FDOTSS4 Civil Cells

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Webinar

Description:

In this session we will discuss the process of creating 2D and 3D civil cells from Civil Geometry. This is training on how to build a civil cell, the basic concepts and trial and error experience will be shared.

Civil Cell Defined:

" A civil cell is a collection of civil elements - geometry, templates, and terrain models – which can be placed repeatedly in a design. The collection of civil elements will have been created relative to one or more reference elements.

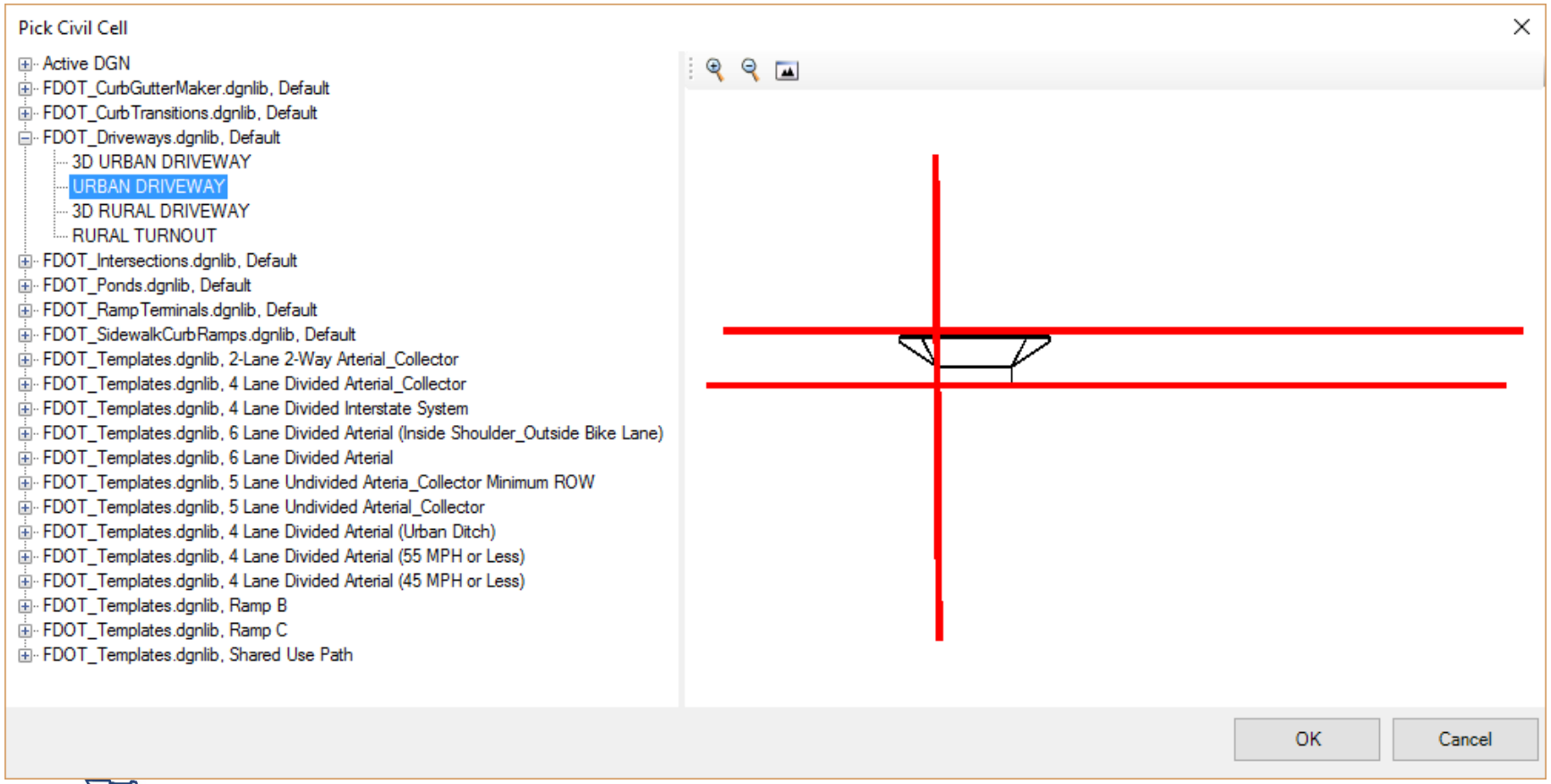
When you place the civil cell, you choose the new reference elements, and a new collection of civil elements is then created relative to them. A civil cell can therefore be thought of as a copy of the original collection of civil elements, relative to the geometry of the new reference elements.

