

## Cheat Sheet – Pipes – 2009

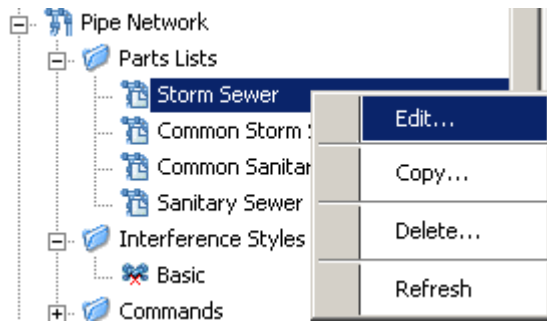
1. Edit the feature settings for the pipe network. Under the settings tab, right-click on “Pipe Network” and then select “Edit Feature Settings”.



Property	Value
<b>General</b>	
<b>Labeling</b>	
<b>Default Styles</b>	
Interference Default Style	Basic
Pipe Default Style	Single Line (Storm)
Structure Default Style	Standard - Storm Manhole
Interference Render Material	_GLOBAL_
Structure Plan Label Style	Standard-Structure-Plan-SD
Pipe Plan Label Style	Standard-Pipes-Plan-Boat-Right-SD
Structure Profile Label Style	Standard-Structure-Profile-SD
Pipe Profile Label Style	Standard-Profile-Pipe-SD
Structure Section Label Style	Standard-Structure-Profile
Pipe Section Label Style	_No Labels
Render Material	ByLayer
Default Parts List	CMI-Standard-SD
<b>Default Name Format</b>	
Network Name Template	Network - (<[Next Counter(CP)]>)
Interference Check Name Template	InterferenceCheck - (<[Next Counter(CP)]>)
Alignment From Network Name Template	Alignment - (<[Pipe Network Name(CP)]>) - (<[Next Coun...]
Interference Name Template	Interference - (<[Next Counter(CP)]>)
Structure Name Template	SDMH# <[Next Counter]>
Pipe Name Template	SDP <[Next Counter]>
<b>Default Rules</b>	
Pipe Default Rules	Basic-SD
Structure Default Rules	No Sump
<b>Default Profile Label Placement</b>	
Dimension Anchor Option for Pipes	Fixed
Dimension Anchor Elevation Value for Pipes	0.000'
Dimension Anchor Plot Height Value for Pipes	0.0000"
Dimension Anchor Option for Structures	Fixed
Dimension Anchor Elevation Value for Structures	0.000'
Dimension Anchor Plot Height Value for Structures	0.0000"
Structure Label Placement	At Bottom of Structure
<b>Default Section Label Placement</b>	
Dimension Anchor Option for Pipes	Fixed
Dimension Anchor Elevation Value for Pipes	0.000'
Dimension Anchor Plot Height Value for Pipes	0.0000"
Dimension Anchor Option for Structures	Fixed
Dimension Anchor Elevation Value for Structures	0.000'
Dimension Anchor Plot Height Value for Structures	0.0000"
Structure Label Placement	At Middle of Structure
Pipe Section Label Placement	At Middle of Pipe

