

This document is a guide for displaying features in both cross sections and profiles. Two types of cell placement will be considered in this workflow. One type is based on true scale meaning that the feature has a measurable size. For example a 24" pipe. The other type of cell is the pictorial location of a crossing feature for example overhead electric line. In order to compensate for the two types each needs to be scaled differently. Feature Filters have been developed to display them at their appropriate scale.

LINE TOWNSH [P Ľ FENCE SURVEY ELECTRIC RIAD EXIST EXIST RDAD Н EXIST EXIST Ш Ь 100 TELEPHONE QA5 OPTICS ELECTRIC EXIST WATER **TIBRE** STA. 36+00 ₽ EXIST 5 230 15 20 L 30 540 -60 -50 -żo -io ò 10 40 Note: Example Cross Section

Displaying Features in Cross Sections

The procedure for displaying features in cross sections follows.

 From the InRoads, menu select Evaluation > Cross Section > Create Cross Section. The Create Cross Section dialog will appear. <D> Preferences to load the appropriate saved preferences. In this example the CDOT preferences will be used. 50

2. Under the *Include* category in the *Create Cross Section* dialog, verify that *Crossing Features* and *Projected Features* are checked off.

Keate Cross Section		- • •
Create Cross Section General Source Vinclude Controls Custom Axes Grid Axes Axes	Surface Crossing Features Adjust Range Projected Features Ahead Band: 10.00 Back Band: 10.00 V Components Annotation Volumes	
	Stom and Sanitary Crossing Structures Projected Structures Ahead Band: 10.00 Back Band: 10.00	
	Apply Preferences) Close	Help

<u>Note:</u> Verify that the *Global Scale factor* is set to the desired scale prior to creating the cross sections.

3. **<D> Apply**. The dialog will minimize allowing the selection of the origin for the cross section set with a **<D>** in a MicroStation View. After the cross sections are created select **Close**.



Display True Scale Cells

1. From the InRoads menu select Evaluation > Cross Section > Update Cross Section. The *Update Cross Section* dialog will appear.

The first set of features to display will be the features that are defined to be true scale. These features have a defined size, such as pipes. In order to display these types of features, setting the scale factor and feature filter is required prior to displaying.

2. Change the InRoads *Global Scale Factor* to **1**.

🔛 Scale Fa	actors	
Text:	1.0000	Apply
Cell:	1.0000	
Line Style:	1.0000	

Note: The Scale Factor should be 1:1 so that cells come in at actual scale.

3. From the *Locks* toolbar Select the CELL_True-Scale filter from the drop-down list and toggle on the Feature Filter lock button.

Locks		×
CELL_True-Scale	🔽 🔁 😴 🗞 🔪 🗾 🚽 🕏	 🗉

- 4. Select Evaluation > Cross Section > Update Cross Section.
- 5. Verify the correct *Cross Section Set* selected in the *Update Cross Section* dialog.

Wighte Cross Section		- • •
Update Cross Section Cross Section Set: SH 86 Update Cross Section Cross Section Update Cross Section Sufaces Components Crossing Features Projected Features Storm and Sanitary	Mode: Refresh Display On Display Off Start: 100+00.00 Stop: 366+60.50 Limits Station Range Start: 100+00.00 + + Stop: 366+60.50 + + Update Annotation Show Features Outside Elevation Range	
	Apply Close	Help

- 6. Toggle on the *Display On* radio button. Select the *Crossing Features* category.
- From the *Surface* list box, select the surface name or names to display. The *Feature* list box will then populate with the list of features found in the highlighted surface(s). Use the Ctrl or Shift keys to select multiple names.