Civil cells can be 2D or 3D. They can consist of 2D(plan) elements only, or 3D elements (2D elements with profiles), and can include terrains, linear templates, area templates, and simple corridors."

Source: Civil Tools V8i SELECTseries 4 Help File

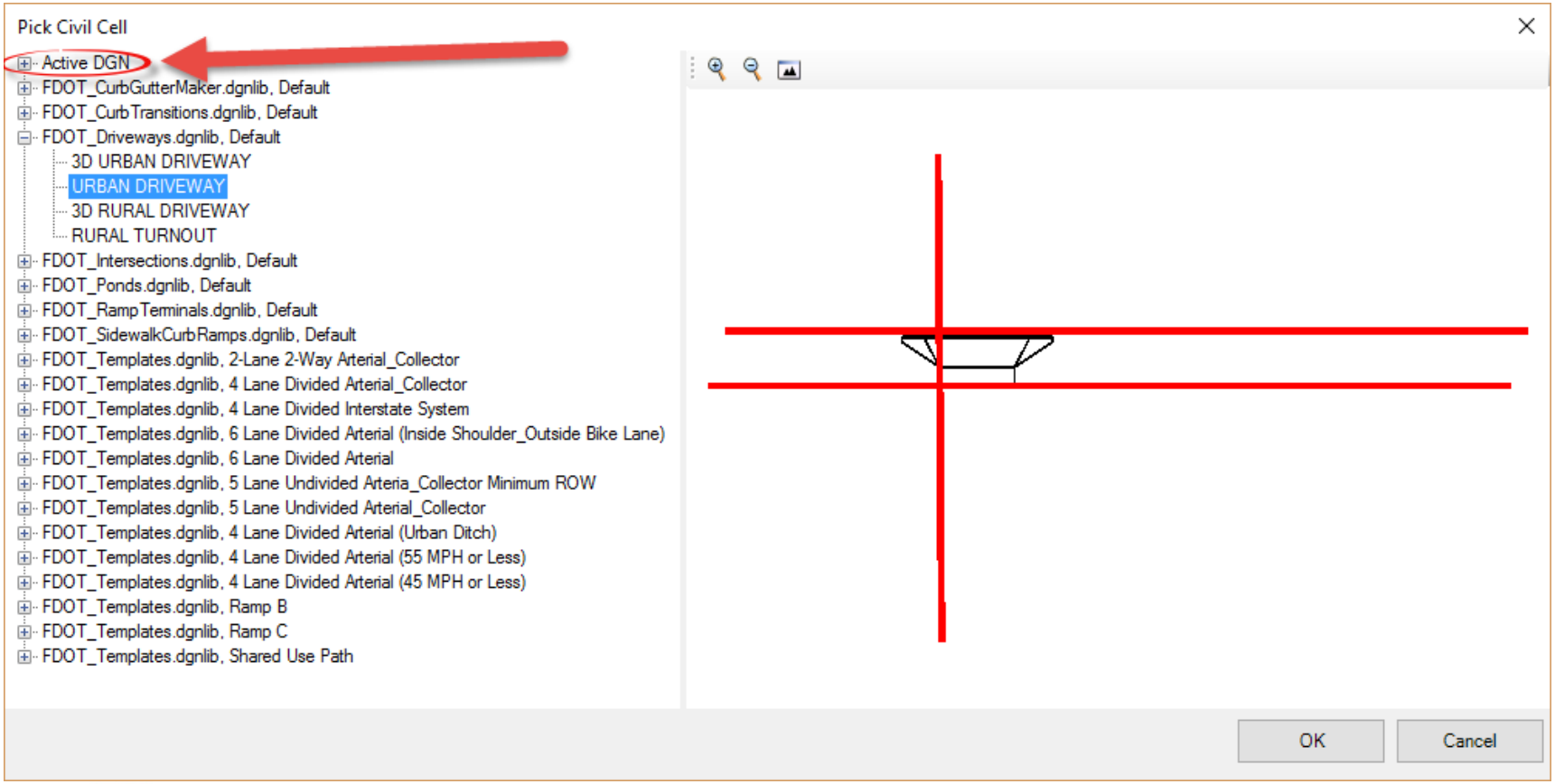
Civil Cells Background:

- Introduced in GEOPAK SS3 actually some in SS2.
- Delivered examples for production in FDOTSS4



