KDOT CADD SUPPORT

Kansas Department of Transportation

BRIDGE CONSTRUCTION LAYOUT

Sheeting Workflow

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KDOT CAD Support

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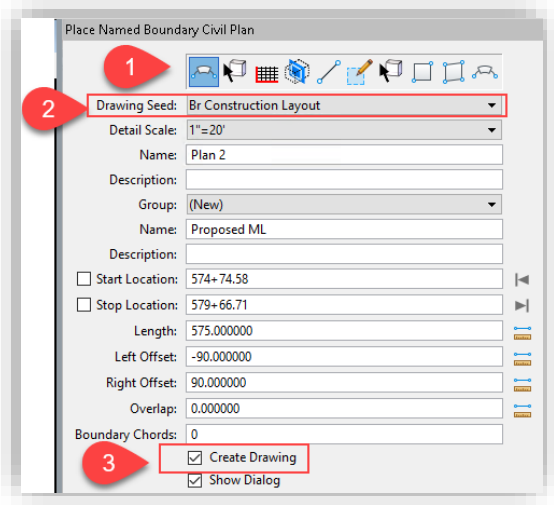
Create New DGN with Microstation Seed

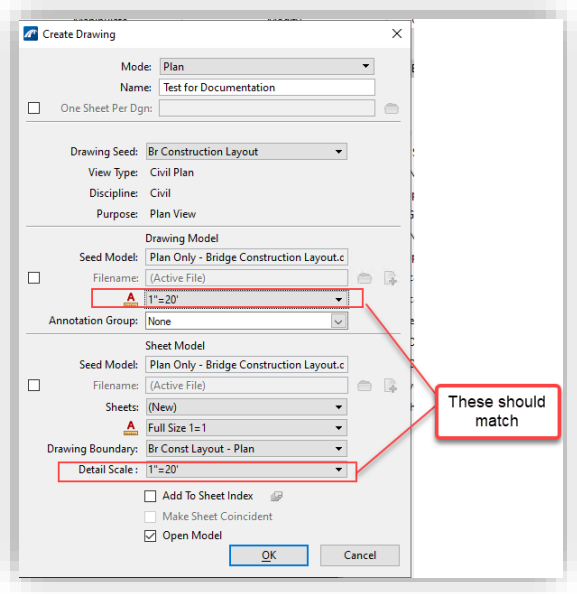
- Create new Design file using Microstation 2D seed file
  - Set Coordinate System
  - Set Annotation Scale
- Attach Bridge Base file in Design Model (set nesting depth to display desired content)
  - Rotate if desired but not necessary
  - If using v8i reference(s)
    - Will need to change Global LineStyle Scale from Master to Reference in attachment settings
  - For Connect workspace resources, the Global LineStyle Scale will be Master
- Locate area for Bridge (TIP: Save settings so when it opens it takes you directly there)
  - Turn levels off as needed
  - Can clip the reference if desired

Create Named Boundary for Bottom View Port (Plan)

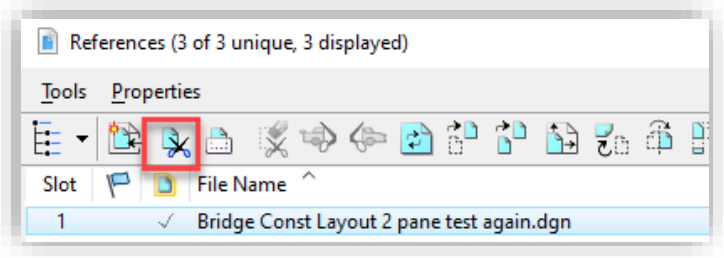
Plan View of Alignment in Bottom Port of Sheet

- Create Named Boundary
  - CADconform→KDOT Common→Named Boundaries for Sheets→Place Named Boundary – Civil Plan
    - In Drawing Seed dropdown select "Bridge – Const Layout - PLAN"
  - Be sure that Create Drawing is selected
    1. Locate alignment
    2. Select Start location and then accept until the Create Drawing Dialog comes up
       - These can be manually entered, or you can click in the DGN for Start/Stop locations
       - Modifications can also be made to the "Length, Left & Right Offsets, Overlap, etc."
- Create Drawing Dialog (Named Boundary for Bottom Port)
  1. You will notice it pre-fills everything for you
     - You can change the name at the top if you want something specific
  2. Click OK
  3. You should be taken to the sheet





- On the Sheet Model
  - Click on the Attach tools icon on the Home Page and select Clip
  - Click on the lower port area in green to clip the reference to cut out the lower right box

