

LOCAL LAW 97 OF 2019  
ENERGY STAR PORTFOLIO  
MANAGER (ESPM)

# REFERENCE GUIDE

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# 1 PURPOSE OF THIS GUIDE

## Background & Summary

**Local Law 97 of 2019 (LL97)** is an unprecedented commitment to increase the sustainability of buildings, the largest source of greenhouse gas (GHG) emissions in New York City. The law became effective on November 15, 2019. Owners of buildings that are subject to this law must report the GHG emissions of their property to the Department annually, beginning in 2025. ([Articles 28-320 & 28-321](#))

This guide has been created to assist applicants with identifying the correct emissions intensity limits, or emissions factors, for the property types in their building(s), based on a conversion from NYC Building Code Occupancy Groups to Energy Star Portfolio Manager (ESPM) Property Types.

## Covered Buildings

Buildings regulated by Local Law 97 of 2019 (covered buildings) are already required to comply with various sustainability local laws, depending on certain building characteristics. These laws include: benchmarking, energy grading, lighting upgrades and sub-metering of electricity, and energy audits and retro-commissioning. Through these other local laws, building owners have reported their energy usage and undertaken efforts to determine how efficient their buildings are, as well as what can be done to further improve efficiency. These actions have set the groundwork for compliance with LL97. ([2022 Local Law 97 Covered Buildings List](#))

# 2 ENERGY STAR PORTFOLIO MANAGER PROPERTY TYPES

## Energy Star Portfolio Manager (ESPM) Property Types

In the law, ten Greenhouse Gas Intensity (GHGI) limits are assigned to New York City (NYC) Building Code Occupancy Groups (Section 28-320.3.1). Given that Building Code Occupancy Groups are based on life safety rather than energy usage patterns for NYC properties, the law requires that the NYC Department of Buildings (DOB) convert the occupancy groups to property types used in the United States Environmental Protection Agency's **Energy Star Portfolio Manager (ESPM)**. The conversion method is based on three principles:

1. base equivalency on emissions performance;
2. maintain or improve equity by achieving similar compliance rates across the property types; and
3. achieve similar aggregate environmental benefits using ESPM Property Types as achieved using Building Code Occupancy Groups.

Owners currently use the US EPA ESPM tool to comply with NYC’s Benchmarking Law (LL84 of 2009, [Article 28-309](#)). Additionally, the US EPA ESPM Property Types were developed based on energy performance. The property types included in the following tables have assigned limits that are based upon data from benchmarking reporting submitted to the City. This offers confidence that building types are consistent with those used by the owners or consultants in New York City. ([ESPM Property Types](#))

DOB, with the **Mayor’s Office of Climate and Environmental Justice** (MOCEJ), executed an analysis to convert the building occupancy types to their equivalent ESPM Property Types. The methodology and results were peer reviewed by staff at the US Environmental Protection Agency and the US Department of Energy. More information can be found in the DOB’s forthcoming [report on the analysis](#).

The property type for each space in a covered building must be determined according to the property type in ESPM that most accurately describes the use of such space during the year for which building emissions are reported. Owners and applicants should be aware that not all ESPM property types are represented in the tables below. If you believe that your building includes a property type that is not listed, please contact DOB’s Sustainability Team at [GHGEmissions@buildings.nyc.gov](mailto:GHGEmissions@buildings.nyc.gov).

**NOTE:** Owners whose building emissions limits have been lowered (made more stringent) by this conversion, have the option of following either the original limits based on New York City Building Code occupancy groups, or the limits based on ESPM property types, for calendar years 2024 and 2025. Beginning in 2026, all owners must calculate their building emissions limits using the emissions factors based on ESPM property types.

