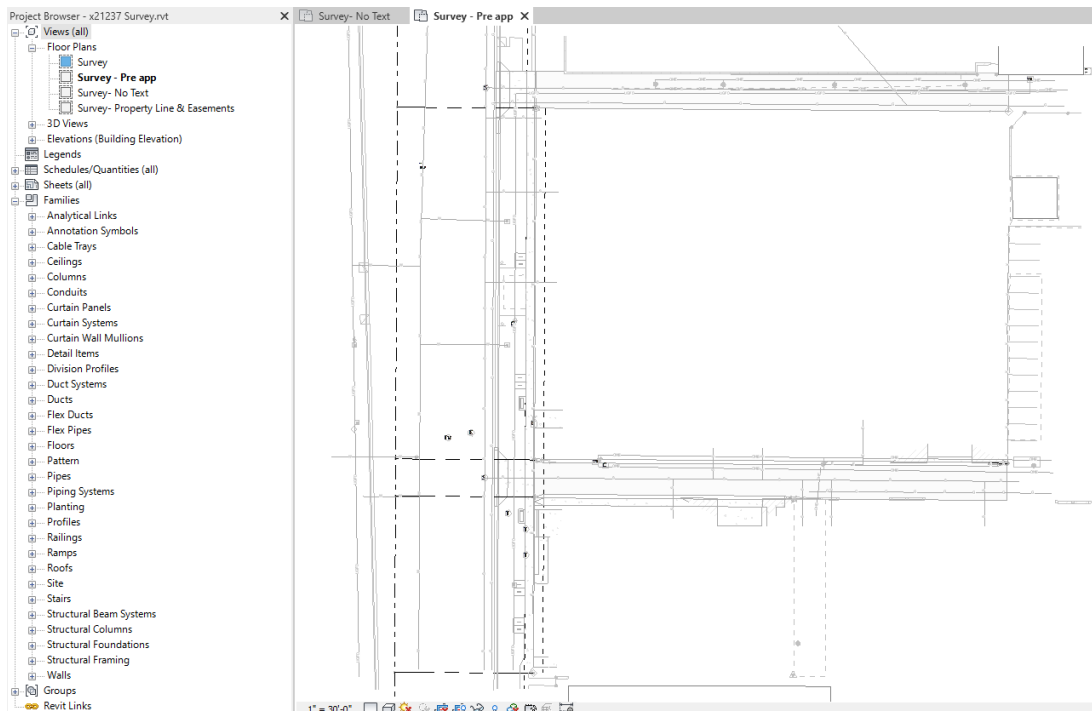# ORB REVIT SURVEY FILE SET-UP

SURVEY FILE DEFINITION

A RVT Survey File is a standalone Revit model/ file that is utilized to host CAD backgrounds that involve this site, and visual overrides that are needed as references for our architectural site plan.

This is done so foreign geometry from CAD and linework that doesn't belong to architectural drafting can be managed efficiently in a self-contained file. This way we can ensure none of those elements interact with our model unless we need them too.
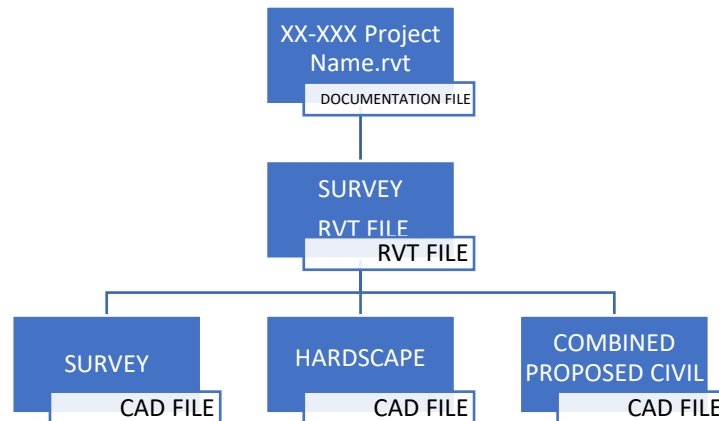
ORB REVIT SURVEY FILE SET-UP

