to participate in this program will be evaluated based upon, but not limited to the following:	TBD	-

CEQA THRESHOLDS AND SCREENING TABLES

Feature	Description	Assigned Point Values	Project Points
	<p>Will the energy efficiency retrofit project benefit low income or disadvantaged communities?</p> <p>Does the energy efficiency retrofit project fit within the overall assumptions in the reduction measure associated with commercial building energy efficiency retrofits?</p> <p>Does the energy efficiency retrofit project provide co-benefits important to the City?</p> <p>Point value will be determined based upon engineering and design criteria of the energy efficiency retrofit project.</p>		
Reduction Measure PS E4: Commercial/Industrial Renewable Energy			
Photovoltaic	<p>Solar Photovoltaic panels installed on commercial buildings or in collective arrangements within a commercial development such that the total power provided augments:</p> <p>Solar Ready Roofs (sturdy roof and electric hookups)</p> <p>10 percent of the power needs of the project</p> <p>20 percent of the power needs of the project</p> <p>30 percent of the power needs of the project</p> <p>40 percent of the power needs of the project</p> <p>50 percent of the power needs of the project</p> <p>60 percent of the power needs of the project</p> <p>70 percent of the power needs of the project</p> <p>80 percent of the power needs of the project</p> <p>90 percent of the power needs of the project</p> <p>100 percent of the power needs of the project</p>	<p>2 points</p> <p>8 points</p> <p>14 points</p> <p>20 points</p> <p>26 points</p> <p>32 points</p> <p>38 points</p> <p>44 points</p> <p>50 points</p> <p>56 points</p> <p>60 points</p>	-
Wind turbines	<p>Some areas of the City lend themselves to wind turbine applications. Analysis of the areas capability to support wind turbines should be evaluated prior to choosing this feature.</p> <p>Wind turbines as part of the commercial development such that the total power provided augments:</p> <p>10 percent of the power needs of the project</p> <p>20 percent of the power needs of the project</p> <p>30 percent of the power needs of the project</p> <p>40 percent of the power needs of the project</p> <p>50 percent of the power needs of the project</p> <p>60 percent of the power needs of the project</p> <p>70 percent of the power needs of the project</p>	<p>8 points</p> <p>14 points</p> <p>20 points</p> <p>26 points</p> <p>32 points</p> <p>38 points</p> <p>44 points</p>	-

CEQA THRESHOLDS AND SCREENING TABLES

Feature	Description	Assigned Point Values	Project Points
	80 percent of the power needs of the project	50 points	
	90 percent of the power needs of the project	56 points	
	100 percent of the power needs of the project	60 points	
Off-site renewable energy project	The applicant may submit a proposal to supply an off-site renewable energy project such as renewable energy retrofits of existing commercial/industrial that will help implement reduction measures associated with existing buildings. These off-site renewable energy retrofit project proposals will be determined on a case by case basis accompanied by a detailed plan documenting the quantity of renewable energy the proposal will generate. Point values will be based upon the energy generated by the proposal.	TBD	-
Other Renewable Energy Generation	The applicant may have innovative designs or unique site circumstances (such as geothermal) that allow the project to generate electricity from renewable energy not provided in the table. The ability to supply other renewable energy and the point values allowed will be decided based upon engineering data documenting the ability to generate electricity.	TBD	-
Reduction Measure PS W2: Commercial/Industrial Water Conservation			
Irrigation and Landscaping			
Water Efficient Landscaping	Eliminate conventional turf from landscaping Only moderate water using plants Only low water using plants Only California Native landscape that requires no or only supplemental irrigation	0 points 3 points 4 points 8 points	4
Trees	Increase tree planting in parking areas 50% beyond City Code requirements	TBD	-
Water Efficient irrigation systems	Low precipitation spray heads < .75"/hr or drip irrigation Weather based irrigation control systems combined with drip irrigation (demonstrate 20 reduced water use)	1 point 5 points	1
Recycled Water	Recycled water connection (purple pipe) to irrigation system on site	5 points	5
Storm water Reuse Systems	Innovative on-site stormwater collection, filtration and reuse systems are being developed that provide supplemental irrigation water and provide vector control. These systems can greatly reduce the irrigation needs of a project. Point values for these types of systems will be determined based upon design and engineering data documenting the water savings.	TBD	-