## ESPM Property Types Listed Alphabetically

Table 2.1

Energy Star Portfolio Manager (ESPM) Property Types	Building Code (BC)	Section 28-320.3.1 Item #	2024 – 2029 BC Building Emissions Intensity Limit (tCO <sub>2</sub> e/sf)	Section 28-320.3.1 Item #	2024 – 2029 ESPM Building Emissions Factor (tCO <sub>2</sub> e/sf)
Adult Education	B	2	0.00846	3	0.00758
Ambulatory Surgical Center	B*	6	0.02381	7	0.01181
Automobile Dealership	B	2	0.00846	9	0.00675
Bank Branch	B	2	0.00846	8	0.00987
Bowling Alley	A-3	1	0.01074	5	0.00574
College/University	B	2	0.00846	8	0.00987
Convenience Store without Gas Station	M	7	0.01181	9	0.00675
Courthouse	A-3	1	0.01074	10	0.00426

Table 2.1 (continued)

Energy Star Portfolio Manager (ESPM) Property Types	Building Code (BC)	Section 28-320.3.1 Item #	2024 – 2029 BC Building Emissions Intensity Limit (tCO <sub>2</sub> e/sf)	Section 28-320.3.1 Item #	2024 – 2029 ESPM Building Emissions Factor (tCO <sub>2</sub> e/sf)
Data Center	B	2	0.00846	6	0.02381
Distribution Center	S	10	0.00426	5	0.00574
Enclosed Mall	M	7	0.01181	1	0.01074
Financial Office	B	2	0.00846	2	0.00846
Fitness Center/Health Club/Gym	A-3	1	0.01074	8	0.00987
Food Sales	M	7	0.01181	7	0.01181
Food Service	M	7	0.01181	7	0.01181
Hospital (General Medical & Surgical)	I-2	6	0.02381	6	0.02381
Hotel	R-1	8	0.00987	8	0.00987
K-12 School	E	3	0.00758	9	0.00675
Laboratory	B*	6	0.02381	6	0.02381
Library	B	2	0.00846	9	0.00675
Lifestyle Center	M	7	0.01181	2	0.00846
Mailing Center/Post Office	B	2	0.00846	10	0.00426
Manufacturing/Industrial Plant	F	5	0.00574	3	0.00758
Medical Office	B	2	0.00846	1	0.01074
Movie Theater	A-1	1	0.01074	7	0.01181
Multifamily Housing	R-2	9	0.00675	9	0.00675
Museum	A-3	1	0.01074	7	0.01181
Non-Refrigerated Warehouse	S-1	10	0.00426	10	0.00426
Office	B	2	0.00846	3	0.00758
Other - Education	B	2	0.00846	2	0.00846
Other - Entertainment & Public Assembly	A-3	1	0.01074	8	0.00987

Table 2.1 (continued)

Energy Star Portfolio Manager (ESPM) Property Types	Building Code (BC)	Section 28-320.3.1 Item #	2024 – 2029 BC Building Emissions Intensity Limit (tCO <sub>2</sub> e/sf)	Section 28-320.3.1 Item #	2024 – 2029 ESPM Building Emissions Factor (tCO <sub>2</sub> e/sf)
Other - Lodging/Residential	R-1	8	0.00987	3	0.00758
Other - Mall	M	7	0.01181	1	0.01074
Other - Public Services	B	2	0.00846	3	0.00758
Other - Recreation	A-3	1	0.01074	8	0.00987
Other - Restaurant/Bar	A-2	1	0.01074	6	0.02381
Other - Services	B	2	0.00846	1	0.01074
Other - Specialty Hospital	I-2	6	0.02381	6	0.02381
Other - Technology/Science	B*	6	0.02381	6	0.02381
Outpatient Rehabilitation/Physical Therapy	B	2	0.00846	7	0.01181
Parking	S-2	10	0.00426	10	0.00426
Performing Arts	A-1	1	0.01074	2	0.00846
Personal Services (Health/Beauty, Dry Cleaning, etc.)	B	2	0.00846	5	0.00574
Pre-school/Daycare	I-4	3	0.00758	9	0.00675
Refrigerated Warehouse	S-2	10	0.00426	8	0.00987
Repair Services (Vehicle, Shoe, Locksmith, etc.)	F-1	5	0.00574	10	0.00426
Residence Hall or Dormitory	R-1	8	0.00987	3	0.00758
Residential Care Facility	I-1	4	0.01138	4	0.01138
Restaurant	A-2	1	0.01074	7	0.01181
Retail Store	M	7	0.01181	3	0.00758
Self-Storage Facility	S-1	10	0.00426	10	0.00426
Senior Care Community	I-2	6	0.02381	4	0.01138

