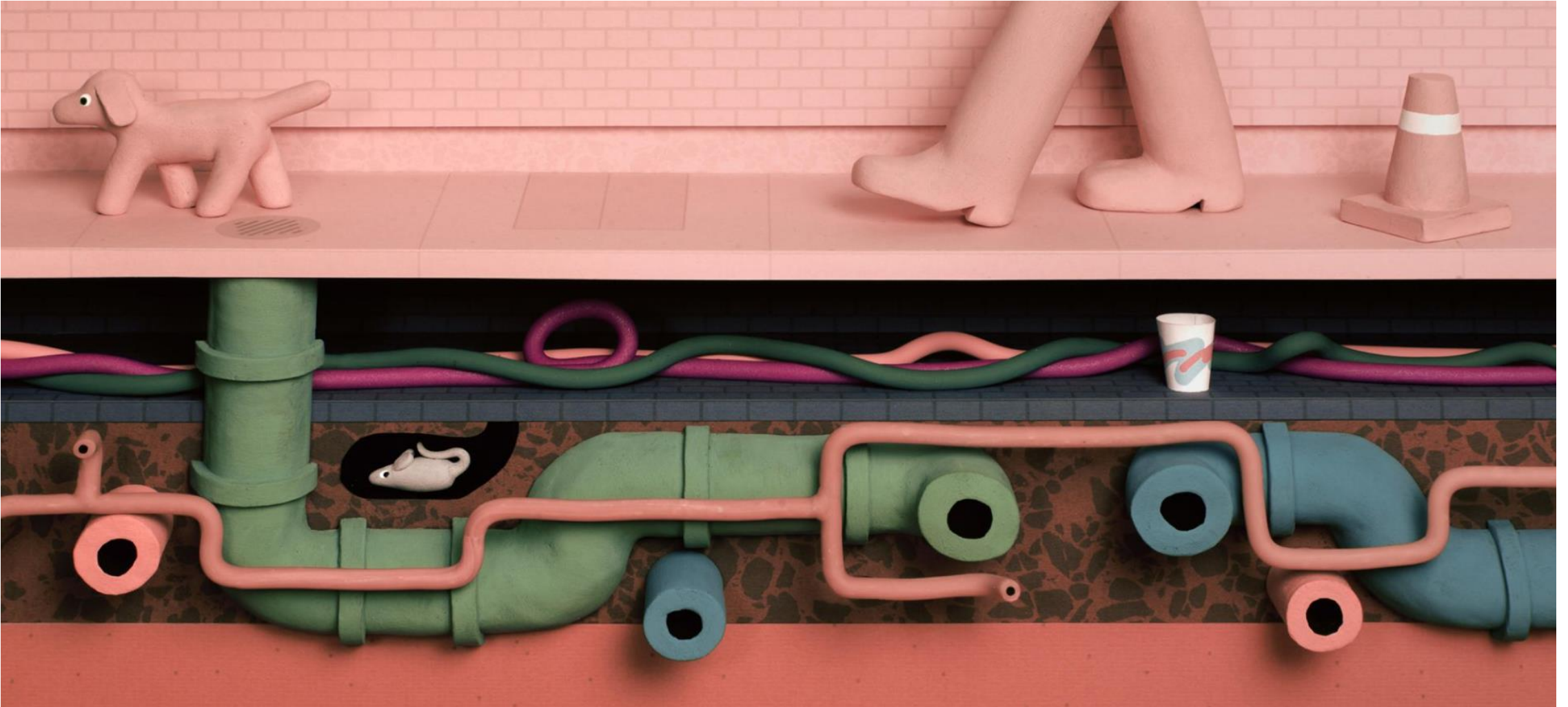
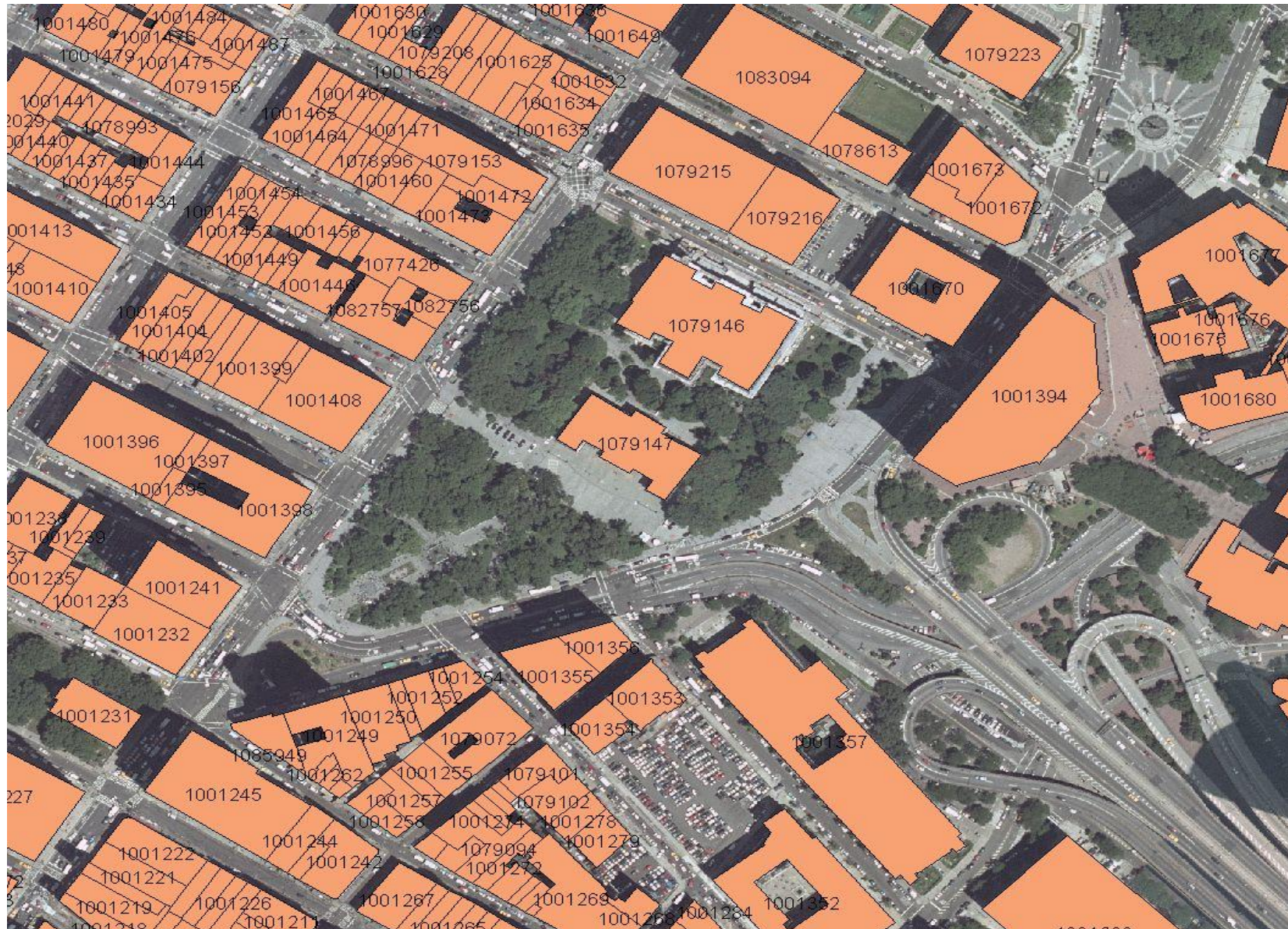


