

### \*2.5-7.3.2 Lighting Requirements for Specific Locations

See chapters in Parts 3 through 5 for requirements.

## ■ 2.5-8 Acoustic Design Systems

### 2.5-8.1 General

See Section 1.2-5.2 (Acoustic Planning) for planning requirements.

### \*2.5-8.2 Site Exterior Noise

#### \*2.5-8.2.1 Existing Exterior Noise Sources

Planning and design of new facilities and retrofitting of existing facilities shall include due consideration of all existing exterior noise sources that may be transmitted from outside a building to its interior through the exterior shell (exterior walls, windows, doors, roofs, ventilation openings, and other shell penetrations).

### \*2.5-8.2.2 Facility Noise Source Emissions

Planning and design shall include consideration of sound emissions from facility noise sources that reach nearby residences and other sensitive receptors.

### \*2.5-8.2.3 Exterior Noise Classifications

**2.5-8.2.3.1** Exterior noise classifications shall be used to identify sources of exterior noise that are not produced by the facility. Exterior site noise exposure categories shall be as identified in Table 2.5-3 (Categorization of Residential Health, Care, and Support Facility Sites by Exterior Ambient Sound).

**2.5-8.2.3.2** The building façade's sound isolation performance shall depend on the site classification and shall be as required to provide acceptable interior sound levels.

### 2.5-8.3 Design Criteria for Acoustic Finishes

Facility spaces identified in Table 2.5-4 (Minimum Design Room Sound Absorption Coefficients) shall incorporate acoustic finishes to achieve design room average sound absorption coefficients.

## APPENDIX

### A2.5-7.3.2 Lighting in transition spaces

- Substantial differences in lighting levels between exterior and interior spaces at transition points (e.g., from exterior parking lots and building entrances to lobbies and corridors) should be avoided.
- The pupil of the eye becomes smaller and less elastic as the eye ages, slowing visual adaptation from brighter to darker spaces. In daytime, indoor light levels at entry points need to be high, while at night higher exterior light levels are needed to minimize differences between indoor and outdoor light levels.
- Upon entering a space with a considerably lower light level, older adults may need to stop or move to one side of the walkway until their eyes adapt to the change in light level. Therefore, seating areas should be placed in lobbies or corridors where residents may wait for their eyes to adjust.

**A2.5-8.2 Site exterior noise.** The requirements in this section provide a means for screening sites to determine which exterior wall/window assemblies are suitable to address site noise. They are not intended to be used as a means to qualify the suitability of a site with respect to environmental noise exposure.

Examples of noise sources that should be controlled include the facility's power plant, HVAC equipment, and emergency generators. Examples of noise sources a facility cannot control include highways, rail lines, airports, and general urban, industrial, and public service equipment and activities.

**A2.5-8.2.1 Future exterior noise sources.** Residential health, care, and support facility design should consider potential future noise source development in the vicinity of the project, such as the construction of highways, airports, or rail lines.

**A2.5-8.2.2 Facility noise source emissions.** Sound from exterior facility equipment can be controlled to achieve acceptable sound levels inside facility spaces and at neighboring receptors by siting noise sources and receptors to take advantage of distance, orientation, and shielding. Sound from exterior facility equipment can also be controlled by selecting quiet equipment and making use of noise control equipment such as silencers and barriers.

**A2.5-8.2.3 Exterior noise classifications.** By means of exterior site observations or a sound-level monitoring survey, the facility site should be classified into one of the noise exposure categories in Table 2.5-3 (Categorization of Residential Health, Care, and Support Facility Site by Exterior Ambient Sound). Further information for classifying sites according to exterior noise can be found in appendix table A2.5-b (Approximate Distance of Noise Sources for Use in Categorization of Residential Health, Care, and Support Facility Sites by Exterior Ambient Sound).