

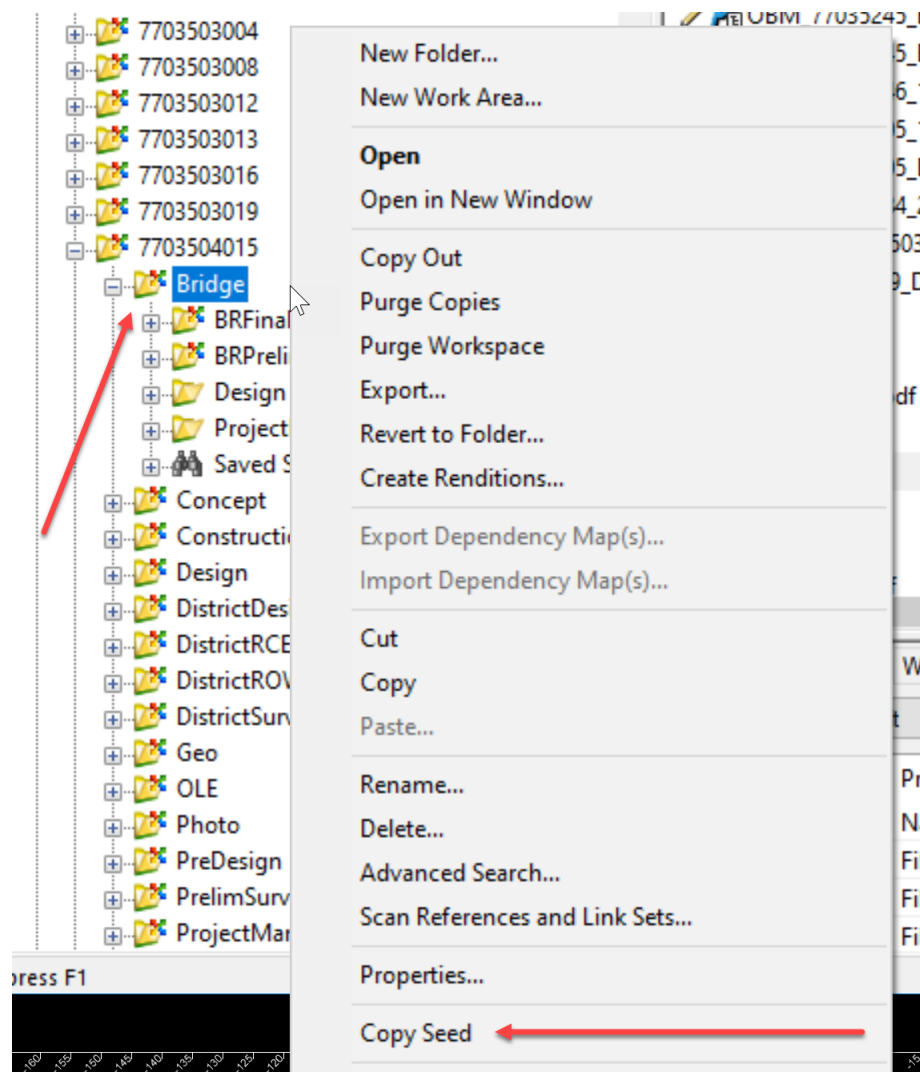
Setting up the MicroStation File to do Drainage Design.

These instructions were created on 4/28/2021. These instructions were created with:



OpenRoads Designer CONNECT Edition - 2020 Release 3 Update 9 - Version 10.09.00.91

The first step to doing a drainage design in CONNECT is to create the files needed to do our work in. In ProjectWise, use the Copy Seed tool. Navigate to the correct project directory for the project, right click on the project folder and select the Copy Seed command.



This will open this tool:

Copy Seed v .08

File Suffix:

Name of file to create (CCRRRPPP) :
C=County, R=Route, P=Parenthesis

Location of file to create: Projects\7703504015\Bridge

Choose file type:

Extension of file to create : Scale of file to create :

Next, name the file. For pipes, the naming convention for this file is
 ORD_CCRRRPPP_DOT_PIPE_CULVERTS_SPN. **ORD**=the version of MicroStation that the work is done in
CC=County **RRR**=Route **PPP**=Parenthesis **DOT**=company and or source of the file **PIPE_CULVERTS**=type
 of work **SPN**=coordinate projection of this project. For this example, the file will be
 ORD_77035309_DOT_PIPE_CULVERTS_Z08.dgn.

Copy Seed v .08

File Suffix:

Name of file to create (CCRRRPPP) :
C=County, R=Route, P=Parenthesis

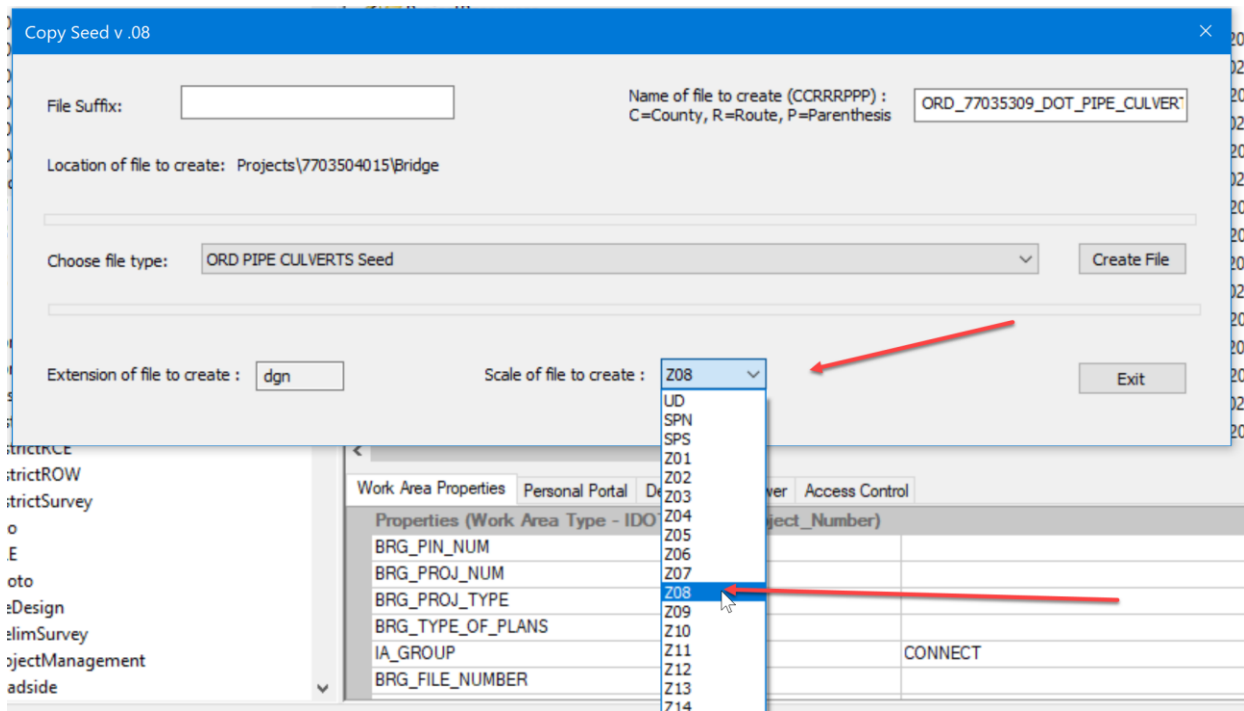
Location of file to create: Projects\7703504015\Bridge

Choose file type:

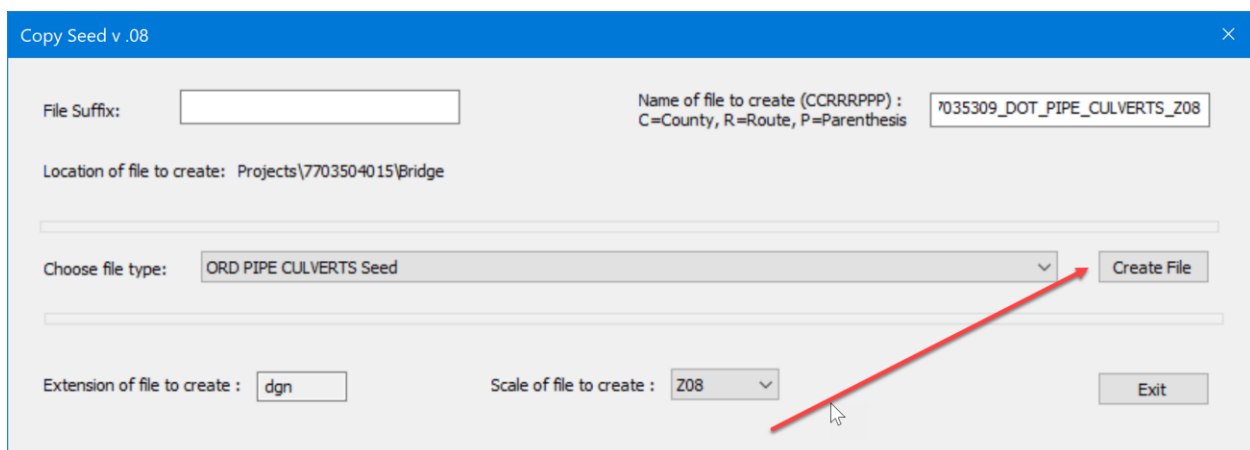
Extension of file to create :

ORD 2D Seed
 ORD 3D Seed
 ORD Title Sheet (A)
 ORD Detail Sheet Seed (B,J,U)
 ORD Legend Sheet Seed
 ORD STRUCTURES OVER VIEW Seed
ORD PIPE CULVERTS Seed
 ORD STRUCTURES Seed
 OBM 3D Seed
 ORD Berm and Revetment Seed
 Bridge Plan Production Seed
 Excel Tabulation (C, CD, CS, G, J, RC, S, T) File (*.xslm)
 M Sheet Stormsewer Calc File (*.xslm)
 T Sheet Earthwork Calc File (*.xslm)
 C Sheet Bridge Approach Calc File (*.xlsx)

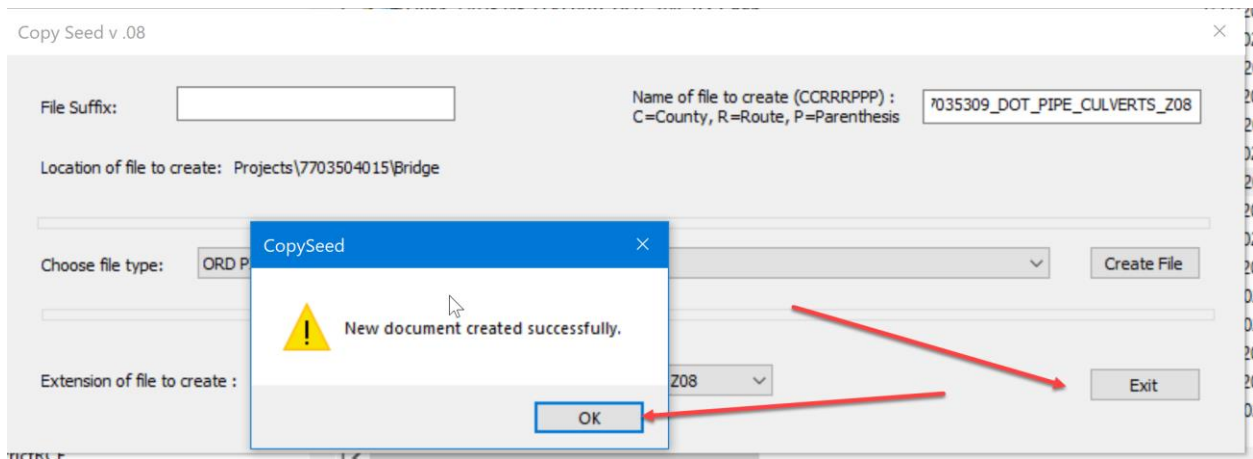
Next, select the correct file type. For this work, choose the ORD PIPE CULVERTS Seed.



