How to identify critical node for hydrant location

Water · https://mes100.com/docs/lw-identify-critical-node-hydrant-location/

What is Critical Node

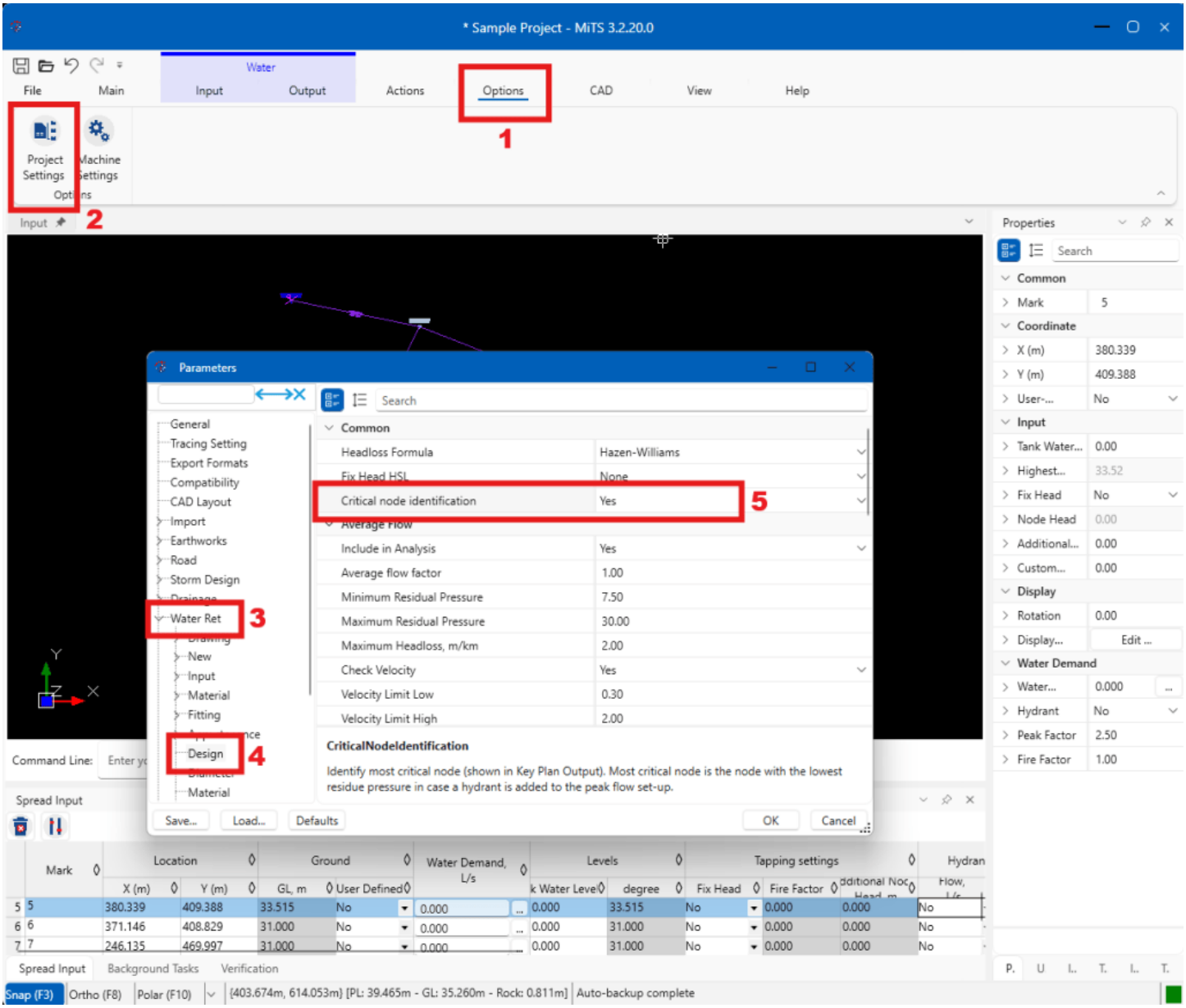
Critical node is the node with the lowest residual pressure. Therefore, hydrant is placed at the critical node in the software in order to make sure that the hydrant still can be activated during fire breakout even at the weakest point as well as in making sure that the hydrant design passes in term of residue pressure.

