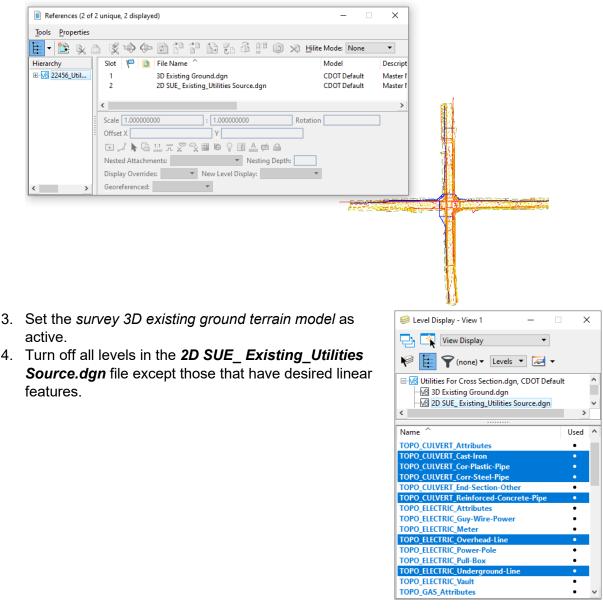
CDOT – Setting Up 2D D&U Linear Data For Display In Cross Sections

This is a supplemental workflow to outline the steps to take MicroStation based utility linear data and configure it for annotation of utility data in Cross sections outside of the full D&U modeling effort.

- 1. Launch **OpenRoads Designer** (ORD) and create new file from 2D Seed.
- Reference SUE File (2D Existing utilities source file) & the survey 3D Existing Ground Terrain Model. In this example 2D SUE_Existing_Utilities Source.dgn is the SUE file and 3D Existing Ground.dgn contains the existing terrain model.



5. In the *References* dialog box, highlight the SUE File (2D SUE_ Existing_Utilities Source.dgn in this example), **right click** on it, and select **Merge into Master**. Into Master

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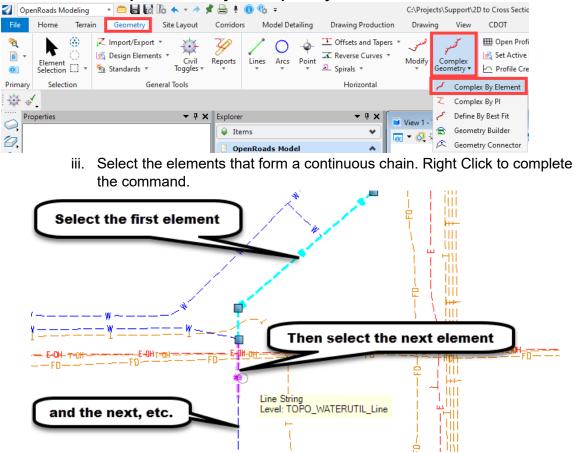
- 6. Optional: Set color on all lines to single a color (different than utility colors)
- 7. Open the *Feature Definition Tool Bar* and set the desired 2D Utility Feature. In this example, **WTR EX 2D** is used.
- 8. Toggle on the **Use Active Feature Definition** button.

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9. Apply Feature Definitions to the utility lines.

Note: There is a defect in the 10.08 version of the software that prevents the annotation in cross section of elements created with the **Create Civil Rule Feature** Command

- a. For ORD 10.08
 - i. Use **Complex By Element** to generate civil geometry for all lines that could cross needed sections Repeat for all needed utility types and lines.
 - From the ribbon, select the Geometry tab > Horizontal group > Complex Geometry > Complex By Element command.



Note: If the element to be converted is a single element (line or line string), set the *Method* to **Automatic**. The Manual Method does not allow for a single line to be selected.

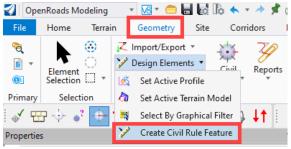
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b. For 10.10 / 21R1 & 10.12 / 22R3

i. Select all of the elements that will use the selected *Feature Definition*. This can easily be accomplished by using either the expanded Element Selector tool settings or the **Select By Attributes** command.

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ii. From the ribbon, select the **Geometry** tab > **General Tools** group > **Create Civil Rule Feature** command.



- iii. Left Click in the view to execute the command.
- 10. Select all new geometry elements with the same feature definition. **Note**: the elements selected above should still be selected after the civil rule is added.

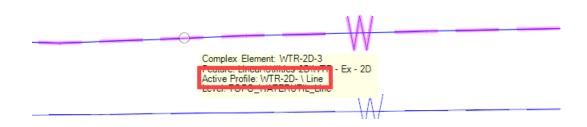
11. From the ribbon, select the **Geometry** tab > **Vertical** group > **Profile Creation > Profile From Surface** command.



12. Set the *tool settings* as shown below and apply surface profile.

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13. Confirm that created profiles were set as the Active Profile.



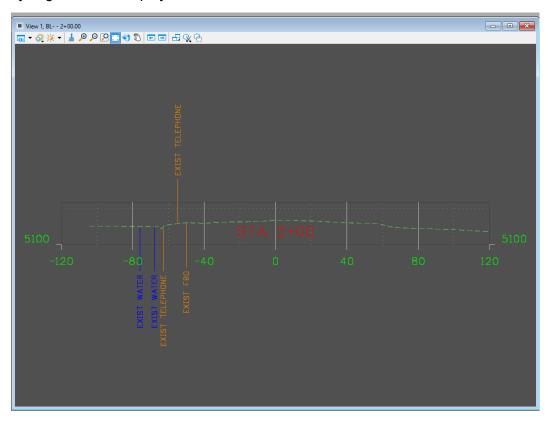
- 14. Open the DGN file containing the cross sections.
- 15. Reference newly created utility file to cross section file.

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- 17. From the ribbon, select the **Drawing Production** tab > **Annotations** group > **Drawing Model Annotation** command.
- 18. In the Annotate Drawing Model tool settings dialog box, select XS Labels Utility 2D

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The utility flags are now displayed in the cross sections