

CONNECT Seed Files and Naming Conventions

For CONNECT projects there are several seed files for use with OpenBridge Modeler (OBM), OpenRoads Designer (ORD), and ProStructures. When creating a file, make use of the file Description and apply a logical description or use one that is similar to the format in the example Descriptions shown in various locations of this document.

These seed files contain the models needed to develop the layout and modeling of structures and plan sheets. Some of the seed file options provided have the Iowa Regional Coordinate System (IaRCS) survey zone applied. The correct seed file must be used to appropriately model all structures in the correct coordinate location. For guidance on setting the IaRCS, see Road Design Manual Chapter 21, document **21C-71**, “Geographic Coordinate Systems in MicroStation” located on the Iowa DOT Road Design website.
<https://iowadot.gov/design/dmanual/21C-71.pdf>

The OpenRoads Designer (ORD) seed files for structure projects are located in ProjectWise with the CONNECT managed workspace at:

pw:\\NTPwint1.dot.int.lan:PWMain\Documents\Resources\ClientWorkspaces\IowaDOT\IowaDOTProduction\Organization-Civil\IowaDOT_Standards\Seed

The OpenBridge Modeler (OBM) seed files for structure projects are located in ProjectWise with the CONNECT managed workspace at:

pw:\\NTPwint1.dot.int.lan:PWMain\Documents\Resources\ClientWorkspaces\IowaDOT\IowaDOTProduction\Organization-Civil\IowaDOT_Standards\Seed\OBM

For 3D rebar modeling with ProStructures and for both 2D & 3D plan development and sheeting, the seed file used is located in ProjectWise with the CONNECT managed workspace at:

pw:\\NTPwint1.dot.int.lan:PWMain\Documents\Resources\ClientWorkspaces\IowaDOT\IowaDOTProduction\Organization-Civil\IowaDOT_Standards\ProStructures\Seed\Imperial3d.dgn

The “Copy Seed” utility can be used to create the files for modeling and detailing. The CONNECT Copy Seed program is located in ProjectWise at:

pw:\\NTPwint1.dot.int.lan:PWMain\Documents\Resources\ClientWorkspaces\IowaDOT\Documentation\ProjectWiseCustomTools\CopySeed

Design Consultants will need to install the utility with the provided “CopySeedSetup.msi” file on the local hard drive.

pw:\\NTPwint1.dot.int.lan:PWMain\Documents\Resources\ClientWorkspaces\IowaDOT\Documentation\ProjectWiseCustomTools\CopySeed\CopySeedSetup.msi

Files located in the subfolder **CopyFilesToProjectWiseBinFolder** also need to be copied to **C:\Program Files\Bentley\ProjectWise\bin** and **C:\Program Files (x86)\Bentley\ProjectWise\bin**

To use Copy Seed, right click in the folder and select “Copy Seed” to launch. Once launched, “Choose file type”, the correct project IaRCS zone in “Scale of file to create” field and complete the “Name of the file to create” field based on information included in this document. Click “Create File”.

Images below are showing the Copy Seed interface.

Images below are showing drop down options for the file type and scale in Copy Seed.

Once a file is created in ProjectWise, in the Description field of the document (using Rename...), add a logical description to aid in the understand of what the file contains.

These files are to be developed and kept in their assigned folders, the same modeling file and TSL Situation Plan file is used at all stages of workflow (not copied). The Preliminary Designer starts the files, and the Final Designer actively uses the same files to complete the work. Include the DOT and/or Consultant Firm designation in the file name, this is to serve as an indicator of designers responsible for the files.

The sheeting workflow has been modified to use the **ORD 2D Seed** file for the Prelim Design process of TSL/Situation Plan sheet development. This file does not contain the Drawing and Sheet Models used for Final plan sheet development. Those are contained in the **Bridge Plan Production Seed (BPPS)** file.

For information on the models contained in the **BPPS** seed file, see the document "CONNECT Models and Naming Convention" located on the Iowa DOT Bridge Bureau website for additional information.

(<https://iowadot.gov/bridge/tools/CONNECT%20Models.pdf>)

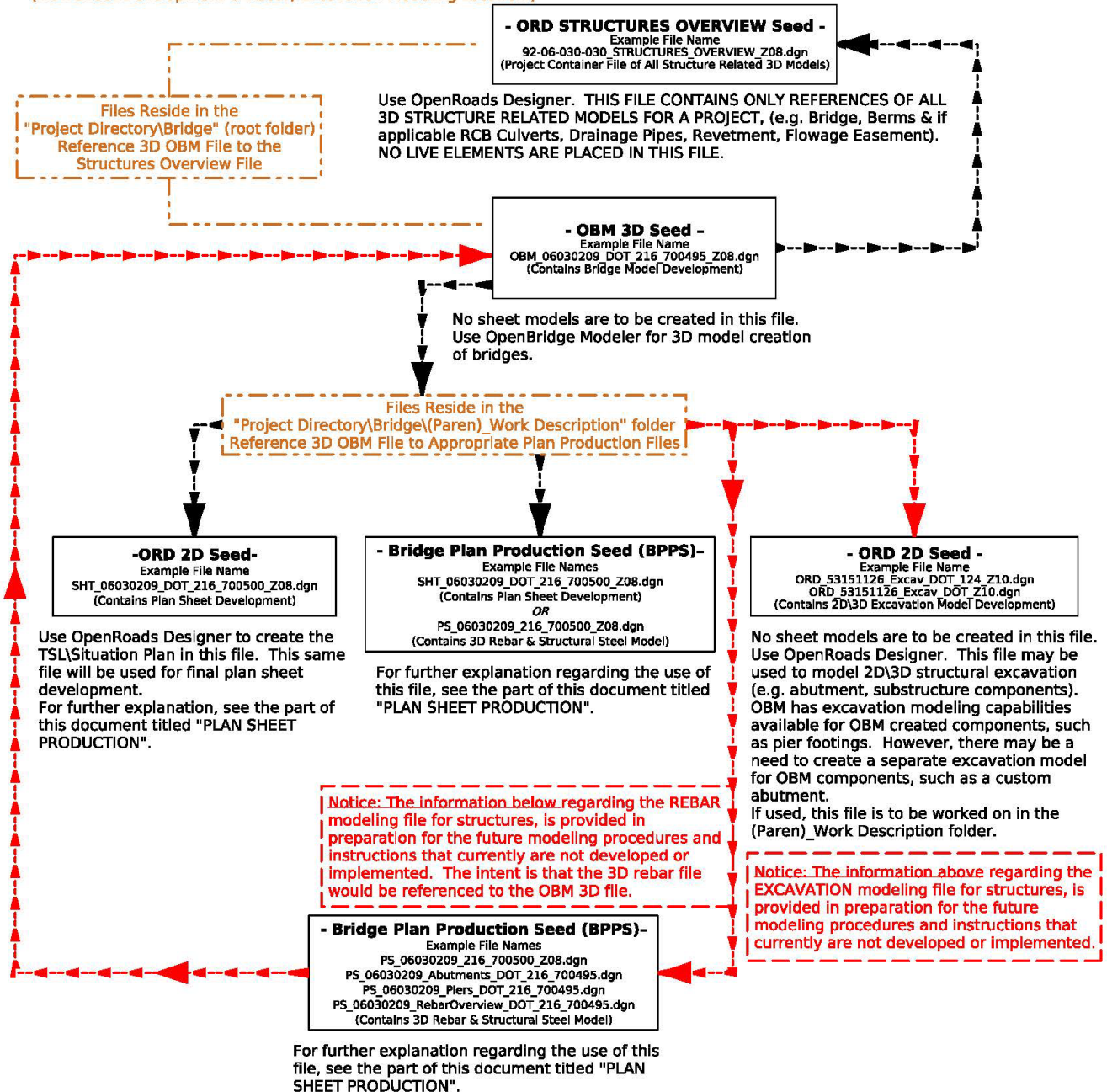
Since the Prelim Design TSL may exist for a length of time (maybe 2+/- years) before Final plan sheet development, the current **BPPS** Drawing and Sheet Models will be added by the Final Designer to update the existing file. It is beneficial to have the Final Designer import the up-to-date versions of the **BPPS** Drawing and Sheet Models once the file is taken over for Final plan sheet production.

