Workflow IR 17 - Exporting A LandXML File

This workflow describes the process for creating a LandXML file of surface, geometry, and cross section data from InRoads. It is assumed that MicroStation is open and the data files to be exported are loaded prior to executing the workflow.

Workflow Objectives

Describe how to create a LandXML file from InRoads surface data.

Describe how to create a LandXML file from InRoads geometry data.

Describe how to create a LandXML file from InRoads cross section data.

Describe the resulting output for each toggle on each tab of the dialog box.

Note – The version of the LandXML file is determined by the contractor as it must be compatible with his software. Upon receiving a request for LandXML data, ask the contractor which version is required (1.1 or 1.1/1.2). If the contractor is unable to provide version information then create a version 1.0 file, as most software can read older versions of the file.

LandXML File Naming Conventions

The following naming conventions are used for LandXML data:

- **Existing Surface Data (DTM)** – JPC#SURV_Existing##-DTM.xml
- **Design Surface Data (DTM)** - JPC#DES_Route Number-Usage-DTM.xml (12345DES_SH75_Mainline-DTM.xml, 12345DES_SH75_SW On Ramp-DTM.xml,…) In the event that there are multiple surfaces along a single route, Station extents should be included in the name (i.e. SH75_Mainline1+25-5+73-DTM.xml).
- **Horizontal and Active Vertical Alignment**– JPC#DES_Horizontal Alignment Name_Vertical Alignment Name-ALG.xml
- **Cross Sections**– JPC#DES_Cross Section Set Name-XSC.xml

Creating A LandXML File From A Surface

The steps below describe how to create a LandXML file from a loaded InRoads surface. This command creates an XML file of the data used to create the triangulated surface.

1. From the InRoads main menu, select **File** > **Translators** > **LandXML Translator**. The **LandXML** dialog box is displayed.
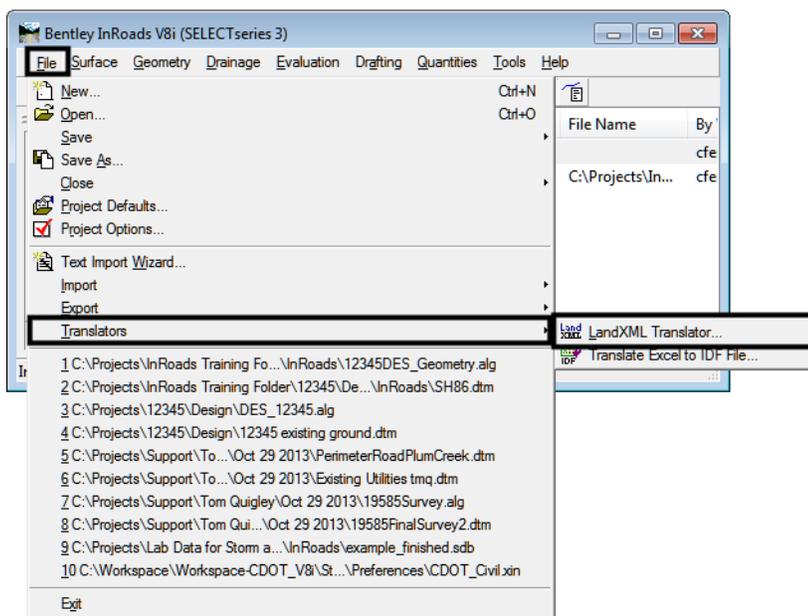
2. In the **LandXML** dialog box, <D> on the **Export Surface** tab.
3. In the **Surfaces** area of the **Export Surface** tab, highlight the surface to be exported.

There are three check boxes below the **Surfaces** area. These are used to identify the types of data to be exported. The options are:

Include Triangles – This creates data out of the triangle mesh that forms the surface. The coordinates of each triangle corner is stored with an assigned number. A list of three point numbers, corresponding to the corners, is also stored for each triangle.

Include Features – This creates individual entries for each triangulated feature in the surface. The **Feature Name**, **Feature Style**, description, type, and coordinate of each vertex is stored.

