



Using Technology to Assist with LSLR Projects

IEPA # 19703



Mike Schweisthal, PE
Senior Project Engineer II



Emily Conti, EI
Project Engineer



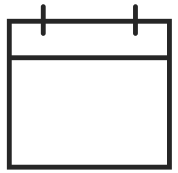
A grayscale photograph of a construction site in winter. In the foreground, a white tracked excavator with 'BRANDT EXCAVATING' and 'NAVIGATOR' written on its side is parked on a snow-covered ground. In the background, there are bare trees and a building with a geodesic dome roof.

Agenda

1. Introductions and Opening Remarks
2. Water Service Line Material Inventory
3. Design
4. Construction
5. Construction Management
6. Q&A



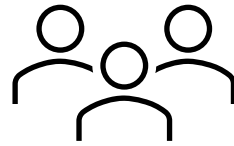
LSLR PROJECT PROCESS



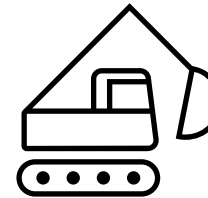
**PLANNING /
INVENTORY**



DESIGN



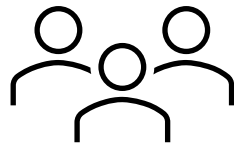
PRECON



CONSTRUCTION



**POST-
CONSTRUCTION**



**COMMUNITY
MEETINGS**



**EASEMENTS &
AGREEMENTS**



**HOME
ASSESSMENTS**



Streamlines Design

Information collected during inventory stages can be directly used for design stage.



Programs are Interconnected

Various programs can interact with one another to automate all stages of the process.

Data Linked in GIS

All data for each service can be linked to the address point in GIS.



Real Time Progress

Dashboards display real-time progress during all stages of the project.



Improves Project Efficiency

Data interconnection and ease of access reduces overall time through various project stages.



Mobile Access

Programs can be viewed and edited on mobile devices for easy field access.

Using Technology to Assist with LSLR Projects



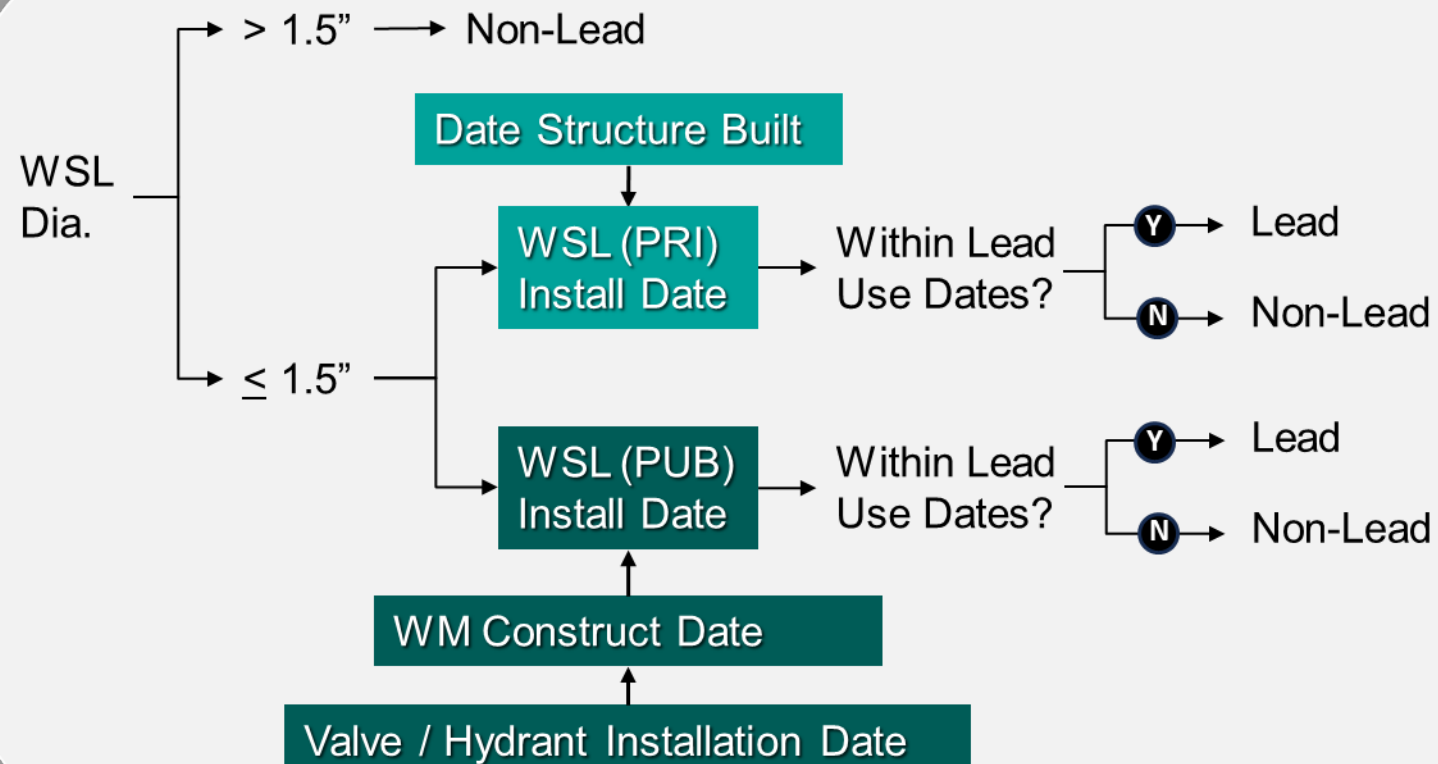
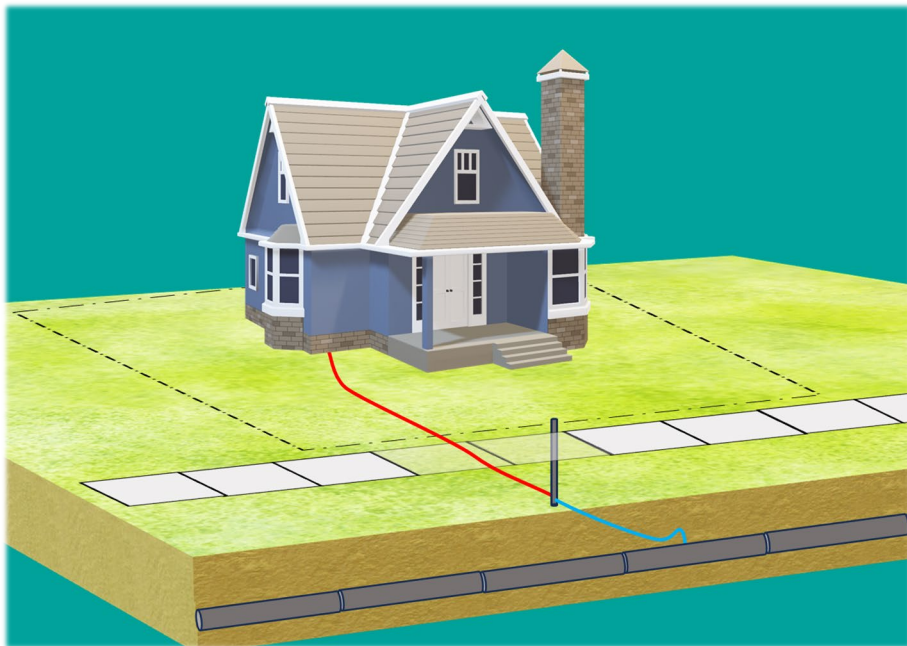


WATER SERVICE LINE MATERIAL INVENTORY



PREDICTIVE MODELING –

Inferring the Composition of Water Service Lines



WATER SERVICE LINE MATERIAL INVENTORY

RESIDENT SURVEY

CUSTOMIZED TO MEET COMMUNITY'S NEEDS

- Online surveys are a great way to gather water service line information by engaging residents.
- Mailer with QR code to survey
- Using a service such as ArcGIS Survey 123 allows communities to map data and track responses in real time.



Surveys can be customized for design and construction planning.



