

How to use the ExportDiagramGeometry and ImportDiagramGeometry commands to port schematic diagram layouts to network diagrams

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Introduction

Using the [ArcGIS Schematics extension](#), you created nice schematic diagrams that required manual editing. You now migrated your data into the utility network or trace network and re-created new network diagrams that are close to those you got using ArcGIS Schematics except in terms of their layout.

To avoid manual editing effort repetition on your new network diagrams, we developed a couple of cool sample commands that allow you to port your schematic diagram layouts to your new network diagrams.

The first command exports the geometry of each schematic feature present in your schematic diagrams to JSON files. The second one imports those exported geometries to your diagram features in your new network diagrams.

The sections below explain how to install and run the ExportDiagramGeometry and ImportDiagramGeometry commands. This document also exposes the limitations of the results you will obtain depending on the rules specified on your ArcGIS Desktop and ArcGIS Pro diagram templates, the input you use for your new diagram generation, and so on.

Note: If you need to understand more about the difference between schematic diagrams and network diagrams and get guidance to help you in porting your ArcGIS Desktop schematic diagrams to ArcGIS Pro network diagrams, details are provided in the [Porting Desktop schematic diagrams to Pro network diagrams](#) ArcGIS Blog.

 **Prerequisite:** GlobalIDs must exist for each feature in your ArcGIS Desktop dataset and these GlobalIDs must have been preserved when importing these features into the new ArcGIS Pro trace network or utility network feature classes. [Learn more about GlobalIDs prerequisite](#)

A - Export ArcGIS Desktop schematic diagram layouts to diagram JSON files

To export ArcGIS Desktop schematic diagram layouts, you can run the ExportDiagramGeometry stand-alone command.

1/ ExportDiagramGeometry stand-alone command install requirements

To export schematic diagram geometries, the requirements and prerequisites are as follows:

- ArcGIS Desktop 10.6 or later
- Licensed with the ArcGIS Schematics extension

2/ ExportDiagramGeometry stand-alone command parameters

The ExportDiagramGeometry stand-alone command runs with five parameters:

- SchematicDatasetConnectionFile (required)
- DiagramsToExport (required)
- DiagramName_JSONFile_OutputMatchTable (required)
- JSONFiles_OutputFolder (required)
- LogFile (optional)

a/ ExportDiagramGeometry parameters details

- [SchematicDatasetConnectionFile](#)

The path to the input geodatabase or sde database connection file where the source schematic dataset exists.

- [DiagramsToExport](#)

The path to the input .csv file which contains the list of diagrams to export.

Four columns are expected in this file to identify them:

1. *Schematic Dataset Name*
2. *Template Name*

3. *Diagram Name*
4. *Output File Name*

This file contains one or several rows with the following information:

- Each row must specify the *Schematic Dataset Name* at least (first column).
 ⚠ **Caution:** For a schematic dataset in an sde geodatabase, you must specify the fully qualified schematic dataset name—for example, ElecDemoGN.MAP.SchematicDataset.
- With the only *Schematic Dataset Name* specified, all the schematic diagrams in the schematic dataset are exported.
- With the *Schematic Dataset Name* and *Template Name* columns specified, all the schematic diagrams based on the specified template are exported.
- When the *Schematic Dataset Name*, *Template Name*, and *Diagram Name* columns are specified, only the specified diagram is exported.
- When the *Schematic Dataset Name*, *Template Name*, *Diagram Name*, and *File Name* columns are specified, the specified diagram is the only exported diagram and the result is written in the specified file.

- [DiagramName_JSONFile_OutputMatchTable](#)

The path to the output .csv file that will reference the list of the exported diagrams.

The first column in this file will provide the output JSON file name for each exported diagram and the second column will correspond to the exported diagram name.

- [JSONFiles_OutputFolder](#)

The output folder path where the exported diagram JSON files will be saved.

- [LogFile](#)

The folder location and name of the log file where the log errors will be reported. This parameter is optional.

b/ [ExportDiagramGeometry](#) command example

[Syntax](#)

```
ExportDiagramGeometry /SchematicDatasetConnectionFile:<SchematicDatabaseConnectionPath>  

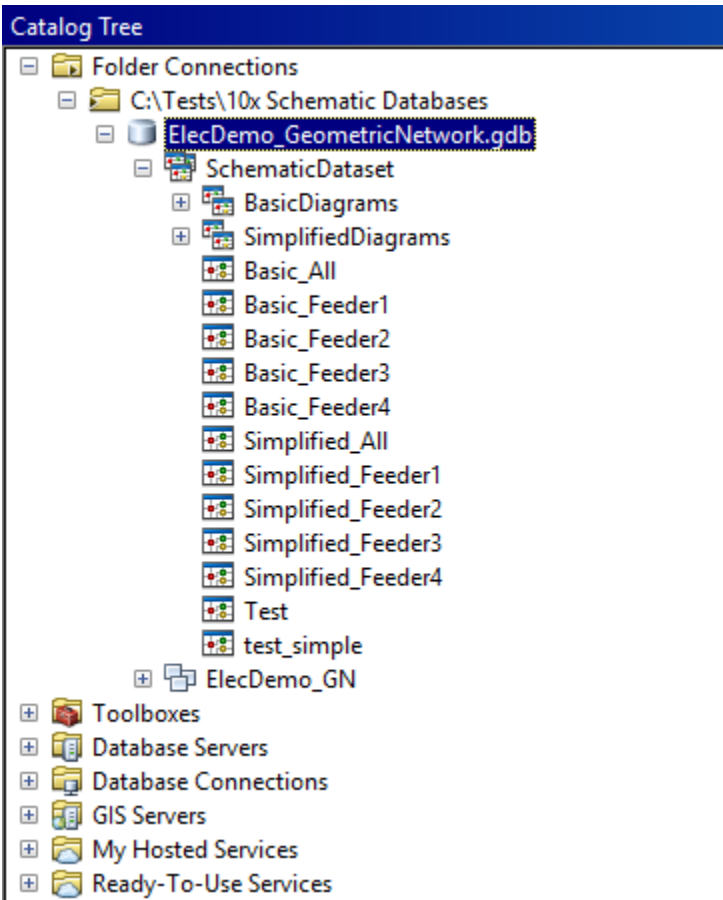
/DiagramsToExport:<DiagramsToExportCSVFile>  

/DiagramName_JSONFile_OutputMatchTable:<ExportedDiagramsResultingCSVFile>  

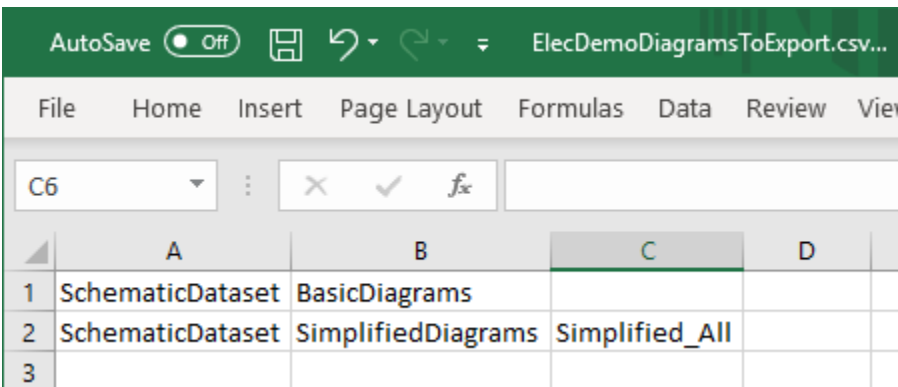
/JSONFiles_OutputFolder:<ResultingJSONFilesLocation> [/LogFile:<LogFile>]
```

[Example](#)

The screenshot below shows a schematic dataset with its two diagram templates (BasicDiagrams and SimplifiedDiagrams) and its set of schematic diagrams (Basic_All, Basic_Feeder1, and so on)



To export all the schematic diagrams based on the BasicDiagrams templates and the schematic diagram whose name is Simplified_All based on the SimplifiedDiagrams template, you can write a .csv file for the input DiagramsToExport parameter such as the ElecDemoDiagramsToExport.csv file below:



Then, to get the exported diagram JSON files created in the C:\Tests\ExportResults\ folder, you can run the ExportDiagramGeometry command with the following five parameters:

- SchematicDatasetConnectionFile = "C:\Tests\10x Schematic Databases\ElecDemo_GeometricNetwork.gdb"
- DiagramsToExport = "C:\Tests\10x Schematic Databases\ElecDemoDiagramsToExport.csv"
- DiagramName_JSONFile_OutputMatchTable = C:\Tests\ExportResults\ElecDemoJSONFiles.csv
- JSONFiles_OutputFolder = C:\Tests\ExportResults\
- LogFile = C:\Tests\ExportResults\ElecDemoExport.log

Here is the complete command line to run:

```
ExportDiagramGeometry /SchematicDatasetConnectionFile:"C:\Tests\10x Schematic
Databases\ElecDemo_GeometricNetwork.gdb" /DiagramsToExport:"C:\Tests\10x Schematic
Databases\ElecDemoDiagramsToExport.csv"
/DiagramName_JSONFile_OutputMatchTable:C:\Tests\ExportResults\ElecDemoJSONFiles.csv
/JSONFiles_OutputFolder:C:\Tests\ExportResults\ /LogFile:C:\Tests\ExportResults\ElecDemoExport.log
```

In the specified **JSONFiles_OutputFolder** output folder, you will find a JSON file for each exported schematic diagram:

Name	Date modified	Type	Size
Basic_All.json	9/22/2020 9:38 AM	MiTeC JSON Viewer	3,565 KB
Basic_Feeder1.json	9/22/2020 9:37 AM	MiTeC JSON Viewer	769 KB
Basic_Feeder2.json	9/22/2020 9:37 AM	MiTeC JSON Viewer	876 KB
Basic_Feeder3.json	9/22/2020 9:37 AM	MiTeC JSON Viewer	727 KB
Basic_Feeder4.json	9/22/2020 9:37 AM	MiTeC JSON Viewer	1,252 KB
ElecDemoExport.log	9/22/2020 9:38 AM	Text Document	1 KB
ElecDemoJSONFiles.csv	9/22/2020 9:38 AM	Microsoft Excel C...	1 KB
Simplified_All.json	9/22/2020 9:38 AM	MiTeC JSON Viewer	37 KB
Test.json	9/22/2020 9:37 AM	MiTeC JSON Viewer	738 KB

The specified **DiagramName_JSONFile_OutputMatchTable** looks like the following one:

	A	B	C	D	E
1	Test.json	Test			
2	Basic_Feeder1.json	Basic_Feeder1			
3	Basic_Feeder4.json	Basic_Feeder4			
4	Basic_Feeder3.json	Basic_Feeder3			
5	Basic_Feeder2.json	Basic_Feeder2			
6	Basic_All.json	Basic_All			
7	Simplified_All.json	Simplified_All			
8					

c/ Some more advices about the **ExportDiagramGeometry** command

- The order of the parameters doesn't matter for the **ExportDiagramGeometry** command.
- For the case when there are whitespace characters in an output folder path, you must start and end the specified folder path with double quotation marks, **"**.

