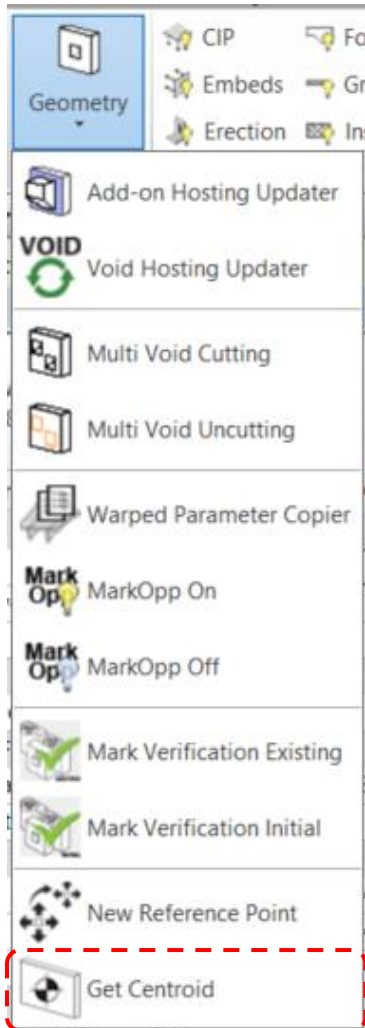
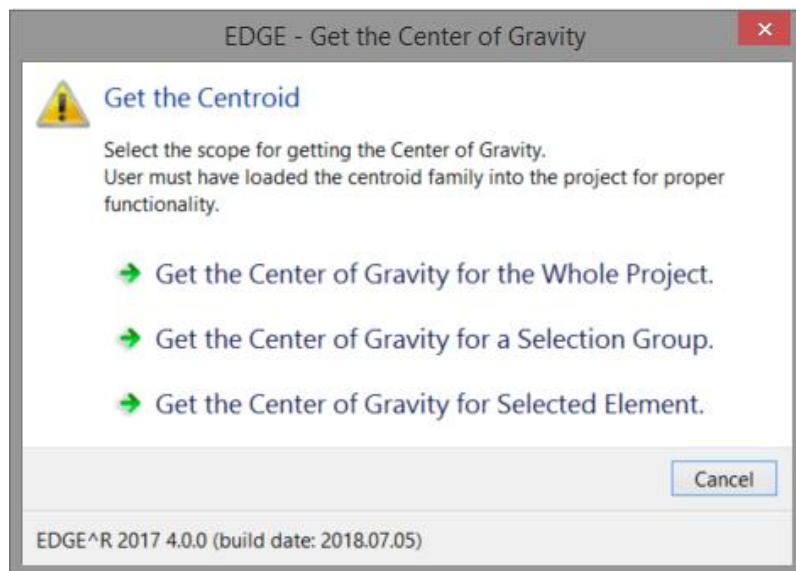


# Geometry Tools: Get Centroid



## Programmed Result of Tool:

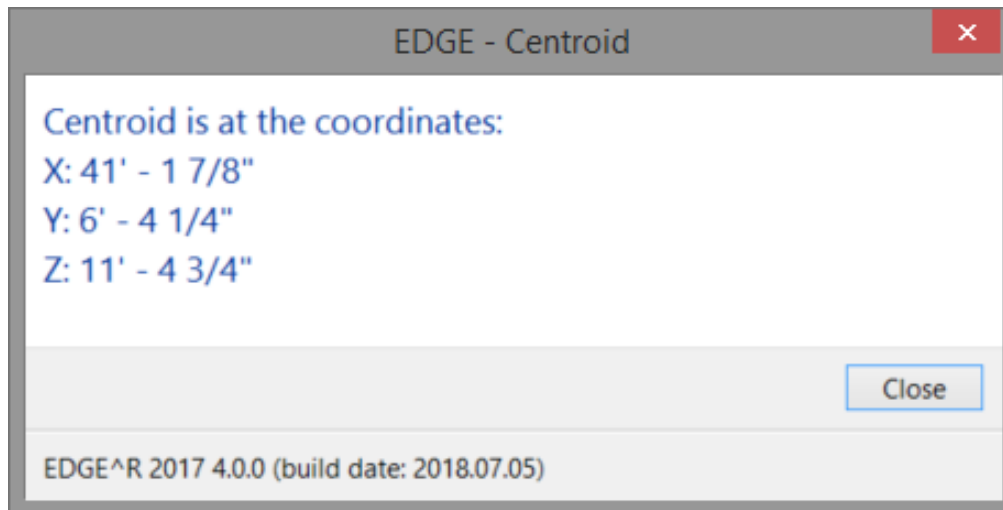
This tool will calculate the center of gravity for the whole model, a selection group, or for a selected element. Once the center of gravity is calculated, a centroid family instance is placed at the previously calculated center of gravity location.



## Steps to Perform Tool Operation:

- 1) User clicks the Get Centroid Icon.
- 2) The selection dialog box pops up to let the user choose either to get the Centroids in the Whole Project, a Selection Group, or just a Selected Element.
- 3) If the user does not preselect the element prior to clicking the Get Centroid icon the user will be required to select an element or a selection group of elements and click the "Finish" button that is located on the Revit options bar.
- 4) The Centroid of the element(s) is then calculated:
  - a) If "Whole Model" is chosen, the CENTROID\_PROJECT family will be placed at the center of gravity of the whole project.
  - b) If "Selection Group" or "Selected Element" is chosen, a dialog will appear asking if you would like Edge to calculate the center of gravity for each element independently or calculate the center of gravity for the overall selection group. If the user chooses YES, the CENTROID family will be placed. If the user chooses NO, a text box will appear with the coordinates of the center of gravity of the selection group.

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## Known Limitations:

- The user must load the centroid families into the project to facilitate proper functionality (CENTROID.rfa and CENTROID\_PROJECT.rfa).
- If Get Centroid is run for the Whole Project, the centroid will be calculated based on all elements in the project that have a material of PRECAST CONCRETE. All other elements in the project are ignored for this calculation.
- If get Centroid is run for a Selection Group, the centroid will be calculated based on all elements in the selection group that have a material of PRECAST CONCRETE. Any element in the selection group that does not have a material of PRECAST CONCRETE will be ignored in the centroid calculation.
- If Get Centroid is run for a Selected Element, then the result will be as follows:
  - For an assembly, the centroid will be calculated based on all elements in the assembly that have a material of PRECAST CONCRETE. Any elements in the assembly that do not have a material of PRECAST CONCRETE will be ignored in the centroid calculation.
  - For a Structural Framing element, the centroid will be calculated based on the structural framing element itself and any addons that have been processed by the Addon Hosting Updater. If an addon intersecting the selected Structural Framing element has not been processed by the Addon Hosting Updater then it will be ignored in the centroid calculation.
- Model-In-Place shapes are not supported at this time.
- The coordinates provided for a Selection Group will be provided in project units and will be relative to the Project Base Point.

