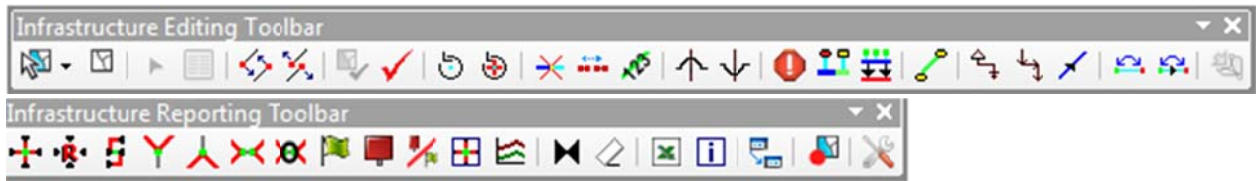


- Infrastructure Desktop Tools Addin

- This add in contains two toolbars



- Tool Review

- **Core Editing and Selection tools**
- **Connect and Disconnect geometric network features**
  - **Overview:** These tools are similar to the tools found on the Geometric Network Editing toolbar, but these allow you to connect and disconnect a set of features, the core tools only allow one at a time
  - **Requirements:** Selected features that participate in a geometric network
- **Validate Features**
  - Core Validate Features tool that existing on the editor toolbar Editor dropdown
- **Connection checker**
  - **Overview:** This command evaluates the geometric network features in the visible extent and evaluated them to make sure they all have connections. It makes sure that all junctions(points) are connected to an edge(lines). It also evaluated the edges(lines) to make sure they connect to another edge through a junction or end with a junction. It prompts the user with a dialog showing the number of errors in each class and selects them to guide the editor to perform the proper fixes.
  - **Requirements:** Visible features that participate in a geometric network
  - **Configuration:**
    - You have the option to check on visible features
 

```
<add key="ConnectionChecker_CheckOnlyVisibleLayers" value="true" />
```
- **Rotate Selected Junctions**
  - **Overview:** This command rotates the select point features to match the orientation of the line it connects to.
  - **Requirements:** Selected point features
  - **Configuration:** Two tags in the configuration file allow you customize the way this tools works
    - Rotate Point to match a change in a field of the intersected line
      - For example, a reducer where the diameter changes
      - ```
<add key="RotateSelected_DiameterFieldName" value="DIAMETER" />
```
    - Add additional spin to the rotation
      - This value is added to the angle of the line. Used if you create your symbols on a different access than your features
      - ```
<add key="RotateSelected_SpinAngle" value="0" />
```
- **Add Rotation To Feature**

- **Overview:** This command adds a predefined value to the rotation of a feature.
- **Requirements:** Selected point features
- **Configuration:** Two tags in the configuration file allow you customize the way this tools works
  - The amount of rotation to add to a rotated feature
    - `<add key="AdditionalRotate_SpinAngle" value="45" />`
  - Option to turn off the Attribute Assistant before adding spin
    - `<add key="AddRotateSuspendAA" value="true" />`



○ **Split Line at Selected Points**

- **Overview:** This command evaluates the selected point features and splits the lines they are snapped to. You have the option to list elevation field and have them divided up based on the split point.
- **Requirements:** Selected point features
- **Configuration:**
  - There are three options that you can set, the snap distance, the smallest line to skip, and an option to turn off the Attribute Assistant before the split.

```

<!--Used by the split lines tool no split
lines smaller than the specified amount-->
<add key="SplitLines_SkipDistance" value="0.5" />
<!--Tolerance use on the mouse click to identify
the location to split the selected line-->
<add key="SplitLinesAtLocation_Snap" value="250" />
<!--Option to suspend the Attribute Assistant
before splitting a line-->
<add key="SplitLinesSuspendAA" value="true" />

```

```

<MergeSplitGeoNetFeatures>
  <!--Option to have the Merge Elev option in the dialog check on by
  default-->
  <MergeSplitElev>true</MergeSplitElev>
  <!--Format string for the values when elevation info is split-->
  <SplitFormatString>{0:0.##}</SplitFormatString>
  <!--Array of the fields to use-->
  <Fields>
    <Field>
      <Name>UPELEV</Name>
      <!--Options for merge - Max, Min, Average, Concat, Sum-->
      <!-- use Max for the Upstream Elevation-->
      <MergeRule>Max</MergeRule>
      <!--Options for Split - Max, Min-->
      <!-- use Max for the Upstream Elevation-->

      <SplitRule>Max</SplitRule>

    </Field>
    <Field>
      <Name>DOWNELEV</Name>
      <!--Options for merge - Max, Min, Average, Concat, Sum-->
      <!-- use Min for the Downstream Elevation-->
      <MergeRule>Min</MergeRule>