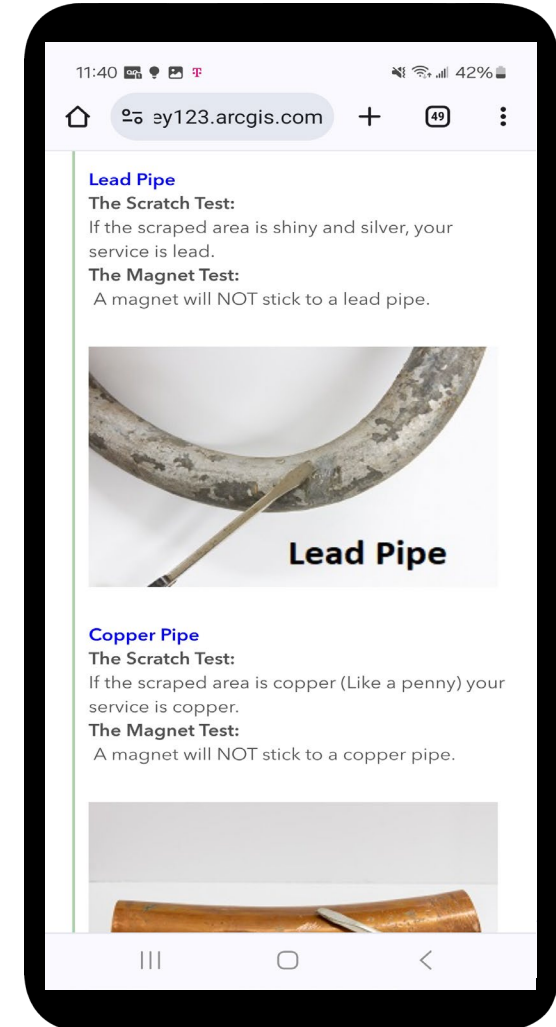
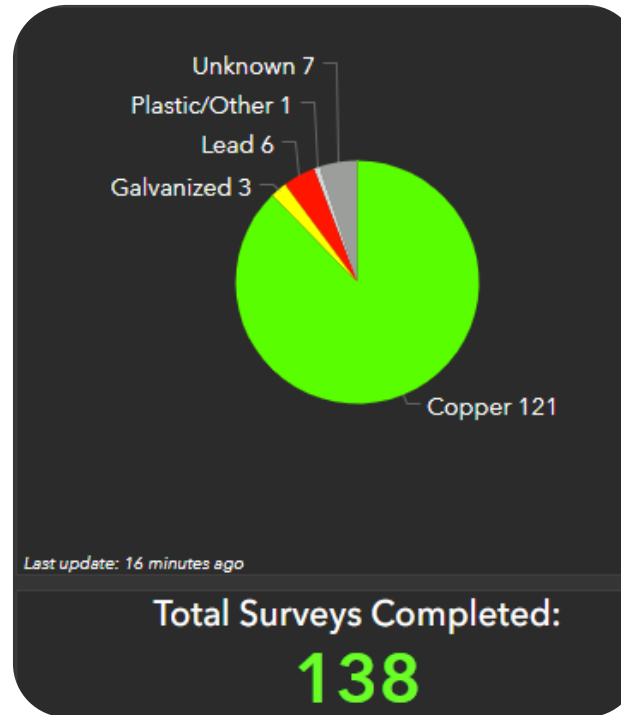
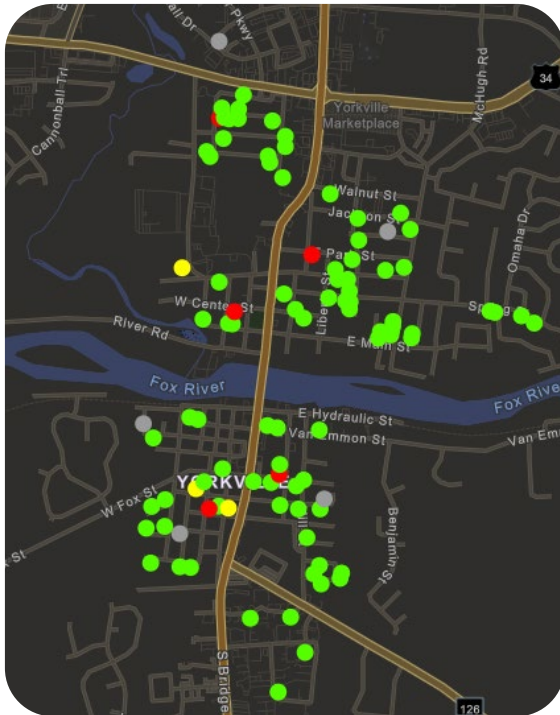
Lead Pipe



Galvanized Pipe



Copper Pipe



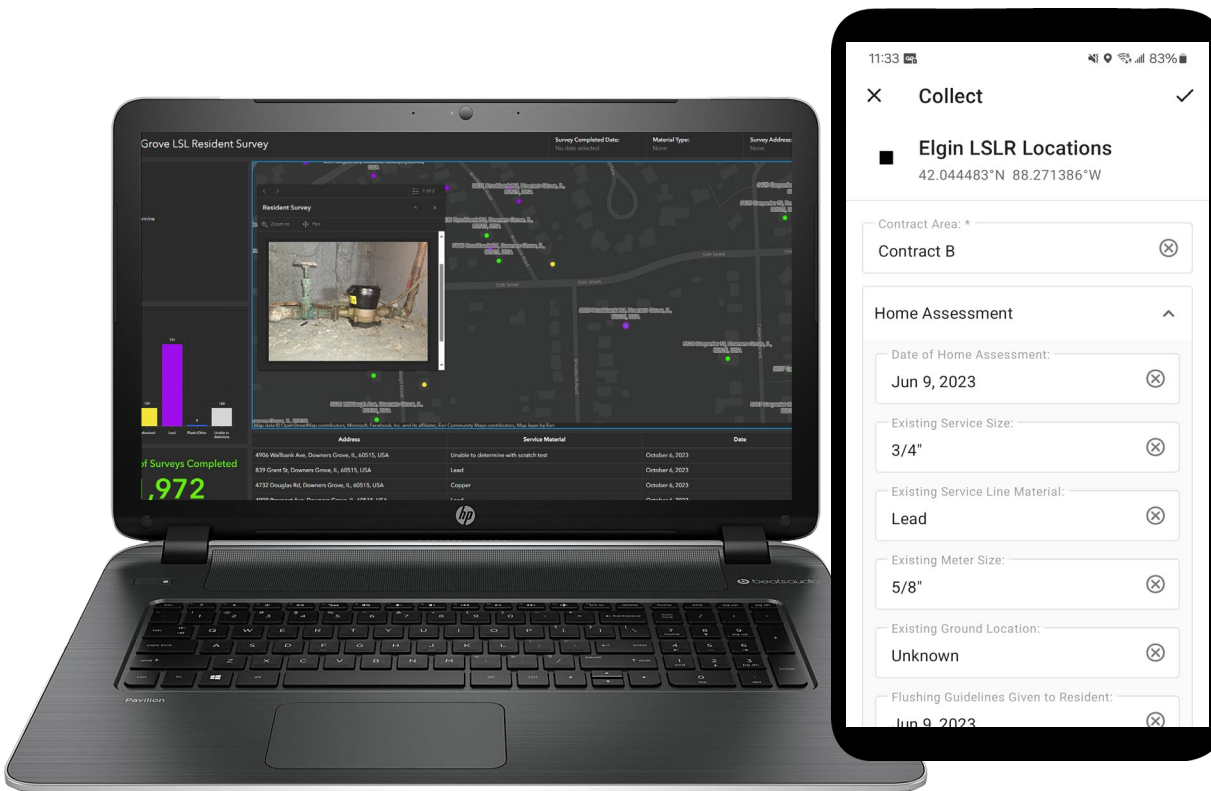
WATER SERVICE LINE MATERIAL INVENTORY

GIS TRACKING

CUSTOMIZED TO MEET COMMUNITY'S NEEDS

- Utilizing municipal staff to gather information. Can be done during other operations i.e., meter replacements.
- Using a service such as ArcGIS Field Maps to input data into fields that are linked to GIS.

Mobile Access to Field Maps
Dashboard Access for Live Tracking
Utilize appointment management software such as Bookings to schedule appointments