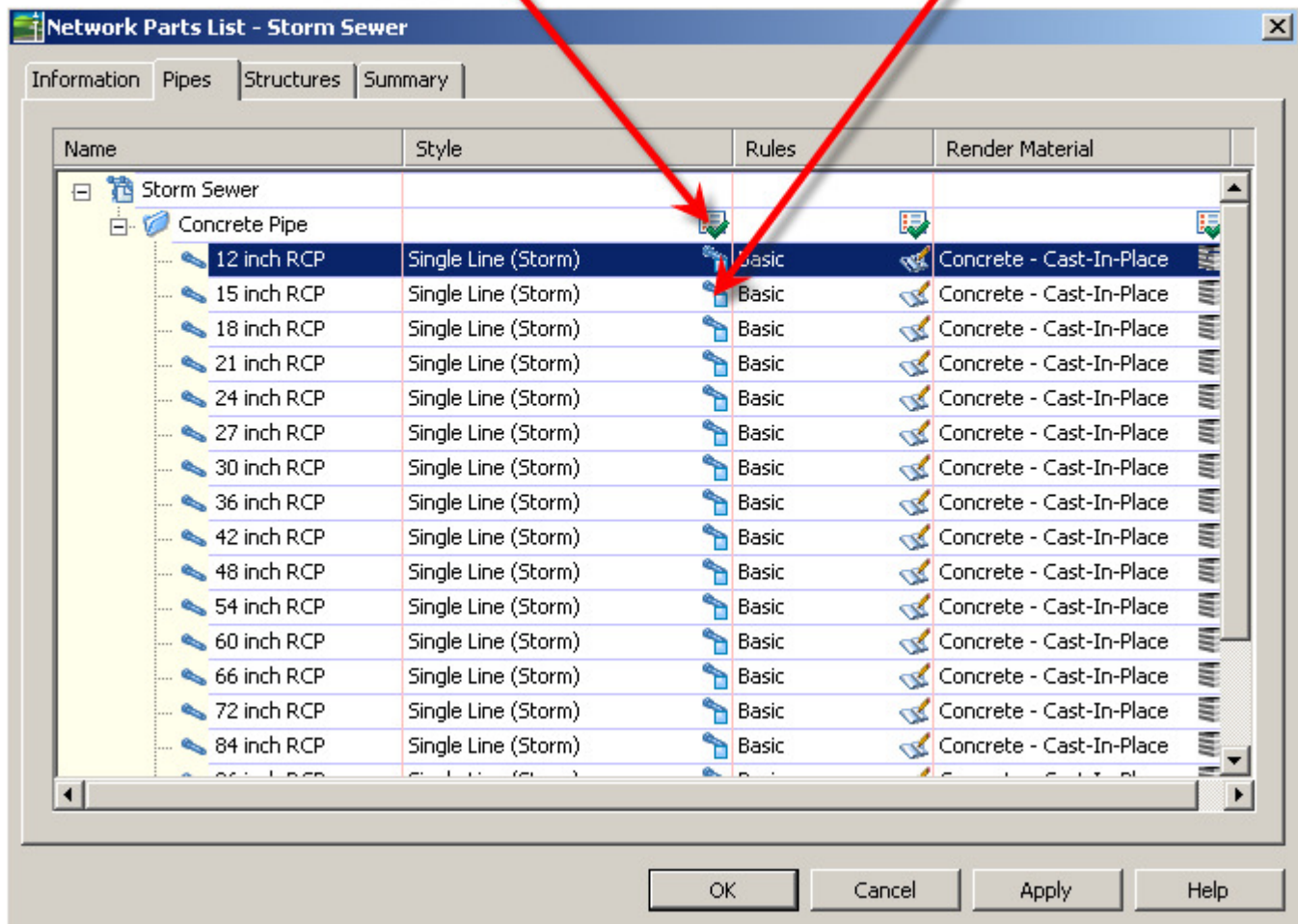
Set all default styles here. Typically you need a different style for both plan and profile for each object type.

2. Right-click the part list you wish to use and select the edit button.

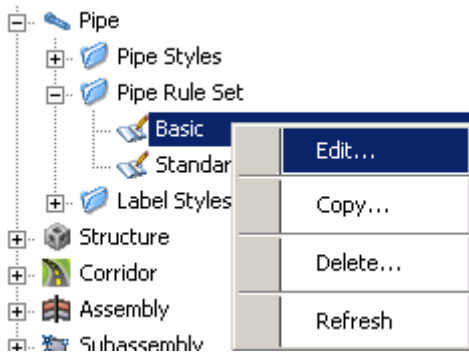


Use that button to globally set the style for every pipe size.