```

```

        <!--Options for Split - Max, Min-->
        <!-- use Min for the downstream Elevation-->
        <SplitRule>Min</SplitRule>

    </Field>

</Fields>
</MergeSplitGeoNetFeatures>

```

o  **Merge Geometric Network Lines**

- **Overview:** This tool merges multiple lines from a geometric network line feature class into one line. There is an option to merge field information. This is useful for merging Upstream and Downstream elevation.
- **Requirements:** Highlighted line layer in the TOC with Selected features

```

<MergeSplitGeoNetFeatures>
  <!--Option to have the Merge Elev option in the dialog check on by
  default-->
  <MergeSplitElev>true</MergeSplitElev>
  <!--Format string for the values when elevation info is split-->
  <SplitFormatString>{0:0.##}</SplitFormatString>
  <!--Array of the fields to use-->
  <Fields>
    <Field>
      <Name>UPELEV</Name>
      <!--Options for merge - Max, Min, Average, Concat, Sum-->
      <!-- use Max for the Upstream Elevation-->
      <MergeRule>Max</MergeRule>
      <!--Options for Split - Max, Min-->
      <!-- use Max for the Upstream Elevation-->

      <SplitRule>Max</SplitRule>

    </Field>
    <Field>
      <Name>DOWNELEV</Name>
      <!--Options for merge - Max, Min, Average, Concat, Sum-->
      <!-- use Min for the Downstream Elevation-->
      <MergeRule>Min</MergeRule>
      <!--Options for Split - Max, Min-->
      <!-- use Min for the downstream Elevation-->
      <SplitRule>Min</SplitRule>



    </Field>

  </Fields>
</MergeSplitGeoNetFeatures>

```


o  **Set Measures for Selected Lines**

- **Overview:** This tool calculates the M's or Measures for the selected lines. The user is prompt to set the measures with the digitized direction or against. The length of the line is used to set the measures.

- **Requirements:** Highlighted line layer that has M's enabled in the TOC with Selected features
-  **Create under/over jumps for selected lines**
  - **Overview:** Creates a semicircle jump on the selected line over an intersecting line.
  - **Requirements:** Selected line features
  - **Configuration:** One tag in the configuration file lets you set the jump distance. The default is 14.
    - `<add key="CreateJumps_Distance" value="25" />`
-  **Layer Viewer Window**
  - **Overview:** This button opens the layer window that dynamically builds a form based off the definition of the specified layer. This form searches the layer based on a query and loads the features into the window one at a time. There are controls to cycle through each record. You need to specify the layers, zoom level and query in the config. The configuration is an XML array, which allows you to define any number of layers.
  - **Requirement:** Layers defined in the config present in the Map.
  - **Configuration:**

```

<LayerViewerConfig ZoomOnChange="true">
  <LayerViewerLayers>
    <LayerViewerLayer>
      <LayerName>Field Notes</LayerName>
      <Query>1=1</Query>
      <ZoomScale>1600</ZoomScale>
    </LayerViewerLayer>
    <LayerViewerLayer>
      <LayerName>Service Requests</LayerName>
      <Query>REQUESTTYPE=&#39;Water Pressure&#39;</Query>
      <ZoomScale>1600</ZoomScale>
    </LayerViewerLayer>
    <!--Repeat for additional layers-->
  </LayerViewerLayers>
</LayerViewerConfig>

```
-  **Add A Lateral ad Add a Lateral Prompt**
  - **Overview:** This tool evaluates the selected point features and draws a line from the point to the closest location on another line layer. Additional point features can be placed along the line. Only point features defined in the configuration files are evaluated.
  - **Requirements:** Selected point features from layers defined in the configuration file.
  - **Optional Hotkeys:** If you hold the control key, it will override the defined templates and prompt you to select one for each feature.
  - **Configuration:**

```

<!-- Configuration Section for the Add Laterals Tool and Construction Tools-->
<!-- This is an xml array, so you can define any number
of AddLateralDetails Entities-->