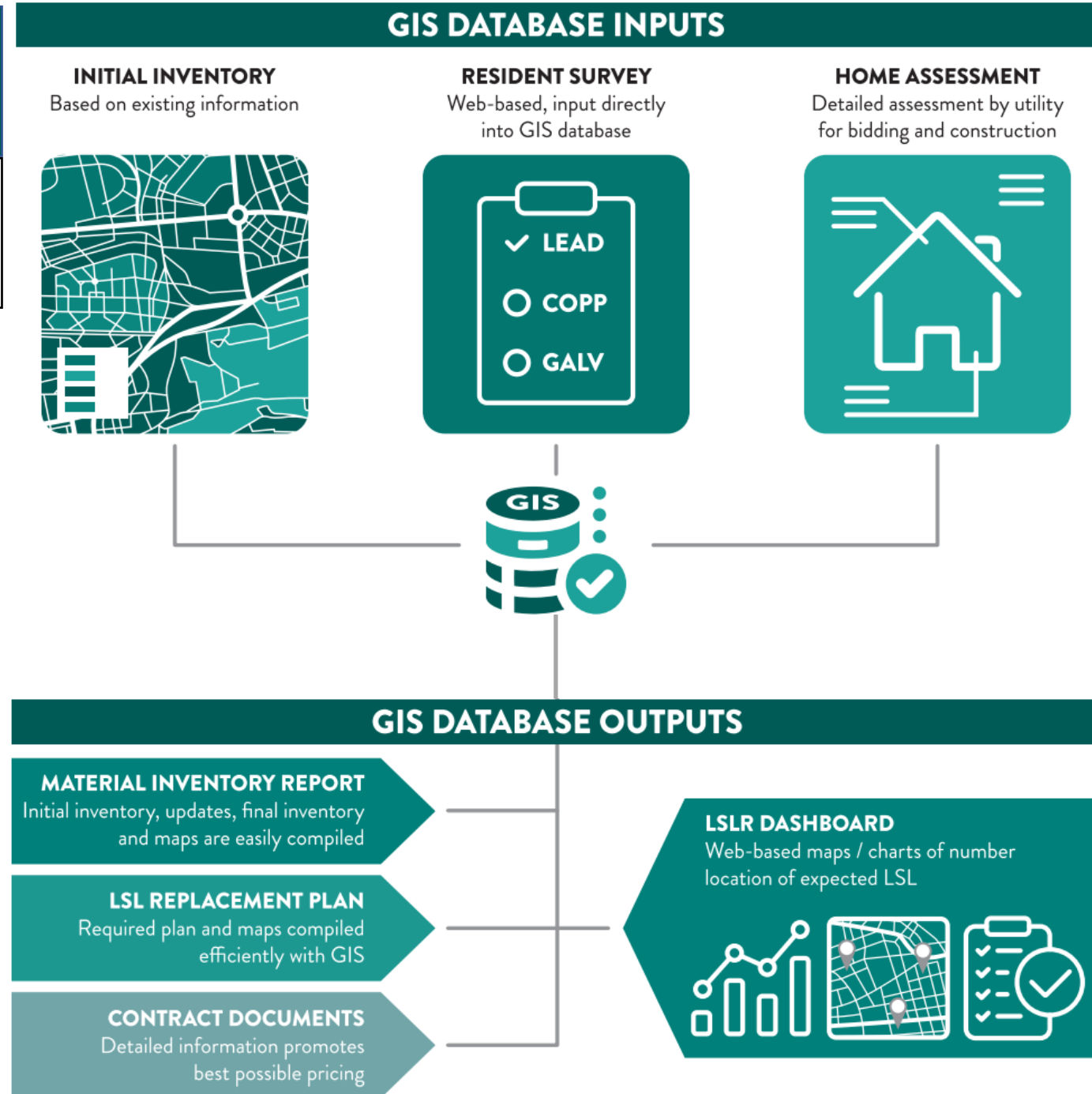
Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
2	3	4	5	6	7
1:15pm LSLR Home Assessment - bill white; Your Home; Village of Carpentersville	8:00am LSLR Home Assessment - Maria G Mora Tapia ; Your Home; Village of ... 8:45am LSLR Home Assessment - douglas bauer; Your Home; Village of ... 9:30am LSLR Home Assessment - therese hines; Your Home; Village of ... 11:00am LSLR Home Assessment - Dan...	7:15am LSLR Home Assessment - Marc... 8:00am LSLR Home Assessment - Ron... 11:00am LSLR Home Assessment - Mig... 1:00pm LSLR Home Assessment - Ron ...	12:30pm LSLR Home Assessment - Jason Marshall; Your Home; Village of Carpe... 1:30pm LSLR Home Assessment - Sebastian; 14 Elm Ave, Carpentersville... 2:00pm Canceled: LSLR Home Assessment - Patt; 15 Elm Ave, Carpe... 2:45pm LSLR Home Assessment - Larry...	7:30am LSLR Home Assessment - Blakey; 2 Illinois St, East Dundee, Illinois 60118, United States; Village o... 2:00pm LSLR Home Assessment - Cheryl Svoboda; Your Home; Village of Carp... 3:30pm LSLR Home Assessment - David Johnson; Your Home; Village of Carpe...	
9	10	11	12	13	14
8:00am LSLR Home Assessment - Jim Taylor; Your Home; Village of Carpent... 9:30am Canceled: LSLR Home Assessm... 10:15am LSLR Home Assessment - Dav... 11:45am LSLR Home Assessment - Mar... 1:00pm LSLR Home Assessment - Don...	8:00am LSLR Home Assessment - Chris Jones; Your Home; Village of Carpentersville 10:45am LSLR Home Assessment - glenn wells; Your Home; Village of Carpen... 12:00pm LSLR Home Assessment - Jack Moaur; 21 Elm Ave; Village of Carpe...	8:00am LSLR Home Assessment - dems... 8:30am LSLR Home Assessment - Hello... 9:30am LSLR Home Assessment - Jack ... 10:30am LSLR Home Assessment - Gail... 11:00am LSLR Home Assessment - Jas...	9:00am LSLR Home Assessment - Aaro... 10:00am LSLR Home Assessment - Stev... 10:30am LSLR Home Assessment - Mar... 11:15am LSLR Home Assessment - Civi... 1:00pm LSLR Home Assessment - Matt...	8:00am LSLR Home Assessment - Lori ... 9:30am LSLR Home Assessment - Felip... 10:15am LSLR Home Assessment - Alp... 11:00am LSLR Home Assessment - JoA... 1:15pm LSLR Home Assessment - Tim ... 3:30pm LSLR Home Assessment - Matt...	
16	17	18	19	20	21
8:45am LSLR Home Assessment - Chris... 9:30am LSLR Home Assessment - Kevin... 11:00am LSLR Home Assessment - Lyn... 12:00pm LSLR Home Assessment - Dia... 1:00pm LSLR Home Assessment - Kar... 3:30pm LSLR Home Assessment - John...	8:00am LSLR Home Assessment - Jennifer Dillow; Your Home; Village of Carpentersville 3:00pm Canceled: LSLR Home Assessment - Steven Sawyer; Your Home; Village of Carpentersville		11:00am LSLR Home Assessment - Jerry Looze; Your Home; Village of Carpent... 12:00pm LSLR Home Assessment - Dav... 12:30pm LSLR Home Assessment - Mark... 3:00pm LSLR Home Assessment - Kara ...	10:00am LSLR Home Assessment - Chri... 1:00pm LSLR Home Assessment - Lou... 2:00pm LSLR Home Assessment - Jerry ... 2:30pm LSLR Home Assessment - Dave... 3:30pm LSLR Home Assessment - Alisa... 4:15pm LSLR Home Assessment - Dian...	
23	24	25	26	27	28
7:30am Canceled: LSLR Home Assessment - James Smith; Your Home... 9:30am LSLR Home Assessment - Mich... 10:15am LSLR Home Assessment - I Lo... 12:30pm LSLR Home Assessment - Will... 3:30pm LSLR Home Assessment - Mari...	7:30am LSLR Home Assessment - Tiffany Budoff; Your Home; Village of Carpentersville 4:00pm LSLR Home Assessment - Gregg Capocasa; 138 N Wisconsin St, Carpentersville, Illinois 60110, United States; Village of Carpentersville	2:00pm LSLR Home Assessment - Beverly Mirs; 128 Hattie Ave, Carpentersville, Illinois 60110, United States; Village o... 2:45pm LSLR Home Assessment - John Schultz; Your Home; Village of Carpe... 3:30pm LSLR Home Assessment - James Schultz; Your Home; Village of Carpe...	8:30am LSLR Home Assessment - Jaso... 9:00am LSLR Home Assessment - Livet... 11:00am LSLR Home Assessment - Gio... 12:00pm LSLR Home Assessment - Jay... 2:00pm LSLR Home Assessment - Rayl...	10:15am LSLR Home Assessment - Barb Warner; Your Home; Village of Carpentersville 11:00am Canceled: LSLR Home Assessment - Gloria bertini; Your Home; Village of Carpentersville	3:30pm LSLR Home Assessment - Nick Rutka; Your Home; Village of Carpentersville
30	31	Jun 1	2	3	4
	11:00am LSLR Home Assessment - Ala... 1:00pm LSLR Home Assessment - Pat b... 2:00pm LSLR Home Assessment - Joy b... 3:00pm LSLR Home Assessment - Wen... 3:30pm LSLR Home Assessment - Rich... 4:30pm LSLR Home Assessment - Bruc...	2:30pm LSLR Home Assessment - Lori Grandsard; Your Home; Village of Carpentersville	9:00am LSLR Home Assessment - Tony Locascio; Your Home; Village of Carpentersville 10:00am LSLR Home Assessment - Diane Campbell; 15 N Lord Ave, Carpentersville, Illinois 60110, United States; Village of Carpentersville		



WATER SERVICE LINE MATERIAL INVENTORY

IMPLEMENTATION

- ❖ Material Inventory is address-based.
- ❖ Inventory changes throughout the LSLR process.
- ❖ Implementation made easier with a well-designed GIS





