



FRACTA

PREDICT · PRIORITIZE · PROTECT

# Data Request.



Everything Fracta needs to build your risk model, and nothing we don't. Most utilities already have **90% of this in their GIS today**. Send what you have; we'll tell you what's missing.

01

## Pipe Asset Data

Your mains inventory. The backbone of every failure prediction.

02

## Break Data

Your repair history. What teaches the model how your system fails.

03

## Supplementary Data

Optional layers that fill the gaps in your pipe records.

KNOW WHERE FAILURE WAITS.

GLOBAL · V1.0 · FRACTA.AI

## 01

REQUIRED · THE FOUNDATION

## Pipe Asset Data

Your mains inventory. Every Likelihood of Failure score Fracta produces is anchored to these segments, so this is the one dataset we cannot model without.

**TYPES OF PIPELINES**

Primarily potable water mains; reclaimed water mains, transmission lines, and others may be included depending on contract agreement with Fracta

**ABANDONED PIPES**

If available. Fracta will use abandoned pipe attributes to learn historical break patterns

**FILE FORMATS**

Shapefile, GeoPackage, Geodatabase file, GeoJSON

**UNITS**

Imperial or metric. Send the data in the units your GIS already uses and tell us which; we handle the conversion

**COORDINATE SYSTEM**

Any projection or national grid. Include the CRS or EPSG code with your export

**FIELD NAMES**

Local-language field names and attribute codes are fine. Send a short legend and we will map them

| COLUMN            | FORMAT AND PURPOSE                                                                                                                                                                                                                                     | REQUIRED |
|-------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|
| ID                | <ul style="list-style-type: none"><li>Text or number</li><li>No missing values or duplicates</li><li>Associates pipe segment with break data</li></ul>                                                                                                 | YES      |
| Installation Date | <ul style="list-style-type: none"><li>Can be either date (yyyy/mm/dd) or year (yyyy)</li><li>Other date formats are accepted — tell us which one your records use</li><li>Blanks can be filled in via supplementary data or connecting pipes</li></ul> | YES      |
| Pipe Material     | <ul style="list-style-type: none"><li>Text indicating pipe material</li><li>Provide description of material code (e.g. CO = copper)</li><li>Blanks can be filled in via connecting pipes</li></ul>                                                     | YES      |
| Pipe Diameter     | <ul style="list-style-type: none"><li>Number indicating pipe diameter in inches or millimeters — state which unit your records use</li><li>Blanks can be filled in via supplementary data or connecting pipes</li></ul>                                | YES      |
| Status            | <ul style="list-style-type: none"><li>Indicator of whether pipe is active or abandoned</li><li>Will assume all pipes are active if not provided</li></ul>                                                                                              | NO       |

**Send more if you have it.** Additional pipe attribute data (e.g. pipe joints, pipe casing, buried depth, cathodic protection, etc.) are also welcome to be included.

## 02 REQUIRED · THE SIGNAL

# Break Data

Your repair and failure history. This is what teaches the model how your system fails, not how systems fail in general. The longer the history, the sharper the prediction.

### FILE FORMATS

Shapefile, GeoPackage, Geodatabase file, GeoJSON  
Excel file, CSV file (will require geometry points, lat/lon coordinates, or addresses)

### COORDINATE SYSTEM

Any projection or national grid. Include the CRS or EPSG code if the file is not in WGS84

| COLUMN     | FORMAT AND PURPOSE                                                                                                                                                                                                                   | REQUIRED                                                                             |
|------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|
| Pipe ID    | <ul style="list-style-type: none"> <li>Text or number</li> <li>No missing values</li> <li>Associates break data with pipe segment (e.g. this break happened on Pipe ID 123)</li> </ul>                                               | <div>NO</div> <p>We will associate the break to the nearest pipe if not provided</p> |
| Break Date | <ul style="list-style-type: none"> <li>Can be either dates (yyyy/mm/dd) or year (yyyy)</li> <li>Other date formats are accepted — tell us which one your records use</li> <li>Breaks with missing dates will be removed</li> </ul>   | <div>YES</div>                                                                       |
| Location   | <ul style="list-style-type: none"> <li>Geometry points, lat/lon coordinates, or addresses</li> <li>Addresses will be geocoded to best approximation</li> <li>Breaks with erroneous or incomplete addresses may be removed</li> </ul> | <div>IF NEEDED</div> <p>Required only if GIS geometry is not provided</p>            |



