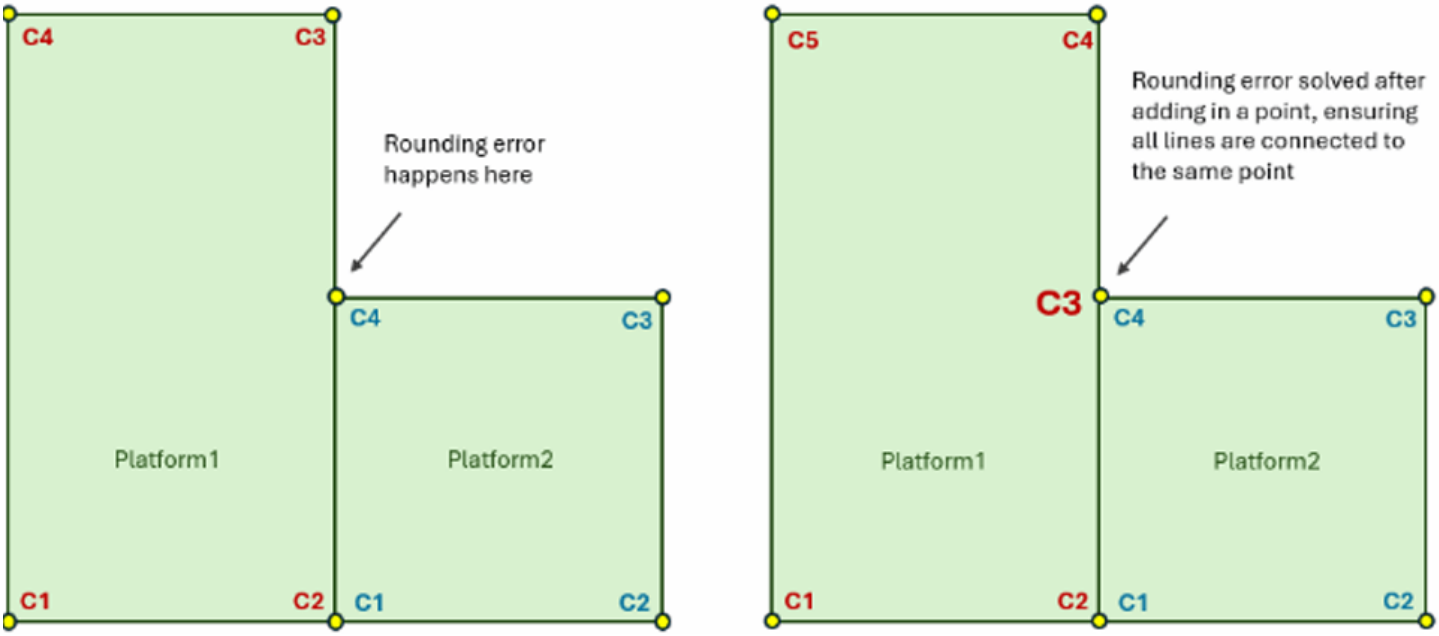
User Guide: Add Manual Connecting Point

Road · https://mes100.com/docs/user-guide-add-manual-connecting-point/

The **Add Manual Connecting Point** feature helps improve the road platform generation by manually placing key points at intersections and junctions. This prevents issues like misalignment, overlapping, and gaps between earthwork (EW) and road platforms. It also enables better road platform generation especially at the junctions. The idea is that we insert "connection points" along an appropriate position on the road platform line, so that other platforms can be better connect to it, as shown below:



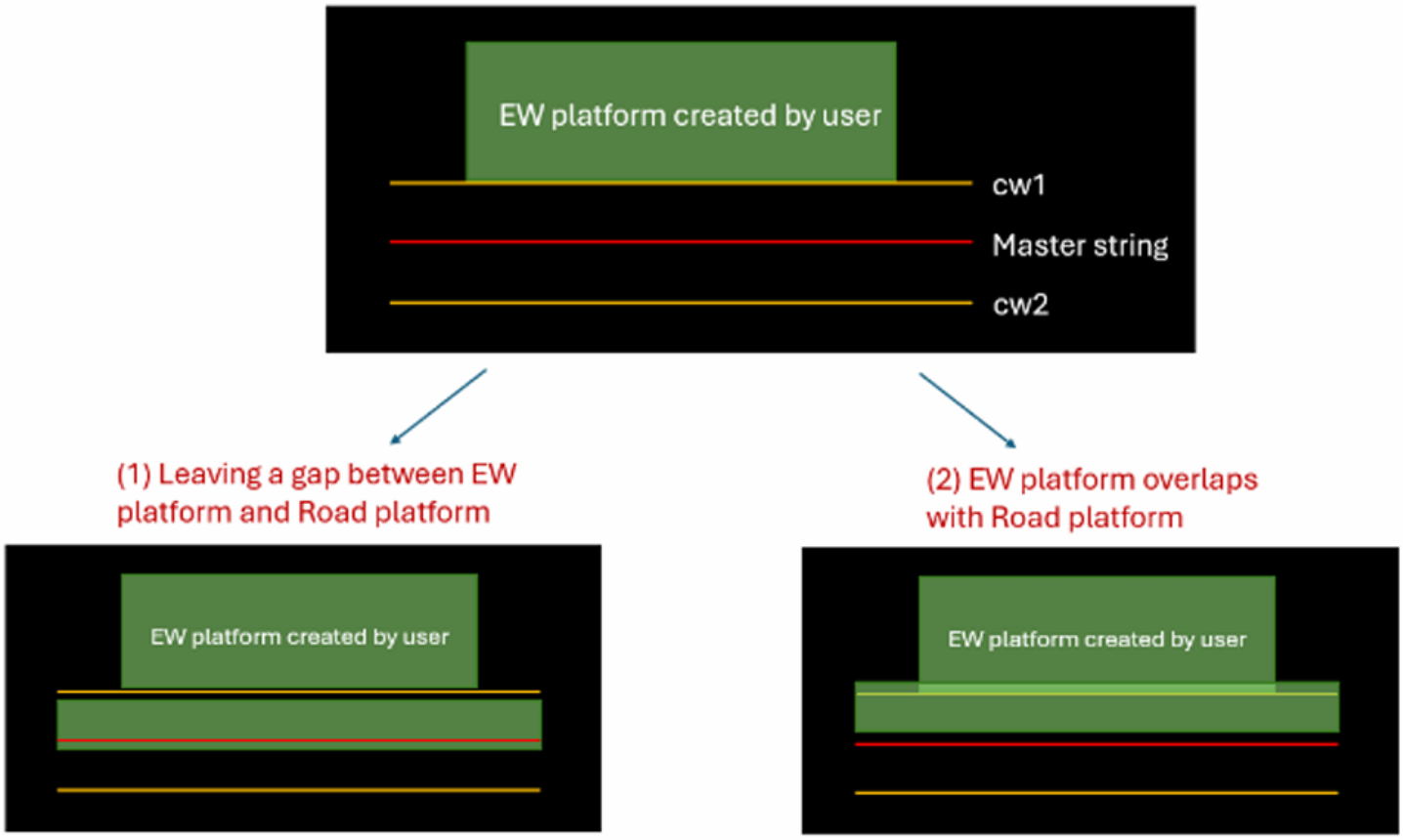
Users can enable this option when needed to ensure accurate platform connections at the junction, particularly in complex projects.

When to Use Add Manual Connecting Point feature?

You should enable this feature when using a **small or zero pixel size** to reduce misalignment gaps between roads and EW platforms. Larger pixel sizes can prevent adjacent platforms from connecting seamlessly, potentially causing unwanted gaps or overlaps.

Note that this feature should be set to true all the time when it's completed in testing, the only reason why it's not true by default is that this is still somewhat under testing.

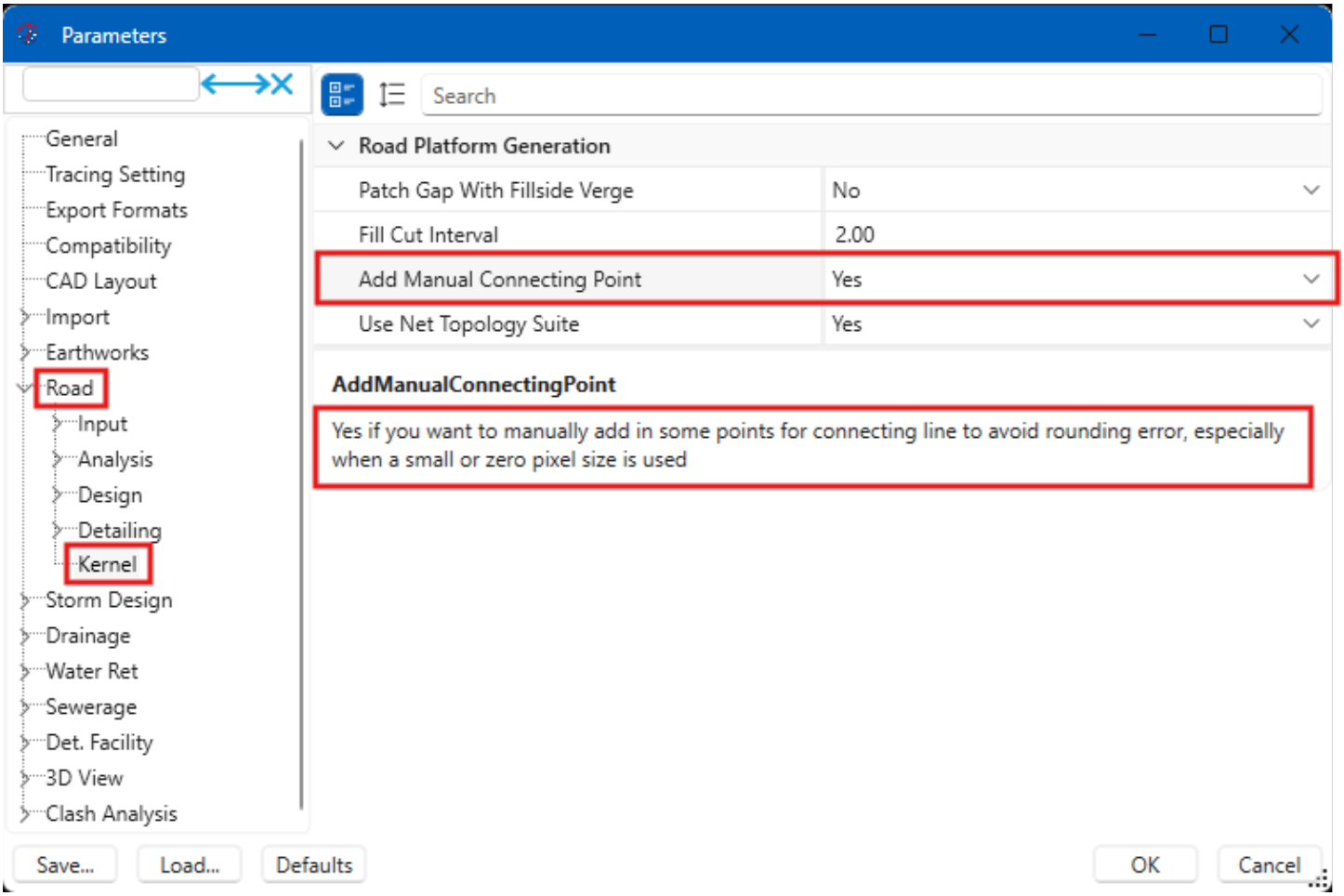
Also note that **zero pixel size** is not supported on NTS. While users may enable this feature at any time, it will have no effect when used with NTS



