

#### InRoads Storm & Sanitary Update V8i – Tips & Tricks



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#### **2010 BE Together**

# V8i (SELECTseries 2)

• Inlet by Spread!

🚟 Drainage Lay Out 📃 🗖 🗙
Pipe         Channel         Curve Pipe           Multiple Junctions         Pipe by Slope         Inlets by Spread
Inlet Seed ID: Help
Alignment: Secondary
Sag Location                ● Station: 0+00.00
Constant Offset: -39,2333     Max. Spacing: 360,0000
Along Feature     Spacing Step:     10.0000       Surface:     OG     Feature:     AF1
Drainage Area Left Offset: -42.7000
Existing Bypass O User-Specified: 0.0
Connecting Pipes
● By Slope            User Data Field:
User Data Field: 💽 🗸 Value:
Apply Options Close



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#### Translate Excel to IDF file (Intensity, Duration, and Frequency)

	F1	F2	F3	F4	F5	F6	F7	F8	F9	F10		Save A
1	Intensi	2							2			
2	I-15 In	1							5			Clos
3		Latitude:	34.55					Datum:		1		
4		Longit	117.30	1				Elevati	2800			Help
5	-	Durati	10-YR1		25-YR1		50-YR1		100-Y	1		20
6			(mm/hr)	(in/hr)	(mm/hr)	(in/hr)	(mm/hr)	(in/hr)	(mm/hr)	(in/hr)		
7	-	5	108	4.27	137	5.40	159	6.26	181	7.12		
8		6	95	3.76	121	4.76	140	5.51	159	6.27		
9	19	7	86	3.37	108	4.27	126	4.95	143	5.62		
10	10	8	78	3.07	99	3.89	114	4.51	130	5.12	-	
eview	of IDF File: 108 95 86	4.27 3.76 3.37	137 1 121 4 108 4	5.40 4.76 4.27	159 6 140 5 126 4	.26 1 .51 1 .95 1	81 7. 59 6. 43 5.0	12 27 52			-	
	of IDF File: 108 95 86 78 72 67 67 62 59 56 53 50	4.27 3.76 3.37 2.83 2.63 2.46 2.31 2.19 2.08 1.98	137 1 121 4 99 9 91 9 84 79 7 74 70 7 67 64 7	5.40 4.76 4.27 3.89 3.58 3.33 3.11 2.93 2.93 2.77 2.63 2.50	159 6 140 5 126 4 114 4 105 4 98 3 92 3 86 3 81 3 77 3 74 2	.26 1 .51 1 .95 1 .51 1 .61 1 .39 9 .21 9 .05 8	81 7. 59 6. 43 5. 20 4. 11 4. 04 4. 8 3. 13 3. 18 3. 14 3.	12 27 52 12 72 38 10 36 55 46 30				

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#### **Roads and Bridges**

## **Display IDF curves**

Drainage Options       Image Options         General       Structure IDs       Pipe       Channel       Culvert       Manhole         Pump       Inlet       Gutter Section       Area       Zone       Design         Rainfall Data:       ut\inroads\bentley\inroad~1.11\data\imperial\i_hydro.idf         Rainfall Method:       IDF File       Help         Frequency:       10       yr	
Display IDF Curves     General   Controls   Axes   Grid   Details     Details     Details     Details     Details     Details     Details     Display IDF Curves   Vertical:   10.0   Horizontal:   4.0     Details     Details     Data:     Object   Name   2. Year   2. Year   2. Year   2. Year   2. Year   2. Year   10. Year     10. Year     100 - Year     100 - Year     100 - Year     100 - Year	Image: select of the select
Apply Preferences Clo	Dise Help

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# Update Drainage to update the HGL/EGL







#### **2010 BE Together**

#### Surface>View>Annotate Features>Sags and Crests

Annotate Feature			
Main Ports Line Segments Slope Direction Creats and Sags		Annotate Feature	
		Main   Points   Line Segments   Slope Direction Crests and Sags	
Apply Preferences Close	CRAST	Crests Cell: CREST Offset: 0.00 Sags Cell: SAG Offset: 0.00	Help
		Apply Preferences Close	



