

G. INDOOR ENVIRONMENT (200 points)

G.1 Effective ventilation system (60 points)

Objectives: Ensure occupant well-being and comfort by:

- Avoiding the entrainment of pollutants into the ventilation air path
- Providing sufficient ventilation.
- Using effective zone air distribution (assurance that the outdoor air delivered to the space actually reaches the occupants.)
- Monitoring air quality.
- Reducing the indoor air quality problems resulting from construction/ renovation.
- Providing mechanical ventilation in enclosed parking areas.
- Providing effective filtration.
- Building in easy access to the air-handling units (AHUs) for regular inspection and maintenance.

G.1.1 Are there the following features to avoid entraining pollutants into the ventilation air path? Select applicable.

ASHRAE 62.1-2004, Section 5.6

<ul style="list-style-type: none"> • Exhaust outlets and plumbing vent stacks are located at least 20 feet away from outdoor air intakes to avoid re-entrainment. 	3 points
<ul style="list-style-type: none"> • Outdoor air intakes are located at least 60 feet away from sources of pollution including dumpsters, parking areas, driveways, loading docks, natural gas lines, wet cooling towers, and garage doors/exhaust outlets. 	2 points
<ul style="list-style-type: none"> • Outdoor air intakes are protected with screens (1/4 inch mesh to prevent the entry of insects and birds or their contaminants), and louvers and rain hoods are sized for a peak air velocity of no more than 300 feet per minute to prevent snow and rain entry. 	2 points
<ul style="list-style-type: none"> • All outdoor air, return air, and supply air systems consist of steel ductwork or flex duct without duct liner (except in transfer air duct.) 	2 points
<ul style="list-style-type: none"> • Prevent water from ponding near outdoor air intakes by sloping roof drainage away from intakes. 	2 points
<p>Provide references to drawings and specifications. _____</p>	

Verification: Review the roof plan and mechanical plans indicating locations of air intake and exhaust to verify that intakes are positioned at least 20 feet apart and that inlets are at least 60 feet from other pollution sources. ASHRAE 62.1-2004 - §5.6:

Noxious or dangerous exhaust	30 feet
Vents, chimneys, flues from combustion appliances and equipment	15 feet
Garage entry, car-loading areas, drive-in queue	15 feet
Truck loading, bus parking/idling area	25 feet
Driveway, street or parking place	5 feet
Thoroughfare with high traffic volume	25 feet
Garbage storage/pick-up area, dumpsters	15 feet
Cooling tower intake or basin	15 feet
Cooling tower exhaust	25 feet

Verify that air intake openings are protected. Review specifications to check that steel ductwork is used to convey outdoor, return, and supply air, that meets requirements of a standardized test method such as

Underwriters Laboratories (UL) 181 21 or American Society for Testing and Materials (ASTM) C 1338 22 and that surfaces used to convey air can withstand erosion in accordance with the UL 181 Erosion Test.

Final verification: Conduct a visual verification.

<p>G.1.2 Is sufficient ventilation provided to obtain acceptable IAQ, in accordance with ANSI/ASHRAE 62.1?</p> <p>Yes, using the <i>Ventilation Rate Procedure</i> OR Yes, using the <i>Indoor Air Quality Procedure</i></p>	<p>10 points</p>
<p>Indicate the ventilation rate. ___cfm/person or ____cfm/square foot</p>	

Verification: Check that calculations have been done for ventilation rates and assumptions are provided with respect to: air distribution; estimated occupancy; variable load conditions; building component emission levels, and contaminant levels, and their monitoring.

In naturally ventilated buildings, provide reports to show that ventilated spaces are designed in compliance with ASHRAE 62.1-2004 § 5.1 to be permanently open and within 25 feet of operable wall or roof opening to the outdoors, have an openable area of at least 4% of the occupiable floor area so that the engineered natural ventilation system complied with authorities having jurisdiction.

Final verification: Measure CO₂ levels. Review Commissioning Report and Complaints Log, if available.