Enabling Add Manual Connecting Point

To activate this feature, follow these steps:

1. Open the project in MiTS
2. Navigate to **Options > Project Settings > Road > Kernel**
3. Locate the option **Add Manual Connecting Point**
4. Enable the option



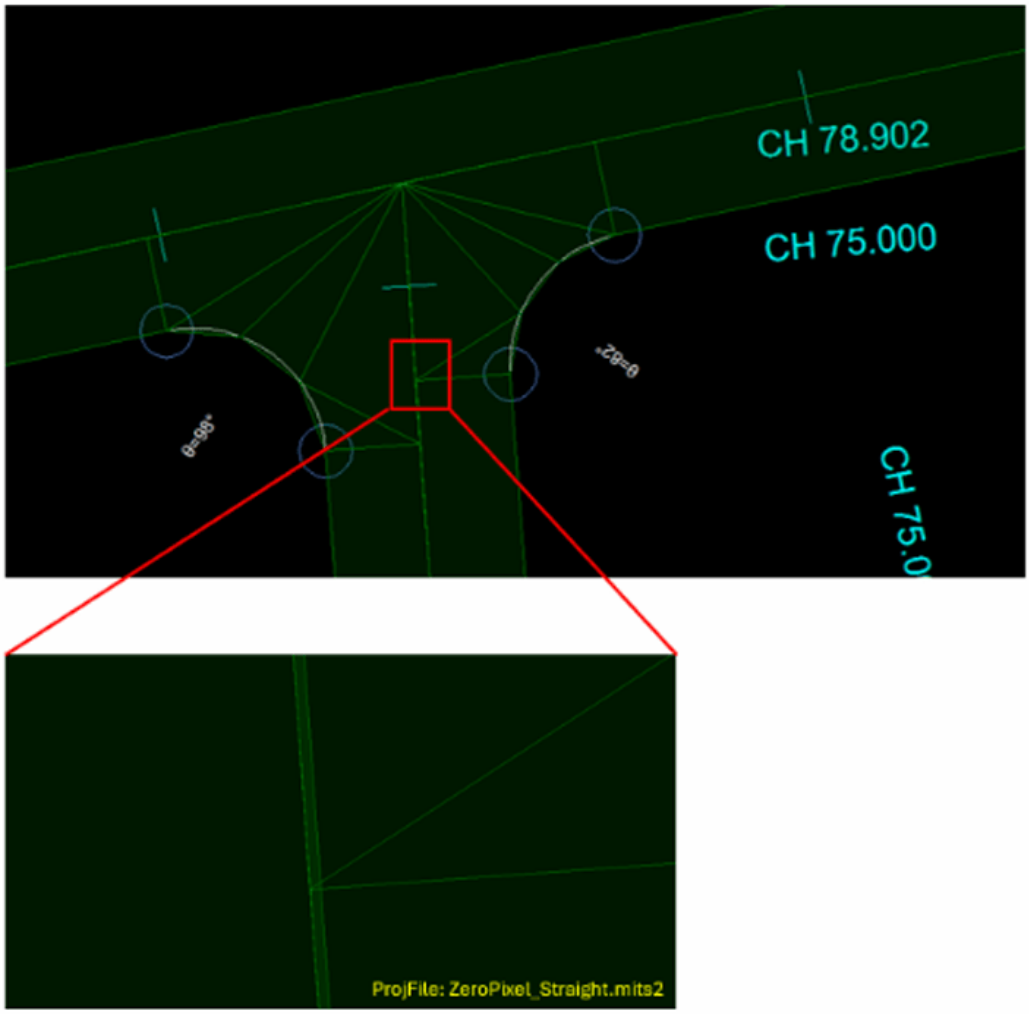
Types of Manually Placed Points

The following types of manual connecting points are managed **internally by the software.** Users do not need to place these points manually. Once the **Add Manual Connecting Point** option is enabled, MiTS will handle the placement of these points automatically to resolve alignment and snapping issues.

