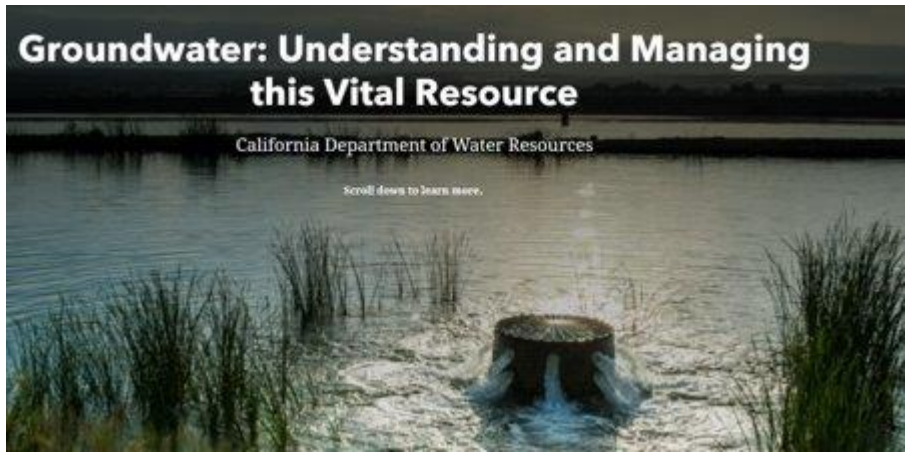


Geospatial Services



Agenda

- Introduction
- What is GIS
- Why GIS
- Discussion





Tim Rink

GISP

Louisville, Kentucky Based
Geospatial Discipline Lead -
Water

Nick Alexandrou

GISP

Sarasota, Florida Based
Regional Geospatial Leader -
Water

272 Global GIS professionals; ~200 in North America

6 Business Operating Units – Water, Environmental Services, Infrastructure, Power & Dams, Buildings, Oil & Gas



What is GIS

DATA



SORTED



ARRANGED



PRESENTED
VISUALLY

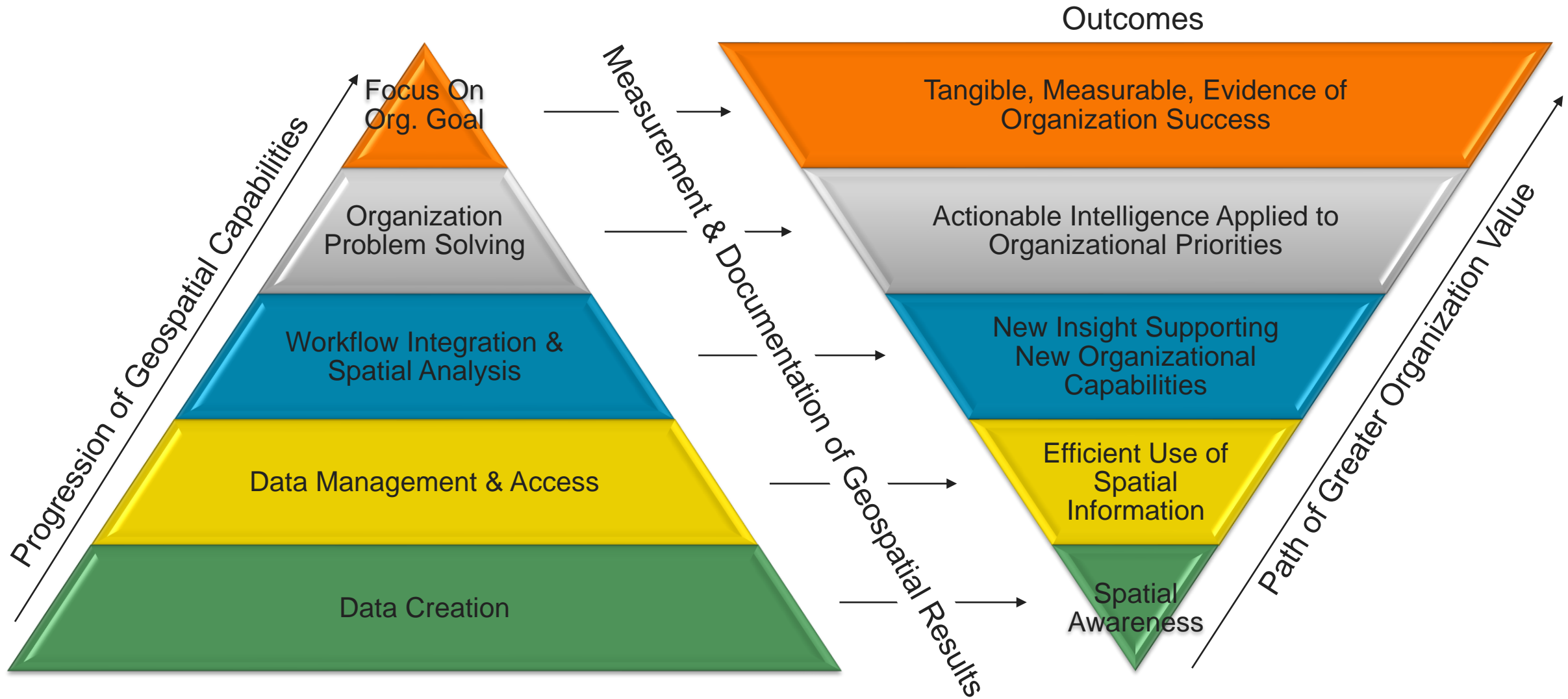


Starts with often disparate, poorly organized, or all together absent data.

We develop and use tools to collect, storage, standardize, and organize information.

With a clear picture and efficient tools, we can more efficiently solve our clients' problems.

Creating innovate products and processes for our clients, we help our clients build a foundation for smarter decision making.



