SEEQUENT



Integration of Seequent Evo into PLAXIS - Feature Guide

Technology Preview

PLAXIS 2026.1

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Introduction

Seequent Evo is Seequent's cloud-based ecosystem and unified subsurface data platform. It provides a central environment for managing, sharing, and collaborating on geoscience data.

The integration of Seequent Evo with PLAXIS 2D and PLAXIS 3D enables users to import geometry from Evo into PLAXIS and publish geometry back to Evo, facilitating data exchange between applications.

By connecting data and workflows, Seequent Evo helps users streamline modelling, improve collaboration, and maintain consistency across geotechnical workflows.

Working with Seequent Evo in PLAXIS

Seequent Evo functionality can be accessed directly from the PLAXIS interface. Users can select the required **Evo instance and workspace** and access the available Evo functionality.

Note: Access to the required Seequent Evo project server must be available. For more information about Seequent Evo and how to get access, see the Seequent Evo geoscience workflow integration software - Seequent.

Accessing Seequent Evo in PLAXIS

Seequent Evo functionality can be accessed from different locations in the PLAXIS interface, as described below.

From the File menu

Open the PLAXIS 2D/3D Input program.

Select **File > Seequent Evo** to access the available Evo options.

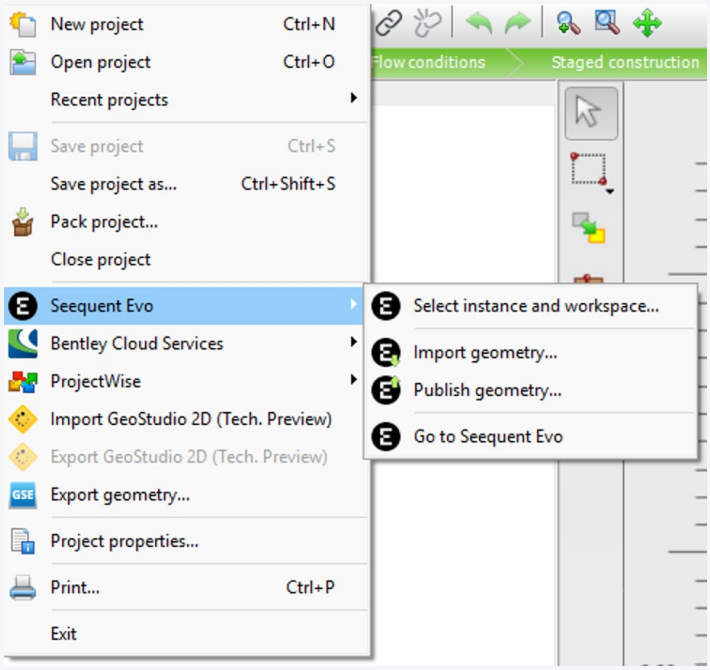


Figure 1 Accessing Seequent Evo from the File menu in PLAXIS 2D

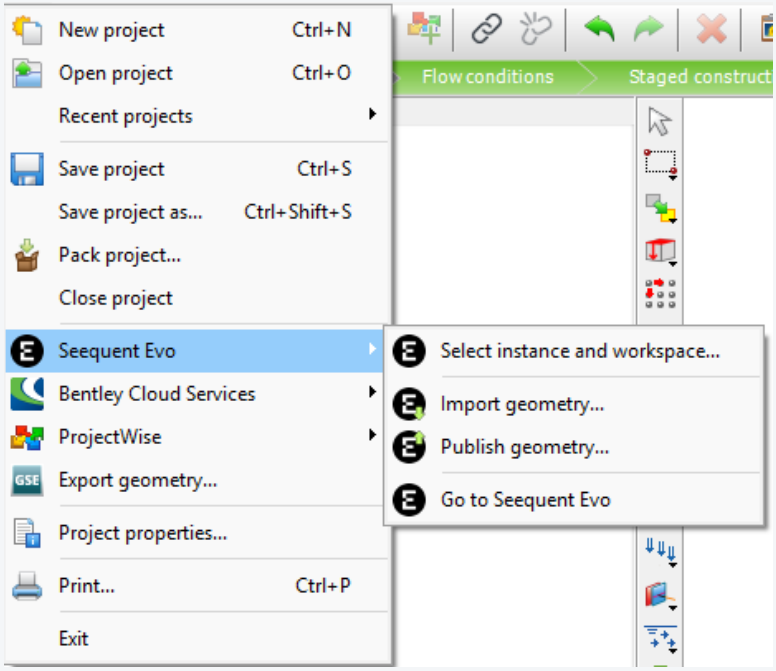


Figure 2 Accessing Seequent Evo from the File menu in PLAXIS 3D

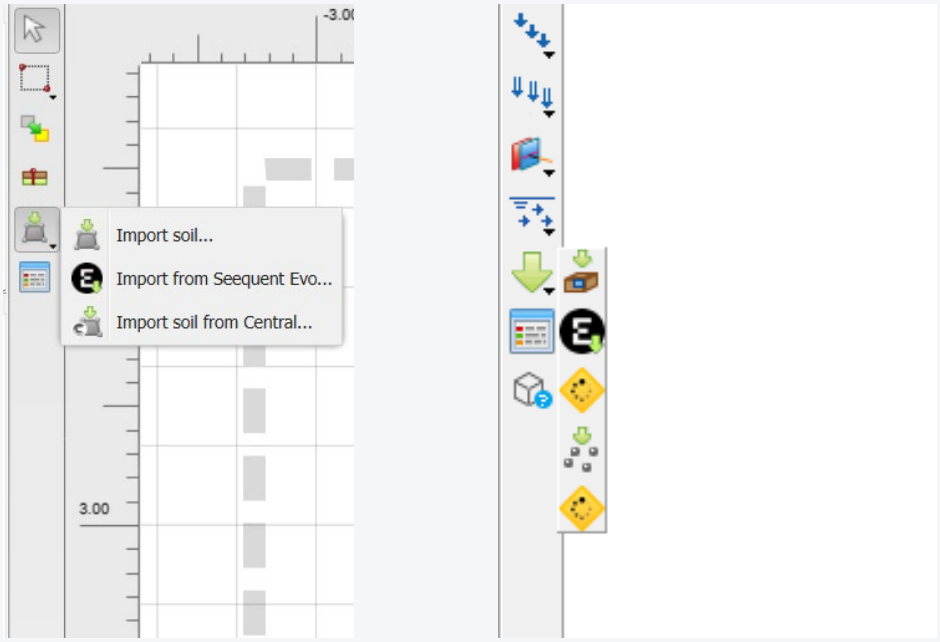
From here, you can:

1. Select an Seequent Evo instance and workspace.
2. Import geometry from Seequent Evo.
3. Publish geometry to Seequent Evo.
4. Open Seequent Evo.

