Floating Nodes & Design of Canal Structures

Since July 2021, users can include HR/CR and Inclined drop structures in their design. This can be achieved through the use of Floating nodes. Floating nodes were originally provided to simulate any natural condition or existing structures with known hydraulic performance data (typically head loss).

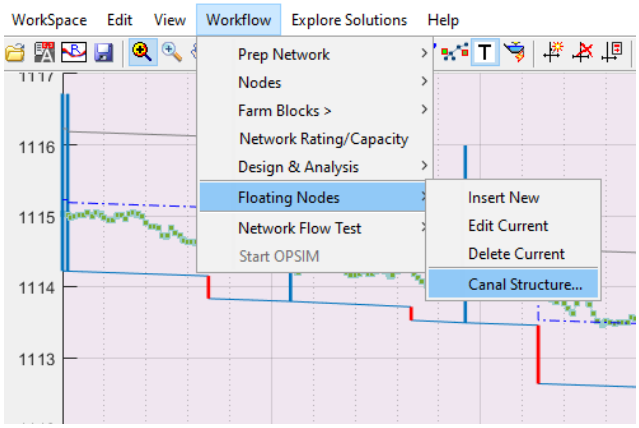
Visual only representations that can be achieved using one or more floating nodes are as follows.

- Suspended structures
- Supported structures
- Simple Segments
- May be enhanced to represent (zone cut computations, other complex structures – visual only)

They are now enhanced to be able to represent the above structures.

To insert any of the above structures along any canal route:

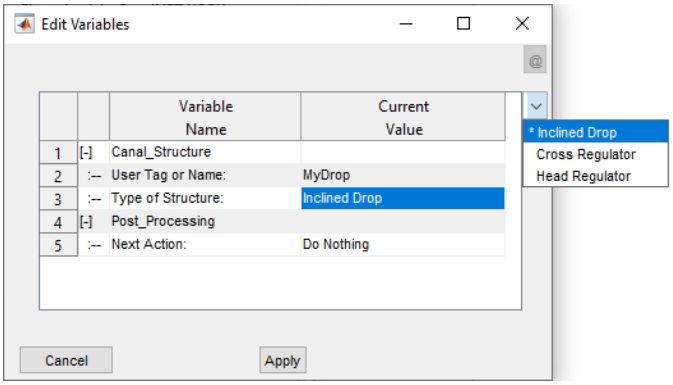
1. Select the canal segment that you want to insert your structure to. Then go to **Workflow > Floating Nodes > Insert New.** Insert the floating node.



2. In the Node edit panel, modify the exit drop for the node as desired (minimum drop heights apply depending on existing upstream and downstream hydraulic conditions).

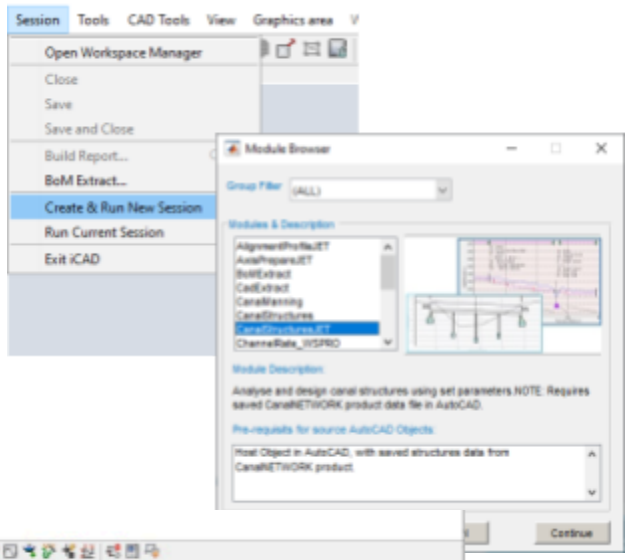
3. Go to **Workflow > Floating Nodes > Canal Structures.** This will invoke the settings dialog for the structure. In the dialog, you can set the type of structure, and its label (name).

Save your network to a Host in AutoCAD.