The Survey File

The survey file is the repository of all the site information pertaining to our consultants. This file will later be **linked** into the Documentation File as an attachment.
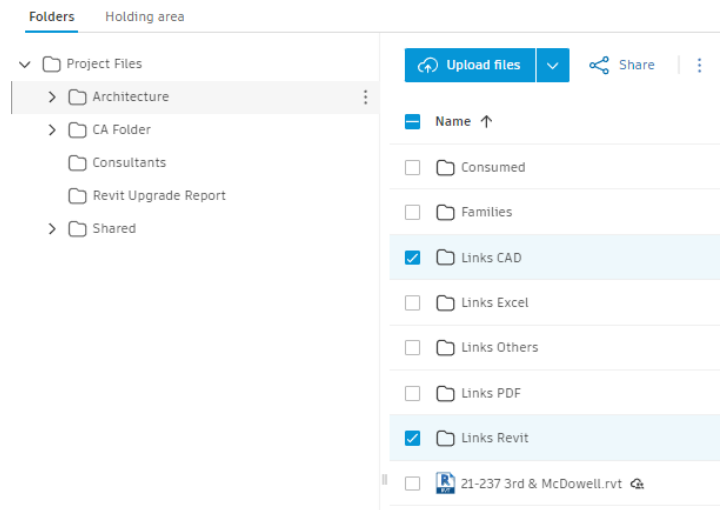
```
              XX-XXX Project
                 Name.rvt
              DOCUMENTATION FILE
                      |
                   SURVEY
                  RVT FILE
                   RVT FILE
         _____|_____
        |           |           |
     SURVEY     HARDSCAPE    COMBINED
                          PROPOSED CIVIL
     CAD FILE    CAD FILE    CAD FILE
```

The RVT Survey file is placed in the *Architecture -> Links Revit* folder in the ACC cloud platform.

All Related CAD files will be placed in the Architecture -> Links CAD folder in the ACC Cloud platform.

ITEMS ON SURVEY FILE:

- Survey
- Hardscape Improvement Linework
- Civil Improvement Linework
- City Required Setbacks Linework
- Required Site Visibility Triangles and Easements
- Utilities drafted with ORB families.
- All other Site related CAD Files

Files

Folders   Holding area

- Project Files
  - Architecture
  - CA Folder
  - Consultants
  - Revit Upgrade Report
  - Shared

Upload files   Share

- Name ↑
- ☐ Consumed
- ☐ Families
- ☑ Links CAD
- ☐ Links Excel
- ☐ Links Others
- ☐ Links PDF
- ☑ Links Revit
- ☐ 21-237 3rd & McDowell.rvt

ORB REVIT SURVEY FILE SET-UP

CAD File Linking

- Confirm Autodesk Desktop Connector is running.
- To link a CAD File, navigate through the top Ribbon in Revit and go to the insert tab. There you will find the Link Cad Option.

- From there you can navigate to the computer's drives and find the Autodesk Docs icon and follow it through to your project folders.

- After you select the CAD File To be inserted make sure the Import Units is set to Feet instead of Auto-Detect
- Make sure that the Colors Option is set to Black and White, otherwise the AutoCAD colors will show up on all your views.