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# Hover over drainage elements for shortcuts to drainage commands

Inlet ID:       DBI13       Help         Upstream ID:       P58         Downstream ID:       P69         Inlet Type:       Grate         Class:       DBI_Ty13_Sag         Delete       #1000         Edit/Review       #2x 2.00         Polete       1.000         Mirror       Box         X T):       4.92 x 2.00 x 8.00       ft xft xin         Scale       1.033 ft         Mirror       1.033 ft         Basics       1.033 ft			Inlet Gutter	Flow	Design HGL/EGL	Culvert   User Data   S	tyles
Upstream ID:       P58         Downstream ID:       P69         Inlet Type:       Grate         Class:       DBI_Ty13_Sag         Class:       DBI_Ty13_Sag         Class Description:       Grate Size (L x W):         Grate Size (L x W):       4.92 x 2.00         Delete       0.00         Edit/Review       Box         Box       x T):         4.92 x 2.00 x 8.00       ft xft x in         -0.75       -0.75         Scale       inside         Mirror       303°1221"         931.53       ft			Inlet ID:		DBI13		Help
Downstream ID:       P69         Inlet Type:       Grate       Grate         Class:       DBI_Ty13_Sag       DBI_Ty13_Sag         Delete       Effective Grate       ize:         Edit/Review       4.92 x 2.00       4.92 x 2.00         Box       0.00       ft         Box       0.00       ft x ft x in         Box       0.75       0.75         Rotate       303^1221"       1         Mirror       936.57       ft         Level Off       931.53       ft	MULH		Upstream ID:		P58		
Inlet Type:       Grate       Grate         Class:       DBI_Ty13_Sag       DBI_Ty13_Sag         Class Description:       Grate Size (L x W):       4.92 x 2.00       ft         Grate Size (L x W):       4.92 x 2.00       ft       ft         Delete       0.00       ft       ft         Edit/Review       Box       x T):       4.92 x 2.00 x 8.00       ft x ft x in         Image: Move       0.05       0.75       ft x ft x in       ft x ft x in         Mirror       303°1221"       ft       936.57       ft ft         931.53       ft       ft       ft	IN		Downstream ID	);	P69		
Class:       DBI_Ty13_Sag ▼       DBI_Ty13_Sag         Class Description:       Grate Size (Lx W):       4.92 x 2.00 ▼       4.92 x 2.00 €         Delete       Effective Grate Size:       4.92 x 2.00 €       4.92 x 2.00 €         Edit/Review       Box       80x       1000 €         Move       5 Copy       1x T):       4.92 x 2.00 €       1x ft x in         Scale       303^12'21'' €       936.57       1 t         Mirror       Scale €       11.53 €       1 t	111		Inlet Type:		Grate	Grate	
Class Description:         Grate Size (Lx W):       4.92 x 2.00 ▼       4.92 x 2.00 ħ         Delete       Effective Grate       12€:       4.92 x 2.00 ħ         Delete       Delete       0.00 ħ         Edit/Review       0.00 ħ         Ørate Size (Lx W):       4.92 x 2.00 ★         Nove       0.00 ħ         Ørate Size (Lx W):       4.92 x 2.00 ★         Nove       0.00 ħ         Ørate Size (Lx W):       4.92 x 2.00 ★         Move       0.00 ħ         Rotate       -0.75         Nirror       303°12'21" ➡         Ørate Off       936.57 ➡ ħ         Ørate All       931.53 ħ	111		Class:		DBI_Ty13_Sag	DBI_Ty13_Sag	
Grate Size (L x W):       4.92 x 2.00 ↓ 4.92 x 2.00 ft         Delete       Edit/Review         Delete       0.00 ft         Edit/Review       0.00 ft         Move       0.00 ft x ft x in         Scale       0.75         Mirror       103°12'21" + ft         Level Off       936.57       ft         931.53       ft	111		Class Description	on:			
Delete       Edit/Review         Delete       Edit/Review         Box       x T):         Move          Scale          Nirror          Level Off          Scale           Nirror          Scale           Nirror          Scale           Nirror          936.57       +         931.53       t	///		Grate Size (L x	W):	4.92 x 2.00	4.92 x 2.00	ft
Edit/Review       0.00       ft         Box       Box         Move       1.00       ft x ft x in         Scale       0.00       ft x ft x in         Nirror       1.030^11221"       1.030^11221"         Level Off       936.57       1.0         Scale       931.53       ft		Dalata	Effective Grote	Size:	4.92 x 2.00	4.92 x 2.00	ft
Image: Copy       Image: Copy       Solution       Box         Image: Copy       Image: Copy       Image: Copy       Image: Copy         Image: Copy       Image: Copy       Image: Copy       Image: Copy       Image: Copy         Image: Copy       Image: Copy       Image: Copy       Image: Copy       Image: Copy       Image: Copy         Image: Copy       Image: Copy       Image: Copy       Image: Copy       Image: Copy       Image: Copy       Imag	11 tot	Edit/Re	view		0.00	ft	
→ Copy       x T): 4.92 x 2.00 x 8.00       ft x ft x in         → Move       → Scale       -0.75         → Rotate       -1.8ide       -1.8ide         → Mirror       -2.936.57       + ft         Level Off       936.57       + ft         931.53       ft	FICON		viewin		Box		
→ Move       -0.75         → Scale       Inside         → Mirror       303^12'21"         ↓ Mirror       303^12'21"         ↓ Level Off       936.57         ↓ Salact All       931.53		7 Сору 7 Мочо		(x T):	4.92 x 2.00 x 8.00	ftxftx	in
A Rotate     Inside       Mirror     303^12'21"       Level Off     936.57       931.53     ft		Scale		8	-0.75		
Mirror     303^12'21"       Level Off     936.57       931.53     ft		Rotate		8	Inside	]	
Level Off         936.57         +         ft           931.53         ft		Mirror			303^12'21"	+	
931.53 ft		Level O	ff		936.57	_ <b>⊕</b> ft	
		Calast		-	931.53	ft	
S24 N0100T N000		Select I	Previous	eight:	21.00 in	Maximum Depth: 10.	00 ft