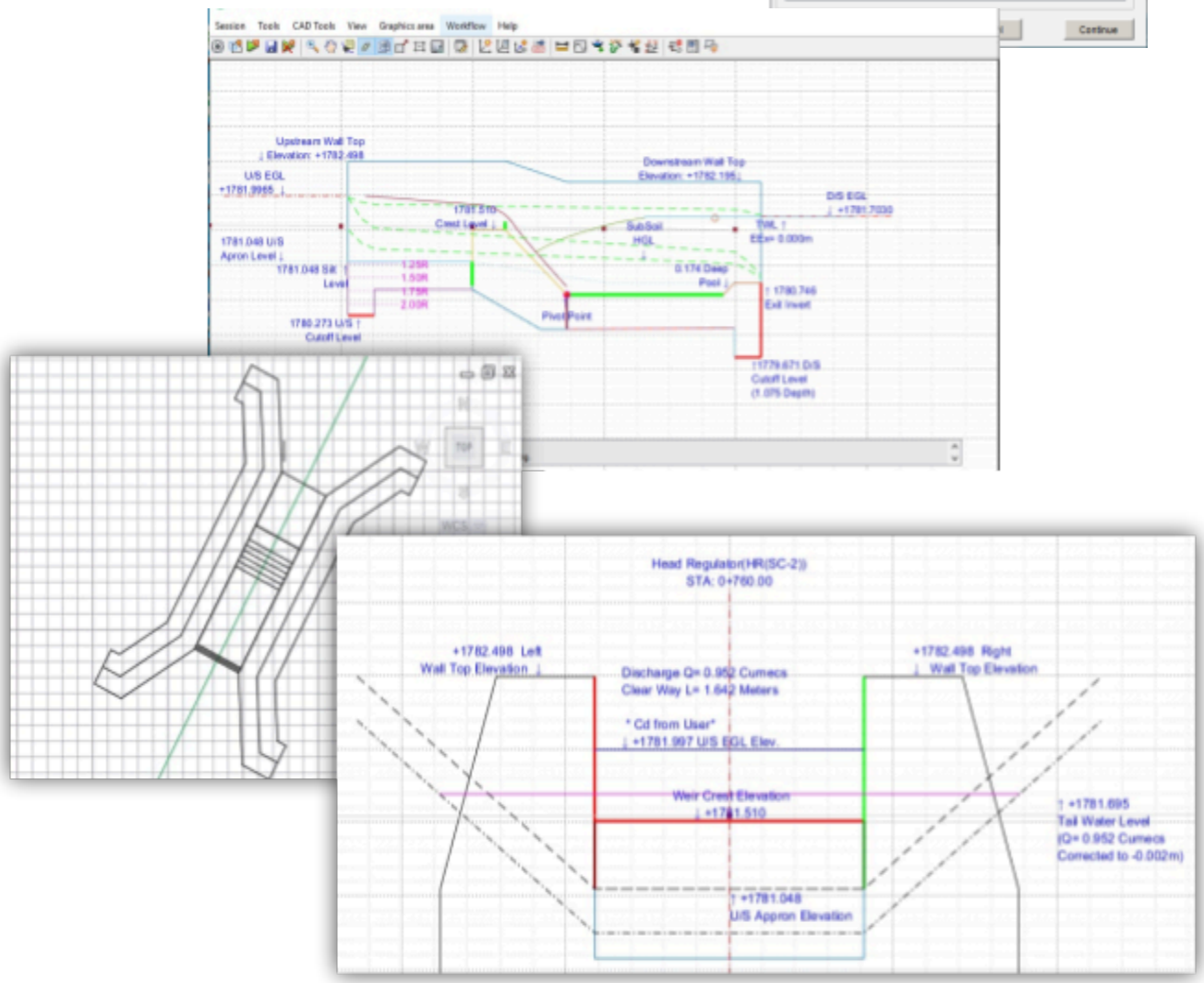


Now the settings for the floating node are stored. To design the control, switch to iCAD and:

1. Invoke CanalStructuresJET module from **Sessions > Create and Run New Session,** and selecting CanalStructuresJET module.



2. When prompted, choose the network host object.
   You will find a list of defined structures.
   Choose a structure and continue.



3. In the iCAD interface, design the structure in elevation, cross-section and plan, and produce BoQ, Drawings and more.

Note: Users can also design and document arbitrarily defined structures using designed flow sections (using CanalManning) as a starting object.

END.