Infrastructure and Environment The Foundation of NYC Communities



“Nobody Knows What Lies Beneath New York City” by Greg Milner for Bloomberg Businessweek Magazine, 8.10.17

“One Map To Bind Them All”

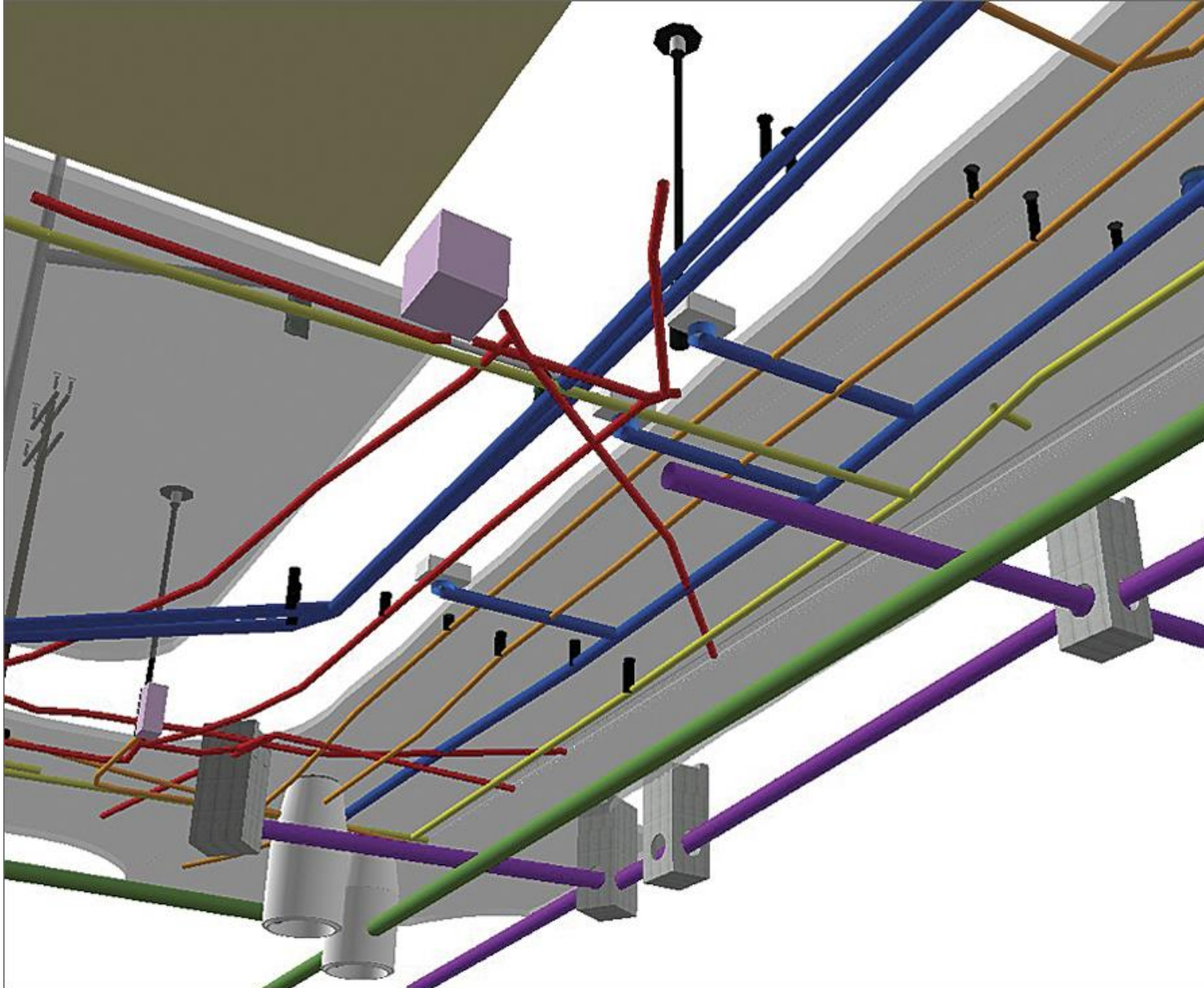


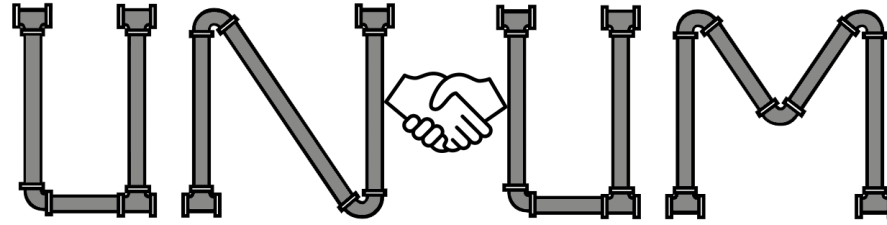
The Geospatial Response To 9/11 and Sandy

Massive Infrastructure Destruction



Concept for 3D Data Pilot