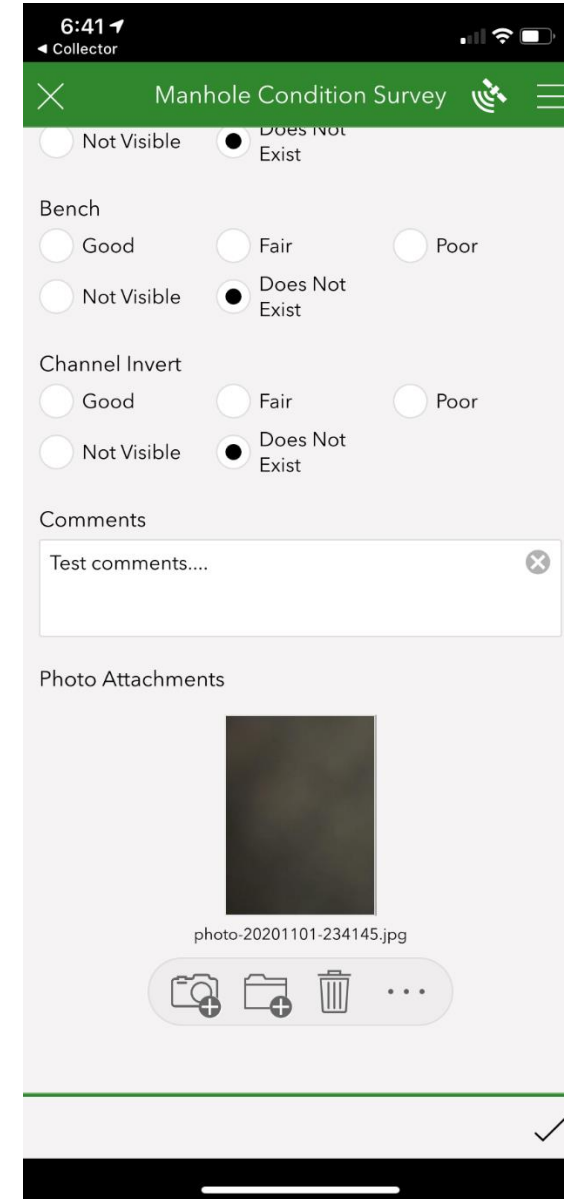
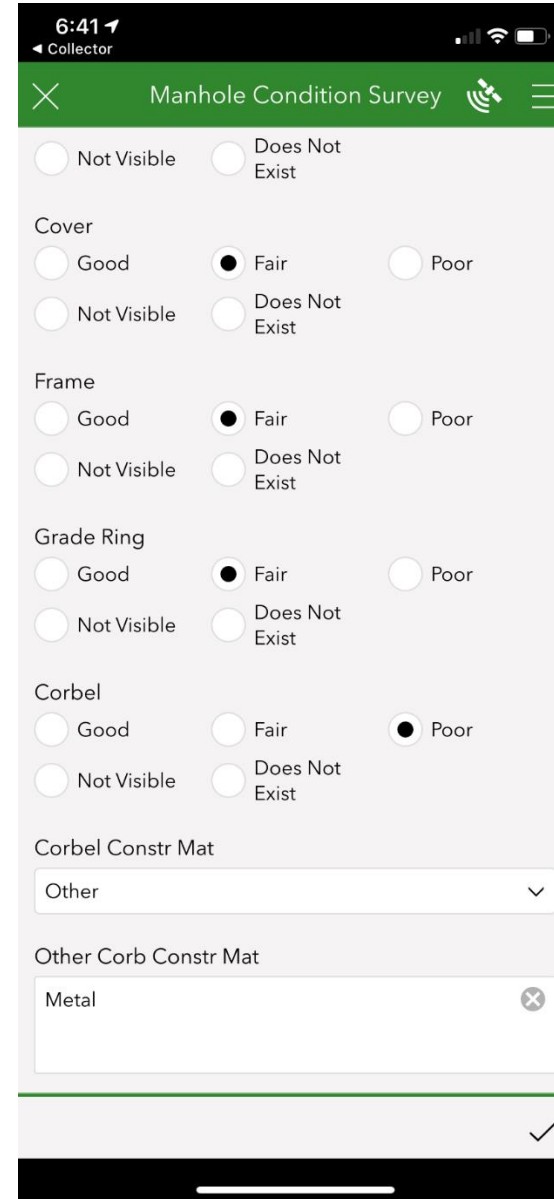
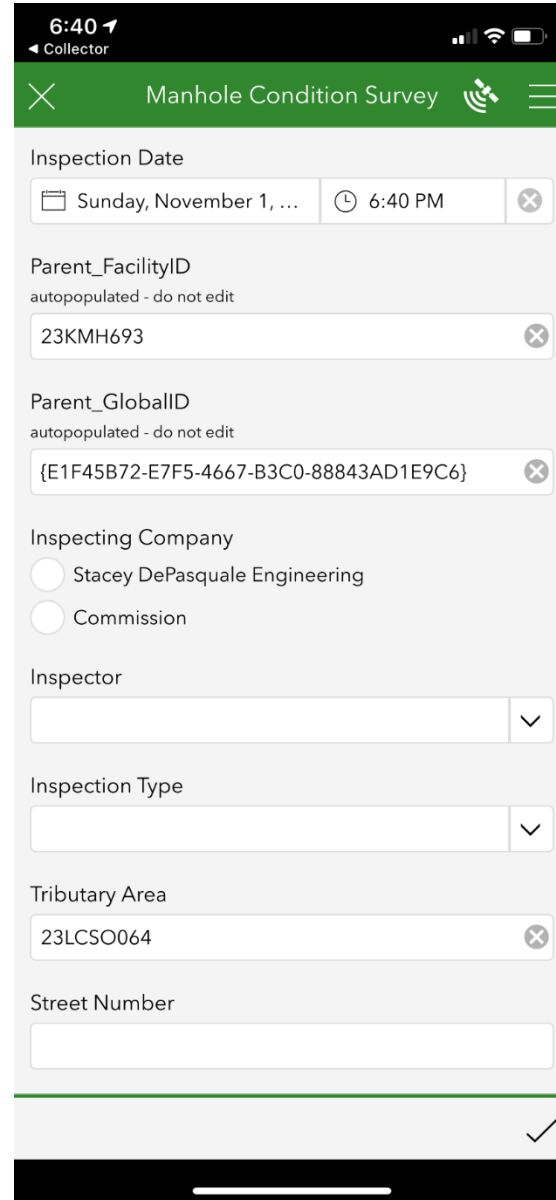
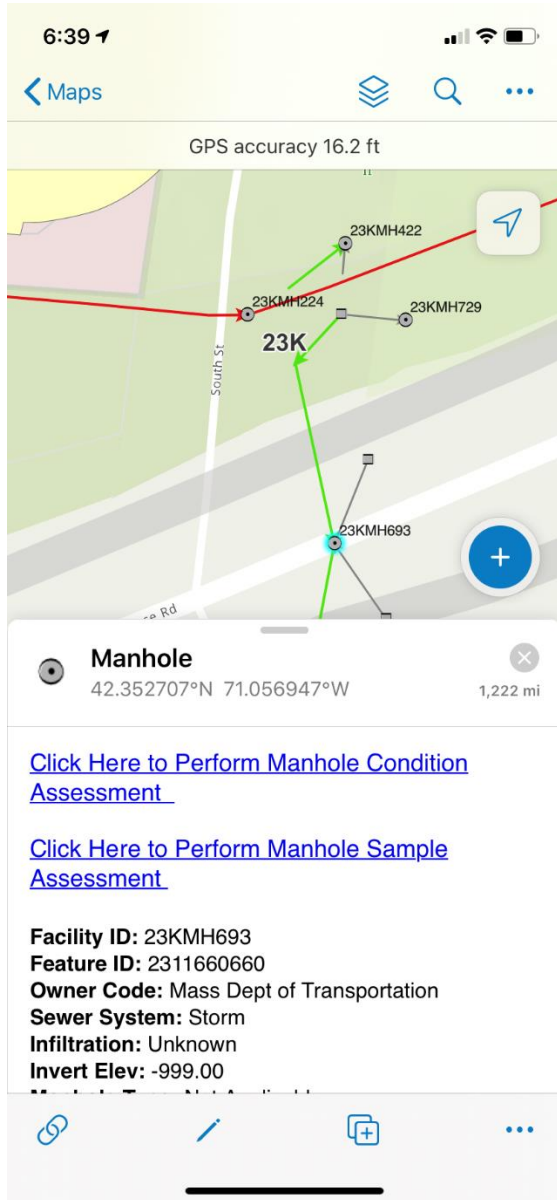