### WHY DATA QUALITY DECIDES YOUR RESULTS

The reliability and accuracy of Fracta's model results are contingent upon the quality and completeness of the data provided. **Fracta will check for missing data and identify data anomalies that the Customer should address.** You will not be left to guess. We flag every gap we find and tell you exactly what it costs you in model confidence.

## 03

OPTIONAL · THE GAP FILLERS

## Supplementary Data

None of this is required, but every layer you send fills in missing pipe attributes instead of leaving them blank. If your GIS has incomplete install dates, materials or diameters, this is how we recover them.

## FILE FORMATS

Shapefile, GeoPackage, Geodatabase file, GeoJSON, Excel file, CSV file

| CATEGORY          | DESCRIPTION AND PURPOSE                                                                                                                                                                                                                                    |
|-------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Pressure          | <ul style="list-style-type: none"><li>• Average / minimum / maximum pressure, in any unit (psi, bar, kPa) — state which</li><li>• Must have an ID to associate pressure to pipe segment (associations will be based on proximity if unavailable)</li></ul> |
| Parcel            | <ul style="list-style-type: none"><li>• Polygons of all parcels</li><li>• Include the year property was built</li><li>• Will be used to estimate missing attributes of nearby pipes</li></ul>                                                              |
| Valve             | <ul style="list-style-type: none"><li>• Geometry points or coordinates where valves are located</li><li>• Include installation date and/or diameter</li><li>• Will be used to estimate missing attributes of connecting pipes</li></ul>                    |
| Hydrant           | <ul style="list-style-type: none"><li>• Geometry points or coordinates where hydrants are located</li><li>• Include installation date</li><li>• Will be used to estimate missing pipe attributes</li></ul>                                                 |
| Reservoir / Plant | <ul style="list-style-type: none"><li>• Geometry points or coordinates where reservoirs/plants are located</li><li>• Will be used to estimate missing pipe attributes</li></ul>                                                                            |
| Joint             | <ul style="list-style-type: none"><li>• May be used to estimate missing pipe attributes</li></ul>                                                                                                                                                          |

**Not sure what you have?** Send us your GIS layer list and we will tell you which of these already exist in your system.

## → NEXT STEP How to send it to us

One transfer, one point of contact. Don't hold the package waiting for perfect data. Send what exists today and we will work the gaps with you.

### STEP 01

#### Export

Pull the layers above from your GIS in any accepted format. Keep original field names; no need to rename, translate or clean anything for us.

### STEP 02

#### Transfer

Send via the secure link your Fracta contact provides, or your utility's preferred SFTP. Tell us in advance if regional data-handling rules apply, such as GDPR.

### STEP 03

#### Review

Fracta runs a completeness check and returns a written summary of any missing fields or anomalies to address.

### BEFORE YOU SEND / QUICK CHECK

- ☐ Pipe asset file includes **ID, Installation Date, Pipe Material, Pipe Diameter**

The four required fields. Blanks are acceptable; missing columns are not.

- ☐ Pipe IDs are unique, with no duplicates or missing values

This is the key that links your breaks to your pipes.

- ☐ Break file includes a **Break Date** for every record

Breaks with missing dates will be removed from the model.

- ☐ Break records carry a Pipe ID, geometry, coordinates, or an address

Without one of these we cannot place the break on your network.

- ☐ Units and coordinate system are stated (e.g. mm, EPSG:27700)

One line in your email is enough. No conversion or reprojection needed.

- ☐ Material code descriptions included (e.g. CO = copper)

A one-page legend is enough, in your own language.

- ☐ Any supplementary layers you already have are attached

Pressure, parcel, valve, hydrant, reservoir/plant, joint.