For example, in our sample command, we need double quotation marks to properly specify the **SchematicDatasetConnectionFile** and **DiagramsToExport** parameters for which there are **whitespace characters** in the path:

```
ExportDiagramGeometry /SchematicDatasetConnectionFile:"C:\Tests\10x Schematic
Databases\ElecDemo_GeometricNetwork.gdb" /DiagramsToExport:"C:\Tests\10x Schematic
Databases\ElecDemoDiagramsToExport.csv"
/DiagramName_JSONFile_OutputMatchTable:C:\Tests\ExportResults\ElecDemoJSONFiles.csv
```

```
/JSONFiles_OutputFolder:C:\Tests\ExportResults\  
/LogFile:C:\Tests\ExportResults\ElecDemoExport.log
```

- Ensure each parameter name is specified with a slash character just before it, /, and a colon just behind, :, such as in our sample command below:

```
ExportDiagramGeometry /SchematicDatasetConnectionFile:"C:\Tests\10x Schematic  
Databases\ElecDemo_GeometricNetwork.gdb" /DiagramsToExport:"C:\Tests\10x Schematic  
Databases\ElecDemoDiagramsToExport.csv"  
/DiagramName_JSONFile_OutputMatchTable:C:\Tests\ExportResults\ElecDemoJSONFiles.csv  
/JSONFiles_OutputFolder:C:\Tests\ExportResults\  
/LogFile:C:\Tests\ExportResults\ElecDemoExport.log
```

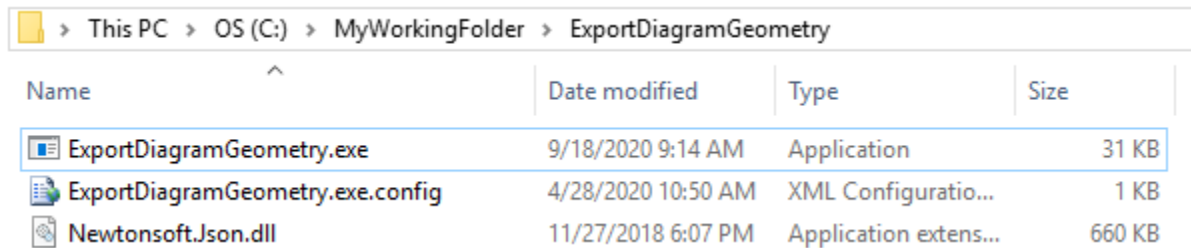
- Ensure there is a whitespace character between each parameter declaration but no whitespace character between the parameter name and its specified value.

```
ExportDiagramGeometry /SchematicDatasetConnectionFile:"C:\Tests\10x Schematic  
Databases\ElecDemo_GeometricNetwork.gdb" /DiagramsToExport:"C:\Tests\10x Schematic  
Databases\ElecDemoDiagramsToExport.csv"  
/DiagramName_JSONFile_OutputMatchTable:C:\Tests\ExportResults\ElecDemoJSONFiles.csv  
/JSONFiles_OutputFolder:C:\Tests\ExportResults\  
/LogFile:C:\Tests\ExportResults\ElecDemoExport.log
```

- When an output file already exists, the ExportDiagramGeometry process automatically increments the newly created output file name.

d/ Install and run the ExportDiagramGeometry stand-alone command

1. Unzip the ExportDiagramGeometry.zip file in the local folder of your choice.

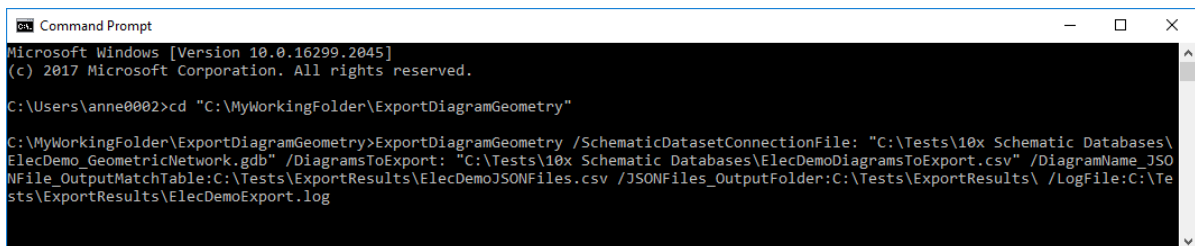


Name	Date modified	Type	Size
ExportDiagramGeometry.exe	9/18/2020 9:14 AM	Application	31 KB
ExportDiagramGeometry.exe.config	4/28/2020 10:50 AM	XML Configuratio...	1 KB
Newtonsoft.Json.dll	11/27/2018 6:07 PM	Application extens...	660 KB

2. Choose one of the following workflows:

- **Run ExportDiagramGeometry in a Command Prompt window.**

- a) Start Command Prompt.
- b) Change the directory to your local ExportDiagramGeometry folder.
- c) Copy the ExportDiagramGeometry command line you want to run and paste it into the Command Prompt window



```
Microsoft Windows [Version 10.0.16299.2045]  
(c) 2017 Microsoft Corporation. All rights reserved.  
  
C:\Users\anne002>cd "C:\MyWorkingFolder\ExportDiagramGeometry"  
  
C:\MyWorkingFolder\ExportDiagramGeometry>ExportDiagramGeometry /SchematicDatasetConnectionFile: "C:\Tests\10x Schematic Databases\  
ElecDemo_GeometricNetwork.gdb" /DiagramsToExport: "C:\Tests\10x Schematic Databases\ElecDemoDiagramsToExport.csv" /DiagramName_JSO  
NFile_OutputMatchTable:C:\Tests\ExportResults\ElecDemoJSONFiles.csv /JSONFiles_OutputFolder:C:\Tests\ExportResults\ /LogFile:C:\Te  
sts\ExportResults\ElecDemoExport.log
```

- d) Press Enter.

- **Run ExportDiagramGeometry through a batch file.**

- a) Copy the ExportDiagramGeometry command line you want to run in a .bat file.
- b) Save this file in your local ExportDiagramGeometry folder.

The screenshot shows a Windows File Explorer window with the address bar displaying the path: This PC > OS (C:) > MyWorkingFolder > ExportDiagramGeometry. The main area contains a table of files with the following columns: Name, Date modified, Type, and Size.


Name	Date modified	Type	Size
ElecDemo.bat	9/22/2020 11:35 AM	Windows Batch File	1 KB
ExportDiagramGeometry.exe	9/18/2020 9:14 AM	Application	31 KB
ExportDiagramGeometry.exe.config	4/28/2020 10:50 AM	XML Configuratio...	1 KB
Newtonsoft.Json.dll	11/27/2018 6:07 PM	Application extens...	660 KB

c) In File Explorer, browse to this .bat file. Then, double-click it.

B - Import the exported diagram JSON files to ArcGIS Pro network diagrams

To import geometries on ArcGIS Pro network diagrams generated from utility network features, you can choose one of the following commands:

- Install and run the **ImportDiagramGeometry stand-alone command**.
- Install and use a **custom Pro add-in command, *Import Layouts from JSON Files***.

 **Note:** To import geometries on ArcGIS Pro network diagrams generated from trace network features, you must install and use the **custom Pro add-in command, *Import Layouts from JSON Files***. The ImportDiagramGeometry stand-alone command doesn't support the network trace type.

I - ImportDiagramGeometry stand-alone command

1/ ImportDiagramGeometry stand-alone command install requirements

To import geometries on network diagrams related to utility network services, the requirements and prerequisites are as follows:

- ArcGIS Pro 2.5 or later.
- Portal for ArcGIS licensed with the ArcGIS Utility Network user type extension.

2/ ImportDiagramGeometry stand-alone command parameters

The ImportDiagramGeometry stand-alone command expects eight parameters:

- Portal (required)
- User (optional)
- Password (optional)
- Service (optional)
- UtilityNetwork (required)
- DiagramsToImport (required)
- ImportFolderPath (required)
- LogFile (optional)

a/ ImportDiagramGeometry parameter details


- Portal

The Portal for ArcGIS URL or the path to the file/mobile geodatabase where the network diagrams to modify exist.

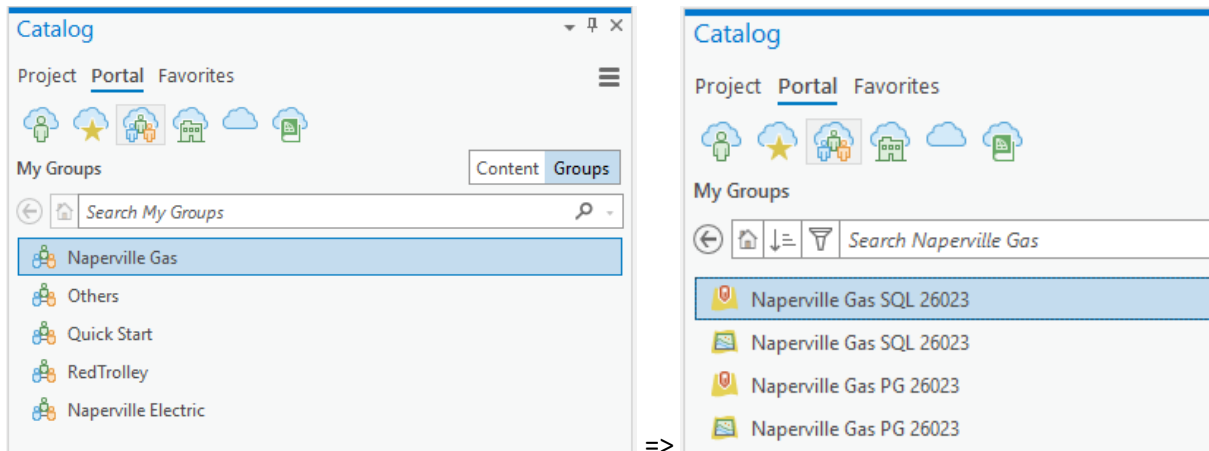
When a Portal for ArcGIS URL is specified, the three following parameters are expected:

- **User:** The user login that must be signed in to the portal
- **Password:** The user password
- **Service:** The name of the utility network service

\Service:<ServiceName> or **\Service:**<"PortalGroupName\ServiceName">

 **Tip:** To know the exact portal group name and service name, the best way is to verify them in the **Catalog** view in ArcGIS Pro.