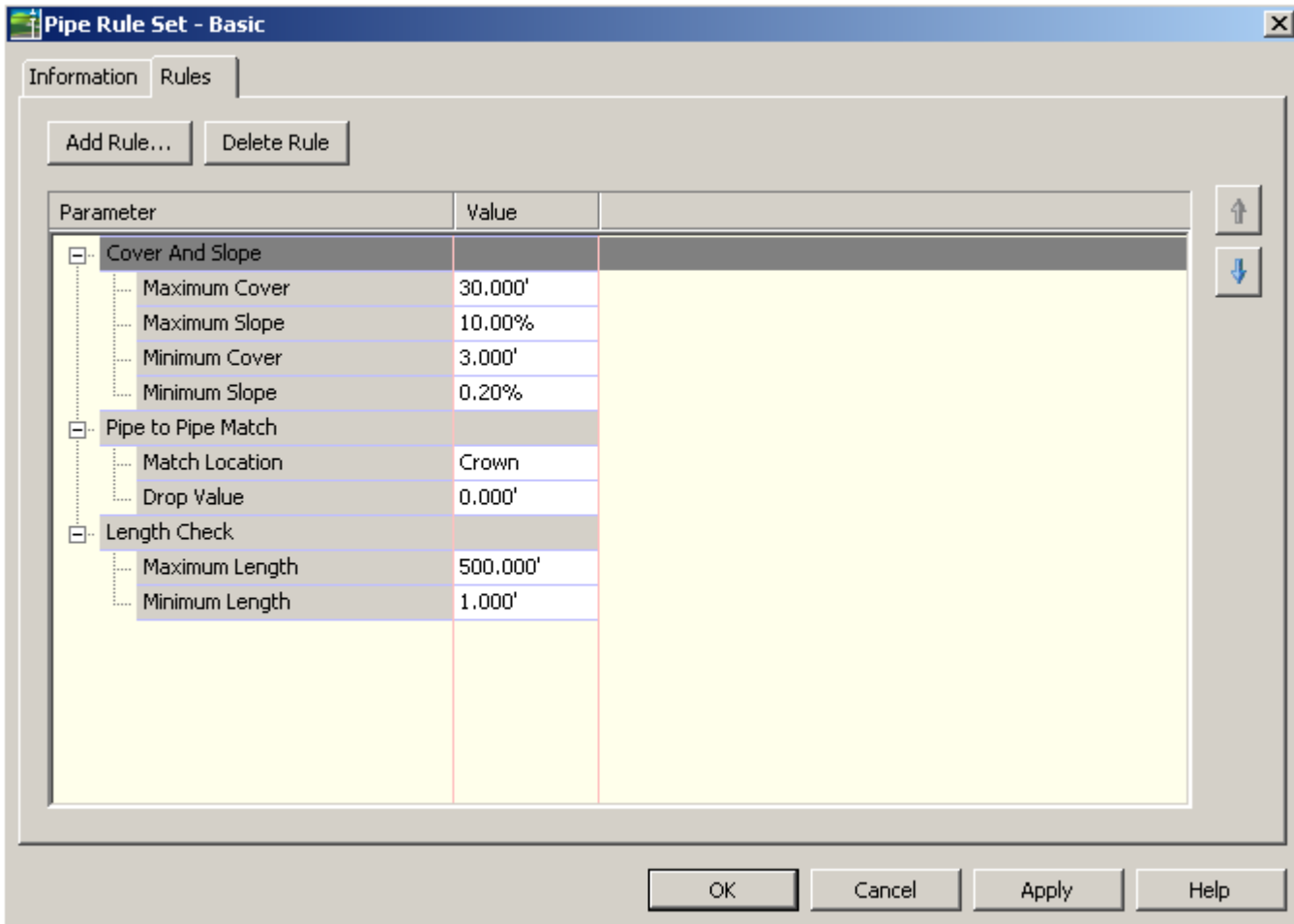
Use these button to set them individually.