If your hydrant is located at the critical node, and your water reticulation design still passes in terms of residue pressure for peak and fire flow, then your design should also pass for all other position of hydrants.

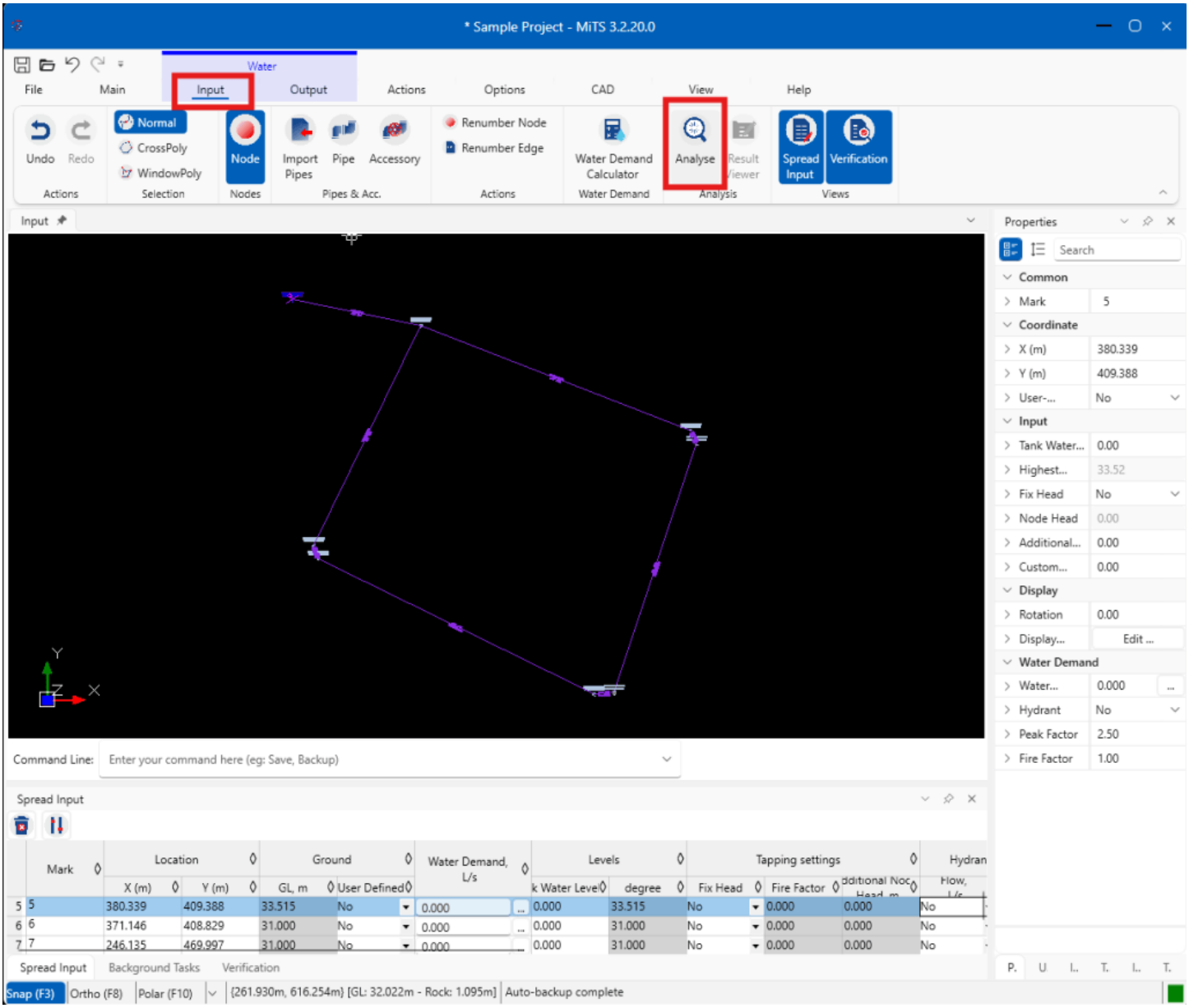
How to Identify the Critical Node

This method can be applied if domestic and fire flow are combined.

