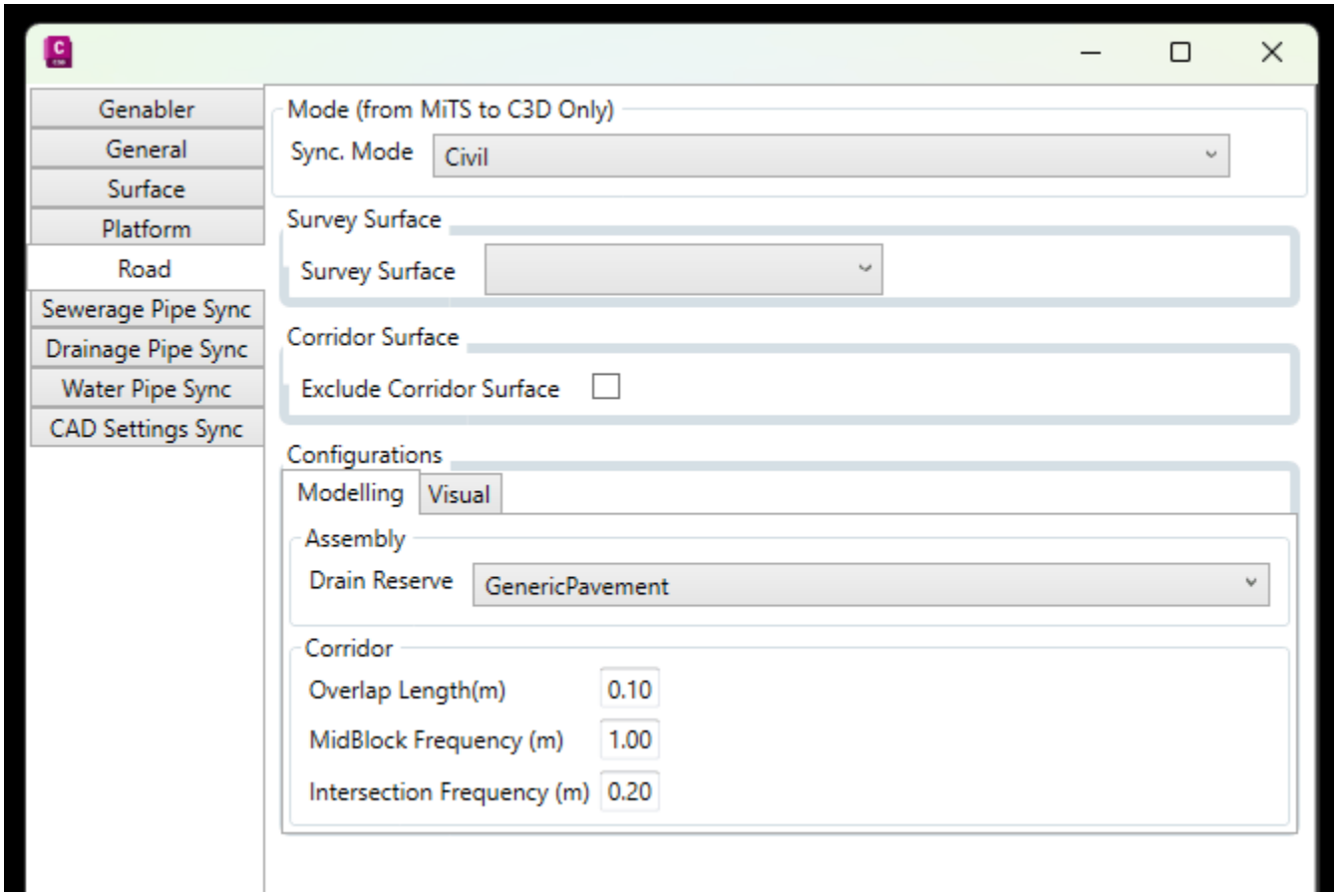
Road Model: Step-by-step Sync Guide

Road · https://mes100.com/docs/road-model-step-by-step-sync-guide/

Road Sync Mapping Definition



Survey Surface

The surface defined, representing the Survey Point Groups, needs to be selected from the dropdown.

A survey surface is required for road modeling for the following.

Purpose of the Survey Surface	
Daylighting	Daylight is the subassemblies in road modeling that represent the side slope, the equivalent of Slopes in MiTS, extending from the side of the road corridor (road surface or platforms) to the **existing ground**.
Profiling	Road Profile in Civil 3D will display the proposed vertical alignment of the road stretch, which **requires existing ground elevation information at every point** along the alignment. In MiTS, the equivalent is Vertical Alignment.

