KDOT CADD SUPPORT

Kansas Department of Transportation

ANNOTATION CORRIDOR

Applying Geology Annotation Corridor in Road Cross Sections

Laura R. Baker [KDOT]
KDOT CAD Support

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Geology Annotation Corridor Overview

Background

With the move to CONNECT edition, many workflows have required adjustments. Files that were used downstream by other Bureaus no longer exist or do not have the needed data or better methods utilizing native automation within the OpenX products.

This 3D geology workflow is a way to provide Road Design with the Geologic layers without a need to pass files back and forth, where previously Geology took a copy of the Road XS stack file and added those layers then sent it back to Road Design.

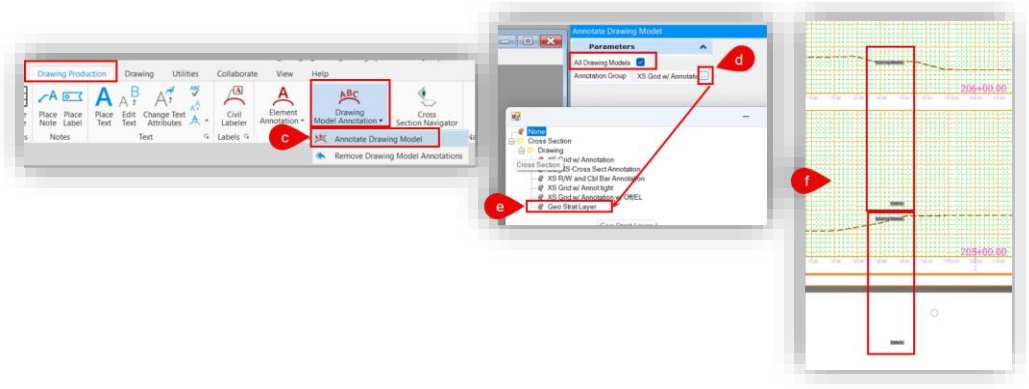
Adding the Geology Annotation Corridor (GCO)

It is possible that some cross sections will need to be cut after applying the Geology Annotation corridor.
This is because typical cross sections may not be cut deep enough to properly label the geology layers in some areas. Both methods are outlined below.

Apply Annotation Corridor to Existing RXS Drawing/Sheet models

Care should be taken when using an existing Cross Section Sheet file that the geology layers display in the cross sections appropriately. The following are steps to add the Geology Annotation corridor to an existing RXS file.

a. Attach as a reference the GCO file from geology with nesting to display the associated terrains (Depth of 1 should be enough).
    a. Nesting may need to be set in both 2D and 3D models.
    b. Alternatively, attach both the GCO and the GTM separately.
b. Navigate to any drawing model
c. From the OpenRoads Modeling Workflow, Select Drawing Production→Drawing Model Annotation→Annotate Drawing Model
d. In the Annotate Drawing Model dialog, check "All Drawing Models", and Click the ellipses next to Annotation Group
e. In the Pop up, expand Cross Section and Drawing and select "Geo Strat Layer" and datapoint to accept
f. Open a sheet model to verify annotation was successful
    a. In this case, the cross sections are not deep enough so the label appears off grid