3. Right-click the “Basic” rule set, and then select edit.

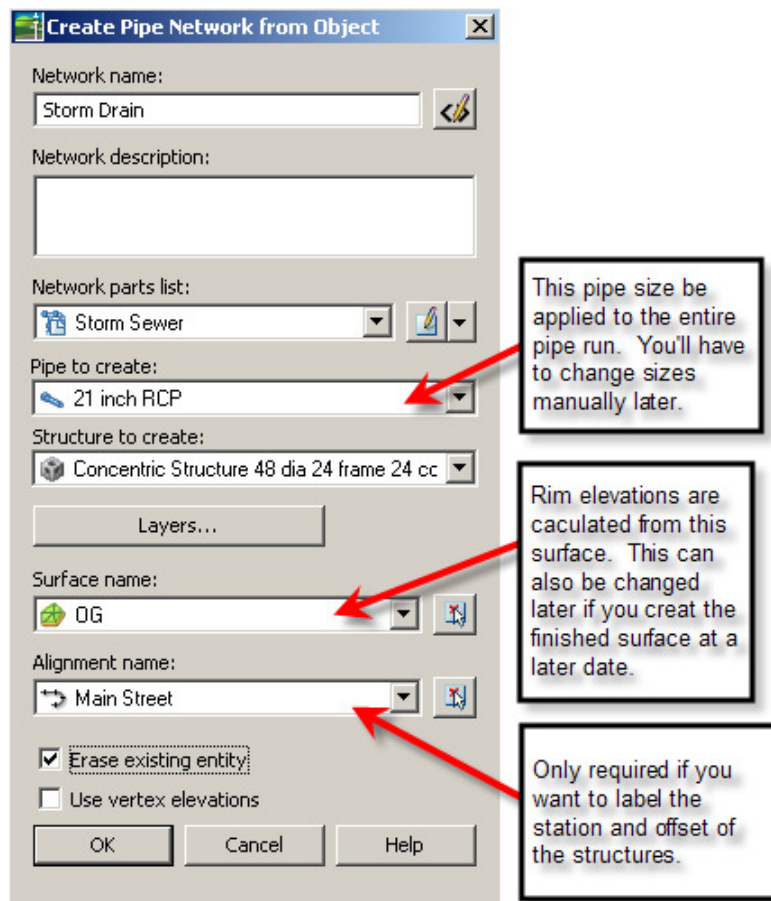
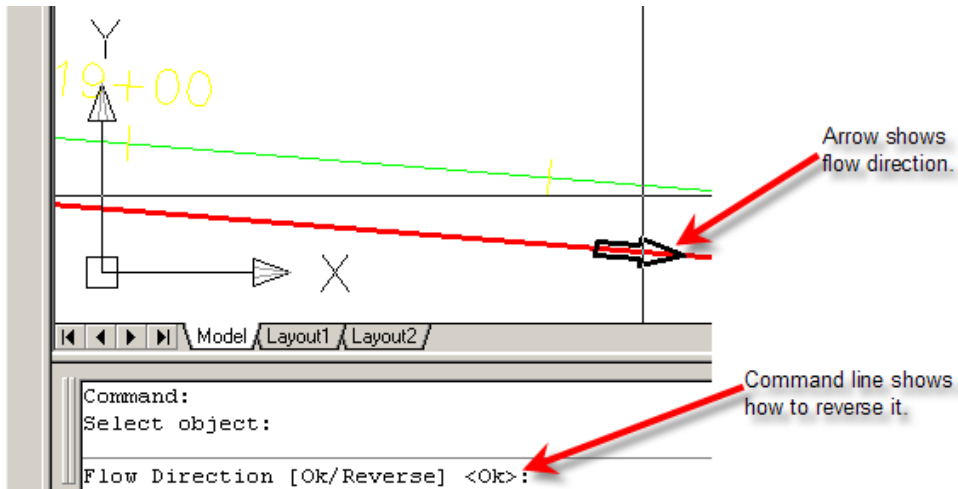


Add and delete the desired rules and change the order to determine how they react.