The choice of the seed file to use and the referencing of the files to each other is shown in the following Workflow flowcharts. Also provided is the location of files created from the seed files, the naming conventions of those files, and the CADD application to use for each file type.

WORKFLOW 1 BRIDGE MODEL WORKFLOW (File Referencing Flow Chart)

"Project Directory\Bridge" (root folder)
(3D Model Development Location.)
The 3D model files will be created, stored and actively worked on in this folder at all times during all stages of development.
No sheet models are to be created in this folder.

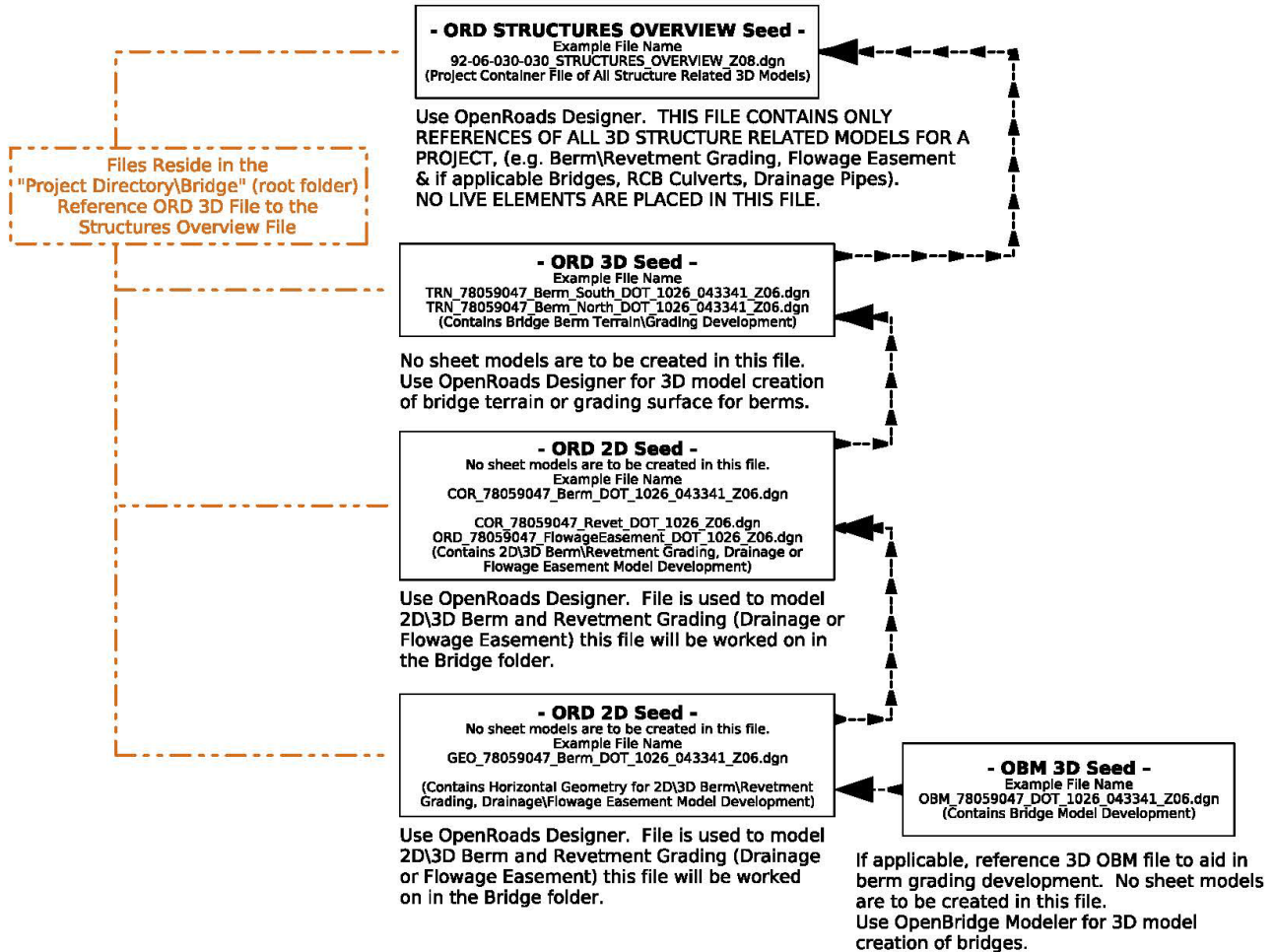
"Project Directory\Bridge\(\Paren)_Work Description" folder
(Plan Sheet Development & Rebar, Excavation Modeling Location.)



WORKFLOW 2a BERM & REVETMENT MODEL WORKFLOW (File Referencing Flow Chart)

"Project Directory\Bridge" (root folder)
(3D Model Development Location.)
The 3D model files will be created, stored and actively worked on
in this folder at all times during all stages of development.
No sheet models are to be created in this folder.

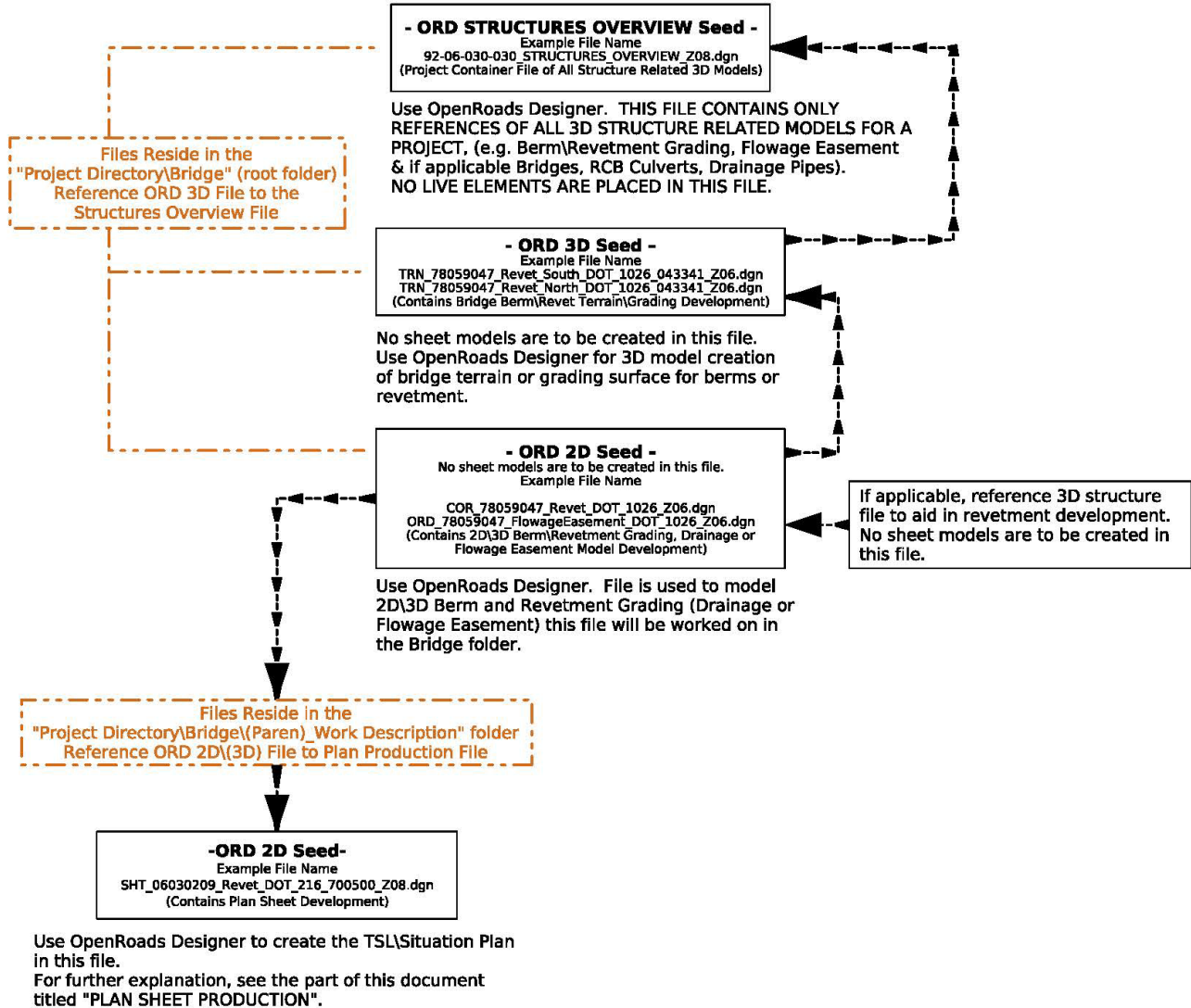
Notice: The information regarding BERM & REVETMENT modeling for structures is provided for modeling procedures and instructions that currently are not documented.