Mupdate Cross Section				- • 💌
Cross Section Set:	Mode: 🔘 Refresh	Oisplay On Control	Display Off	
SH 86 ▼ +	Start: 100+00.00	Stop: 366+	-60.50	
Update Cross Section	Surface:			
General Surfaces	Name		Description	<u>^</u>
Components	Default	-	winting Consumed from multi-	E
Projected Features	design	C	reated from roadway de	
Storm and Sanitary	12345_Combined ∢	III	4	Ŧ
	Feature:			
	Name	Style	Description	<u>+</u>
	T_Cul Corr Stl 12"629	T_Cul Corr Stl 12"	Culvert Corr Steel Pip	
	T_Cul Corr Sti 18" T_Cul Corr Sti 18"1	T_Cul Corr Stl 18" T_Cul Corr Stl 18"	Culvert Corr Steel Pip	
	T_Cul Corr Stl 18"143	T_Cul Corr Stl 18"	Culvert Corr Steel Pip	
	T_Cul Corr Stl 18"153	T_Cul Corr Stl 18"	Culvert Corr Steel Pip	T
				Styles
				Filter
			Apply Close	Help

- **Note:** The feature names in bold are Feature Styles that can be displayed in cross sections. Any names that are dithered are not configured to be displayed in a cross section view.
- **Note:** If no features are shown in the feature list box, there are no features that meet the criteria for the filter selected in step 5. It may be necessary to associate the correct feature styles to the desired features if this is the case. Feature styles can be re-associated by using the **Surface > Feature > Feature Properties** command. See *CDOT Update InRoads Features.pdf* for more information on the process involved.

8. <**R**> in the *Features* list box and choose Select All. The Features that can be displayed in cross section view will be highlighted.

🙀 Update Cross Section				
Cross Section Set: SH 86	Mode: ORefresh Start: 100+00.00	Display On Stop: 366+4) Display Off 60.50	
Update Cross Section General General Components Components Projected Features Storm and Sanitary	Surface: Name Default 12345_Existing design 12345_Combined 4 Feature:	ן ב נו	Description visting Ground from multi. reated from roadway de	
	Name T_Cul Cor Stl 12" T_Cul Cor Stl 12"629 T_Cul Cor Stl 18" T_Cul Cor Stl 18"1 T_Cul Cor Stl 18"143	Style T_Cul Corr Stl 12" T_Cul Corr Stl 12" T_Cul Corr Stl 18 T_Cul Corr Stl 18 T_Cul Corr Stl 18	Description Culvert Corr Steel Pip Culvert Corr Steel Pip Select All (Select None (Invert Selection	Ctrl+A Ctrl+N Styles Filter
			Apply Close	Help

9. **<D> Apply**. The dialog will minimize as the features are generated in the cross sections. When the process is finished, the dialog will reappear.



Displaying Plot Scale Cells

The second set of features to display is those that have *location only* defined with annotation. In order to display these types of features, the scale factor and the desired feature filter must be set prior to displaying.

1. Change the InRoads *Global Scale Factor* to **20**.

🔛 Scale F	actors	
Text:	20.0000	Apply
Cell:	20.0000	Close
Line Style:	20.0000	

- **Note:** This is the desired plot scale for the set of Cross Sections we are working with. The scale should be changed accordingly to match the scale of the original cross sections.
- 2. From the *Locks* toolbar select the CELL_Plot-Scale filter from the pull down list. Verify that the Feature Filter lock is toggled on.



3. Verify that the correct *Cross Section Set* is selected in the *Update Cross Section* dialog.

H Update Cross Section		- • 💌
✓ Update Cross Section Cross Section Set: SH 86 ✓ ✓ General → General - Components - Crossing Features - Projected Features - Stom and Sanitary	Mode: Refresh Display On Display Off Start: 100+00.00 Stop: 366+60.50 Limits Start: 100+00.00 Start: 100+00.00 Stop: 366+60.50 Update Annotation Show Features Outside Elevation Range	
	Apply Close	Help