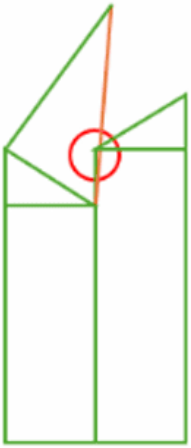
These internal operations include:

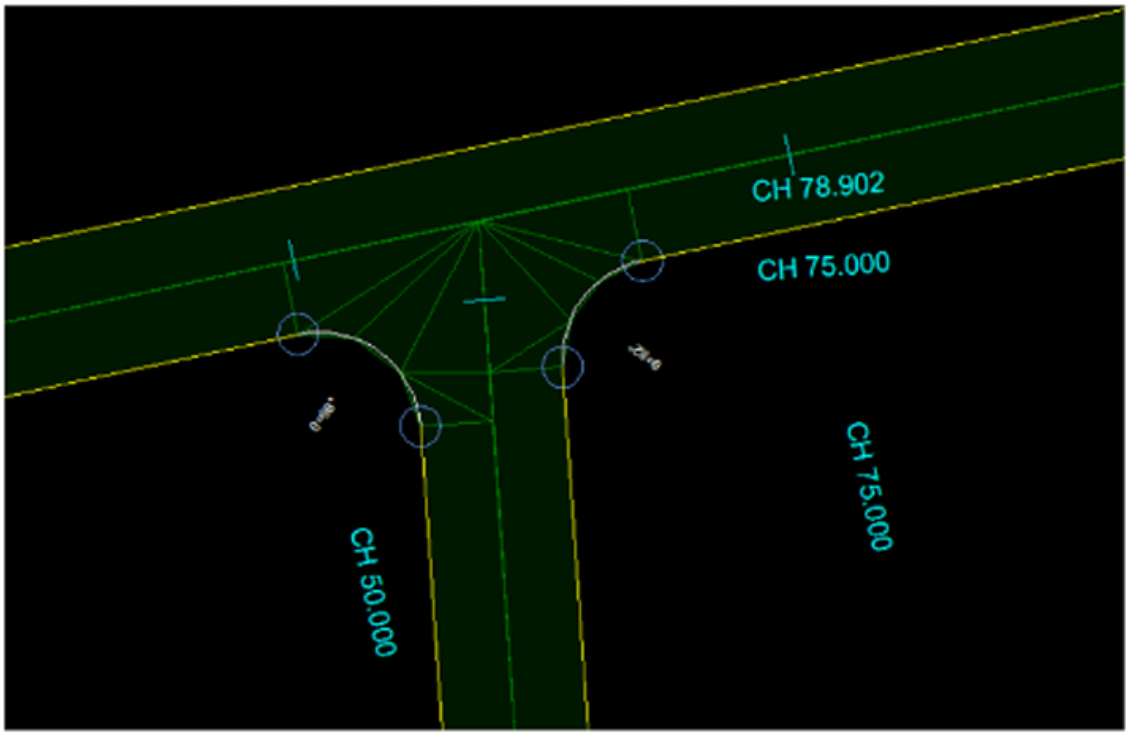
AddJunctionPointFromOpposite

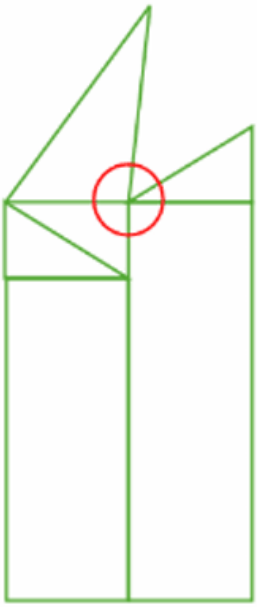
- Resolves overlaps at intersections by placing a junction point automatically



This is an exaggerated view of how the overlapping can happen.
Red circle shows where the point should be added