WORKFLOW 2b REVTMENT-STREAMBANK STABILIZATION MODEL WORKFLOW (File Referencing Flow Chart)

"Project Directory\Bridges" (root folder)
(3D Model Development Location.)
The 3D model files will be created, stored and actively worked on
in this folder at all times during all stages of development.
No sheet models are to be created in this folder.

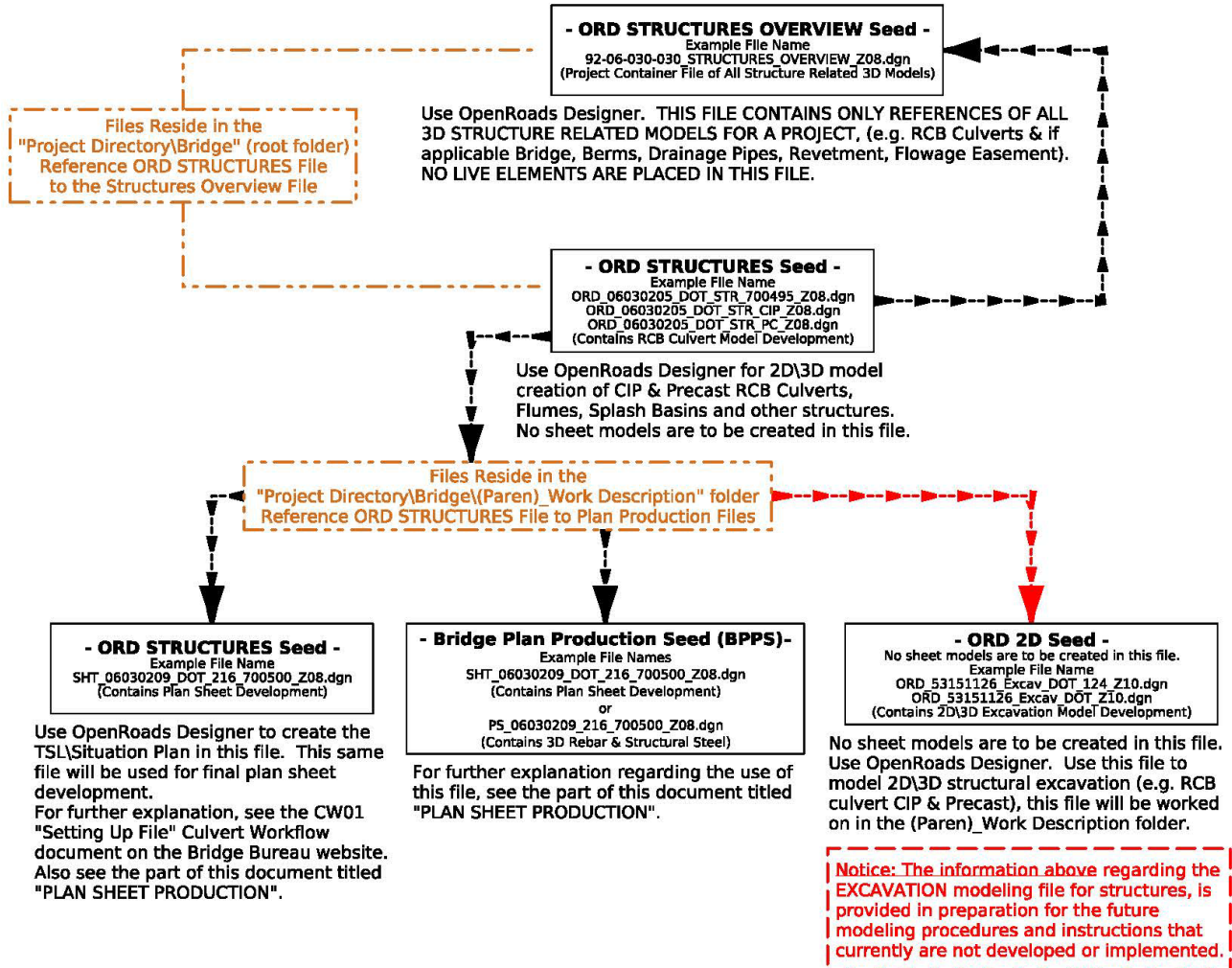
Notice: The information regarding REVTMENT modeling for streambank stabilization is provided for modeling procedures and instructions that currently are not documented.



WORKFLOW 3 RCB CULVERT MODEL WORKFLOW (File Referencing Flow Chart)

"Project Directory\Bridge" (root folder)
(3D Model Development Location.)
The 3D model files will be created, stored and actively worked on in this folder at all times during all stages of development.
No sheet models are to be created in this folder.