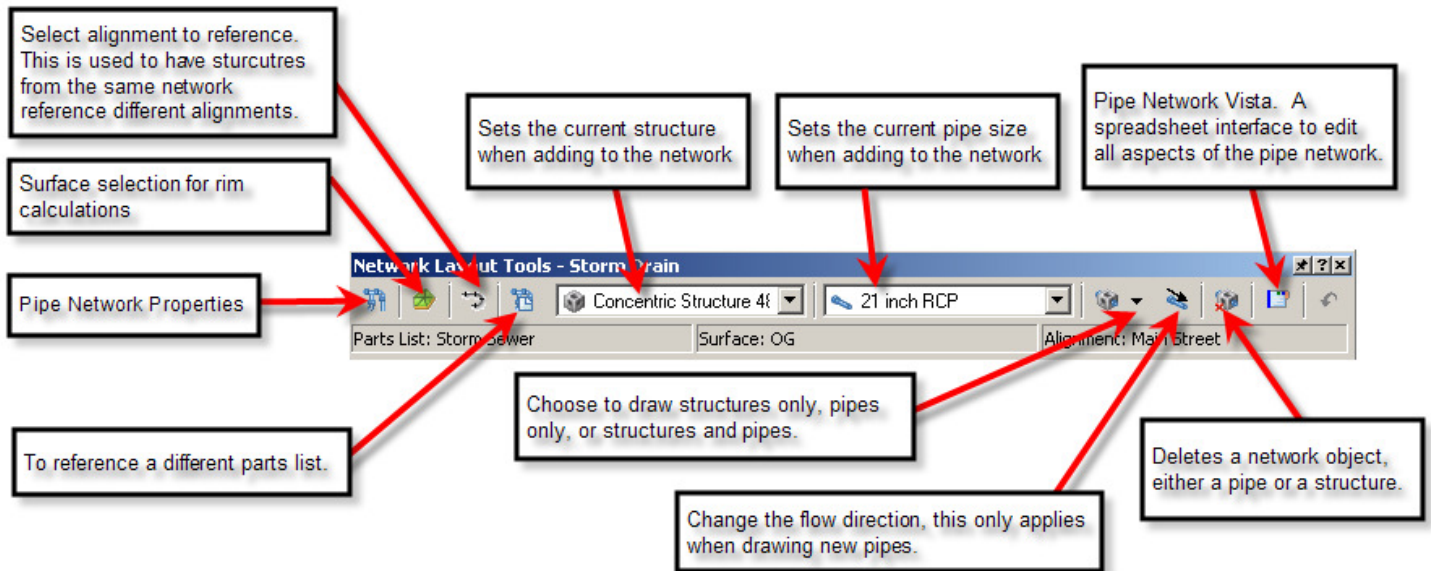


4. This next step is to either draw the pipe run or convert a polyline to a pipe network. You should make a note to realize that structures and pipes can only be connected together if they are in the same pipe network. Therefore you can start with one polyline, but then you need to edit the network in order to add more objects to the pipe network.

**a. Pipes > Create Pipe Network from Object**



b. When editing a pipe network or creating a pipe network by **Pipes > Create Pipe Network By Layout**



**5. Pipes > Draw Parts in Profile View**

Either select the entire pipe network or select the parts you wish to show in the profile view. You can also click on a part, then right-click then choose add part to profile view. This is also available in the right-click menu after selecting a part.

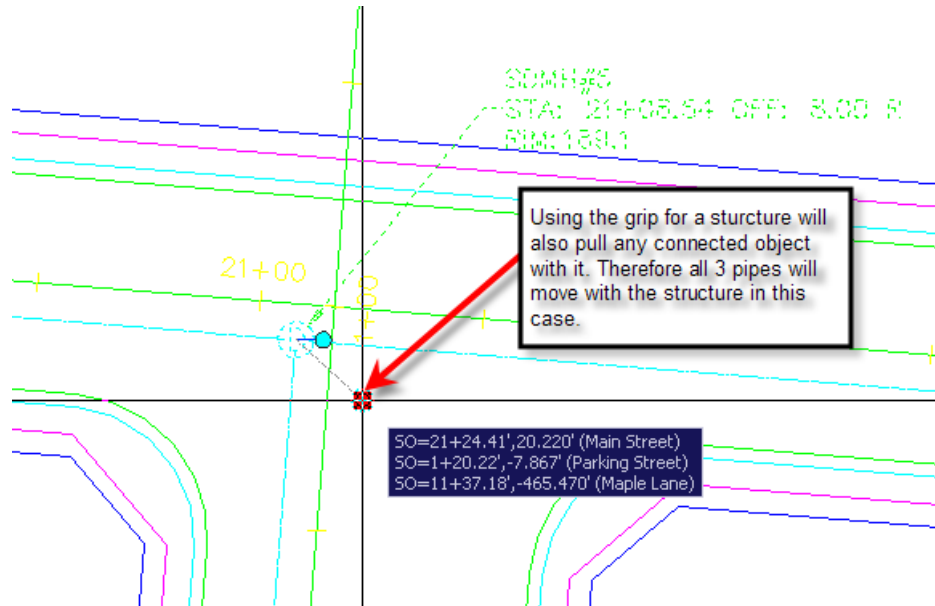
**6. Pipes > Add Pipe Network Labels > Add Pipe Network Labels**