Include Non Trianglulated Features – This creates the same data for untriangulated features in the surface as that described above.

Note – Unless requested by the contractor, use only the **Include Features** option only for both existing and proposed surfaces.

4. Set the check boxes for **Include Triangles**, **Include Features**, and **Include Non Trianglulated Features** as desired.
5. Using the **Linear Units** drop down menu, select **US Feet**.

6. Using the *State* drop down menu, select **proposed** or **existing** to match the surface being exported.

7. **<D> Save As**. This displays the *Save As* dialog box.
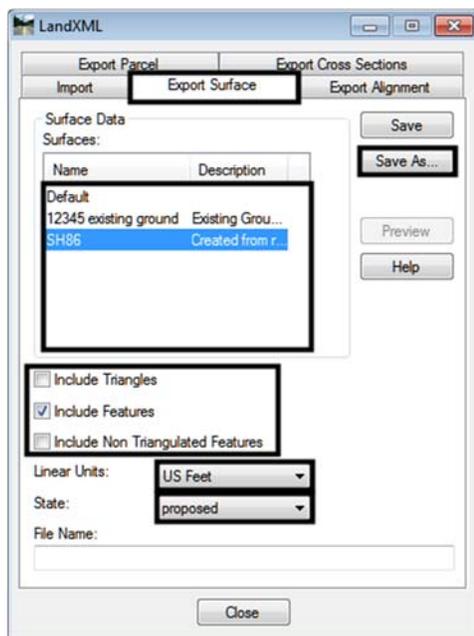
When Using ProjectWise

8. In the *Save As* dialog box, <D> the Change button and navigate to the desired directory.

9. Key in the desired *Name*, *File Name*, and *Description* in the appropriate fields. The landXML files should use the same name as the data files used to create it. For example, a landXML file created from *12345DES_SH75_Mainline.dtm* will be called 12345DES_SH75_Mainline-DTM.xml.

10. <D> the Save button.
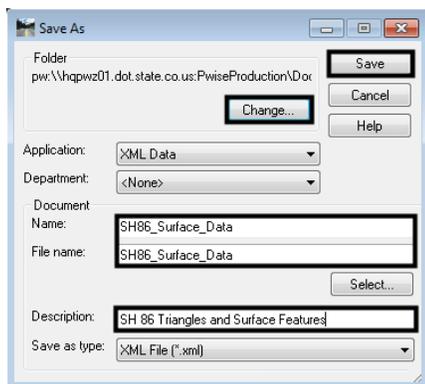
The file is saved to the selected location.

When Saving to the Local Drive

1. If the ProjectWise *Save As* dialog box is displayed, <D> Cancel to dismiss it.
2. In the *Save As* dialog box, use the Save In drop down menu to navigate to the desired directory.
3. Key in the desired *File Name*. The landXML files should use the same name as the data files used to create it. The landXML files should use the same name as the data files used to create it. For example, a landXML file created from *12345DES_SH75_Mainline.dtm* will be called 12345DES_SH75_Mainline-DTM.xml.
4. <D> the Save button.
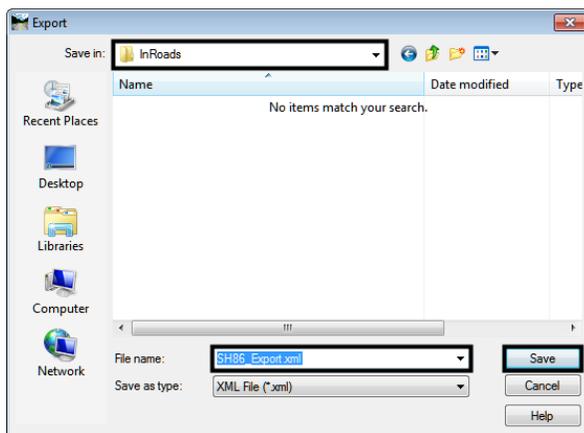
The file is saved to the selected location.

Creating A LandXML File From A Geometry File

The steps below describe how to create a LandXML file from a loaded InRoads geometry project.

