

## Cheat Sheet – Pipes – 2008

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

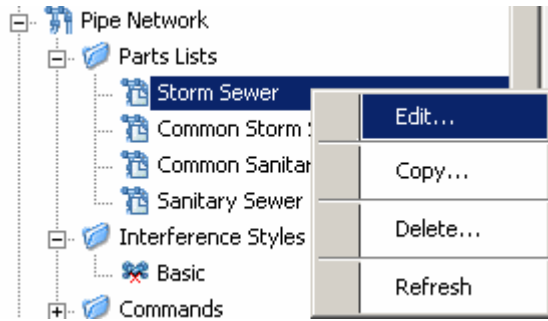


Property	Value	Overric
<b>General</b>		
<b>Labeling</b>		
<b>Default Styles</b>		
Render Material Style	Basic	
Interference Default Style	Basic	
Structure Default Style	Storm Sewer Manhole	
Pipe Default Style	Double Line (Storm)	
Interference Render Material Style	Basic	
Structure Plan Label Style	Data with Connected Pipes (Storm)	
Pipe Plan Label Style	Length Description and Slope	
Structure Profile Label Style	Data with Connected Pipes (Storm)	
Pipe Profile Label Style	Length Description and Slope	
Structure Section Label Style	Data with Connected Pipes (Storm)	
Pipe Section Label Style	Name Only	
Default Parts List	Storm Sewer	
<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)]>) - (<[N...	
Interference Name Template	Interference - (<[Next Counter(CP)]>)	
Structure Name Template	Structure - (<[Next Counter(CP)]>)	
Pipe Name Template	Pipe - (<[Next Counter(CP)]>)	
<b>Default Rules</b>		
Structure Default Rules	Basic	
Pipe Default Rules	Basic	
<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 Middle of Structure	
<b>Default Section Label Placement</b>		
<b>Unitless</b>		
<b>Distance</b>		
<b>Dimension</b>		
<b>Coordinate</b>		
<b>Grid Coordinate</b>		
<b>Elevation</b>		
<b>Area</b>		
<b>Volume</b>		
<b>Angle</b>		
<b>Direction</b>		
<b>Lat Long</b>		
<b>Grade</b>		
<b>Slope</b>		
<b>Grade/Slope</b>		
<b>Station</b>		
<b>Transparent Commands</b>		

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

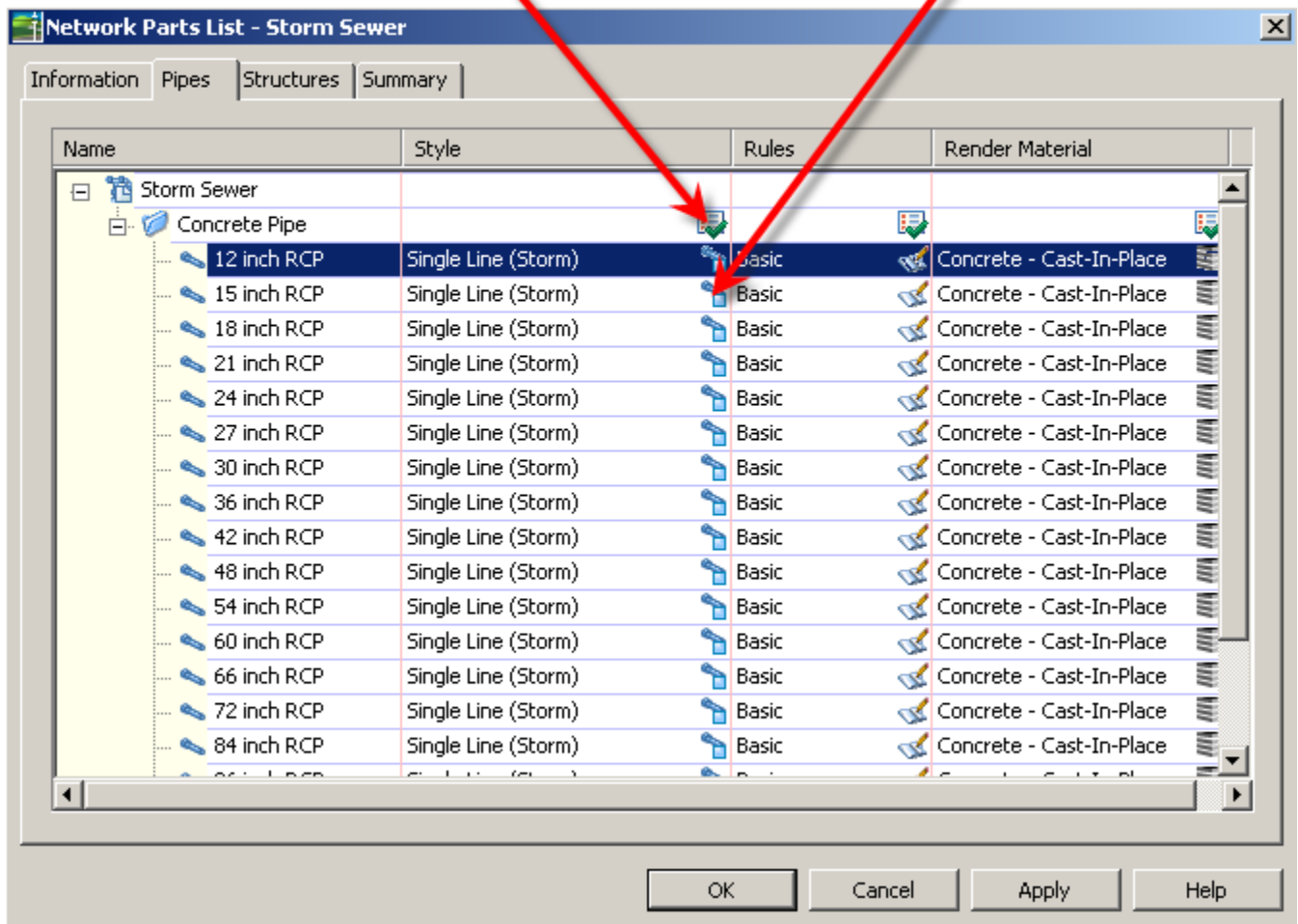
This setting governs the attachment point of the label in the profile view. CAD Masters standard is to place it at the bottom of the structure.

