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AUG 01 2019

PUBLIC SERVICE
COMMISSION

COMMONWEALTH OF KENTUCKY

BEFORE THE PUBLIC SERVICE COMMISSION

In the Matter of:

APPLICATION OF GRAVES COUNTY)
WATER DISTRICT FOR AN ALTERNATIVE) CASE NO. 2018-00429
RATE ADJUSTMENT)

**RESPONSE OF GRAVES COUNTY WATER DISTRICT TO THE
COMMISSION'S ORDER OF JULY 29, 2019**

Pursuant to the Commission's Order of July 29, 2019, Graves County Water District ("Graves District") provides the following information:

1. Witnesses. Kevin Leonard, Water and Sewer Operations Manager of Mayfield Electric and Water Systems, will give testimony on Graves District's water loss detection and repair plan. Mr. Leonard will also provide a brief description of Graves District's immediate infrastructure replacement needs and their cost. Joey Morrow, Chair, Graves County Water District, and Eric Blake, Senior Consultant and Principal, The Prime Group LLC, will be available at the hearing to answer questions regarding the proposed rate adjustment and Graves District's general operations and management.

2. Exhibits. A list of the exhibits that Graves District expects to present at the hearing and a copy of each exhibit is attached to this Response. Graves District reserves the right to present additional exhibits at hearing should the need arise.

Dated: July 31, 2019

Respectfully submitted,

A handwritten signature in black ink, appearing to read "Gerald E. Wuetcher". The signature is written in a cursive style with a horizontal line underneath the name.