Next, select the correct coordinate projection for this file. For this example, select Z08 for IaRCS Zone 08. Then click on the Create File button.



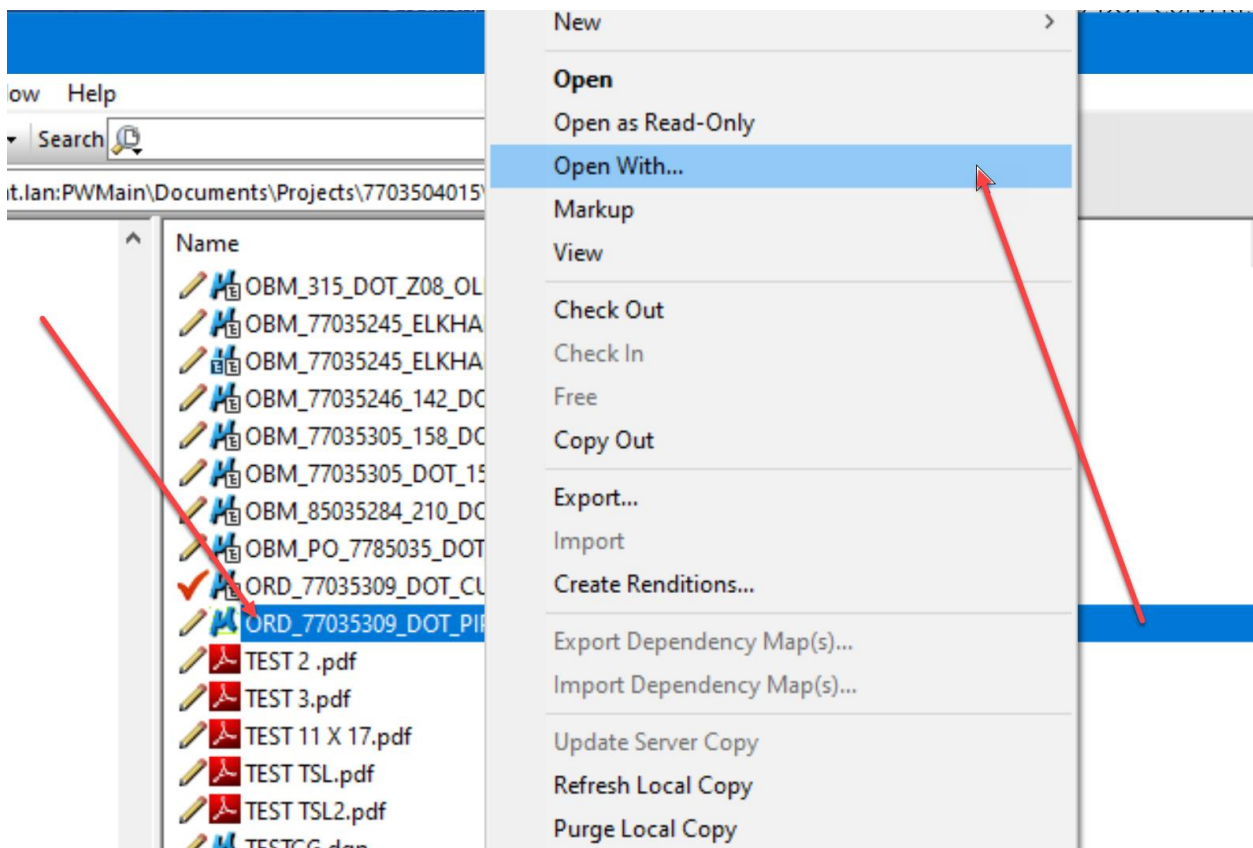
This will create the correct MicroStation file in the project directory. A message displays saying New document created successfully. Click ok on the message.



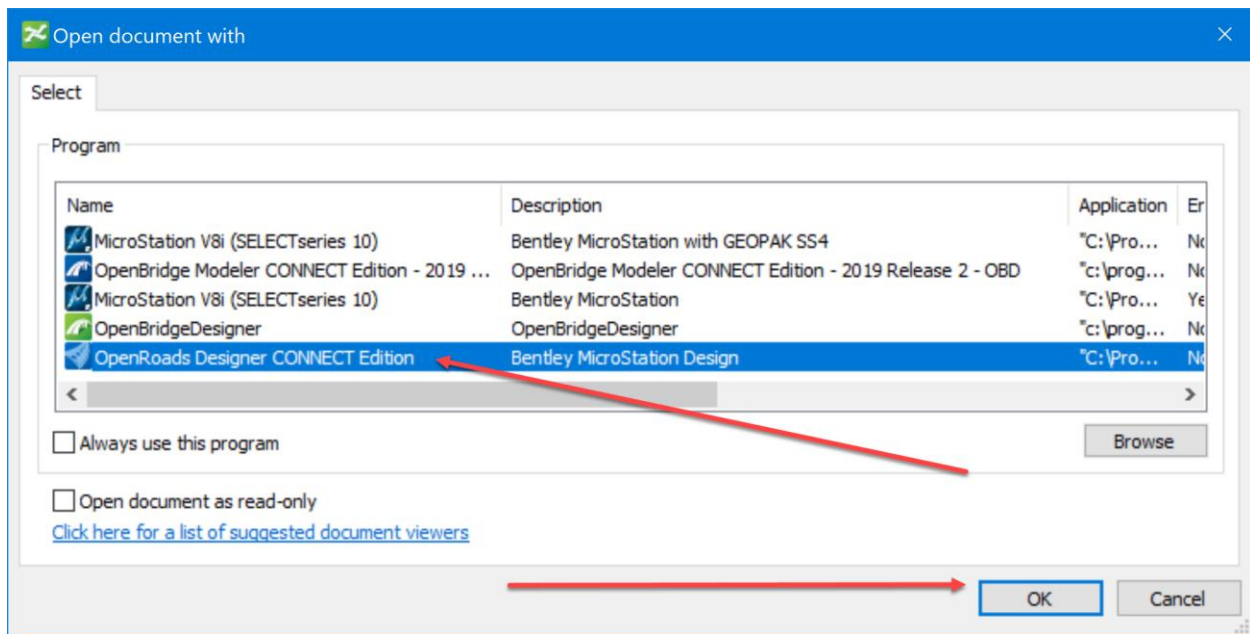
Then click on the Exit button to close the Copy Seed tool.

