# **Bentley InRoads Group of Products**

## **Exporting InRoads Data for Construction**

#### 1. Introduction

Once you have completed your design, you often need to transfer the data to other products, another software package or a data collection instrument or a numerically-controlled grader, for example. The InRoads Group of products offers several ways to accomplish this transfer. This document covers the use of the LandXML Translator, the Upload Trimble Add-In and the Export Leica DBX 1200 Add-In.

## 2. Before You Start

Before following the steps outlined in this document, you should have already created a geometry project containing one or more horizontal alignments. If you plan to export surface data, you should already have your DTM created as well.

#### 2.1. Application Add-Ins

The Upload Trimble Add-In and the Export Leica DBX 1200 Add-In are available in the following InRoads Group products:

- InRoads Suite
- InRail Suite
- InRoads Site Suite
- InRoads
- InRail
- InRoads Survey
- Bentley PowerSurvey

To access these two add-in applications, select the *Tools > Application Add-Ins* command and toggle on the checkbox beside the name of the add-in you wish to use. This dialog lists all add-ins that are available on your workstation and shows the path to the command(s) once added in as well as their availability by product.

Kapplication Add-ins	
Available:	ОК
Copy Preference Add-In	Cancel
	Help
Display Superelevation in Plan Add-In	
Drive Roadway Add-In	
Export Leica DBX 1200 Add-In	
Description The Export Leica DBX 1200 Add-In exports geometry XML data in Leica DBX 1200 format. Command	
File>Translators>Export Leica DBX 120 X X X X X X X X X	
	11.

Application Add-Ins Dialog

The LandXML Translator is available in all InRoads Group products and is found on the *File > Translators > LandXML Translator* menu.

#### 3. LandXML Workflow

#### 3.1. Exporting Geometry

- 1. Select the *Export Alignment* tab of the *File > Translators > LandXML Translator* command.
- 2. Set the *Geometry Project* field to the project containing the alignments you wish to export.
- 3. To select the alignment(s) to be exported, you have three methods: You can key in a comma-separated list (wildcards are allowed) in the *Include* field, or you can use the *Locate* button beside the field to select the alignment, or you can use the geometry selection filter by placing your cursor in the *Include* field and selecting the *Filter* button which brings up the *Geometry Selection Filter* dialog shown below:

P	Geometry S	Selection Filter						_ I ×
	Name:	Ignore	×			_		ОК
	Description:	Ignore	• ×					Cancel
	Style:	Ignore	•					Preferences
	Fence Mode:	Ignore	-					Help
	Available:					Selected:		
	Name	Description	Style		Add ->	Name	Description	Style
	sb2		setback			demo		kranji
	sb3		setback		<- Bemove	ha		kranji
	SF1		slab tascia					
	stz aida n		siap rascia		Z. Swan A			
	side_n		property line		(* Swap ->			
	STE1		stiffener		<b></b>			
	STF2		stiffener		None			
	STF3		stiffener					
	traverse		traverse	-	All			
				_				

Geometry Selection Filter Dialog

The *Name*, *Description* and *Style* fields can be used to limit the alignments shown in the *Available* list.

**Note:** If you use the *Locate* button to select your alignment, you can add to the *Selected* list by depressing the CTRL key while selecting additional alignments.

- 4. Set the *LandXML* option to *Version 1.0*. Toggle on the *Include Active Children Only* option if you wish to include only the active vertical alignment.
- 5. Set the *Linear Units* to match your design. If your project is metric, your linear units will automatically be *Meters*, but if your project is imperial, you must choose *International Feet* or *US Feet*. Set the *State* field to match your data as well.

6. Key in a file name in the *File Name* field and select the *Save* button or use the *Save As* button to navigate to a directory. Your dialog should look similar to the following figure:

KandXML		<u> </u>				
Import Export Surf	ace Export Alignment Export	t Parcel				
Alignment Data Save						
Include:	kranji 🗾	Save As				
Selected:	I <u></u>	Filter				
Name De	escription Style	Preview				
ha	kranji traverse	Help				
uaveise	Udveise					
LandXML: 💽 V	ersion 1.0 C Version 1.1					
🔽 Include Active (	Include Active Children Only					
🗖 Include All Cog	Points					
Linear Units:	Meters					
State:	proposed 🔹					
File Name:						
G:\datasets\kranji	/88\LandXMLGeo.xml					
	Close					

Export Alignment Dialog

## 3.2. Exporting Surfaces

- 1. Select the *Export Surface* tab of the *File > Translators > LandXML Translator* command.
- 2. Select the desired surface(s) in the *Surfaces* list.
- 3. Toggle on the Include Features option, but make sure the Include Triangles option is not toggled on
- 4. Set the *Linear Units* to match your design. If your project is metric, your linear units will automatically be *Meters*, but if your project is imperial, you must choose *International Feet* or *US Feet*. Set the *State* field to match your data as well.