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# V8i (SELECTseries 1) Updates

- View > Annotate Structures. If the shape is circular, only one (height or width) size attribute is annotated.
- View > Annotate Structures. Offsets now read the Left and Right Offset abbreviations from File > Project Options.
- Layout > Pipe was enhanced to layout the pipe elevations based on the centerline of the pipe.
- Edit\Review Utility was enhanced to edit the utility centerline similar to the Surface > Edit Surface > Edit Feature Point command.



## **Edit Utility Points**

- Added the ability to edit S&S Utility points
- Similar to Surface Edit Feature Point command
- "Report" button launches a report on Utility vertices' XYZ and segments' length and slope

Utility ID:	113				Mou	Chulo
Utilitu Name:	E MULES		FvW/ater		New	style
Canty <u>re</u> arrie. Cantura Ciula	Exwater	×		IC	Rep	port
<u>F</u> eature Style	WATER LINE	×	WATER LIN	IE.	<u>H</u>	elp
<u>S</u> hape:	Circle	*				
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Point ( Center Vie Northing: 2 Easting: 2 Elevation: 9 Back Length: 1 Direction: 1	0.00%		Bottom	Insert	) [Del	ete



#### **V8i Updates**

- View > Drainage As Solids display has been improved.
- Layout > Pipe. Locate buttons to pick elevations graphically were added for Invert In and Invert Out.
- Edit/Review > Styles tab. Read only fields were added to note the assigned style.
- Edit/Review > Inlets. Target buttons were added for slopes and inverts for pipes and elevations for inlets.
- Edit/Review. When scrolling through a network with the Edit Up and Edit Down buttons, the current ID, Upstream ID, and Downstream ID displays in the message center.
- Network > Design. Clear ALL existing design tables was added.
- Cross Section > Update Cross Section > Storm and Sanitary leaf. The All or None buttons were replaced with right click options in the list view.