Choose either “Entire Network Plan”, “Entire Network Profile”, “Single Part Plan”, or “Single Part Profile”. You may also click on a part, then right-click and choose add label.

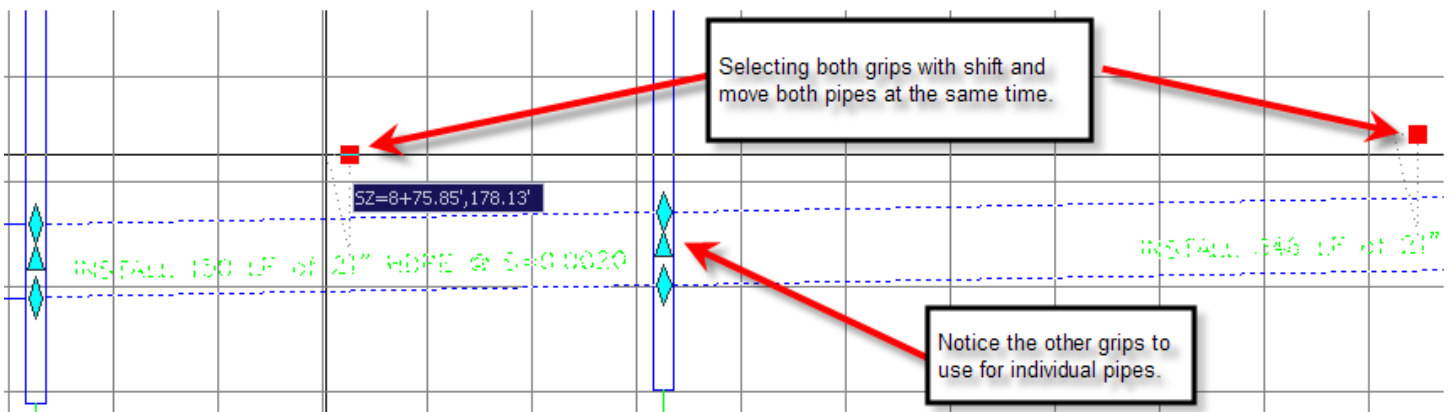
# Different Methods of Editing a Pipe Network

## 1. Using Grips

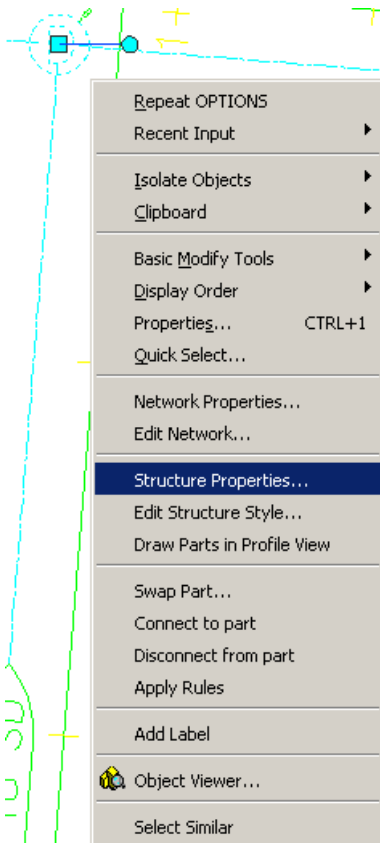
- a. Plan View – Hot gripping structures will pull all objects that are connected to it.