```

```

<AddLateralsLayers>
  <!-- Start of the Entry, the name is just for reference, not used or presented-->
  <AddLateralDetails Name="Meters to Mains">
    <!-- The Point layer to connect to the main through a lateral-->
    <Point_LayerName>Water Service Connections</Point_LayerName>
    <!-- the layer to look to connect to, the lateral will connect
    to this from the point-->
    <MainLine_LayerName>Water Mains</MainLine_LayerName>
    <!-- The line used to connect the point to the main-->
    <Lateralline_LayerName>Water Lateral Lines</Lateralline_LayerName>
    <!-- The Template to use to populate the attributes of the lateral line,
    this can be removed or left blank and the user will be prompt for a template-->
    <Lateralline_EditTemplate>2" Copper Irrigation</Lateralline_EditTemplate>

<FromToFields>
  <!--XML Array of From/To Fields to copy from the Main to the Point-->
  <FromToField>
    <!-- The field in main that contains the attribute you want to apply to the point,
    this can be left blank or removed-->
    <SourceField>FACILITYID</SourceField>
    <!-- A field in the point layer that can be populated with a value from the main
    this can be removed or left blank-->
    <TargetField>LOCDESC</TargetField>
    <!-- A prefix that can be applied to the value extracted from the main
    and applied to the point
    this can be left blank -->
    <Prefix>PipeID:</Prefix>
  </FromToField>
  <!-- Repeat-->
  <FromToField>
    <SourceField>INSTALLDATE</SourceField>
    <TargetField>INSTALLDATE</TargetField>
    <Prefix>PipeID:</Prefix>
  </FromToField>
</FromToFields>
<!-- Determines the direction to draw the main, flow is set with digitized directon
this affects the distance set in the point along sections below,
that is from the start of the main-->
<Lateralline_StartAtMain>true</Lateralline_StartAtMain>
<!-- this will check for an existing lateral beteen the point and the main
and remove it if one is found, set to false to leave an existing lateral-->
<DeleteExistingLines>true</DeleteExistingLines>
<!-- the tolerance to search for the lateral from the point feature-->
<ToleranceForDelete>.5</ToleranceForDelete>
<!--restrict searches by layer definition-->
<SearchOnLayer>true</SearchOnLayer>
<!--The distance to search for the closest line from the point-->
<SearchDistance>500</SearchDistance>

<!-- This section allows you to create a series of points along the main,
it can be removed-->
<PointsAlong>
  <!-- The entry for one point-->
  <PointAlong>
    <!-- The name of the layer to place, this must match the
    layer name in the TOC-->

```


```

    <LayerName>Water Curb Stop Valves</LayerName>
    <!-- The distance to place along the lateral, percent or feature units-->
    <Distance>15</Distance>
    <!-- Determines if the distance above is percent or feature units-->
    <DistanceIsPercent>true</DistanceIsPercent>
    <!-- The editor template used to fill in the attributes, this
    can be removed or left blank and the user will be prompted for a template-->
    <EditTemplate>Roundway</EditTemplate>
    <!--Option to intersect a polygon layer and offset the point from the
    intersection point on the polygon boundary, -->
    <PolygonOffsetLayerName>OwnerParcel</PolygonOffsetLayerName>
    <!--To or the From Side of the intersection, the digitized direction of the
    lateral matters: Options - To or From-->
    <PolygonOffsetSide>From</PolygonOffsetSide>

    <!-- ends this layers configuration-->
</PointAlong>
<!-- start of next layer, you can copy and repeat these sections for any
number of point layers-->
<PointAlong>
    <LayerName>Water System Valves</LayerName>
    <EditTemplate>Ball</EditTemplate>
    <Distance>45</Distance>
    <DistanceIsPercent>true</DistanceIsPercent>
</PointAlong>
<!--Repeat for additional Points-->
</PointsAlong>
<!-- This option will connect two points to the main through a
single lateral if the features are within a tolerance-->
<Dual_When_Two_Selected>true</Dual_When_Two_Selected>
<!-- This will dual nearby meters even when not selected -->
<Dual_When_Nearby>true</Dual_When_Nearby>
<!-- the distance to search to create a dual lateral with selected features-->
<Dual_Max_Distance_When_Two_Selected>100</Dual_Max_Distance_When_Two_Selected>
<!-- the distance to search to create a dual lateral with nearby features-->
<Dual_Max_Distance_When_Nearby>30</Dual_Max_Distance_When_Nearby>
<!-- Determines how to draw the dual laterals, square or a Y shape-->
<Dual_Option_Make_Square>true</Dual_Option_Make_Square>
<!-- the distance on the lateral to turn 45 degrees on the main-->
<Hook_DoglegDistance>0</Hook_DoglegDistance>
<!-- Determines if the dogleg is a distance or a percent down the lateral-->
<Hook_DistanceIsPercent>true</Hook_DistanceIsPercent>
<!-- The angle of the dogleg-->
<Hook_Angle>45</Hook_Angle>
<!-- Option to reset flow after edit - Digitized, Role, None-->
<Reset_Flow>Digitized</Reset_Flow>

<!-- End the config for one point to main with lateral config-->
</AddLateralDetails>
<!-- repeat for other configurations-->