Unification for Underground Resilience Measures

National Science Foundation Award # 2133356 (\$1 million grant)

UNUM: NYU's Approach to Underground Infrastructure Interoperability in NYC

Professors Debra Laefer and Rae Zimmerman (NYU Wagner); Alan Leidner and Wendy Dorf (NYC GISMO)



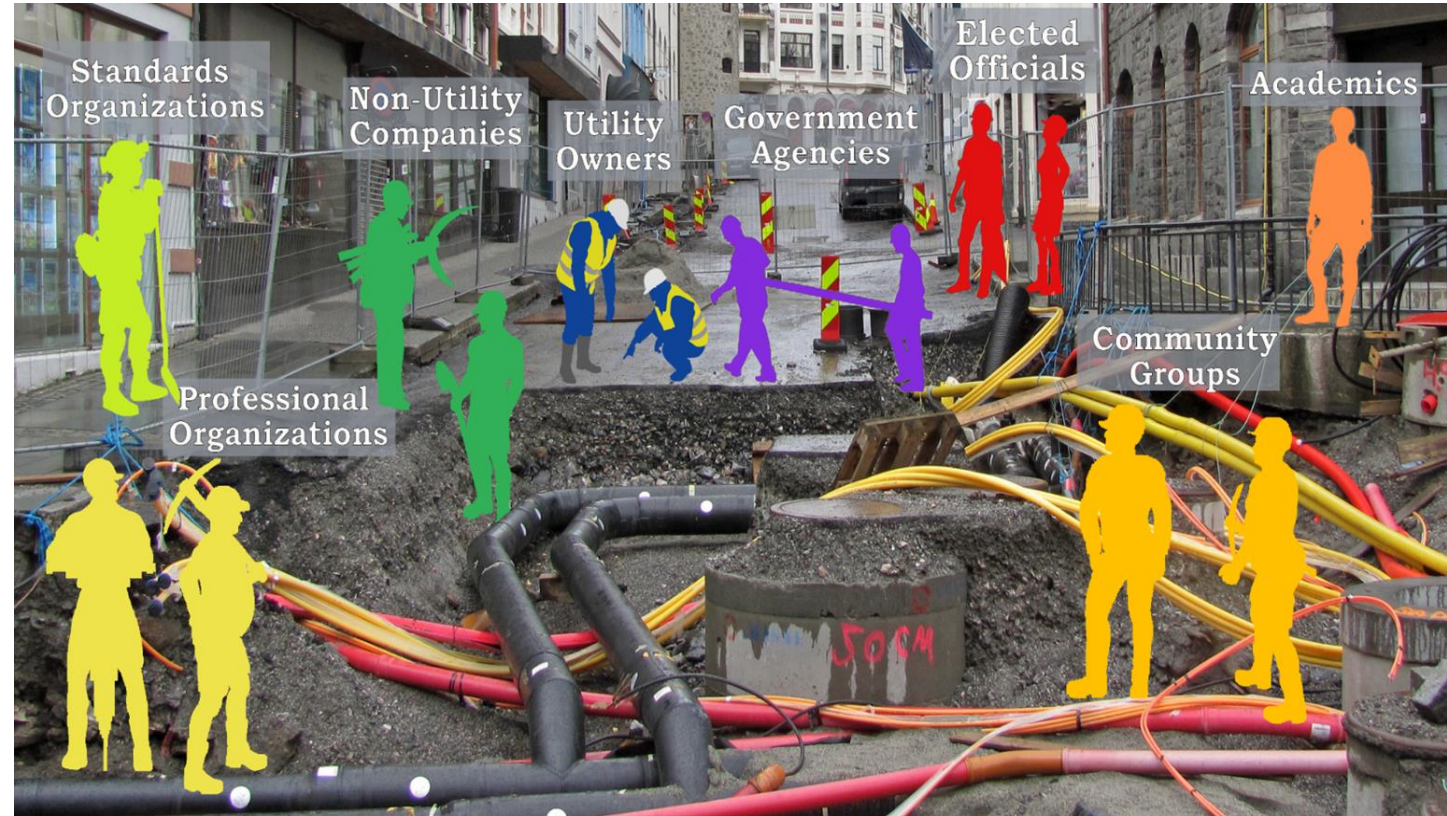
NYC GISMO Application Fair, June 8th, 2022