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

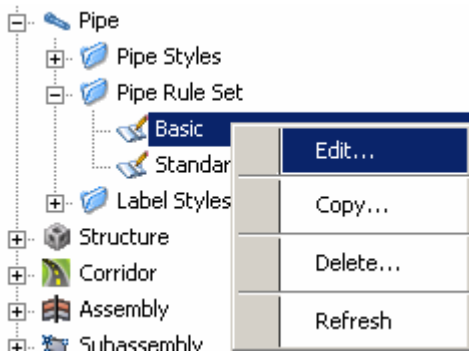


Use that button to globally set the style for every pipe size.

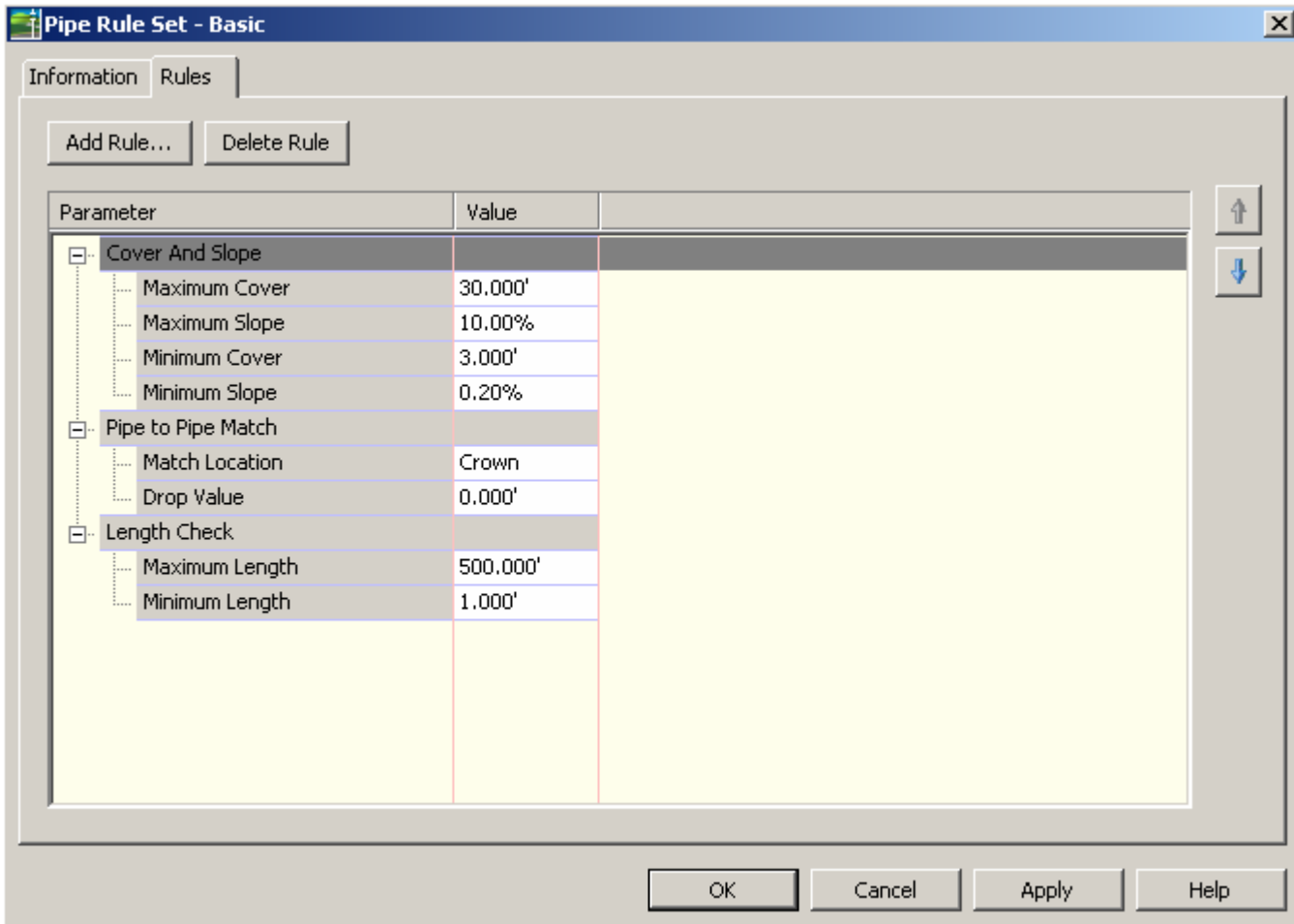