Corridor Surface

By default, road sync from MiTS to Civil 3D **should include the corridor surface**, which represents the road platforms in MiTS. Corridor Surface is the "native" road 3D surface in Civil 3D.

However, suppose users wish to have the MiTS road platforms (as in Earthworks) synced as a TIN Surface (using breaklines and boundaries). In that case, the road corridor surface needs to be excluded to avoid conflicting with the Road Platform Surface.

Configurations

Modeling

Parameter	Description
Drain Reserve	

GenericPavement	Applies typical road pavement assemblies along the drain reserve area; The road corridor surface will be generated following the standard pavement design elements such as paved carriageways, shoulders, and slopes with no ditch. This is suitable to be applied for drain reserves that are underground or closed such as culverts.
Ditch	Apply ditch assembly template to the drain reserve, incorporating parameters such as drain depth, width, side slopes, and buffers. This is suitable for modeling open drain reserves such as box drain, half-round, etc. Do note that this **feature is still a Work In Progress**. Applying this will cause differences in the earthwork volumes due to the ditch only available in Civil 3D at the moment.
Corridor	
Overlap length	The allowed overlap length between the intersection and the offset alignments it is based on
MidBlock Frequency	The frequency to generate slices of the Corridor MidBlock reqion (set the intervals of the 3D Model slices, based on the assemblies of the straight midblock sections, and are perpendicular to the alignment). Usually, for the straight midblock section, the frequencies are set far apart, as in 1m.

Intersection Frequency	The frequency to generate the slices on the Corridor Intersection region (set the intervals of the 3D Model slices, based on the assemblies of the intersection region, and are perpendicular to the alignment). Usually, for intersection region, where complex curve exists, the frequencies are set with smaller intervals, such as 0.20m for more accurate 3D modeling of the corridor.

Visual

Parameter	Description
Section View	
Generation Method	**Follow MiTS** • Sample Lines (Cross Sections) in Civil 3D are generated following intervals, left and right offsets settings in MiTS **UserDefine** • Users can set own intervals, left and right offsets of the Sample Lines in Civil 3D
Band Settings	To customize the key information displayed beneath the section view graph • Text Heights • Text Rotation • Major Tick • Minor Tick

Styles	
Alignment Style	For the appearance of the alignment and its labels, users can select the label sets (information to be displayed), Style, and Layer
Profile Style	For the appearance of the profile and its labels, users can select the label sets (information to be displayed), Style, and Layer
Section View Band Set	Displayed information of the section view
Profile View Band Set	Displayed information of the profile view

MiTS to Civil 3D

Embedded media:
https://www.youtube.com/embed/OrYlfM7ivLM?version=3&rel=1&showsearch=0&showinfo=1&iv_load_policy=1&fs=1&hl=en-US&autohide=2&wmode=transparent&enablejsapi=1

Steps:

In MiTS

1. Ensure the road alignments are designed correctly in the Road Module, and the MiTS file has been prepared for synchronization, following the guide **here**.

In Civil 3D

1. In the Civil 3D drawing file, go to the MES Toolbar and click on the Project.

2. The drawing file needs to be bound to a MiTS file following the steps **here**.

3. It is highly recommended for users to set the **Survey Surface (Existing Ground Level)** for daylighting and profiling purposes, so click on the Surface tab and define the parameters as per the guide **here**.