Yesterday



NYTimes archives 1888

Today

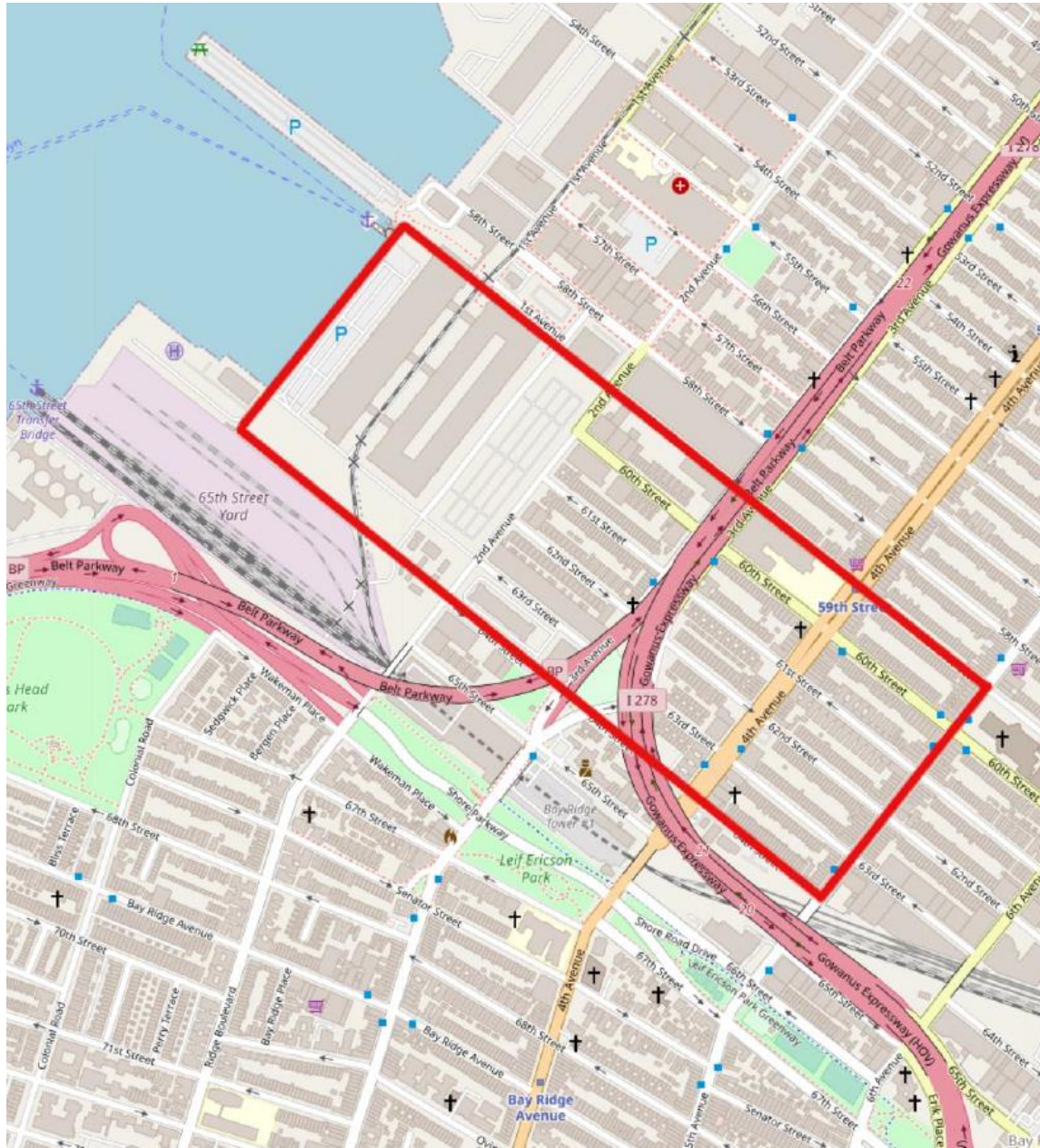


Source: Peter Gmelch

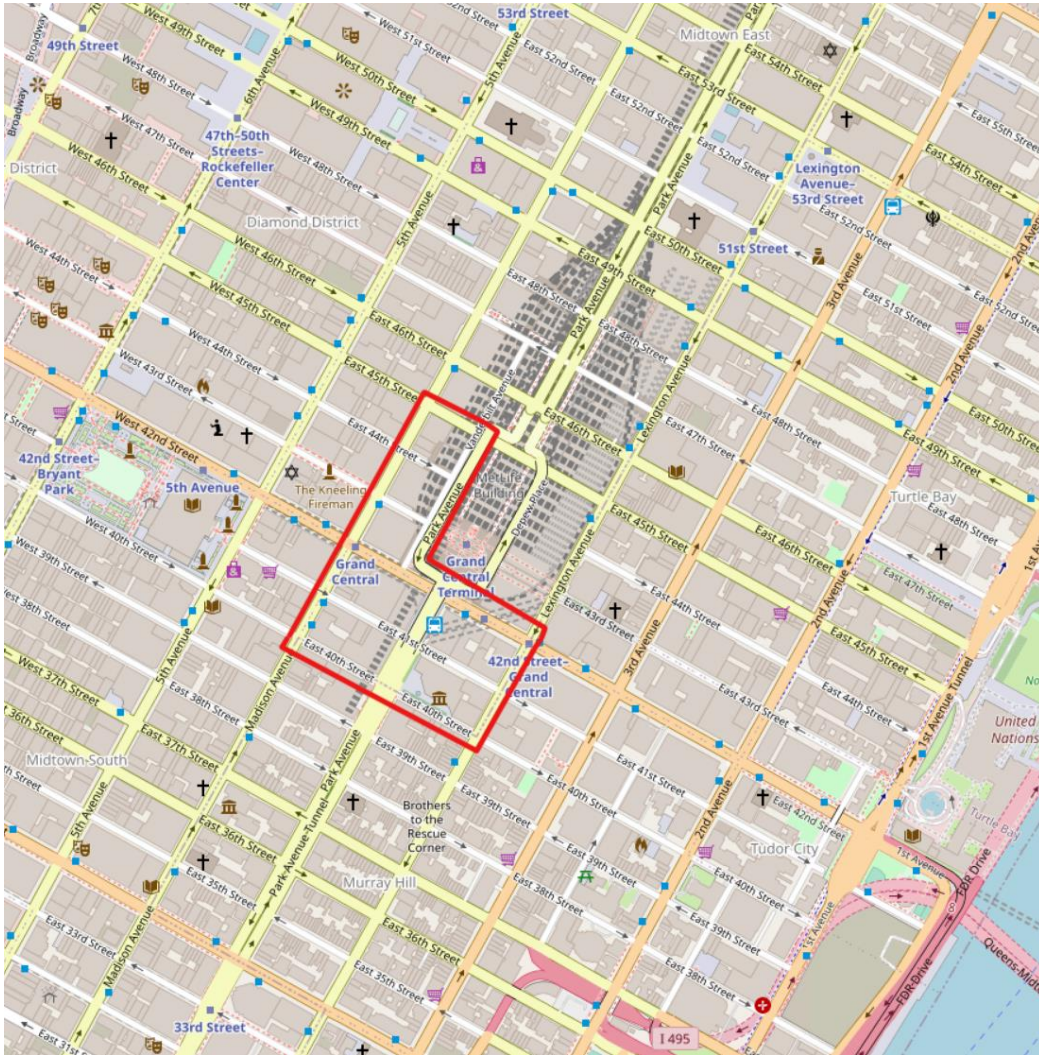
Participating organizations



Sunset Park, Brooklyn, Pilot Area



Midtown East – Grand Central Pilot Area



Open Infrastructure Data Compilation

Details

Add

Basemap

Analysis

Save

Share

Print

Directions

Measure

Bookmarks

Find address or place

About

Content

Legend

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☒ FRS Wastewater - Wastewater Treatment Plants

