Role of Design Professionals and Trades in IEQ

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	Thermal	Air	Odour	Light	Sound	Vibration
Architecture	●●●	●●●	●●●	●●●	●●●	●●●
Enclosure	●●●	●●●	●●●	●●●	●●●	●●
Mechanical	●●●	●●●	●●●	●	●●●	●●●
Electrical	●●●	●●	●	●●	●	●
Interior	●●	●●●	●●●	●●●	●●	●●
Modelling	●●●	●●	●	●●●	●	●

Key

Level of Involvement from most to least

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Role of the Architect or Building Design in IEQ

Role of the Architect or Building Designer in IEQ	
Thermal	Minimized openings, reducing solar loads, designing simplified geometries, use below grade northside courtyards for passive strategies, promoting exterior shading, light low absorbing colours
Air	Reducing infiltration by minimizing openings and designing simplified geometries. Compartment strategies to reduce migration between units. Encourage low VOC materials, especially finishes. Think building hygiene.
Odour	Reducing infiltration by minimizing openings and designing simplified geometries. Compartment strategies to reduce migration between units. Promote building drying.
Light	Reducing excessive natural light using conservative window-wall-ratio (WWR) and proper shading.
Sound	Minimized openings, designing simplified geometries. Compartment strategies to reduce migration between units.
Vibration	Reduce or drop complex geometries to simplify vibration control.

Role of Encloser Designer in IEQ

Role of the Enclosure Designer in IEQ	
Thermal	Improved fenestration systems, strategic coatings and fills to reduce solar and thermal loads, reduced thermal bridging, reduced U values, tight enclosures …, and commission all enclosures.
Air	Reducing transmission of heat, moisture, and particulate through openings, assembly details and between compartments.
Odour	Reducing transmission of odours through assemblies and between compartments (party walls).
Light	Strategic choices in visible light transmission through windows, doors, and skylights.
Sound	Compartmentalization and assembly details to reduce flanking sounds.
Vibration	Reducing transmission of sources of vibrations through assemblies.

Role of Mechanical Designer and Trades in IEQ

Role of the Mechanical Designer and Trades in IEQ	
Thermal	Target operative temperatures and humidity, air velocity, etc., to offset internal loads and loads through the enclosure. Use applicable standards to right-size equipment, appliances and distribution systems.
Air	Conditioning of air for gases, odours, and particulate, controlling moisture and air velocity.
Odour	Avoid transfer of odours through return air flow. Strategic choices in filtration.
Light	Lighting loads that may have add to cooling loads.
Sound	Use applicable standards to right-size equipment, appliances and distribution systems. Reducing sound from motors and fluid flow through pipes, ducts, valves and dampers, registers, relays, and contacts in controls.
Vibration	Mounting of equipment with motors and fluid flow through pipes, ducts, valves, and dampers.

Role of the Electrical Designer and Trades in IEQ

Role of the Electrical Designer and Trades in IEQ	
Thermal	Strategic choices in lights and appliances with low thermal effects on heating and cooling loads.
Air	Power loads for HVAC equipment and systems.
Odour	Prevention of overloaded circuits or over heated conduit which can emit unique odours.
Light	Strategic choices in lighting devices and systems.
Sound	Reducing sound through strategic choices in electrical systems (i.e., motors, lights) and attachment of same to structural members.
Vibration	Minimizing vibration through motors and lighting systems.

Role of the Interior Designer in IEQ

Role of the Interior Designer in IEQ	
Thermal	Strategic choices in flooring affecting thermal comfort to feet.
Air	Strategic choices in interior systems, materials of construction and installation methods, i.e., low VOC materials.
Odour	Strategic choices in interior systems, materials of construction and installation methods.
Light	Strategic choices in general and task lighting.
Sound	Reducing sound through strategic choices in interior acoustic systems, materials of construction and installation methods.
Vibration	Strategic attachments of systems and fixtures to structural members.

Role of the Energy Advisor in IEQ

Role of the Energy Advisor in IEQ	
Thermal	Evaluate impact of low SHGC, reduced thermal bridging, reduced U-values, enclosure airtightness, minimized openings, reduced solar loads, simplified geometries, and other passive strategies.
Air	Help reduce infiltration/exfiltration (of moisture, particulates and heated air) through evaluating impact of assembly/compartment airtightness, minimized openings and simplified geometries.
Odour	Help reduce migration of odours through evaluating impact of assembly/compartment/party wall airtightness, minimized openings and simplified geometries.
Light	Evaluate the impact of using conservative window wall ratios and proper shading, and assess the heating/cooling load impact of choices in lighting, windows, doors and skylights.
Sound	Provide analysis to help reduce heat loss/gain and fluctuation, and support use of small and simple equipment.
Vibration	Remind other team members vibration is a form of energy and the less vibration the better.