- Needs Assessment
- Stakeholder Visioning
- Data Creation, Collection & Conversion
- Technical Data Analysis
- Map Creation
- Web Applications
- Desktop Applications
- Database Design & Management
- Systems Integration
- Mobile Data Collection
- Utility Network
- Asset Management
- Engineering Design Support
- Community Engagement



Data Collection

GEOSPATIAL DISCIPLINE



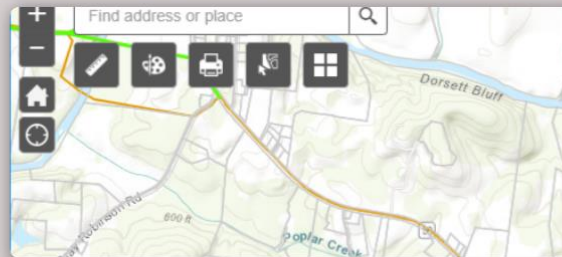
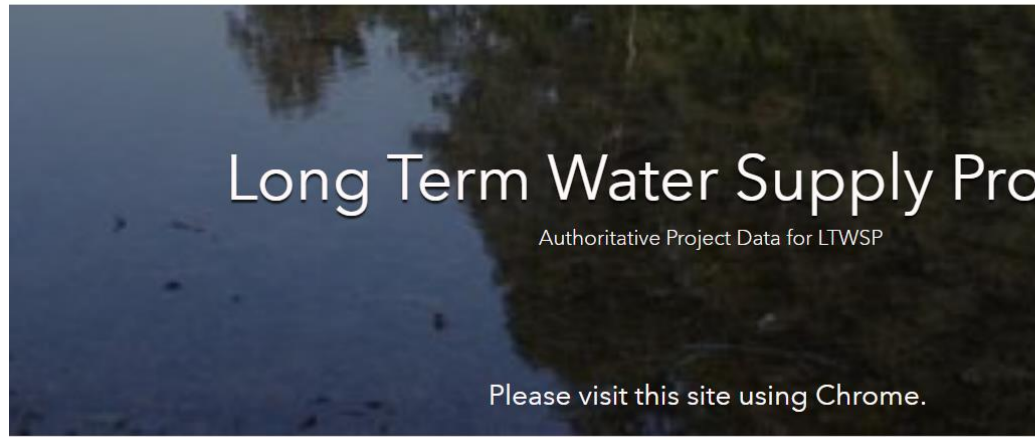


Geospatial Data Portals / Data Management

https://naplesgis.corp.ads/portal/apps/sites/#/ltwsp

GIS Applications Stantec Office Links Cityworks Online

Long Term Water Supply Program



LTWSP Project Viewer

Project Viewer for GIS Data for LTWSP

Explore

Specific Mapping Applications



Environmental



Design



Geotechnical

Views

My Items

Items

Suggested Filters

Access Level

Public

Tags

Geotechnical

Ltwsp

Usda

Nrcs

Usgs

More

Content Type

Feature Service

Web Mapping Application

Relevance

State Geologic Map Compilation

Shared by jhale@CORP

Description: The State Geologic Map Compilation (SGMC) geodatabase of the conterminous United States (https://doi.org/10.5066/F7WH2N65) represents a seamless, spatial database of 48 State geologic maps that range from 1:50,000 to 1:1,000,000 scale. A national digital geologic map database is essential in interpreting other