Use these button to set them individually.



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

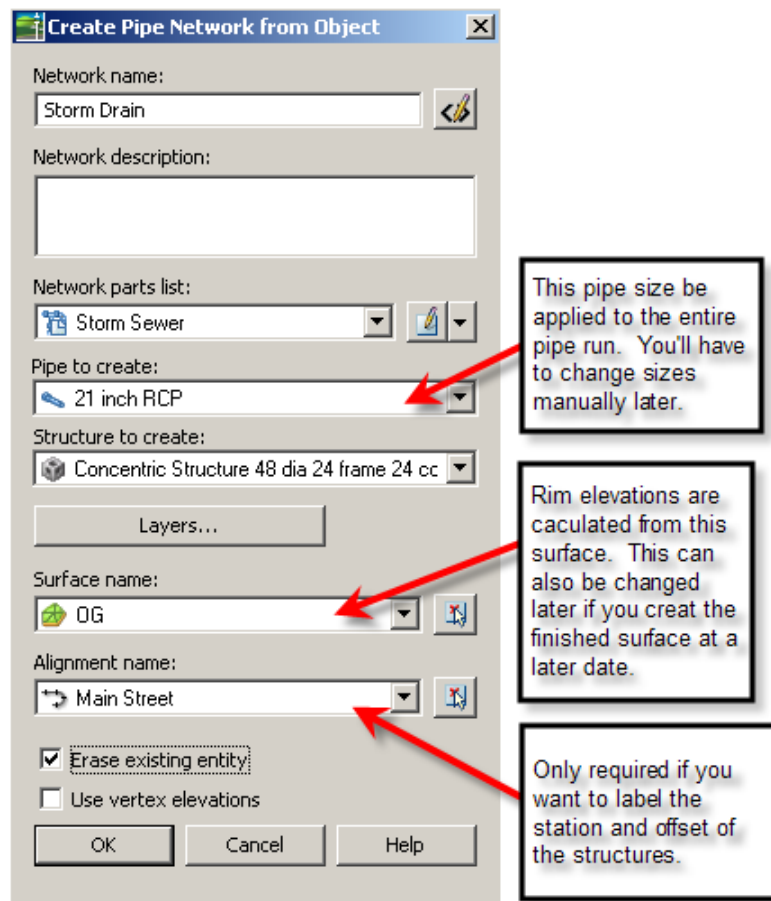
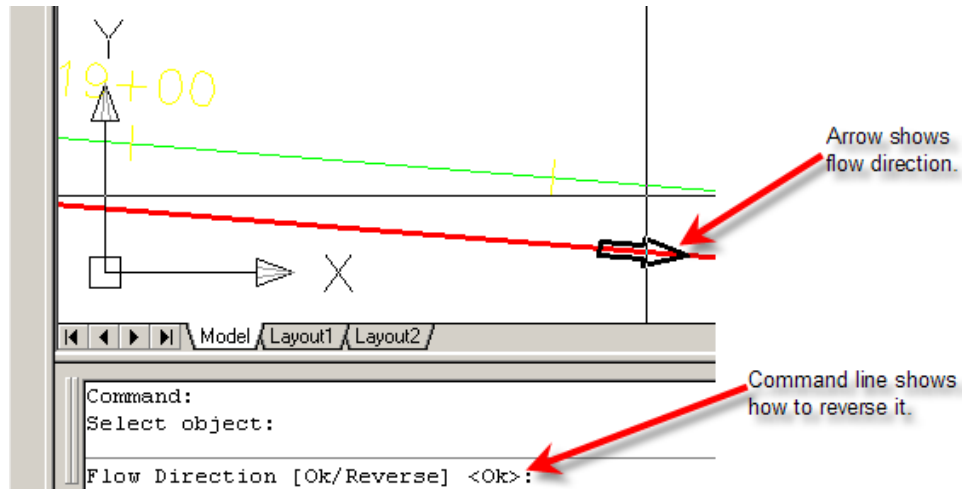