For example, according to the use case illustrated in the screenshots below, the **Service** parameter must be specified as follows: **\Service:"Naperville Gas\Naperville Gas SQL 26023"**



⚠ Caution: If the portal group name and service name comprise whitespace characters, they clearly appear in the **Catalog** view while they don't in ArcGIS Server Manager.

Do not try to identify the PortalGroupName and ServiceName from ArcGIS Server Manager where these whitespace characters are systematically removed or replaced by underscore characters.

See below:



Editing: [Site \(root\)](#) > [NapervilleGas](#) > [Naperville_Gas_SQL_26023](#)

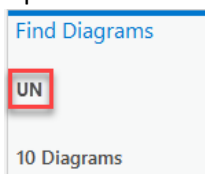
Then, whatever the specified [Portal](#) parameter is, the next parameters are the same.

- [UtilityNetwork](#)

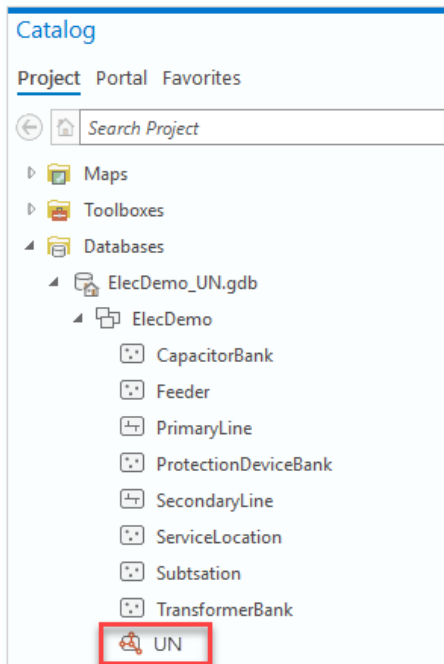
The name of the utility network layer related to the network diagrams you want to modify.

ⓘ Tip: To know the exact name of the utility network layer to specify, you can start ArcGIS Pro and retrieve it using the following workflows:

- **For a network in a File geodatabase,** choose one of the following workflows:
 - Open the **Find Diagrams** pane and specify the network layer like it displays at the top:

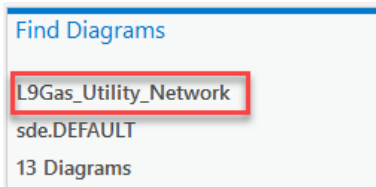


- Open the **Catalog** pane and specify the network layer name like it displays under your database connection.

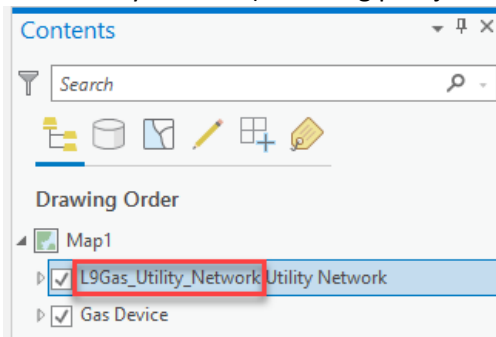


- For a utility network service, choose one of the following workflows:

- Open the **Find Diagrams** pane and specify the network layer like it displays at the top:



- Activate any map that references your network layer, open the **Contents** pane, and get the first part of network layer name (the string part just before “ Utility Network”).



- DiagramsToImport

The folder location and name of the .csv file that contains the list of the diagrams to process. The first column in this file provides the name of a diagram JSON file with exported geometries coming from an ArcGIS Desktop schematic diagram and the second column specifies the name of the ArcGIS Pro network diagram to which this JSON file must be imported.

Note: When the ArcGIS Desktop schematic diagrams and ArcGIS Pro network diagrams have the same names, the CSV file specified for the **DiagramsToImport** parameter should be the one you specified for the output

DiagramName_JSONFile_OutputMatchTable parameter when running ExportDiagramGeometry. When there are

differences in the diagram names between ArcGIS Desktop and ArcGIS Pro, you must edit this file so the second column provides the new network diagram's right name.

- **ImportFolderPath**

The input folder path where the source diagram JSON files listed in the specified **DiagramsToImport** are stored.

- **LogFile**

The folder location and name of the log file where the log errors will be reported. This parameter is optional.

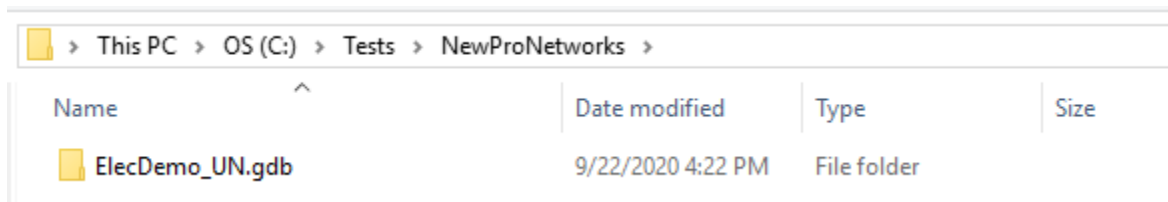
b/ ImportDiagramGeometry command example

Syntax

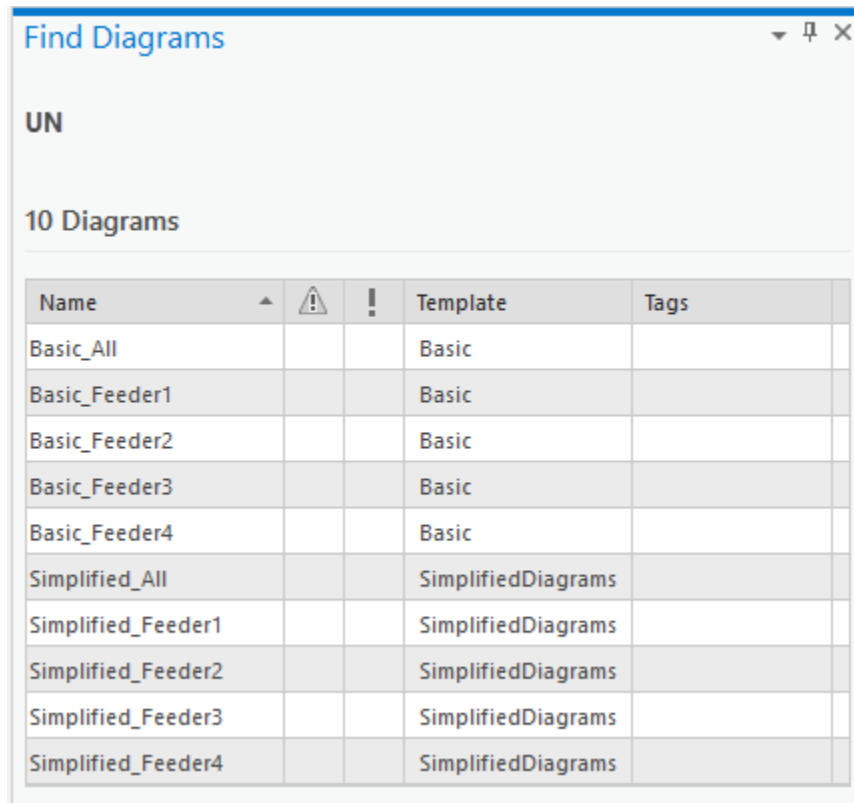
ImportDiagramGeometry [/Portal:<UtilityNetworkFileGDBPatch>][[/Portal:<PortalURL> /User:<userlogin> /Password:<userpassword> /Service:<UtilitNetworkServiceLayerName>] /UtilityNetwork:<UtilityNetworkLayerName> /DiagramsToImport:<DiagramsToImportCSVFile> /ImportFolderPath:<JSONImportFolderPath> [/LogFile:<LogFile>]

Example when the destination diagrams exist in a file geodatabase

The screenshot below shows the new network file geodatabase location:



This database references 10 newly created network diagrams:



The run of the ExportDiagramGeometry stand-alone command on the ArcGIS Desktop schematic dataset completed with the following:

- The following DiagramName_JSONFile_OutputMatchTable csv file:

	A	B	C	D
1	Test.json	Test		
2	Basic_Feeder1.json	Basic_Feeder1		
3	Basic_Feeder4.json	Basic_Feeder4		
4	Basic_Feeder3.json	Basic_Feeder3		
5	Basic_Feeder2.json	Basic_Feeder2		
6	Basic_All.json	Basic_All		
7	test_simple.json	test_simple		
8	Simplified_Feeder2.json	Simplified_Feeder2		
9	Simplified_Feeder1.json	Simplified_Feeder1		
10	Simplified_Feeder3.json	Simplified_Feeder3		
11	Simplified_Feeder4.json	Simplified_Feeder4		
12	Simplified_All.json	Simplified_All		
13				

- The set of exported diagram .JSON files:

Name	Date modified	Type	Size
ElecDemoExport.log	9/22/2020 12:14 PM	Text Document	1 KB
ElecDemoJSONFiles.csv	9/22/2020 12:14 PM	Microsoft Excel C...	1 KB
Simplified_All.json	9/22/2020 12:14 PM	MiTeC JSON Viewer	37 KB
Simplified_Feeder3.json	9/22/2020 12:14 PM	MiTeC JSON Viewer	4 KB
Simplified_Feeder4.json	9/22/2020 12:14 PM	MiTeC JSON Viewer	12 KB
Simplified_Feeder1.json	9/22/2020 12:14 PM	MiTeC JSON Viewer	14 KB
Simplified_Feeder2.json	9/22/2020 12:14 PM	MiTeC JSON Viewer	10 KB
test_simple.json	9/22/2020 12:14 PM	MiTeC JSON Viewer	13 KB
Basic_All.json	9/22/2020 12:14 PM	MiTeC JSON Viewer	3,565 KB
Basic_Feeder2.json	9/22/2020 12:14 PM	MiTeC JSON Viewer	876 KB
Basic_Feeder3.json	9/22/2020 12:14 PM	MiTeC JSON Viewer	727 KB
Basic_Feeder4.json	9/22/2020 12:14 PM	MiTeC JSON Viewer	1,252 KB
Basic_Feeder1.json	9/22/2020 12:14 PM	MiTeC JSON Viewer	769 KB
Test.json	9/22/2020 12:14 PM	MiTeC JSON Viewer	738 KB