Custom License Accessible to Everyone 6/17/2020 Feature Service

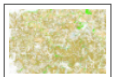


NRCS Soils

Shared by jhale@CORP

Description: This dataset is a digital soil survey and generally is the most detailed level of soil geographic data developed by the National Cooperative Soil Survey. The information was prepared by digitizing maps, by compiling information onto a planimetric correct base and digitizing, or by revising digitized maps using remotely

No license specified Accessible to Everyone 7/6/2020 Feature Service



Soil Depth

Shared by dreece@CORP

Description: Vector polygons digitized from a raster image. Author: USGS, StantecProcess: Stantec loaded raster layer from USGS server and digitized vector polygons at the approximate edges between representative values. Attributes were added and also calculations in inches and feet. Server address below:

No license specified Accessible to Everyone 6/23/2020 Feature Service



- Central Data GIS Data Repository for Projects and Teams
- Accessible in Field, from Web and integrates with AutoCAD
- Allows wide collaboration across Stantec and between Stantec/Client
- [Long Term Water Supply Program \(corp.ads\)](https://naplesgis.corp.ads) (Example)



GIS-Centric CMMS / Enterprise Asset Management

Asset Scoring / Work Order Management / Business Process Review and Implementation

GEOSPATIAL DISCIPLINE

- GIS-Centric CMMS tying work activities to assets
- CMMS work activities integrated into Asset scoring mechanism
- Delineation of Assets by Criticality scoring to plan for future CIP projects

The screenshot displays the Cityworks web interface. The top navigation bar includes 'Cityworks', a search bar, and various menu items like 'Inbox', 'Designer', 'PLL Admin', etc. The main content area is divided into several panels. The 'Service Requests & Inspections' panel shows a table of 'Open Water Dept Service Requests' with columns for 'Sr', 'Date Initiated', 'Description', 'Priority', 'Submit To', 'Dispatch To', 'Address', and 'Num. Calls'. A pie chart to the right shows the distribution of requests by submitter: 'admin, cityworks', 'STEVENSON, KYLE', and 'LYONS, COLIN'. Below this, the 'Work Orders' section shows a table of 'Work Orders All Open/In Progress' with columns for 'Wo', 'Description', 'Priority', 'Status', 'Submit To', 'Proj Start Date', 'Proj Finish Date', 'Actual Start', and 'Actual Finish'. Another table to the right shows 'Water Hydrant Repair' work orders with similar columns.

Assets by System	Low Score	High Score	Avg Score	Median Score
Potable Water Vertical Assets	1.6	21.8	5.2	3.6
Potable Water Transmission Assets	3.5	43.6	13.9	11.4
Potable Water Distribution Assets	2.1	33.6	8.0	5.2

Wastewater Gravity Assets	3.8	34.5	11.5	9.9
Wastewater Interceptor Assets	8.2	37.3	25.9	29.0
Wastewater Manifold Force Mains	8.2	17.9	14.1	14.8
Wastewater Transmission Force Mains	5.8	39.0	17.6	13.9
Wastewater Pumping Station Force Mains	5.0	12.2	28.1	12.1
Wastewater Pumping Station Assets	4.2	51.5	15.1	13.2
Wastewater Vertical Assets	1.0	62.3	13.2	8.9