DESIGN



DESIGN

HOME ASSESSMENTS

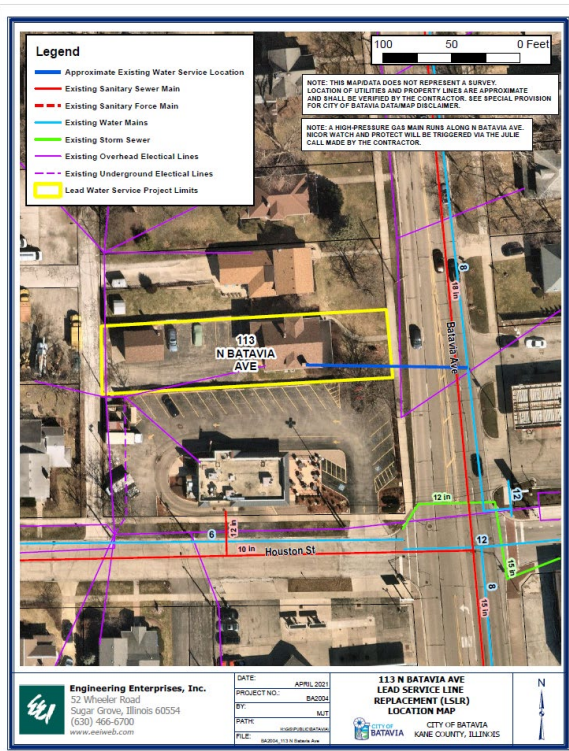
DESIGNED TO ELIMINATE CONSTRUCTION UNKNOWNNS

- Inventory data is used to create resident information sheets and photo sheets for each address.
- ArcGIS data is used to create aerial exhibits showing the approximate service location and approximate utility locations.

Detailed project manuals help Contractors during bidding process.

Project manuals can be customized to meet project needs.

PROJECT MANUAL BASICS



113 N BATAVIA AVE	
OWNER NAME:	John Doe
OWNER PHONE NUMBER:	(123) 345-6789 (Cell)
OWNER EMAIL:	johndoe@gmail.com
RENTAL PROPERTY:	Rental Property
BEST TIME TO REACH:	Late Morning 9:00 AM - 12:00 PM
PETS/CHILDREN:	Neither

WATER SERVICE	
APPROXIMATE WATER SERVICE LENGTH TO BE RELACED:	155 feet
METER OBSTRUCTION:	None
SERVICE MATERIAL (PUBLIC/PRIVATE):	Lead/Lead
PROPOSED WATER SERVICE LINE TYPE K / PROPOSED METER SIZE:	1" / 3/4"
ENTRY POINT:	Comes through the basement floor
B-BOX LOCATION:	Parkway Depth: 5'
REPLACEMENT TYPE:	From Watermain to Meter
WATER MAIN	
SIZE:	8"
MATERIAL:	Cast Iron
LOCATION:	Street

BUILDING CONSTRUCTION	
FOUNDATION:	Basement
FINISHED/UNFINISHED:	Unfinished
FOUNDATION MATERIAL:	Cinder block
FLOOR MATERIAL:	Bare Concrete
BASEMENT INGRESS / EGRESS	From an outside bulkhead & door

* CONTRACTOR TO CONFIRM ALL MATERIALS AND MEASUREMENTS PRIOR TO CONSTRUCTION

LANDSCAPE CONSIDERATION: Yes
COMMENTS: N/A



113 N. BATAVIA AVENUE



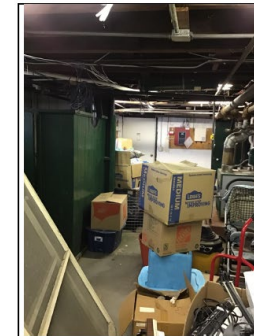
EXTERIOR FACING WEST



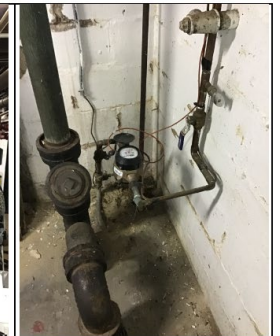
EXTERIOR FACING WEST



113 N. BATAVIA AVENUE



INTERIOR



INTERIOR





CONSTRUCTION



CONSTRUCTION

POTHOLING

➤ Field crews can enter pothole data in real time using mobile devices.

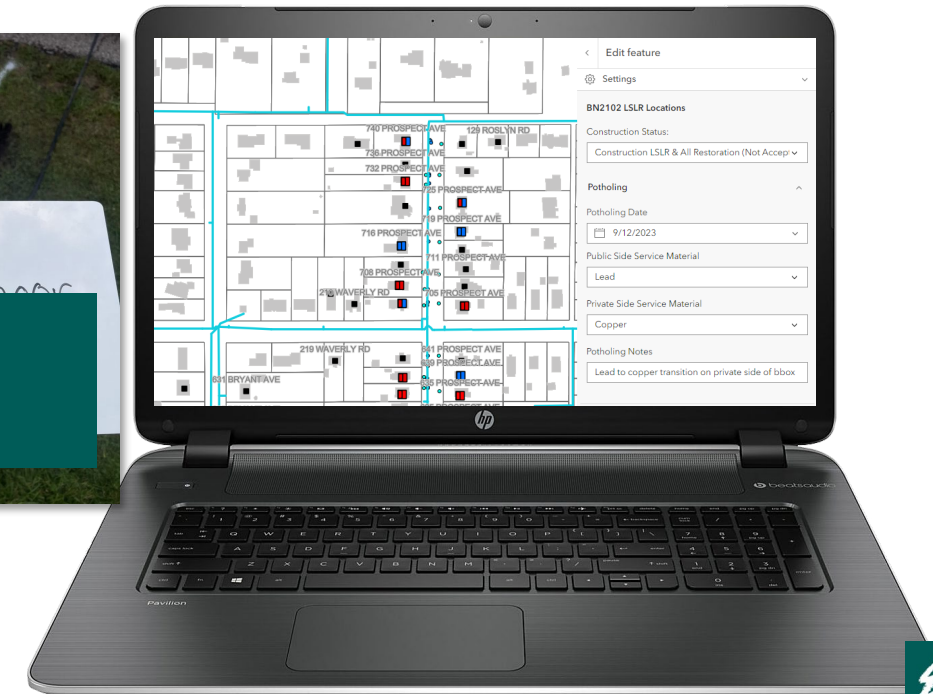
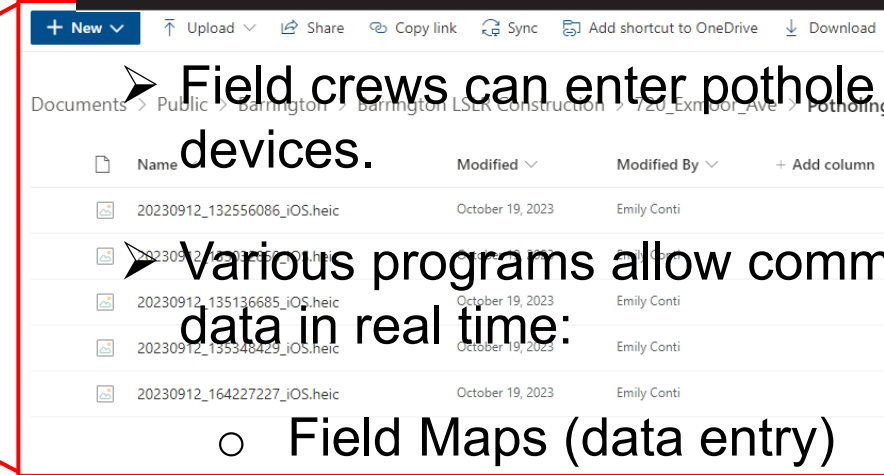
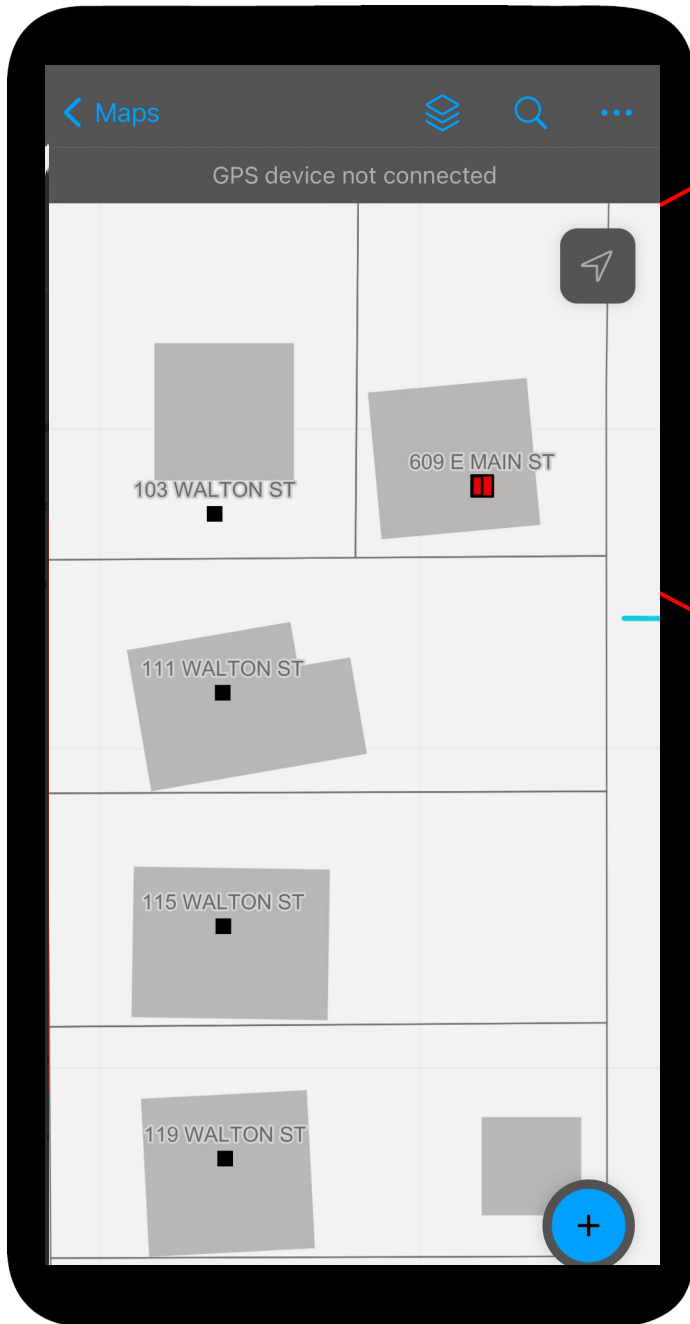
➤ Various programs allow communities to map and track pothole data in real time:

- Field Maps (data entry)

- SharePoint (photos)

➤ Mobile or Desktop View

**CUSTOMIZED TO MEET
COMMUNITY'S NEEDS**



CONSTRUCTION

TEMPORARY CONSTRUCTION EASEMENT

- Online options such as Adobe-Sign or DocuSign help facilitate TCE signature.
- Eliminates the need to file and process hard copies.
- Reduces time spent going door-to-door for TCE signatures pre-construction.
- Residents can easily sign TCE from mobile or desktop device.

Adobe Acrobat Sign

Jeremy Barkei requests your signature on
City of Batavia - Temporary Construction Easement Agreement_123 Main St

Review and sign

Please review and complete "City of Batavia - Temporary Construction Easement Agreement_123 Main St".

JEREMY BARKEI
jbarkei@bataviail.gov

After you sign **City of Batavia - Temporary Construction Easement Agreement_123 Main St**, the agreement will be sent to jbarkei@cityofbatavia.net and Steve Dennison. Then, all parties will receive a final PDF copy by email.

Don't forward this email: If you don't want to sign, you can [delegate](#) to someone else.

Powered by
Adobe Acrobat Sign

By proceeding, you agree that this agreement may be signed using electronic or handwritten signatures.

Request e-signatures

ADD FORM FIELDS FOR

1. Jeremy Barkei (my...)
2. Jeremy Barkei

ADD FIELDS

- Field templates
- E-signature
- Initials
- Recipient name
- Recipient email
- Date of signing
- Text
- Date
- Number
- Checkbox
- Radio button

View more

STEP 3/3 **Review and send**

AGREEMENT AND TEMPORARY CONSTRUCTION EASEMENT AGREEMENT FOR LEAD SERVICE LINE REPLACEMENT PROJECT

I, as the owner of Batavia, Illinois, identified by Property Index Number ("Property") have elected to participate in the City of Batavia's Lead Service Line Replacement Program ("Program") and hereby state:

I am the legal owner of the Property described above.

My Property is currently being serviced by a lead service line.

The City of Batavia ("City") has established a lead service line replacement program, and I wish to participate in the Program.

I understand that in order to participate in the Program, I must grant a temporary construction easement for all activities related to the replacement of a lead service line currently running through my Property, as a blanket easement over my Property.

I agree to grant to the City the above-described easement for the purposes of replacing the lead service line pursuant to the Program.

In consideration of the sum of one dollar (\$1.00) and other good and valuable consideration, receipt and sufficiency of which are hereby acknowledged, ("Owner") and the City of Batavia, agree and bind themselves as follows:

1. Owner hereby grants the City, its contractors, and its representatives, a blanket easement

City of Batavia - Temporary Construction Easement Agreement_123 Main St

Next required field 1

6. This Agreement shall be binding upon the Parties hereto and their representatives, contractors, successors, and assigns.

7. By signing this Agreement, Owner acknowledges and agrees that Owner has chosen to participate in the Program freely and voluntarily, that Owner is under no compulsion to participate and Owner is signing this Agreement and will agree to be bound by all of its terms freely and voluntarily.

8. Owner understands and acknowledges that, if this Agreement offer is not accepted within ten (10) days from the date of the offer as indicated below, Owner may not be eligible for lead service line replacement under the same terms in the future.

9. This Agreement was offered to the Owner ☒ on 02/15/2024.

IN WITNESS WHEREOF, the Owner hereby ☒ accepts ☐ declines the offer, and the Parties hereto have executed this Agreement as of the day and year above first written.

OWNER(S):
Emily Conti
Print Name:
[Click here to sign](#)
Sign Name
Date: Feb 19, 2024

CITY OF BATAVIA:
Jeremy P. Barkei
Print Name:
Sign Name
Its: Water & Sewer Utility Supt.



CONSTRUCTION

SHARED CALENDAR

- Shared calendar (i.e. TeamUp, Microsoft, Google) between Contractor, Engineer and Municipality for all scheduled construction activities to view in real time.
- Options to color code different construction activities.
- Mobile or Desktop view available.