The availability of the options depends on the PLAXIS application and the active mode. In PLAXIS 2D, the Seequent Evo commands are available in both ***Soil*** and ***Structures*** modes. In PLAXIS 3D, all Seequent Evo commands are available in ***Structures*** mode. In ***Soil*** mode, only ***Select instance and workspace***… and ***Go to Seequent Evo*** are available.

From Import tool

From the Import options in the side toolbar, select Import from Seequent Evo… to start importing geometry directly.



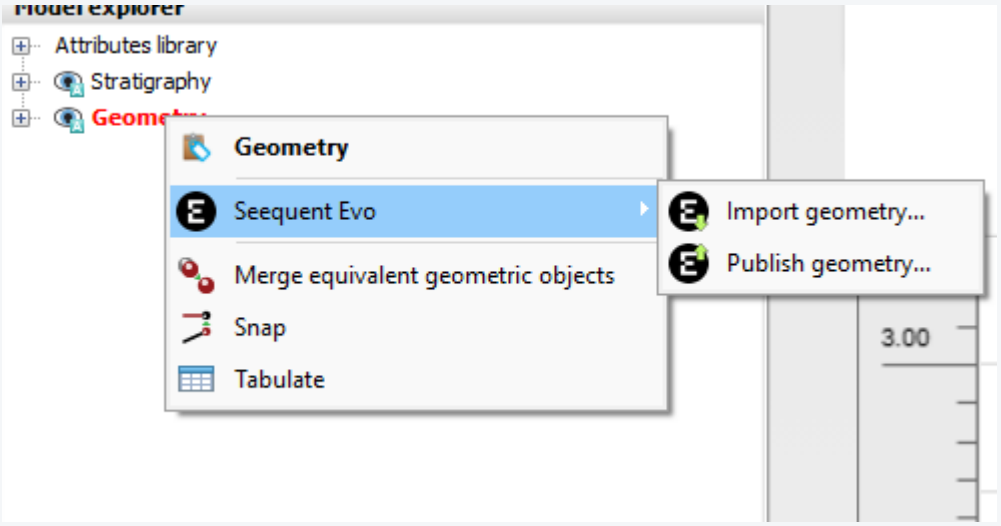
(a) (b)

Figure 3 Accessing Seequent Evo from the Import soil tool in (a) PLAXIS 2D (b) PLAXIS 3D

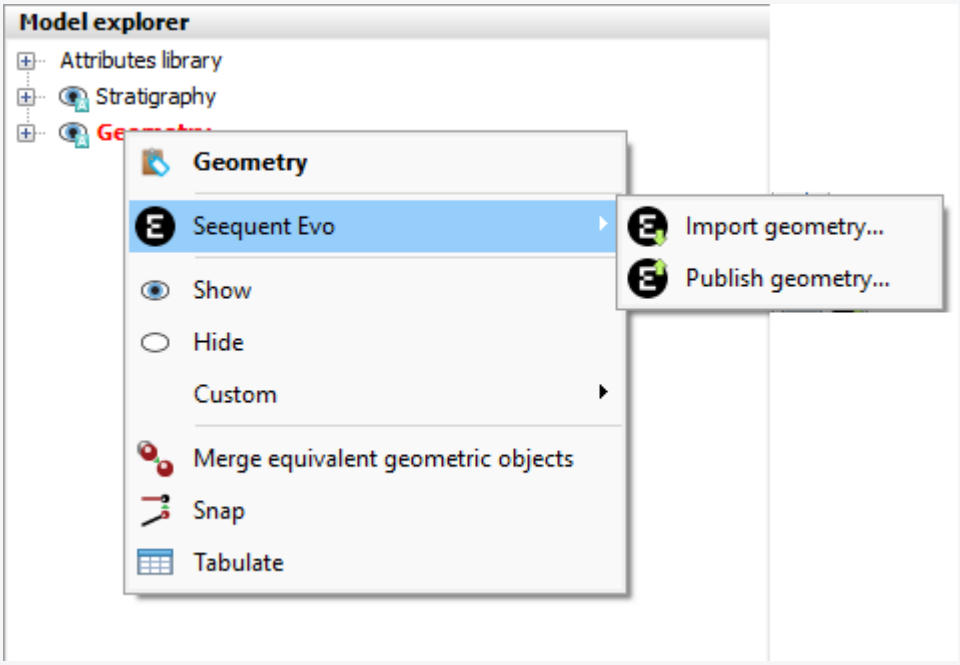
In PLAXIS 2D, the Import tool is available in both ***Soil*** mode and ***Structures*** mode. However, in 3D, the import tool is available only in ***Structures*** mode.

From Model explorer

Right-click ***Geometry*** in the Model explorer and select ***Seequent Evo***. From here, you can ***Import geometry***… or ***Publish geometry***….



(a)



(b)

Figure 4 Accessing Seequent Evo from Model explorer in (a) PLAXIS 2D (b) PLAXIS 3D

In **PLAXIS 2D**, the functionality is available in both ***Soil*** and ***Structures*** modes. In **PLAXIS 3D**, it is available in ***Structures*** mode only.

From the toolbar

The Seequent Evo icon on the PLAXIS toolbar provides quick access to the following options:

- Select instance and workspace…
- Go to Seequent Evo

After an Evo workspace has been selected, the toolbar indicates the active workspace. Use ***Select instance and workspace***… to select a different instance or workspace when required. Select ***Go to Seequent Evo*** to access the selected workspace in Seequent Evo.