<p>G.1.3 Is effective air exchange provided as per the following?</p>	
<p>For mechanically ventilated buildings, the zone air distribution effectiveness E_z value is greater than or equal to 0.9.</p> <p><i>ASHRAE 129-1997 Measuring Air-Change Effectiveness</i></p>	<p>12 points</p>
<p>Provide the E_z value _____</p>	
<p>OR</p> <p>For naturally ventilated buildings:</p> <p><i>ASHRAE 62.1-2004, Section 5.1</i></p>	
<ul style="list-style-type: none"> Naturally ventilated spaces are permanently open to and within 25 feet of an operable wall or roof opening to the outdoors. 	<p>15 points for checking all five</p>
<ul style="list-style-type: none"> The unobstructed openable area of the operable wall or roof leading to the outdoors measures at least of 4% of the net-occupied floor area that is being naturally ventilated. 	
<ul style="list-style-type: none"> Where interior spaces without direct openings to the outdoors are ventilated through adjoining rooms, the openings between the rooms are permanently unobstructed. 	
<ul style="list-style-type: none"> Where interior spaces without direct openings to the outdoors are ventilated through adjoining rooms, the openings between the rooms have a minimum area of 8% of the area of the interior room and are at least 25 square feet. 	
<ul style="list-style-type: none"> Building occupants have easy access to control operable openings. 	
<p>For each space being naturally ventilated, provide values for: i) the net-occupied area being naturally ventilated as measured from the inside surfaces of the walls, excluding permanently enclosed obstructions such as shafts and columns; ii) the distance from the naturally ventilated space to the operable wall or roof opening; and iii) the openable area.</p>	

Space location	Net occupied area being naturally ventilated	Distance from the naturally ventilated space to the operable wall or roof opening	Openable area

Provide drawing references. _____

Verification: Review the description and the design sections for indication that the outdoor air delivered to the space actually reaches the occupants. Compare with air distribution diagrams (Table 6-2, ASHRAE 62.1.)

OR For naturally ventilated space, review the building plans to check that:

- Naturally ventilated spaces are permanently open to and within 25 ft. of operable wall or roof openings to the outdoors.
- The unobstructed openable area of the operable wall or roof leading to the outdoors measures at least of 4% of the net-occupied floor area that is being naturally ventilated.
- Where interior spaces without direct openings to the outdoors are ventilated through adjoining rooms, the openings between the rooms are permanently unobstructed.
- Where interior spaces without direct openings to the outdoors are ventilated through adjoining rooms, the openings between the rooms have a minimum area of 8% of the area of the interior room and are at least 25 square feet.
- Building occupants have easy access to operate operable openings.

Final verification: Review the Commissioning Report for measurements of air exchange effectiveness (E) as determined by *ASHRAE 129-1997 Measuring Air-Change Effectiveness* and the Complaints Log.

G.1.4 Is there indoor air quality monitoring? If not applicable to the building type (e.g. MURBs) mark "not applicable."	
Using CO₂ monitoring	7 points or n/a
OR Using electronic airflow monitoring	OR 7 points or n/a
Provide references to mechanical drawings and specifications. ____	

Verification: Review specifications to check that there is CO₂ or air flow monitoring. Review mechanical drawings to check for CO₂ monitors in areas which occasionally have high occupant densities (e.g. conference/meeting rooms), and at the ends of the longest runs of the distribution ductwork.

Final verification: Review Monitoring Records.