Since the ArcGIS Desktop schematic diagrams and new ArcGIS Pro network diagrams have the same names in our sample case, we can directly use these outputs as the **DiagramsToImport** and **ImportFolderPath** input parameters for the ImportDiagramGeometry command run. That is, we can run the ImportDiagramGeometry command with the following parameters:

- Portal = C:\Tests\NewProNetworks\ElecDemo_UN.gdb
- UtilityNetwork = UN
- DiagramsToImport = C:\Tests\ExportResults\ElecDemoJSONFiles.csv
- ImportFolderPath = C:\Tests\ExportResults
- LogFile = C:\Tests\ImportResults\ElecDemoImport.log

```
ImportDiagramGeometry /Portal:C:\Tests\NewProNetworks\ElecDemo_UN.gdb /UtilityNetwork:UN
/DiagramsToImport:C:\Tests\ExportResults\ElecDemoJSONFiles.csv
/ImportFolderPath:C:\Tests\ExportResults
/LogFile:C:\Tests\ImportResults\ElecDemoImport.log
```

Example when the destination diagrams come from a service

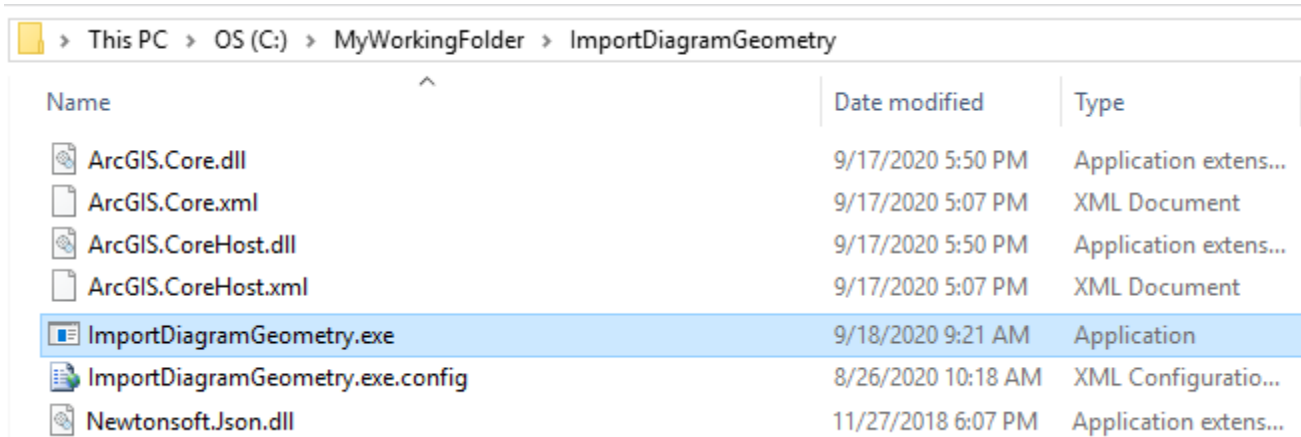
```
ImportDiagramGeometry /Portal:https://myportal.esri.com/portal/ /User:user05241
/Password:pswd_user05241 /Service:"Naperville Gas/Naperville Gas SQL 26023"
/UtilityNetwork:L9Gas_Utility_Network
/DiagramsToImport:C:\Tests\ExportResults\NapervilleGasJSONFiles.csv
/ImportFolderPath:C:\Tests\ExportResults
/LogFile:C:\Tests\ImportResults\NapervilleGasImport.log
```

c/ Some more advices about the ImportDiagramGeometry command

- Same recommendations as for the ExportDiagramGeometry command
 - For the case when there are whitespace characters in a folder path, you must start and end the specified folder path with double quotation marks, "
 - Ensure each parameter name is specified with a slash character just before it, /, and a colon just behind, :
 - Ensure there is a whitespace character between each parameter declaration but no whitespace character between the parameter name and its specified value.
- If the names of the new network diagrams don't exactly match the schematic diagram names you see under the ArcGIS Desktop schematic dataset, you must edit the DiagramName_JSONFile_OutputMatchTable .csv file resulting from the ExportDiagramGeometry run and change the non-expected names in the second column.

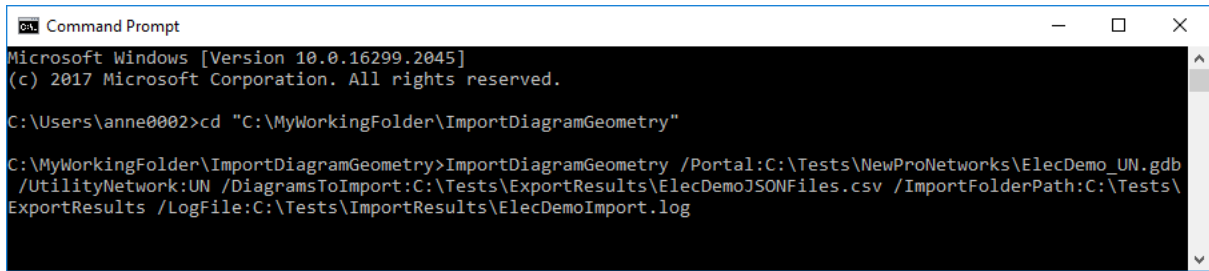
d/ Install and run the ImportDiagramGeometry stand-alone command

1. Unzip the ImportDiagramGeometry.zip file in the local folder of your choice.

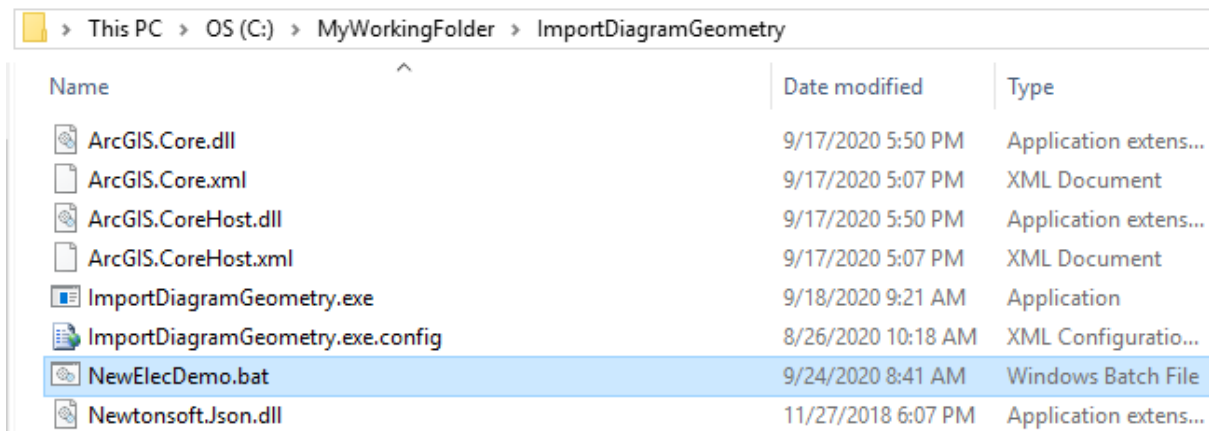


2. Choose one of the following workflows:
 - **Run ImportDiagramGeometry in a Command Prompt window.**
 - a) Start Command Prompt.
 - b) Change the directory to your local ImportDiagramGeometry folder.

- c) Copy the ImportDiagramGeometry command line you want to run and paste it into the Command Prompt window.



- d) Press Enter.
- **Run ImportDiagramGeometry through a batch file.**
 - a) Copy the ImportDiagramGeometry command line you want to run in a .bat file.
 - b) Save this file in your local ImportDiagramGeometry folder.



- c) In File Explorer, browse to this .bat file. Then, double-click it.

II - ImportDiagramGeometryAddIn ArcGIS Pro add-in

The ImportDiagramGeometry stand-alone command doesn't support network diagrams generated from trace networks. To import geometries on network diagrams based on a trace network, you must install and run the ImportDiagramGeometryAddIn ArcGIS Pro add-in command.

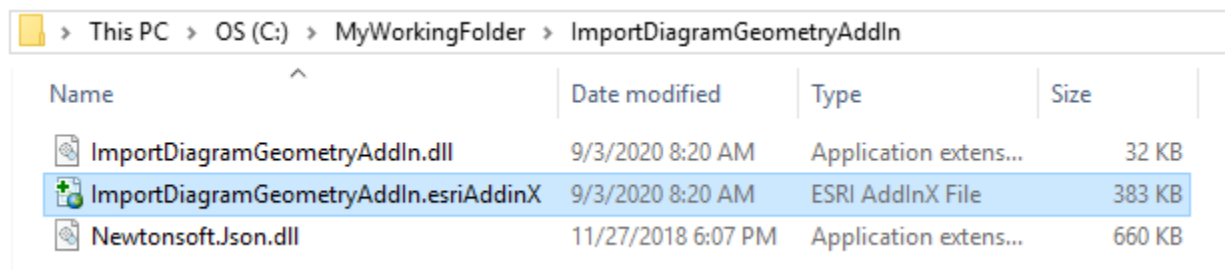
1/ ImportDiagramGeometryAddIn ArcGIS Pro add-in install requirements

To import geometries on network diagrams related to trace networks, the requirements and prerequisites are as follows:

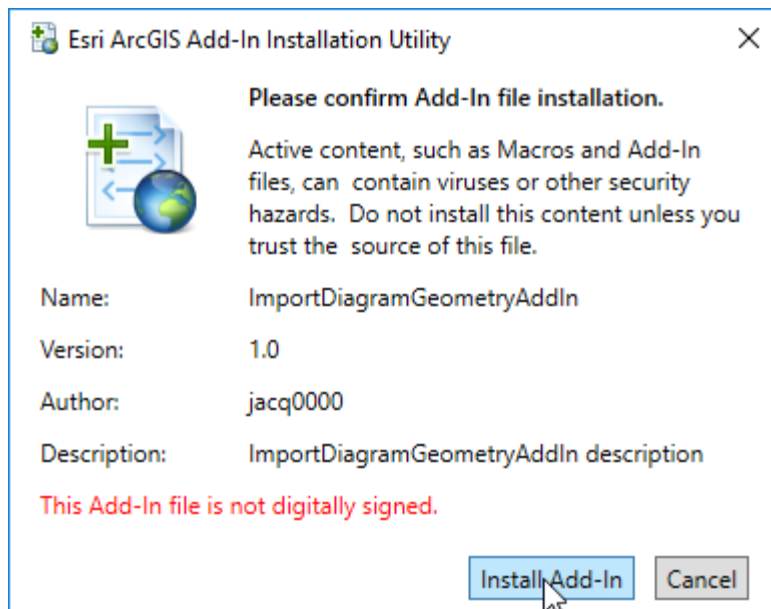
- ArcGIS Pro 2.6 or later.
- Portal licensed with the ArcGIS Utility Network user type extension.