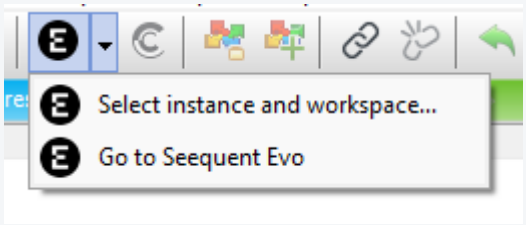


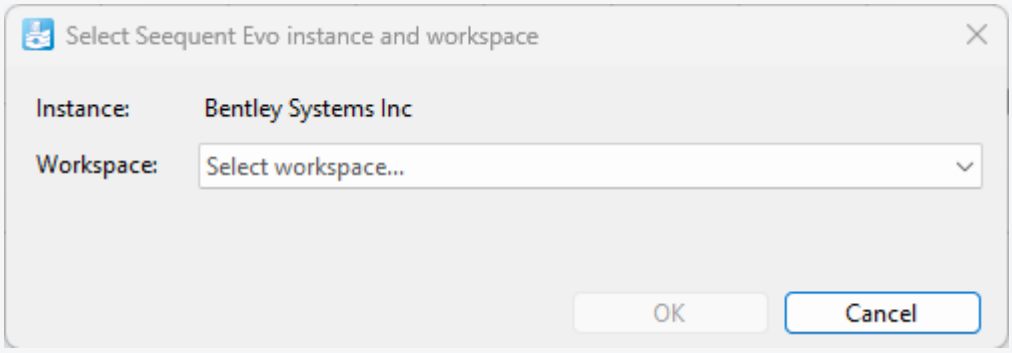
Figure 5 Accessing Seequent Evo from the toolbar

Importing from Seequent Evo

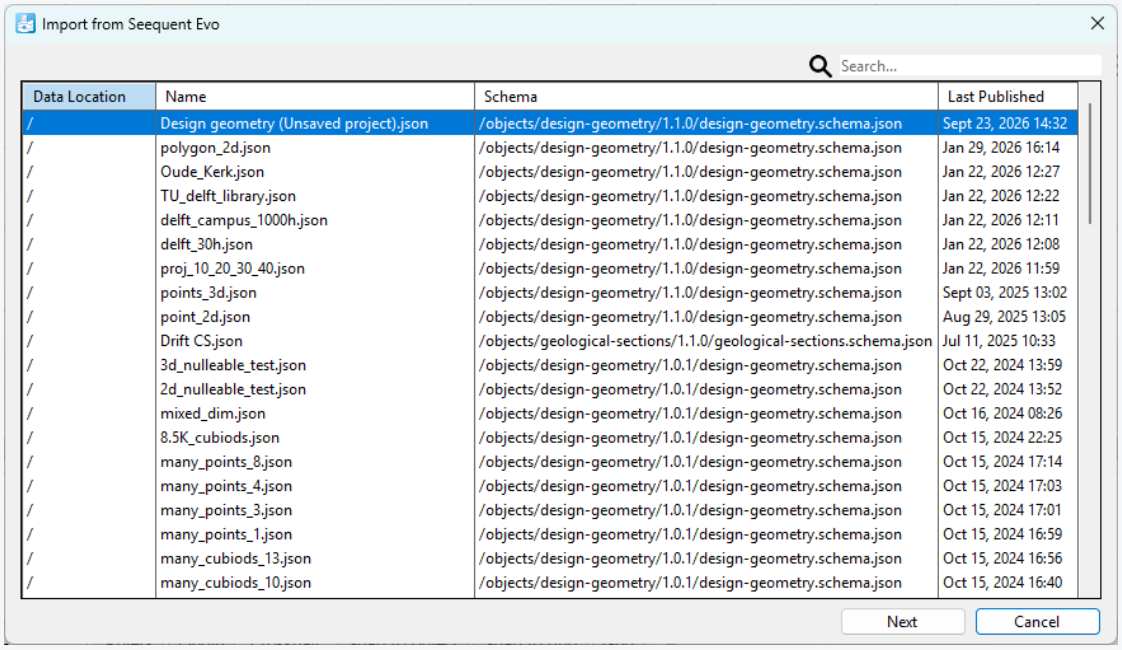
Importing into PLAXIS 2D

PLAXIS 2D supports importing design geometry and geological sections from Seequent Evo. The following procedure describes how to import design geometry.

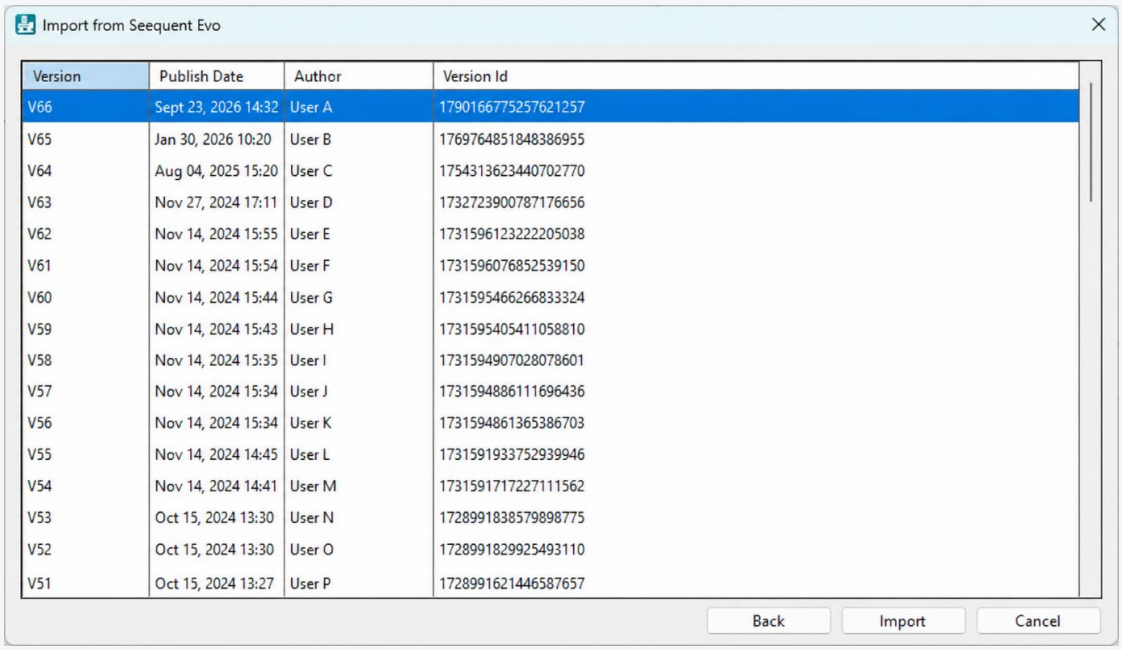
1. Open the PLAXIS 2D Input program and go to either ***Soil*** mode or ***Structures*** mode.
2. Start ***Import geometry…*** using one of the methods described in Accessing Seequent Evo in PLAXIS.
3. In the dialog that appears, select the required ***Instance*** and ***Workspace***. PLAXIS establishes a connection to the selected Seequent Evo workspace.