```

-  **Move Connections From One Line to Another**
  - **Overview:** This tool lets you select a source line and then a target line. It will loop through all connected network features (geometric network is required) and move them to the target line.






- **Requirements:** Geometric Network Feature classes

```
<MoveConnections>
  <!--Entry for Move Connections, name if for reference-->
  <MoveConnectionsDetails Name="Water Mains">
    <!--The layer with features to move-->
    <LineLayer>wMain</LineLayer>
    <!--Array of layers to move-->
    <LayersToMove>
      <!--Layer names-->
      <Layer>wFitting</Layer>
      <Layer>wNetworkStructure</Layer>
    </LayersToMove>
  </MoveConnectionsDetails>
</MoveConnections>
```

-  **Connect Selected Manhole to Closest Existing Manhole**

- **Overview:** This tool will search for the closest manhole as each selected manhole and attempt to connect the two through the line layer defined in the configuration. Hotkey allow you to search for the closest selected manhole.
- **Requirements:** Selected point features from layers defined in the configuration file.
- **Optional Hotkeys:** If you hold the control key, it will override the defined templates and prompt you to select one for each feature. If you hold the shift key, it will search for only selected features. If you hold both, it does both.
- **Configuration:** The configuration allows you to define which layers evaluate and what layers to connect them through.

```
<!--Configuration for the Connect Closest Tools, this is an
XML array of ConnectClosestDetails, you can specify
any number of combinations-->
<ConnectClosest>
  <!--start of entry-->
  <ConnectClosestDetails>
    <!--Point layer evaluated to connect to another-->
    <Point_Layer>Sewer Manholes</Point_Layer>
    <!--Line layer to connect the closest point to-->
    <Line_Layer>Sewer Gravity Mains</Line_Layer>
    <!--The default editing template used to set the
attributes of the new main-->
    <Line_EditTemplate>18" PVC Sewer</Line_EditTemplate>
    <!--the distance to search for the closest feature-->
    <Search_Threshold>450</Search_Threshold>
  </ConnectClosestDetails>
  <ConnectClosestDetails>
    <Point_Layer>Storm Manholes</Point_Layer>
    <Line_Layer>Storm Gravity Mains</Line_Layer>
    <Line_EditTemplate>18" PVC Storm</Line_EditTemplate>
    <Search_Threshold>450</Search_Threshold>
  </ConnectClosestDetails>
</ConnectClosest>
```