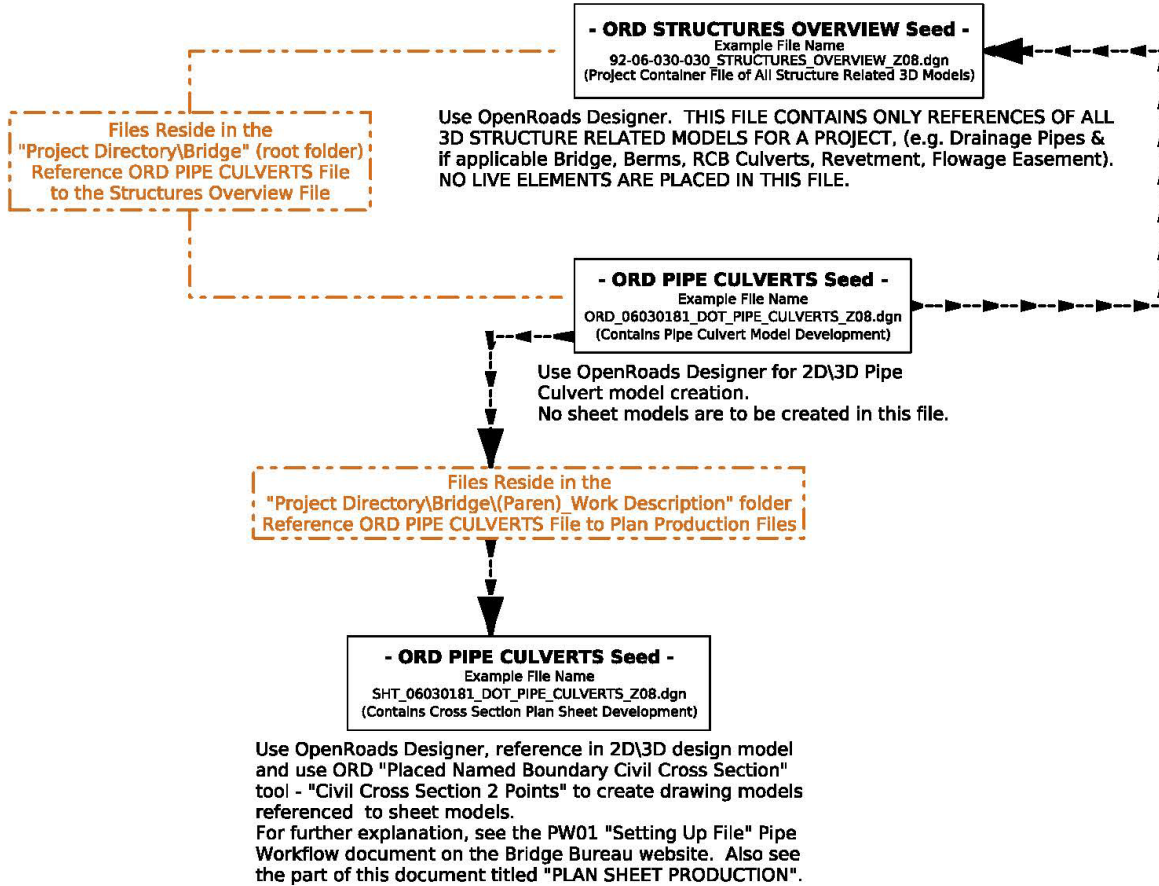
"Project Directory\Bridge\{Paren}_Work Description" folder
(Plan Sheet Development & Rebar, Excavation Modeling Location.)



WORKFLOW 4 DRAINAGE PIPE CULVERT MODEL WORKFLOW (File Referencing Flow Chart)

"Project Directory\Bridge" (root folder)
(3D Model Development Location.)
The 3D model files will be created, stored and actively worked on in this folder at all times during all stages of development. No sheet models are to be created in this folder.

"Project Directory\Bridge\(\Paren)_Work Description" folder
(Plan Sheet Development & Rebar, Excavation Modeling Location.)



WORKFLOW 5 HYDRAULIC OR GENERAL PRELIM DESIGN WORKFLOW

Files Reside in the
"Project Directory\Bridge\BRPrelim\DOT" folder
OR
"Project Directory\Bridge\BRPrelim\XYZ-CORP" folder

- ORD 2D Seed -
Example File Names
53151126_Working_Z10.dgn
GrundylA14_WorkingFile_Z05.dgn
ORD_8208002022_Working_Z11.dgn
(Contains Non-Deliverable Development Information)

Use OpenRoads Designer. File is used to detail Hydraulic or General Working preliminary 2D\3D design\layout, then this file will be stored in the BRPrelim folder under the DOT or XYZ-CORP subfolders.

WORKFLOW 6 GENERAL FINAL DESIGN WORKFLOW -For General Plan Production-

Files Reside in the
"Project Directory\Bridge\(\Paren)_Work Description" folder
(Plan Sheet Development & Rebar Modeling Location.)

- Bridge Plan Production Seed (BPPS)-
Example File Names
SHT_06030209_DOT_216_700500_Z08.dgn
(Contains Plan Sheet Development)
OR
PS_06030209_216_700500_Z08.dgn
(Contains 3D Rebar & Structural Steel Model)

For plan production not necessarily based off a referenced 2D\3D structure model in the Bridge root folder. Work such as repairs or general working design\layout. It may be ideal\preferred to use ORD when working in this file.
(ProStructures may be used working with this file but any of the Civil tools ORD uses will not be available.)
For further explanation regarding the use of this file, see the part of this document titled "PLAN SHEET PRODUCTION".

The seed files listed below are organized by application and type of project.

ORD STRUCTURES OVERVIEW Seed

Located in ProjectWise

pw:\\NTPwint1.dot.int.lan:PWMain\Documents\Resources\ClientWorkspaces\IowaDOT\IowaDOTProduction\Organization-Civil\IowaDOT_Standards\Seed

ORD Structures Overview Seed files are used to provide the overview of all structures in the project. Only the relevant project specific files of the Bridge Bureau 3D structure models will be referenced to this file. The 3D model files of bridges, RCB culverts (typically the CIP alternate only, unless the Precast is the only option), drainage pipes, berms and revetment, and flowage easement 3D model files).

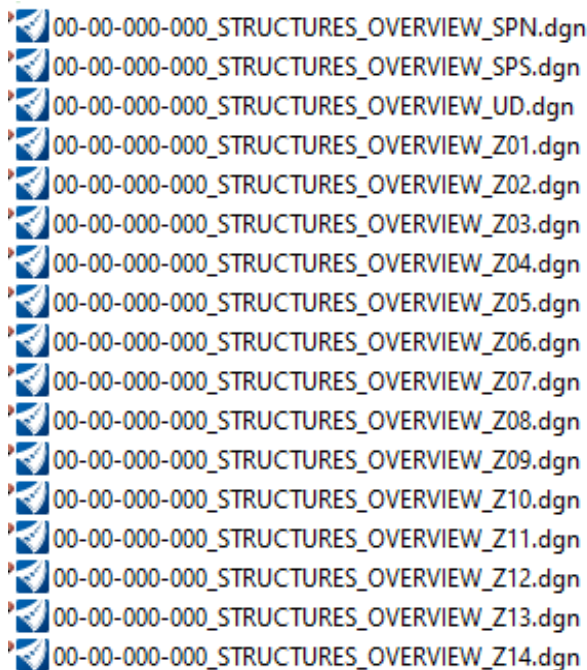
This file is to be located in the **Bridge root folder of the project directory.**

No other files from other Bureaus are to be referenced in this file, only Bridge Bureau files.

No live elements should be contained in these files, only use references.

The Copy Seed utility can be used to create the files, choose file type **ORD STRUCTURES OVERVIEW Seed**.

The options provided are for each possible IaRCS survey zone. The correct seed file must be used to appropriately view all structures in the correct locations.



00-00-000-000_STRUCTURES_OVERVIEW_SPN.dgn

00-00-000-000_STRUCTURES_OVERVIEW_SPS.dgn

00-00-000-000_STRUCTURES_OVERVIEW_UD.dgn

00-00-000-000_STRUCTURES_OVERVIEW_Z01.dgn

00-00-000-000_STRUCTURES_OVERVIEW_Z02.dgn

00-00-000-000_STRUCTURES_OVERVIEW_Z03.dgn

00-00-000-000_STRUCTURES_OVERVIEW_Z04.dgn

00-00-000-000_STRUCTURES_OVERVIEW_Z05.dgn

00-00-000-000_STRUCTURES_OVERVIEW_Z06.dgn

00-00-000-000_STRUCTURES_OVERVIEW_Z07.dgn

00-00-000-000_STRUCTURES_OVERVIEW_Z08.dgn

00-00-000-000_STRUCTURES_OVERVIEW_Z09.dgn

00-00-000-000_STRUCTURES_OVERVIEW_Z10.dgn

00-00-000-000_STRUCTURES_OVERVIEW_Z11.dgn

00-00-000-000_STRUCTURES_OVERVIEW_Z12.dgn

00-00-000-000_STRUCTURES_OVERVIEW_Z13.dgn

00-00-000-000_STRUCTURES_OVERVIEW_Z14.dgn

The naming convention is to follow what is shown in the listed portions of the name and file name examples.

- 00-00-000-000 used to identify the Project Code (previously known as the PIN) number for the project.
- Use a logical description of the file.