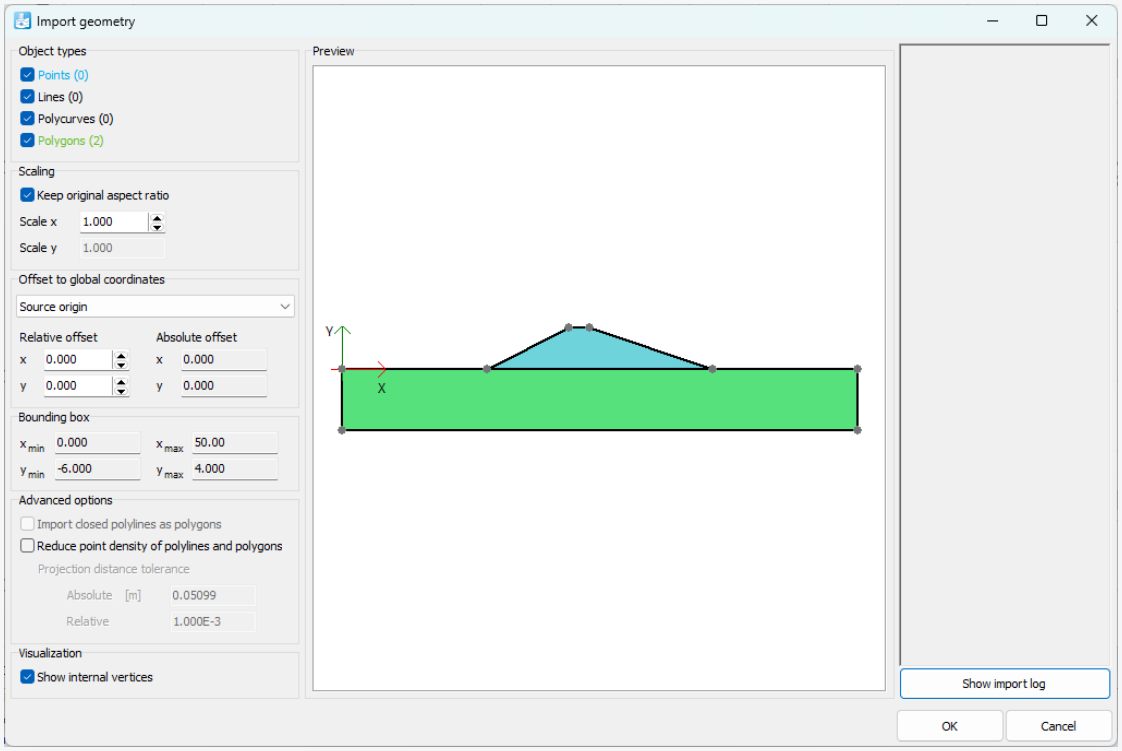
4. After the connection to the Seequent server is established, the available projects are displayed. Select the required project and click ***Next***.



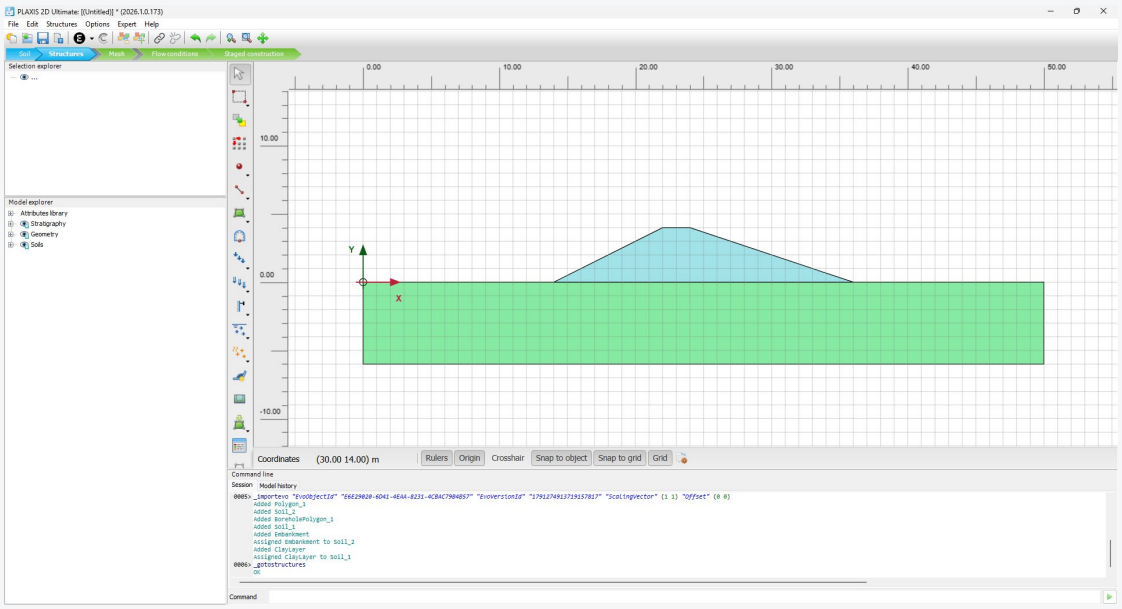
5. The available versions of the selected project are displayed, including the publish date, author, and version ID. Select the required version and click ***Import*** to continue.



6. A Seequent Evo project can contain multiple versions. When changes are made to the project and saved as a new version, the previous versions remain available. When importing into PLAXIS, select the required version depending on the geometry you want to work with.
7. If the importing is successful, the geometry, colour and name of the material will be loaded in the PLAXIS Import geometry tool as shown in figure below.