ITEMS TO ADD TO SHARED CALENDAR

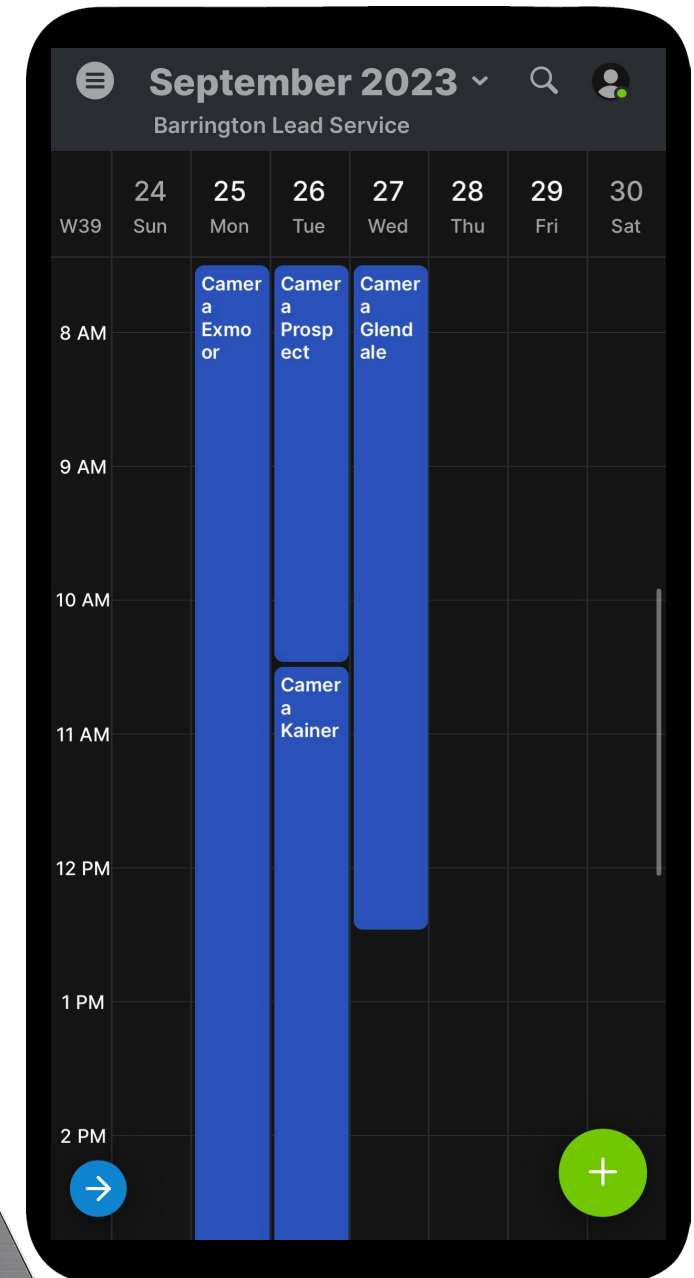
Televising

Homeowner Pre-Con Meetings

Scheduled Replacements

Restoration

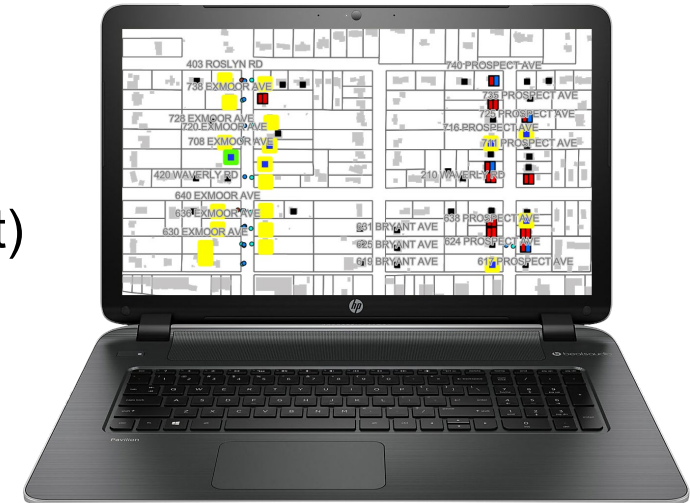
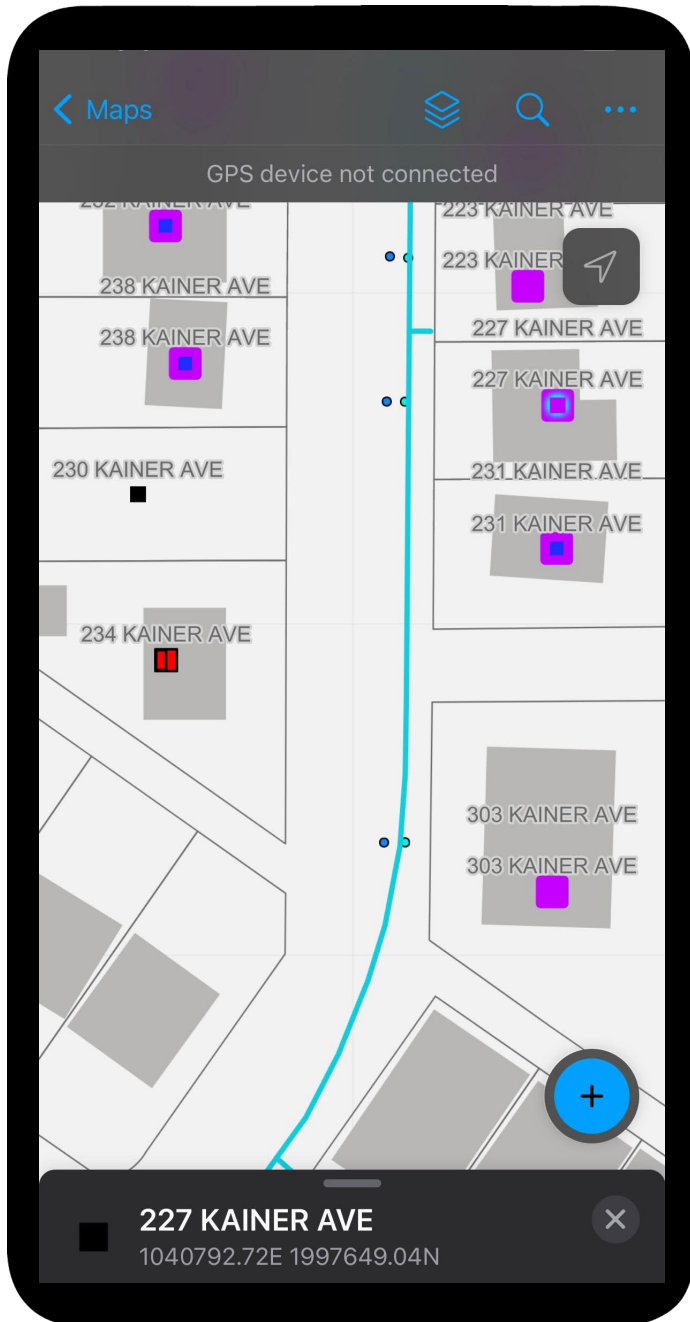
Potholing



CONSTRUCTION

FIELD DATA TRACKING

- Field crews can enter replacement data in real time using mobile devices.
- Various data is collected and stored:
 - Private and Public Material (from Potholing)
 - Location of Fittings Shot with Trimble Unit
 - Restoration Status & Date
 - Construction Status & Date
 - Construction Photos (SharePoint)
 - Field Data
- Mobile or Desktop View and Access.



CONSTRUCTION

Document Tracking

- Shared sites like SharePoint allow all documents to be stored via Cloud and to be accessed at any time from a mobile or desktop device.
- Directly linked in Field Maps.
- Mobile or Desktop Access.

ITEMS STORED IN SHARED FOLDER (VIA CLOUD)

Fillable Quantity Sheet PDFs

IDPH Separation Waivers

Photos (Potholing, Pre-Con, Construction, Restoration, etc.)

Punch List Documentation

Barrington LSLR - Year 1 - Daily Quantity Tracking Sheet

Address: 227 Kainor Ave

Date: 11/9/23

#	PAY ITEM#	UNITS
1	CONTRACTOR RESIDENT COORDINATION	1 EACH
2	PRIVATE UTILITY LOCATE	EACH
3	TREE ROOT PRUNING	EACH
4	TREE REMOVAL (6-16 UNIT DIAMETER)	UNIT
5	TREE REMOVAL (15+ UNIT DIAMETER)	UNIT
6	REPLACEMENT TREE, 2" 25' CALIPER (MIN.) BALLED AND BURLAPPED	EACH
7	ASBESTOS ABATEMENT	EACH
8	EXPLORATORY EXCAVATION (ROW)	EACH
9	WATER SERVICE ABANDONMENT	EACH
10	LOCATE BURIED B-BOX	EACH
11	POTABLE EXISTING WATER SERVICE	EACH
12	FULL REPLACEMENT FROM MAIN TO METER, 3/4-INCH	EACH
13	FULL REPLACEMENT FROM MAIN TO METER, 1-INCH	EACH
14	FULL REPLACEMENT FROM MAIN TO METER, 1-1/4-INCH	EACH
15	PARTIAL REPLACEMENT FROM MAIN TO B-BOX, 3/4-INCH	EACH
16	PARTIAL REPLACEMENT FROM MAIN TO B-BOX, 1-INCH	1 EACH
17	PARTIAL REPLACEMENT FROM MAIN TO B-BOX, 1-1/4-INCH	
18	PARTIAL REPLACEMENT FROM B-BOX TO METER, 3/4-INCH	
19	PARTIAL REPLACEMENT FROM B-BOX TO METER, 1-INCH	
20	PARTIAL REPLACEMENT FROM B-BOX TO METER, 1-1/4-INCH	
21	WATER SERVICE LINE PUBLIC, TYPE K, 3/4-INCH	
22	WATER SERVICE LINE PUBLIC, TYPE K, 1-INCH	
23	WATER SERVICE LINE PUBLIC, TYPE K, 1-1/4-INCH	
24	WATER SERVICE CONNECTION AT METER	
25	WATER HEATER EXTENSION TANK	
26	GROUNDING REPLACEMENT	
27	WATER SERVICE PIPE INSTALLATION, TYPE L 3/4-INCH	
28	WATER SERVICE PIPE INSTALLATION, TYPE L 1-INCH	
29	WATER SERVICE PIPE INSTALLATION, TYPE L 1-1/4-INCH	
30	SANITARY SEWER SERVICE REPAIR, PVC SDR-26, 8-INCH (ROW)	
31	SANITARY SEWER AND STORM SEWER TELEVIEWING	
32	GRASS TILE REPAIR	
33	POC SIDEWALK REMOVAL AND REPLACEMENT	
34	CONCRETE CURB AND GUTTER REMOVAL AND REPLACEMENT	
35	HOT MIX ASPHALT PAVEMENT REPAIR	
36	HOT MIX ASPHALT PAVEMENT PATCH, 4-INCH	
37	HOT MIX ASPHALT PAVEMENT PATCH, 6-INCH	
38	HOT MIX ASPHALT PAVEMENT PATCH, 8-INCH	
39	POC DRIVEWAY REMOVAL AND REPLACEMENT	
40	POC DRIVEWAY REMOVAL AND REPLACEMENT	
41	BRICK AND CONCRETE PAVERS SIDEWALK OR DRIVEWAY REPAIR	
42	NON-SPECIAL, NON-HAZARDOUS SOIL WASTE DISPOSAL	
43	RESTORATION - SEED AND BLANKET	
44	SUPPLEMENTAL WATERING	
45	DUST CONTROL - MECHANICAL SWEEPING	
46	TRAFFIC CONTROL AND PROTECTION	

LEAD WATER SERVICE LINE REPLACEMENT - IDPH VARIANCE

Address: 227 Kainor Ave Date of Replacement: 11/9/23

☐ Existing water service is in compliance with the separation requirements of Title 77 II. Adm. Code Section 890.1150

☐ Existing water service is not in compliance with the separation requirements of Title 77 II. Adm. Code Section 890.1150 (provide explanation below)

☒ Sanitary service location was not identified

Brief description of why compliance was not practicable:

The existing tap was reused.