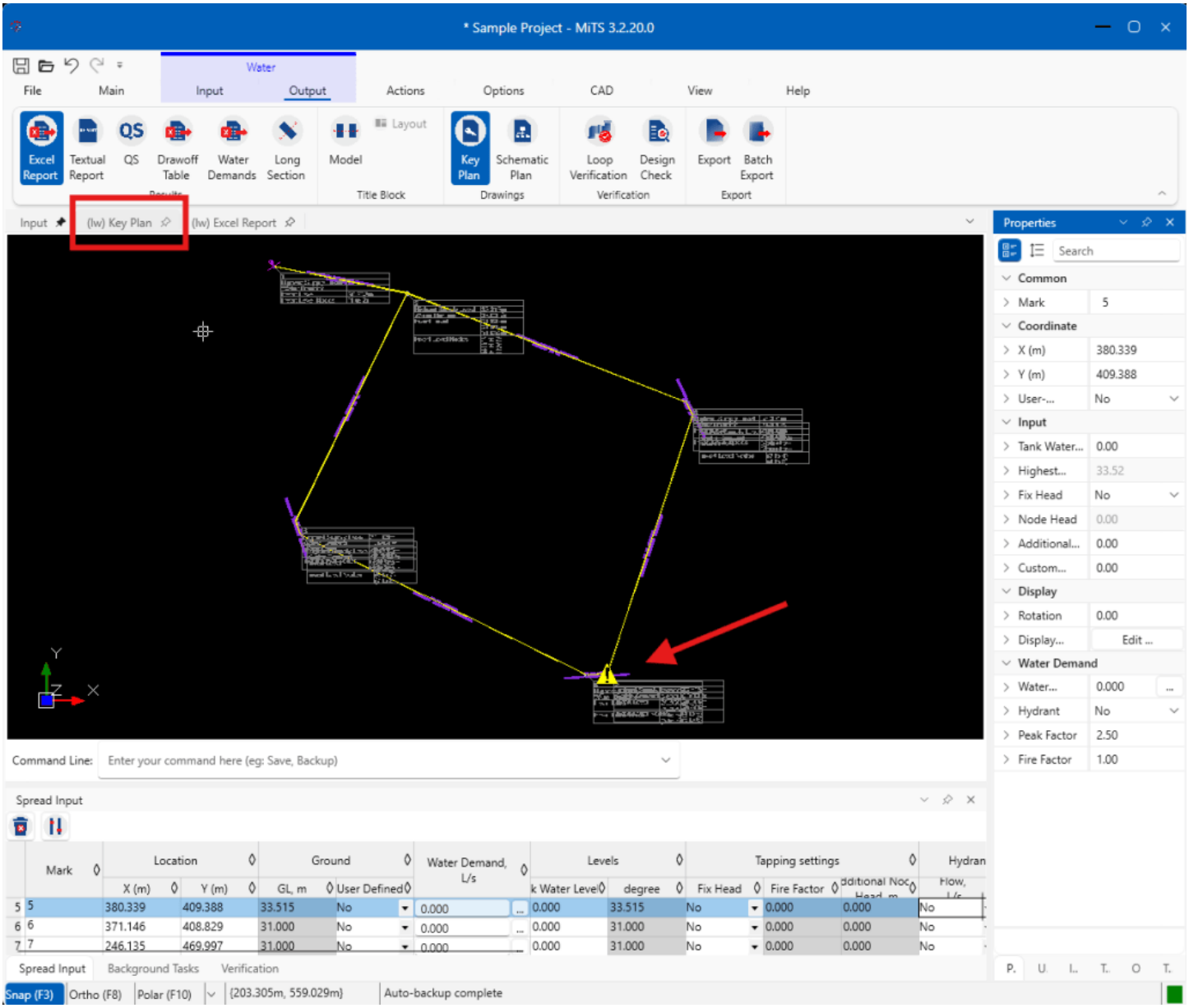
1. The path is initially designed with no hydrant added
2. Go to Options > Project Settings > expand Water Ret > Design > Critical Node Identification (change "No" to "Yes") > Click "OK "