☒ Main Sewer lines

☐ Paging Towers Test - Paging Towers

☐ Transmission Lines gdb - Transmission Lines

☐ Natural Gas Liquid Pipelines - Natural Gas Pipelines

☐ Hurricane Sandy Inundation Zone

☐ NYC Population

☒ NYCDEP Outfalls

☒ Fire Hydrants

☒ NYC Catch Basins

☐ Petroleum Terminals

☐ PowerPlants US EIA

☐ Natural Gas Pipelines Dissolved


☐ Petroleum Product Pipelines Dissolved

+

Home

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Refresh



esri

New York State, Maxar | U.S. Geological Survey

Trust Center

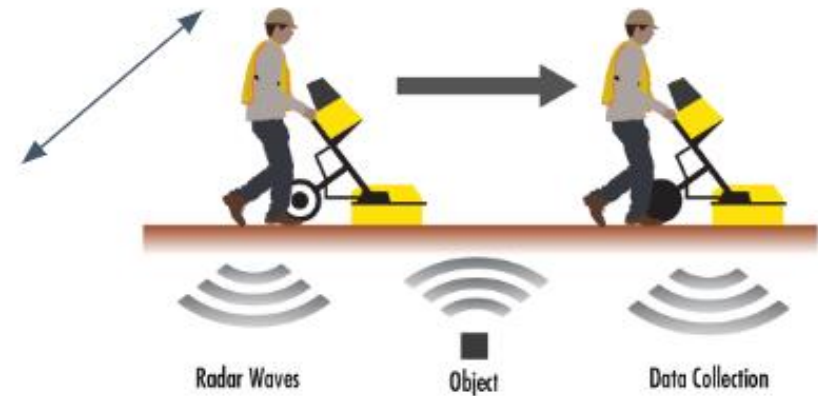
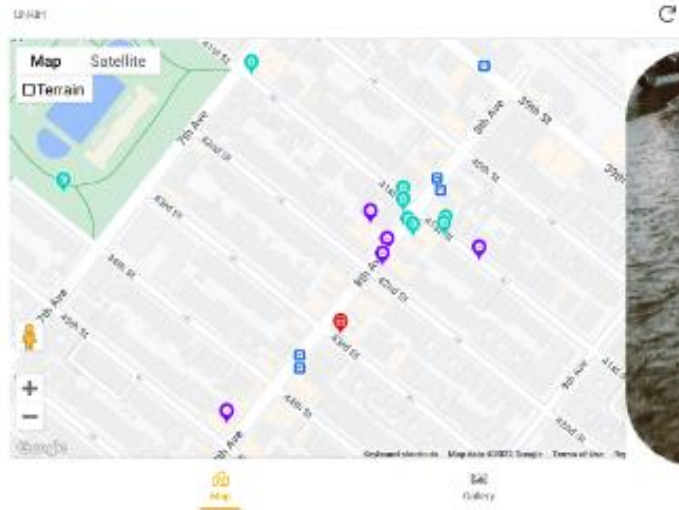
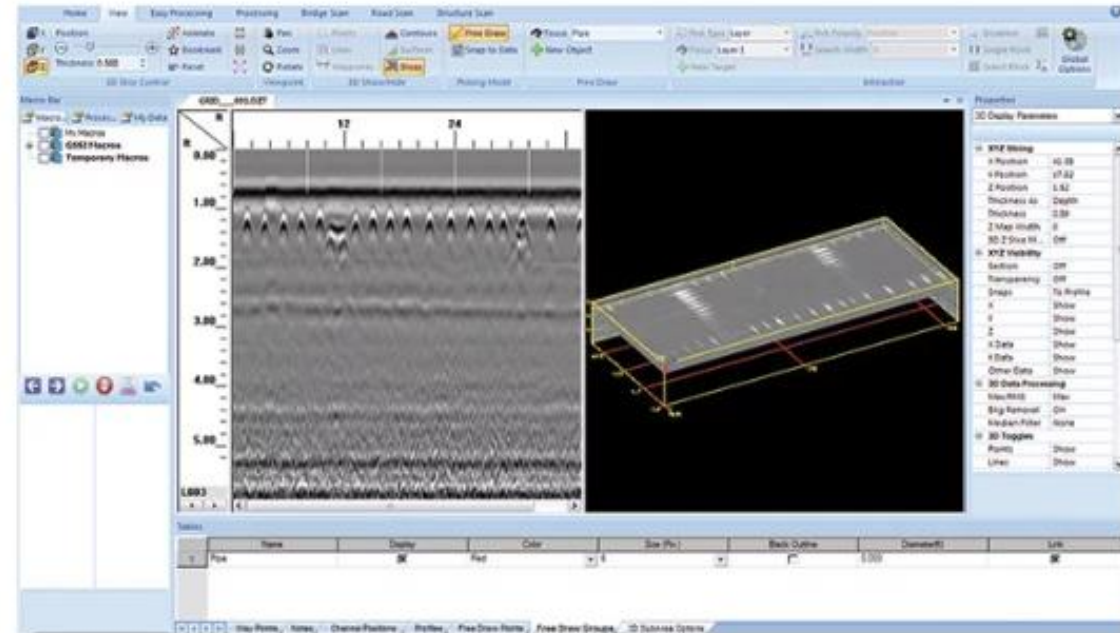
Contact Esri

Report Abuse

Contact Us

Co-create community digital twin

- Link point clouds and GPR scans with community data collection tools





In Progress

MUDDI Data Standard