4. Toggle on the Display On radio button. Select the Crossing Features category.

H Update Cross Section				
Cross Section Set:	Mode: () Refresh Start: 100+00.00	Display On Stop: 366+6	Display Off 0.50	
Update Cross Section General Components Components Projected Features Storm and Sanitary	Surface: Name Default 12345_Combined < Feature:			
	Name T_Billboard Over 10ft T_Billboard Over 10ft T_Billboard Under 10f T_Billboard Under 10f T_Billboard Under 10f	Style T_Billboard Over 1 T_Billboard Over 1 .T_Billboard Under .T_Billboard Under .T_Billboard Under	Description Billboard 10ft or More Billboard 10ft or More Billboard 10ft or Less Billboard 10ft or Less (Billboard 10ft or Less (
			Apply Close	Styles Filter

5. From the *Surface* list box, select the surface name or names to display. Once a surface or surfaces are selected, the *Feature* list box will populate with the list of features. Use the **Ctrl** and **Shift** keys to select multiple feature names.

Heate Cross Section				
Cross Section Set:	Mode: ○ Refresh Start: 100+00.00 Surface: Name Default 12345_Existing design 12345_Combined ∢ Case Line High Pres T_Gase Line High Pres T_Gase Line High Pres T_Gase Line High Pres T_Gase Line Line Pres	Display On Stop: 366+6 Cr Cr TT Style T_Gas Line High T_Gas Line Low P	Display Off 50.50 Description eated from roadway de eated from roadway de b Description Gas Line High Pressu Gas Line High Pressu Gas Line High Pressu Gas Line High Pressu Gas Line High Pressu	▲ ▼ ▼
				Styles Filter
			Apply Close	Help

Note: The names in bold are Feature Styles that can be displayed in cross sections. Any names that are dithered are not configured to be displayed in a cross section view.

6. <**R**> in the *Features* list box and choose **Select All** to highlight all the Features that can be displayed in a cross section view.

Hundata Cross Section				
m opdate cross section				
Cross Section Set:	Mode: 🔘 Refresh	Display On	Display Off	
SH 86 🔹 🛨	Start: 100+00.00	Stop:	366+60.50	
Update Cross Section General Surfaces Components + Crossing Features Projected Features Storm and Sanitary	Surface: Name Default 12345_Existing design 12345_Combined < Feature: Name T_Gas Line High Pree T_Gas Line High Pree T_Gas Line High Pree T_Gas Line High Pree T_Gas Line High Pree	III Style sT_Gas Line H sT_Gas Line H sT_Ga T_Ga	Description Existing Ground from multi Created from roadway de Description tigh Gas Line High Pressu Select All Ctrl+A Select None Ctrl+N Invert Selection	Styles Filter
			Apply Close	Help

7. <D> Apply. The *Update Cross Section* dialog will minimize as the features are generated in the cross sections. When the process is finished, the dialog will reappear.



Displaying Features in Profile

*	Vie	w 1	-pr	ofile	e ov	erall																										I		×
		1.1		1.1.1		1 2 2 1		1.1.1.1	15	 + + + + +	 1		1.2.	1.14	14	1	 	 	14		- 12		14	+ 4	1.5.1	15-	- 1	-		1	1.4.00	- 10		
4											 								10		100	T, T, T			 14.						 			-1
E		14		1							 						 - 4								 1				4				-	
																																		10000
÷ +			al d	× 7	ю (¥ 🖗 .	× 1													0													Þ	ſ

Note: Example Profile

The procedure for displaying features in profiles follows.

 From the InRoads menu, select Evaluation > Profile > Create Profile. The Create Profile dialog will appear. <D> Preferences to load the appropriate saved preferences. In this example the CDOT preferences will be used.

🐂 Create Profile		
Create Profile General Source Controls Controls Axes Grid Details ASCII	Crossing Features Projected Features Bandwidt Left Offset: 0.00 + Right Offset: 0.00 + Include Features: Outside Band	
	Apply Preferences Close	Help

- 2. In the *Create Profile* dialog, verify under the *Include* category that *Crossing Features* is checked off.
- <D> Apply. The *Create Profile* dialog will minimize allowing the selection of the origin for the profile set. <D> in a MicroStation View to specify this location. After the profile is created <D> Close.