If your design includes RCB, Flume or drop basins, then repeat this process in order to create an ORD_CCRRRPPP_DOT_STRUCTURES_Z##.dgn file for these types of designs.

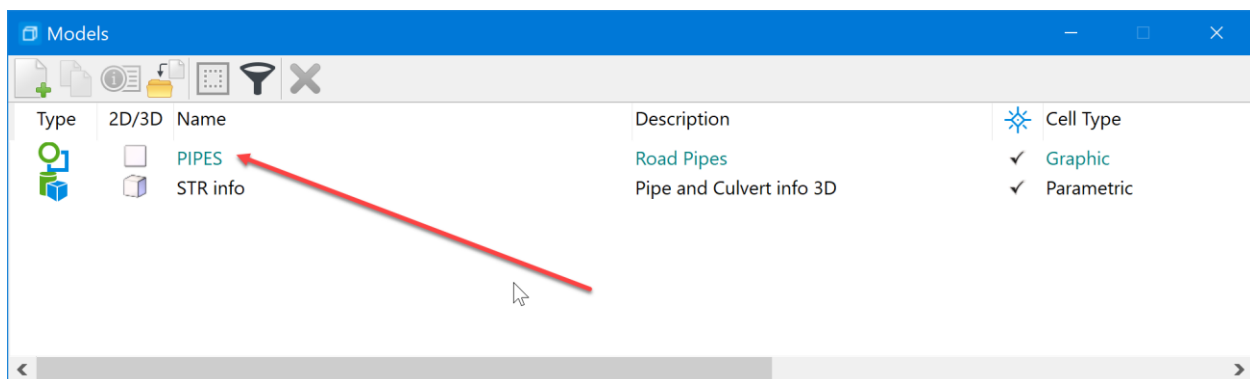
Once the MicroStation file is created, open it in the project directory. Select the file then right click and select the Open With option.



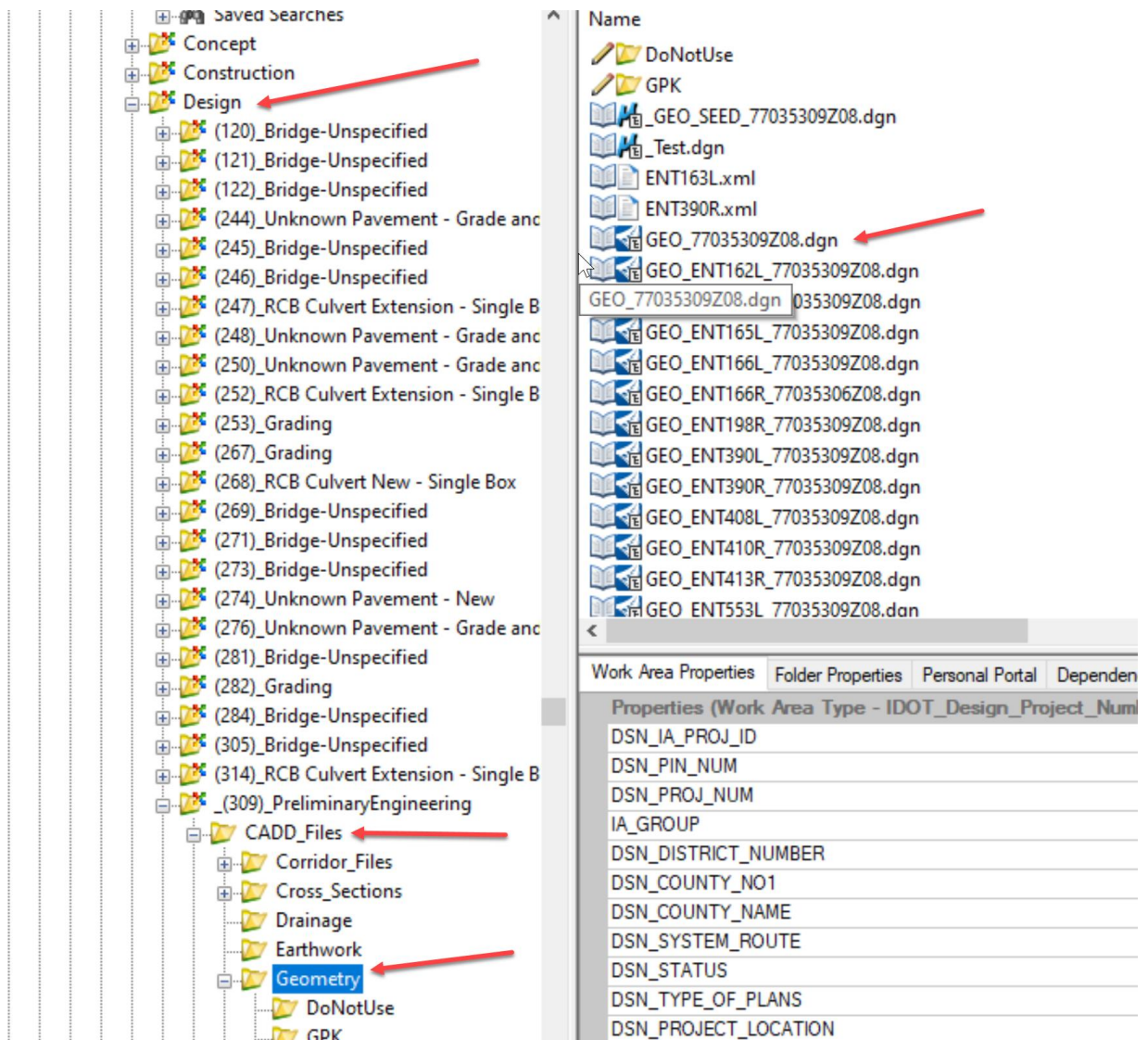
Next, select the OpenRoads Designer CONNECT Edition program. Then click on OK.