G.1.5 Is there a Construction/Renovation Indoor Air Quality Management Plan that meets the following requirements? Where there is no HVAC, mark "not applicable." <i>ASHRAE 62.1-2004, Section 7.0</i>	
<ul style="list-style-type: none"> • Air contaminants, such as odors or irritants generated during renovations, are controlled by one of the five basic options (i.e. source removal, source modification, air cleaning, dilution ventilation, or exhaust ventilation) 	3 points

SMACNA "IAQ Guidelines for Occupied Buildings Under Construction" (1995.)	
<ul style="list-style-type: none"> • Building materials made of organic matter (e.g. wood, plasterboard) or those that may collect organic matter such as leaves or insects are protected at the construction site and in transit. 	1 point
<ul style="list-style-type: none"> • Ventilation system components, insulation, and vapor retarders are kept clean, dry, and under cover until they are installed. <i>Where there is no HVAC, mark "not applicable."</i> 	2 point or n/a
<ul style="list-style-type: none"> • The building envelope is weather-tight before installing interior walls, wood floors or ceilings, or HVAC. 	1 point
<ul style="list-style-type: none"> • The HVAC is not used for heating, cooling or humidity control during construction. (Portable heaters, fans or cooling units may be used.) <i>Where there is no HVAC, mark "not applicable."</i> 	1 point or n/a
<ul style="list-style-type: none"> • Air-tight covers are installed over diffusers, registers, grilles, and open ducts during construction, and are not removed until major construction is complete. <i>Where there is no HVAC, mark "not applicable."</i> 	1 point or n/a
<ul style="list-style-type: none"> • The building is flushed with 100% outdoor air two weeks before the building is occupied. OR Baseline IAQ testing after construction shows acceptable air quality. 	1 point
<ul style="list-style-type: none"> • Air filters are changed just before building is occupied. <i>Where there is no HVAC, mark "not applicable."</i> 	1 point or n/a

Verification: Review that there is a Construction/Renovation Indoor Air Quality Management Plan and that it addresses the following issues:

- Air contaminants, such as odors or irritants generated during renovations, are controlled by one of the five basic options (i.e. source removal, source modification, air cleaning, dilution ventilation, or exhaust ventilation.)
- Building materials made of organic matter (e.g. wood, plasterboard) or those that may collect organic matter such as leaves or insects are protected at the construction site and in transit.
- Ventilation system components, insulation, and vapor retarders are kept clean, dry, and under cover until they are installed.
- The building envelope is weather-tight before installing interior walls, wood floors or ceilings, or HVAC.
- The HVAC is not used for heating, cooling or humidity control during construction. (Portable heaters, fans or cooling units may be used.)
- Air-tight covers are installed over diffusers, registers, grilles, and open ducts during construction, and are not removed until major construction is complete.
- The building is flushed with 100% outdoor air two weeks before building is occupied. OR Baseline IAQ testing after construction shows acceptable air quality.
- Air filters are changed just before building is occupied.

Final verification: Review the Construction/Renovation Indoor Air Quality Management Plan, and records of implementation and system start-up.

<p>G.1.6 Are there air filters with a dust-spot rating between 60% and 85% OR a Minimum Efficiency Rating Value (MERV) of 8 for air distributed to occupied spaces?</p> <p><i>ASHRAE 52.2-1999</i></p>	6 points
<p>Indicate the dust spot rating or the MERV. ____</p> <p>Provide reference to specifications. ____</p>	

Verification: Review specifications describing air filtration media information.

Final verification: Conduct a visual verification.

G.2 Source Control of Indoor Pollutants (45 points)

<p>G.2.1 Are there the following interior measures to control moisture and prevent the growth of fungus, mold, and bacteria on building surfaces and in concealed spaces?</p> <p><i>ASHRAE 62.1-2004 - Section 5.15</i></p>	
<ul style="list-style-type: none"> • Humidity control/cooling equipment maintains the indoor relative humidity at or below 50% on a 1% design heating day. 	1 point
<ul style="list-style-type: none"> • Moisture tolerant materials and finishes are specified in areas which generate a lot of humidity. 	1 point
Describe the materials specified. _____	
<ul style="list-style-type: none"> • There are floor drains where fixture or appliance failures may cause plumbing leaks. 	1 point
<ul style="list-style-type: none"> • There is exhaust capable of drawing 25 L/s (50 cfm) in humid areas. 	1 point
Provide references to drawings and specifications. _____	

