



PREDICT · PRIORITIZE · PROTECT

As-Built Digitization

Converting as-designed and as-built drawings into georeferenced, attributed GIS data for water, sewer, storm, gas, electric, and telecom networks.

PATENT PENDING

RASTER · VECTOR · CAD INPUT

ESRI & OPEN GIS OUTPUT

Most utilities and public agencies already maintain a GIS. The authoritative record of what is actually in the ground often does not live there. It sits in drawings: scanned record sets, mylars, vector PDFs, and CAD files. **As-Built Digitization** converts those drawings into GIS data that is spatially aligned to a coordinate system, connected at junctions, and attributed to your schema.

HOW IT WORKS

01

Centerline Vectorization

Raster and vector drawings are converted into continuous centerline networks, connected at junctions and ready for GIS analysis, hydraulic and network modeling, and asset management.

02

Automated Georeferencing

OCR and language models read street labels, grid ticks, and sheet annotation. Affine and thin plate spline transforms align each sheet to State Plane or UTM.

03

Attribute Extraction

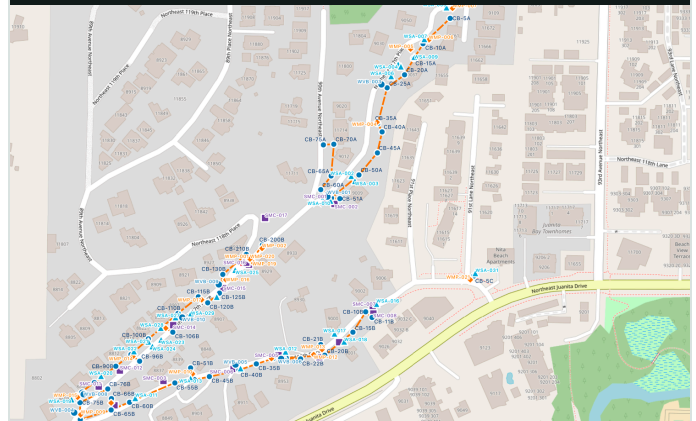
On-sheet text and callouts are parsed into structured attributes such as diameter, material, installation year, and status, then standardized to your existing data schema.

INPUT AND OUTPUT

INPUT — RECORD DRAWING SHEET, VECTOR PDF



OUTPUT — GEOREFERENCED GIS NETWORK



Left: one grading and drainage sheet from a municipal storm drainage set, as received. Right: the same area after vectorization, georeferencing, and attribute extraction across the set, rendered over basemap. Delivered layers include 52 storm drain structures, 49 storm drain pipe segments, 17 sanitary manhole covers, 10 water valve boxes, and 5 control points carried for QA.

WHAT WE ACCEPT, WHAT YOU RECEIVE

Accepted inputs

- Scanned raster drawings TIFF, PDF, JPEG
- Vector PDF and GeoPDF
- CAD files DWG, DGN
- Mylar and paper sheet scans
- As-designed and as-built record sets
- Mixed-vintage drawing sets, including unindexed archives

Delivered outputs

- File Geodatabase Esri
- Utility Network ready feature classes
- Esri asset package
- GeoJSON and Shapefile
- Attribute tables standardized to your schema
- QA report residual error at control points
- Optional SVG overlay for visual review

NETWORKS SUPPORTED

Water distribution	Wastewater collection	Stormwater	Gas distribution	Gas transmission	Liquids pipelines
Electric distribution	Telecom and fiber outside plant				

WHO TYPICALLY OWNS THIS WORK

- GIS manager, coordinator, or analyst
- Records manager and asset manager
- Distribution or collection system manager
- Integrity management lead gas and liquids
- Outside plant engineering and network records
- Engineering project manager at capital project closeout
- City engineer, county surveyor, enterprise GIS
- GIS analysts and practice leads at engineering firms

RECORD MODERNIZATION DRIVERS

SECTOR	REQUIREMENT	REFERENCE DATE
Drinking water	Lead and Copper Rule Improvements service line inventories	Nov 1, 2027
Wastewater / storm	MS4 permit outfall mapping; consent decree mapping deliverables	Per permit
Gas transmission	PHMSA TVC records and MAOP reconfirmation, 49 CFR 192.624	Jul 3, 2028
Electric / public works	Esri Utility Network migration following ArcMap retirement	Ongoing
Telecom / broadband	FCC Broadband Data Collection; BEAD as-built reporting at closeout	Per program
Engineering / SUE	ASCE 38-22 records research at the start of a utility investigation	Per project

Dates reflect federal rules as published. Confirm applicability and state level variation with your regulator.

ABOUT FRACTA

Fracta applies machine learning to water, gas, and sewer infrastructure, scoring every segment for Likelihood of Failure and Consequence of Failure so utilities can prioritize renewal against a finite capital budget. As-Built Digitization addresses the step that comes first: getting the network into GIS.