File Name example

92-06-030-030_STRUCTURES_OVERVIEW_SPN.dgn

15-77-035-040-01_STRUCTURES_OVERVIEW_Z08.dgn

OBM 3D Seed

Located in ProjectWise

pw:\\NTPwint1.dot.int.lan:PWMain\Documents\Resources\ClientWorkspaces\IowaDOT\IowaDOTProduction\Organization-Civil\IowaDOT_Standards\Seed\OBM


















OBM 3D Seed files are used to develop the individual bridge models.

This file is to be located, and worked on, in the Bridge root folder of the project directory.

No sheet models are to be created in this file.

The Copy Seed utility can be used to create the files, choose file type **OBM 3D Seed**.

The options provided are for each possible IaRCS survey zone. The correct seed file must be used to appropriately place the bridge on the alignment in the model.

 OBM_CCRRRPPP_DOT_DSN#_FWWANO_SPN.dgn
 OBM_CCRRRPPP_DOT_DSN#_FWWANO_SPS.dgn
 OBM_CCRRRPPP_DOT_DSN#_FWWANO_UD.dgn
 OBM_CCRRRPPP_DOT_DSN#_FWWANO_Z01.dgn
 OBM_CCRRRPPP_DOT_DSN#_FWWANO_Z02.dgn
 OBM_CCRRRPPP_DOT_DSN#_FWWANO_Z03.dgn
 OBM_CCRRRPPP_DOT_DSN#_FWWANO_Z04.dgn
 OBM_CCRRRPPP_DOT_DSN#_FWWANO_Z05.dgn
 OBM_CCRRRPPP_DOT_DSN#_FWWANO_Z06.dgn
 OBM_CCRRRPPP_DOT_DSN#_FWWANO_Z07.dgn
 OBM_CCRRRPPP_DOT_DSN#_FWWANO_Z08.dgn
 OBM_CCRRRPPP_DOT_DSN#_FWWANO_Z09.dgn
 OBM_CCRRRPPP_DOT_DSN#_FWWANO_Z10.dgn
 OBM_CCRRRPPP_DOT_DSN#_FWWANO_Z11.dgn
 OBM_CCRRRPPP_DOT_DSN#_FWWANO_Z12.dgn
 OBM_CCRRRPPP_DOT_DSN#_FWWANO_Z13.dgn
 OBM_CCRRRPPP_DOT_DSN#_FWWANO_Z14.dgn

The naming convention is to follow what is shown in the listed portions of the name and file name examples.

- OBM signifies an OpenBridge Modeler file.
- CCRRRPPP used to identify County (CC), Route (RRR) and Paren (PPP) number of the specific project.
- DOT or Consultant Firm designation.
- DSN# used to list the specific design number of the model.
- FHWANO (6 digits) used to list the specific FHWA number of the bridge modeled.
- Use a logical description of the file.

File Name example

OBM_06030209_DOT_216_700495_Z04.dgn

File Name example if the DOT starts the prelim work and a Consultant takes over file for final design work

OBM_06030209_DOT_XYZCORP_216_700495_Z04.dgn

File Name example if a Consultant starts the prelim work and the DOT takes over file for final design work

OBM_06030209_XYZCORP_DOT_216_700495_Z04.dgn

File Name example if a Consultant starts the prelim work and a different Consultant takes over file for final design work

OBM_06030209_XYZCORP_XYZCORP_216_700495_Z04.dgn

ORD PIPE CULVERTS Seed

Located in ProjectWise

pw:\\NTPwint1.dot.int.lan:PWMain\Documents\Resources\ClientWorkspaces\IowaDOT\IowaDOTProduction\Organization-Civil\IowaDOT_Standards\Seed


















ORD Pipe Culverts Seed files are used to develop the layout and modeling of pipe culvert structures.

This file will be used in two different ways and will be worked on and stored in two different project directory folder locations.

- **Location 1; Bridge folder, for Modeling 2D/3D.** When this seed file is used for 2D/3D modeling, this file is to be located and worked on, in the **Bridge** root folder of the project directory. **No sheet models are to be created in this file.**
- **Location 2; Bridge(Paren) Work Description folder, for Plan Sheets.** When this seed file is used for creating cross section plan sheets, a separate file is created that references the 2D/3D model file.

The Copy Seed utility can be used to create the files, choose file type **ORD PIPE CULVERTS Seed**.

The options provided are for each possible IaRCS survey zone. The correct seed file must be used to appropriately place the pipe culverts along the alignment.

 ORD_CCRRRPPP_DOT_PIPE_CULVERTS_SPN.dgn
 ORD_CCRRRPPP_DOT_PIPE_CULVERTS_SPS.dgn
 ORD_CCRRRPPP_DOT_PIPE_CULVERTS_UD.dgn
 ORD_CCRRRPPP_DOT_PIPE_CULVERTS_Z01.dgn
 ORD_CCRRRPPP_DOT_PIPE_CULVERTS_Z02.dgn
 ORD_CCRRRPPP_DOT_PIPE_CULVERTS_Z03.dgn
 ORD_CCRRRPPP_DOT_PIPE_CULVERTS_Z04.dgn
 ORD_CCRRRPPP_DOT_PIPE_CULVERTS_Z05.dgn
 ORD_CCRRRPPP_DOT_PIPE_CULVERTS_Z06.dgn
 ORD_CCRRRPPP_DOT_PIPE_CULVERTS_Z07.dgn
 ORD_CCRRRPPP_DOT_PIPE_CULVERTS_Z08.dgn
 ORD_CCRRRPPP_DOT_PIPE_CULVERTS_Z09.dgn
 ORD_CCRRRPPP_DOT_PIPE_CULVERTS_Z10.dgn
 ORD_CCRRRPPP_DOT_PIPE_CULVERTS_Z11.dgn
 ORD_CCRRRPPP_DOT_PIPE_CULVERTS_Z12.dgn
 ORD_CCRRRPPP_DOT_PIPE_CULVERTS_Z13.dgn
 ORD_CCRRRPPP_DOT_PIPE_CULVERTS_Z14.dgn

The naming convention is to follow what is shown in the listed portions of the name and file name examples.

- ORD signifies an OpenRoads Designer file.
- CCRRRPPP used to identify County (CC), Route (RRR) and Paren (PPP) number of the specific project.
- DOT or Consultant Firm designation.
- Use a logical description of the file.

File Name example when used for 2D/3D Model development in the **Bridge** folder

ORD_06030181_DOT_PIPE_CULVERTS_SPN.dgn

File Name example when used for Pipe Cross Section Sheets development in the **Bridge\ (Paren) Work**

Description folder

SHT_06030181_DOT_PIPE_CULVERTS_SPN.dgn

ORD STRUCTURES Seed

Located in ProjectWise

pw:\\NTPwint1.dot.int.lan:PWMain\Documents\Resources\ClientWorkspaces\IowaDOT\IowaDOTProduction\Organization-Civil\IowaDOT_Standards\Seed

ORD Structures Seed files are used to develop the layout and modeling of RCB culverts and other structures such as flumes and splash basins.


















Separate files will need to be created when alternate structures are modeled at the same alignment and station location.

This file is to be located, and worked on, in the **Bridge root folder of the project directory.**

No sheet models are to be created in this file.

The Copy Seed utility can be used to create the files, choose file type **ORD STRUCTURES Seed**.

The options provided are for each possible IaRCS survey zone. The correct seed file must be used to appropriately place the culverts along the alignment.

