

2022 Design Competition Frequently Asked Questions

Q: Are teams allowed to register in more than one category of the competition?

A: Yes

Q: How many students can participate in a team?

A: There is no max for ISBD teams but there is a max of six students per team for the other categories. Project groups should consist of at least two members from an undergraduate engineering or architecture curriculum for the HVAC Design Calculations or HVAC System Selection and at least three members (architecture or construction, mechanical & electrical) for the ISBD competition. Team members can be from multiple colleges. All team members must be enrolled during the semester/term in which they contribute to the design. The Applied Engineering Challenge is for a team of 1 to 6 engineering students.

Q: Are graduate students allowed to participate in the competition?

A: Projects can be submitted by graduate students in the Integrated Sustainable Building Design category only. For the other categories, entries should originate from an undergraduate engineering or architecture curriculum and all team members must be enrolled in an undergraduate program during the semester/term they contribute to the design.

Q: Is a university permitted to register more than one team into the competition as a whole? For example, if I were to be a member of a registered team for one of the three team categories, but I'm also interested in the Applied Engineering Challenge while my other teams members aren't, can I partake in both?

A: Yes

Q: Do the page limits include appendices?

A: No.

Q: Can we change the orientation of the building to see how it would affect our load calculations?

A: For the Design Calculation the building is set in its orientation and will not be judged if the building is rotated. However for your own benefit the team can rotate the building to see how Solar effects the building.

Q: Is it possible to get the actual location of the building? We would like to explore the use of nearby waste heat opportunities to supplement our HVAC system.

A: The building location is Sydney, Australia and the ground information can be obtained through research.

Q: Are we allowed to add features to the building?

A: For the Design Calculation the building is set in its features and will not be judged if the building has additional features. However for your own benefit the team can add those feature to the building to see how they effects the building loads.

Q: Where can we get the dimensions of the building?

A: Teams can get the full dimensions of the building from the provided CAD drawings.

Q: In the drawings included with the competition information there is no site plan or information about the terrain. Would it be possible to know any information regarding the building site?

A: No site plans will be provided for this competition. For the design calculation part of the competition, the only information they need about the site is the direction the building is facing.

Q: Can we change the layout, i mean the interior layout of design at ISBD?

A: Yes

Q: Do we get the weather data of Sydney, Australia?

A: Yes ASHRAE provides weather data files for Sydney, Australia on the Design Competition website. You can also utilize the ASHRAE Climate Data Center and ASHRAE Fundamentals.

Q: Do we get the baseline model to compare our design?

A: The base line is the building you see in the drawings plus ASHRAE 90.1

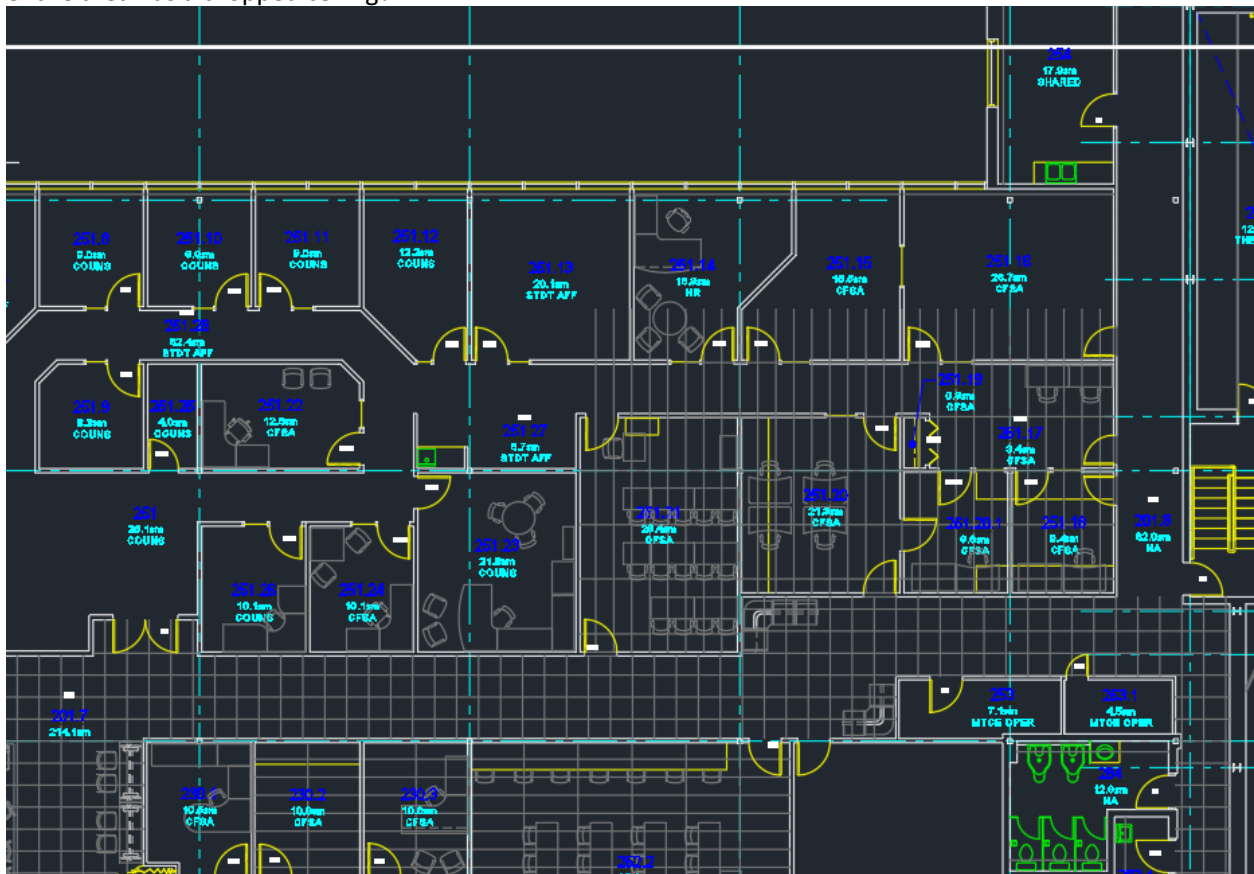
Q: I would like to use revit for the design calculations competition, however only AutoCAD drawings are posted. Are there revit drawings I can use?