Verification: Review specifications of humidity-control and cooling equipment, materials, finishes and mechanical exhaust systems, for areas which are likely to be humid, to minimize the accumulation of moisture. Where moisture precautions are needed, check that materials are specified in the design which meet the following standards:

Air filters and humidifier pads	American Society for Testing Materials (ASTM) G 21
Carpets	American Association of Textile Chemists and Colorists (AATCC) 174 Parts II and III
Adhesives	ASTM G 21
Fabrics	AATCC Methods 30 and 100
Polymeric surfaces (vinyl, epoxy, rubber flooring, laminates)	ASTM G 21
Ceiling tile coatings	ASTM D 3273
Paints	ASTM G 21 and D 3273

Final verification: Conduct a visual verification that floor drains or disaster pans are installed where fixture or appliance failures may cause plumbing leaks. Check that exhaust systems capable of drawing 25 L/s (50 cfm) are installed in humid areas.

<p>G.2.2 Is there easy (minimum 3-foot clearance) access to the air-handling units (AHUs) for inspection and maintenance? <i>ASHRAE 62.1-2004 - Section 5.14</i></p>	<p>5 points</p>
<p>Give drawings and specifications references. _____</p>	

Verification: Review construction drawings to check that air handling equipment is easily accessible with a minimum 3-foot clearance for inspection, service and cleaning.

Final verification: Conduct a visual verification.

<p>G.2.3 Does the humidification system have the following features to help avoid the growth of micro-organisms? Where there is no humidification, mark “not applicable.”</p>	
<ul style="list-style-type: none"> • There is steam humidification, or in special applications, ultrasonic humidification. 	<p>3 points or n/a</p>
<ul style="list-style-type: none"> • Water for steam humidification originates directly from a potable source or from a source with equal or better water quality. 	<p>1 points or n/a</p>
<ul style="list-style-type: none"> • Drain pans for dehumidifying cooling coils provide a 1/8 inch slope per foot in two directions, and there is a P-trap and sufficient width to span the cooling coils. <i>ASHRAE 62.1-2004 Section 5.11</i> 	<p>2 points or n/a</p>
<p>Provide references to specifications. _____</p>	

Verification: Check specifications for the humidification system and for measures to avoid the growth of microorganisms.

Final verification: Conduct a visual verification.

<p>G.2.4 Is there CO monitoring in parking garages and in areas where there is combustion such as boiler rooms? Where there are no parking garages or other areas where combustion occurs, mark “not applicable.”</p>	<p>5 points or n/a</p>
<p>Identify areas with CO monitoring. _____ Provide references to drawings and specifications. _____</p>	

Verification: Review mechanical drawings and specifications to check that there is carbon monoxide monitoring in parking garages and other areas where there is combustion such as boiler rooms.

Final verification: Conduct a visual verification.

<p>G.2.5 Is there separate ventilation and/or physical isolation to mitigate indoor pollution at-source for specialized activities (for example in printing rooms, smoking areas or in areas that contain equipment such as photo process machines, clothing dryers, grinding machines)? Mark “not applicable” where there are no special activities.</p>	<p>3 points or n/a</p>
<p>Describe areas with separate ventilation and/or physical separation. _____ Provide references to drawings and specifications. _____</p>	

<p>G.2.6 Does the separate ventilation system have an exhaust rate of at least 0.5 CFM/ft² and have a negative pressure of at least 5P a (0.02 inches of water gauge) on average with respect to adjacent spaces (with doors closed)? Mark “not applicable” where there are no special activities.</p>	<p>2 points or n/a</p>
<p>Provide references to drawings and specifications. _____</p>	

Verification: Review mechanical drawings of areas that are sources of pollution such as printing rooms, smoking areas or areas that contain equipment such as photo process machines, clothing dryers, grinding machines, or hazardous materials to verify that there is separate ventilation with discharge ducted directly to the outdoors and/or physical isolation of the spaces. Check that separate ventilation is specified.