- b. Profile View – You can hot grip the invert, centerline, or crown of a pipe. You can also multi-hot-grip grips by holding down shift while selecting the grip.

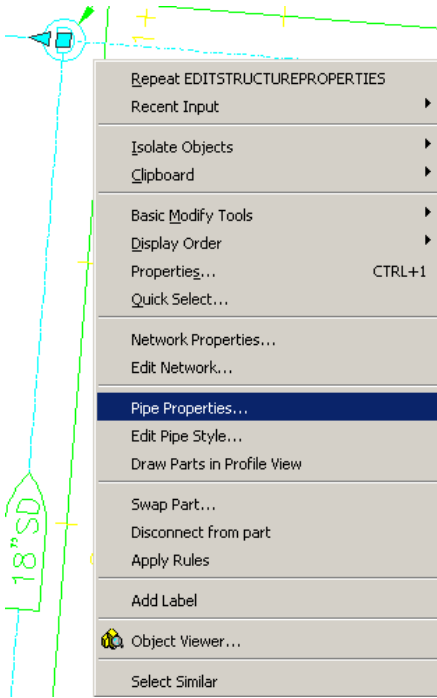


## 2. Using the part properties – one part at a time.



Click on a structure, right-click, and then choose “Structure Properties”.

Structure Properties	Value
<b>General</b>	
Surface Elevation At Insertion Point	189.072'
Reference Surface	OG
Reference Alignment	Main Street
<b>Geometry</b>	
Structure Rotation Angle	0.0000 (d)
Structure Offset	8.000'
Structure Station	21+08.54
Structure Northing	320093.3713'
Structure Easting	2004556.4581'
Connected Pipes	3
<b>Insertion Rim Behavior</b>	
Insertion Rim Elevation	189.072'
Surface Adjustment Value	0.000'
Automatic Surface Adjustment	true
<b>Sump Behavior</b>	
Sump Elevation	175.310'
Sump Depth	2.000
Control Sump By:	Depth
<b>Part Data</b>	
Part Type	Struct_Junction
Part Subtype	Concentric
Part Description	Concentric Cylindrical Structure
Part Size Name	Concentric Structure 48 dia 24 frame 24 cone 5 wall 6 floor
Structure Shape	BoundingShape_Cylinder
Vertical Pipe Clearance	34.000"
Rim to Sump Height	13.762'
Wall Thickness	5.000"
Floor Thickness	6.000"
Material	CONC
Frame	Standard
Grate	Standard
Cover	Standard
Frame Height	4.000"
Frame Diameter	24.000"
Frame Length	
Frame Width	
Barrel Height	
Barrel Pipe Clearance	6.000"
Cone Height	24.000"
Slab Thickness	
Inner Structure Diameter	48.000"
Structure Height	14.262'
Structure Diameter	58.000"

