San Antonio River Authority GIS Requirements for a New Utilities Developer Subdivisions – Updated 2020 02 20

The San Antonio River Authority GIS team requires a data package for each new subdivision connecting to the River Authority's sewer system that includes:

1. A subdivision plat in pdf format,
2. A subdivision address plat in pdf format
3. A wastewater sewer system infrastructure detail plan in pdf format that is the source of the dataset described in item 4 below
4. A wastewater sewer system infrastructure detail GIS dataset that matches the supplied SARA ArcGIS Dataset File Geodatabase format.
   4.1. All features must match the wastewater sewer system infrastructure detail plan in item 3 above
   4.2. All features and GPS point data must match their real-world location using the correct projection: CAD_Grid_NAD_1983_StatePlane_Texas_South_Central_FIPS_4204_Feet or EPSG:2278
5. A GPS point dataset of all manhole and cleanout feature location points in ArcGIS format.
   5.1. This dataset should be included using the separate feature class in the supplied SARA ArcGIS Dataset File Geodatabase;

The Supplied River Authority's ArcGIS File Geodatabase (FGDB) Details

1. The supplied SARA Utilities Developer/Subdivision ArcGIS FGDB separates spatial features from attributes:
   a. The feature classes and sample features are in a Feature Dataset within the supplied ArcGIS FGDB that include samples of:
      1. Points:
         a. Manholes
         b. Clean Outs
         c. Lift Station
      2. Lines:
         a. Main Pipes
         b. Lateral Pipes
   b. The sample attributes for each sample feature are in separate ArcGIS format tables within the supplied ArcGIS FGDB:
      i. Attribute Tables:
         1. Mains
         2. Manholes
         3. Lateral
         4. Cleanouts
         5. Lift Stations
   c. Each Feature of the sewer system infrastructure detail within the supplied developer subdivision dataset must have a GLOBAL_ID or Global Unique Identifier
      i. When using the supplied FGDB, a GLOBAL_ID is automatically assigned once the feature is drawn or imported.
      ii. This GLOBAL_ID must correspond to a GUID_ID in the specific attribute table
         1. The feature GLOBAL_ID must match the attribute GUID_ID within the specific table.

2. All attributes to the features must be in the separate attribute table. Feature attributes can also be included as attributes in the feature classes of the data set. Both attributes, in the feature classes and in the separate attribute table must match.
3. There are many data domains (dropdown choices) for the fields within the supplied FGDB that force you to choose one of several specific inputs. Please choose the best response; we can not include all possible inputs.
4. Most of the fields require data (no nulls) either using the domain drop down choices or direct entry.
5. It is the developer's responsibility to convert the required information into ArcGIS format. The River Authority cannot convert CAD data to ArcGIS format.
6. Each Feature Class in the supplied FGDB has a field labeled HSTRC_ID. This field should include the name the Developer uses to identify each feature.
7. There are many methods to populating the provided FGDB:
    a. AutoCAD or CAD files should be in Grid Coordinates using NAD_1983_StatePlane_Texas_South_Central_FIPS_4204_Feet
    b. CAD data files can be converted into ArcGIS format using the CAD Conversion Tool available within ArcMap and ArcGIS Pro or other software packages
    c. CAD data can be exported into the FGDB provided once the CAD data is loaded into ArcMap
    d. CAD data can also be created in a separate FGDB or shapefile and then imported into the FGDB format provided.
8. The GIS Team will perform QA/QC checks of the submitted data including checks to the spatial topology of the feature classes including:
    a. Mains Must Be Covered by a Manhole Endpoint (Point-Line)
    b. Laterals Must Be Covered by a Clean Out Endpoint (Point-Line)
    c. Laterals Must Not Intersect with a Main (Line-Line)

    Other topology checks will be added later to ensure submitted data is compatible with a geometric network. This will include line to line connections are not overlapping, have no gaps, and/or meet under manholes.