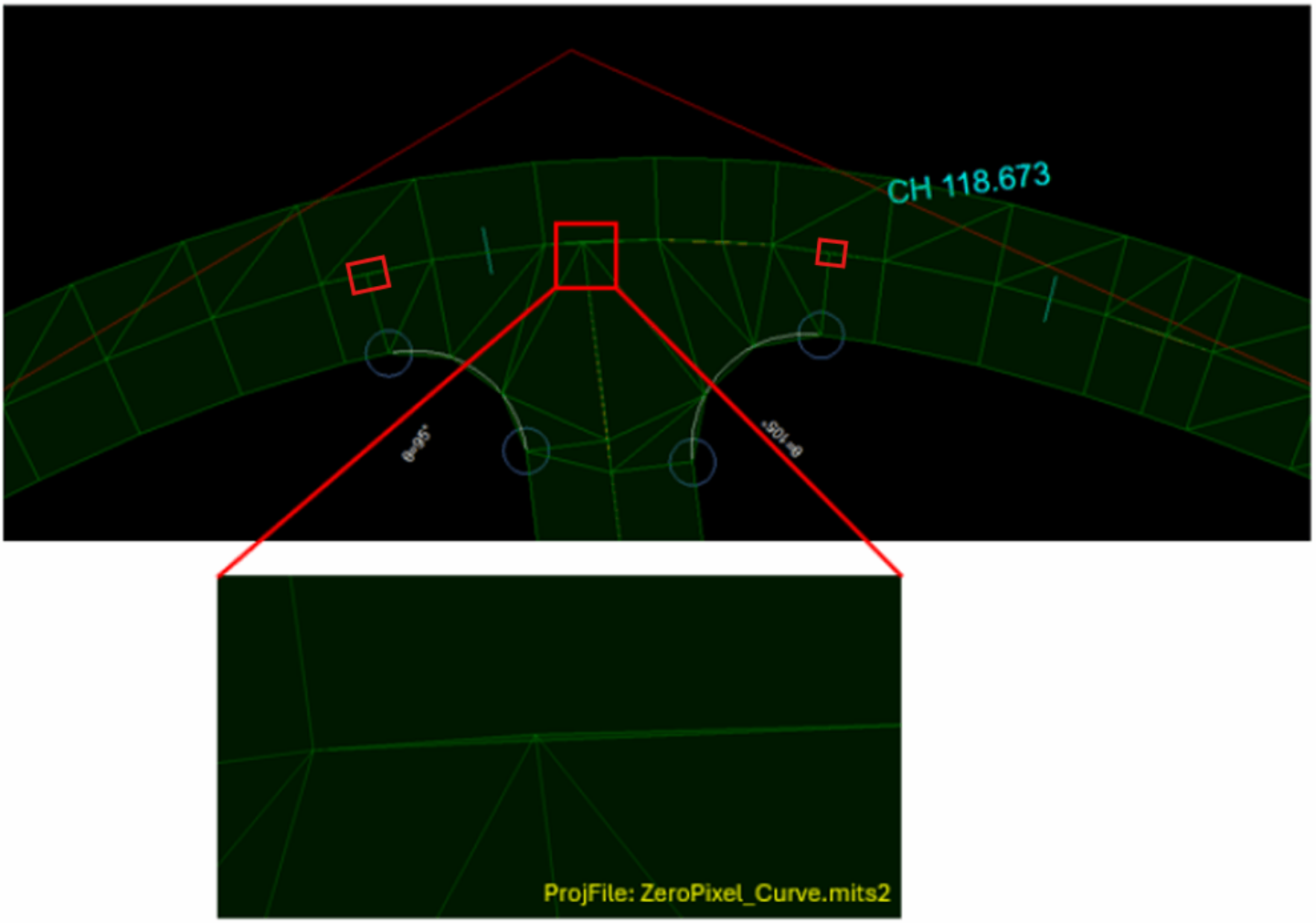


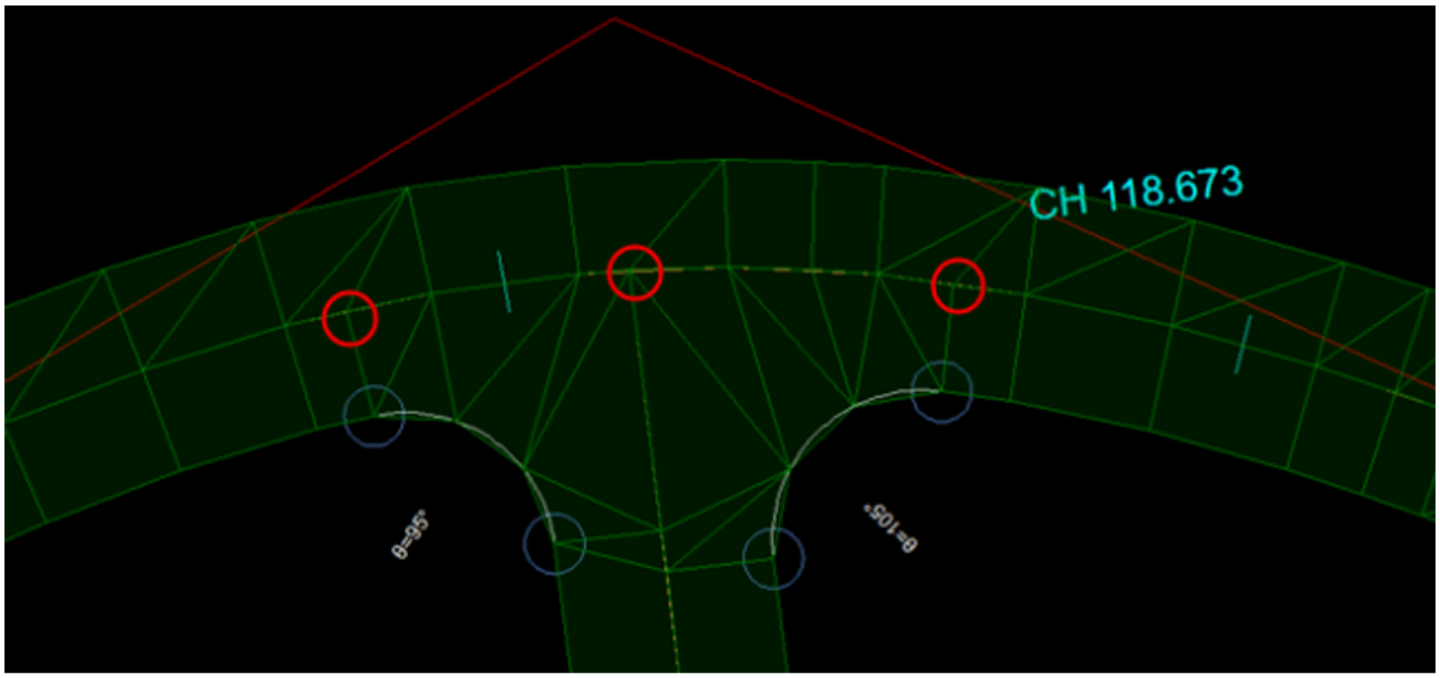


Before and after images showing the overlapping issue and how the additional junction point resolves it