2/ Install the ImportDiagramGeometryAddIn ArcGIS Pro add-in

1. Unzip the ImportDiagramGeometryAddIn.zip file in the local folder of your choice.

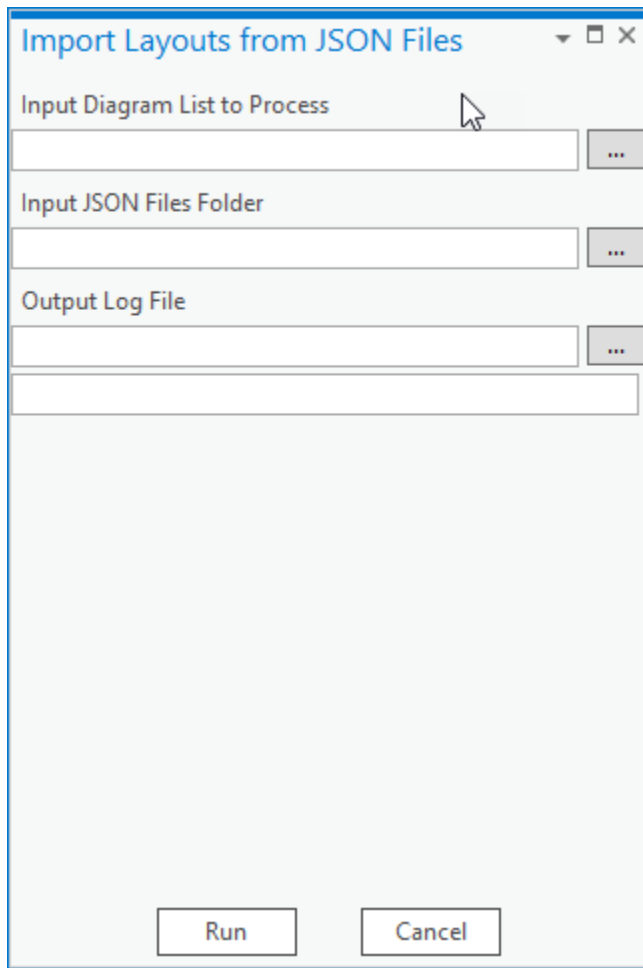


2. Double-click **ImportDiagramGeometryAddIn.esriAddinX** and click **Install Add-In**.

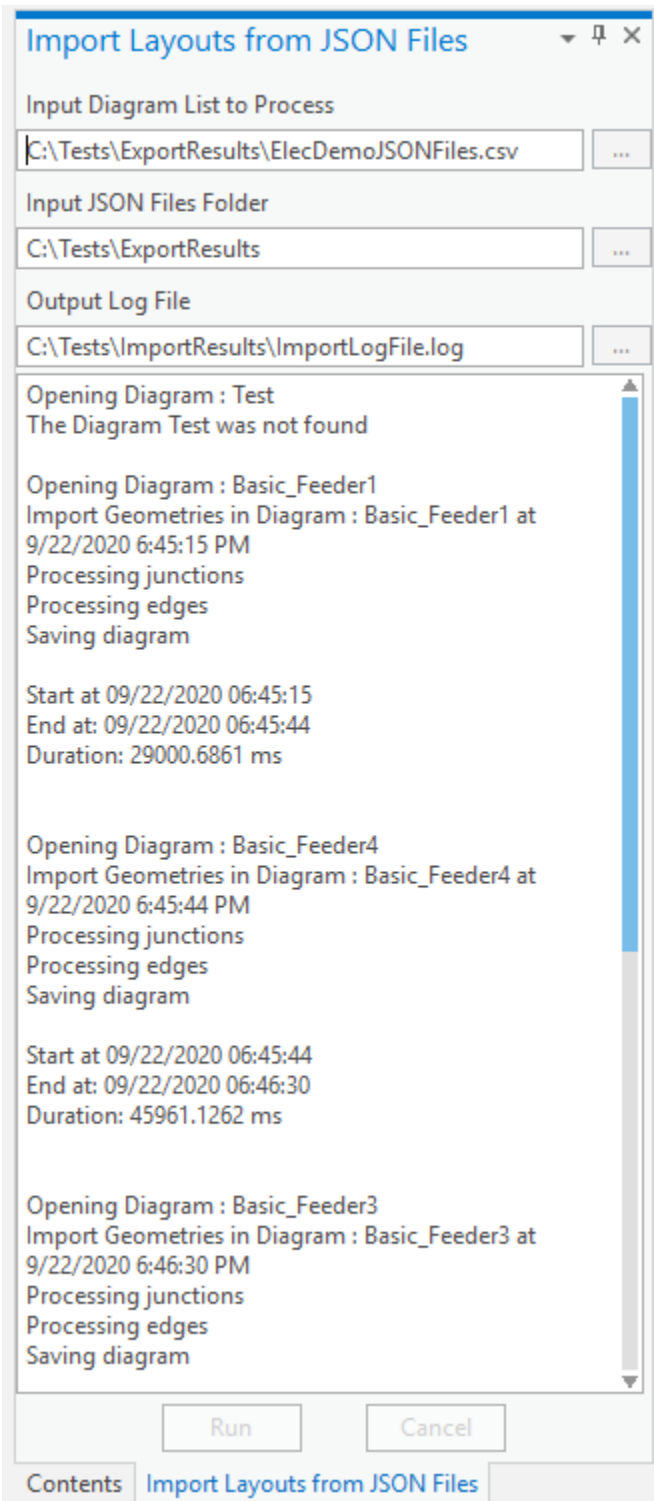


3/ Import layouts from a JSON files workflow

1. Start ArcGIS Pro.
2. Add your network layer to a new empty map or open any network map that already references this network layer.
If the network layer corresponds to a utility network, go to step 4.
3. If the network layer corresponds to a trace network, you must open any existing diagram related to this trace network. The Import Layouts JSON Files add-in command needs any diagram layer to properly retrieve the related trace network.
 - a. Click **Find** on the **Diagram** group in the network data ribbon
 - b. In the **Find Diagrams** pane that opens, double-click any of the diagram item to open it whether its geometry needs to be imported or not.
 - c. Ensure the open diagram map is the active map
4. Click the **Add-In** ribbon and click **Import Layouts from JSON Files**.
The **Import Layouts from JSON Files** pane appears:



- a. Next to the **Input Diagram List to Process** text box, click the **ellipse** button. Then, browse to and select the .csv file that contains the list of the diagrams to process.
Note: This .csv file is the same that the ImportDiagramGeometry stand-alone command expects for the DiagramsToImport parameter.
 - b. Next to the **Input JSON Files Folder** text box, click the **ellipse** button. Then, browse to and select the folder location that contains the source diagram JSON files.
Note: This folder is the same that the ImportDiagramGeometry stand-alone command expects for the ImportFolderPath parameter.
 - c. Next to the **Output Log File** text box, click the **ellipse** button. Then, browse to any local folder you want and type a name for the log file where the log errors will be reported.
5. Click **Run**.
The ImportDiagramGeometry process starts.



C – Export and import diagram geometry limitations

There are some points to keep in mind that explain the limits of the export/import diagram geometry results.

- Importing the ArcGIS Desktop features to the new utility or trace network feature classes while preserving their GlobalIDs is a necessity so the ImportDiagramGeometry command can properly process the diagram features.
- There are differences in the diagram building process that can make your new ArcGIS Pro network diagram contents a little different compared to your schematic diagram contents once running the ExportDiagramGeometry command.

These points are outlined in the next sections.

1/ GlobalID on network features

⚠ Caution:

- **GlobalIDs must exist for each GIS feature in your ArcGIS Desktop dataset** so each schematic diagram feature is created in the schematic feature classes with a non-empty associated GIS feature GUID—UGUID field value. Then, the ExportDiagramGeometry stand-alone command exports this UGUID field value in the resulting JSON files for each exported schematic feature.

The screenshot displays two map panes side-by-side. The left pane, titled 'Geometric network features', shows a network of green lines and points. The right pane, titled 'Schematic diagram features', shows a network of colored lines (blue, pink, green, orange) and points labeled 'RICE CREEK', 'HARRISON', 'CORINTH CHURCH', and 'GOLF'. Below each map is a table of feature data.

GlobalID *	OBJECTID *	Shape *	FACILITYID
{758EE3C4-68EA-4CEC-9747-9F59B85A2195}	1	Point	470062000
{5126A7E9-29B0-43A7-B29C-89A88FB78E7A}	2	Point	411064000
{D5F88BA2-9ECF-4459-B208-A1820D468B67}	3	Point	470062010
{D6685E22-A5CB-415D-BD59-B0602D412350}	4	Point	470062020

ID *	UGUID	DIAGRAMCLASSID	DIA
7	{758EE3C4-68EA-4CEC-9747-9F59B85A2195}	30	
8	{5126A7E9-29B0-43A7-B29C-89A88FB78E7A}	30	
9	{D5F88BA2-9ECF-4459-B208-A1820D468B67}	30	
10	{D6685E22-A5CB-415D-BD59-B0602D412350}	30	

- **These same GlobalIDs must have been preserved on the network feature classes when importing or migrating the data to the new trace or utility network.**

Then, since for each diagram feature in the newly generated network diagrams, we also keep a track for the Associated Global ID, the ImportDiagramGeometry process searches for a match between each schematic diagram feature in the JSON file and each diagram feature in the new network diagrams.