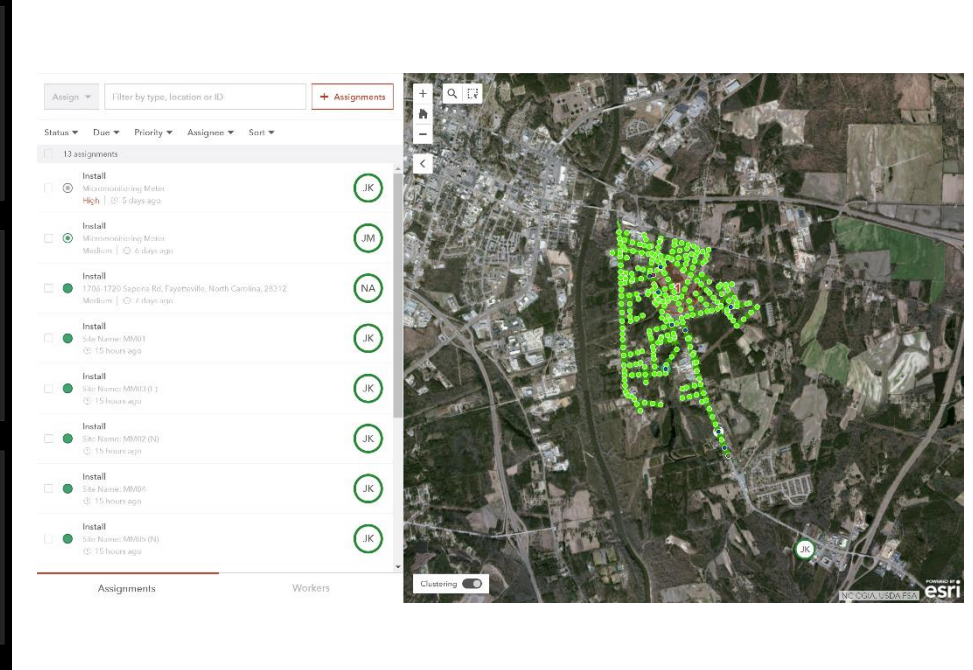
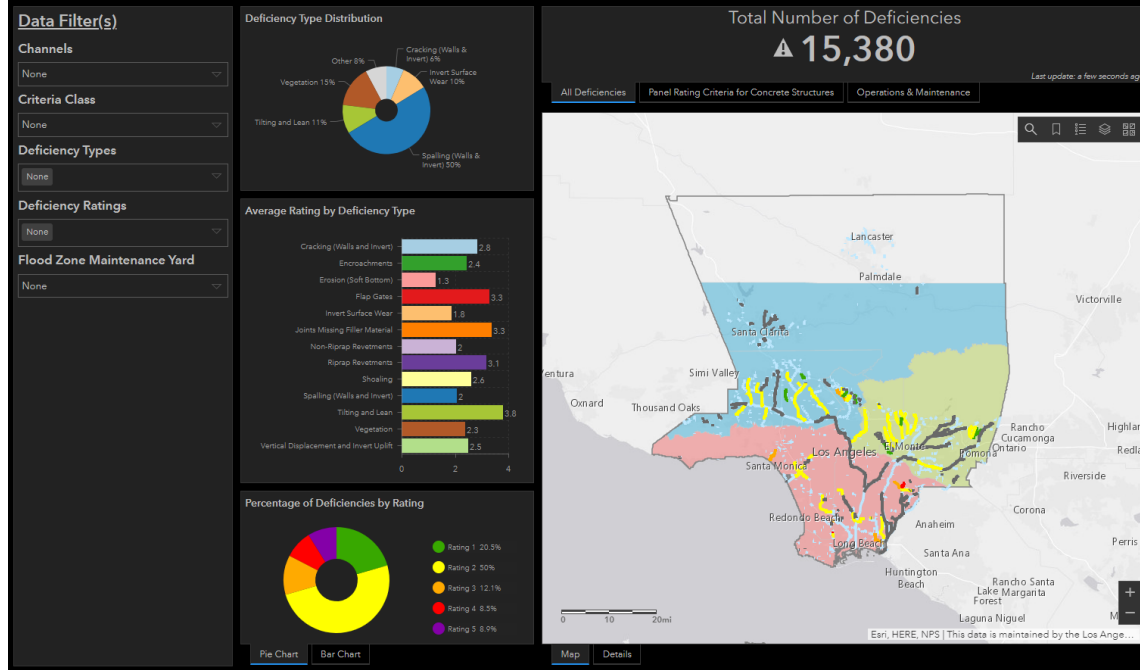
Reclaimed Water Vertical Assets	1.6	25.3	5.8	3.3
Reclaimed Water Transmission Assets	5.1	13.9	9.2	9.4
Reclaimed Water Distribution Assets	2.7	7.1	5.0	4.9

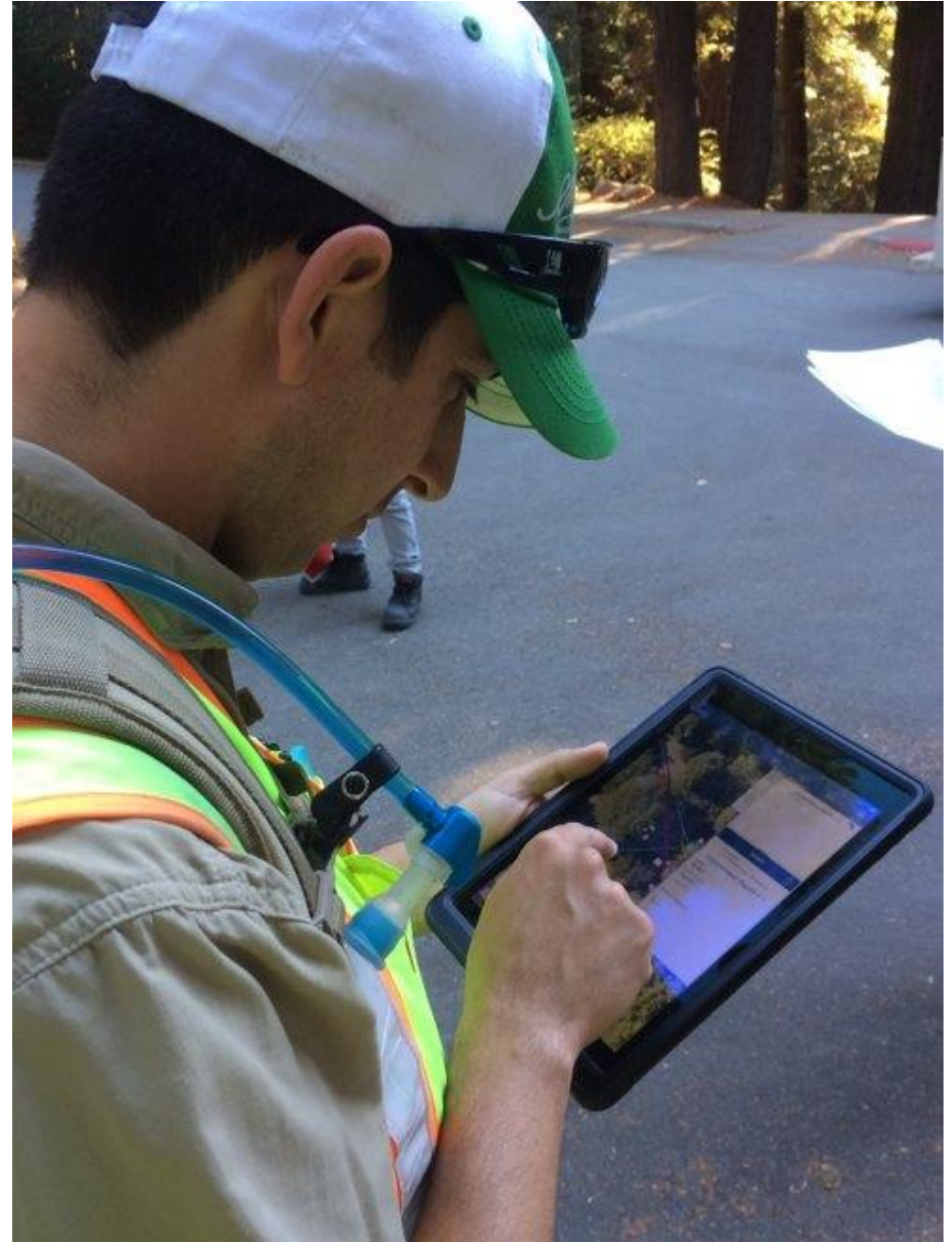
The screenshot shows a GIS application interface. On the left, a list of neighborhoods is displayed with their IDs: Verandah (V-WS-1, V-WS-2), Twin Eagles (TE-WS-1, TE-WS-2), The Brooks (BRKS-WS-1), and Mediterra (M-WS-1, M-WS-2). The main area features three large text boxes showing estimated replacement costs: '\$6,000' for Pump Motor Per Pump Station, '\$2,713,108.35' for Water Main From Current Date - 2056, and '\$195,235' for Valves From Current Date - 2025. A bar chart at the bottom shows the 'Estimated Cost of Valves Replacement by Year and Neighborhood' from 2020 to 2052. The chart uses a color-coded legend: Bonita Bay (yellow), Cedar Creek (orange), The Brooks (green), Mediterra (red), Twin Eagles (blue), and Shadow Wood (purple). The chart shows a significant increase in replacement costs starting around 2030, peaking in 2040.