# **Renumber Areas Using Bulk Area Update**

- Create Selection Set of the Areas to renumber.
- Use Pick Button and Click "OK" at the prompt.
- Check Renumber Areas and Click Apply.

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• Make sure rainfall frequency is correct.



#### **InRoads reads S&S files!**

- Storm & Sanitary files are InRoads-readable
  - No S&S license required
- Display and Plans Production functions
  - Plan/3D Drainage Display and Notes
  - Cross Section Display and Notes
  - Profile Notes



## **Cross Sections See Drainage**

- Storm & Sanitary are integrated into Cross Sections
  - Similar to Features w/ bandwidth
  - Cells can be used to represent structures



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**Roads and Bridges** 

#### **InRoads Survey to Drainage**

- Streamlined data flow from Survey to Storm & Sanitary
- Part of InRoads Survey

	Default		OK
Description:			ancel
Structure:	Inlet		rences
Attribute Mar	aning:		Help
-каракс тта; Кеу	Map	Use	
Inlet	IN		
ID	ID	INID	
Description	Desc	IN.Desc	
Class	Class	IN.Class	
Туре	Туре	IN.Type	
Length	L	IN.L	
Width	W	IN.W	
Available S	tyles:		

### **View Drainage as Solids**

- Smart Solids!
- Visual Collision Detection
- Introduced in v8.9 SP1
- Improved in v8.11
- Application Add-in





### **Extend Pipe and Channel in Profile**

 "Extend Culvert" now works for pipes and channels





## **Interface and Workflow Streamlined**

- Laying Out and Editing Drainage Structures have always been a streamlined intuitive workflow, fully-integrated with the CAD and InRoads environments
- Recent Release continue making adds and edits faster and more intuitive



#### **Improvements to dialogs**

- Layout > Pipe: Locate Buttons for Invert In and Invert Out
- Edit/Review
  - Locate Buttons for Inverts, Rims and Pipe Slopes, Gutter Slopes
  - Styles tab has additional feedback



#### **Pipe ID Annotation**

 Plan and Profile Annotation can now label attached Pipes' ID and Locations at junctions





#### **Updates in Sequence...**





#### V8.9 Updates

- Edit/Review > Inlet > Gutter tab Added locate buttons for the slope fields.
- Drainage > Network > Renumber Areas can be renumbered.
- Tools > Drainage > Structures File The Drainage Structures File and the Sizes dialog boxes are now re-sizeable.
- Structure > Extend Culvert in Profile Added the ability to extend Free Entrance and Free Exit ends of Pipes and Channels.



## V8.9 (SP1) Updates

- View > Drainage As Solids Added new command to display pipes, culverts, manholes, inlets and utilities as Smart Solids for 3D viewing and visual collision detection.
- This is enabled through Tools > Application Add-Ins.
- When enabled, reports can now contain all inverts for manholes and inlets.



### V8.9 (SP2) Updates

 View> Annotate Structures and Evaluation> Profile> Annotate Drainage Profile. The option to annotate the ID of all inverts at structures was added.



#### **V8i Updates**

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- Edit/Review. When scrolling through a network with the Edit Up and Edit Down buttons, the current ID, Upstream ID, and Downstream ID displays in the message center.
- Network > Design. Clear ALL existing design tables was added.
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# **Haestad Integration**



Bentley InRoads Storm & Sanitary V8i

- StormCAD <-> InRoads: Import and export InRoads Storm & Sanitary projects in StormCAD
- PondPack <-> InRoads: Import InRoads pond definitions into PondPack
- CivilStorm <-> InRoads: Import and export InRoads Storm & Sanitary projects in CivilStorm

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