CEQA THRESHOLDS AND SCREENING TABLES

Feature	Description	Assigned Point Values	Project Points
Potable Water			
Showers	Water Efficient Showerheads (2.0 gpm)	3 points	-
Toilets	Water Efficient Toilets/Urinals (1.5gpm)	3 points	-
	Waterless Urinals (note that commercial buildings having both waterless urinals and high efficiency toilets will have a combined point value of 6 points)	4 points	
Faucets	Water Efficient faucets (1.28gpm)	3 points	-
Commercial Dishwashers	Water Efficient dishwashers (20% water savings)	4 points	4
Commercial Laundry Washers	Water Efficient laundry (15% water savings)	3 points	-
	High Efficiency laundry Equipment that captures and reuses rinse water (30% water savings)	6 points	
Commercial Water Operations Program	Establish an operational program to reduce water loss from pools, water features, etc., by covering pools, adjusting fountain operational hours, and using water treatment to reduce draw down and replacement of water. Point values for these types of plans will be determined based upon design and engineering data documenting the water savings.	TBD	-
Reduction Measure PS T1: Land Use Based Trips and VMT Reduction			
Mixed Use	Mixes of land uses that complement one another in a way that reduces the need for vehicle trips can greatly reduce GHG emissions. The point value of mixed use projects will be determined based upon traffic studies that demonstrate trip reductions and/or reductions in vehicle miles traveled	TBD	-
Local Retail Near Residential (Commercial only Projects)	Having residential developments within walking and biking distance of local retail helps to reduce vehicle trips and/or vehicle miles traveled. The point value of residential projects in close proximity to local retail will be determined based upon traffic studies that demonstrate trip reductions and/or reductions in vehicle miles traveled	TBD	-
Reduction Measure PS T2: Bicycle Master Plan			
Bicycle Infrastructure	Ontario's Bicycle Master Plan is extensive and describes the construction on 11.5 miles of Class I bike paths and 23 miles of Class II and Class III bikeways to build upon the current 8 miles of bikeways.	TBD	-
	Provide bicycle paths within project boundaries.	TBD	
	Provide bicycle path linkages between project site and other land uses.	2 points	
	Provide bicycle path linkages between project site and transit.	5 points	

CEQA THRESHOLDS AND SCREENING TABLES

Feature	Description	Assigned Point Values	Project Points
Reduction Measure PS T3: Electric Vehicle Infrastructure			
Electric Vehicles	Provide public charging station for use by an electric vehicle. <i>(ten points for each charging station within the facility)</i>	10 points	10
Reduction Measure PS T4: Employee Based Trip &VMT Reduction Policy			
Compressed Work Week	Reduce the number of days per week that employees need to be on site will reduce the number of vehicle trips associated with commercial/industrial development. Compressed work week such that full time employees are on site: 5 days per week 4 days per week on site 3 days per week on site	TBD	-
Car/Vanpools	Car/vanpool program Car/vanpool program with preferred parking Car/vanpool with guaranteed ride home program Subsidized employee incentive car/vanpool program Combination of all the above	TBD	-
Employee Bicycle/ Pedestrian Programs	Complete sidewalk to residential within ½ mile Complete bike path to residential within 3 miles Bike lockers and secure racks Showers and changing facilities Subsidized employee walk/bike program (Note combine all applicable points for total value)	TBD	-
Shuttle/Transit Programs	Local transit within ¼ mile Light rail transit within ½ mile Shuttle service to light rail transit station Guaranteed ride home program Subsidized Transit passes Note combine all applicable points for total value	TBD	-
CRT	Employer based Commute Trip Reduction (CRT). CRTs apply to commercial, offices, or industrial projects that include a reduction of vehicle trip or VMT goal using a variety of employee commutes trip reduction methods. The point value will be determined based upon a TIA that demonstrates the trip/VMT reductions. Suggested point ranges: Incentive based CRT Programs (1-8 points) Mandatory CRT programs (5-20 points)	TBD	-
Other Trip Reductions	Other trip or VMT reduction measures not listed above with TIA and/or other traffic data supporting the trip and/or VMT for the project.	TBD	-
Total Points from Commercial/Industrial Project:			103

Colony Commerce Center West

Specific Plan

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