- Make sure the *Correct lines that are off axis option* is turned off, this will throw off your alignments between cads, since property lines are never orthogonal to each other.
- If a survey file is being linked, drag the survey by one of the property lines intersections all the way to Revit's Origin. Revit is not able to handle long distances well, as it's designed for buildings, and will cause distortions while drafting.
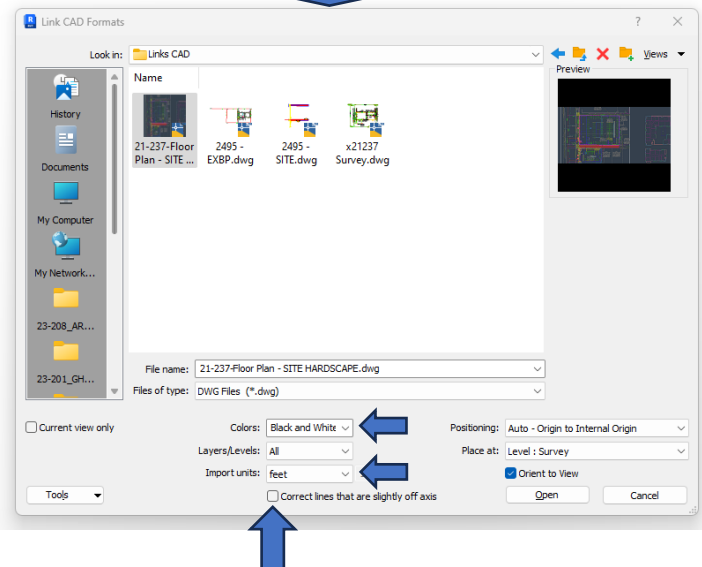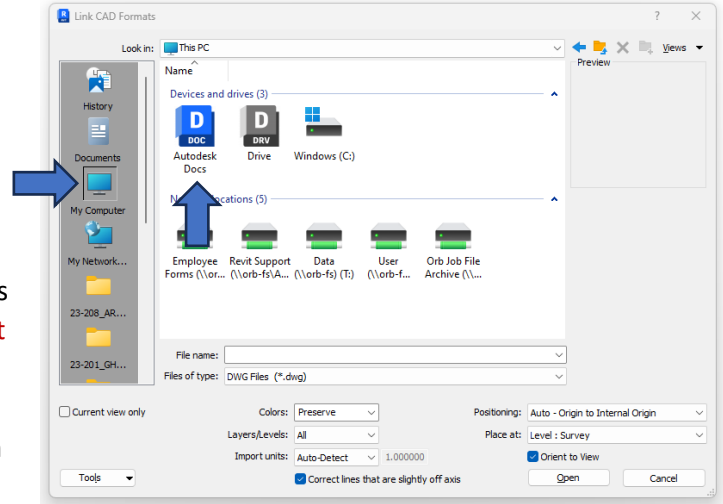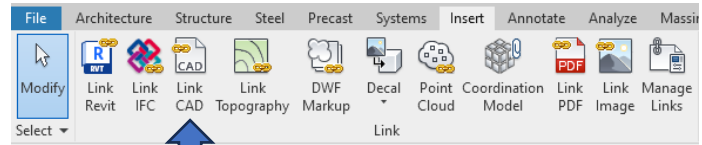
ORB REVIT SURVEY FILE SET-UP
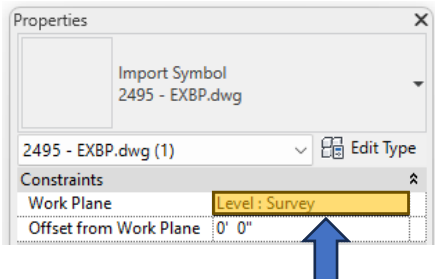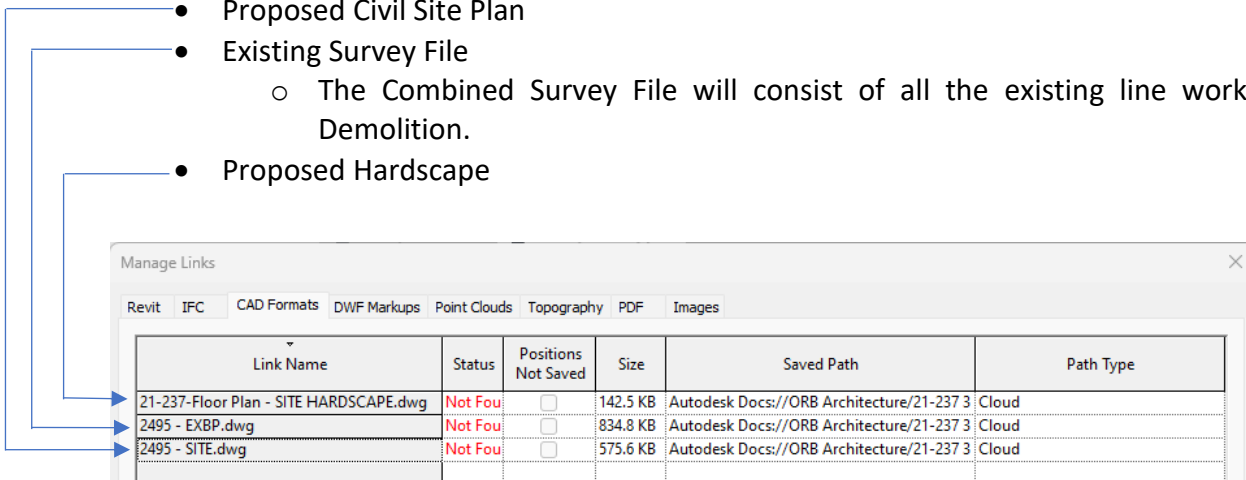
CAD Management Set-up