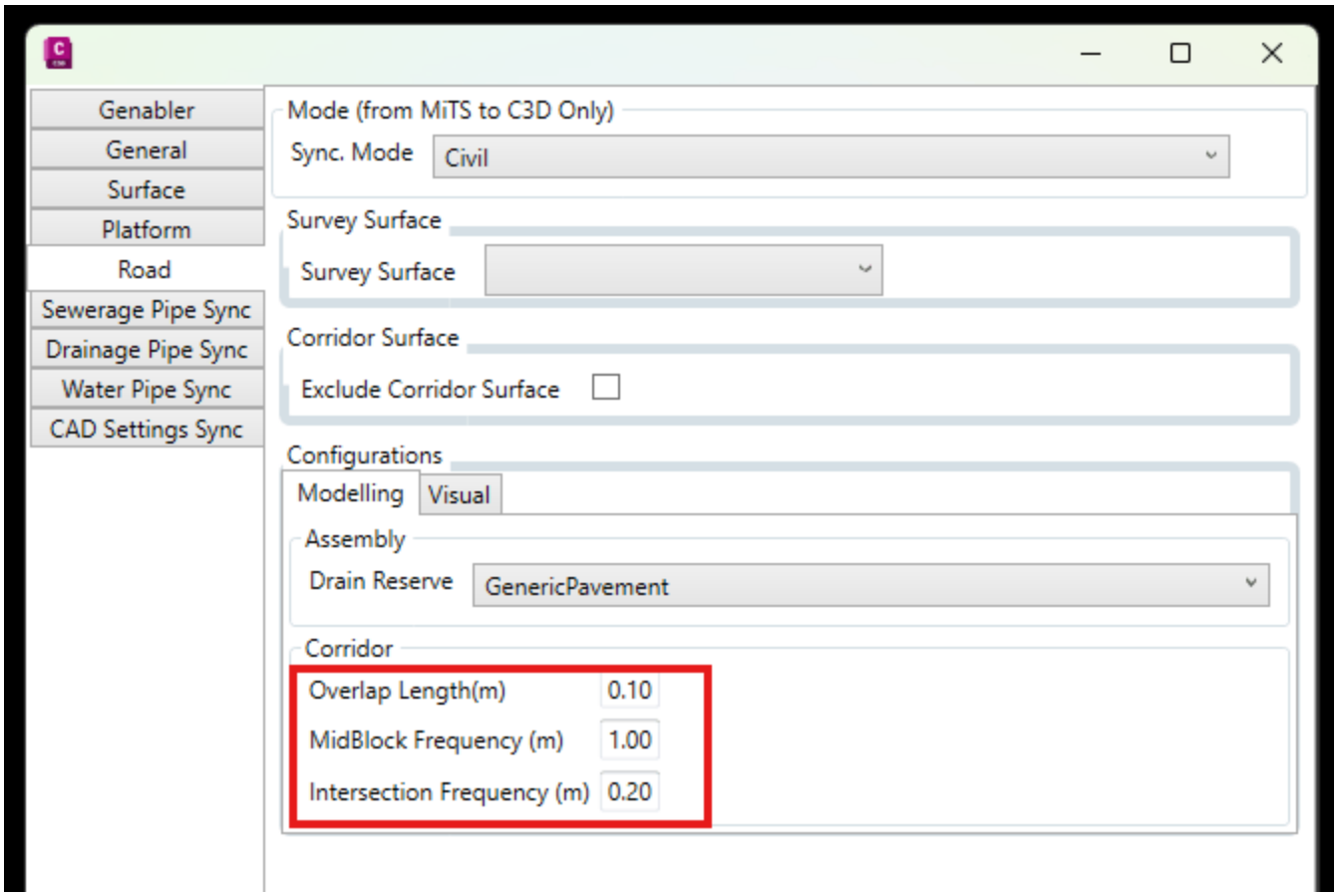
4. Click on the Road tab and set the Sync. Mode to **Civil Sync**.

5. Set the Survey Surface by selecting the defined Civil 3D surface in step 3.

6. Keep the *Excluded Corridor Surface* unchecked, unless you wish to have the road synced as part of the TIN Surface for platforms.

7. Under the configuration section, go to the Modeling tab.

- Set the *Drain Reserve* assemblies to GenericPavement or Ditch, following how you want the Corridor Surface for the drains to be generated. You may refer to the **explanation above** for a better understanding of this parameter.
- Set the *Overlap Length* and *Frequencies of MidBlock and Intersection* accordingly. Note that the parameters set will affect how the 3D model of the corridor will be generated. You may also use the default values below.



8. Go to the Visual tab under the Configuration section.

- Set the Generation Method for the Section View. You refer to the **explanation here** to further understand your options. It is recommended to set *FollowMiTS* for easier comparisons on the section views between the two programs.
- Users may also set the visual settings, such as Band Set and Settings for the Section Views.
- Users also may set for the Band Set of the Profile View.
- Set as well for the Alignment Style and Profile Style to ensure the appearance of the model following your drawing requirements.