Operational Dashboards

GEOSPATIAL DISCIPLINE







Legend

Layers

- Utilities
- Public Works
- FEMA/Emergency
- Neighborhoods
- PreAnnexation
- Community Interest
- Sarasota County Parcels
- Base Data
- Sarasota County 2016 Imagery

Identify

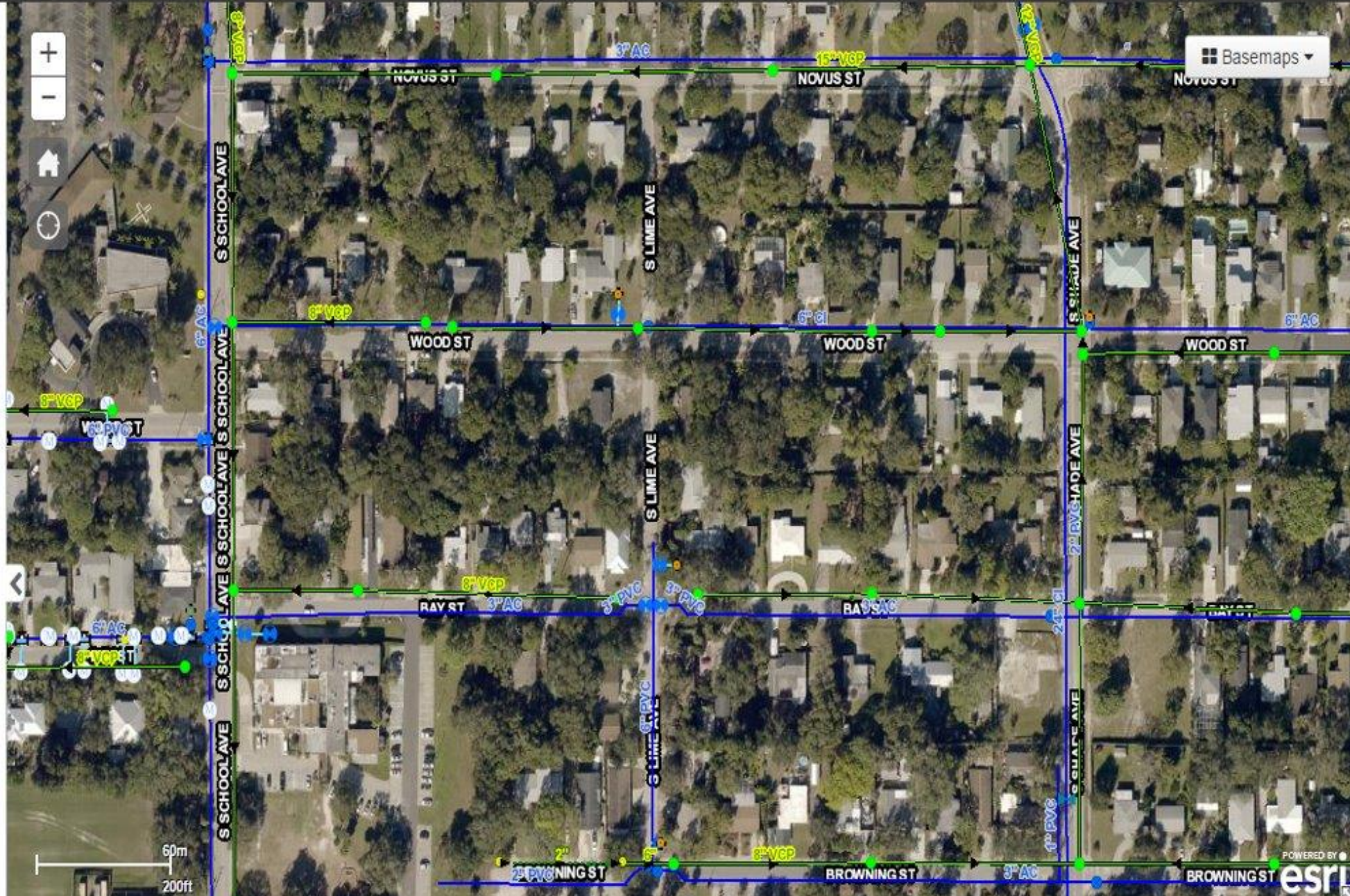
Draw

Measurement

Print

Google Street View

Search



Basemaps



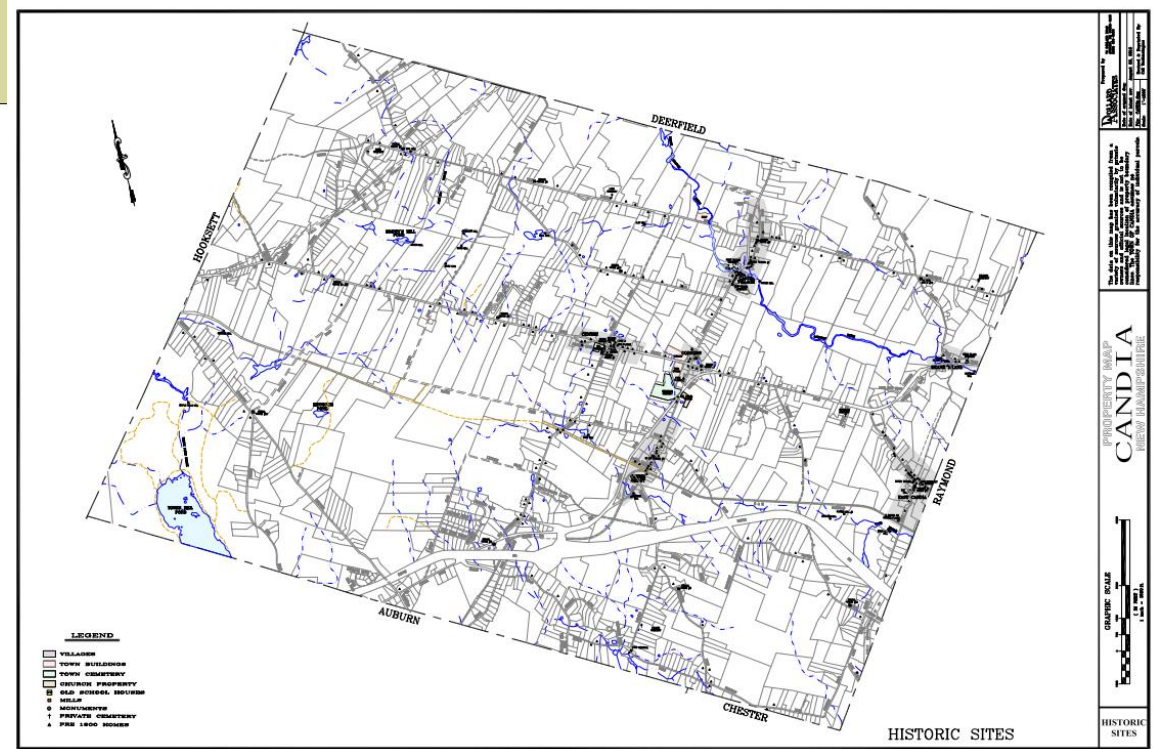
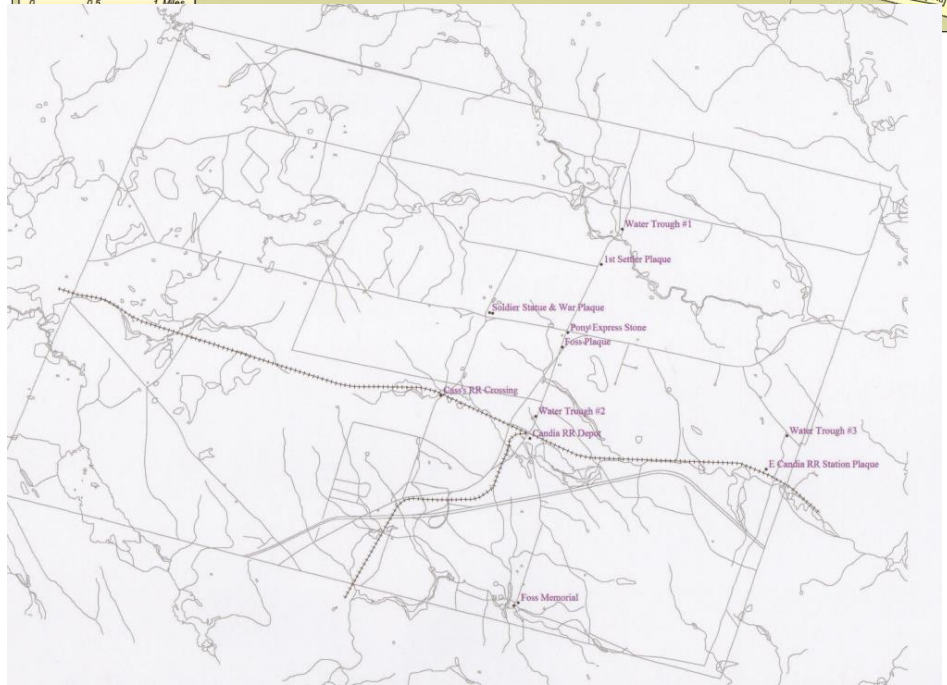