AddJunctionPointFromMinor

- Places three internal points (left, right, and center) to ensure alignment between minor and major roads, particularly at junctions and cross junctions

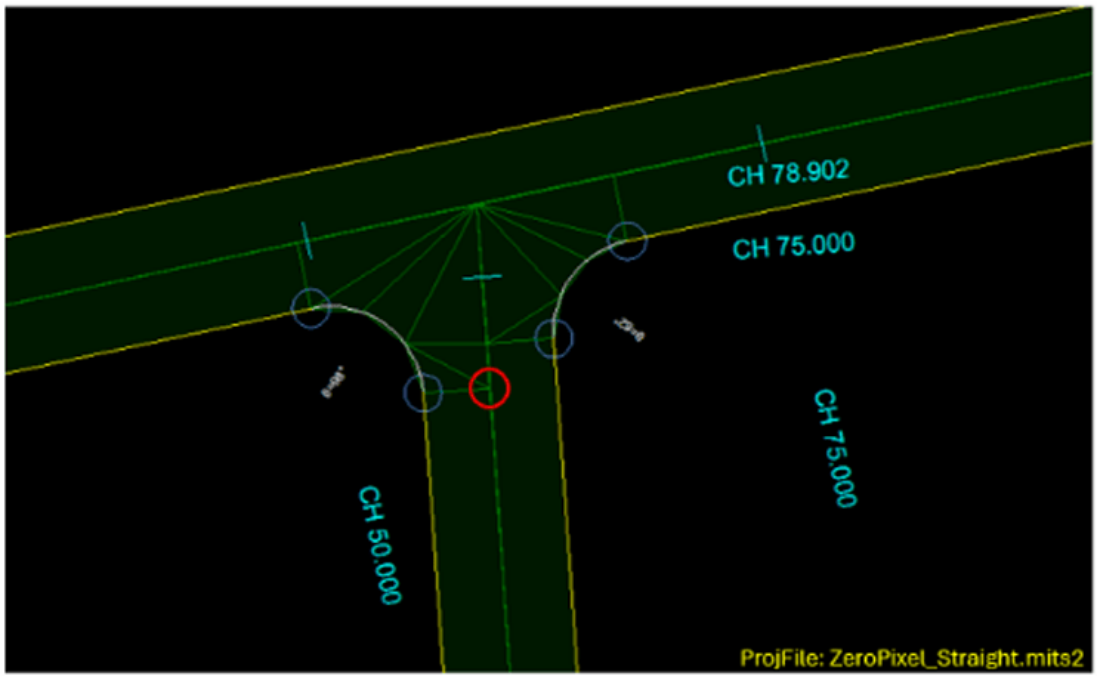


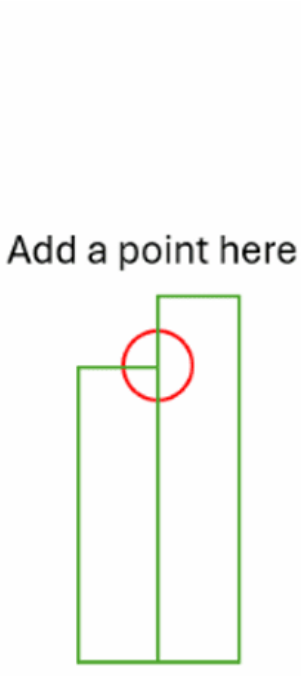


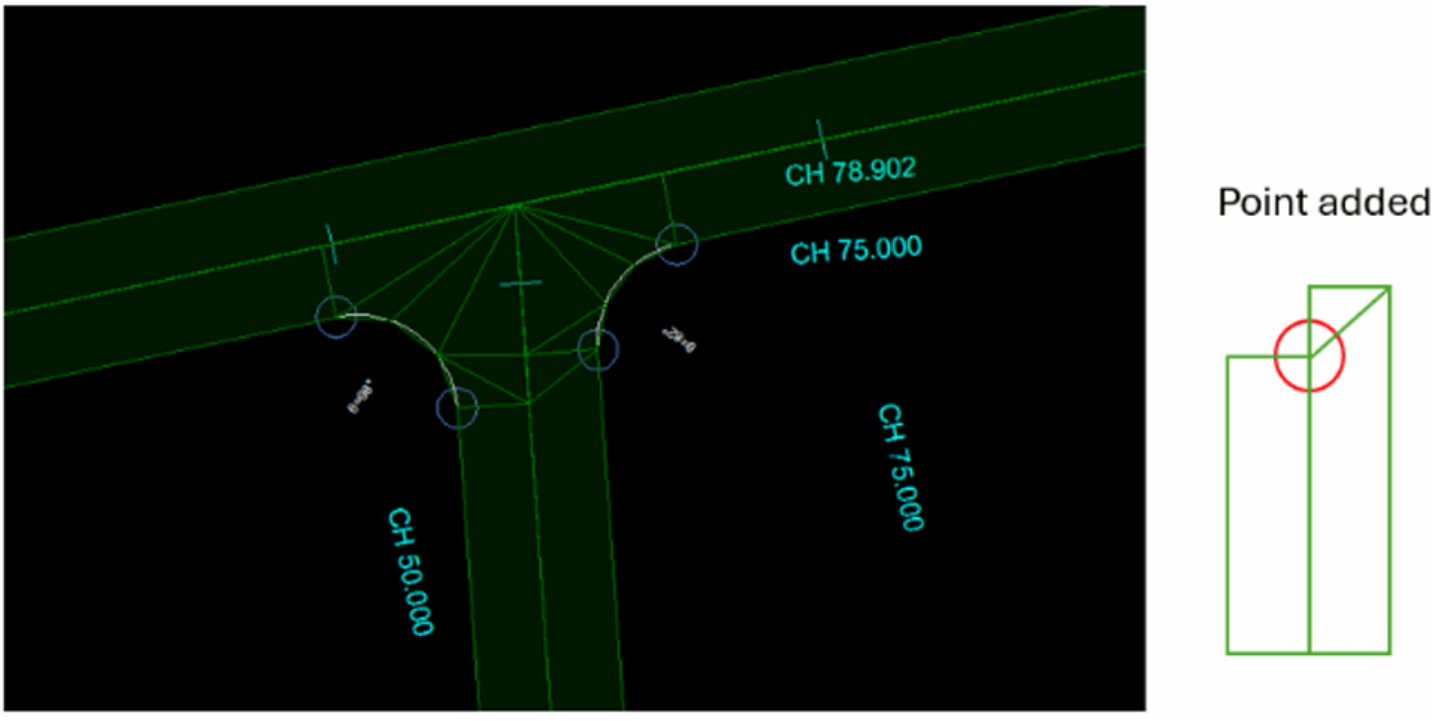
Zoom-in of a junction showing the added points and improved alignment