Gerald E. Wuetcher

Stoll Keenon Ogden PLLC

300 West Vine Street, Suite 2100

Lexington, Kentucky 40507-1801

Telephone: (859) 231-3017

Fax: (859) 259-3597

gerald.wuetcher@skofirm.com

Counsel for Graves County Water District

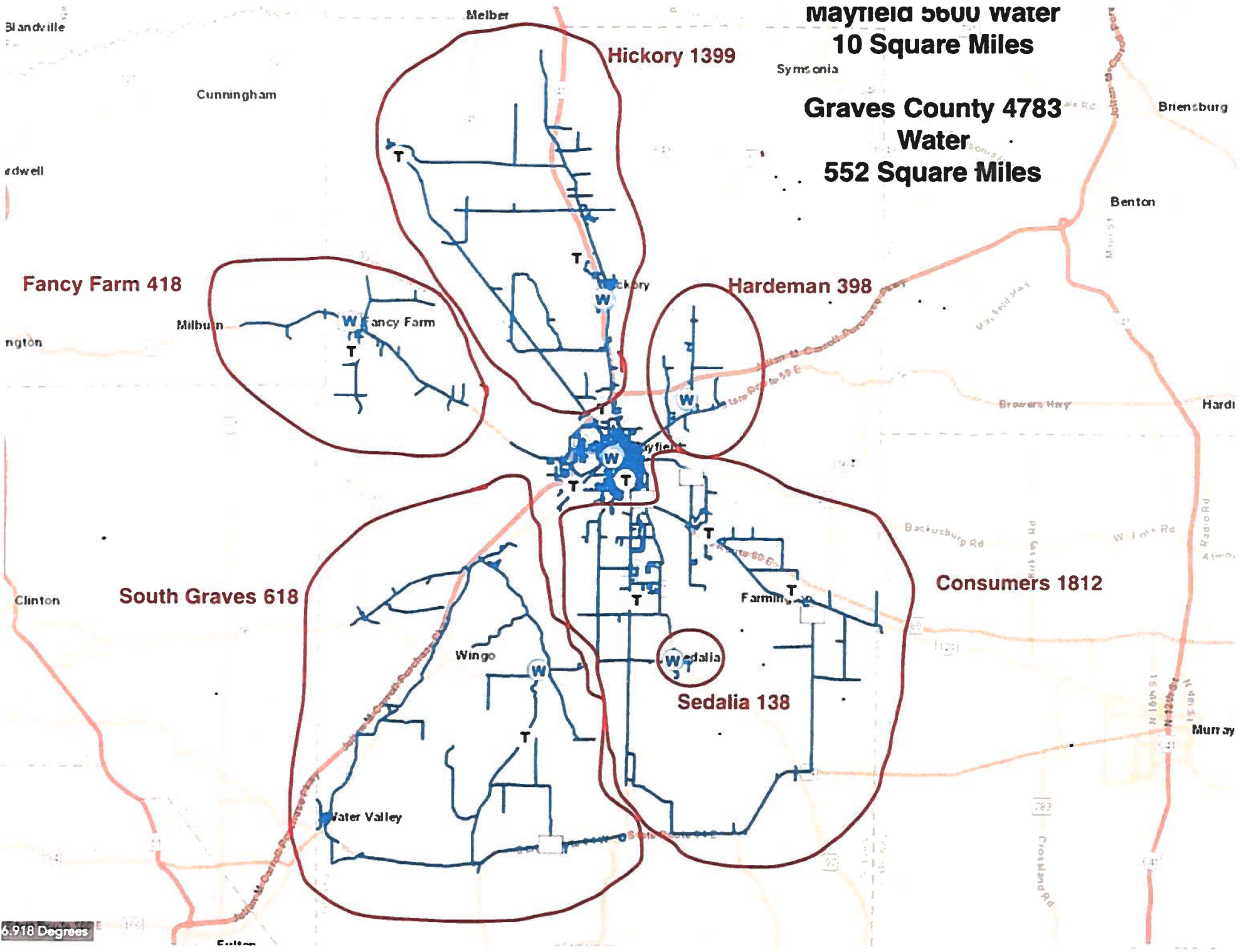
EXHIBIT LIST

<u>Exhibit</u>	<u>Title</u>
1	Presentation on Graves County Water District's Water Loss Detection and Repair Plan
2	Graves County Water District's Immediate Infrastructure Needs
3	Water Mains Requiring Immediate Replacement
4	Water Tank Inspection Quotes

EXHIBIT 1



Graves County Water Loss



**Mayfield 5600 water
10 Square Miles**

**Graves County 4783
Water
552 Square Miles**

Hickory 1399

Fancy Farm 418

Hardeman 398

South Graves 618

Sedalia 138

Consumers 1812

Steps to Leak Detection Program

- Determine area for DMA (District Metered Area)
- Verify all locations and meter numbers
- Install a sub-master meter
- Build a virtual location in the MDM (Meter Data Management)
- Review water loss in area served by Sub-master meter
- Deploy leak sensors/pick up after 24 hours
- Download and create tickets in the work order system
- Identify problem areas by downloaded info.
- Verify leak with listening device
- Call in locate for addresses effected
- Dispatch crew to repair leak

View Virtual Locations Water

Water

Display 9 records

Search

Virtual Location Name	Description	Start Date	End Date	Status
Sedalia	Sedalia Water Loss	2019-03-01		ACTIVE
Hardeman	Hardeman Water Loss	2016-01-01		ACTIVE
Fancy Farm	Fancy Farm Water Loss	2016-01-01		ACTIVE
Eastlimer Water	Consumers Water Loss	2016-01-01		ACTIVE
South Graves	South Graves Water Loss	2016-01-01		ACTIVE
Hickory	Hickory Water Loss	2016-01-01		ACTIVE
1710 Inception Meter	1710 Water Loss	2019-05-01		ACTIVE
Main Test Virtual Location	VL Test	2019-03-01		ACTIVE
VM Demo Test	VM Demo test	2018-01-02		ACTIVE