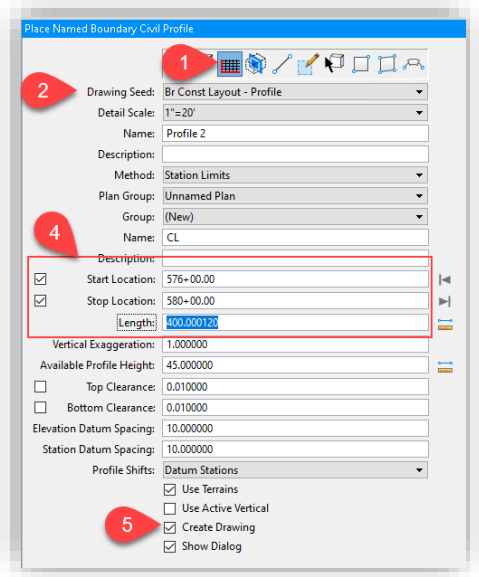


Create Named Boundary for Top View Port (Profile)

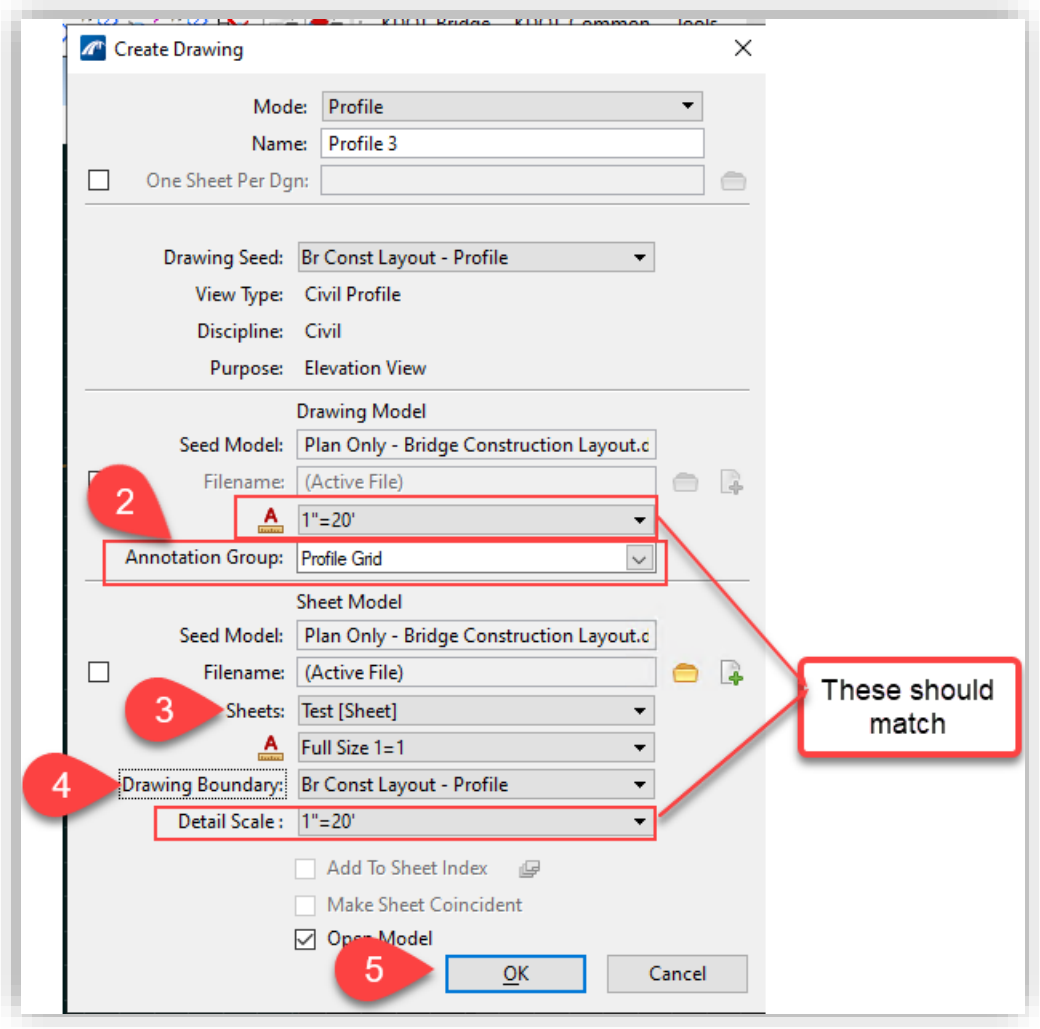
Existing Ground Profile for Bridge Detail