The initial set-up for the CAD management may vary depending on the file structure from civil. Usually if you receive multiple files from our surveyor it's recommended to create a container CAD file where you can make sure all your CAD files are aligning properly before inserting it into Revit. Doing this will aid in setting up your line-weight overrides, as CAD file linework doesn't translate scale or line styles when linked in. Make sure to flatten the Cad files before inserting them into Revit.

Ex. Name this File: *Project #_Combined Survey File*

In the following example all files were pre-combined by the consultant, so a container file was not needed.

Ideal Cad File linked into the Survey File:
- Proposed Civil Site Plan
- Existing Survey File
    o The Combined Survey File will consist of all the existing line work + Demolition.
- Proposed Hardscape

Manage Links — CAD Formats

Link Name	Status	Positions Not Saved	Size	Saved Path	Path Type
21-237-Floor Plan - SITE HARDSCAPE.dwg	Not Fou	☐	142.5 KB	Autodesk Docs://ORB Architecture/21-237 3	Cloud
2495 - EXBP.dwg	Not Fou	☐	834.8 KB	Autodesk Docs://ORB Architecture/21-237 3	Cloud
2495 - SITE.dwg	Not Fou	☐	575.6 KB	Autodesk Docs://ORB Architecture/21-237 3	Cloud

Properties — Import Symbol — 2495 - EXBP.dwg
2495 - EXBP.dwg (1)
Constraints
Work Plane — Level : Survey
Offset from Work Plane — 0' 0"

- NOTE: CAD files are 3-dimensional elements for Revit. When inserted make sure you view range covers the depth in which the CAD is located, or you might not be able to see the content of it (Set your view range to -1'-0")
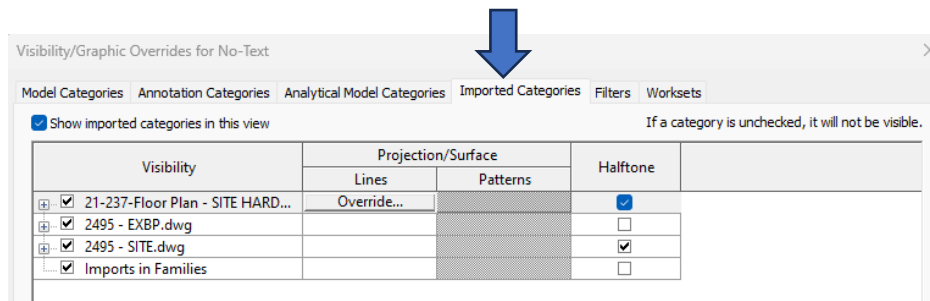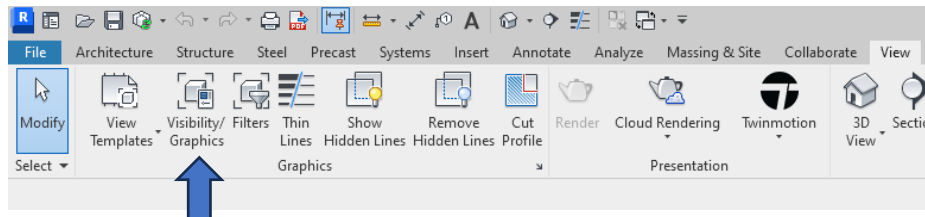- NOTE: CAD files are never to be imported or exploded. We exclusively work with Linked CADs.