5. Key in a file name in the *File Name* field and select the *Save* button or use the *Save As* button to navigate to a directory. Your dialog should look similar to the following figure:

Mand XML							
Import Export Surfa	ace Export Alignment Ex	port Parcel					
Surface Data		Save					
Name	Description	Save As					
Default design	Created from r						
rock		Preview					
kranji		Help					
Include Non Triangulated Features							
Linear Units:	Meters 🔹						
State:	proposed 🔹						
File Name:							
g:\datasets\kranjiV88\LandXMLSurf.xm							
	1						
Close							

Export Surface Dialog

## 4. Upload Trimble Add-In Workflow

You must have Trimble Link<sup>™</sup> installed on your workstation to use this command. The Trimble Link<sup>™</sup> software is included in the *TrimbleLinkEngine* subdirectory on the media containing the setup for your InRoads Group of products.

If you have not already done so, turn on the Upload Trimble Add-In as described in §2.1.

#### 4.1. Exporting Geometry and Surface

Helioad Trimbl	e			×
Geometry Projec	ot: kranji		•	Apply
Horizontal Align	ments:			Close
Name	Description	Style		
1		property lin		Help
2		property lin		
3		property lin		
4		property lin		
AB1		abutment		
AB2		abutment		
AB3		abutment	-	
Surface:	kranji		•	
Linear Units:	Meters	:	•	

Upload Trimble Dialog

- 1. Select the *File > Translators > Upload Trimble* command.
- 2. Set the *Geometry Project* field to the project containing the alignments you wish to export.

3. Select the alignment(s) to be exported by highlighting the alignment in the *Horizontal Alignments* list.

**Note:** You can select a group of contiguous alignments by depressing the SHIFT key and selecting the first and last alignments in the group. You can also select non-contiguous alignments by depressing the CTRL key and selecting each alignment to be exported.

- 4. Set the *Surface* field to the desired surface and set the *Linear Units* to match your design. If your project is metric, your linear units will automatically be *Meters*, but if your project is imperial, you must choose *International Feet* or *US Feet*.
- 5. Select the *Apply* button and a *Save As* dialog will display allowing you to specify a Trimble DC file name for each selected alignment and a Trimble TIN Model (TTM) file name for the surface.

Save in: Image: kranjW88     My Recent   Documents   My Documents   My Documents   My Documents   My Documents   File name:     Image: Track DD Clip (6 dp)   Save Dataset	Save As					? ×
My Recent Documents       I.dc         My Recent Desktop       Image: Computer         My Documents       Image: Computer         My Network Places       File name:         Save at large       Table DC file (% de)	Save in:	🚞 kranjiV88		•	🗕 🗈 💣 🎟	-
My Network Places Save as lung: Trinkle DC fla (% da)	My Recent Documents Desktop My Documents My Computer	國 1.dc				
Places	My Network	File name:	2		•	Save
	Plāces	Save as type:	Trimble DC file (*.dc)		•	Cancel
File details       DC file version:         DC File v10.7	File details DC file version:		DC File v10.7		•	

Save As Trimble DC File Dialog



Save As Trimble TIN Model Dialog

**Note:** If this is the first time you have accessed Trimble Link<sup>TM</sup>, you will be presented with a dialog requesting your Authorization Code. To obtain an authorization code, visit <u>http://www.trimble.com/tlsreg.asp</u>.

## 5. Leica DBX 1200 Add-In Workflow

If you have not already done so, turn on the Export Leica DBX 1200 Add-In as described in §2.1.

## 5.1. Exporting Geometry and Surfaces

- 1. Select the File > Translators > Export Leica DBX 1200 command.
- 2. If you are exporting alignments, toggle on the *Geometry Project* option and set the field to the project containing the alignments you wish to export.
- 3. Select the alignment(s) to be exported by highlighting the alignment in the *Horizontal Alignments* list.

**Note:** You can select a group of contiguous alignments by depressing the SHIFT key and selecting the first and last alignments in the group. You can also select non-contiguous alignments by depressing the CTRL key and selecting each alignment to be exported.

- 4. Key in a name in the Leica Project Name field below the Alignments list.
- 5. If you are exporting surfaces, toggle on the *Surfaces* option and select the surface(s) to be exported.

**Note:** You can select a group of contiguous surfaces by depressing the SHIFT key and selecting the first and last surfaces in the group. You can also select non-contiguous surfaces by depressing the CTRL key and selecting each surface to be exported.

- 6. Key in a name in the Leica Project Name field below the Surfaces list.
- 7. Set the *Linear Units* to match your design. If your project is metric, your linear units will automatically be *Meters*, but if your project is imperial, you must choose *International Feet* or *US Feet*.

8. Key in a directory name in the *Target Directory* field or use the *Browse* button beside the field to select a directory. Select the *Apply* button and the various .*X*\* files will be created that are required by Leica.

Export Leica [	DBX 1200				×
🔽 Geometry Pr	oject:	(ranji		-	Apply
Alignments:				_	Close
Name 1 2 3 4 AB1 AB2 AB3 Leica Project Na	Descripti	jon Job1	Style property lin property lin property lin abutment abutment abutment		Help
Name		De	scription		
Default design Created from ro sand rock kranji					
Leica Project Na	me:	Job2			
Target Directory	: njiV88				

Export Leica DBX 1200 Dialog

## 6. Glossary

Terms used in this document are:

DTM	Digital terrain model
TIN	Triangulated irregular network
ТТМ	Trimble TIN model