Names of individuals who performed the replacement:

Holiday Construction

Water Service Line Material

Existing: ☐ Lead ☐ Galvanized (Downstream of lead)

New: ☐ Type K Copper ☐ Other:

Installation Method Used

☒ Open Cut

☐ If the installation was conducted via open cut trench, and the new service is not Type K Copper, the service line was encased with pressure rated pipe, in accordance with Title 77 II. Adm. Code Section 890.1150 b) 3).

☐ Trenchless

Additional Notes:

☐ There were no known leaks, cracks, or damage to the sanitary sewer, building sewer, or building drain at the time of service line replacement.

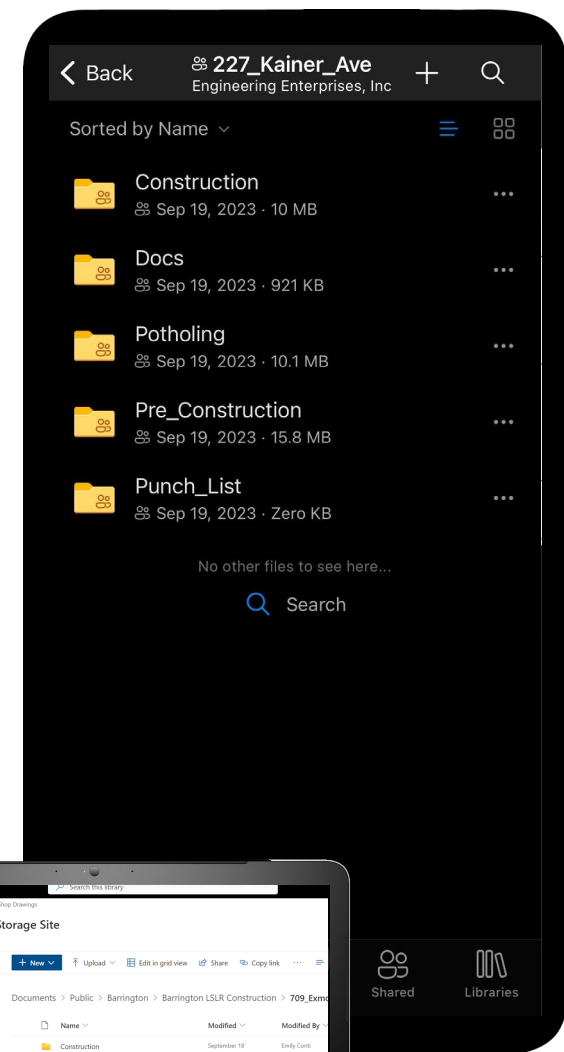
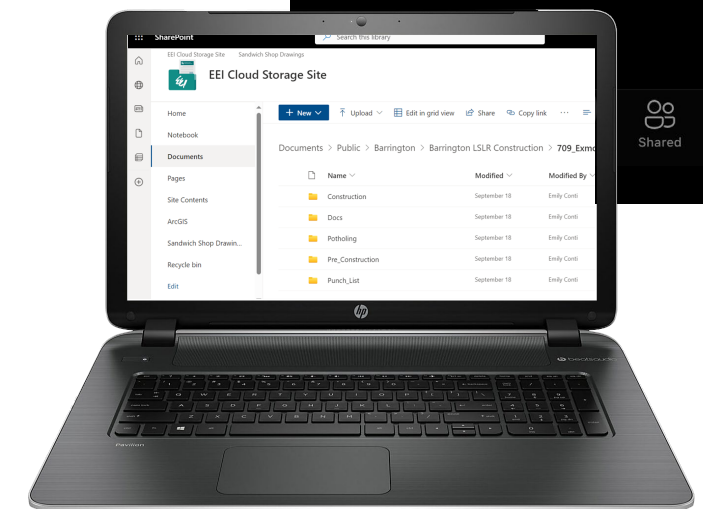
☐ There is no known evidence of sewage related contamination of drinking water at this property.

☐ An observed leak, crack, or damage to the sanitary sewer, building sewer, or building drain was repaired prior to replacing the water service.

Resident Engineer: Sydney Shaffer

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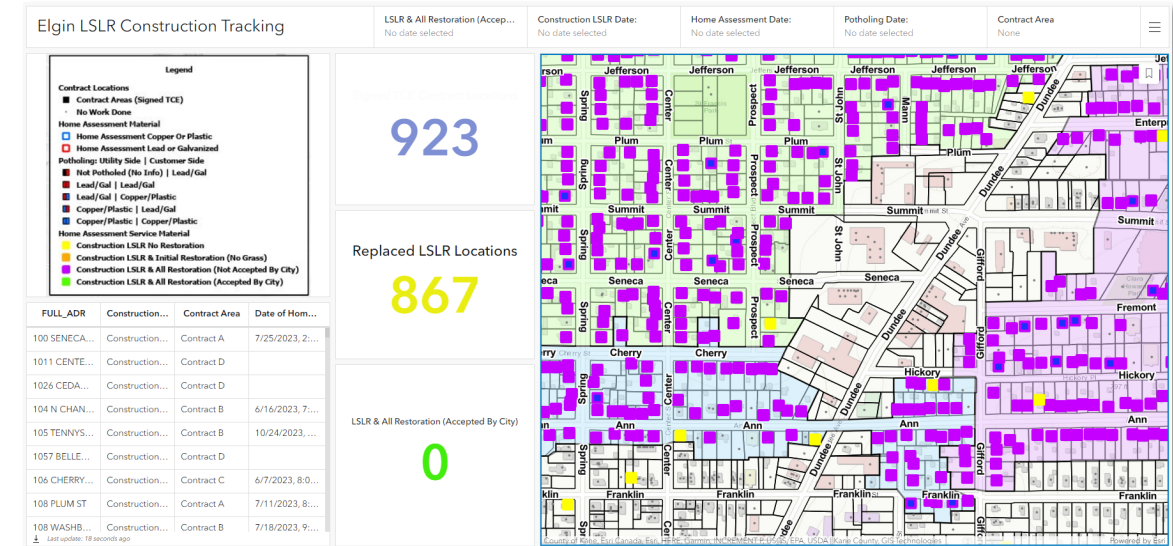


CONSTRUCTION

LIVE DASHBOARD

CUSTOMIZED TO MEET COMMUNITY'S NEEDS

- Using a service such as ArcGIS Field Maps allows communities to map and track service replacements and potholing in real time.
- Dashboards can be filtered to sort for specific data or date ranges.



ITEMS TO DISPLAY ON DASHBOARDS

Construction / Restoration Status

Total Replacements to Date

TCE Status

Various Contract Areas

... and Many More!





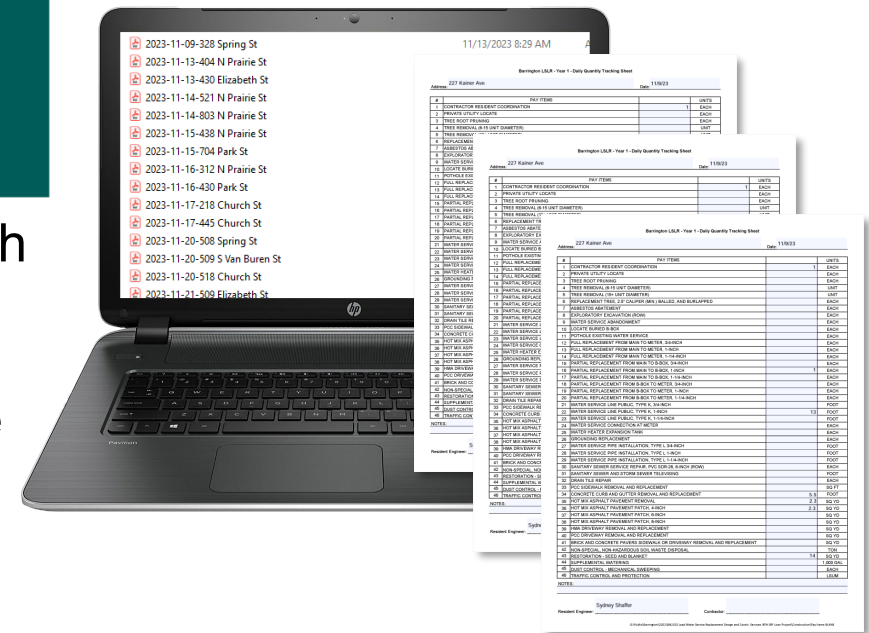
CONSTRUCTION MANAGEMENT



CONSTRUCTION MANAGEMENT

QUANTITY TRACKING

- Fillable PDFs during Construction are compiled in a folder with Excel Quantity Tracking Program.
- Excel program designed to read fillable PDFs and summarize all quantities to date.
- Excel program generates quantity summaries and pay estimates with the push of a button.