Now that the file is open, first set the file up to make a 3D cut of the proposed corridor and/or a dynamic section of the proposed corridor.



To perform either function: In the PIPES model, reference in the Road Design alignment that has an active profile, this file should be located in the Design folder under the CADD_Files\Geometry\ folder. Select the GEO Alignment file that is named GEO_CRRRPPZZZ.dgn. For this example, it will be GEO_77035309Z08.dgn



This is the container GEO file that will contain all the Alignments for this project.

Reference Attachment Properties for ...\\GEO_77035309Z08.dgn

File Name: PW_WORKDIR:d1035644\\GEO_77035309Z08.dgn

Full Path: c:\\pw_work\\pwmain\\ediedri\\d1035644\\GEO_77035309Z08.dgn

Model: Default

Logical Name:

Description: Master Model

Orientation:

View	Description
Coincident	Aligned with Master File
Coincident - World	Global Origin aligned with Master File
Geographic - AEC Transform	Calculated Transform, max error 2.355e+05 sf
Geographic - Reprojected	Reproject reference data to Master GCS
+ Standard Views	
Saved Views (none)	
Named Boundaries (none)	

Detail Scale: Full Size 1 = 1

Scale (Master:Ref): 1.000000000 : 1.000000000

Named Group:

Revision:

Level:

Nested Attachments: Live Nesting

Display Overrides: Allow

New Level Display: Use MS_REF_NEWLEVELDISPLAY Config

Global LineStyle Scale: Master

Synchronize View: Volume Only

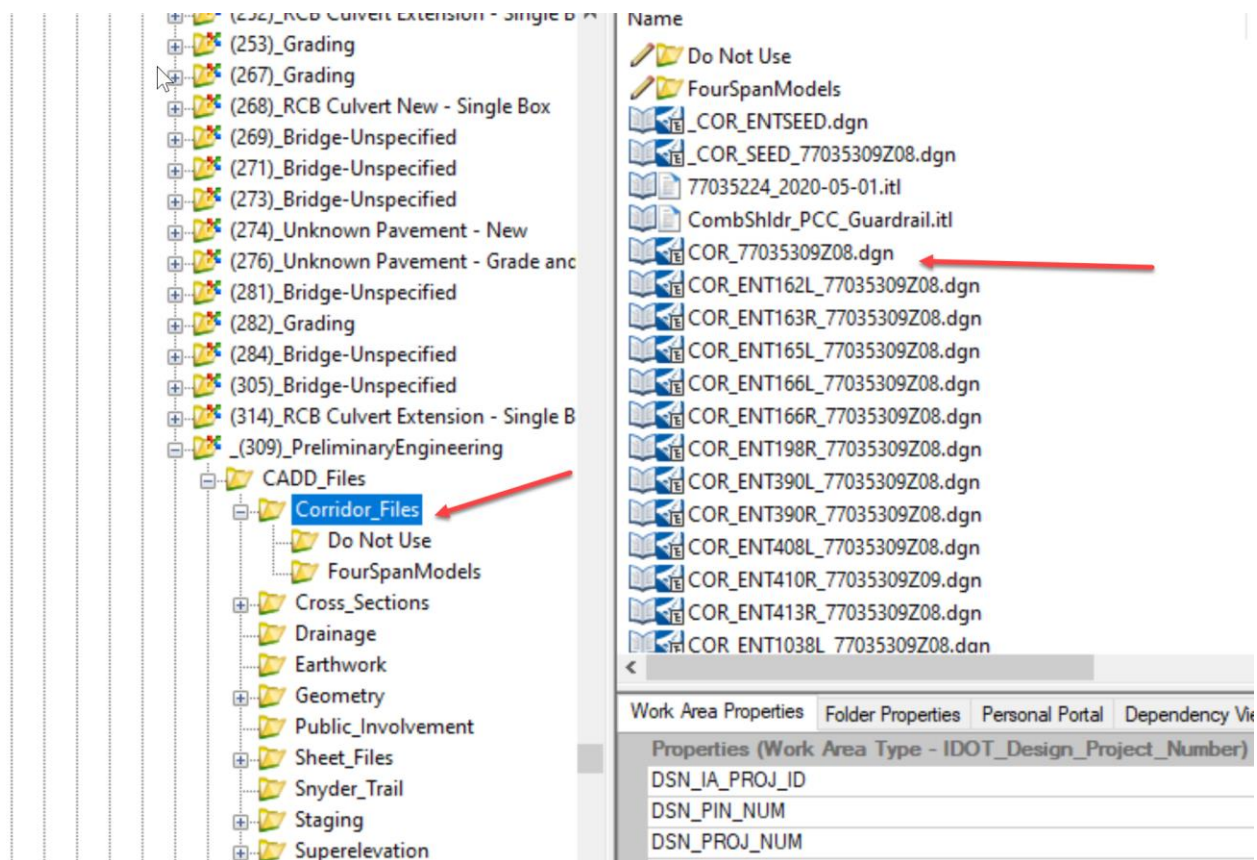
Nesting Depth: 1

Toggles

OK Cancel

Attach the GEO file using the orientation of Coincident World. Then turn on the live nesting and set its depth to 1.

Next, reference the proposed corridor container file. This file should be located in the Design folder under CADD_Files\Corridor_Files\ folder. Select the COR Corridor file that is named COR_CCRRRPPZZZ.dgn. For this example, it will be COR_77035309Z08.dgn



This is the container COR file that will contain all the Corridor for this project.