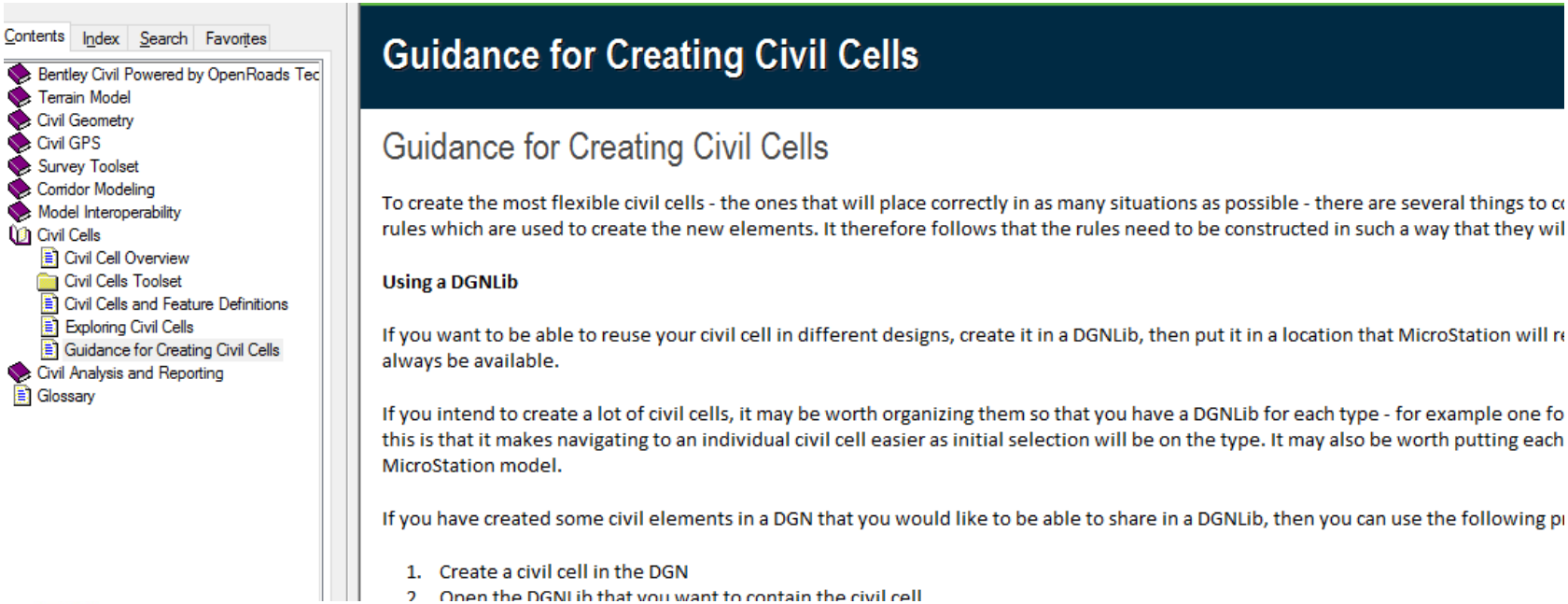
Civil Cells Background:

- Created and stored in dgnlibs of the workspace
- Placed and modified in the design file