Showing 1 to 9 of 9 entries

Download Excel

Virtual Locations Per District
Can Be Run Daily, Weekly,
Monthly, Yearly



DETERMINE AREA FOR DMA

35 POSSIBLE DMA SITES

- COST OF APPROXIMATELY \$5,000.00 PER SITE FOR METER, INSTALLATION AND PROGRAMING.
- TOTAL COST ESTIMATED AT \$175,000



DMA MASTER METER

Statistics for Period

4410.000

Peak Day

840.000

Daily Average

551.250

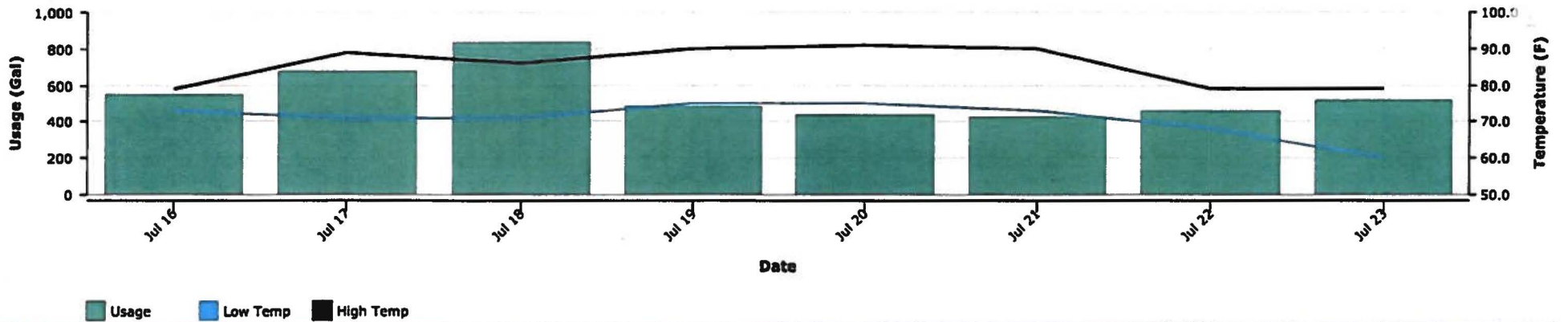
Location Statistics for Period

Total Usage	4410.000	Peak Day	840.000	Daily Average	551.250
Demand (Gal)					
Min Hourly	-240.000	Peak Hourly	270.000	Average Hourly	22.969

Virtual Location Usage

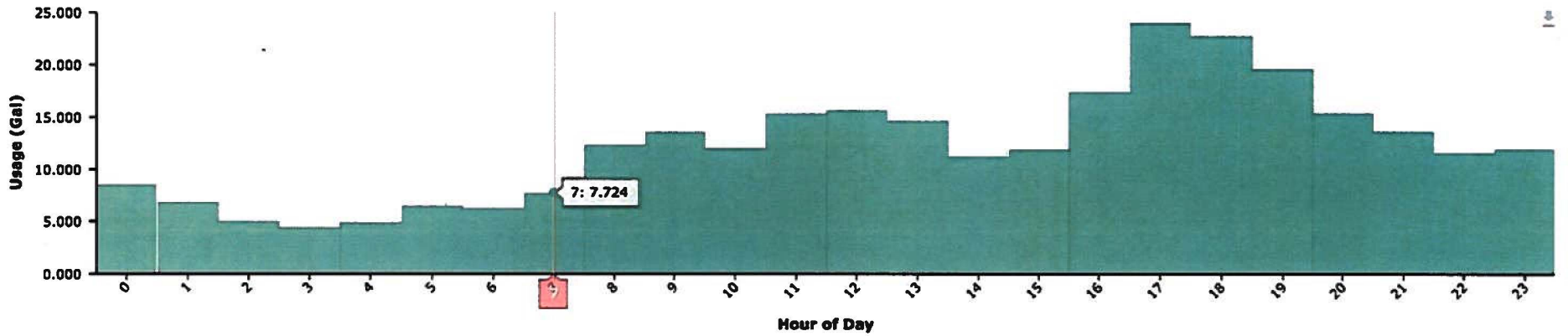
Location	Meter	Usage (Gal)	Percent Of Virtual Location
004192	B90969878	38280.000	53.056%
000243	B72358626	5070.000	7.027%
000253	B83030974	3530.000	4.893%
000199	B72358610	2920.000	4.047%
000311	B72358505	2600.000	3.604%
003042	B74809922	2150.000	2.98%
000229	B81389487	1850.000	2.564%
000213	B72358607	1680.000	2.328%
000272	B72358691	1460.000	2.024%