Final verification: Conduct a visual verification.

<p>G.2.7 Are there the following measures to minimize microbial contamination from cooling towers?</p> <p><i>ASHRAE Guideline 12-2000, Minimizing the Risk of Legionellosis Associated with Building Water Systems</i></p>	
<ul style="list-style-type: none"> • There are no wet cooling towers. 	<p>5 points</p>
<ul style="list-style-type: none"> • Wet cooling towers have high-efficiency drift eliminators and covers to block sunlight penetration. 	<p>2 point</p>
<ul style="list-style-type: none"> • Wet cooling towers have no side air louvers nor open basins. 	<p>2 point</p>
<p>Provide references to drawings and specifications. _____</p>	

Verification: Review the construction drawings and specifications to check that there are features that help avoid the risk of microbial contamination from cooling towers.

Final verification: Conduct a visual verification.

<p>G.2.8 Are there the following features to help prevent the occurrence of microbial contamination in the domestic hot water system?</p> <p><i>ASHRAE Guideline 12-2000 Minimizing the Risk of Legionellosis Associated with Building Water Systems</i></p>	
<ul style="list-style-type: none"> • Piping is not capped; there are no dead legs nor long pipe runs, and collection tanks avoid the risk of stagnation. Where there are no hot water tanks, mark “not applicable.” 	<p>2 points or n/a</p>
<ul style="list-style-type: none"> • The system is designed to maintain hot water at or above 131⁰ F and cold water below 77⁰ F. 	<p>3 points</p>
<p>Provide references to drawings and specifications. _____</p>	

Verification: Review mechanical drawings of the hot water system to verify that there is no piping that is capped, no dead legs and no long pipe runs, and that hot water is to be kept at or above 131⁰ F and cold water below 77⁰ F.

Final verification: Water temperatures will be measured at the taps.

G.2.9 Are materials specified that are low-VOC emitting and third-party environmentally certified, with the following VOC limits?	
Construction adhesives: the greater of 15% by weight or 200 grams/liter <i>California Air Resources Board</i>	2 points
Sealants and caulks: the greater of 4% by weight or 60 grams/liter <i>California Air Resources Board</i>	2 points
Contact adhesives: the greater of 80% by weight or 650 grams/liter <i>California Air Resources Board</i>	2 points
Paints: Interior latex coatings flat: 100 grams/liter Non flat: 150 grams/liter Interior oil-based: 380 grams/liter <i>EPA Environmentally Preferable Program</i>	2 points
Carpets: 50 grams/liter or no carpeting <i>Carpet & Rug Institute's Green Label Plus program</i>	2 points
Provide references to specifications. _____	

Verification: Review specifications to check that interior materials are low-VOC emitting and non-toxic.

G.3 Lighting design and integration of lighting systems

Objectives: Enhance occupant well-being by providing:

- natural light
- views to the exterior
- suitable light levels for the types of tasks that are anticipated in the various building spaces
- glare protection
- control over lighting levels

Daylighting

G.3.1 What percentage of primary "leasable" space receives minimum daylight illumination levels of 25 footcandles?	Points are awarded where 1-100% of leasable space receives a minimum daylight illumination level of 25 footcandles. The Green Globes system will calculate points awarded based on the percentage of daylit space stated vs. the total leasable space. Maximum points = 10 points
Leasable area with daylight illumination levels minimum 25 footcandles	Total leasable area
Provide references to drawings. _____	

Verification: Review the results of a computer simulation to check that the stated percentage of rentable space has 25 horizontal footcandles (30 inches above floor) for a clear sky condition for solar noon on the equinox.

Final verification: Conduct light level measurements.