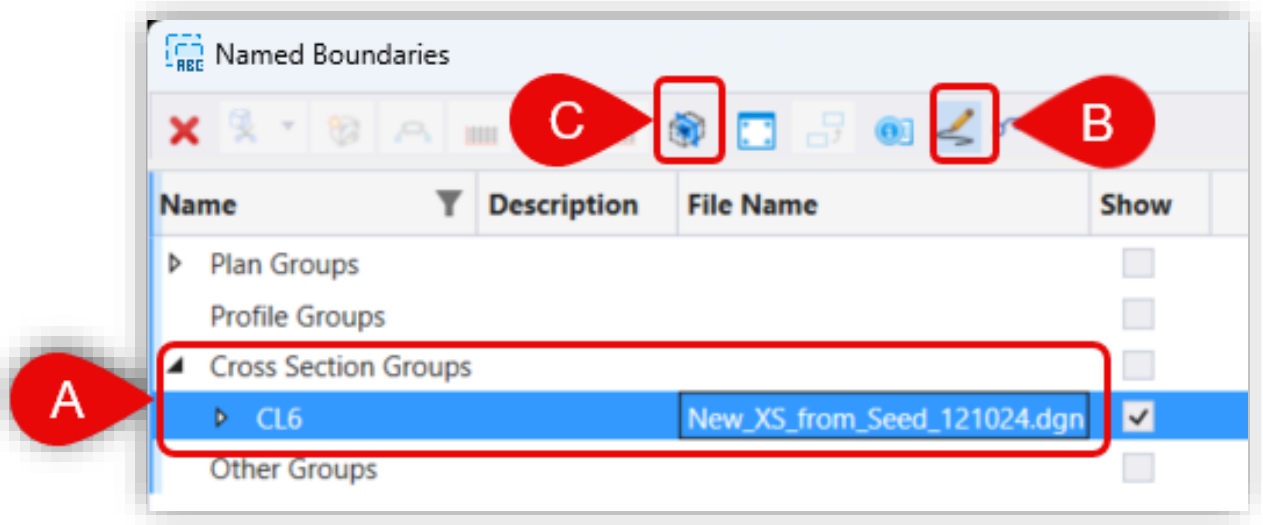


Create New Boundaries if needed

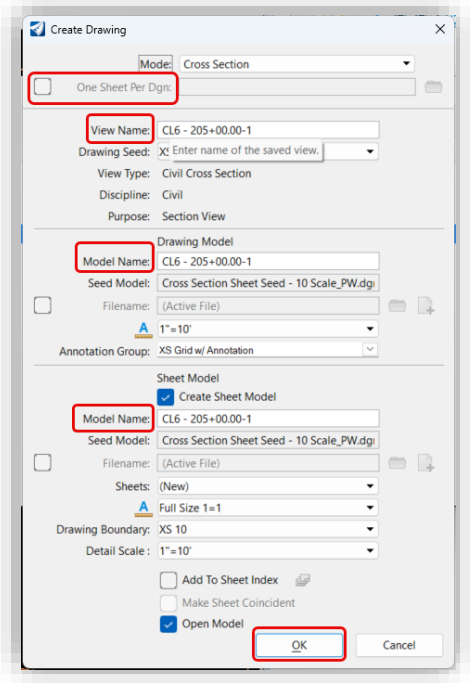
Create New Named Boundaries for Cross Sections (If needed)

When creating Named Boundaries for Cross Sections with Geology layers, it may be necessary to have deeper cross sections in some areas.