Daily Use



ie Low Temp High Temp

Water Average Hourly Use



Consumption Intervals

Bad Read (C) Zero Usage Low for Day Critical Peak High for Day Estimated Read Missing Read

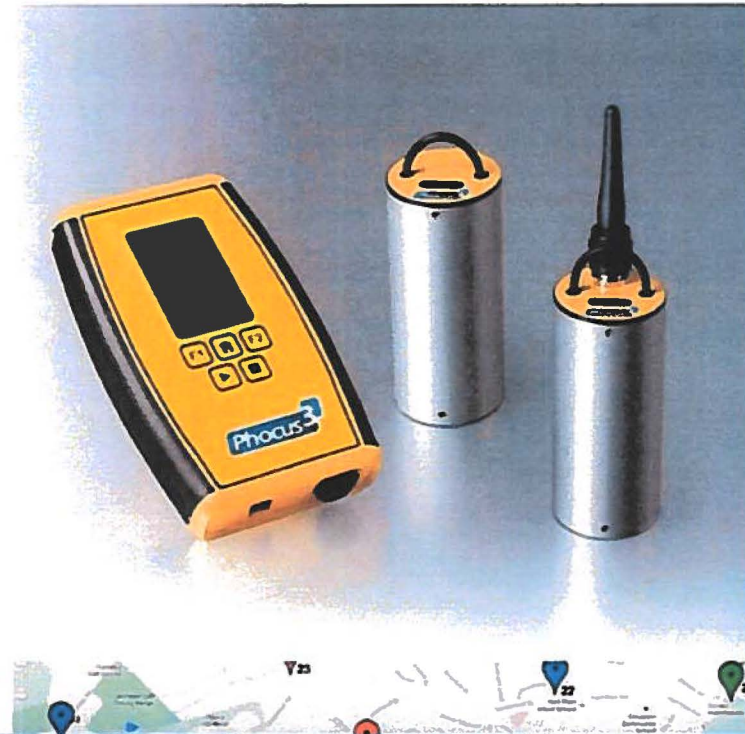
01:00	02:00	03:00	04:00	05:00	06:00	07:00	08:00	09:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	Daily Total
20.000	30.000	0.000	0.000	20.000	10.000	50.000	30.000	10.000	20.000	30.000	60.000	0.000	10.000	10.000	40.000	10.000	60.000	80.000	-30.000	70.000	-40.000	40.000	550.000
10.000	20.000	-20.000	20.000	10.000	70.000	20.000	20.000	50.000	10.000	10.000	60.000	0.000	120.000	40.000	-20.000	130.000	-100.000	20.000	50.000	40.000	50.000	30.000	680.000
20.000	30.000	20.000	20.000	40.000	10.000	20.000	20.000	60.000	20.000	270.000	0.000	30.000	40.000	70.000	0.000	20.000	50.000	0.000	30.000	40.000	40.000	20.000	840.000
20.000	30.000	10.000	40.000	10.000	10.000	30.000	20.000	0.000	0.000	260.000	-230.000	50.000	70.000	50.000	-20.000	30.000	30.000	0.000	-40.000	40.000	80.000	30.000	490.000
30.000	0.000	-10.000	0.000	40.000	20.000	20.000	20.000	30.000	-10.000	60.000	40.000	-20.000	30.000	20.000	20.000	10.000	-20.000	70.000	20.000	20.000	50.000	30.000	440.000
10.000	-20.000	30.000	20.000	30.000	10.000	0.000	50.000	0.000	10.000	70.000	0.000	0.000	40.000	10.000	50.000	-30.000	0.000	40.000	60.000	-20.000	50.000	10.000	430.000
20.000	0.000	0.000	30.000	10.000	30.000	30.000	10.000	40.000	80.000	0.000	-20.000	10.000	30.000	10.000	30.000	30.000	30.000	10.000	30.000	50.000	30.000	-40.000	460.000
20.000	30.000	10.000	20.000	0.000	20.000	-10.000	40.000	30.000	0.000	60.000	20.000	50.000	0.000	30.000	10.000	10.000	250.000	-240.000	20.000	30.000	20.000	50.000	520.000

Wireless noise logger for leak detection

Phocus3 is an advanced leak noise logger designed for detecting and localising water leakage. Wireless communications allows both 'lift and shift' or permanent distribution network operation. On site leakage results may be obtained via the Communications Module with detailed analysis carried out on the host software.

