

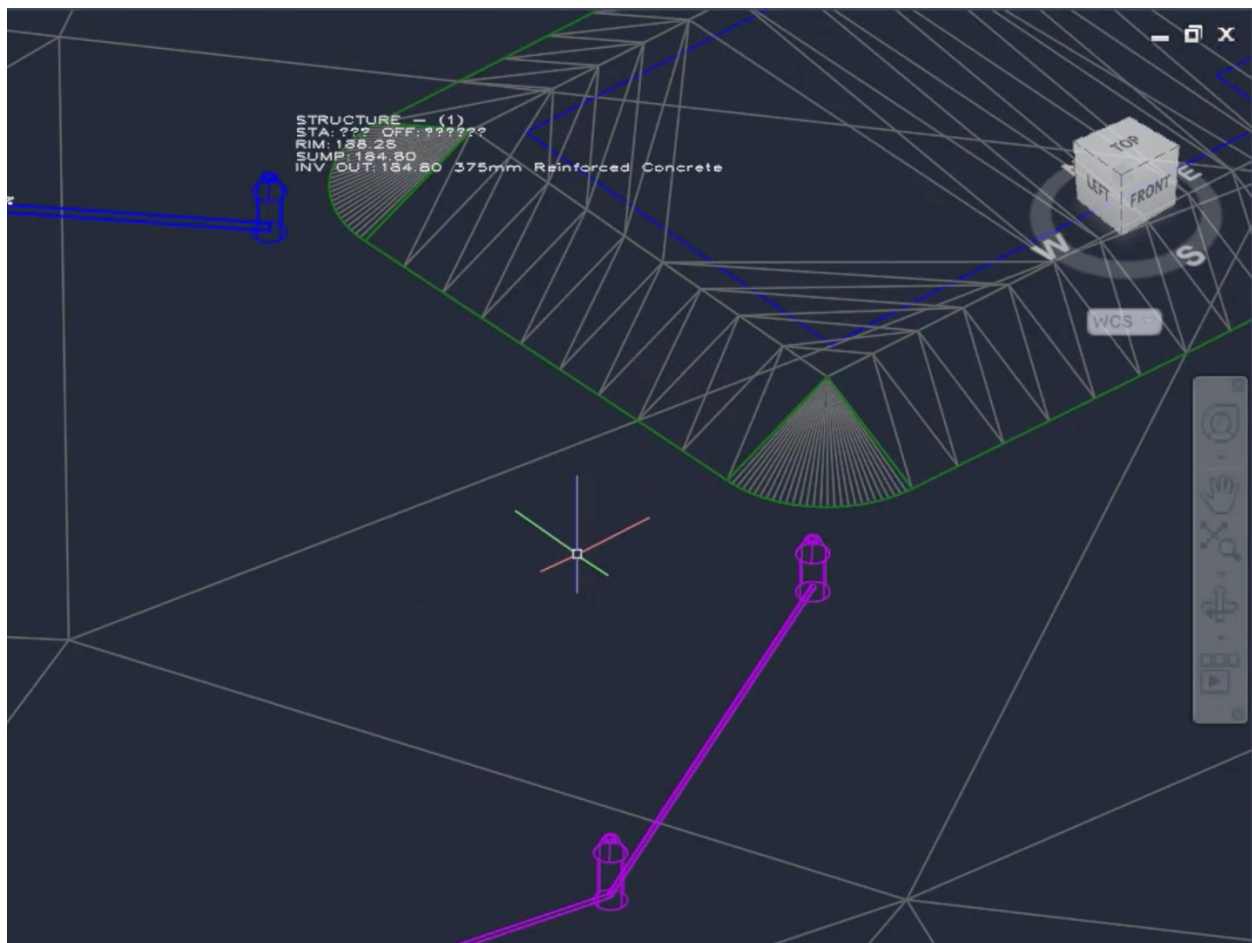
Project challenge exercise

Create a proposed storm sewer network and collaborate with Revit

With the provided Civil 3D drawing, **EOC_SITE.dwg**, and the Revit model **ARCHITECTURAL_RENOVATION.rvt**, you will use a full range of skills to solve this challenge.

Scenario:

As a civil designer, you are required to create a storm sewer network and then coordinate with the architectural model in Revit. By using the existing ground (EG) surface as a guide, you will create a new storm sewer network leading from the remodeled building on the site. Then you will create an exported Civil 3D drawing and an exported Revit model on shared coordinates. You'll share the drawing and model in Forma Data Management.