8. Click ***OK*** to complete the import. The imported geometry will appear in the drawing area of the PLAXIS 2D input program as shown in figure below

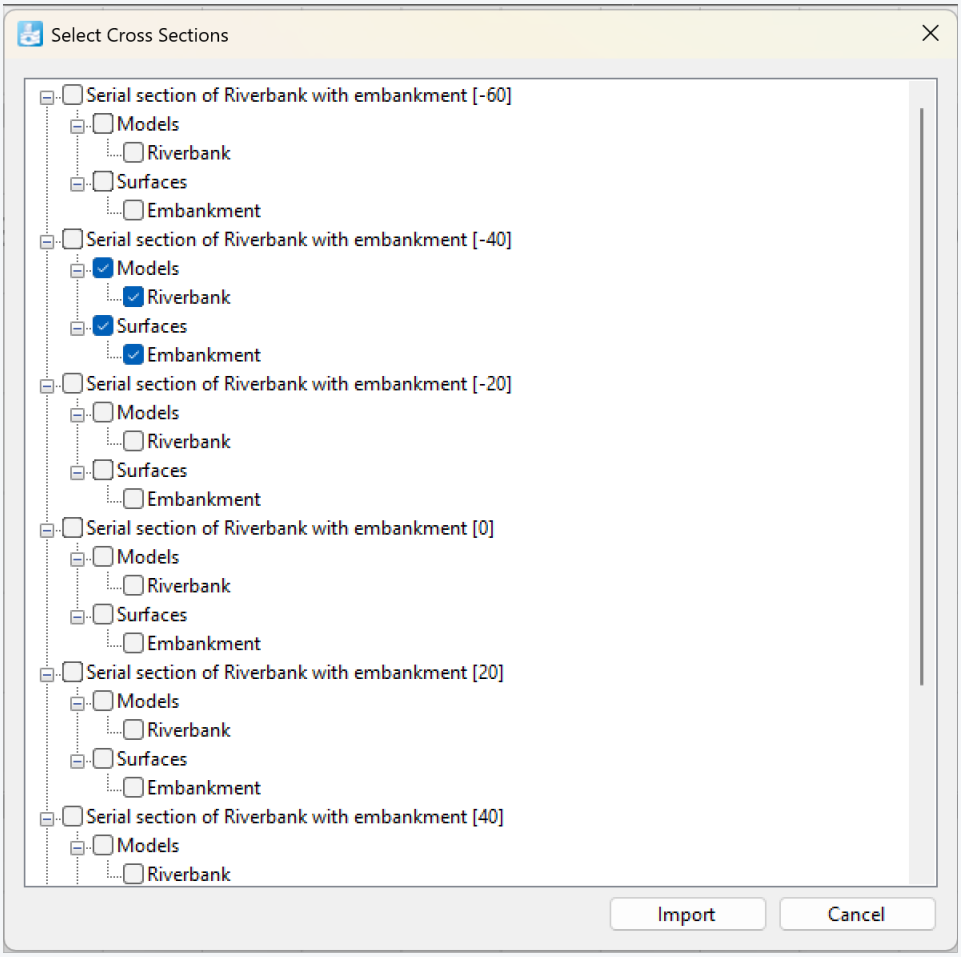


Note: When importing geometry from Seequent Evo, PLAXIS imports the geometry and the associated material names and colours. Material parameters are not imported. User features are imported without their associated parameters.

Importing Geological cross sections

Importing geological sections follows the same initial workflow as importing design geometry. After selecting the required geological section object and version from Seequent Evo, an additional step is required to select the cross-sections to import.

1. Start **Import geometry…** using one of the methods described in *Accessing Seequent Evo in PLAXIS*.
2. Select the required **Instance** and **Workspace**.
3. Select the required geological section object and click **Next.**
4. Select the required version and click on **Import**.
5. The **Select Cross Sections** window opens. Select the required cross-section or cross-sections and click **Import**.



6. If the importing is successful, the geological cross-section will be loaded in the PLAXIS Import geometry window.
7. Click ***OK*** to complete the import. The imported cross section will appear in the drawing area of the PLAXIS 2D input program

Note: PLAXIS 2D supports importing design geometry and geological sections from Seequent Evo. Only design geometry can be published from PLAXIS 2D to Evo. PLAXIS 3D supports importing and publishing design geometry only.

When importing geological sections from Seequent Evo into PLAXIS 2D, the imported content depends on the geological feature types contained in the geoscience object. PLAXIS may import the geometry with associated material information, import the geometry only, or exclude the feature from the import.

Importing into PLAXIS 3D

Importing geometry from Seequent Evo into **PLAXIS 3D** follows the same general workflow as described for **PLAXIS 2D**. In PLAXIS 3D, switch to **Structures** mode to access the geometry import functionality. See **Accessing Seequent Evo in PLAXIS** for the available access methods. Select ***Import geometry…*** and follow the PLAXIS 2D import procedure to select the required ***Instance***, ***Workspace***, project, and version.

When importing geometry from Seequent Evo into **PLAXIS 3D**, the imported geometry may also contain **Coordinate Reference System (CRS)** information. PLAXIS 3D uses this information to maintain the real-world position and orientation of the imported geometry and to ensure consistent alignment within the project. The following section describes the role of CRS in PLAXIS 3D and how it is handled when importing geometry from Seequent Evo.

Coordinate Reference System

A Coordinate Reference System (CRS) defines how model coordinates relate to locations in the real world. CRS information allows geometry from different sources to be positioned consistently and helps preserve its geographical location and orientation when data is exchanged between PLAXIS 3D and Seequent Evo.

Defining CRS settings in PLAXIS 3D

A Coordinate Reference System can be defined manually in the **Project properties** of a PLAXIS 3D project. Select **Specify CRS** and define the **Latitude**, **Longitude**, **Elevation**, and **North direction** of the model origin.

Elevation defines the GPS elevation of the model origin relative to the **WGS84 ellipsoid**. It is not the elevation above mean sea level, as the WGS84 ellipsoid does not account for the Earth's geoid (gravity-based sea-level surface).

North direction defines the rotation of geographic north in the XY-plane, measured counterclockwise from the positive Y-axis. A value of **0°** means that the positive Y-axis points north.