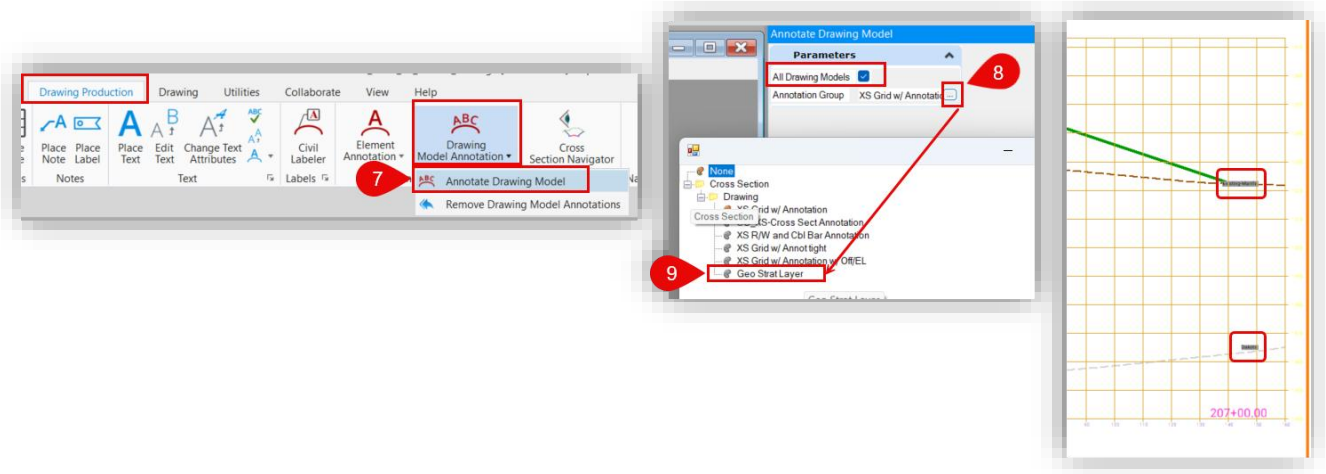
1. Using CADconform, select the KDOT_Common library→Named Boundaries for Sheeting→Place Named Boundary – Civil CrossSecton
    a. Using CADconform sets the color/level/weight/etc. of the named boundary
2. In the Place Named Boundary Civil Cross Section dialog box
    a. Select Drawing Seed (XS 5 or XS 10)
    b. Adjust offsets as needed
    c. Adjust Top and Bottom Clearance (Depth Adjustment)
        i. Increase Top moves top of cross section up
        ii. Increase Bottom moves bottom down
            1. See PAGE 4 for example settings
3. Once all boundaries are created, navigate to the Named Boundary Manager to create the drawing and sheet models.
4. In the Named Boundary Manager
    a. Expand Cross Section Groups and select the top-level group
    b. Toggle on "Show the Create Drawing Dialog" icon (pencil)
    c. Click the "Create Cross Section" icon



5. In the Create Drawing Dialog, change any settings necessary and click OK
    a. The default settings are sufficient but may want to change view/model name or generate one sheet per dgn for titleblock integration.



6. Once drawing model and sheet models have been created, navigate to a drawing model
7. From the OpenRoads Modeling Workflow, Select Drawing Production→Drawing Model Annotation→Annotate Drawing Model
8. In the Annotate Drawing Model dialog, check "All Drawing Models", and Click the ellipses next to Annotation Group
9. In the Pop up, expand Cross Section and Drawing and select "Geo Strat Layer" and datapoint to accept
10. Open a sheet model to verify annotation was successful
    a. This time our annotations and the geology layers display