- Organization of technical committee
- Pre-interview questionnaire distributed to asset holders
- Develop legal agreements

Scaling for NYC

- Solicit signatures on legal agreements
- MUDDI data standard work
- Decision maker workshops

1

Grant stage 1 (Jan. - May 2021)

Planning phase

- Received stage 1 planning grant funding
- Continue to build stakeholder group
- 40+ letters of support

2

Beginning of stage 2 (Oct. 2021)

Stage 2 funding received

- Initial kick off meetings with community stakeholder groups and asset holder teams

3

Community facing (Jan - May 2022)

Community workshops and participatory arts

- 3 community workshops in Sunet Park
- Planning for public arts exhibit at Brooklyn Army Terminal

4

Data aggregation (Jan 2022-present)



5

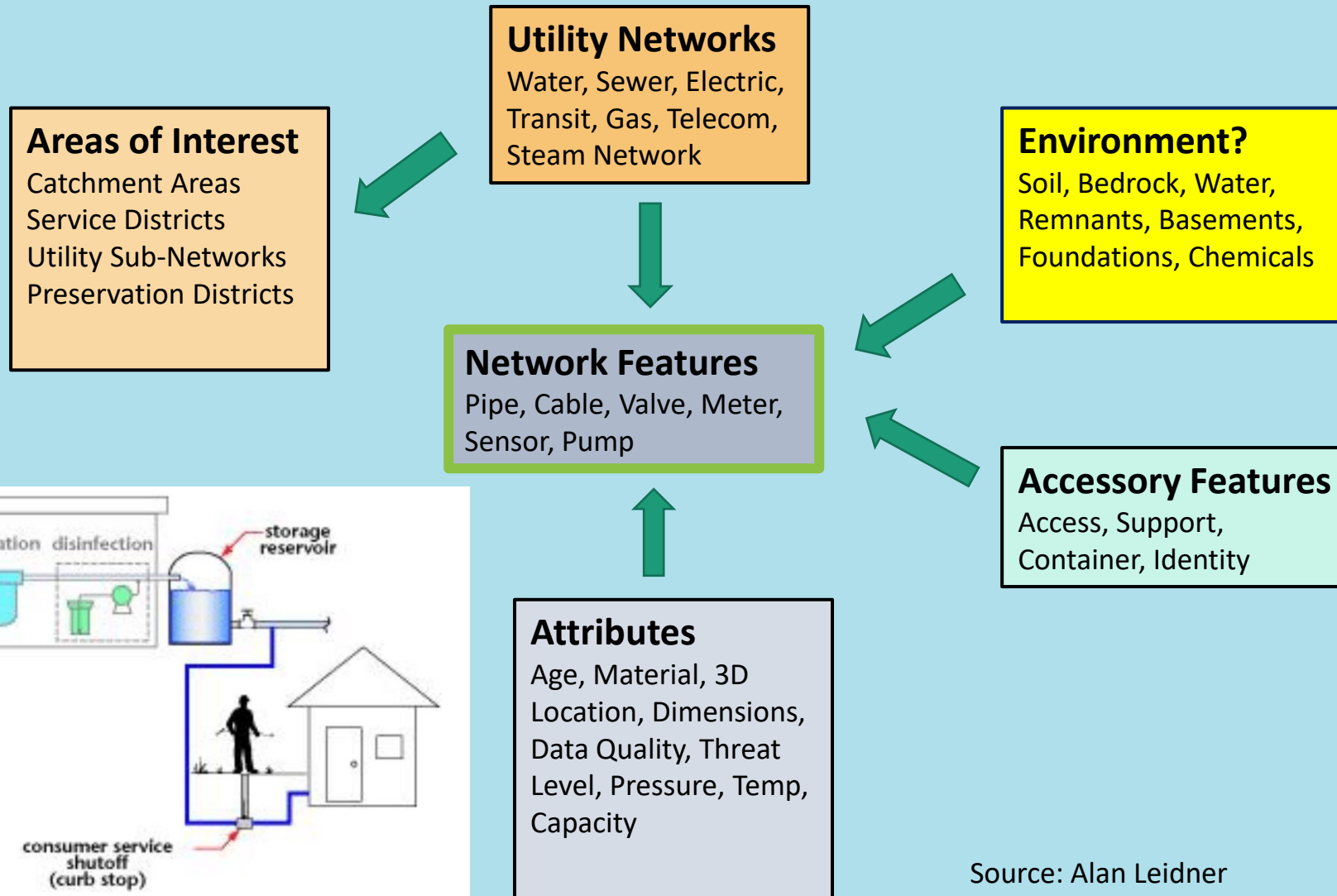
Next steps (Present-Spring 2023)