ORB REVIT SURVEY FILE SET-UP

Line weights

Typically, when a background is brought into our architectural drawing, we want to make sure that the information that is relevant to us gets brought in with line weights and line styles to complement our information, rather than overshadow it. For this reason, we utilize V/G overrides on the cad files to clean up unnecessary linework and reduce the visibility of others.
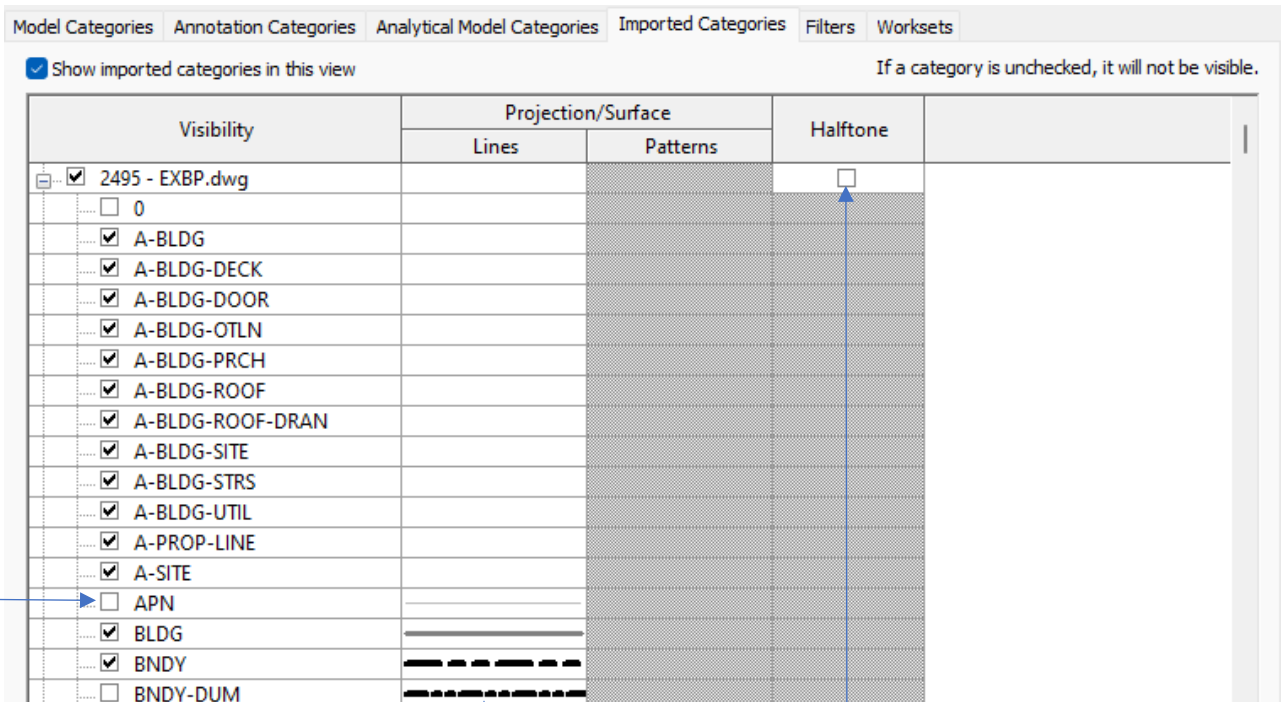
Types of overrides utilized:

- Halftones
  - This will help make complementary information (curbs, ramps, streets, planting areas) in the site not overshadow the architectural work on the site plan.
- Line Style Override
  - This can swap out the default graphic from a cad file to match our standards for the information the line represents.
- Line weight Override
  - This can force the color and width of linework to match our company standards.

ORB REVIT SURVEY FILE SET-UP

Visibility	Projection/Surface		Halftone
	Lines	Patterns	
☐⊟ ☑ 2495 - EXBP.dwg			☐
☐ 0			
☑ A-BLDG			
☑ A-BLDG-DECK			
☑ A-BLDG-DOOR			
☑ A-BLDG-OTLN			
☑ A-BLDG-PRCH			
☑ A-BLDG-ROOF			
☑ A-BLDG-ROOF-DRAN			
☑ A-BLDG-SITE			
☑ A-BLDG-STRS			
☑ A-BLDG-UTIL			
☑ A-PROP-LINE			
☑ A-SITE			
☐ APN			
☑ BLDG			
☑ BNDY			
☐ BNDY-DUM			