Table 2.1 (continued)

Energy Star Portfolio Manager (ESPM) Property Types	Building Code (BC)	Section 28-320.3.1 Item #	2024 – 2029 BC Building Emissions Intensity Limit (tCO <sub>2</sub> e/sf)	Section 28-320.3.1 Item #	2024 – 2029 ESPM Building Emissions Factor (tCO <sub>2</sub> e/sf)
Social/Meeting Hall	A-3	1	0.01074	8	0.00987
Strip Mall	M	7	0.01181	7	0.01181
Supermarket/Grocery Store	M	7	0.01181	6	0.02381
Transportation Terminal/Station	A-3	1	0.01074	10	0.00426
Urgent Care/Clinic/ Other Outpatient	B	2	0.00846	7	0.01181
Vocational School	E	3	0.00758	5	0.00574
Wholesale Club or Supercenter	M	7	0.01181	4	0.01138
Worship Facility	A-3	1	0.01074	5	0.00574

*B\* refers to spaces classified as Use and Occupancy Types B civic administrative facility for emergency response services, B non-production laboratory, Group B ambulatory health care facility (Described in item 6 of §320.3.1)*

## 3 ASSIGNING PROPERTY TYPES WITHIN A BUILDING

The covered building uses should be assigned per the descriptions in the **Property Types** section of the **ESPM Glossary**. Every space use on every floor in the building must be assigned to a property type. Where ancillary spaces, including but not limited to shafts, stairwells or egress paths, mechanical spaces, and incidental uses, are associated with a single building use, they should be assigned that property type. Where ancillary spaces serve multiple building uses, the ancillary space should be prorated and assigned proportionally across the different property types in a building.

### Buildings with a Single Property Type

For buildings with a single property type, match the building use to one of the property types listed in the **ESPM Glossary**.

### Buildings with Multiple Property Types

For buildings with more than one property type, match the building uses to the multiple property types listed in the **ESPM Glossary**.

To get started, visit the **Property Types** category section on the ESPM webpage. To illustrate how this may work, **Example 3.1** of this document shows a building with the spaces serving as a drug store, a supermarket, and residential rental apartments.

Based on the occupancy of the space, choose the category that most closely matches the use. Since there are three uses in the example building, each use is required to match with a property type.

1. Starting with the *drug store*, select the category for the drug store. Of the categories listed, **Retail** is the closest.
2. Click to select **Retail**, of the options listed, **Retail Store** is the closest to drug store.
3. This takes you to the **Portfolio Manager Glossary**. Check the definition to confirm that it is consistent with the actual use of the space. In this case it clearly does because drug stores are included in the definition.

Repeat steps 1, 2, and 3 for the **supermarket**, and **residential rental apartments**.

**NOTE:** The following graphical information is from Energy Star Portfolio Manager and is intended to illustrate the process. Since the EPA manages the website, content may vary over time, and DOB is not responsible for differences between the information on [EPA's website](#) and the information displayed.

### Example 3.1 – Property Types in Portfolio Manager

The screenshot shows the Energy Star Portfolio Manager website interface. The main heading is "Property Types in Portfolio Manager". Below this, there is a list of categories to choose from. A diagram with numbered callouts (1, 2, 3) illustrates the navigation process:

- 1:** Points to the "Lodging/residential" category in the main list.
- 2:** Points to the "Multifamily Housing" sub-option within the "Lodging/residential" category.
- 3:** Points to the "Retail" category in the main list.

Below the "Retail" category, there are two detailed descriptions:

- Retail Store:** Retail Store refers to individual stores used to conduct the retail sale of non-food consumer goods such as Department Stores, Discount Stores, Drug Stores, Dollar Stores, Hardware Stores, and Apparel/Specialty Stores (e.g. books, clothing, office products, sporting goods, toys, home goods, and electronics). Buildings containing multiple stores should be classified as enclosed mall, lifestyle center, or strip mall.
- Supermarket/Grocery Store:** Supermarket/Grocery Store refers to buildings used for the retail sale of primarily food and beverage products, and which may include small amounts of preparation and sale of ready-to-eat food. Buildings where the primary business is the onsite preparation and sale of ready-to-eat food should use one of the Restaurant categories.