4. From the InRoads menu select Evaluation > Profile > Update Profile. The *Update Profile* dialog will appear.

The first set of features to display will be the features that are defined to be true scale meaning the features have a defined size such as pipes. In order to display these types of features, set the scale factor and feature filter prior to displaying.

5. Change the InRoads *Global Scale Factor* to 1.

🐂 Scale F	actors	
Text:	1.0000	Apply
Cell:	1.0000	Close
Line Style:	1.0000	

6. From the *Locks* toolbar select the CELL_True-Scale filter from the drop- down list and toggle on the Feature Filter lock.

Locks		
CELL_True-Scale	💌 🔻 🔞 🔪 🏏 📰	

7. Verify the correct *Profile Set* is selected in the *Update Profile* dialog.

🐂 Update Profile			- • •
Profile Set:			
SH 86 🔻 🕇	Mode: 💿 Refresh 🛛 🖸)isplay On 💿 Display Off	
🔄 Update Profile	Surfaces:		
····	Name	Description	<u>+</u>
Crossing Features Projected Features	12345_Existing	Existing Ground from mul.	
	Show Data Outside Eler	vation Range	
		Apply Close	Help

8. For the *Mode*, select the *Display On* radio button; then select the **Crossing** Features category.

🕌 Update Profile				
Profile Set: SH 86	Mode: O Refresh	Display On	💿 Display Off	
Opdate Home Offsets Offsets Projected Features Projected Features	Name Default 12345_Existing design 12345_Existing 12345_Addeiment		Description Existing Ground from mul Created from roadway de	
	Crossing Features:			_
				Styles Filter
			Apply Close	Help

9. From the *Surfaces* list box, select the surface name or names to display. Once surfaces have been selected, the *Crossing Features* list box will populate with the list of features. Use the Ctrl or Shift keys when you want to select multiple Surface names.

🕌 Update Profile				
Profile Set: SH 86	Mode: () Refresh ()	🖲 Display On 🛛 🔘	Display Off	
Update Profile Surface Offsets Projected Features Projected Features	Name Default 12245_Evisting design 12245_Combined 12245_Combined 12245_Add#innal Crossing Features: Name T_Cut Corr Sti 12" T_Cut Corr Sti 12" T_Cut Corr Sti 12" T_Cut Corr Sti 18"1 T_Cut Corr Sti 18"14 T_Cut Corr Sti 18"15_ Cot Corr Sti 19"15_	Style T_Cul Corr Stl 12" T_Cul Corr Stl 12" T_Cul Corr Stl 12" Select All Select Non Invert Selec	Description steing Ground from mul eated from roadway de fiction Ground from mul. Description Culvert Corr Steel Pip Culvert Corr Steel Pip Culvert Corr Steel Pip Ctrl+A e Ctrl+N ction	the second
			Apply Close	Help

- **Note:** The names that are black are Feature Styles that can be displayed in profile. Any names that are dithered are not configured to be displayed in a profile view.
- <R> in the *Crossing Features* list box. Choose Select All from the menu. The Crossing Features that <u>can</u> be displayed in profile will be highlighted in the *Crossing Features* list box.

