



C I T Y O F  
**RENO**  
Memorandum

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**DATE:** May 6, 2025  
**TO:** Mayor and City Council  
**THROUGH:** Jackie Bryant, City Manager  
**FROM:** Chris Pingree, Director of Development Services  
**DEPT:** Development Services  
**SUBJECT:** Significant changes to the 2024 Building Codes

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This memo has been prepared to identify significant changes in the 2024 International Energy Conservation Code (IECC) and the 2024 International Building Code (IBC). These changes are related to the presentation and future adoption of the 2024 Building Code, and Northern Nevada Amendments being presented. Please see the 4 specific items identified in this memo.

**Summary of changes:**

- C402.6.2 adds more restrictive requirements to the way air leakage in buildings is tested. This will result in tighter building construction, which decreases overall energy use and makes commercial buildings more efficient.
- C403.4.7 requires all large exterior door openings on commercial buildings be interconnected to the HVAC system to reduce heating and cooling when open to the outside.
- R404.2 requires automatic light controls that will shut off when rooms are not in use. This will reduce the usage of electricity in all single-family homes moving forward.
- R408.2 creates a mandatory point-based system for energy efficiency in single-family homes. This gives more options to achieve the overall goal of energy savings for the builders.
- IBC Rockery walls – Within the region, building departments have struggled with the design, construction, and inspection of rockery walls in many ways. Along with Washoe County, the City of Reno has met with the wall industry to help rewrite the requirements for the structural engineering and construction methods moving forward in our region.
- International Building Code - Ground Snow Load Table – the changes to the chart reflect additional pathways for structural engineers to maintain the required pounds per square foot for roof truss design prescriptively, instead of using the previous method of the

“hazard tool” to identify specific elevation requirements when calculating the weight of snow on a structure.

## 1. **International Energy Conservation Code (IECC) Commercial Changes:**

### **C402.6.2 Air leakage compliance.**

- Requires a blower door test that measures a building's air tightness by creating a pressure difference between the inside and outside, revealing leaks.
- The test involves sealing a fan (the "blower door") into an exterior door frame and running it to create negative pressure inside the building.
- Minor leaks require a report submitted to the Building Official specifying the corrective actions taken.
- Larger leaks require a report be submitted, and the building tested again.

### **C403.4.7 Heating and cooling system controls for operable openings to the outdoors.**

- All doors, and all other openings 40 sq. ft. or larger, that open to the outdoors, shall have automatic controls interlocked with the heating and cooling system.
- The controls shall be configured to disable the heating or cooling system within 5 minutes of opening.
- Several exceptions exist such as emergency exits, air curtains, or automatic closing devices.

## 2. **International Energy Conservation Code (IECC) Residential Changes:**

### **R404.2 Interior lighting controls.**

- Habitable spaces (Living rooms, kitchens, bedrooms, bathrooms) shall have manual dimmer switches or automatic shutoff controls.
- Garages, unfinished basements, laundry rooms and utility rooms shall have controls that automatically shut off lights within 20 minutes after all occupants have left the space.

### **R408.2 Additional energy efficiency credit requirements.**

- Point system based on more efficient construction, systems, or appliances.
- Residential buildings shall earn not less than 10 credits from not less than two measures.
- Requires 15 credits if a dwelling is over 5000 sq ft.
- Credits can be achieved from multiple measures such as insulation, air leakage, high performance heating and cooling systems, renewable energy (solar, wind).

## 3. **IBC Rockery Retaining Walls**

Section 1807.2.1.1 Rockery retaining wall to read as follows:

This was rewritten by our local engineers and structural committee members to provide more guidance and direction due to failures throughout the area.

Rockery retaining walls or rockery soil stabilization walls shall be placed against cuts in native soils and shall not be subject to surcharges, such as building foundations, adjacent retaining structures, slopes, or vehicle surcharge. All loads adjacent to rockery walls shall be set back a minimum distance equal to the height of the wall. Set back distances shall be measured at the top of the wall from to the back of the wall and at the bottom of wall from the front of the wall. Rockery walls shall be embedded below the frost line. For sloping toe conditions, rockery walls shall be embedded to a depth sufficient achieve a minimum lateral distance in front of the foundation/base rock equal to the width of the base rock, but not less than 6 feet (1829 mm). Rockery walls over two feet in height shall be engineered and any wall over three feet in height shall have special inspection. No individual wall or tiered wall section shall exceed 6 feet (1829 mm) in height. Wall height is measured from the exposed ground surface at the bottom of the wall to the adjacent grade at the top of the wall. Rockery walls shall be analyzed for bearing, sliding, overturning resistance, and global stability. Sliding resistance shall be analyzed at the bottom of each rock level. The maximum coefficient of friction between the rocks in the wall shall be 0.5. Passive resistance at the toe of the wall shall be neglected. Rockery walls shall be designed for dynamic seismic lateral earth pressures due to the design earthquake ground motion. For seismic loading conditions and global stability analyses, the design earthquake ground motion shall be determined per Chapter 11 of ASCE-7. Rockery walls shall be in a continuous alignment without abrupt changes in direction. Termination, intersections, and radii shall be included in the engineering analysis. Drainage shall be provided behind all engineered rockery walls.