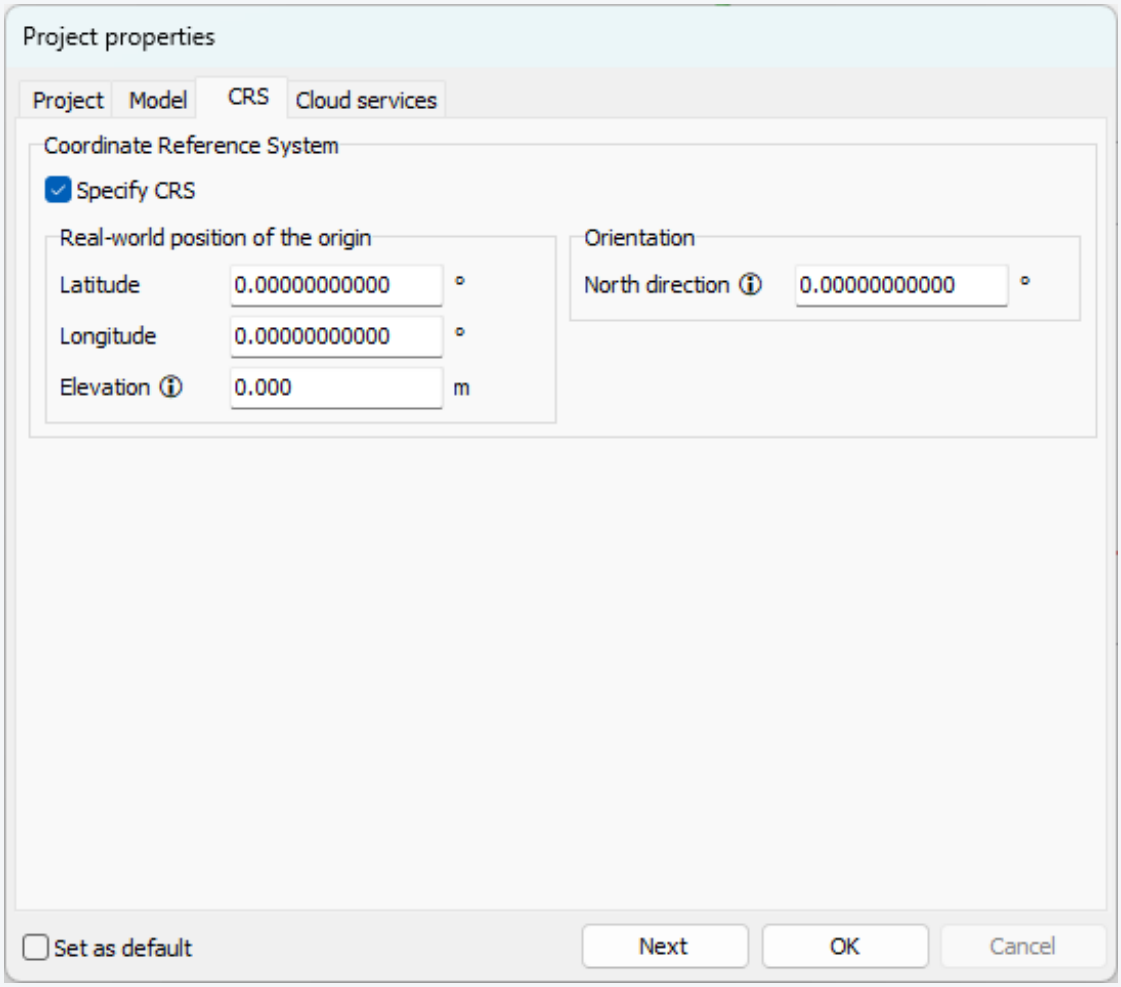


Figure 6 Coordinate Reference System (CRS) settings in the PLAXIS Project properties window

Importing geometry with CRS information

When importing geometry containing **Coordinate Reference System (CRS)** information from Seequent Evo, PLAXIS 3D uses the CRS information to position the geometry in the project. The way the CRS information is handled depends on whether CRS settings have already been defined for the PLAXIS 3D project.

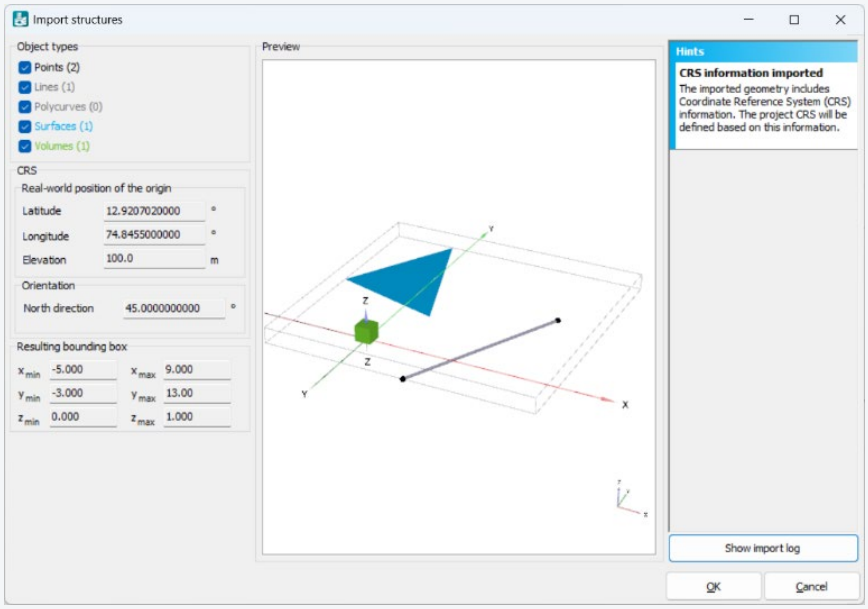
Importing geometry into PLAXIS 3D without an existing CRS

The primary method of defining Coordinate Reference System (CRS) settings in PLAXIS 3D is through importing geometry from Seequent Evo. When a new PLAXIS 3D project is created, the project does not have predefined CRS settings. If geometry containing CRS information is imported from Seequent Evo, PLAXIS uses this information to automatically establish the CRS settings for the project.

