Chapter 14

• Creating Pipe Networks
  – Topics
  • Understanding gravity pipe networks
  • Creating gravity pipe networks
  • Editing gravity pipe networks
  • Understanding pressure pipe networks
  • Creating pressure pipe networks
  • Editing pressure pipe networks
Understanding Gravity Networks

• Structures provide access to pipes underground for the following:
  – People
  – Runoff

• Structures are also used to enable a bend in a pipeline.

• Pipes convey water to a predetermined destination.

• Usually they flow by gravity and therefore must be
  – Sloped enough
  – Large enough
  – Deep enough
Exploring the Gravity Network

• Civil 3D objects represent structures and pipes.

• Relationships:
  – Between structures and pipes within a network
  – Between a network and other objects

• Pipes and structures can be browsed in Prospector.

• Shape, dimensions, and behavior of a pipe or structure originates with a *part*.

• Parts are stored in a *parts list*. 
Pipe Networks from Objects

- Sometimes it is easier to lay out a schematic of a pipe network using basic AutoCAD commands and entities.
- Pipe networks can be created from the following:
  - AutoCAD polylines
  - Civil 3D alignments
  - Civil 3D feature line
- The disadvantage is that the same parts are used throughout the network.
Pipe Networks by Layout

• Similar to alignments and profiles, there is a Network Layout Tools toolbar.

• From this toolbar you can do the following:
  • Select parts
  • Draw pipes
  • Draw structures
  • Draw both pipes and structures

• You can use different parts as you go.

• A special cursor icon (glyph) shows when you are connecting parts to each other.
Pipes in Profile View

• It is important to be able to view a pipe network in profile view.
• Slopes, depths, and elevations are as important as horizontal layout, maybe more so.
• The Draw Parts in Profile View command allows this to happen easily.
Now You Know…

- A gravity pipe network is made up of Civil 3D pipe and structure objects.
- Gravity networks can be created from objects or by layout.
- Pipe networks can be easily drawn in profile view.
- Pipe networks can be edited using a number of methods.
  - Graphically (grips)
  - Editing tools
  - Properties
  - Panorama