Complete the required activities:

- Open the drawing file **EOC_SITE.dwg**.
- Create a pipe network using the Pipe Network Creation Tools.
- Name the Remodeled Building Storm Sewer.
- Set the Network Parts list to Storm Sewer.
- Select EG for the surface name.
- Set the Structure label style to Data with Connected Pipes (Storm) and the Pipe label style to Name Only.
- Using the Network Layout Tools menu, select Concrete Structure 1.500 (dia 530 frame 900 cone. (21"x 35"))
- Change the pipe to 300 mm (12") Concrete Pipe.
- Pick the first point 4 meters away on a bearing of 45 degrees NW of COGO point 293.
- Draw the network with 4 structures, terminating near COGO point 175.
- Create a new sanitary storm network named Proposed Building Storm Sewer.
- Use EG as the surface.
- Select Concrete Structure 1.500 dia 530 frame 900 (21"x 35") cone.
- For the pipe select 450mm (18") Concrete Pipe.
- Pick the first point 15 meters (49') away on a bearing of 45 degrees SE of COGO point 445.
- Model a network with 5 structures ending around COGO point 473.
- Export the Civil 3D Drawing to a Forma Dat Management project in the Site Civil folder.
- Open the Revit model **ARCHITECTURAL_RENOVATION.rvt** provided with the datasets.
- Collaborate the model to the Cloud.
- In Forma Data Managment, browse to the Architectural folder.
- In Floor Plan Level 1, export to DWG format.
- In the Export Settings dialog, make sure Meter and Shared Coordinates are selected.
- Export the model **ARCHITECTURAL_RENOVATION.rvt**. to a dwg on shared coordinates.
- Link the **ACAD-EOC_SITE-Model.dwg** file in the Site Civil folder in Forma Data Management.
- Make sure Shared Coordinates are set and that the import units are Meters.
- Open the **EOC_SITE.dwg**.
- Open the external references dialog.
- Attach the **ARCHITECTURAL_RENOVATION.DWG**.

Success Criteria:

- **Concrete elements sized properly:** The structures and pipes are sized according to the instructions.

- **The correct surface is hosting the structures:** The structures are hosted to the existing ground surface and the pipes are not at an elevation of 0.
- **Model consistency:** The pipe networks are named according to the buildings they are servicing. The exported models all land in the correct geographic position

What to Submit:

- **EOC_SITE.dwg.** Provide a link to this drawing to your instructor in Forma Data Management.
- **ARCHITECTURAL_RENNOVATION.rvt.** Provide a link to this model to your instructor in Forma Data Management.

Grading Rubric

	Advanced	Proficient	Basic	Emerging
Creating pipe networks	The pipe network is created with the correct name using the correct parts list.	The pipe network is created with the automatic name using the correct network parts.	The pipe network is created with automatic name using the wrong parts list.	A simple poly line has been drawn.
Following the correct surface	The pipe network is using the EG surface, and the pipes are connected to the structures.	The pipe network is using the Remodeled Building surface, and the pipes are connected to the structures.	The pipe network is using the Proposed Building surface, and the pipes are connected to the structures.	The pipe network is at an elevation of 0.
Assigning the correct structures and pipes	The structures are the concentric structures 1.500 dia 530 frame and 900 cone.	The structure is a concrete rectangular headwall.	The structure is a null structure.	The structures are drawn as 2D circles.
Worksharing the architectural model to the cloud	The model ARCHITECTURAL_RENNOVATION.rvt is workshared to the ACC site in the Architectural folder.	The model ARCHITECTURAL_RENNOVATION.rvt is workshared to the ACC site in the Site Civil folder.	The model ARCHITECTURAL_RENNOVATION.rvt Is saved but not workshared to the Architectural folder.	No models have been workshared or saved.
Exporting the site model	The drawing EOC_SITE.dwg has been exported to a Civil 3D drawing to the ACC site.	The drawing EOC_SITE.dwg has been exported to a Civil 3D drawing to the ACC site.	The drawing EOC_SITE.dwg has been saved to the ACC directory.	No drawings have been exported or saved.

Exporting CAD from Revit	The first floor plan has been exported to ACC and referenced into Civil 3D at the correct location and scale.	The first floor plan has been exported to ACC and referenced into Civil 3D at the correct location but at the wrong scale.	The first floor plan has been exported to ACC and referenced into Civil 3D at the wrong location and at the wrong scale.	Nothing has been exported from Revit.
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