-  ORD_CCRRRPPP_DOT_STRUCTURES_FHWANO_SPN.dgn
-  ORD_CCRRRPPP_DOT_STRUCTURES_FHWANO_SPS.dgn
-  ORD_CCRRRPPP_DOT_STRUCTURES_FHWANO_UD.dgn
-  ORD_CCRRRPPP_DOT_STRUCTURES_FHWANO_Z01.dgn
-  ORD_CCRRRPPP_DOT_STRUCTURES_FHWANO_Z02.dgn
-  ORD_CCRRRPPP_DOT_STRUCTURES_FHWANO_Z03.dgn
-  ORD_CCRRRPPP_DOT_STRUCTURES_FHWANO_Z04.dgn
-  ORD_CCRRRPPP_DOT_STRUCTURES_FHWANO_Z05.dgn
-  ORD_CCRRRPPP_DOT_STRUCTURES_FHWANO_Z06.dgn
-  ORD_CCRRRPPP_DOT_STRUCTURES_FHWANO_Z07.dgn
-  ORD_CCRRRPPP_DOT_STRUCTURES_FHWANO_Z08.dgn
-  ORD_CCRRRPPP_DOT_STRUCTURES_FHWANO_Z09.dgn
-  ORD_CCRRRPPP_DOT_STRUCTURES_FHWANO_Z10.dgn
-  ORD_CCRRRPPP_DOT_STRUCTURES_FHWANO_Z11.dgn
-  ORD_CCRRRPPP_DOT_STRUCTURES_FHWANO_Z12.dgn
-  ORD_CCRRRPPP_DOT_STRUCTURES_FHWANO_Z13.dgn
-  ORD_CCRRRPPP_DOT_STRUCTURES_FHWANO_Z14.dgn

The naming convention is to follow what is shown in the listed portions of the name and file name examples.

- ORD signifies an OpenRoads Designer file.
- CRRRRPPP used to identify County (CC), Route (RRR) and Paren (PPP) number of the specific project.
- DOT or Consultant Firm designation.
- FHWANO (6 digits) used to list the specific FHWA number of a bridge size box culvert. All other structures and non-bridge sized RCB culverts have an assigned Asset ID (6 digits) that should be used in place of the FHWANO for this portion of the naming convention. **If there are multiple structure models in the same file, it is advised to exclude the FHWA or Asset ID Numbers in the file name to alleviate a lengthy file name.**
- Use a logical description of the file.

File Name example for single structure models

ORD_06030205_DOT_STR_700495_SPN.dgn

File Name example if the DOT starts the prelim work and a Consultant takes over file for final design work

ORD_06030205_DOT_XYZCORP_STR_700495_SPN.dgn

File Name example if a Consultant starts the prelim work and the DOT takes over file for final design work

ORD_06030205_XYZCORP_DOT_STR_700495_SPN.dgn

File Name example if a Consultant starts the prelim work and a different Consultant takes over file for final design work

OBM_06030209_XYZCORP_XYZCORP_216_700495_SPN.dgn

Because RCB culvert models may contain more than one structure, it is advised to exclude the FHWA No. (used when the RCB is bridge size), Design Numbers or Asset ID Numbers. This will alleviate a lengthy file name. However, if there is a single structure, then it is acceptable to include the FHWA No., Design Number or Asset ID Number in the file name.

The following file naming conventions are used for CIP and Precast Alternate RCBs when alternate structures are modeled at the same station on the same alignment. **The use of separate files for the RCB CIP and the Precast Alternate options is necessary.** This is due to the fact that the two alternate structures would be designed in the same coordinate location and the “Drainage and Utilities Workflow” in ORD does not allow this. A similar naming convention may be used for all alternate structure scenarios.

File Name example

ORD_06030205_DOT_STR_CIP_Z12.dgn

ORD_06030205_DOT_STR_PC_Z12.dgn

Description

RCB CIP Culvert Design ???

RCB Precast Culvert Design ???

File Name examples if there is a project that would require RCB models designed by more than one Consultant or the DOT and a Consultant.

File Name example

ORD_06030205_DOT_STR_CIP_Z08.dgn

ORD_06030205_DOT_STR_PC_Z08.dgn

ORD_06030205_XYZCORP_STR_CIP_Z08.dgn

ORD_06030205_XYZCORP_STR_PC_Z08.dgn

Description

RCB CIP Culvert Design ???

RCB Precast Culvert Design ???

RCB CIP Culvert Design ???

RCB Precast Culvert Design ???

ORD 2D Seed

Located in ProjectWise

pw:\\NTPwint1.dot.int.lan:PWMain\Documents\Resources\ClientWorkspaces\IowaDOT\IowaDOTProduction\Organization-Civil\IowaDOT_Standards\Seed\dsnOpenRoads2D.dgn

ORD 2D Seed file does not have a Geographic Coordinate System applied. Apply the appropriate IaRCS survey zone. The ORD 2D Seed file is used to develop the layout and modeling of berms, revetments, drainage or flowage easement boundary and possible hydraulic layout, as well as TSL/Situation Plan development and structural excavation modeling (e.g. RCB culverts).

The Copy Seed utility can be used to create the files, choose file type **ORD 2D Seed**.

This file may be considered as a multipurpose seed file and will be worked on and stored in three different project directory folder locations.

- **Location 1; Bridge folder**, for Modeling 2D/3D. This seed file is used for berm, revetment, drainage or flowage easement modeling. Rename accordingly and apply the appropriate IaRCS survey zone, see examples shown below. **No sheet models** are to be created in this file.
- **Location 2; Bridge\BRPrelim folder (DOT or XYZ-CORP subfolders)**, for General Use. This seed file is used for general preliminary design (not a deliverable) then this file may be kept as a separate file and renamed accordingly. Depending on how this file is used, setting the IaRCS survey zone may not be necessary. See examples shown below.
- **Location 3; Bridge\ (Paren) Work Description folder**, for Plan Sheets & Excav. 2D/3D Model, Revetment/Streambank Stabilization Sheets. This seed file is used for TSL/Situation Plan sheet development and 2D/3D structural excavation modeling (e.g. RCB culverts). **For further guidance and examples see "ORD 2D Seed" under the "PLAN SHEET PRODUCTION" part of this document.**

Example file name format: ORD_CCRRRPPP_NSEW_DOT_FHWANO_DSN#_GGG.dgn

The naming convention is to follow what is shown in the listed portions of the name and file name examples.

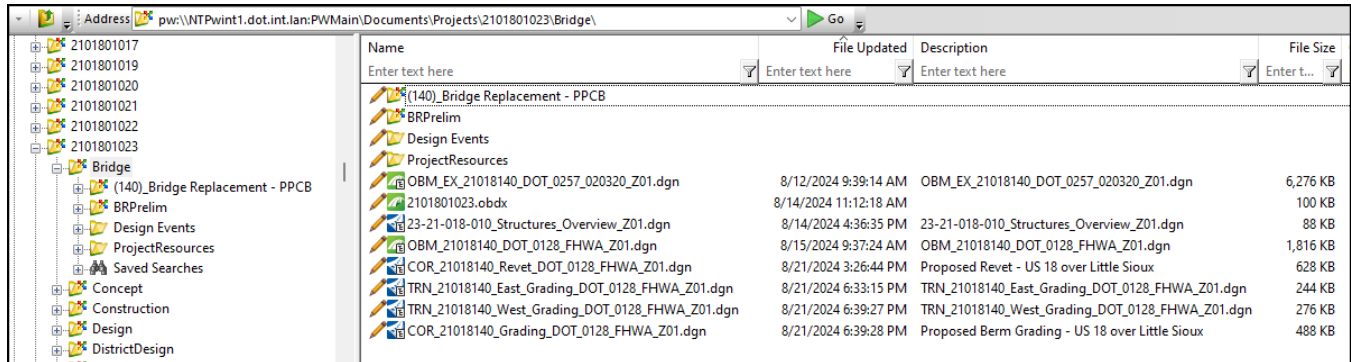
- ORD signifies an OpenRoads Designer file.
- CCRRRPPP used to identify County (CC), Route (RRR) and Paren (PPP) number of the specific project.
- N, S, E, or W (North, South, East, West) used to indicate directional location of berms.
- DOT or Consultant Firm designation.
- DSN# used to list the specific design number(s) of the related bridge design(s).
- FHWANO (6 digits) used to list the specific FHWA number of the bridge.
- GGG used to identify the IaRCS survey zone.
- Use a logical description of the file.