G.3.2 What percentage of primary interior spaces have views to the building exterior, or to atria with a maximum distance of approximately 20 ft. from desk to window?	Points are awarded where 1- 100% of primary interior spaces have views to the building exterior, or to atria with a maximum distance of approximately 20 ft. from desk to window. The Green Globes system will calculate points awarded based on the percentage of space stated vs the total leasable space. Maximum points = 10 points				
<table border="1" style="width: 100%;"> <tr> <th style="width: 50%;">Area of primary interior spaces with views</th> <th style="width: 50%;">Total leasable area</th> </tr> <tr> <td> </td> <td> </td> </tr> </table>		Area of primary interior spaces with views	Total leasable area		
Area of primary interior spaces with views	Total leasable area				
Provide drawing references. _____					

Verification: Review building plans and drawings or sketches indicating lines of sight to the building exterior or atria to check that the stated percentage of all regularly occupied primary interior spaces achieve a direct line of sight to the building exterior or to atria.

Final verification: Conduct a visual verification.

G.3.3 Are there solar shading devices to enable occupants to control brightness and glare from direct sunlight as needed on south, west and east exposures?	5 points
Describe solar shading devices. _____ Provide references to drawing and specifications. _____	

Verification: Review building sections and elevations to verify that there are user-operated sun shading controls on building exposures to the south, east and west to enable occupants to control brightness from direct daylighting. Where interior shading is provided, review whether the occupants have direct or indirect (e.g. BAS-operated) control over the shading.

Final verification: Conduct a visual verification that visual display screens can be placed in any location without glare.

Lighting design

G.3.4 Does the building provide lighting levels recommended in IESNA Lighting Handbook 2000, for the types of major tasks that are anticipated in the various building spaces?	10 points	
Indicate major tasks, the locations and the lighting levels provided. _____		
Task and location. _____	Lighting level provided. _____	
Provide references to drawings. _____		

Verification: Review the indicated lighting levels to check that ambient illuminance values for various activities are within the ranges specified in the IESNA Lighting Handbook, 2000.

Final verification: Perform measurements of light levels.

G.3.5 Are there the following measures to avoid excessive direct or reflected glare from electrical lighting?		
Environments for visual display terminals are uniformly illuminated.		2 points
Direct lighting	For direct lighting, the average luminance does not exceed the following values for given sharp-cut-off luminaire angles (shown in degrees from the vertical)	4 points
	850 cd/m² at 65°	
	350 cd/m² at 75°	
	175 cd/m² at 85°	
	Walls are illuminated.	2 points
Indirect lighting	There is adequate distance between the luminaires and the ceiling (these vary with design of the unit.)	2 points
Provide references to drawings and specifications.____		

Verification: Review the specifications for the average luminance values for various fixtures. Verify that they do not exceed 850 cd/m² at 65° sharp cut-off luminaire angle from the vertical or 350 cd/m² at 75° or 175 cd/m² at 85°. For indirect lighting check that there is an adequate distance between the ceiling and indirect lighting.

Final verification: Conduct a visual check.

G.4 Thermal comfort

Objectives: Provide a thermally comfortable environment, thereby helping to ensure the well-being and comfort of occupants.

G.4.1 Does the building design conform to the ANSI/ASHRAE 55-2004 Thermal Environmental Conditions for Human Occupancy OR Does the building achieve Benchmark 1 for thermal comfort using the Center for the Built Environment Occupant Satisfaction Survey?		20 points
<i>BENCHMARK, Criteria 6.4-Mechanical System Design</i>		
Compliance with ASHRAE 55 – 2004	summer design conditions ____DB and ____MCWB (1% design)	
	winter design conditions _____DB (99% design)	
OR	Evidence that the building design conforms to ASHRAE 55-2004 _____	
Occupant Satisfaction	Achieves Benchmark 1 on the CBE Occupant Satisfaction Survey scale	20 points

Survey		
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Verification: Review design documents for principal spaces to verify that there are submissions of summer and winter design conditions, with results of thermal assessments, and which testify that comfort conditions conform to ASHRAE 55 for thermal comfort through the use of appropriate mechanical, glazing and shading systems.

Final verification: Review temperatures and humidity data or check that a CBE Occupant Satisfaction Survey has been conducted and has achieved a benchmark of 1.