Add and delete the desired rules and change the order to determine how they react.

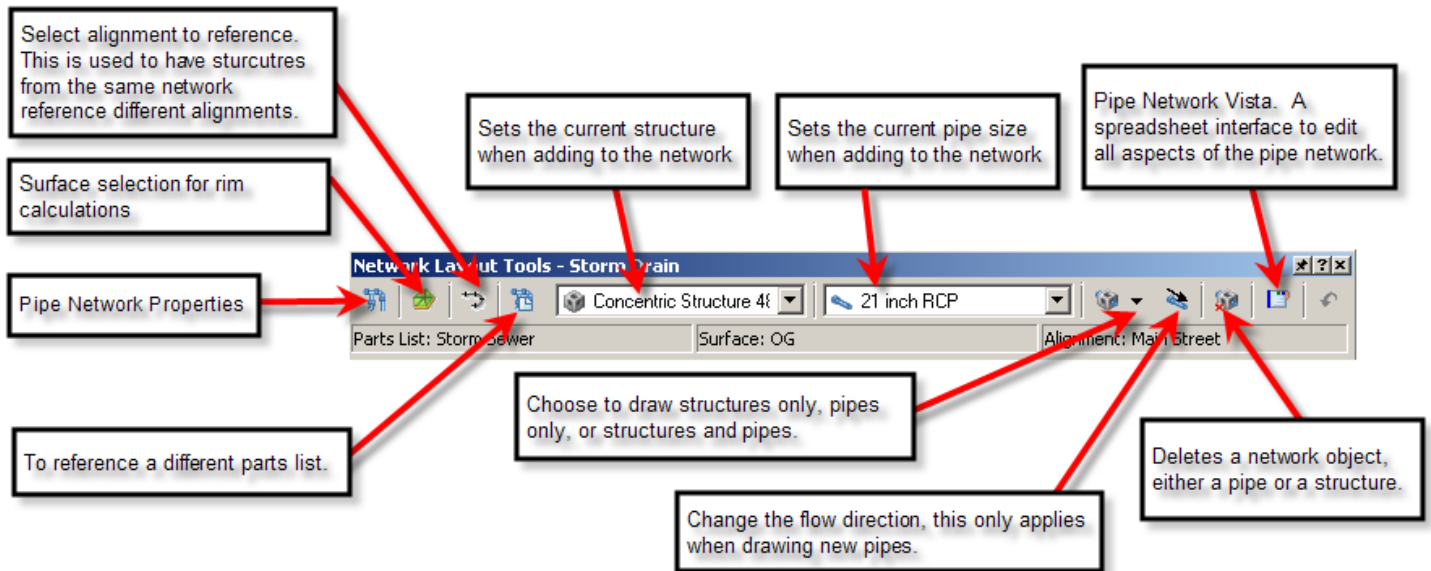


4. This next step is to either draw the pipe run or convert a polyline to a pipe network. You should make a note to realize that structures and pipes can only be connected together if they are in the same pipe network. Therefore you can start with one polyline, but then you need to edit the network in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