-  **Establish Role Based/Digitized-Based Flow Direction**
  - **Overview:** These tools will set the flow of the visible geometric networks. You have the option to set flow based on source and sinks or based on the digitized direction of the line.
  - **Requirements:** Geometric Network features in the Map.
-  **Show Flow Arrows**
  - **Overview:** Core Esri tool to show the flow arrows on geometric network lines
-  **Flip Selected Lines and Flip Selected Lines to Match Flow**
  - **Overview:** These tools will flip the selected lines in the layer highlighted in the TOC.
  - **Requirements:** Highlighted line layer in the TOC with Selected features.
-  **Incremental Network Loader**
  - **Overview:** Core Esri tool to load features into Geometric Network Features.
  - **Requirements:** Highlighted line layer in the TOC.
-  **Valve Isolation Trace**
  - **Overview:** This tool run a custom isolation trace routine from the location clicked on the network. The routine search for all valves required to turn to isolate service to the section of main identified. The routine will select features that are selectable that are affected by the trace. By Default, mains are not selected, but they can be included in the result if you hold the Control key when you place the trace location.
  - **Optional Hotkeys:** If you hold the control key, the mains will be returned with the trace results.
  - **Requirements:** Geometric network Features.
  - **Configuration:**

```

<!--Tolerance to snap the mouse click to for traces and toggling the valve
status-->
  <add key="Trace_Click_Point_Tolerance" value="5" />

  <!--The following 3 config tags are used by the Isolation trace tool-->
  <!--The source feature(Supplying water), the trace will make sure
  a value can trace to one of these, if a valve cannot, it is not
  returned as a valve that need to be shut off for the isolation
  You can list multi source layers by using a |
  ex: SourceLayer1|SourceLayer2
  Used by the Iso Trace and the Summary Iso trace
  -->
  <add key="TraceIsolation_Source_FeatureLayer" value="Water Network
Structures|Water Pumps" />
  <!--The layer used to stop the trace
  Used by the Iso Trace and the Summary Iso trace-->
  <add key="TraceIsolation_Valve_FeatureLayer" value="Water System Valves|Water
Control Valves" />
  If a valve is non operable it is skipped by the trace used by the Iso Trace and the
  Summary Iso trace and the toggle valve status tool
  -->
  <add key="TraceIsolation_Operable_Field" value="Operable" />

```



```

<add key="TraceIsolation_Operable_Values" value="0|1" />
<!-- you need to use character codes for reserved xml characters, less then, greater
then, etc-->
<add key="TraceIsolation_Valve_AddSQL" value="VALVETYPE &#60;&#62; 'Butterfly'" />

```

○  **Re-Run Isolation Trace**

- **Overview:** This tool runs the isolation trace.
- **Requirements:** Geometric network Features and a flag set on the network.

○  **Secondary Trace**

- **Overview:** This tool runs disables all selected values and re-runs the trace from the original isolation trace point.
- **Optional Hotkeys:** If you hold the control key, the mains will be returned with the trace results.
- **Requirements:** Geometric network Features.

○

○  **Upstream Trace/Downstream Trace**

- **Overview:** This tool runs an upstream or downstream trace at the user clicked location. By Default, mains are not selected, but they can be included in the result if you hold the Control key when you place the trace location.
- **Optional Hotkeys:** If you hold the control key, the mains will be returned with the trace results.
- **Requirements:** Geometric network Features.
- **Configuration:**

```

<!--Tolerance to snap the mouse click to for traces and
toggling the valve status-->
<add key="Trace_Click_Point_Tolerance" value="5" />
!--Option to tell the trace solver to trace only networks
with flow set-->
<add key="TraceFlow_Interminate" value="false" />

```

○  **Calculates upstream/downstream flow accumulation**

- **Overview:** These tools use weights or feature count if not weights are specified to calculate upstream or downstream flow accumulation. The first tool runs it for each selected feature and stores the results into a field specified in the config, the second runs it for the segment click and prompts the user with the results.

```





<FlowAccumulation>
  <FlowLayerDetails>
    <LayerName>Sewer Manholes</LayerName>
    <SumFlowField>SUMFLOW</SumFlowField>
    <WeightName>FLOW</WeightName>
    <FlowDirection>UpStream</FlowDirection>
  </FlowLayerDetails>
</FlowLayerDetails>

```

```

    <LayerName>Sewer Gravity Mains</LayerName>
    <SumFlowField>SUMFLOW</SumFlowField>
    <WeightName>FLOW</WeightName>
    <FlowDirection>UpStream</FlowDirection>
  </FlowLayerDetails>
</FlowAccumulation>