G.4.2. How large are the thermal control zones? Select one.	
Control zones are no more than 1,000 square feet.	1 point
In office areas, there are controls for medium-sized zones such as conference rooms or 4 cubicles.	or 3 points
There are controls for small zones such as a single workstation or a washroom.	or 5 points
Describe thermal control zones. _____	

Verification: Review drawings and specifications to check that there are thermal controls as described.

Final verification: Conduct a visual verification.

G.5 Acoustic Comfort (25 points)

Objective: Provide an acoustic environment that helps to ensure the well-being and comfort of occupants.

G.5.1 Where sound levels at the property line exceed 65 decibels (dB), is the building sited and are spaces within the building zoned so as to provide optimum protection from undesirable outside noise? Where sound levels at the property line are below 65 dB, mark "not applicable."	5 points or n/a
Describe key strategies to provide protection from undesirable outside noise. _____	

Verification: Review the location plan for indications of possible sources of outside noise. Where noise levels above 65 dB are likely, check that there are measures proposed to remedy the situation or that there is acoustic zoning of noise-sensitive occupancies with respect to exterior sources of noise.

Final verification: Conduct sound measurements at the property line and within the building.

G.5.2 Are Sound Transmission Class (STC) levels specified for the building envelope that correspond to the functional needs of the spaces? <i>ASTM E-90</i>	5 points
Indicate the sound transmission class (STC) rating of the external walls. _____	

Verification: Check that the construction documentation provides sound isolation and transmission strategies for the building assemblies, envelope and windows, with respect to acoustic zoning, wall construction, glazing, and STC standards.

Final verification: Measure sound levels.

G.5.3 Is there noise attenuation of the structural systems, and measures to insulate primary spaces from impact noise?	5 points
Indicate the Field Input Insulation Class (FIIC) value. _____	
Provide references to specifications. _____	

Verification: Review the specifications to verify that there are measures to attenuate sound transmission from the outside and between rooms and floors, and that primary spaces will be effectively insulated from undesirable impact noise, such as stairways or mechanical transportation. Check that Field Input Insulation Class (FIIC) values are given.

Final verification: Conduct a visual verification.

<p>G.5.4 Does the interior design meet the following ambient noise levels for the various occupancies? In MURBs, mark “not applicable”.</p> <p>35-40 dB_{LAeqT} in single occupancy cellular offices</p> <p>40-45 dB_{LAeqT} in medium sized multi-occupancy open plan offices (≤ 4 stations ≤ 400 square feet)</p> <p>45-50 dB_{LAeqT} in large multi-occupancy, open plan offices > 4 work stations > 400 square feet)</p> <p>35dB_{LAeqT} for spaces with volumes up to 20,000 cubic feet and 40 dB_{LAeqT} for higher volumes.</p>	5 points or n/a
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Final Verification: Conduct sound measurements to verify that the interior design meets ambient noise levels for various occupancies: 35-40 dB_{LAeqT} in single occupancy cellular offices, 40-45 dB_{LAeqT} in medium sized multi-occupancy open plan offices, ≤ 4 stations ≤ 400 square feet, 45-50 dB_{LAeqT} in large multi-occupancy, open plan offices > 4 work stations > 400 square feet.

G.5.5 Are there measures to mitigate acoustic problems associated with mechanical equipment and plumbing systems?	5 points
Describe the measures to mitigate acoustic problems associated with mechanical equipment and plumbing systems. _____	
Provide references to drawings and specifications. _____	

Verification: Review measures to mitigate problems associated with mechanical equipment and plumbing systems, for example, positioning mechanical systems and noise generating equipment on foundations that are isolated from the building superstructure; positioning ducts appropriately and enclosing them in sound isolation materials; sound-proofing mechanical rooms; using acoustic zoning to separate quiet areas from noisy machinery; and selecting systems for their sound qualities.

Final verification: Conduct a visual verification.