Design documents shall be stamped by an Engineer licensed in the State of Nevada and include all engineering calculations including inputs and results. Special inspection documents shall verify all of the items listed below which the design engineer shall include on the construction documents:

1. Type and quality of rock
2. Unit weight, if design exceeds 155 pcf
3. Rock size in approximate diameter
4. Rock placement
5. Voids greater than 3 inches (76 mm) shall be filled
6. Wall drainage system (i.e. drainage rock and geosynthetic filter fabric)
7. Surface drainage
8. Embedment depth and width
9. Wall face slope (batter 6 vertical to one horizontal maximum)
10. Maintenance and service access.

Any rockery walls exceeding 6 feet (1829 mm) in height or varying from these design requirements, including backslopes, or constructed to support fill soils, shall require a variance and engineering review to include the following:

1. Suitability evaluation of other alternative wall types
2. 3rd party review
3. Full-time inspection

In no case, shall a single wall exceed 10 feet (3048 mm) in height. All fill placed behind a rockery wall shall be reinforced and designed to eliminate any loads acting upon the wall.

**4. IBC Ground Snow Loads Table:**

**Table 1608.2 Amended to read as follows:**

- The snow loads for elevations above 4500 feet shall be taken from Table 1608.2.1 instead of using the ASCE 7-22 hazard tool. These loads are comprised of extrapolated data put together from our local structural engineers from previous code adoptions.
- The ASCE7-22 chapter 7 will provide engineers with the path to achieve 30psf ultimate ground snow load per risk category.

**Table 1608.2.1**

**GROUND SNOW LOADS,  $P_g$ , FOR NORTHERN NEVADA LOCATIONS <sup>1,2,3,4</sup>**

Elevation (feet)	West of U.S. 395, Eastern Sierra Slope, Carson City, Reno, Washoe County*, Douglas County and West of S.R. 88. <sup>1</sup>				East of U.S. 395 for Carson City, Reno, Sparks, Washoe County*, Douglas County and East of S.R. 88. <sup>1</sup>				Lyon County, City of Fernley				Storey County <sup>1</sup>				All Nevada Counties*, Lake Tahoe Basin, Western Sierra Slope			
	RISK CATEGORY																			
	I	II	III	IV	I	II	III	IV	I	II	III	IV	I	II	III	IV	I	II	III	IV
Pg (Pounds Per Square Foot)																				
4500	35	43	48	52	35	43	48	52	12	15	16	18	12	15	16	18				
5000	35	43	48	52	35	43	48	52	35	43	48	52	12	15	16	18				
5100	47	59	65	71	36	45	49	54	36	45	49	54	12	15	16	18				
5200	60	75	82	90	38	48	52	57	36	45	49	54	12	15	16	18				
5300	74	92	101	110	39	49	54	59	39	49	54	59	12	15	16	18				
5400	86	108	118	129	40	50	55	60	40	50	55	60	12	15	16	18				
5500	99	123	136	148	43	53	59	64	43	53	59	64	58	72	79	86				
6000	163	203	224	244	50	62	68	74	50	62	68	74	80	100	110	120	252	315	346	378
6500	196	245	269	294	50	62	68	74	50	62	68	74	103	129	142	155	269	336	370	403
7000	229	286	315	343	56	82	90	98	66	82	90	98	103	129	142	155	286	358	393	429
7500	246	308	338	369	56	82	90	98	66	82	90	98	103	129	142	155	303	379	417	455
8000	262	328	360	393	99	123	136	148	99	123	136	148	103	129	142	155	320	400	440	480
8500	278	348	382	417	99	123	136	148	99	123	136	148	103	129	142	155	338	422	464	506
9000	310	388	426	465	131	163	180	196	131	163	180	196	131	163	180	196	378	472	519	566
9500	343	429	472	515	163	203	224	244	163	203	224	244	138	172	189	206	446	558	613	669
10000	408	510	561	612	163	203	224	244	163	203	224	244	163	203	224	244	480	600	660	720