Although PLAXIS 3D also allows users to define or modify CRS settings manually through **Project properties**, importing geometry with existing CRS information is the primary workflow for establishing the project CRS. To do so follow these steps:

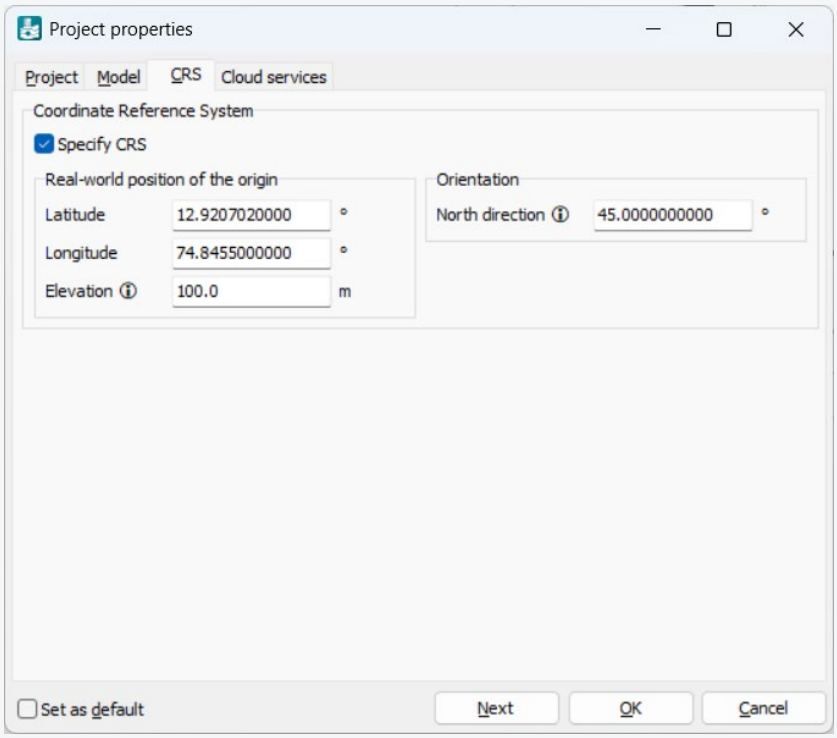
1. Create a new project in PLAXIS 3D.
2. Select Import geometry… from Seequent Evo using one of the methods described in Accessing Seequent Evo in PLAXIS.
3. Select the geometry containing CRS information and complete the import.

PLAXIS automatically establishes the project CRS settings from the imported geometry.



4. Check the position and orientation of the imported geometry in the drawing area.

5. Open the ***Project properties*** to view the CRS information established during the import.



Note: If the imported geometry is located more than 1 km from the origin in its coordinate space, PLAXIS adjusts the model coordinates to position the geometry closer to the origin. The PLAXIS project CRS parameters are calculated accordingly so that the real-world position and orientation of the geometry are preserved.

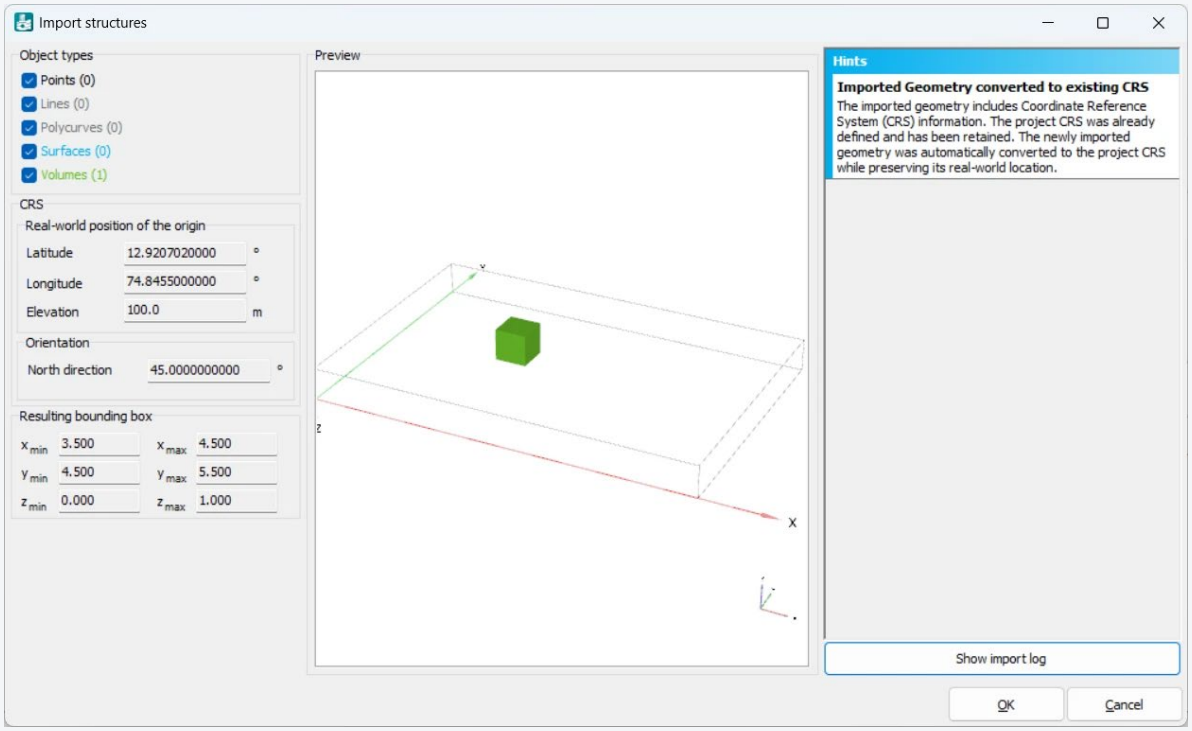
Importing geometry into a project with an existing PLAXIS CRS

When a PLAXIS 3D project already has defined Coordinate Reference System (CRS) settings, additional geometry containing CRS information can be imported from Seequent Evo while maintaining its accurate real-world position and orientation.

Typically, the existing PLAXIS project CRS settings are established automatically during the first import of geometry from Seequent Evo. Subsequent imports may contain geometry located in the vicinity of the previously imported model.
During the import process, PLAXIS uses the existing project CRS settings to convert the coordinates of the incoming geometry as required. This ensures that the newly imported geometry retains its real-world position and orientation relative to the existing model.