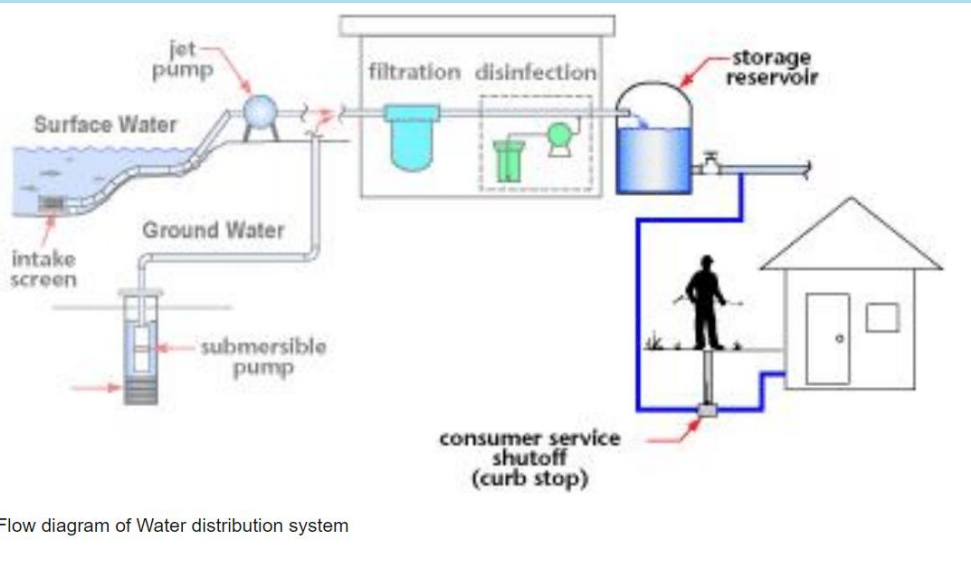
Completed Tasks

Model for Underground Data Definition and Integration (MUDDI)

Open Geospatial Consortium (OGC)