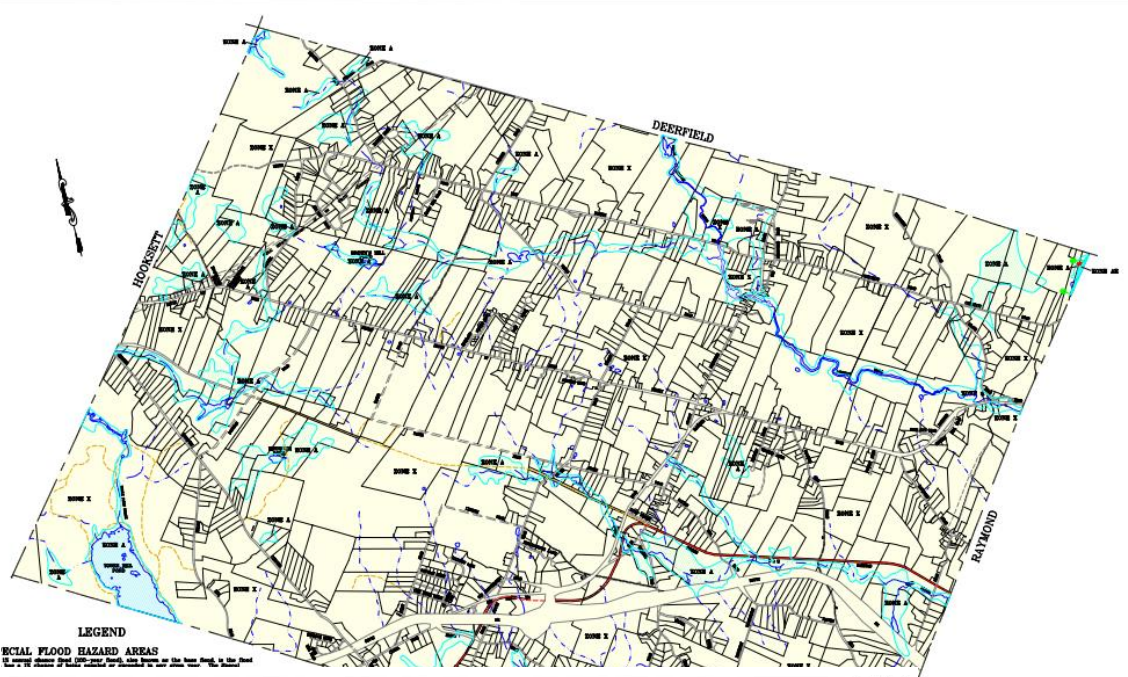
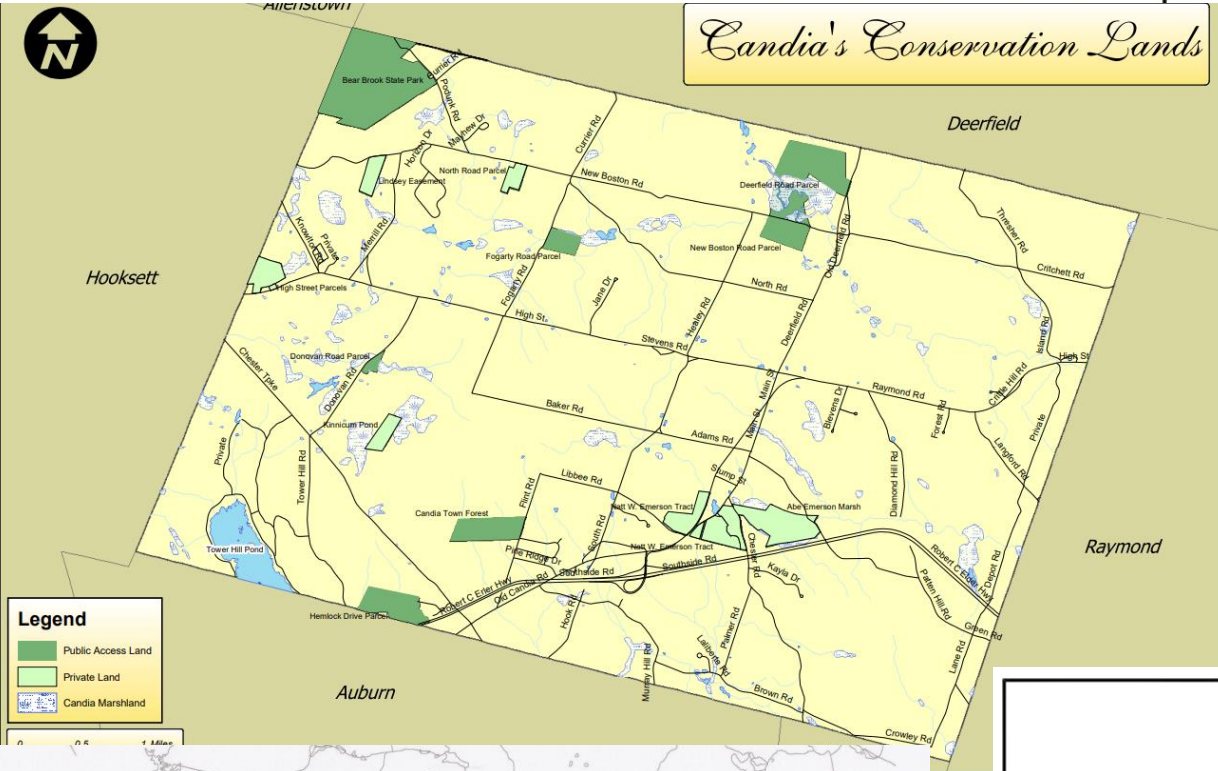


Sea Level Rise – Boston, MA





Candia's Conservation Lands



PROPERTY MAP
CANDIA
 NEW HAMPSHIRE

GRAPHIC SCALE
 1" = 1/4 MILE

FLOOD MAP

SPECIAL FLOOD HAZARD AREA MAP

PROPERTY MAP
CANDIA
 NEW HAMPSHIRE

GRAPHIC SCALE
 1" = 1/4 MILE

HISTORIC SITES



Easy Wins

- Digitize assets –start to build asset database
- Tourism Webmap/ StoryMap – historical areas, sites, schools, villages
- Interactive Flood Hazard Map – Support zoning ordinances, real estate development, community engagement
- Conservation Lands and Public park areas Webmap/StoryMap

Long Term Goals

- Asset Management
- Integration of Capital Improvement Plans
- Planning Board & Land Use Support
- Economic Planning
- Emergency Response
 - Testing sites
 - Shelters