🐂 Update Profile				[- • 💌
Profile Set: SH 86	Mode: 🔘 Refresh 🛛	🖲 Display On 🛛 🔘	Display Off		
🔄 Update Profile	Surfaces:				
Surface	Name	(Description	•	
Offsets Crossing Features	Default			=	
Projected Features	12345_Existing	B	kisting Ground from mul		
	design	Ci	eated from roadway de	•	
	12345_Combined	E	rieting Ground from mul	-	
	Crossing Features:				
	Name	Style	Description	*	+
	T_Cul Corr Stl 12"	T_Cul Corr Stl 12"	Culvert Corr Steel Pip		
	T_Cul Corr Stl 12"62	T_Cul Corr Stl 12"	Culvert Corr Steel Pip		
	T_Cul Corr Sti 18"	T_Cul Corr Stl 18"	Culvert Corr Steel Pip		
	T Cul Corr Sti 18"1	T_Cul Corr Sti 18"	Culvert Corr Steel Pin		
	T Cul Com Stl 19"15	T Cul Core Sti 19"	Culvert Corr Steel Pin	Ŧ	
					Styles
					Filter
			Apply Close		Help

- **Note:** No Projected Features will be displayed in this example. The same procedure is used for displaying *Projected Features*, except that the *Projected Features* category is selected.
- 11. **<D> Apply**. The dialog will minimize as the features are drawn in the profile. When the process is finished the dialog will reappear.



Displaying Plot Scale Cells

The second set of features to be displayed is those that have *location only* defined with annotation. In order to display these types of features, set the scale factor and the desired feature filter prior to displaying.

1. Change the InRoads *Global Scale Factor* to **20**.

Scale Factors				
Text:	20.0000		Apply	
Cell:	20.0000	-	Close	
Line Style:	20.0000			

Note: This is the desired plot scale; change accordingly.

2. From the *Locks* toolbar select the CELL_Plot-Scale filter from the pull down list and toggle on the Feature Filter lock.



- 3. Verify the correct *Profile Set* is selected in the *Update Profile* dialog.
- 4. For the *Mode*, select the *Display On* radio button; ; then select the *Crossing Features* category.
- 5. From the Surfaces list box, select the surface name or names to display. Once surfaces have been selected, the *Crossing Features* list box will populate with the list of features. Use the Ctrl or Shift keys when you want to select multiple Surface names.

🕌 Update Profile				_ • •
Profile Set: SH 86 +	Mode: () Refresh	Display On	Display Off	
Offsets Offsets Projected Features	Name Default 12345_Existing design 12345_Combined	C Cr	Description isting Ground from mul eated from roadway de	
	Crossing Features:	0.4		
	Name T_Gas Line High Pre T_Gas Line Low Pres T_Gas Line Low Pres T_Gas Line Low Pres T_Gas Line Low Pres	Style .T_Gas Line High .T_Gas Line Low .T_Gas Line Low .T_Gas Line Low .T_Gas Line Low .T_Gas Line Low	Description Gas Line High Pressu Gas Line Low Pressu Gas Line Low Pressu Gas Line Low Pressu Gas Line Low Pressu	*
				Styles Filter
			Apply Close	Help

Note: The feature names that are black are Feature Styles that can be displayed in profile. Any names that are dithered are not configured to be displayed in a profile view.

6. <R> in the *Crossing Features* list box. Choose Select All from the menu. The Crossing Features that can be displayed in profile will be highlighted in the *Crossing Features* list box.

🚼 Update Profile		- • •
Profile Set:	Mode: 🔘 Refresh 💿 Display On 💿 Display Off	
Update Profile	Surfaces:	
Surface	Name Description	A
Crossing Features	Default	=
Projected Features	12345_Existing Existing Ground fr design Created from mad	om mul
	12345_Combined 12345_Additional Evieting Ground fr	nm mul
	Crossing Features:	
	Name Style Description	<u>+</u>
	T_Gas Line High Pre T_Gas Line High Gas Line High T_Gas Line Low PresT_Gas Line Low Gas Line Low T_Gas Line Low PresT_Gas Line Low Gas Line Low	Pressu Pressu
	T_Gas Line Low T_Gas Line Low T_Gas Line Low Select All Ctrl+A	ssu ssu
	Invert Selection	Styles
		Filter
	Apply	Close Help

<D> Apply. The *Update Profile* dialog will minimize as the features are generated in the profile. When the process has completed the dialog will reappear.