AddRoadPointFromOpposite

- Adds a point when road sides do not start or end at the same location







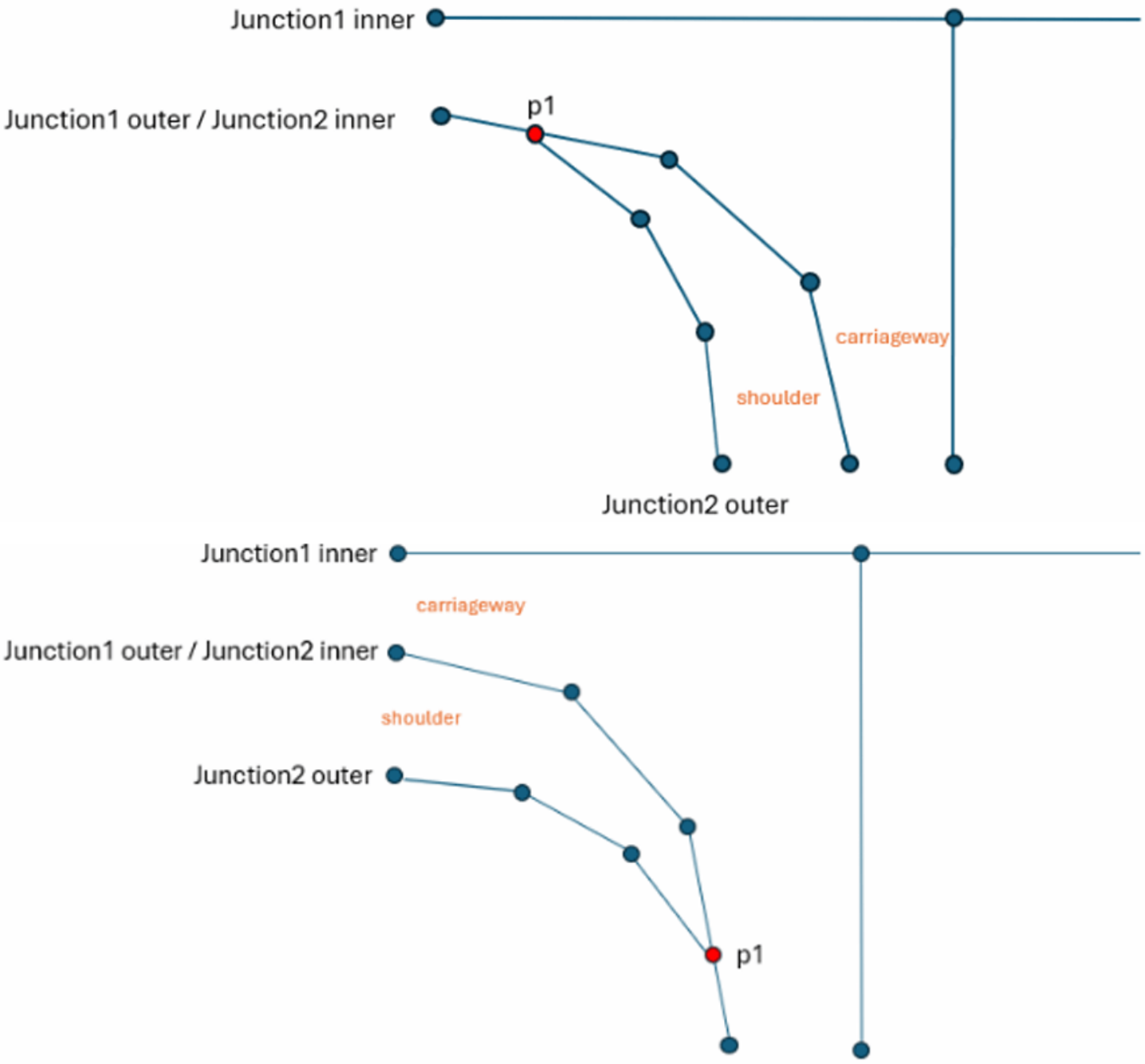
Added point at the opposite before and after activate Add Manual Connecting Point