9. If you **only need to sync Road design in MiTS**, you may proceed to set the Sync. Mode for other entities to NoSync.

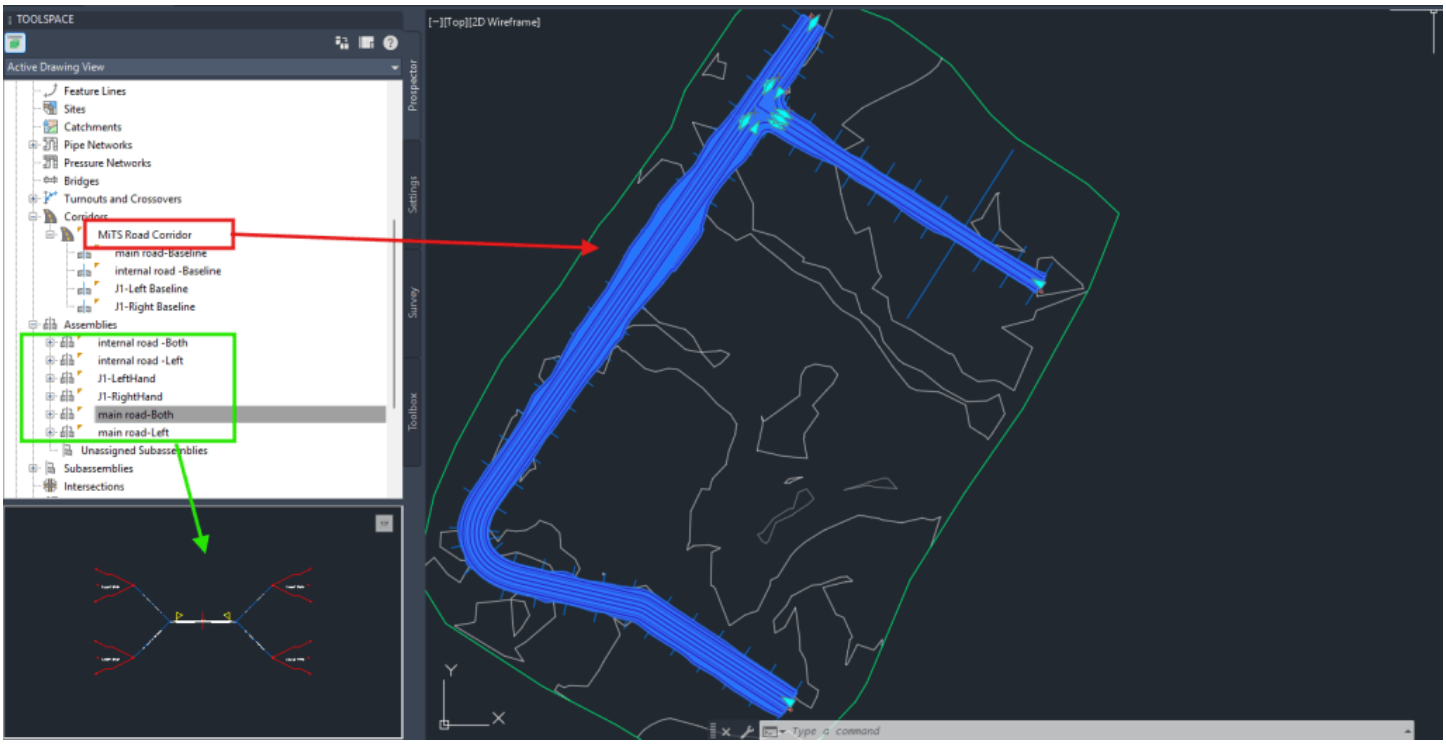
10. If you wish to sync other entities as well, you may proceed to follow the steps from the link **here**.

11. Click OK to ensure the parameters set above are committed by the software and to close the Project Dialog.

12. Click on **Load from MiTS** and click OK to sync the entity.

Road Synchronization Output

The synchronization will not only parse the alignment details of the road designed in MiTS, but the software will automatically generate the assemblies and corridor surface of the model.



Therefore, users are also able to obtain the Section Views of the roads, Horizontal and Vertical Profile, and Superelevation Diagram.

Embedded media:
https://www.youtube.com/embed/X8iJ22SUy2Q?version=3&rel=1&showsearch=0&showinfo=1&iv_load_policy=1&fs=1&hl=en-US&autohide=2&wmode=transparent&enablejsapi=1

Civil 3D to MiTS

The road design synchronization of the MES MCIntegrator plugin is currently one-way, where it supports only from MiTS to Civil 3D. The other way, from C3D to MiTS, will be implemented in the future.

Therefore, all road geometry and corridor modeling must be created and managed within the MiTS software, prior to synchronization with Civil 3D.

Related



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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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