- Go back to the design model and open a Profile View
- Place Named Boundary
- CADconform→KDOT Common→Named Boundaries for Sheets→Place Named Boundary – Civil Plan
  - In Drawing Seed dropdown select "Bridge – Const Layout - PROFILE"
- Be sure that Create Drawing is selected
  - Use Terrains and Use Active Vertical should also be checked

1. Locate the Profile View (Click anywhere in the Profile View)
2. Fill in fields as necessary
   - Recommendation is to use Method "Station Limits" and fill in the station range in the Start/Stop locations
     i. These can be manually entered, or you can click in the DGN for Start/Stop
3. Be sure that Create Drawing is selected



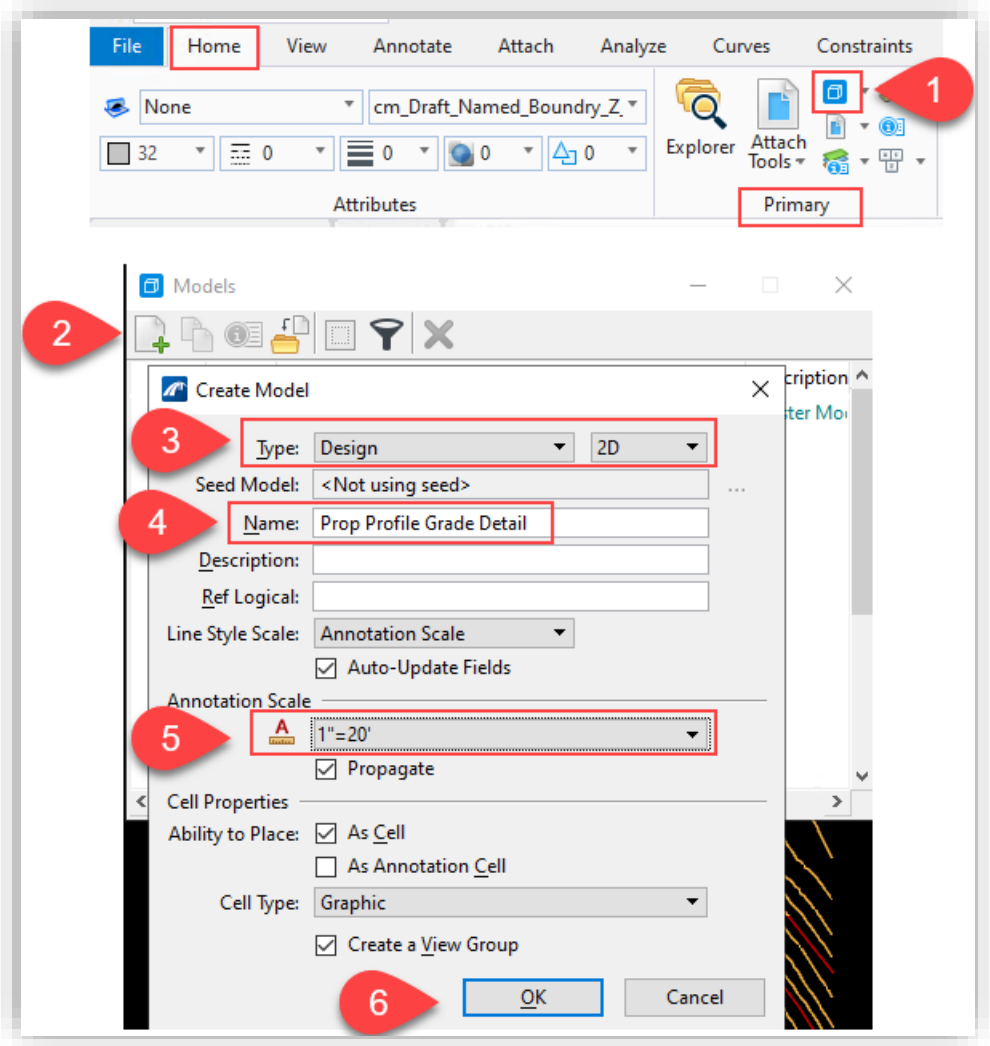
- Create Drawing Dialog (Named Boundary for Top View Port)
    1. You will notice it pre-fills almost everything for you
        - You can change the name at the top if you want something specific
    2. Select the Annotation Group
    3. Select Existing Sheet created for Plan View
    4. Drawing Boundary is "Bridge - Const Layout – PROFILE"
    5. Click OK and you should be taken to the sheet with the Top and Bottom ports filled out