```

- 
-  **Add a Flag**
  - **Overview:** This tool search for a layer around the clicked location that participates in a geometric network and creates a junction or an edge flag.
  - **Requirements:** A layers in a Geometric Network.
-  **Add a Barrier**
  - **Overview:** This tool search for a layer around the clicked location that participates in a geometric network and creates a junction or an edge Barrier.
  - **Requirements:** A layers in a Geometric Network.
-  **Removes a Flag or Barrier**
  - **Overview:** This tool search for a barrier or flag around the clicked location and removes it.
  - **Requirements:** A layers in a Geometric Network.
-  **Summary Isolation Trace**
  - **Overview:** This tool runs the isolation trace on each select main. The trace summaries the number of valves, meters, critical meters and service connections that would be affected if a break occurred on the selected main. The results are stored in a separate feature class. This tools is a involved and long process, it is suggested to run this tool on small chunks of data at a time.
  - **Requirements:** Water mains, system valves, meters, and valves all in a Geometric Network. A layer to store the results, does not need to be in the Geometric Network.
  - **Configuration:** The tags from the Isolation trace plus the following tags are used

```

<!--The following 10 config tags are used by the Summary Isolation trace tool
The summary isolation trace tool runs the trace for each main and stores
the results into a new layer. The trace calculates the number of valves,
meters(and if they are critical) and the number of service connections
-->
<!--The layer to store the results into-->
<add key="TraceIsolationSummary_LayerName" value="wMainsWithTraceSummary" />
<!--The ID in the mains layers, this will be stored with the results
for relationship or join purposes-->
<add key="TraceIsolationSummary_FacilityIDField" value="FacilityId" />
<!--Field to store the date the main was analyst-->
<add key="TraceIsolationSummary_DateFieldName" value="DATE" />
<!--The main layer to loop through and trace-->
<add key="TraceIsolationSummary_Main_FeatureLayer" value="Water Mains" />
<!--The Meters to summarize-->
<add key="TraceIsolationSummary_Meter_FeatureLayer" value="Water Service Connections"
/>

```

```

<!--A field denoting if the meter is critical, can be blank-->
<add key="TraceIsolationSummary_Meter_Critical_Field" value="CRITICAL" />
<!--Field to store the count of system valves(name of valve layer is defined by
the TraceIsolation_Valve_FeatureLayer entry-->
<add key="TraceIsolationSummary_ValveCountFieldName" value="ValveCount" />
<!--Field to store the count of meters-->
<add key="TraceIsolationSummary_MeterCountFieldName" value="MeterCount" />
<!--Field to store the count of critical meters-->
<add key="TraceIsolationSummary_CritMeterCountFieldName" value="NUMCRITMETER" />
<!--not used at the moment, can be left blank-->
<add key="TraceIsolationSummary_CommentsFieldName" value="COMMENTS" />

```

o  **Profiling Tool**

- **Overview:** This tool runs a trace between two selected points(manholes) and build a profile graph from the results. The graph plots the rim elevation and invert elevations of the manholes, the upstream and downstream elevation of the mains, the location of the taps(optional) and elevation of the ground.
- **Note:** There is a known issue with the graph where the Y or left axis is not being properly set. After you create the graph, open the properties, turn off the manhole layer, go to the Left Axis properties, uncheck automatic, then turn the Manhole layer back on. This will properly set the min and max values of the Left Axis.
- **Requirements:** A point layer(manholes) with rim elevation, invert and invert elevations, mains with a upstream and downstream elevation, a single band raster surface. An optional Tap layer can also be plotted on the mains.
- **Configuration:**

```

<!-- Begin Configuration for the Profile Graph Tool. This uses an XML array of
ProfileGraphDetails so you can specify a number of layers to run the graph on -->
<ProfileGraph>
  <!--Entry for graph, name if for reference-->
  <ProfileGraphDetails Name="Sewer Profile">
    <!--The geometric network to trace-->
    <Network_Name>SewerStormwater_Net</Network_Name>
    <!--The point layer to trace between, the user is prompt to click two to
trace between-->
    <Point_LayerName>Sewer Manholes</Point_LayerName>
    <!--The top elevation of the point layer-->
    <!--
    <Point_RimElevationField>RIMELEV</Point_RimElevationField>
    -->
    <!--The depth of the point-->
    <!--
    <Point_InvertField>INVERT</Point_InvertField>
    -->
    <!--the bottom elevation of the point-->
    <!--
    <Point_InvertElevationField>INVERTELEV</Point_InvertElevationField>-->
    <!--The top elevation of the point layer-->
    <Point_TopElevationField>RIMELEV</Point_TopElevationField>
    <!--The depth of the point or the top minus the depth-->
    <Point_BottomElevationField>INVERTELEV</Point_BottomElevationField>
    <!--the Type of the bottom elevation, either Elevation or Invert-->
    <Point_BottomElevationTypeField>Elevation</Point_BottomElevationTypeField>