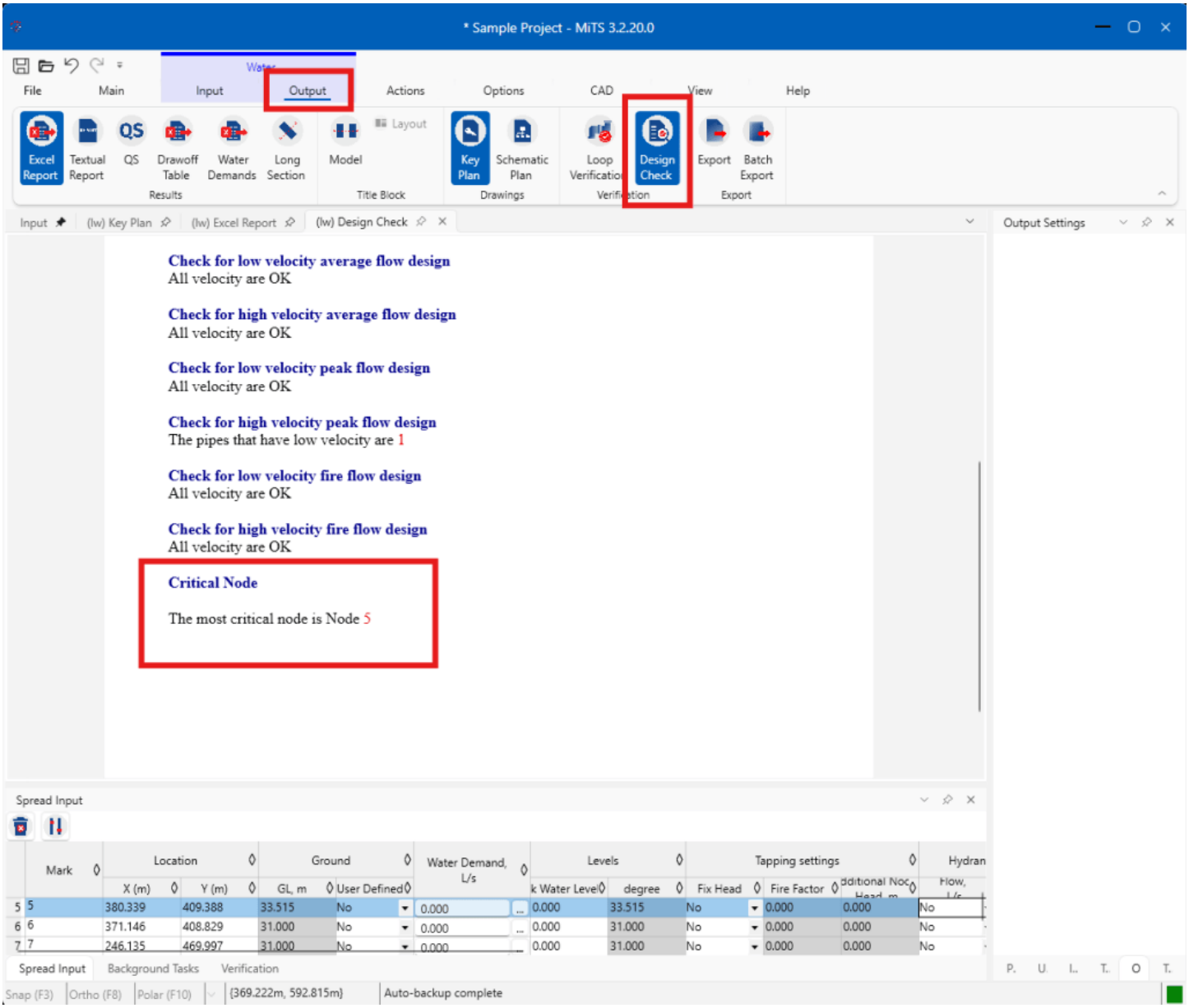
3. Then, go to the Input tab and click Analyse