To do so follow these steps:

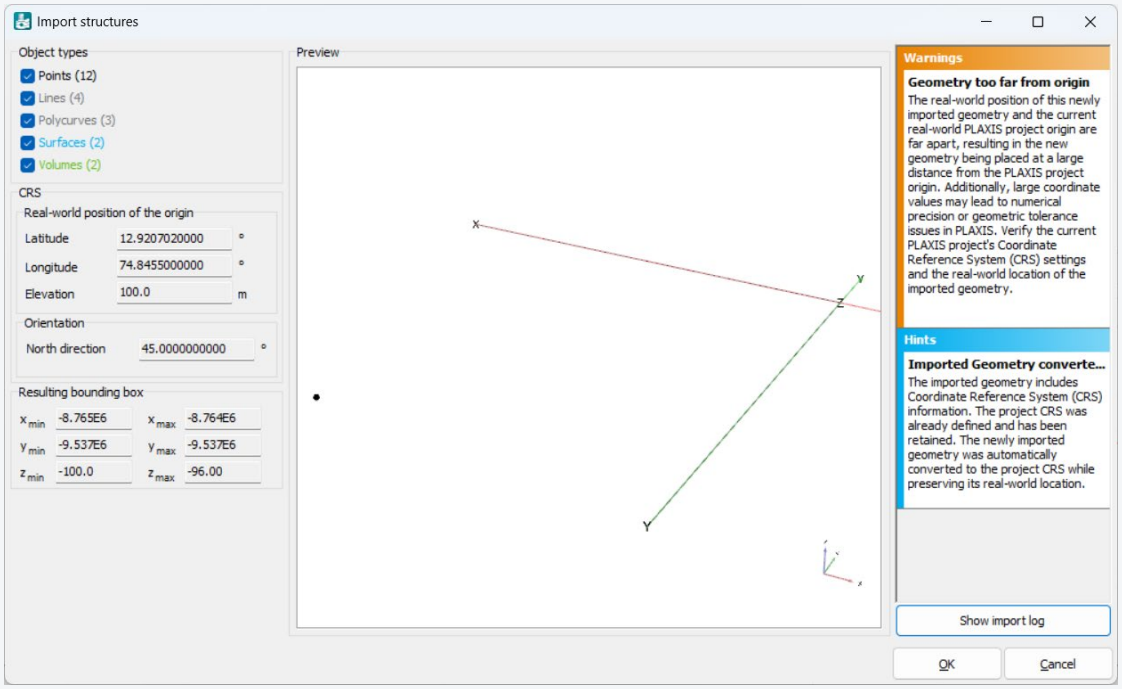
1. Open the existing PLAXIS 3D project.
2. Start the **Import geometry…** command from Seequent Evo.
3. Select the additional geometry that contains CRS information and complete the import.
4. Check the position of the imported geometry relative to the existing model.



Unlike the initial import into a project without defined CRS settings, subsequent imports do not modify or recalculate the existing PLAXIS project CRS parameters. These settings

remain unchanged, while the coordinates of the incoming geometry are adjusted to maintain consistent geographical positioning within the project.

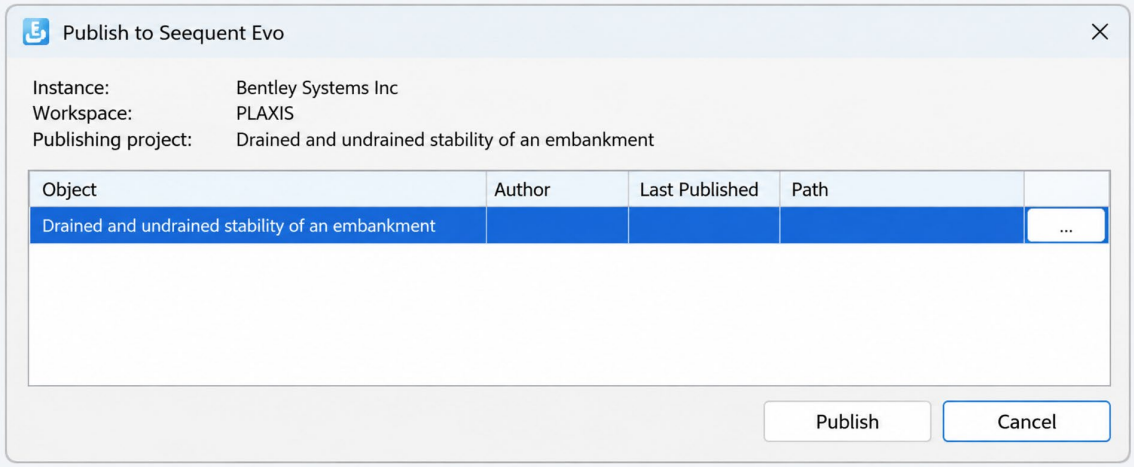
Note: If the imported geometry is located more than 10 km from the PLAXIS origin, PLAXIS displays the following warning:



Publishing geometry to Seequent Evo

Note: When publishing geometry to Seequent Evo, PLAXIS publishes the geometry and the associated material name and colour. Other material parameters are not published.

1. Create a project in **PLAXIS** and define the required geometry. Define the required material sets and assign a **name** to each material.
2. Save the PLAXIS project in the required folder.
3. In **Model explorer**, navigate to **Geometry > Seequent Evo > Publish geometry**.
4. Alternatively, select **Publish geometry** from the corresponding menu option. The saved PLAXIS project name is used as the default name when publishing geometry to Seequent Evo.
5. In the **Publish to Seequent Evo** window, select the required **Instance** and **Workspace**. The saved PLAXIS project name is displayed automatically.



6. Select the geometry to publish.
7. Click ***Publish***. The selected geometry is published to the selected workspace in Seequent Evo.

Conclusion

Geometry can be imported from Seequent Evo into PLAXIS 2D and PLAXIS 3D and published from PLAXIS to Seequent Evo. In PLAXIS 3D, CRS information is handled during import to preserve the real-world position and orientation of the geometry. These workflows also support **sharing geometry and collaborating on projects through a common Evo workspace**, enabling consistent data exchange between users and applications.