- Style and Line Weight overrides

Line Graphics

Lines

| Pattern:	Double dash — — —	...
Color:	■ Black	
Weight:	7	

Clear Overrides   OK   Cancel

- ON/OFF Line style
- Halftone for the CAD file

ORB REVIT SURVEY FILE SET-UP

After all the graphic overrides are set, it's advised to create a template to hold all the graphic overrides of the CAD files, otherwise you risk losing all your overrides when updating a background file. If any other views are needed to be created the same settings can be utilized.
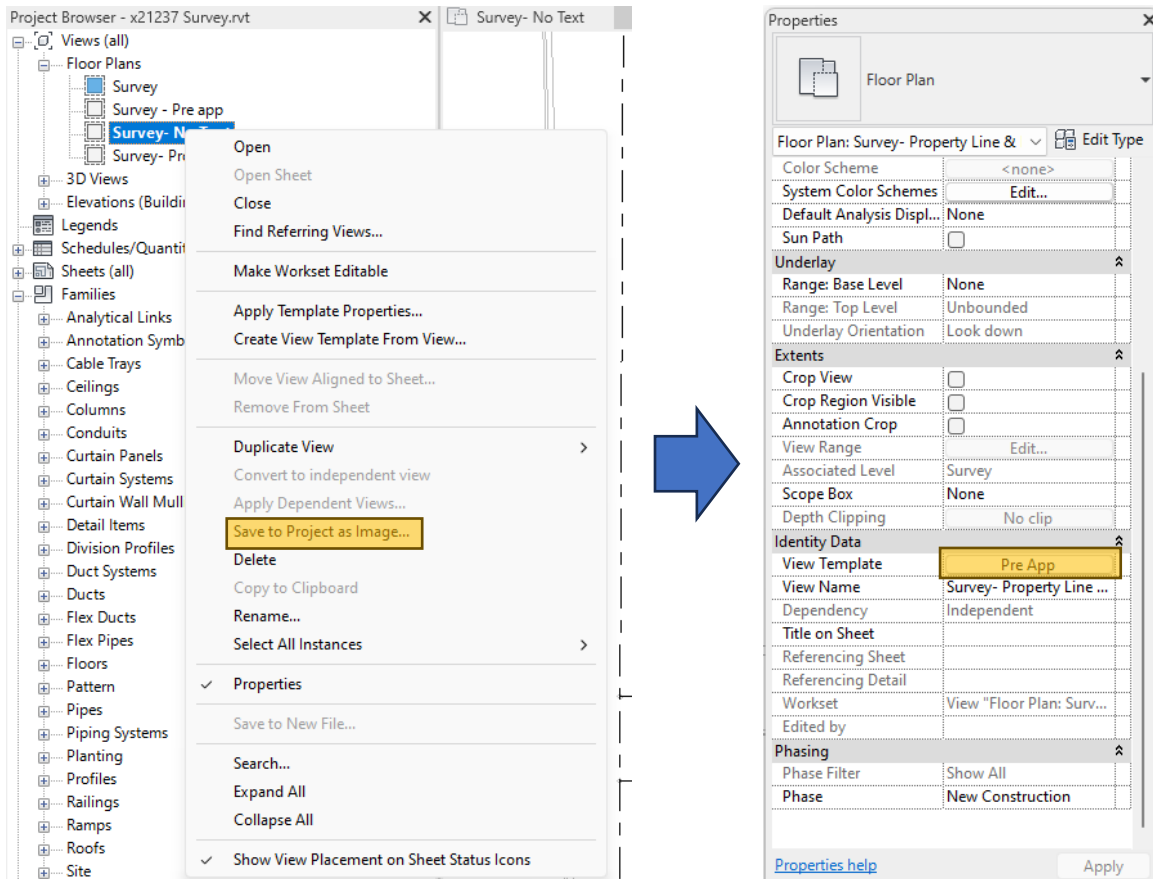
At this stage you can create as many pre-sets as needed to serve as backgrounds for your different site drawings. Coordinate with your team leader to ensure the naming convention is descriptive enough for your team to understand the content use.
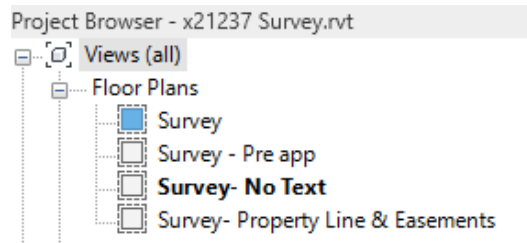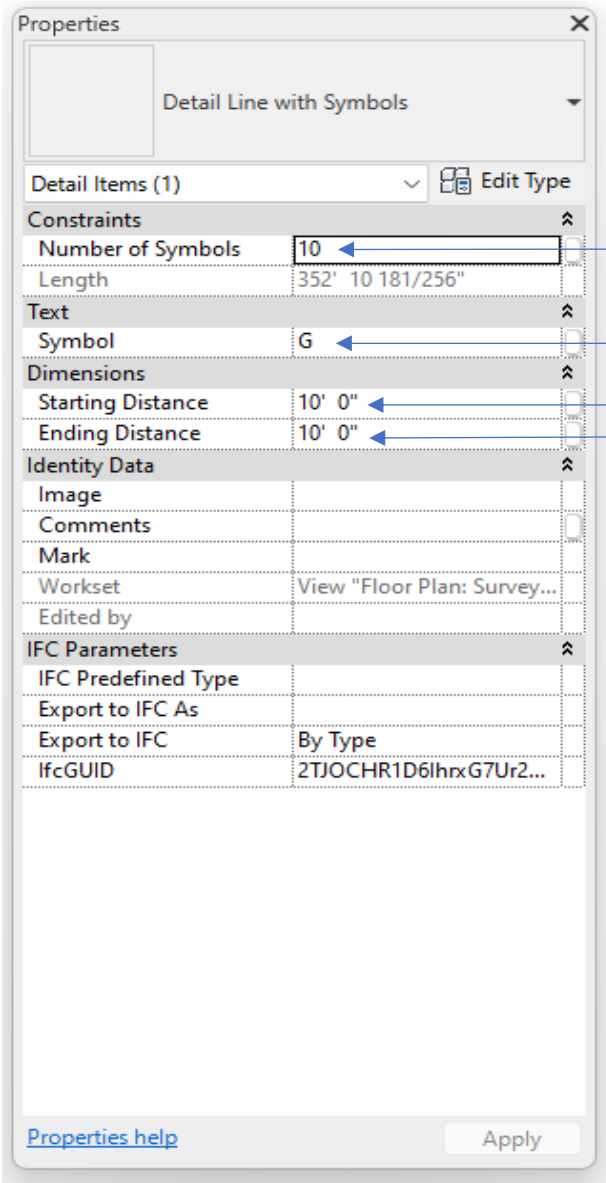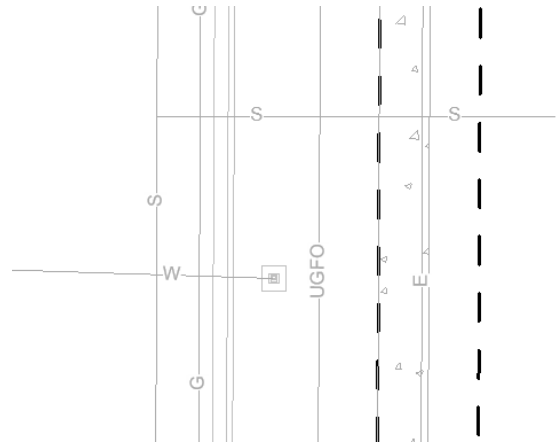
ORB REVIT SURVEY FILE SET-UP

Utility Lines

Typically, utility lines will need to be re-drawn manually for use on our Revit Project. This is due to CAD symbols not translating properly into Revit. To achieve this, we'll utilize the detail component *Detail Line with Symbols,* which can be found in hive.

- Frequency of Symbol
- Symbol Letter
- Offsets from end points

ORB REVIT SURVEY FILE SET-UP

Linking the RVT Survey File

- To link a RVT File, navigate through the top Ribbon in Revit and go to the insert tab. There you will find the *Link Revit* Option.

- From there you can navigate to the External Resources folder and follow it through to your project folders. Note: This Drive will not show up if your Autodesk Computer connector is not turned on.

- Once the RVT Survey is linked in make sure to put the file under the *Site Survey* Workset.

- To link the views created inside the rvt file follow the steps bellow:
  View -> Visibility/Graphics ->RVT Links [Display Settings] -> [By Linked View]