Use **Table 2.1** of this document to identify the emissions factor for each property type in the building.

Energy Star Portfolio Manager (ESPM) Property Types	Building Code (BC)	Section 28-320.3.1 Item #	2024 – 2029 BC Building Emissions Intensity Limit (tCO <sub>2</sub> e/sf)	Section 28-320.3.1 Item #	2024 – 2029 ESPM Building Emissions Factor (tCO <sub>2</sub> e/sf)
Multifamily Housing	R-2	9	0.00675	9	0.00675
Retail Store	M	7	0.01181	3	0.00758
Supermarket/Grocery Store	M	7	0.01181	6	0.02381

## Gross Floor Area (GFA)

**Gross floor area (GFA)** is the total area in square feet of all floors and spaces in a covered building, as measured between the exterior surfaces of the enclosing fixed walls. GFA includes vent shafts, elevator shafts, flues, pipe shafts, vertical ducts, stairwells, light wells, basement space, mechanical/electrical rooms, and interior parking. GFA does not include unroofed courtyards or unroofed light wells. For atria, GFA only includes the area of atrium floors. For the purposes of calculating GFA in tenant spaces, interior demising walls should be measured to the centerline of the wall.

For illustrative purposes, **Example 3.2** below is a building containing a **drug store**, **supermarket**, and **residential rental apartments**.

## Example 3.2 – Occupancy Types in Building

Occupancy Types in Building	GFA (SF)
Rental Apartments	90,000
Drug Store	10,000
Supermarket	15,000

# 4 BUILDING EMISSIONS LIMITS

To calculate the total building emissions limit for a covered building with multiple occupancies, the gross floor area (GFA) is multiplied against the emissions factor for each use as matched to its ESPM Property Types.

## Example 4.1 – Building Containing Residential Rental Apartments, Drug Store, and Supermarket

In Example 4.1, the building contains a **drug store** and **supermarket** on the first floor, and **residential rental apartments** on the floors above. The GFA of the building is 115,000 sf. The drug store use matches to **Retail Store** in the ESPM and is 10,000 sf. The supermarket use matches to **Supermarket/Grocery Store** and is 15,000 sf. The rental apartment use matches to **Multifamily Housing** and is 90,000 sf. Each use is multiplied by its respective emissions factor expressed in tons of carbon dioxide equivalent ( $tCO_2e/sf$ ), found in **Table 2.1** of this document. The sum of all the emissions limits is the total building emissions limit. The total GFA of all property types must equal the total GFA of the building.

Occupancy Types in Building	ESPM Property Types	Section 28-320.3.1 Item #	Emissions Factor ( $tCO_2e/sf$ )
Rental Apartments	Multifamily Housing	9	0.00675
Drug Store	Retail Store	3	0.00758
Supermarket	Supermarket/Grocery Store	6	0.02381

### Multifamily with Retail & Supermarket/Grocery Store

ESPM Property Types	GFA (SF)	Emissions Factor ( $tCO_2e/sf$ )	Emissions Limit ( $tCO_2e$ )
Multifamily Housing	90,000	0.00675	608
Retail Store	10,000	0.00758	76
Supermarket/Grocery Store	15,000	0.02381	357
<b>TOTAL</b>	<b>115,000</b>	<b>-</b>	<b>1,040</b>

## Example 4.2 – Building with Business Offices and Electronic Data Processing Center

In Example 4.2, the building contains a **business office** and an **electronic data processing center**. The GFA of the building is 119,000 sf. The business office use matches to **Office** in ESPM and is 47,000 sf. The electronic data processing center use matches to **Data Center** and is 72,000 sf. Each use is multiplied

by its respective emissions factor, found in **Table 2.1** of this document. The sum of all the emissions limits is the total building emissions limit. The total GFA of all property types must equal the total GFA of the building.