A: No

Q: I am looking for a description of level zero being that it is below grade yet has windows. Should we assume that it is below grade with windows or on a hill and exposed to elements?

A: Assume the windows shown are in window wells. This way the walls are all still on contact with earth, not exposed to the elements.

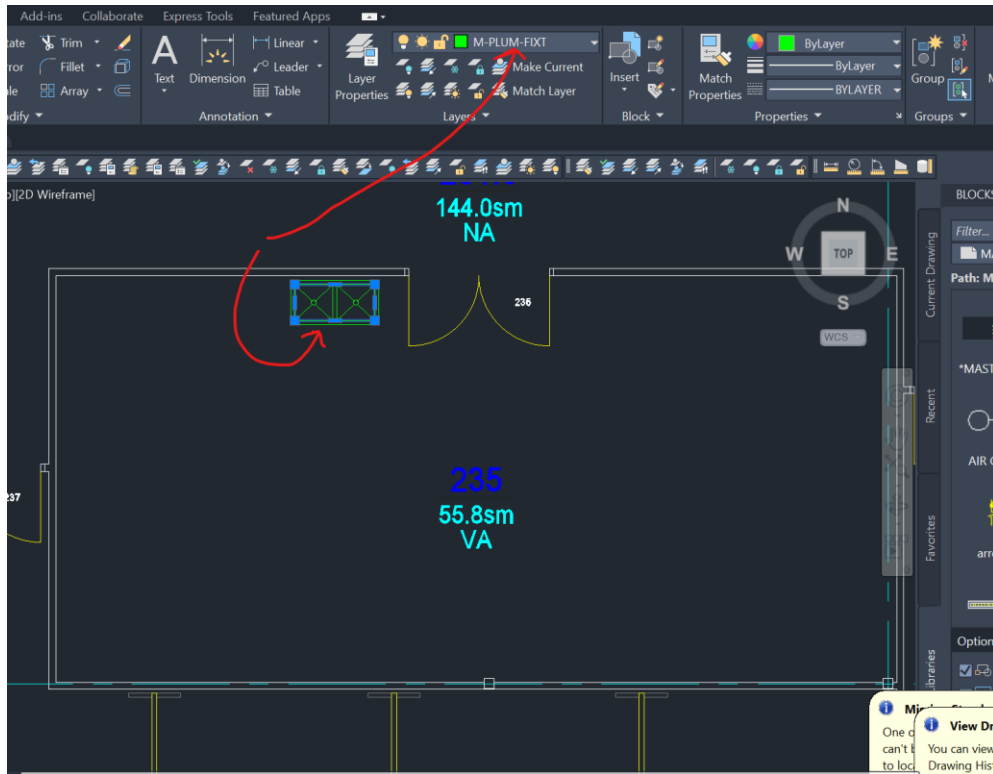
Q: There are a few areas where the ceiling grid is unclear on the CAD drawings. I've checked the layers and the ceiling grid is turned on. I've attached a picture of one of the areas in question. Should we assume this entire area has a dropped ceiling?



A: Teams should just assume it is a drop ceiling everywhere.

Q: As we are going through our diffuser and intake placement in AutoCAD, we noticed some rooms that already have what seem to be diffusers (box with an x) but are located in unusual positions. We think they may be ventilation hoods or something similar but would like some clarification on what they are since they are not labeled. A good example of this is seen in room 235. Thank you.

A: These are not related to ventilation and can be disregarded. They represent sinks / plumbing fixtures.



Q: I would like to ask, after design considerations, in terms of toilets, our team may prefer using Fan Coil Unit for recirculating the air transferred from adjacent AC Supply rooms inside the toilet spaces. And for the VA room with electric kilns, we think adopting Primary Air Unit (PAU) for spot cooling in the room may be more energy saving and efficient. For other spaces in the building, VAV AHU systems were used. Will these design decisions violate the requirement of VAV AHU systems?

A: It would not violate the requirements. Your team is free to use your innovative ideas, but be sure to defend your reasoning in the final report.

Q: I have a question. On the rules I found this... For this competition, the owner has decided that they want to use a variable air volume (VAV) air handling unit (AHU) for the building. Thus, the HVAC System must use a VAV air handling unit for all the spaces. Any entries not using this system will be penalized. The use of alternate systems or comparison with alternate systems is not required by this competition and will not be taken into consideration during the judging. The source of the cooling and heating for the VAV AHU is to be determined by the student design team, but must follow the standards and guidelines from ASHRAE and local code.

Does this mean that we can not use many different types of HVAC or ventilation systems?

For example the kitchen can not be ventilated from the same AHU machine that will provide the necessary loads for the rest of the building. In order to avoid any type of smells (or more thermal loads) transferred to the entire building, I must also use another machine, only for ventilation.

Will that cost our participation in the competition?

A: A VAV air handling unit may serve this space. In order to prevent recirculation the process air must be exhausted, not returned to the zone air handling unit. If you are still concerned it could be handled from a dedicated unit.