Trace or utility network features

Network diagram features

Feeder

GlobalID *	OBJECTID *	Shape *	FACILITYID	CIRCUIT
{758EE3C4-66EA-4CEC-9747-9F59885A2195}	1	Point	470062000	RICE CR
{5126A7E9-2980-43A7-B29C-89A88F876E7A}	2	Point	411064000	GOLDM
{D5F888A2-9ECF-4459-8208-A1820D468B67}	3	Point	470062010	CORINT
{D8685E22-A5CB-415D-BD59-B0602D412350}	4	Point	470062020	HARRIS

Click to add new row.

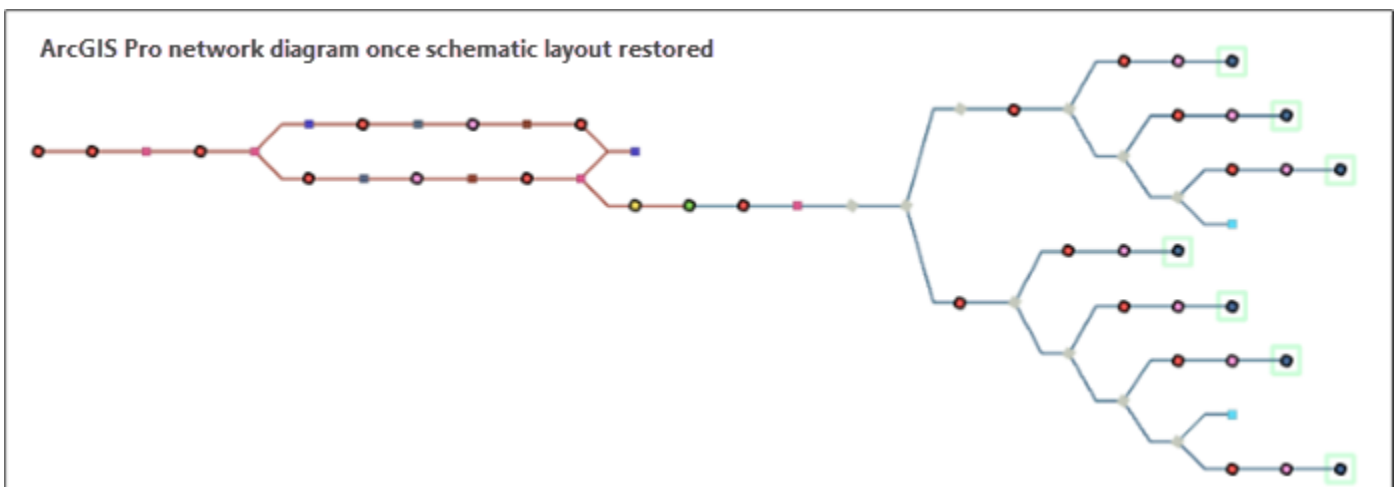
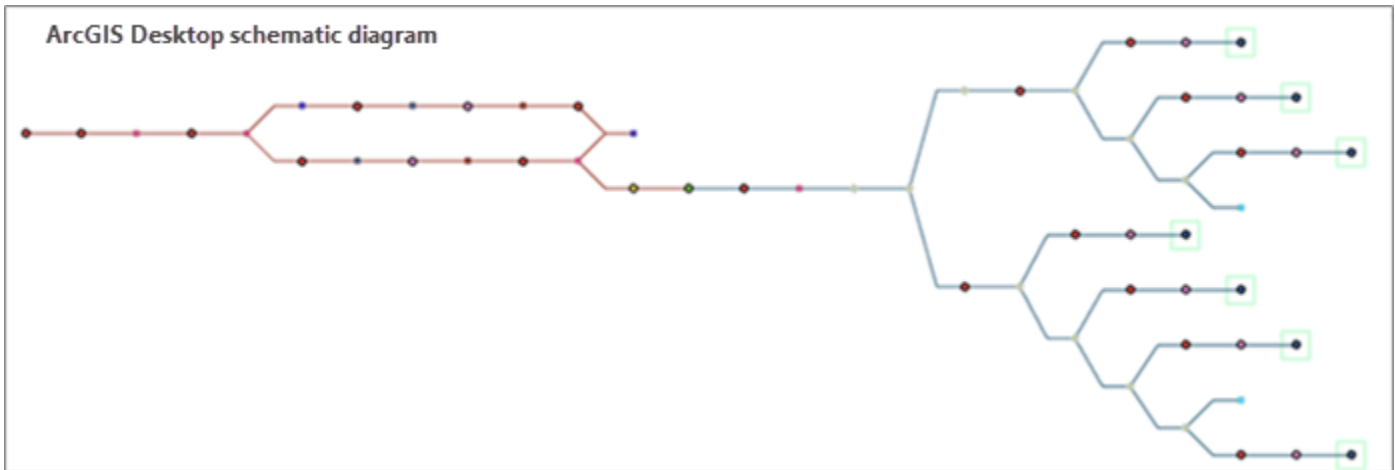
Feeder

Element ID	Container ID	Associated global ID	Shape	Element rotation
1	0	{D5F888A2-9ECF-4459-8208-A1820D468B67}	Point	0
2	0	{D8685E22-A5CB-415D-BD59-B0602D412350}	Point	0
3	0	{5126A7E9-2980-43A7-B29C-89A88F876E7A}	Point	0
4	0	{758EE3C4-66EA-4CEC-9747-9F59885A2195}	Point	0

Click to add new row.

2/ Explaining layout restoration limitations through samples

Simple network diagrams with a diagram feature representing each network feature as an input
Simple schematic diagrams generated so each network feature in input corresponds to a schematic feature are ideal candidates for these export/import commands. In this case, assuming the network features used as input to create the schematic diagrams are the same for the network diagram creations, the associated GlobalID for each schematic feature (UGUID) and diagram feature (Associated Global ID) are the same, and the layouts can be fully restored on the new ArcGIS Pro network diagrams.



Non-retrieved features in network diagrams

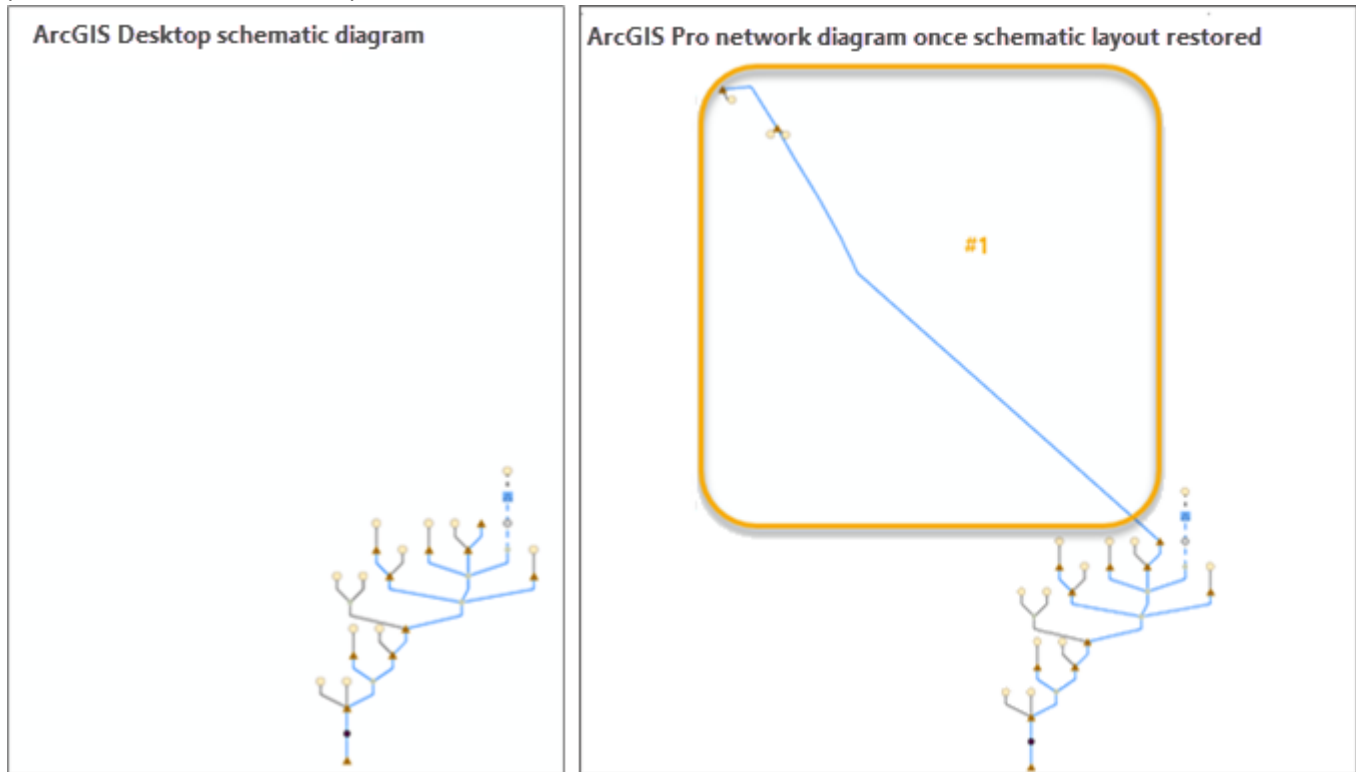
There are diagram features in the ArcGIS Pro network diagrams that may not correspond to any schematic feature in the ArcGIS Desktop schematic diagrams.

Such use cases are illustrated below:

Extra network features in network diagrams vs. schematic diagrams

The inputs used for the ArcGIS Pro network diagram and ArcGIS Desktop schematic diagram are not the same; that is, there are extra features in the network diagram that don't exist in the schematic diagram.