QUANTITY TRACKING AND PAY ESTIMATES GENERATED

Quantity Tracking – Summarized by Date

Quantity Tracking – Summarized by Address

Engineer's Pay Estimates

CUSTOMIZED TO MEET PROJECT NEEDS!

PAYABLE TO: BRANDT EXCAVATING INC. ADDRESS: 385 E HOOVER ST, MORRIS, IL 60450		2022/2023 LEAD AND GALVANIZED STEEL WATER SERVICE LINE REPLACEMENT PROJECT CITY OF BATAVIA, ILLINOIS				FROM: 5/3/2023 TO: 5/26/2023					
ITEM NO.	ITEMS	UNIT	QUANTITY	AWARDED VALUE	ADDED QUANTITY	DEDUCTED QUANTITY	UNIT PRICE	COMPLETED QUANTITY	COMPLETED THIS VALUE	TOTAL QUANTITY	TOTAL VALUE
1	CONTRACTOR/RESIDENT COORDINATION	EACH	200	\$ 126,000.00			\$450.00	34.00	\$ 17,550.00	34.00	\$ 17,550.00
2	PRIVATE UTILITY LOCATE	EACH	205	\$ 71,750.00			\$350.00		\$ -	34.00	\$ 11,900.00
3	TREE ROOT PRUNING	EACH	133	\$ 13,300.00			\$100.00		\$ -	0.00	\$ -
4	TREE REMOVAL, 6-15 UNIT DIAMETER	UNIT	82	\$ 4,100.00			\$50.00		\$ -	0.00	\$ -
5	TREE REMOVAL (OVER 15 UNIT DIAMETER)	UNIT	414	\$ 20,700.00			\$50.00		\$ -	0.00	\$ -
6	REPLACEMENT TREE, 2" S" CALIPER (MIN.) BALLED, AND BURLAPPED	EACH	21	\$ 21,000.00			\$1,000.00		\$ -	0.00	\$ -
7	ASBESTOS ABATEMENT	EACH	41	\$ 41,000.00			\$1,000.00		\$ -	0.00	\$ -
8	EXPLORATORY EXCAVATION (ROW)	EACH	48	\$ 48,000.00			\$1,000.00	10.00	\$ 10,000.00	10.00	\$ 10,000.00
9	SELECT GRANULAR BACKFILL	CUYD	3,463	\$ 34,630.00			\$10.00	108.00	\$ 1,080.00	108.00	\$ 1,080.00
10	WATER SERVICE ABANDONMENT	EACH	253	\$ 253,000.00			\$1,000.00	21.50	\$ 21,500.00	21.50	\$ 21,500.00
11	WATER SERVICE CONNECTION AT MAIN, 1.5-INCH	EACH	191	\$ 478,400.00			\$2,500.00	23.00	\$ 57,500.00	23.00	\$ 57,500.00
12	WATER SERVICE CONNECTION AT MAIN, 1.5-INCH	EACH	5	\$ 22,500.00			\$4,500.00	2.00	\$ 9,000.00	2.00	\$ 9,000.00
13	WATER SERVICE CONNECTION AT B-BOX, 1-INCH	EACH	95	\$ 237,500.00			\$2,500.00	17.00	\$ 42,500.00	17.00	\$ 42,500.00
14	WATER SERVICE LINE, TYPE K, 1.5-INCH	FOOT	145	\$ 3,375.00			\$23.25	160.50	\$ 3,723.75	160.50	\$ 3,723.75
15	WATER SERVICE LINE, TYPE K, 1.5-INCH	FOOT	145	\$ 3,375.00			\$23.25	160.50	\$ 3,723.75	160.50	\$ 3,723.75
16	WATER SERVICE CONNECTION AT METER	EACH	207	\$ 828,000.00			\$4,000.00	24.00	\$ 96,000.00	24.00	\$ 96,000.00
17	WATER SERVICE PIPE INSTALLATION, TYPE L, 1-INCH	FOOT	20	\$ 0.20			\$0.01	20.00	\$ 0.20	20.00	\$ 0.20
18	WATER SERVICE PIPE INSTALLATION, TYPE L, 3/4-INCH	FOOT	615	\$ 6.15			\$0.01	44.00	\$ 0.44	44.00	\$ 0.44
19	WATER SERVICE PIPE INSTALLATION, TYPE L, 1/2-INCH	FOOT	5	\$ 0.05			\$0.01		\$ -	0.00	\$ -
20	SANITARY SEWER SERVICE REPAIR, PVC 30" x 36", 6-INCH (ROW)	EACH	133	\$ 1,330.00			\$10.00	3.00	\$ 30.00	3.00	\$ 30.00
21	SANITARY SEWER AND STORM SEWER TELEVISIONS	FOOT	7,500	\$ 37,500.00			\$5.00	127.00	\$ 6,350.00	127.00	\$ 6,350.00
22	PCC SIDEWALK REMOVAL AND REPLACEMENT	SQYD	3,644	\$ 32,796.00			\$9.00	50.00	\$ 450.00	50.00	\$ 450.00
23	CONCRETE CURB AND GUTTER REMOVAL AND REPLACEMENT	FOOT	2,152	\$ 77,472.00			\$36.00		\$ -	0.00	\$ -
24	HOT MIX ASPHALT PAVEMENT REMOVAL	SQYD	1,347	\$ 13,470.00			\$10.00	99.00	\$ 990.00	99.00	\$ 990.00
25	HOT MIX ASPHALT PAVEMENT PATCH, 4-INCH	SQYD	1,347	\$ 67,350.00			\$57.00		\$ -	0.00	\$ -
26	HMA DRIVEWAY REMOVAL AND REPLACEMENT	SQYD	74	\$ 6,230.00			\$85.00	4.00	\$ 340.00	4.00	\$ 340.00
27	PCC DRIVEWAY REMOVAL AND REPLACEMENT	SQYD	271	\$ 46,070.00			\$170.00		\$ -	0.00	\$ -
28	CONTROLLED LOW-STRENGTH MATERIAL - BACKFILL	CUYD	151	\$ 15,100.00			\$100.00		\$ -	0.00	\$ -
29	TEMPORARY PAVEMENT PATCH	SQYD	60	\$ 6,000.00			\$100.00		\$ -	0.00	\$ -
30	NON-SPECIAL, NON-HAZARDOUS SOIL WASTE DISPOSAL	TON	50	\$ 2,500.00			\$50.00		\$ -	0.00	\$ -
31	INTERIOR RESTORATION	EACH	47	\$ 37,600.00			\$800.00		\$ -	0.00	\$ -
32	SODDING SPECIAL	SQYD	1,723	\$ 30,525.00			\$17.50		\$ -	0.00	\$ -
33	TEMPORARY EROSION CONTROL, SEEDING	SQYD	1,723	\$ 30,525.00			\$17.50		\$ -	0.00	\$ -
34	DUST CONTROL - MECHANICAL SWEEPING	EACH	1	\$ 6,400.00			\$400.00		\$ -	0.00	\$ -
35	TRAFFIC CONTROL AND PROTECTION	LSUM	1	\$ 83,000.00			*****	0.10	\$ 8,300.00	0.10	\$ 8,300.00
36	SUPPLEMENTAL WATERING	EACH	50	\$ 40,000.00			\$800.00		\$ -	0.00	\$ -
VALUE AWARDED: *****				VALUE COMPLETED - THIS REQUEST: *****				- TO DATE: \$ 419,870.21			
MISCELLANEOUS EXTRAS AND CREDITS				VALUES				SUMMARY			
TOTAL MISCELLANEOUS EXTRAS AND CREDITS								TOTAL MISCELLANEOUS EXTRAS AND CREDITS \$ -			
TOTAL COMPLETED CONSTRUCTION COSTS								TOTAL COMPLETED CONSTRUCTION COSTS \$ 419,870.21			
DEDUCT RETAINAGE (10%)								DEDUCT RETAINAGE (10%) \$ 41,987.02			
TOTAL AMOUNT DUE TO CONTRACTOR								TOTAL AMOUNT DUE TO CONTRACTOR \$ 377,883.19			
				Pay Est. No. 1				Pay Est. No. 2			
				Pay Est. No. 3				Pay Est. No. 4			



**Questions or
Comments?**

THANK YOU

We value your time and appreciate the opportunity to present our offer/topic.



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