NOTICE: The information regarding berm & revetment modeling for structures is provided even though modeling procedures and instructions currently are not documented.

For Location 1, Bridge folder files keep each berm, revetment, flowage easement and Design in its own file. The following naming convention is used when the file contains a corridor model, grading or revetment models. The file name includes Berm or Revetment.

GEO naming convention is for the berm and revetment modeling geometry alignments, this file contains managed 2D and 3D models. The GEO prefix is used to mimic how Road Design names the geometry files.
COR naming convention is for a corridor, this file contains managed 2D and 3D models. The COR prefix is used to mimic how Road Design names the corridor files.

The image below is showing an example Project Directory with berm modeling files. The example files are using the term “Grading” in the name, this is now changed to use “Berm” to reflect what the files are used for.



File Name example for berm grading & revetment

GEO_78059047_Berm_DOT_1026_043341_Z06.dgn
GEO_53151126_Berm_DOT_0525_Z10.dgn

Description

Alignment for berm grading – Design 1026
 Alignment for berm grading – Design 0525

COR_78059047_Berm_DOT_1026_043341_Z10.dgn
COR_53151126_Berm_DOT_0525_Z10.dgn
COR_53151126_Revet_DOT_0425_Z10.dgn
COR_53151126_Revet_DOT_0525_Z10.dgn

Corridor for berm grading - Design 1026
 Corridor for berm grading - Design 0525
 Corridor for revetment - Design 0425
 Corridor for revetment - Design 0525

File Name example for flowage easement

ORD_53151126_FlowageEasement_DOT_425_Z10.dgn

Description

Flowage Easement Boundary

For Location 2, Bridge\BRPrelim folder (DOT or XYZ-CORP subfolders) files use a logical file name and include the IaRCS Zone if applicable. Use a logical description of the file.

File Name example

53151126_Working_Z10.dgn
ORD_8208002022_Working_Z11.dgn
ORD_53151126_Support_Z10.dgn

Description

Preliminary Layout
 Site Investigation
 Support File

ORD 3D Seed

Located in ProjectWise

pw:\\NTPwint1.dot.int.lan:PWMain\Documents\Resources\ClientWorkspaces\IowaDOT\IowaDOTProduction\Organization-Civil\IowaDOT_Standards\Seed\dsnOpenRoads3D.dgn

ORD 3D Seed file does not have a Geographic Coordinate System applied. Apply the appropriate IaRCS survey zone.

This file is to be located, and worked on, in the **Bridge** root folder of the project directory.

The Copy Seed utility can be used to create the files, choose file type **ORD 3D Seed**.

The following naming convention is used when the file contains only a terrain or grading surface.

Example file name format: TRN_CRRRPPP_NSEW_DOT_DSN#_FWWANO_GGG.dgn

The file name contains TRN and follows what is shown in the listed portions of the name and file name examples.

- **TRN** prefix is for a terrain surface, this file contains one 3D modeled terrain.
- CRRRPPP used to identify County (CC), Route (RRR) and Paren (PPP) number of the specific project.
- N, S, E, or W (North, South, East, West) used to indicate directional location of berms.
- DOT or Consultant Firm designation.
- DSN# used to list the specific design number(s) of the related bridge design(s).
- FWWANO (6 digits) used to list the specific FHWA number of the bridge.
- GGG used to identify the IaRCS survey zone.
- Use a logical description of the file.

File Name example for berm grading

TRN_78059047_Berm_South_DOT_1026_0043341_Z10.dgn
 TRN_78059047_Berm_North_DOT_1026_0043341_Z10.dgn
 TRN_78059047_Berms_DOT_1026_0043341_Z10.dgn

Description

Terrain - South Berm NB Bridge Des 1026
 Terrain - North Berm NB Bridge Des 1026
 Terrain - Both Berms NB Bridge Des 1026

TRN_53151126_Berm_E_DOT_0525_Z10.dgn
 TRN_53151126_Berm_W_DOT_0525_Z10.dgn

Terrain - East Berm WB Bridge Des 525
 Terrain - West Berm WB Bridge Des 525

PLAN SHEET PRODUCTION

The Following Includes Plan Sheet Production Guidance and Examples of Multiple Structures Files, Rebar Modeling, and Excavation Modeling Files for Structures.

Sheet file names with multiple Design, FHWA/Asset ID number format is no longer preferred. All plan sheet files will contain only a single Design, FHWA/Asset ID number. Although this will create more files overall, it allows a more flexible workflow and may be more ideal for all Users that are working with those files. This process keeps the SHT files fairly "clean" with regards to limiting the named boundaries and saved views, minimizing any confusion to the User.

ORD 2D Seed

Located in ProjectWise

pw:\\NTPwint1.dot.int.lan:PWMain\Documents\Resources\ClientWorkspaces\IowaDOT\IowaDOTProduction\Organization-Civil\IowaDOT_Standards\Seed\dsnOpenRoads2D.dgn

ORD 2D Seed file does not have a Geographic Coordinate System applied. Use this seed file for TSL/Situation Plan development and 2D/3D excavation modeling. Rename accordingly and apply the appropriate IaRCS survey zone, see examples shown below.

Structure Type, Size, Location (TSL)/Situation Plan Sheet

This file is to be located, and worked on, in the **Bridge\{(Paren)_Work Description** folder of the project directory.

The ORD 2D Seed file is the preferred seed file to be used to develop the Prelim Type, Size, Location (TSL)/Situation Plan sheet creation. The same file will then continue to be used for Final plan sheet development.

This file does not contain the Drawing and Sheet Models used for Final plan sheet development that are provided in the **Bridge Plan Production Seed (BPPS)** file. The perspective is that the TSL file created in the Prelim Design process may exist for a length of time, maybe 2+/- years. The **BPPS** Drawing and Sheet Models format of the file may change, requiring the Final Designer to update the existing file (check for changes in the original seed file vs the current one). Therefore, instead of having the Final Designer update the existing, possibly 2-year-old Drawing and Sheet Models, it may be ideal to have the Final Designer import the up-to-date versions once the file is taken over for Final plan sheet production.

The Copy Seed utility can be used to create the files, choose file type **ORD 2D Seed**.

Example file name format; SHT_CCRRRPPP_DOT_DSN#_FWWANO_GGG.dgn

The naming convention is to follow what is shown in the listed portions of the name and file name examples.

- **SHT** prefix signifies the file is used for plan sheet creation. **ORD use is required if MicroStation Civil tools/capabilities are to be utilized.**
- CCRRRPPP used to identify County (CC), Route (RRR) and Paren (PPP) number of the specific project.
- DOT or Consultant Firm designation.
- DSN# used to list the specific design number of the structure details.

- FHWANO (6 digits) used to list the specific FHWA number of a bridge or bridge size box culvert. All other structures and non-bridge sized box culverts have an assigned Asset ID (6 digits) that should be used instead for this portion of the naming convention.
- GGG used to identify the laRCS survey zone.
- Use a logical description of the file.

File Name example

SHT_06030209_DOT_226_700500_SPN.dgn
 SHT_06030209_XYZCORP_726_001425_CIP_SPN.dgn
 SHT_06030209_XYZCORP_726_001425_PC_SPN.dgn
 SHT_06030209_Revetment_DOT_216_700500_Z08.dgn

Description

PPCB Design 226
 Twin 10x10 CIP RCB Culvert Design 726
 Twin 10x10 Precast RCB Culvert Design 726
 Situation Plan Stream Bank Stabilization

NOTICE: The following information regarding the excavation file for structures, is provided in preparation for the future modeling procedures and instructions that currently are not developed or implemented.