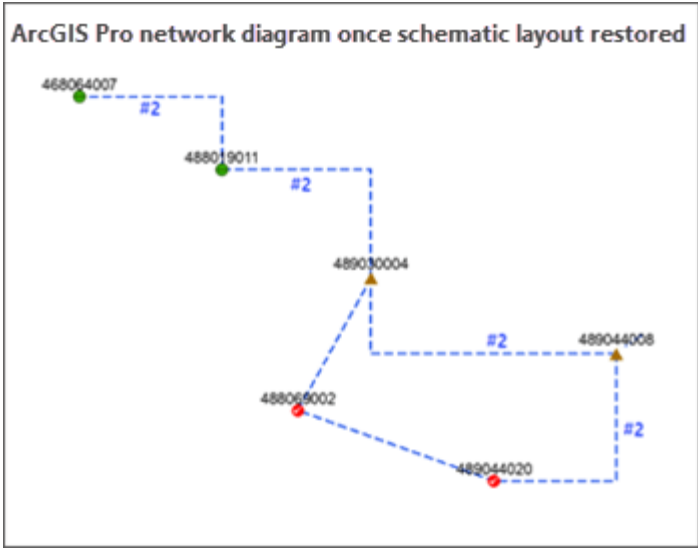
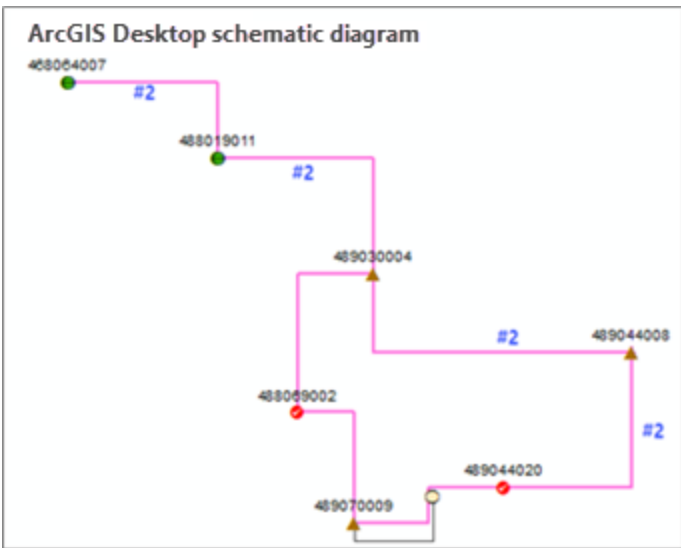
In this case, the non-retrieved diagram features remain at the location they were before the ImportDiagramGeometry process, as in **area #1** in Sample 1 below:



Sample 1

Reduction edges that only exist in network diagrams

Reduction edges only exist in network diagrams. When a reduction edge's Associated Global ID matches a schematic link UGUID and connects the same "from" and "to" network junctions, the geometry is imported to the reduction edge. This situation is illustrated for [schematic links/diagram edges #2](#) in the Sample 2 and Sample 3 graphics below:



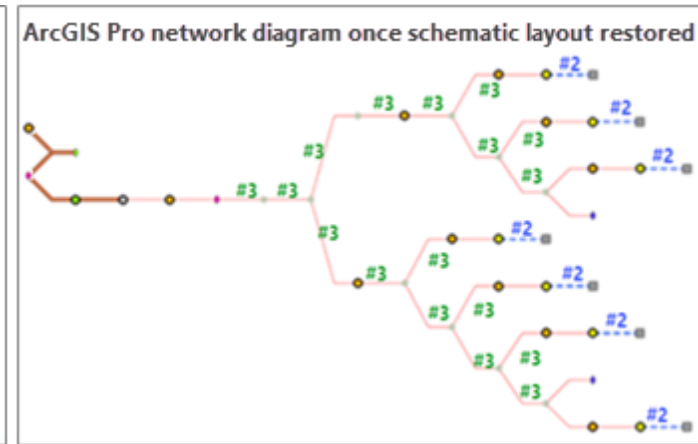
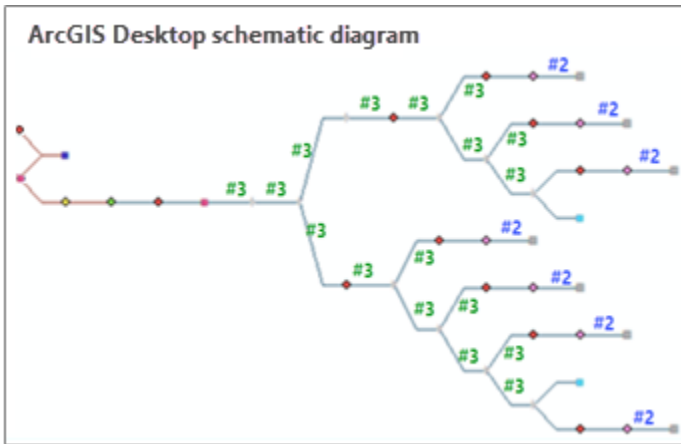
Sample 2

System junctions and their incident edges

You can have system junctions represented in both ArcGIS Desktop schematic diagrams and network diagrams. However, since system junctions are created with their own logic and GlobalIDs in each network, there are some situations for which the geometry cannot be restored for these junctions and their incident edges.

a/ Incident edges for which the geometry can be restored

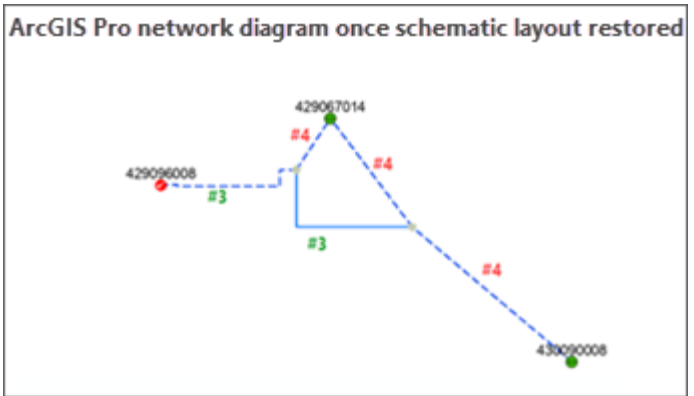
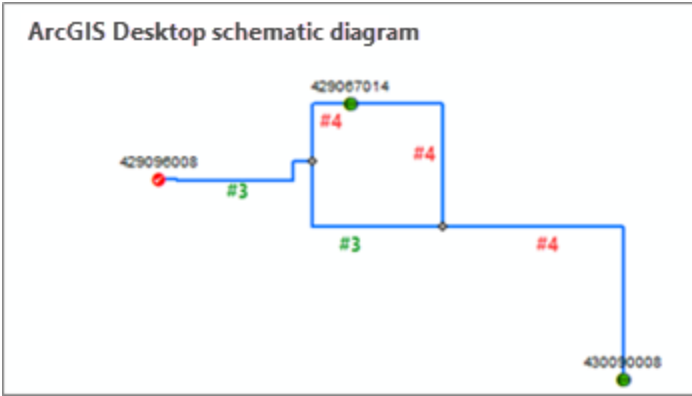
Geometry can be restored on diagram edges that connect system junctions when the network features associated with those diagram edges exist with the same GlobalIDs in the ArcGIS Desktop schematic diagram and ArcGIS Pro network diagram (cases #3 in Sample 3 and Sample 4 below where system junctions are represented with gray points).



Sample 3

b/ Incident edges for which the geometry cannot be restored

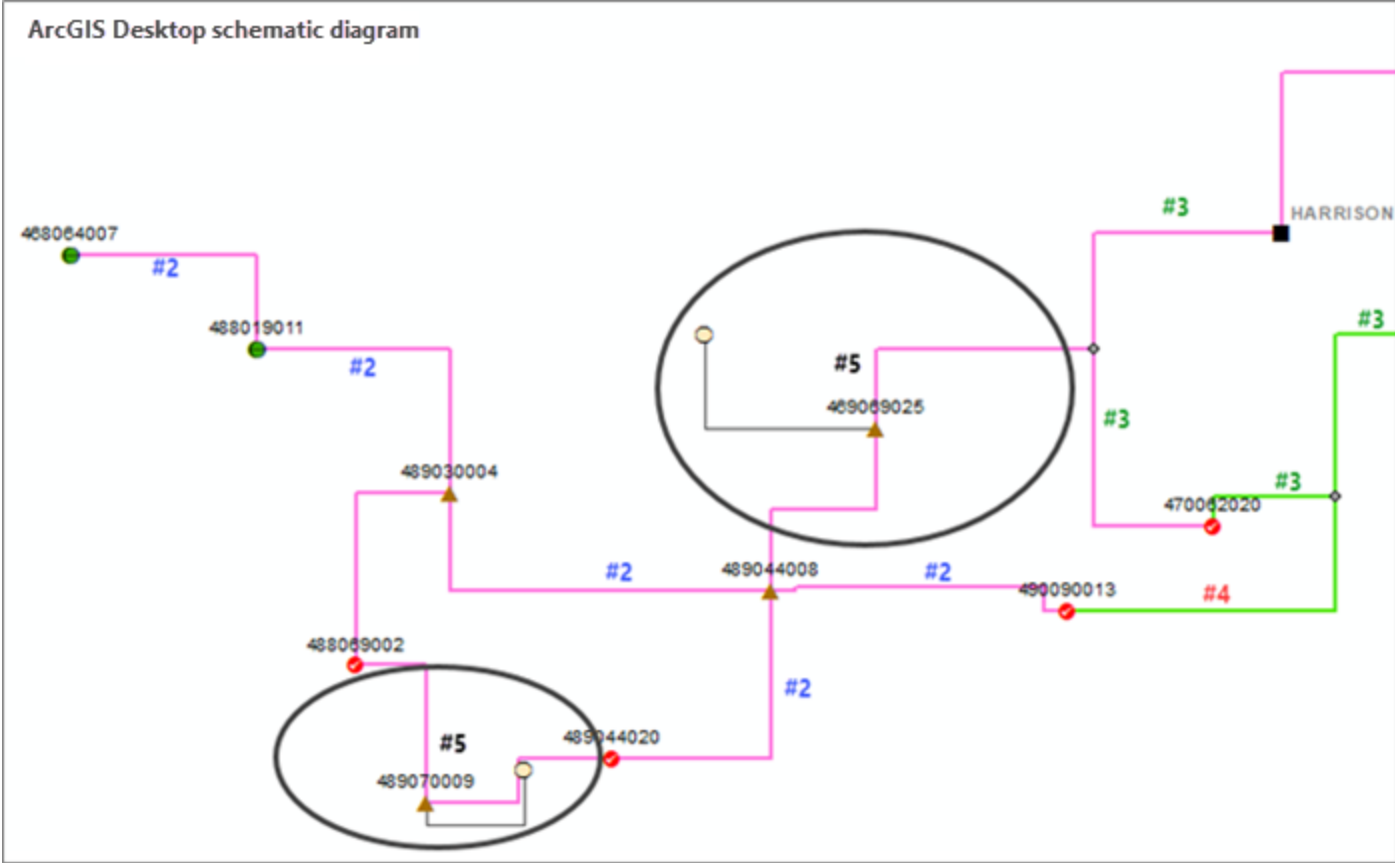
Geometry cannot be restored on diagram edges that connect system junctions when the network feature associated with those diagram edges exist with a different GlobalID in the ArcGIS Desktop schematic diagram and ArcGIS Pro network diagram (cases #4 in Sample 4 and Sample 5 below where system junctions are represented with gray points).