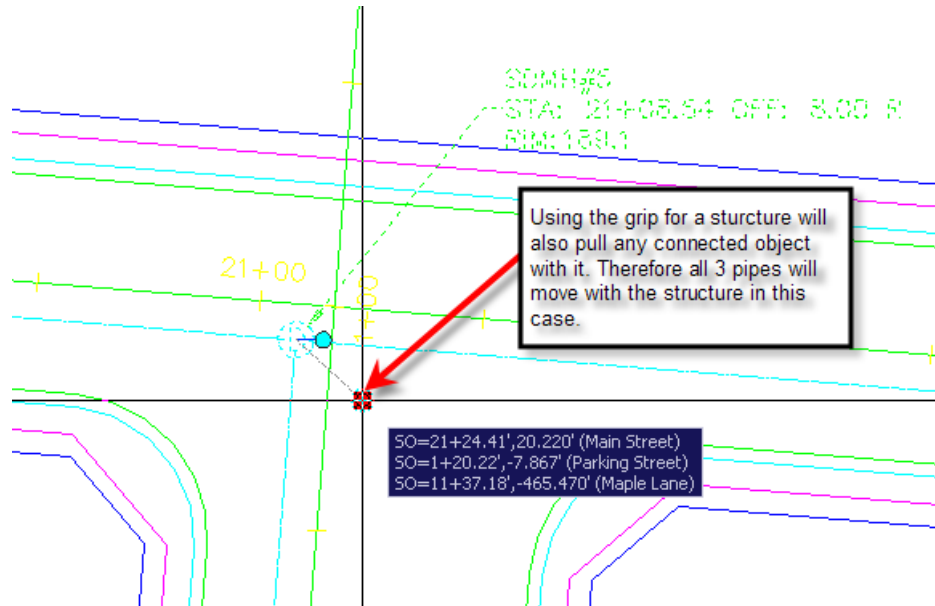
### 6. Pipes > Add Pipe Network Labels > Add Pipe Network Labels

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.

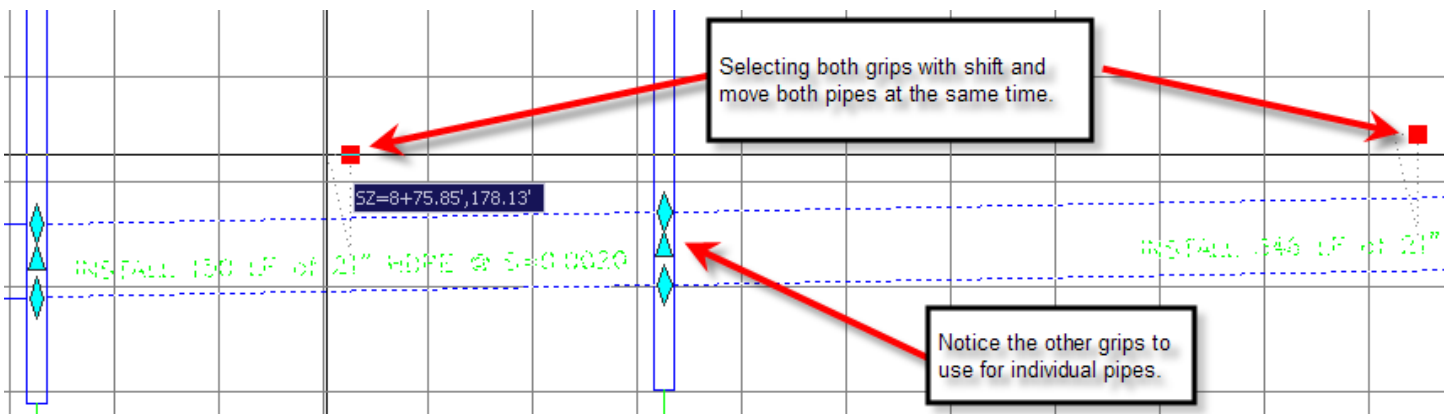
# Different Methods of Editing a Pipe Network