Occupancy Types in Building	ESPM Property Types	Section 28-320.3.1 Item #	Emissions Factor (tCO <sub>2</sub> e/sf)
Business Office	Office	3	0.00758
Electronic Data Processing Center	Data Center	6	0.02381

### Office with Electronic Data Processing Center

ESPM Property Type	GFA (SF)	Emissions Factor (tCO <sub>2</sub> e/sf)	Emissions Limit (tCO <sub>2</sub> e)
Office	47,000	0.00758	356
Data Center	72,000	0.02381	1714
<b>TOTAL</b>	<b>119,000</b>	<b>-</b>	<b>2,070</b>

## Example 4.3 – Building Containing Senior Community Residences

In Example 4.3, the building contains **senior community residences**. The GFA of the building is 52,000 sf. The senior community residences use matches to **Senior Care Community** in ESPM and accounts for all 52,000 sf of GFA for the building. The single use is multiplied by its respective emissions factor, found in **Table 2.1** of this document. The single emissions limit is the total building emissions limit. The total GFA of all property types must equal the total GFA of the building.

Occupancy Types in Building	ESPM Property Types	Section 28-320.3.1 Item #	Emissions Factor (tCO <sub>2</sub> e/sf)
Senior Community Residences	Senior Care Community	4	0.01138

### Senior Care Community

ESPM Property Type	GFA (SF)	Emissions Factor (tCO <sub>2</sub> e/sf)	Emissions Limit (tCO <sub>2</sub> e)
Senior Care Community	52,000	0.01138	641
<b>TOTAL</b>	<b>52,000</b>	<b>-</b>	<b>641</b>

# 5 CASE STUDY: BUILDING EMISSIONS LIMITS & ACTUAL BUILDING EMISSIONS

The following case studies demonstrate the difference between assigning emissions factors by the Building Code (BC) Occupancy Groups indicated in the law or assigning emissions factors by the ESPM Property Types. All case studies are based on actual covered buildings.

**NOTE:** In many cases, occupancy uses in the building fall under the same Building Code Occupancy Group but are assigned to different ESPM Property Types.

## Example 5.1 – Building Containing Residential Rental Apartments, Drug Store, and Supermarket

The building contains a **drug store** and **supermarket** on the first floor and **residential rental apartments** on the floors above. The building has a GFA of 115,000 sf with total annual building emissions of 1,035 tCO<sub>2</sub>e. The spaces classified as rental apartments make up 90,000 sf of the building. The drug store area accounts for 10,000 sf and the supermarket is 15,000 sf. The total GFA of all property types equals the 115,000 sf total GFA of the building.

- In **Table 5.1.1**, each use is multiplied by its respective building emissions intensity limit, pursuant 28-320.3.1.
- In **Table 5.1.2**, each use is multiplied by its respective emissions factor, found in **Table 2.1** of this document.

Table 5.1.1 Establishing Building Emissions Limits per Building Code Occupancy Groups

Occupancy Types in Building	BC Occupancy Group	Section 28-320.3.1 Item #	Building Emissions Intensity Limit (tCO <sub>2</sub> e/sf)
Rental Apartments	Occupancy Group R-2	9	0.00675
Drug Store	Occupancy Group M	7	0.01181
Supermarket	Occupancy Group M	7	0.01181

Table 5.1.2 Establishing Building Emissions Limits per ESPM Property Types

Occupancy Types in Building	Energy Star Portfolio Manager Property Type	Section 28-320.3.1 Item #	Emissions Factor (tCO <sub>2</sub> e/sf)
Rental Apartments	Multifamily Housing	9	0.00675
Drug Store	Retail Store	3	0.00758
Supermarket	Supermarket/Grocery Store	6	0.02381

Table 5.1.3 Building Containing Residential Rental Apartments, Drug Store, and Supermarket