Reference Attachment Properties for ...\\COR_77035309Z08.dgn

File Name: PW_WORKDIR:d1035641\\COR_77035309Z08.dgn

Full Path: c:\\pw_work\\pwmain\\ediedri\\d1035641\\COR_77035309Z08.dgn

Model: Default

Logical Name:

Description: Master Model

Orientation:

View	Description
Coincident	Aligned with Master File
Coincident - World	Global Origin aligned with Master File
Geographic - AEC Transform	Calculated Transform, max error 2.355e+05 sf
Geographic - Reprojected	Reproject reference data to Master GCS
+ Standard Views	
Saved Views (none)	
Named Boundaries (none)	

Detail Scale: Full Size 1 = 1

Scale (Master:Ref): 1.000000000 : 1.000000000

Named Group:

Revision:

Level:

Nested Attachments: Live Nesting

Display Overrides: Allow

New Level Display: Use MS_REF_NEWLEVELDISPLAY Config

Global LineStyle Scale: Master

Synchronize View: Volume Only

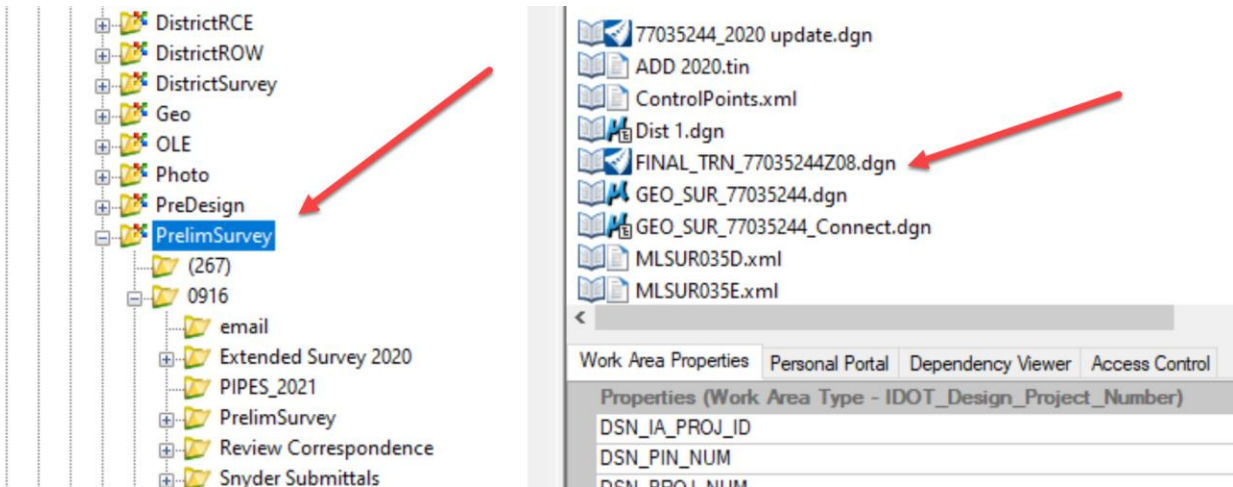
Nesting Depth: 1

Toggles

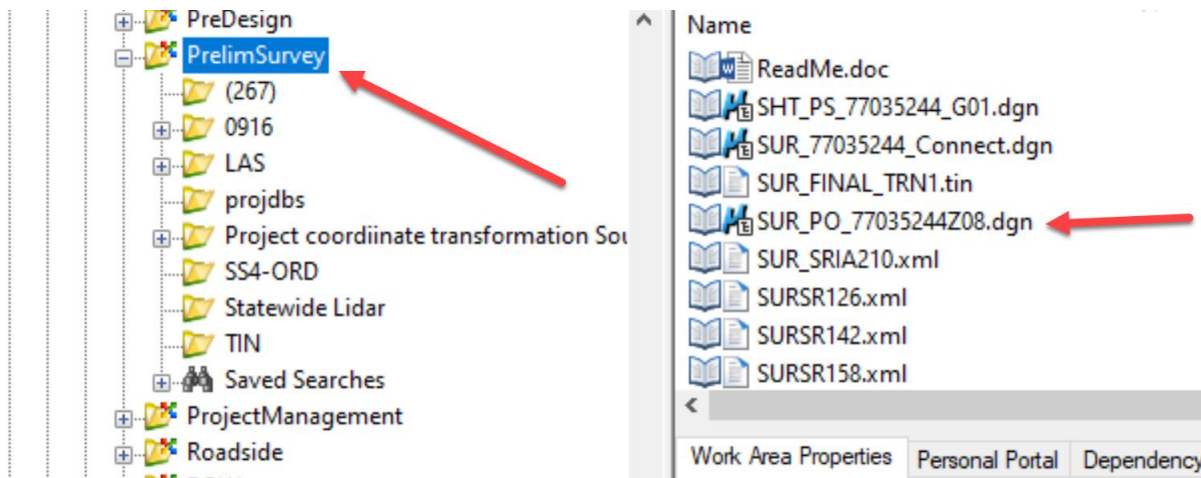
OK Cancel

Attach the COR file using the orientation of Coincident World. Then turn on the live nesting and set its depth to 1.