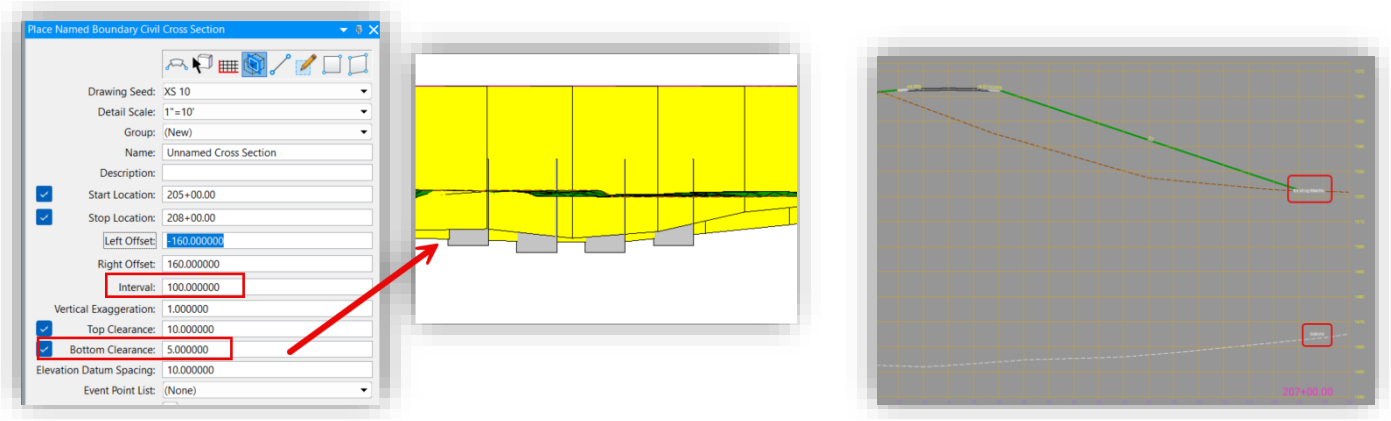


Example Named Boundary Settings and Results

XS 5 is not recommended for this workflow.

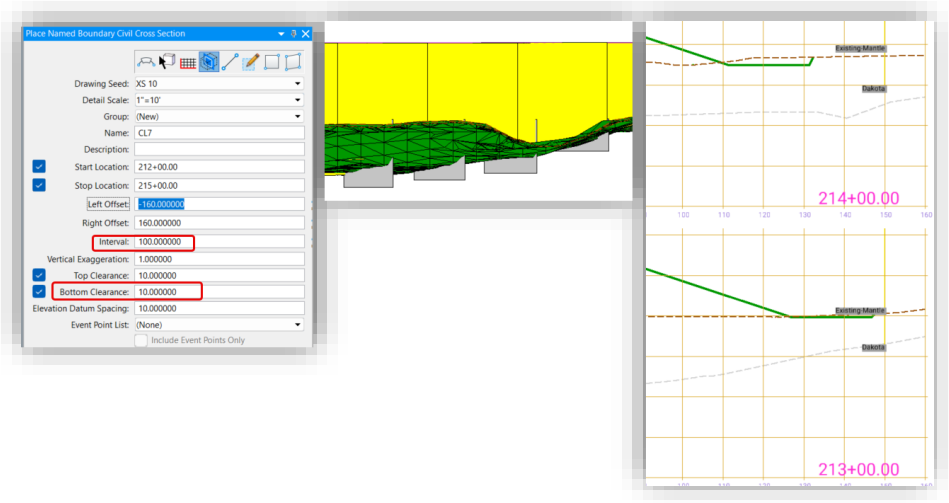
XS 10 with Bottom Clearance of 5

- In this case, the existing sheets were cut at 100' intervals.
- We will use a bottom clearance of 5.
- In the 3D model, we can see the boundaries protrude below the geology corridor (in yellow) and the resulting drawing model which has the existing terrain, and the geology terrain displayed and labeled.
    - Will need to annotate drawing model with Geology Strat Layers



XS 10 with Bottom Clearance of 10

- In this case, the existing sheets were cut at 100' intervals.
- We will use a bottom clearance of 10.
- In the 3D model, we can see the boundaries protrude below the geology corridor (in yellow) and the resulting drawing model which has the existing terrain, and the geology terrain displayed and labeled.
    - Will need to annotate drawing model with Geology Strat Layers



Appendix

Troubleshooting/FAQ's

Q: What happens if I do not see the Geology layers, but I do see labels?

A: This is likely because the cross section was not cut deep enough to see the linear element for the geology layer, but a label persists to indicate there is geology in this section. Collaboration between Road Design and Geology may be needed to determine if the cross section should be re-cut or if the label can simply be deleted.

NOTE: If the annotation has to be removed and reapplied, labels previously deleted will have to be deleted again.

Q: What happens if no linear elements or annotations display?

A: Common causes are:

- Template Point edits were not applied
- Template points were edited but all fields were not set correctly
- A corridor was created but Template Drop did not get applied
- Settings for 2D Reference attachment of Geology Annotation Corridor are not correct.

Support

If there are any questions or issues regarding this workflow while applying it to your project, please send an email to ebitsm@ks.gov and cc kdot#cadd.support@ks.gov

This document is a general guide for creating data in the OpenX software and doesn't include specific Road Design Workflows.