SwitchJunctionCurve

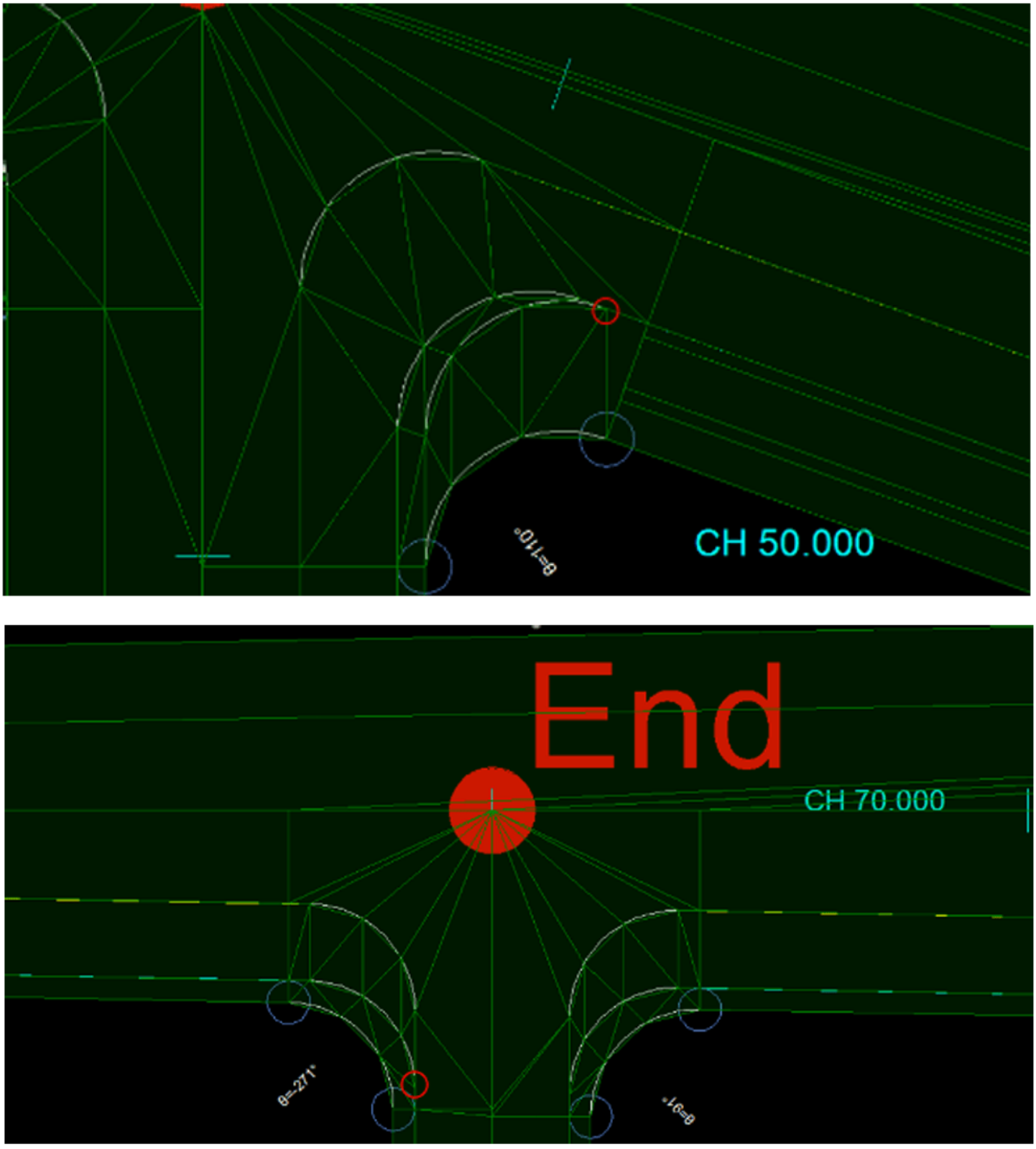
- Internally replaces mismatched points at curve junctions to prevent floating or misaligned lines

AddOuterItemFirstPoint & AddOuterItemLastPoint

- Handles cases where offset items differ between minor and major roads by adding required connecting points at the start or end of the platform


Junction1 inner
Junction1 outer / Junction2 inner
p1
carriageway
shoulder
Junction2 outer

Junction1 inner
carriageway
Junction1 outer / Junction2 inner
shoulder
Junction2 outer
p1



Difference between AddOuterItemFirstPoint & AddOuterItemLastPoint

AddCutFillPoints

- Adds points at CutSideDrain and FillSideVerge intersections to eliminate gaps

These operations are part of MiTS' internal logic to maintain geometry accuracy, and users only need to toggle the main setting -**Add Manual Connecting Point**- without needing to manage these details manually

Best Practices

- **Test before finalizing** - Enable the feature and check results in the model layout
- **Adjust pixel size settings** - Lowering pixel size may reduce misalignment but can introduce rounding errors
- **Combine with auto-fix options** - Use the **overlapping auto-fix** option if necessary

Conclusion

The **Add Manual Connecting Point** feature provides precise control over platform alignment, ensuring clean connection between road, junction, and EW platforms. Using it effectively minimizes alignment errors and enhances overall project accuracy.

Related



Ngu Soon Hui

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

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