Create Proposed Profile Grade Detail

Proposed Profile Grade Detail – New Design Model

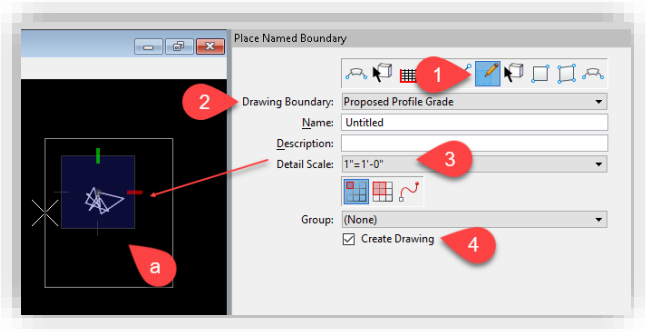
- It is highly recommended that a new model be created for the Proposed Profile Grade Detail
    1. A new model can be created by navigating to the HOME tab→Primary Section→Models
    2. In the Models Dialog, Click the Paper with the Green Plus for a new Model
    3. Select the Type of Model (In this case Design 2D
    4. Name the Model
    5. Select the Annotation Scale for this Design Model
    6. Click OK



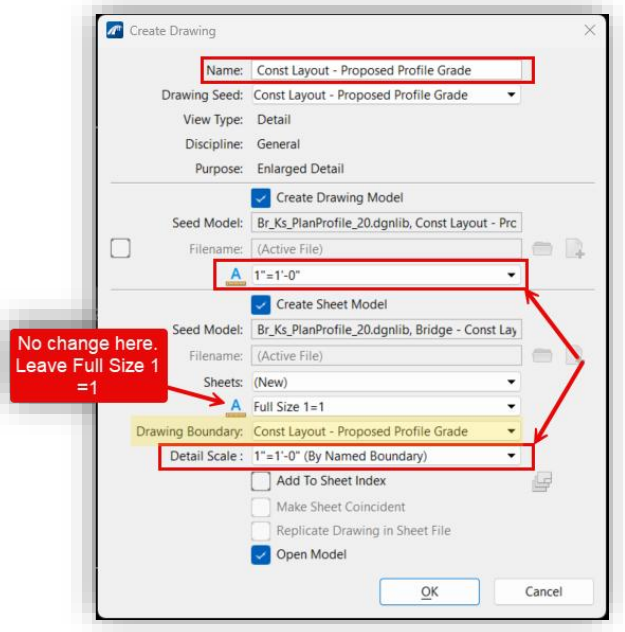
Proposed Profile Grade Detail – Named Boundary

- Once you have your detail drawn in the new model, you can place your Named Boundary

1. CADconform→KDOT Common→Named Boundaries for Sheets→Place Named Boundary-By Drawing Boundary
2. Select Drawing Boundary "Const Layout - Proposed Profile Grade"
3. Select your Detail Scale
    a. A preview of the boundary will appear in the model and the scale can be adjusted to best fit your detail design
4. Be sure the Create Drawing Dialog is checked and left click in the design to accept placement and bring up the Create Drawing Dialog



- Create Drawing Dialog (Named Boundary for Proposed Profile Grade Detail)
    1. You will notice it pre-fills almost everything for you
        - You can change the name at the top if you want something specific
        - Check the Detail Scale to make sure it matches in the Drawing and Sheet model sections
    2. Select Existing Sheet created for Plan & Profile Views
    3. Drawing Boundary is "Const Layout – Proposed Profile Grade"
    4. Click OK and you should be taken to the sheet with all the ports filled out



A Note about Annotations

General Information

Now that the sheet has been created, you are ready to add any notes, dimensions, etc

- **Design Model** contains design level annotations such as stationing
- **Drawing Model** contains detail level annotations such as dimensioning, Sta. Offset/Elev.
- **Sheet Model** contains sheet level annotations such as North Arrow, Sheet specific notes

See KDOT Connect Edition Model Diagram and KDOT Non-Civil Sheeting Guidance for more information.

Construction Layout Specific Information

Any additional Bridge Details should be done in the Construction Layout – Profile Drawing model.

- This ensures labels have access to the civil data to properly populate labels
    - Sheet models do not have access to civil data

Any additional details or labels for the Plan View should be done in the Construction Layout – Plan Drawing model.

- This ensures labels have access to the civil data to properly populate labels
    - Sheet models do not have access to civil data

NOTE: A broader conversation surrounding the appearance of certain elements and text on the sheet will need to take place within the Bureau. There are many ways to automate labelling to gain efficiency, but these may not replicate legacy workflows.

Support

If you need assistance with your project using this workflow, please send an email to ebitsm@ks.gov and cc kdot.cadd.support@ks.gov

This ensures maximum visibility from our team to get you a response in a timely manner.