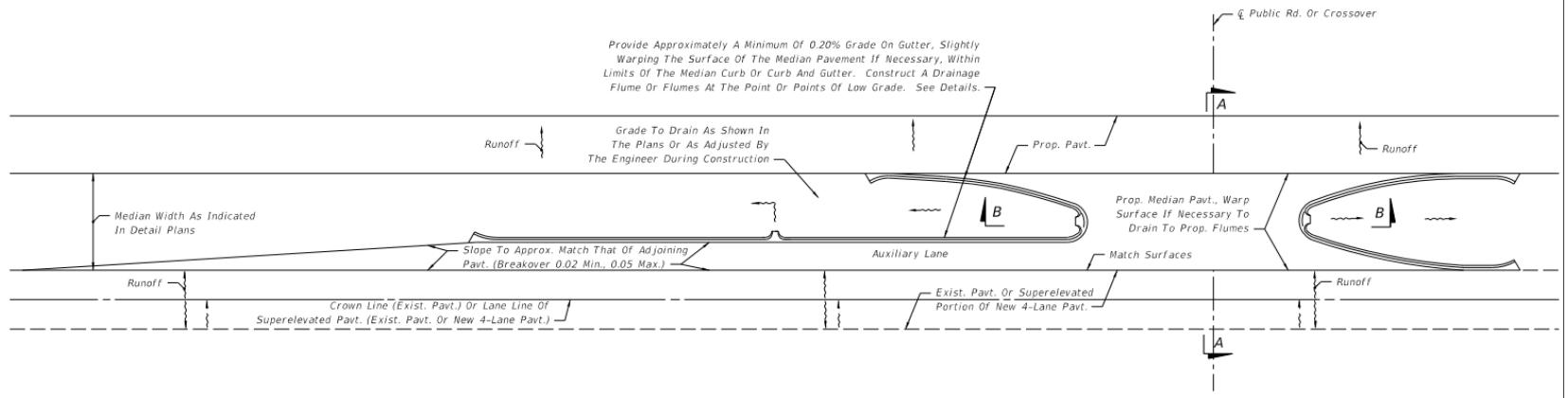


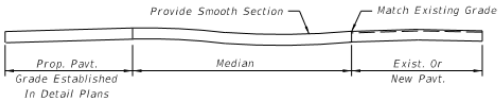
Civil Cells Learning References:

- This webinar
- FDOTSS4 Webinars
- Bentley YouTube search CivilTSG –mbuilds channel
  - https://www.youtube.com/user/CivilTSG/videos
- Civil Tools Help

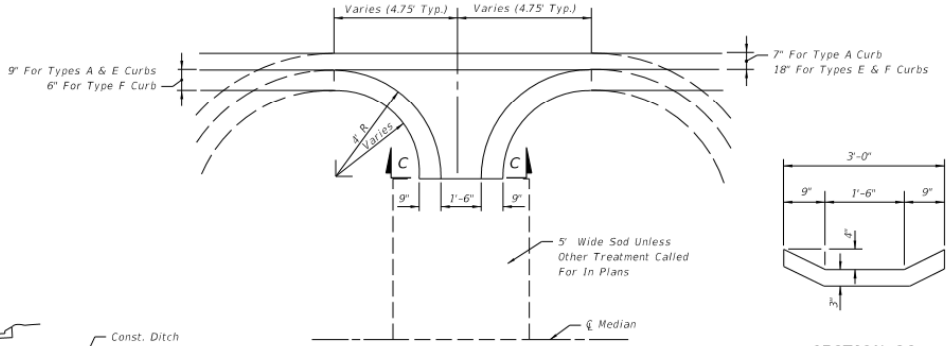


Civil Cells Example: Lets build one!





SECTION AA



FLUME DETAIL

SECTION CC

SECTION BB

(May Drain From Any Point Designated In the Plans Or As Adjusted By The Engineer During Construction)

GENERAL NOTES

1. These details are to apply to projects which provide for the conversion of 2-lane sections to 4-lane divided highway sections and for superelevated sections of new 4-lane divided highways. Layout above is illustration only. Cost of flumes to be included in the contract price for Curb or Curb and Gutter. Sod to be paid for under the contract unit price for Performance Turf, SY.

2. Flumes to be located in low point of noses and at other points as designated in the plans. The locations may be adjusted by the Engineer during construction.

LAST REVISION 07/01/07	REVISION DESCRIPTION:	FDOT FY 2016-17 DESIGN STANDARDS	MEDIAN OPENING FLUME	INDEX NO. 283	SHEET NO. 1 of 1

FDOT Florida Department of Transportation

Civil Cells Example: Basic Steps - 2D

- 2D Geometry
  - Open a blank file or go to a blank area of file
  - Layout reference lines in similar geometry relationship
  - Remove the geometry rules from the reference lines
  - Create new ruled Civil Geometry for Civil Cell object
  - Test Create Civil Cell
    - Snaps: Create rule
    - Trims: Create Rules
  - Use Project Explorer to name references
  - Test new Civil Cell on other geometry

Civil Cells Example: Basic Steps - 3D

- 2D Geometry with profiles
  - Open a blank file or go to a blank area of file
  - Layout reference lines in similar geometry relationship
  - Construct active profiles on the reference lines
  - Remove the geometry rules from the reference lines
  - Remove the geometry rules from the profiles

Civil Cells Example: Basic Steps - 3D

- 2D Geometry with profiles
  - Place the 2D Civil Cell object, drop the Civil Cell
  - Add additional construction lines for 3D breaklines
  - Construct active profiles on all 2d elements
  - Test Create Civil Cell
    - Snaps: Create rule
    - Trims: Create Rules
  - Select 3D lines for boundary and breaklines,
    - Create terrain from elements
    - Add surface template
  - Add Linear Templates and corridor objects
  - Use Project Explorer to name references
  - Test new Civil Cell on other geometry

Contact Information

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