Features

- **One, two, three and nine channel models**
- **Rapid overnight identification of leaks**
- **Two models available;**
 - local IR contact (lift + shift operation)
 - radio contact (greater range for permanent installation)
- **Small size**
- **Histogram display of noise data**
- **Phocus noise algorithm to reduce incidence of**



DEPLOY LEAK LOGGERS



Date 7/2/2019



Prev. Day

Next Day

Show/Hide Deployment

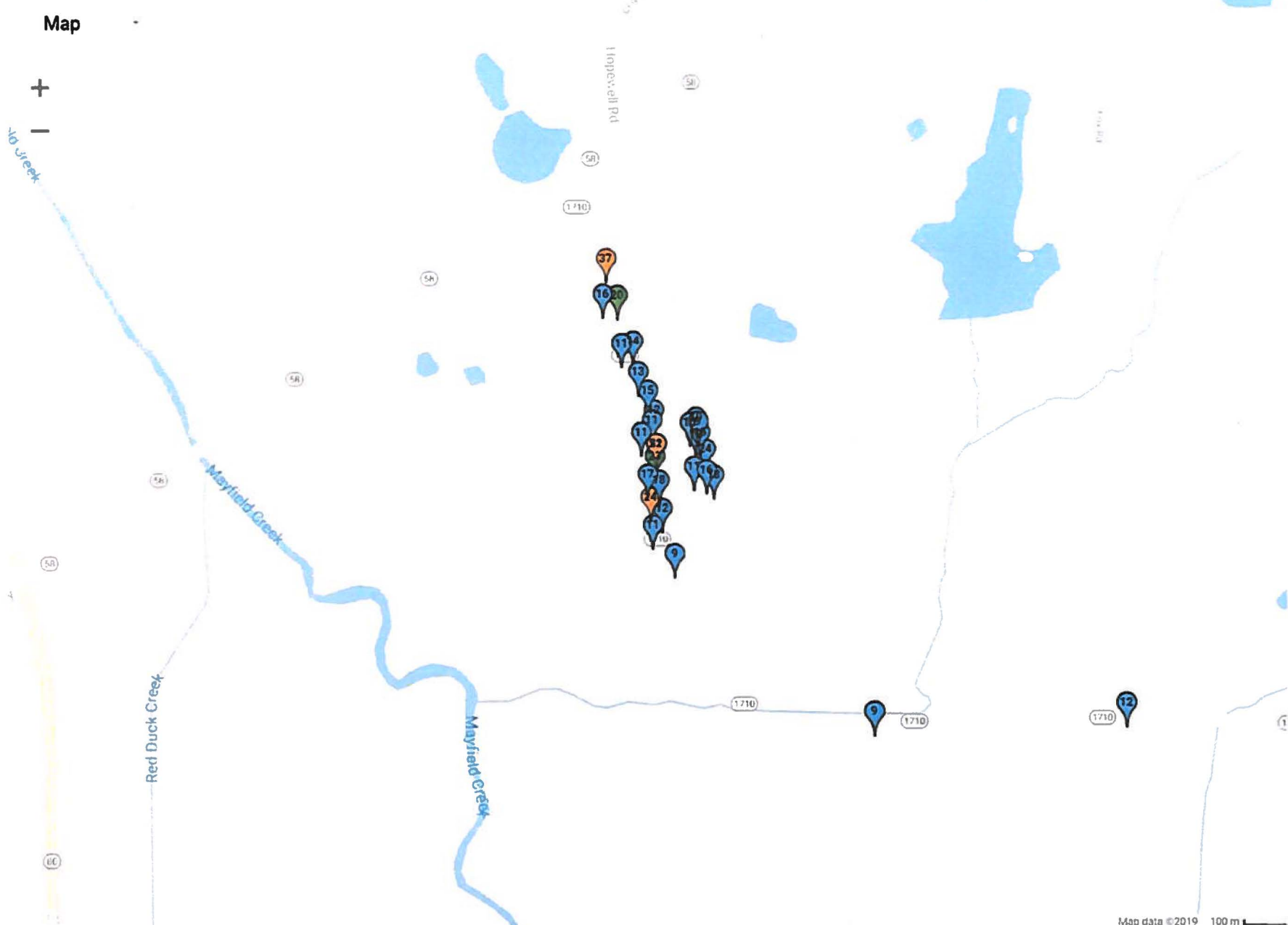
PDF

CSV

Map



No Jreak



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- ak noise present
- oise
- conclusive
- further)
- o leak present



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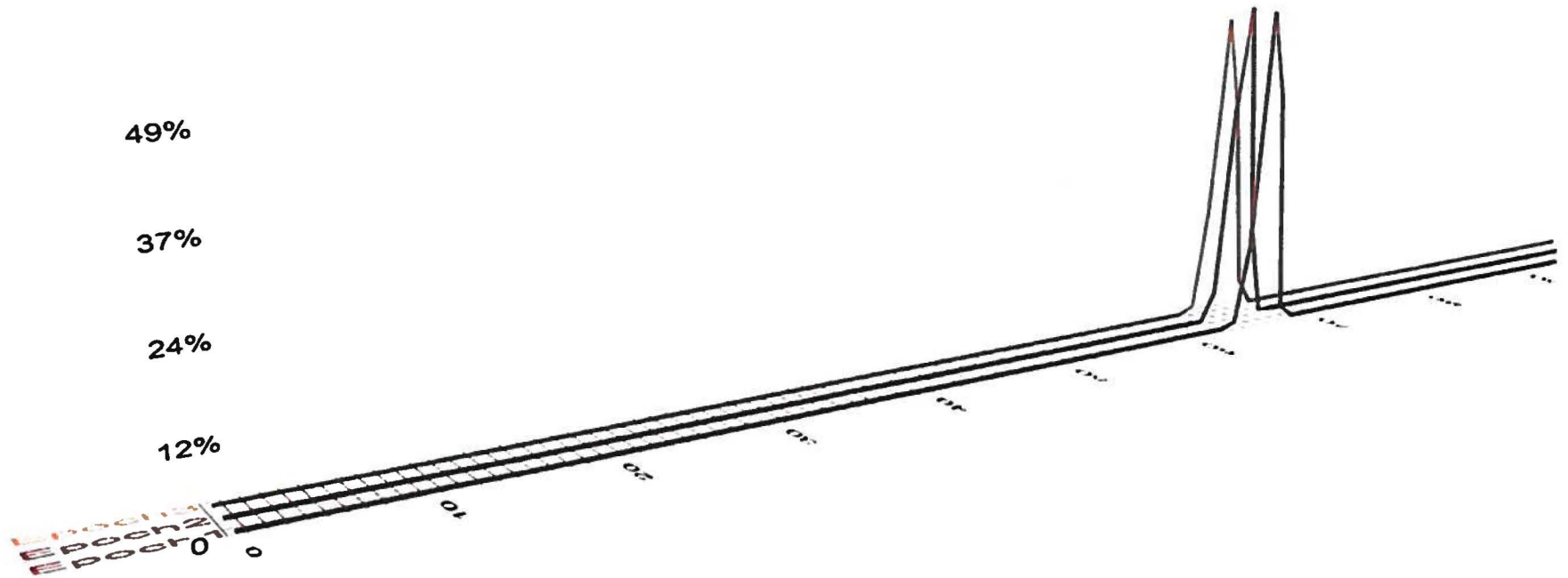
Map data © 2019 100 m



Histogram: 179160 - 8/14/2018 - 15Minutes - CNV Threshold: 20dB

Epoch	Start Time	Epoch Length	CNV	LCF
<input checked="" type="checkbox"/> Epoch1	8/14/2018 1:00:00 AM	15 Minutes	65	4
<input checked="" type="checkbox"/> Epoch2	8/14/2018 2:00:00 AM	15 Minutes	64	4
<input checked="" type="checkbox"/> Epoch3	8/14/2018 3:00:00 AM	15 Minutes	64	3

ak noise present
ak noise present
oise
conclusive
further)
o leak present



se here to search





Flexible technology for acoustic leak location

Mikron3 Processor options for maximum flexibility



Mini. This is a small and simple-to-use device suitable for clipping onto the operator's belt.