4. At the Key Plan Output, the Critical Node is indicated by the exclamation mark

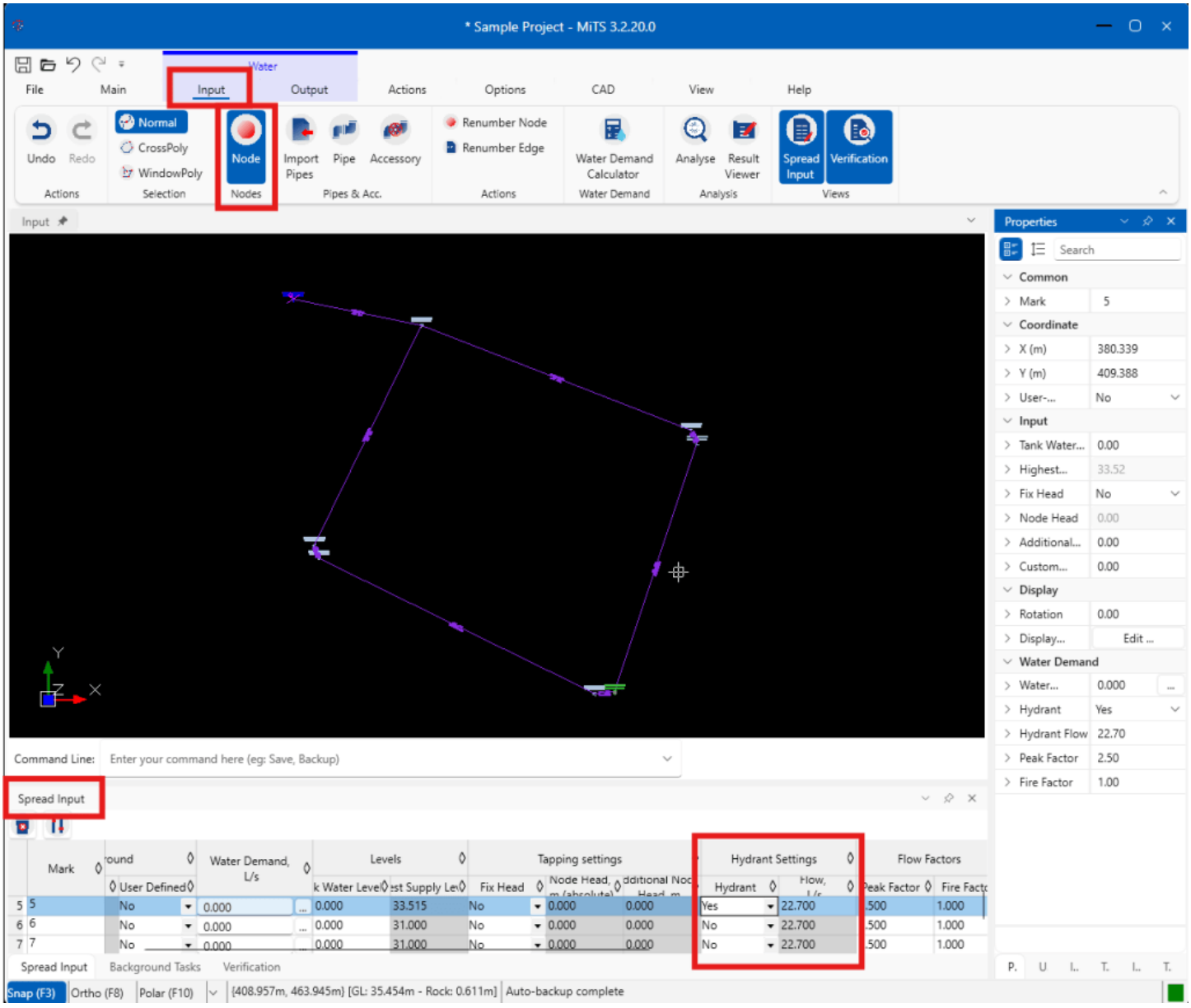


5. You may also check for the critical node at the Output tab > Design Check



Assigning Hydrant to the Critical Node

After determining the critical node, you may assign the hydrant for that particular node. Go to Input > Node > Spread Input > go to Hydrant Settings column > change "No" to "Yes"



Numbers of Hydrant That Needs to be Added

There might be several number of hydrants for an area. However, number of hydrants that will be used at a time during fire breakout usually only one, therefore only one hydrant is placed in the software which is at the critical node (refer to section 2.0). But ones shall refer to the authority for confirmation of number of hydrant that will be activated during fire breakout.

Separate Line of Fire Flow Design

If domestic and fire flow design are separated, the last point of hydrant line is always the critical node due to the greatest lost which resulting the lowest residual pressure. Therefore, hydrant is put at the

last node of the hydrant line.

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I’m the Benevolent Dictator for Life for MiTS Software cum Editor of this website. Read more here.

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