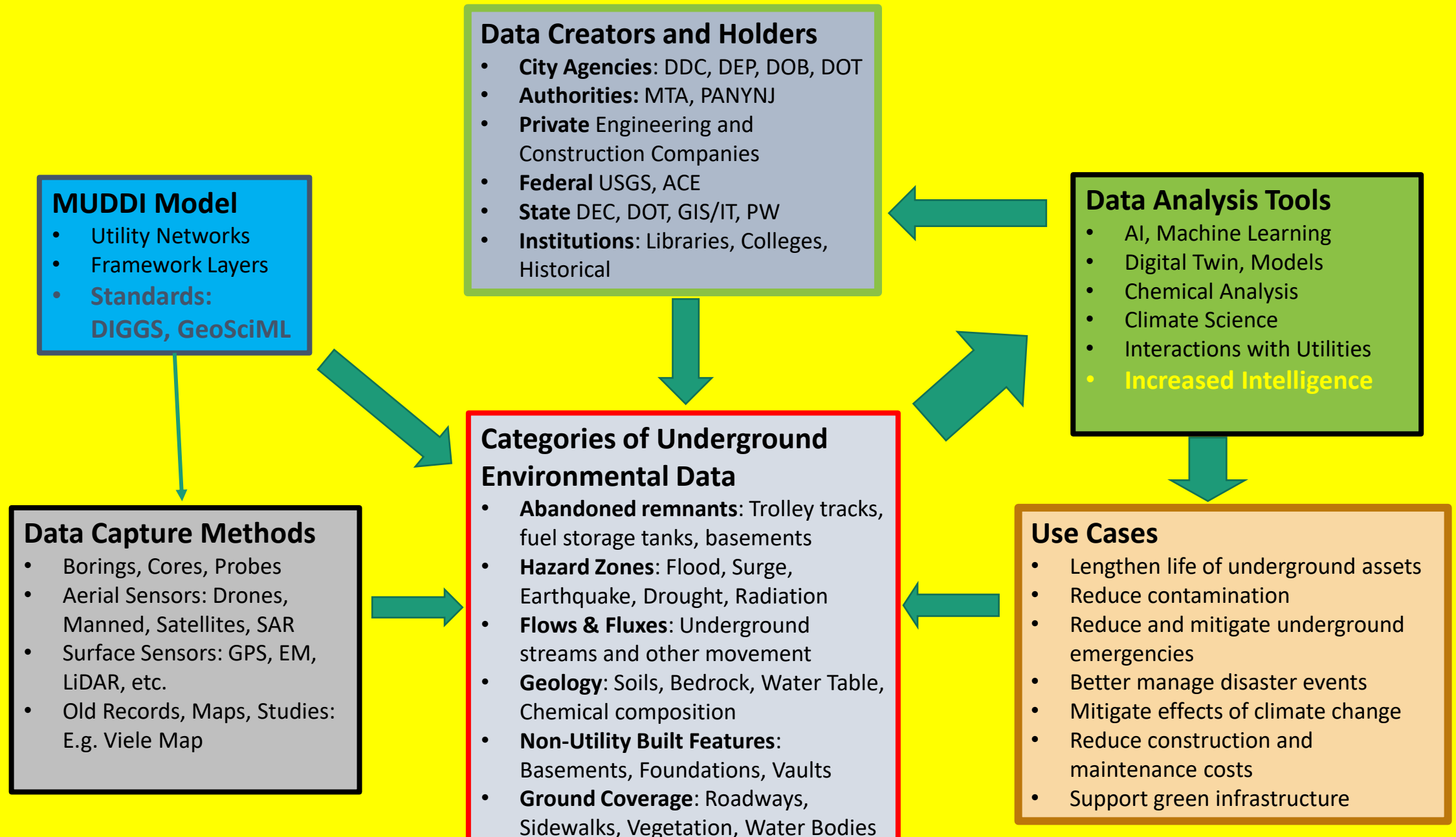


Source: Alan Leidner



Flow diagram of Water distribution system

MUDDI: Environmental Features and Data



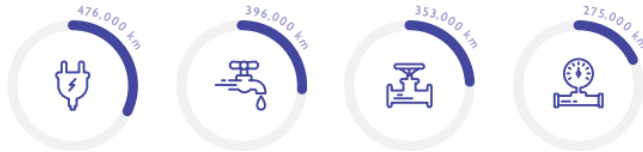
U.K. Commits to National Underground Asset Register Based on OGC MUDDI Model Now Under Serious Consideration by NYC!

National Underground Asset Register (NUAR)

£3.9 million is being invested by the Geospatial Commission in two pilot projects to help understand the feasibility and value of a **National Underground Asset Register (NUAR)** by designing, developing and configuring a data exchange platform which will support the evaluation of defined use cases.

1.5 million
kilometres

combined network of water,
sewer, gas and electricity
services in the UK [34]



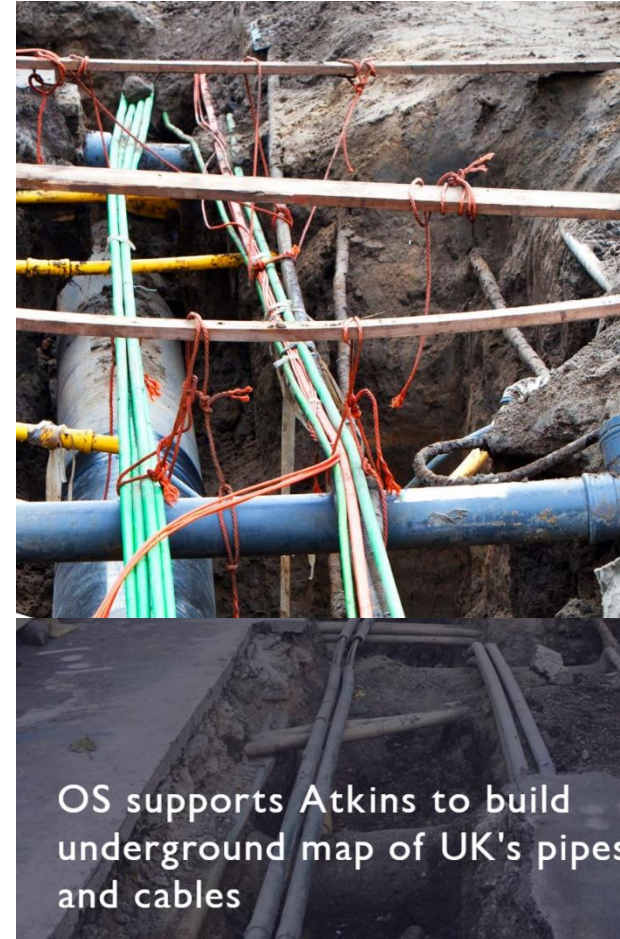
£1.2 billion

estimated economic
cost of accidental strikes
on underground pipes
and cables per year
(Geospatial Commission)



£4.3 billion

is the estimated spend on Street
Works each year (Dept of Transport),
with around **4 million** holes dug
each year by utility companies



OS supports Atkins to build
underground map of UK's pipes
and cables