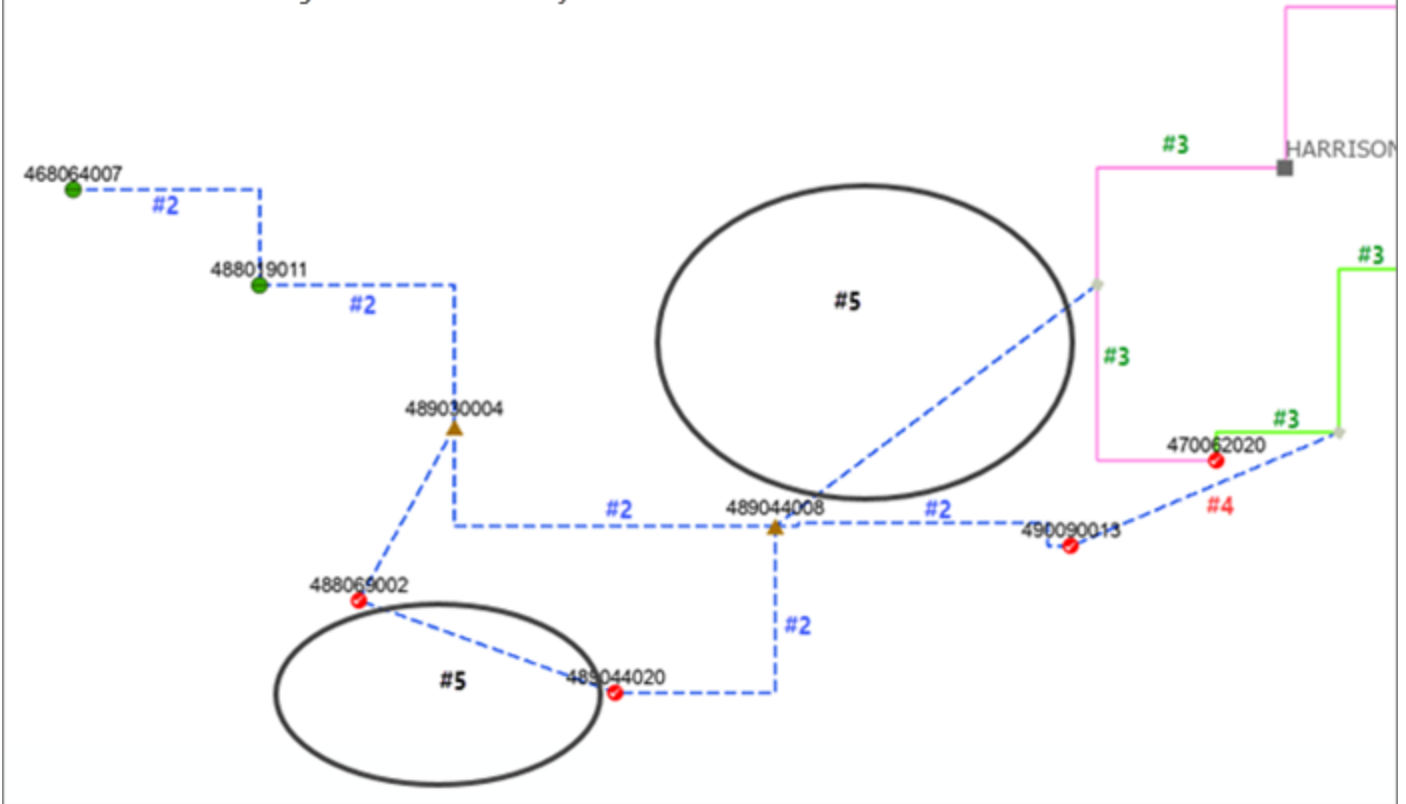
Sample 4

Reduce junction rule process

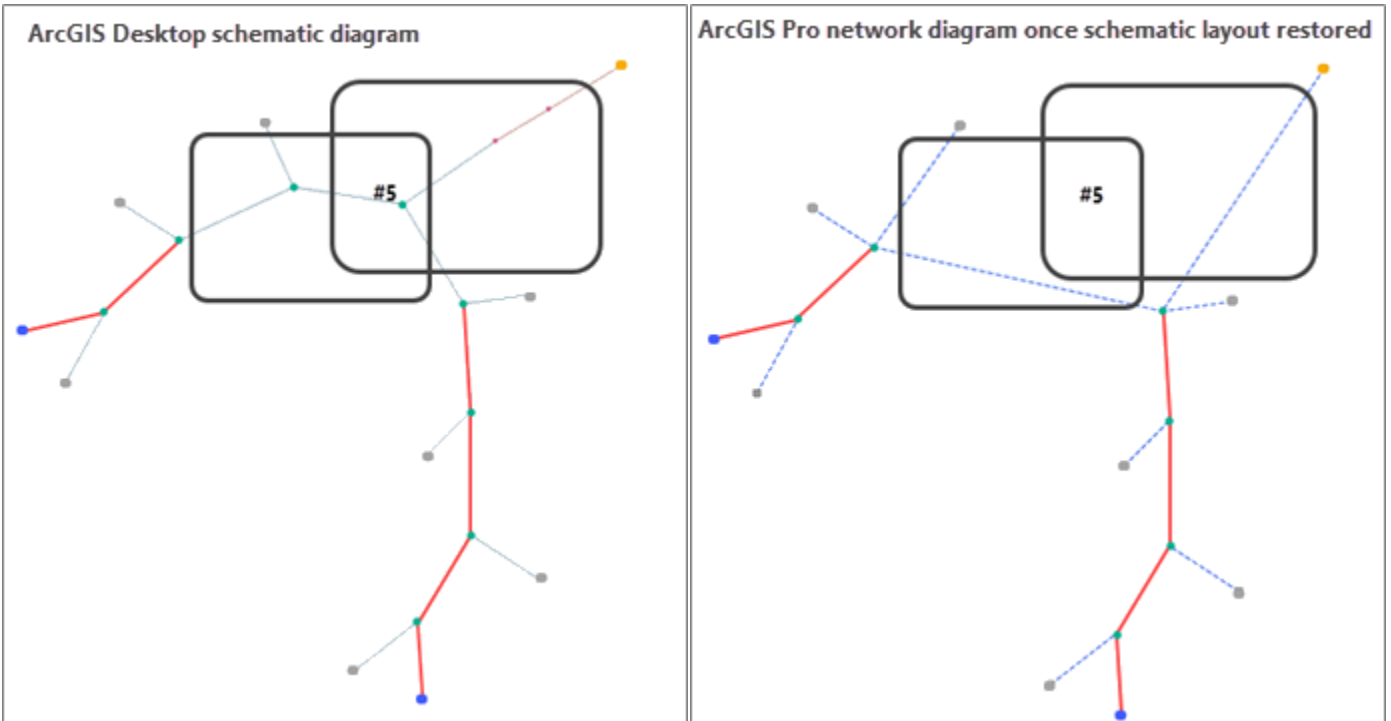
The way the reduction rules are configured on network diagram templates can be more efficient compared to how they are configured on schematic diagram templates, causing more things to be reduced in some network diagrams versus the related schematic diagrams. In this case, the geometry of the diagram junctions and edges on the area that are more simplified cannot be restored (**cases #5** in Sample 5 and Sample 6 below).



ArcGIS Pro network diagram once schematic layout restored



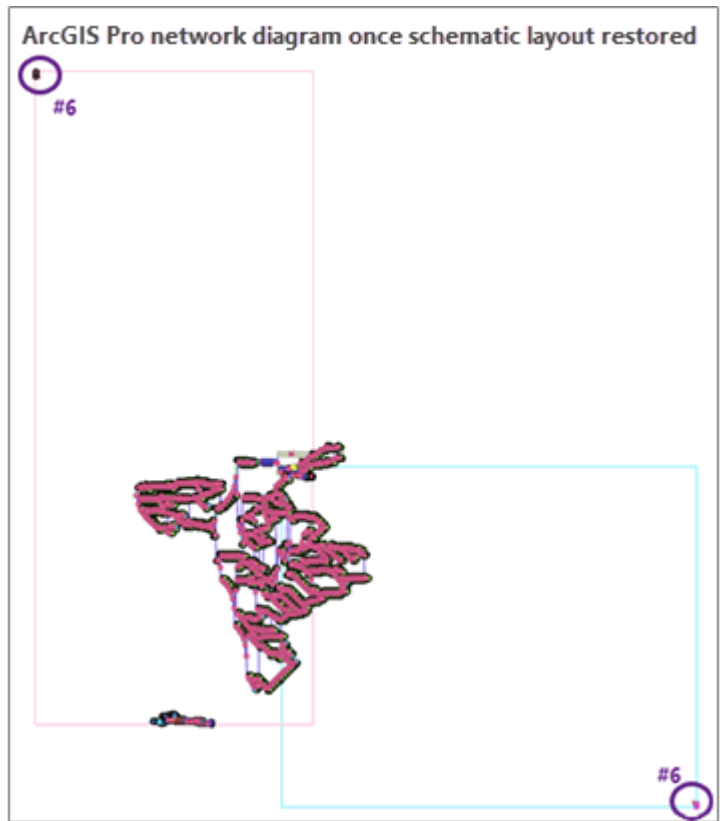
Sample 5



Sample 6

Content/container features

Diagram containers always redraw around their contents once the schematic layout is restored on a network diagram. This means that content features that may be part of network diagrams but are not in schematic diagrams remain at their current positions in the network diagrams, causing their related container to be larger than you expect.



Sample 7