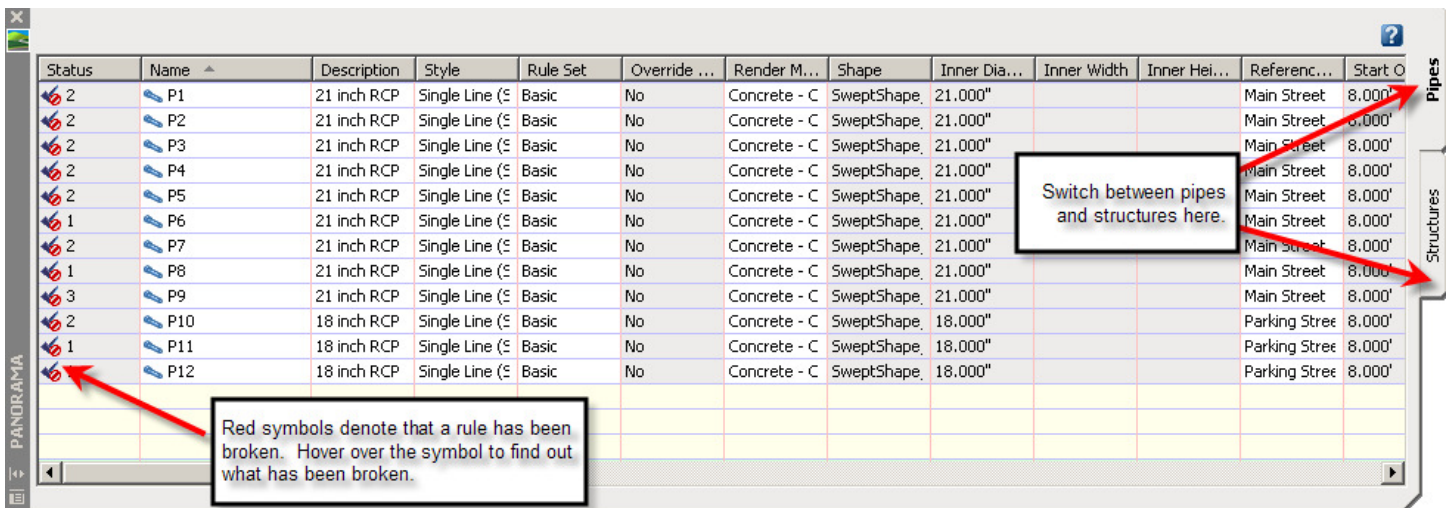


Click on a pipe, then right-click and choose “Pipe Properties”.

Pipe Properties	Value
<b>General</b>	
Pipe Flow Direction Method	End to Start
Flow Direction	End to Start
Reference Surface	OG
Reference Alignment	Main Street
<b>Geometry</b>	
Pipe Start Structure	SDMH#5
Pipe End Structure	SDMH#4
Bearing	S85° 23' 53"E
Pipe Start Station	21+08.54
Pipe End Station	26+16.54
Start Offset	8.000'
End Offset	8.000'
Pipe Slope (Hold Start)	0.20%
Pipe Slope (Hold End)	-0.20%
Pipe Slope	-0.20%
Start Invert Elevation	177.310'
End Invert Elevation	178.326'
Start Crown Elevation	179.060'
End Crown Elevation	180.076'
Pipe Start Easting	2004556.4581'
Pipe Start Northing	320093.3713'
Pipe End Easting	2005062.8204'
Pipe End Northing	320052.6142'
Start Centerline Elevation	178.185'
End Centerline Elevation	179.201'
Minimum Cover	9.425'
Maximum Cover	9.955'
2D Length - Center to Center	508.000'
3D Length - Center to Center	508.001'
2D Length - To Inside Edges	504.005'
3D Length - To Inside Edges	504.006'
<b>Resize Behavior</b>	
On Resize, Hold:	Invert
<b>Part Data</b>	
Part Type	Pipe
Part Subtype	Undefined
Part Description	Concrete Pipe
Part Size Name	21 inch Concrete Pipe
Cross Sectional Shape	SweptShape_Circular
Wall Thickness	3.000"
Material	RCP
Minimum Curve Radius	0.833'
Manning Coefficient	10.000
Hazen Williams Coefficient	10.000
Darcy Weisbach Factor	10.000
Inner Pipe Diameter	21.000"



### 3. Using the Edit Pipe Network Vista.



### 4. Other Tips and Ticks

- To change a manhole or pipe to different part, simply select the part, right-click and select **Swap Part**.
- To change a pipe network globally you can change the pipe or structure rules, and then use the command **Pipes > Apply Rules** to set the rules to the desired parts.
- Renaming and renumbering pipes and structures can be accomplished by running the command **Pipes > Utilities > Rename Network Parts**.
- With multiple pipes going in and out of a structure, you match the elevation of one of the pipes. In structure properties, go to the Connected Pipes tab, highlight all the pipes you wish to modify and then right-click and choose the desired option. Highlight the desired pipe to match and choose the drop amount.

