

Gravity system as-builts

GPS elevations are not accurate enough to use to report invert elevations where pipe slopes are 2% or less. Following these guidelines in most cases will help us remain practiced and provide better as-built reports. Should also cut down on “in-field efforts”.

- Manholes:
 - Shoot center of manhole base with GPS for location (N/E) once base is set.
 - Code/Desc example CL-48MH-BASE
 - Layer should be system specific (AB-STORM, AB-SANITARY...)
 - IF the base is too deep to get a good GPS shot, contact Steve to discuss options.
 - Shoot elevation of inside base of structure with builders level or laser. Pipe crew should already have this set up.
 - Edit the elevation of the GPS point.
 - Office side will review manhole submittals to calculate pipe inverts from bottom of structure shot.
 - Final RIM elevations will be shot after rims are set and grouted.
- Fittings (wyes, tees, horizontal bends...)
 - Shoot top of fitting with GPS. Main concern is fitting location
 - Code/Desc example: 12X8-WYE-TOP
 - Office side will calculate the IE of the fitting based on manhole shots (see above)
- Fittings (cleanouts)
 - If the clean-out is in line
 - Shoot the center of the cleanout/riser with GPS. Main concern for office side is location for clean-outs in line. We will calculate pipe IE if required based on manhole shots (see above)
 - Code example: CL-CO
 - If clean-out is at the end of a line or at a building
 - Get an additional shot at the top of pipe just before the clean-out fitting.
 - Use a builder's level or laser to shoot elevation of top of pipe and edit GPS point.
 - Code example: 8-PVC-TOP

- Fittings (vertical bends)
 - Shoot the top of the fitting just prior or just after the fitting, on the “main line” side of the fitting with the GPS
 - Code example: 12-ADS-VBEND
 - Use a builders level or laser to shoot elevation of top of pipe and edit GPS point.
- Catch Basins and other structures
 - Shoot center of the structure base with GPS
 - Code example: CL-CB-BASE
 - Shoot elevation of inside base of structure with builders level or laser. Pipe crew should already have this set up.
 - Edit the elevation of the GPS point.
 - Office side will review submittals to calculate pipe inverts from bottom of structure shot.
 - Where lateral lines “offset vertically” out of structures, get one additional shot at the vertical bend on the lateral line (see above)
 - No need to get two VBEND shots if the lateral ties directly to the structure after the offset.
 - Final RIM elevations will be shot after rims are set.
- Main lines
 - No need to shoot main lines unless the project specifically requires it
 - Code example: 36-PVC-TOP
 - Any added mainline shots will only be used by the office to plot alignment, not calculate pipe slope so no need to shoot elevation with builders level