```


```

<!--The ID of the point layer-->
<Point_IDField>FACILITYID</Point_IDField>
<!--The mains connect the points-->
<Line_LayerName>Sewer Gravity Mains</Line_LayerName>
<!--The upstream elevation on the mains-->
<Line_UpStreamElevationField>UPELEV</Line_UpStreamElevationField>
<!--The downstream elevation on the mains-->
<Line_DownStreamElevationField>DOWNELEV</Line_DownStreamElevationField>
<!--The ID of the line layer-->
<Line_IDField>FACILITYID</Line_IDField>
<!--Fields used to label the main, you can use any number of fields-->
<Line_Labels>
  <!--Field-->
  <Line_Label>DIAMETER</Line_Label>
  <!--Field-->
  <Line_Label>MATERIAL</Line_Label>
  <!--Repeat-->
</Line_Labels>
<!--The layer for surface elevation-->
<Elevation_LayerName>FiveMeterSurface</Elevation_LayerName>
<!--The layer for the taps or the lateral locations, not required, can be
left blank-->
<PointAlong_LayerName>Sewer Taps</PointAlong_LayerName>
<!--The ID of the tap layer-->
<PointAlong_IDField>FACILITYID</PointAlong_IDField>
<!--The name of the graph-->
<Graph_Name>Sewer Profile</Graph_Name>
<!--The title of the graph-->
<GraphTitle_Name>Sewer Profile Graph</GraphTitle_Name>
<!--The title of the legend-->
<Legend_Name>Legend</Legend_Name>
<!--The left axis label-->
<LeftAxis_Name>Elevation(ft)</LeftAxis_Name>
<!--The Top axis label-->
<TopAxis_Name>Manholes</TopAxis_Name>
<!--The Bottom axis label-->
<BottomAxis_Name>Length(ft)</BottomAxis_Name>

</ProfileGraphDetails>
<!--repeat for another definition-->

</ProfileGraph>

```





-  **Change Operable Status of a valve**
  - **Overview:** This tool allows you to change the status of a valve from operable to non operable.
  - **Requirements:** A point layer(valve) with an operable field.
  - **Configuration:**

```
<add key="TraceIsolation_Valve_FeatureLayer" value="Water System  
Valves|Water Control Valves" />
```

If a valve is non operable it is skipped by the trace used by the Iso Trace and the Summary Iso trace and the toggle valve status tool



```
-->
```

```
<add key="TraceIsolation_Operable_Values" value="0|1" />
```

-  **Clear Trace Results**
  - **Overview:** This command clears all trace results and selected features
-  **Export Selected Items to Excel**
  - **Overview:** This command exports all selected features to Excel.
  - **Requirements:** A set of selected features.
-  **Identify the selected features**
  - **Overview:** This command loads all currently selected features into the Identify dialog.
  - **Requirements:** A set of selected features.
-  **Attribute Transfer Loader**
  - **Overview:** This command loads a configuration into the attribute transfer dialog.
  - **Requirements:** A from/to definition in the configuration file and the matching layers in the map documents.
  - **Configuration:**

<!--You can predefine the values for the Attribute Transfer dialog, this is an XML array of AttributeTransferDetails, you can specify any number of combinations-->

```
<AttributeTransfer>  
  <!--Start of the entry, the name is present to the user-->  
  <AttributeTransferDetails Name="Water Mains to Manholes" >  
    <!--The From layer, transfer attributes from-->  
    <SourceLayerName>Sewer Gravity Mains</SourceLayerName>  
    <!--The To layer, transfer attributes to-->  
    <TargetLayerName>Sewer Manholes</TargetLayerName>  
    <!--XML array of the From/To Fields-->  
    <FromToFields>  
      <!--From To Field Def-->  
      <FromToField>  
        <!--Field in the Source Layer-->  
        <SourceField>MATERIAL</SourceField>  
        <!--Field in the TargetLayer-->  
        <TargetField>LOCDESC</TargetField>  
      </FromToField>  
      <FromToField>  
        <SourceField>LASTUPDATE</SourceField>  
        <TargetField>INSTALLDATE</TargetField>  
      </FromToField>  
    </FromToFields>  
  
  </AttributeTransferDetails>  
  <!--Repeat for more transfer options-->  
</AttributeTransfer>
```

- 
-  **Select Junctions by Edge Count**
  - **Overview:** This command presents a dialog that allows you to select all junctions(points) by the number of edges they connect to.
  - **Requirements:** Geometric Network Features
-  **Show Config Information**
  - **Overview:** This command presents a dialog that lets you view the currently loaded config file, the location of the config and load another configuration file.