1. From the InRoads main menu, select **File > Translators > LandXML Translator**. The *LandXML* dialog box is displayed.
2. In the *LandXML* dialog box, <D> on the **Export Alignment** tab.
3. In the *Alignment Data* area of the *Export Alignment* tab, select the desired geometry project.
4. In the *Include* field, key in the name of the desired alignment. Wildcards can be used to select multiple alignments. An alignment can be selected graphically using the target ⊕ button. The *Filter* button can also be used to select multiple alignments.

   Note – Unless requested by the contractor, use only the horizontal and vertical alignments that were used to create the corridors for the proposed model. The desired vertical alignment must be set active prior to exporting the file.

5. In the LandXML area, <D> on the radio button next to the desired version in which the data is saved.
6. Set **Include Active Children Only** to the desired value. If off, data for all vertical alignments under the selected horizontal alignments is included. If on, only the active vertical alignment is included.
7. Set **Include All Cogo Points** to the desired value. If off, only points associated with selected alignments are included. If on, all cogo points in the buffer are included.
8. Using the *Linear Units* drop down menu, select **US Feet**.
9. Using the *State* drop down menu, select **proposed** or **existing** to match the alignment.
10. **<D> Save As**. This displays the *Save As* dialog box.
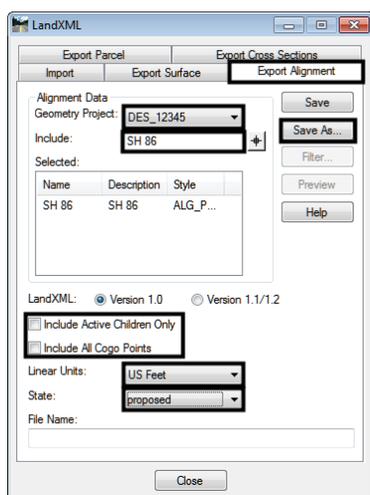
The saving options are the same as those described above for exporting a surface. The name of a landXML file created from geometry should contain the project number and alignment name. For example, a landXML file created from the **SH 86** alignment of project **12345** will be called 12345DES_SH86_ALG.xml.

Creating A LandXML File From A Cross Section Set

The steps below describe how to create a LandXML file from cross sections displayed from InRoads. Please note that the drawing (*.dgn) containing the cross sections, the geometry (*.alg) and surfaces (*.dtm) files used to create the cross sections must be loaded in order to create a cross section LandXML file.

11. From the InRoads main menu, select **File** > **Translators** > **LandXML Translator**. The *LandXML* dialog box is displayed.
12. In the *LandXML* dialog box, <D> on the **Export Cross Sections** tab.
13. Use the *Cross Section Set* drop down menu to select the desired cross section set.
14. Using the *Linear Units* drop down menu, select **US Feet**.
15. Using the *State* drop down menu, select **proposed**.
16. **<D> Save As**. This displays the *Save As* dialog box.
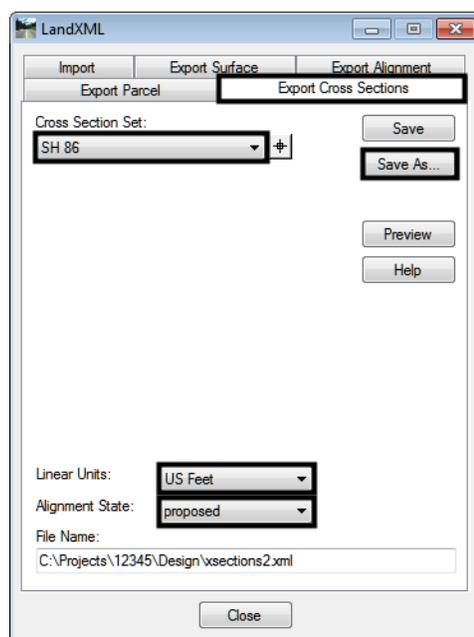
The saving options are the same as those described above for exporting a surface. The name of a landXML file created from cross sections should contain the project number and alignment name used to generate the cross sections. For example, a landXML file created from cross sections cut along the *SH 86* alignment of project *12345* will be called **12345DES_SH86_XSEC.xml**.