In **Table 5.1.3**, the emissions intensity limit (tCO<sub>2</sub>e/sf) and emissions factor (tCO<sub>2</sub>e/sf) differences are illustrated. Each use is multiplied by its respective emissions factor, found in **Table 2.1** of this document or for the limits lowered (made more stringent) by this conversion, each use is multiplied by its original emissions intensity limit based on the BC, found in **Table 2.1**. The rental apartment portion or area is within occupancy Group R-2 of the BC and is assigned the **multifamily housing** ESPM property type. The limit for the rental apartment portion of the building is the same, 0.00675 tCO<sub>2</sub>e/sf. Although the drug store and supermarket are both Occupancy Group M in the BC, each is assigned to a different ESPM Property Type with different emissions factors. The drug store is assigned to **Retail Store** ESPM Property Type. The supermarket is assigned to **Supermarket/Grocery Store** ESPM Property Type. The emissions factor decreased for the drug store from 0.01181 tCO<sub>2</sub>e/sf to 0.00758 tCO<sub>2</sub>e/sf and increased for the supermarket from 0.01181 tCO<sub>2</sub>e/sf to 0.02381 tCO<sub>2</sub>e/sf.

Overall, the building has a higher total building emissions limit using the ESPM Property Types. In this example, the increased limit is enough to allow what was potentially a non-compliant building to become compliant, and would eliminate a possible penalty. See Table 5.1.3 below:

Multifamily with Retail and Supermarket/Grocery Store Aggregate Gross Floor Area (SF) 115,000 Total Actual Building Emissions (tCO <sub>2</sub> e): 1035								
Occupancy Types in Building	GFA (SF)	BC Occupancy Group	Building Emissions Intensity Limit (tCO <sub>2</sub> e/sf)	Emissions Limit (tCO <sub>2</sub> e)	ESPM Property Type	Emissions Factor (tCO <sub>2</sub> e/sf)	Emissions Limits (tCO <sub>2</sub> e)	Change in Building Emissions Intensity Limit
Rental Apartments	90,000	R-2	0.00675	608	Multifamily Housing	0.00675	608	Same Limit
Drug Store	10,000	M	0.01181	118	Retail Store	0.00758	76	Lower Limit
Supermarket	15,000	M	0.01181	177	Supermarket/ Grocery Store	0.02381	357	Higher Limit
<b>TOTAL</b>	<b>115,000</b>		<b>TOTAL</b>	<b>903</b>		<b>TOTAL</b>	<b>1,040</b>	<b>Overall Higher</b>
<b>2024-2029 Compliant</b>				<b>NO</b>			<b>YES</b>	

### Example 5.2 – Building with Business Offices and Electronic Data Processing Center

The building has business offices and an electronic data processing center with GFA of 119,000 sf and a total annual building emissions limit of 1,315 tCO<sub>2</sub>e.

Table 5.2.1 Establishing Building Emissions Limits per Building Code Occupancy Groups

Occupancy Types in Building	BC Occupancy Group	Section 28-320.3.1 Item #	Building Emissions Intensity Limit (tCO <sub>2</sub> e/sf)
Business Office	Occupancy Group B <i>(other than described in item 6)</i>	2	0.00846
Electronic Data Processing Center	Occupancy Group B <i>(other than described in item 6)</i>	2	0.00846

Table 5.2.2 Establishing Building Emissions Limits per ESPM Property Types

Occupancy Types in Building	Energy Star Portfolio Manager Property Type	Section 28-320.3.1 Item #	Emissions Factor (tCO <sub>2</sub> e/sf)
Business Office	Office	3	0.00758
Electronic Data Processing Center	Data Center	6	0.02381

Table 5.2.3 Buildings with Business Offices and Electronic Data Processing Center

In **Table 5.2.3**, the emissions intensity limit (tCO<sub>2</sub>e/sf) and emissions factor (tCO<sub>2</sub>e/sf) differences are illustrated. Each use is multiplied by its respective emissions factor, found in Table 2.1 of this document; or, for the limits lowered (made more stringent) by this conversion, each use is multiplied by its original emissions intensity limit based on Building Code, found in Table 2.1. Although the business office and electronic data processing center are both Occupancy Group B in the BC, each is assigned to a different ESPM Property Type. The GHGI limit for the office decreased from 0.00846 tCO<sub>2</sub>e/sf to 0.00758 tCO<sub>2</sub>e/sf and increased for the electronic data center from 0.00846 tCO<sub>2</sub>e/sf to 0.2381 tCO<sub>2</sub>e/sf.