Excavation File for Structures

This file is to be located, and worked on, in the Bridge\{(Paren)_ Work Description folder of the project directory.

The ORD 2D Seed file is the preferred seed file to be used for 2D/3D structural excavation modeling (e.g. RCB culverts), it does not have a Geographic Coordinate System applied. Rename accordingly and apply the appropriate laRCS survey zone, see examples shown below. This file should contain managed 2D/3D models. No sheet models are to be created in this file.

Because excavation models may contain more than one structure, it is advised to exclude the FHWA No. (used when the RCB culvert is bridge size), Design Numbers or Asset ID Numbers. This will alleviate a lengthy file name. However, if there is a single structure, then it is acceptable to include the FHWA No., Design Number or Asset ID Number in the file name. The same recommendations are to be followed if the file is used for bridge structural excavation modeling. Use a logical description of the file.

File options to consider.

Option 1 - For RCB culvert excavation modeling, one file could be used that contains both the CIP and Precast alternate (having both CIP 2D/3D design models and Precast 2D/3D design models).

Option 2 – For RCB culvert excavation modeling, separate files for each culvert type, one file for CIP 2D/3D design models and one file for Precast 2D/3D design models.

Option 3 – For other/general structural excavation modeling. When using OBM, it has excavation modeling capabilities available for OBM created components, such as pier footings. However, there may be a need to create a separate excavation model outside of OBM for components, such as a custom abutment or Generative Component (GC) abutment.

File Name example

ORD_06030209_Excav_DOT_XYZCORP_SPN.dgn
 ORD_06030209_Excav_DOT_XYZCORP_CIP_SPN.dgn
 ORD_06030209_Excav_DOT_XYZCORP_PC_SPN.dgn
 ORD_06030209_Excav_DOT_XYZCORP_726_001425_CIP_SPN.dgn
 ORD_06030209_Excav_DOT_XYZCORP_726_001425_PC_SPN.dgn
 ORD_06030209_Excav_DOT_XYZCORP_216_700495_Z04.dgn

Description

Excavation for RCB Culverts
 Excavation CIP RCB Culverts
 Excavation Precast RCB Culverts
 Excavation CIP RCB Culvert Design 726
 Excavation Precast RCB Culvert Design 726
 Excavation for Design 216 abutments

Bridge Plan Production Seed (BPPS)

Located in ProjectWise

pw:\\NTPwint1.dot.int.lan:PWMain\Documents\Resources\ClientWorkspaces\IowaDOT\IowaDOTProduction\Organization-Civil\IowaDOT Standards\ProStructures\Seed\Imperial3d.dgn

The Bridge Plan Production Seed file is a ProStructures seed file, Imperial3d.dgn, and is used to develop rebar/steel modeling and complete structural details. This file is also used for both 2D & 3D plan development and sheeting.

This file is to be located, and worked on, in the Bridge\(\Paren)_Work Description folder of the project directory.

The Copy Seed utility can be used to create the files for ProStructures. Choose file type **Bridge Plan Production Seed**.

This seed file will be used for two workflows and named differently depending on its use.

- **Workflow 1**, modeling structural concrete, rebar, and steel shapes. File name prefix with **PS_**.
- **Workflow 2**, Prelim/Final Design plan sheet development. File name prefix with **SHT_**.

For **Workflow 1**; When ProStructures tools for 3D concrete, rebar or steel modeling is part of the design and plan development, then use the naming convention as described below.

Example file name format: PS_CCRRRPPP_DOT_DSN#_GGG.dgn

The file name contains PS and follows what is shown in the listed portions of the name and file name examples.

- **PS** prefix signifies a ProStructures file and indicates the file contains modeled concrete, rebar or steel components. **Use of ProStructures is required to maintain digital integrity of structural elements.**
- CCRRRPPP used to identify County (CC), Route (RRR) and Paren (PPP) number of the specific project.
- DOT or Consultant Firm designation.
- DSN# used to list the specific design number of the structure details.
- FHWANO (6 digits) used to list the specific FHWA number of a bridge or bridge size box culvert. All other structures and non-bridge sized box culverts have an assigned Asset ID (6 digits) that should be used instead for this portion of the naming convention.
- GGG used to identify the IaRCS survey zone.
- Use a logical description of the file.

Example file name format

PS_CCRRRPPP_BridgeComponent_DSN#_FHWANO.dgn (Individual Component Files)

PS_CCRRRPPP_RebarOverview_DSN#_FHWANO.dgn (Federated Component Container File)

File Name

PS_06030209_DOT_216_700495_SPN.dgn

PS_06030209_Abutments_DOT_216_700495.dgn

PS_06030209_Piers_DOT_216_700495.dgn

PS_06030209_RebarOverview_DOT_216_700495.dgn

Description

PPCB Bridge Design 216

PS Design 216 Abutments

PS Design 216 Piers

PS Design 216 Rebar Container File

For Workflow 2; When the design and plan development does not make use of ProStructures modeled rebar or steel components, then use the naming convention as described below.

-Example file name format; SHT_CRRRPPPP_DOT_DSN#_FWWANO_GGG.dgn

The file name contains SHT and follows what is shown in the listed portions of the name and file name examples.

- **SHT** prefix signifies the file is used for plan sheet creation. **Use of ORD is required if MicroStation Civil tools/capabilities are to be utilized.**
- CRRRPPPP used to identify County (CC), Route (RRR) and Paren (PPP) number of the specific project.
- DOT or Consultant Firm designation.
- DSN# used to list the specific design number of the structure details.
- FWWANO (6 digits) used to list the specific FHWA number of a bridge or bridge size box culvert. All other structures and non-bridge sized box culverts have an assigned Asset ID (6 digits) that should be used instead for this portion of the naming convention.
- GGG used to identify the laRCS survey zone.
- Use a logical description of the file.

File Name

SHT_06030209_DOT_226_700500_SPN.dgn

SHT_06030209_DOT_726_001425_CIP_SPN.dgn

SHT_06030209_DOT_726_001425_PC_SPN.dgn

Description

PPCB Design 226

Twin 10x10 CIP RCB Culvert Design 726

Twin 10x10 Precast RCB Culvert Design 726

Use of a single file for plan sheet development.

The following shows an example if a TSL file was created and kept as a single file to complete the rest of the plan set. Use a logical description of the file.

File Name

SHT_36002118_XYZCORP_DOT_524_025361_Z06.dgn

SHT_36002118_DOT_524_025361_Z06.dgn

Description

Plan Set PPCB

Plan Set PPCB

Use of multiple files for plan sheet development.

The following shows examples if a TSL was created and kept as a separate file from the rest of the plan set due to an active workflow between multiple Users. This may occur frequently and is acceptable. The use of the Sheet Index, "laDOT_WS.dgnws" file will combine the sheet models from separate files into a single pdf output. Use a logical description of the file.

File Name

SHT_36002118_XYZCORP_DOT_524_025361_Z06.dgn

SHT_36002118_TSL_DOT_524_025361_Z06.dgn

SHT_36002118_DOT_524_025361_Z06.dgn

SHT_36002118_Abutments_DOT_524_025361_Z06.dgn

SHT_36002118_Piers_DOT_524_025361_Z06.dgn

Description

Situation Plan TSL PPCB

Situation Plan TSL PPCB

Plan Set Title Sheet and details

Plan Set Abutment details

Plan Set Pier details

SHT_36002118_XYZCORP_DOT_524_025361_Z06.dgn

Complete Plan Set PPCB

The following naming convention is used if the IaRCS is unknown. For repair projects the IaRCS may not be known or needed, in this case, then use Undefined Zone **UD**.

File Name

Description

SHT_06030209_DOT_1328_700500_UD.dgn

Design 1328 Steel Girder Repair