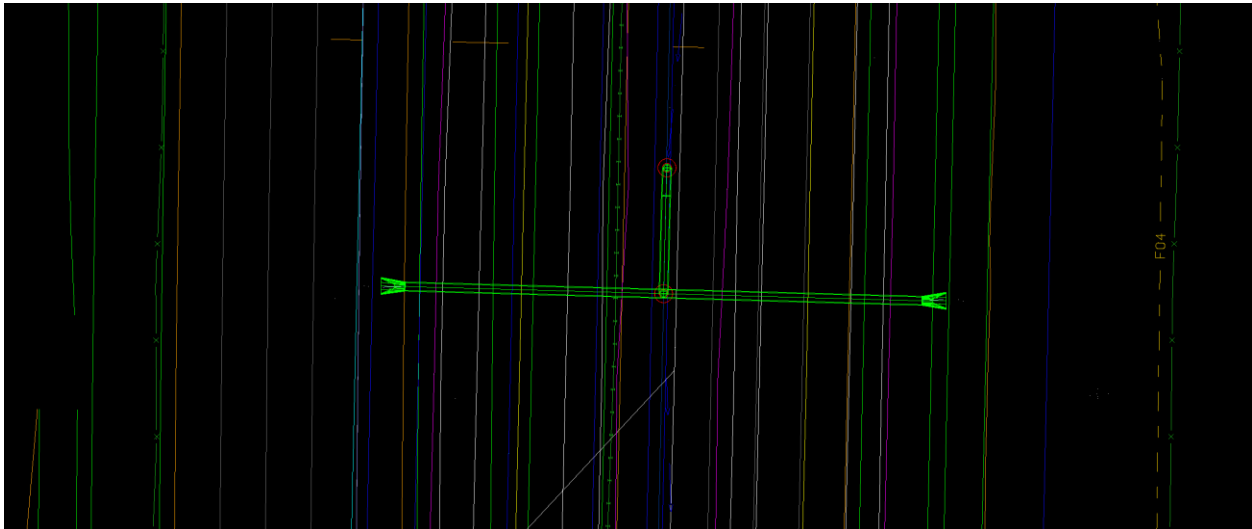
Next, reference in the existing ground. To do this, reference in the TRN file from the survey or Photo location. For this example, it is in the Prelim Survey folder and is called FINAL_TRN_77035244Z08.dgn



Next, attach the survey file that contains the existing 3D pipes and surrounding topo features that will be needed to do an effective design.

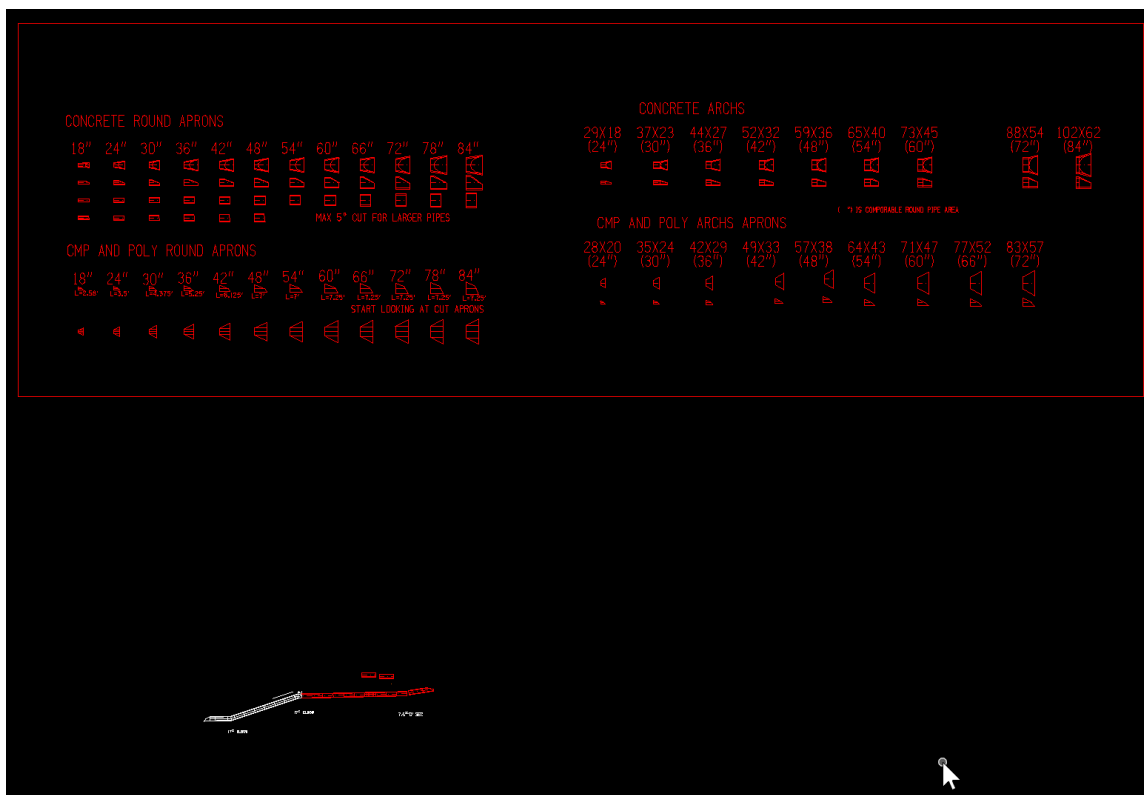


This should appear similar to below.



Make sure the files are referenced to the 2D model (that is the PIPES model in this MicroStation file).
ORD will make a managed model automatically once any 3D information is referenced to this 2D model.
ORD names the managed model PIPES-3D. This is a crucial step in setting up this workflow.


Next, reference in a file that contains a selection of our pipe aprons. This file is located in
pw:\\ntPwInt1.dot.int.lan:PWMain\\Documents\\IowaDOTStandardsConnect\\Configuration\\Organization
-Civil\\IowaDOT_Standards\\Cell\\BridgeDesignDetails\\[ApronsConnect.dgn](#). Then, find this referenced
content in the file. It should look like this:

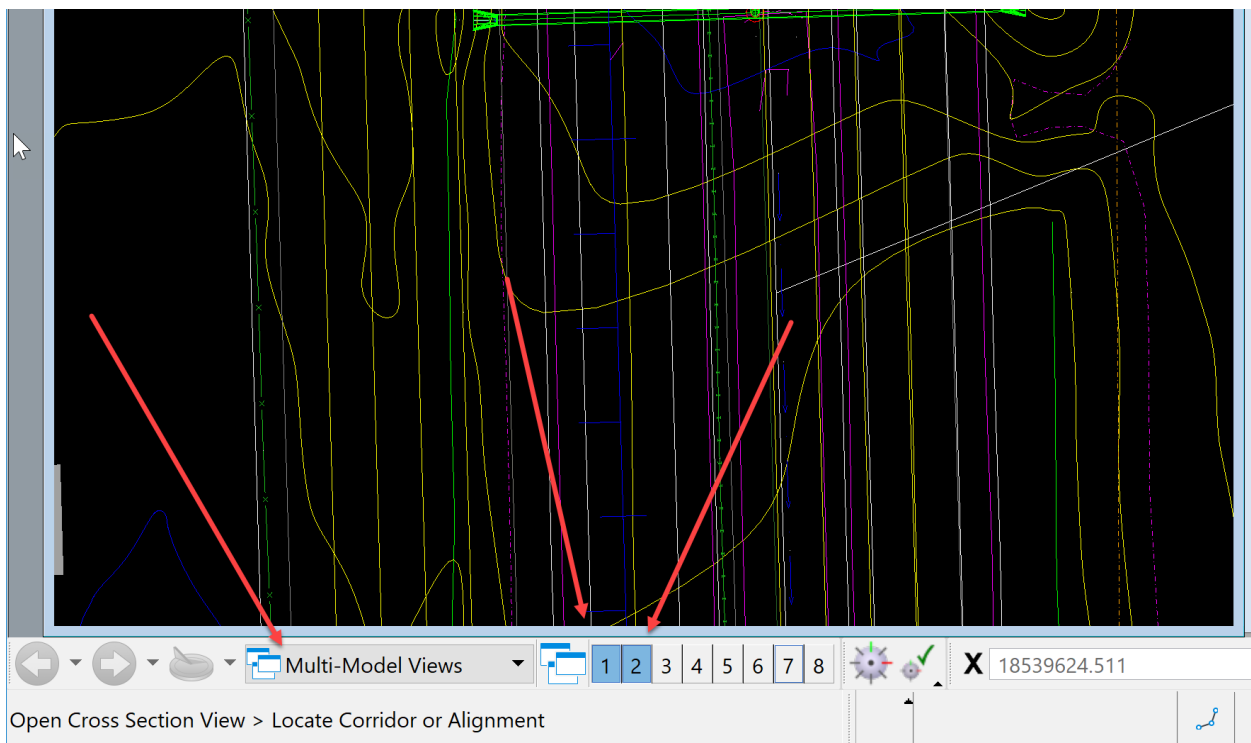


Next, select it with the Element Selection tool and with the copy tool make a copy of it and place it close to our design corridor.

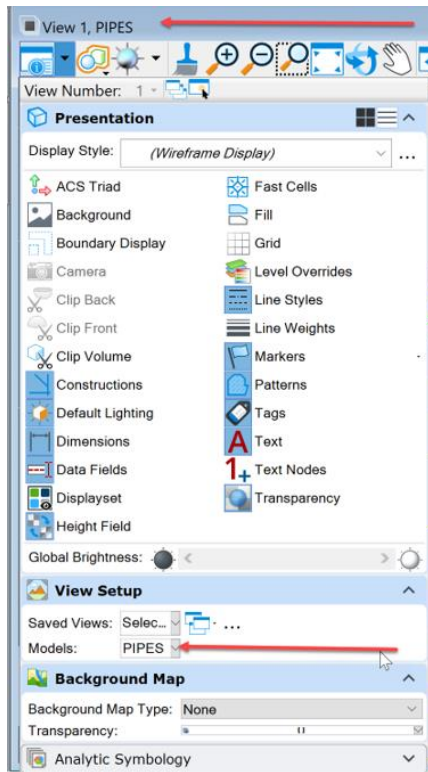


Then, detach the reference file.

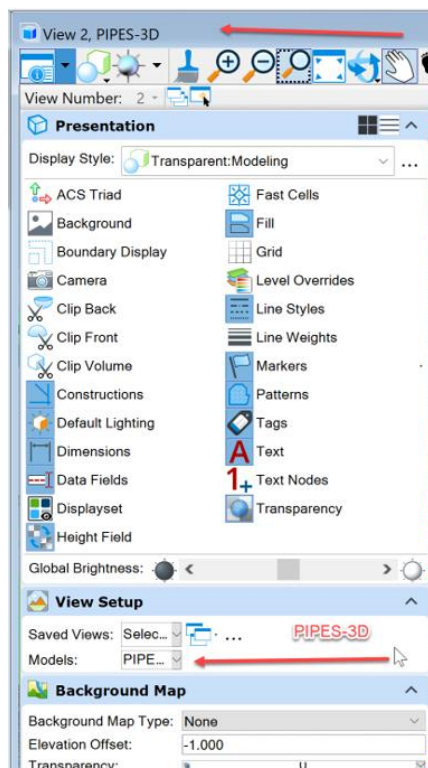
Next, set a few things in the file to make it a little easier to use. The first step is to set up the Multi-Model Views in this file.  Multi-Model Views This will allow viewing the 2D and 3D model at the same time. To set this up, open two views and then select the Multi-Model Views option.



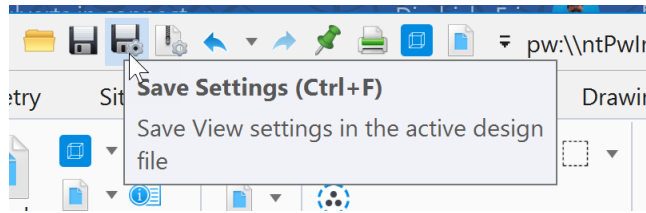
To verify that it is set correctly, open the View Attributes in each window and see what model it is set to. For our needs, set View 1 to the PIPES model which is the pipes 2D model.



For our needs, set View 2 to the PIPES-3D model which is the pipes 3D model.



This allows viewing and manipulating the information in the two models without having to change the model thru the model pallet. Once you have this set, save the settings so that the next time you get into the file there will be no need to set it up again.



Now that the file is set up, start designing and calculating our pipe inverts from the project information.