## 1. Using Grips

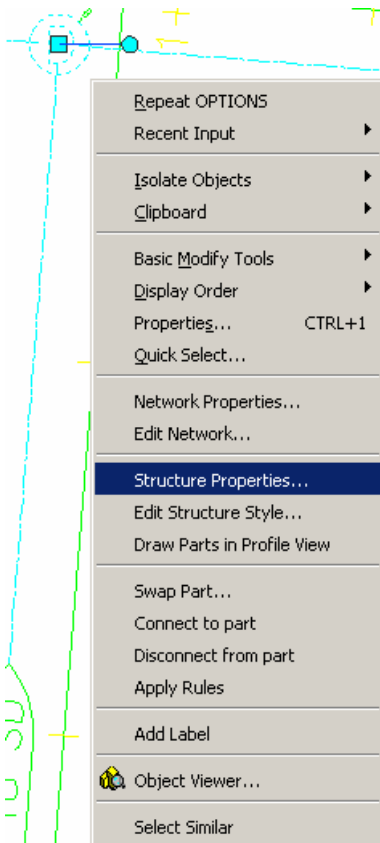
- a. Plan View – Hot gripping structures will pull all objects that are connected to it.



- 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.

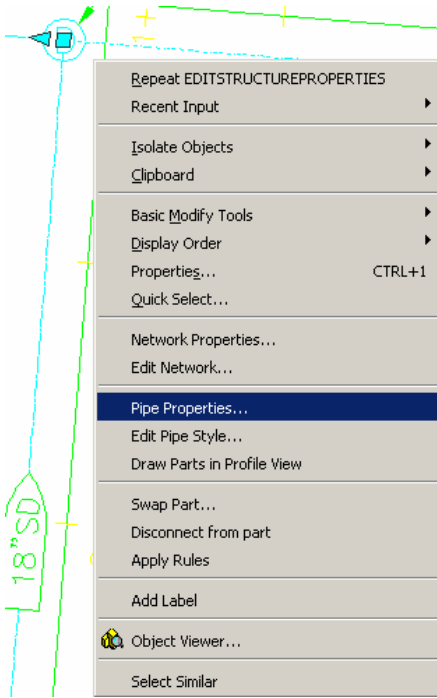


2. Using the part properties – one part at a time.



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.

Status	Name	Description	Style	Rule Set	Override ...	Render M...	Shape	Inner Dia...	Inner Width	Inner Hei...	Referenc...	Start O
2	P1	21 inch RCP	Single Line (S)	Basic	No	Concrete - C	SweptShape	21.000"			Main Street	8.000'
2	P2	21 inch RCP	Single Line (S)	Basic	No	Concrete - C	SweptShape	21.000"			Main Street	8.000'
2	P3	21 inch RCP	Single Line (S)	Basic	No	Concrete - C	SweptShape	21.000"			Main Street	8.000'
2	P4	21 inch RCP	Single Line (S)	Basic	No	Concrete - C	SweptShape	21.000"			Main Street	8.000'
2	P5	21 inch RCP	Single Line (S)	Basic	No	Concrete - C	SweptShape	21.000"			Main Street	8.000'
1	P6	21 inch RCP	Single Line (S)	Basic	No	Concrete - C	SweptShape	21.000"			Main Street	8.000'
2	P7	21 inch RCP	Single Line (S)	Basic	No	Concrete - C	SweptShape	21.000"			Main Street	8.000'
1	P8	21 inch RCP	Single Line (S)	Basic	No	Concrete - C	SweptShape	21.000"			Main Street	8.000'
3	P9	21 inch RCP	Single Line (S)	Basic	No	Concrete - C	SweptShape	21.000"			Main Street	8.000'
2	P10	18 inch RCP	Single Line (S)	Basic	No	Concrete - C	SweptShape	18.000"			Parking Stree	8.000'
1	P11	18 inch RCP	Single Line (S)	Basic	No	Concrete - C	SweptShape	18.000"			Parking Stree	8.000'
1	P12	18 inch RCP	Single Line (S)	Basic	No	Concrete - C	SweptShape	18.000"			Parking Stree	8.000'

Red symbols denote that a rule has been broken. Hover over the symbol to find out what has been broken.

Switch between pipes and structures here.

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