Overall, the building has a higher building emissions limit using the ESPM Property Types. The increase in limit is enough to allow what was potentially a non-compliant building to become compliant, and would eliminate a possible penalty.. See Table 5.2.3 below:

Aggregate Gross Floor Area (SF) 119,000				Total Actual Building Emissions (tCO <sub>2</sub> e): 1035				
Occupancy Types in Building	GFA (SF)	BC Occupancy Group	Building Emissions Intensity Limit (tCO <sub>2</sub> e/sf)	Emissions Limit (tCO <sub>2</sub> e)	ESPM Property Type	Emissions Factor (tCO <sub>2</sub> e/sf)	Emissions Limits (tCO <sub>2</sub> e)	Change in Building Emissions Intensity Limit
Business	47,000	B (Not #6)	0.00846	398	Office	0.00758	356	Lower Limit
Electronic	72,000	B (Not #6)	0.00846	609	Data	0.02381	1,714	Higher Limit
<b>TOTAL</b>	<b>115,000</b>	<b>TOTAL</b>	<b>TOTAL</b>	<b>903</b>	<b>TOTAL</b>	<b>TOTAL</b>	<b>2,070</b>	<b>Overall Higher</b>
<b>2024-2029 Compliant</b>				<b>NO</b>			<b>YES</b>	

## Example 5.3 – Building Containing Senior Community Residences

Senior community residences with GFA of 52,000 sf, with total annual building emissions of 641 tCO<sub>2</sub>e.

Table 5.3.1 Establishing Building Emissions Limits per Building Code Occupancy Groups

Occupancy Types in Building	BC Occupancy Group	Section 28-320.3.1 Item #	Building Emissions Intensity Limit (tCO <sub>2</sub> e/sf)
Senior Community Residences	Occupancy Group I-2	6	0.02381

Table 5.3.2 Establishing Building Emissions Limits per ESPM Property Types

Occupancy Types in Building	Energy Star Portfolio Manager Property Type	Section 28-320.3.1 Item #	Emissions Factor (tCO <sub>2</sub> e/sf)
Senior Community Residences	Senior Care Community	4	0.01138

Table 5.3.3 Building Containing Senior Community Residences

In **Table 5.3.3**, the emissions intensity limit (tCO<sub>2</sub>e/sf) and emissions factor (tCO<sub>2</sub>e/sf) differences are illustrated. Each use is multiplied by its respective emissions factor, found in **Table 2.1** of this document; or, for the limits lowered (made more stringent) by this conversion, each use is multiplied by its original emissions intensity limit based on BC, found in **Table 2.1** of this document. The senior community residences use matches occupancy Group I-2 of the BC and assigned the **Senior Care Community** ESPM property type. The emissions limit for the building decreased from 0.02381 tCO<sub>2</sub>e/sf to 0.01138 tCO<sub>2</sub>e/sf. In this example, the decrease in limit is enough to make what was a potentially compliant building to become non-compliant, with a possible penalty. See Table 5.3.3 below:

Aggregate Gross Floor Area (SF) 52,000		Total Actual Building Emissions (tCO <sub>2</sub> e): 641						
Occupancy Types in Building	GFA (SF)	BC Occupancy Group	Building Emissions Intensity Limit (tCO <sub>2</sub> e/sf)	Emissions Limit (tCO <sub>2</sub> e)	ESPM Property Type	Emissions Factor (tCO <sub>2</sub> e/sf)	Emissions Limits (tCO <sub>2</sub> e)	Change in Building Emissions Intensity Limit
Senior Community Residence	52,000	I-2	0.02381	1238	Senior Care Residence	0.01138	592	Lower Limit
<b>TOTAL</b>	<b>115,000</b>	<b>TOTAL</b>	<b>1,238</b>	<b>1,238</b>	<b>TOTAL</b>	<b>592</b>	<b>592</b>	<b>Overall Lower</b>
<b>2024-2029 Compliant</b>				<b>YES</b>		<b>NO</b>		



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