Pro. This unit displays the Minimum Noise Level which is the background noise level without transient noises such as road traffic. A bar graph allows the operator to see the position of maximum leak noise. Filters allow for background noise suppression. A sound logging mode displays the noise level whilst valves are closed to isolate potential leaking pipes.



PrimeTouch App. The **Mikron3** is available as an App on PrimeTouch which optionally also hosts the Eureka3 leak noise correlator. This option provides many technology features including Minimum Noise Level and frequency level display to aid accurate leak location together with an audio recording feature for later analysis. It also has a pipe tracing mode. Further information on this App is available.

Dynamic Listen Control

The *Dynamic Listen Control* continuously monitors the detected noise level. If the noise level changes rapidly, for example due to traffic noise, then the sound to the operator



PIN POINT EXACT LEAK LOCATION

				W	WT		20T00:00:00	20T11:25:25	
01331	006723	SORD00000291924	010	433 8th ST S	MISC ORDER WT	investigate cnv 29	2018-12-06T00:00:00	2018-12-06T09:49:16	spowell
200688	100625	SORD00000292676	005	607 5TH ST N	MISC ORDER WT	leak noise cnv 21	2018-12-13T00:00:00	2018-12-13T13:09:58	spowell
200686	100623	SORD00000292677	005	605 5TH ST N	MISC ORDER WT	leak noise cnv 21	2018-12-13T00:00:00	2018-12-13T13:18:20	spowell
200000	100000	SORD00000292681	014	6TH & BROADWAY	MISC ORDER WT	415 n 5th leak noise cnv 25	2018-12-13T00:00:00	2018-12-13T13:25:07	spowell
208747	108231	SORD00000292795	026	712 WALNUT ST E	MISC ORDER WT	investigate cnv 26	2018-12-14T00:00:00	2018-12-14T10:20:00	spowell
208748	102612	SORD00000292811	039	711 WALNUT ST E	MISC ORDER WT	leak noise cnv 51	2018-12-14T00:00:00	2018-12-14T10:32:48	spowell
200000	100000	SORD00000292824	014	6TH & BROADWAY	MISC ORDER WT	vacant lot across from 222 n 5th st leak noise 22	2018-12-14T00:00:00	2018-12-14T10:41:32	spowell
200468	014915	SORD00000292825	004	228 5TH ST N	MISC ORDER WT	leak noise cnv 23	2018-12-14T00:00:00	2018-12-14T10:43:27	spowell
200457	015586	SORD00000292826	039	210 5TH ST N	MISC ORDER WT	leak noise cnv 21	2018-12-14T00:00:00	2018-12-14T10:49:14	spowell
200488	999999	SORD00000292827	004	APT 1 222 5TH ST N	MISC ORDER WT	leak noise cnv 38	2018-12-14T00:00:00	2018-12-14T10:50:34	spowell
200471	100382	SORD00000292828	004	308 5TH ST N	MISC ORDER WT	leak noise cnv 62	2018-12-14T00:00:00	2018-12-14T10:54:15	spowell
200000	100000	SORD00000292833	014	6TH & BROADWAY	MISC ORDER WT	218 n 5 leak noise	2018-12-14T00:00:00	2018-12-14T11:06:23	spowell
200000	100000	SORD00000292835	014	6TH & BROADWAY	MISC ORDER WT	leak noise 216 n 5 cnv 21	2018-12-14T00:00:00	2018-12-14T11:22:38	spowell

TICKETS SENT TO CREWS VIA WORK
ORDER SYSTEM TO FIX LEAKS
CUSTOMER NAMES HAVE BEEN REMOVED

Choose Date Range

Start: 08/01/2018

End: 1/17/2019

Order Type:

Select Order Type

Select Service Group

WATER

Select User

LEAK

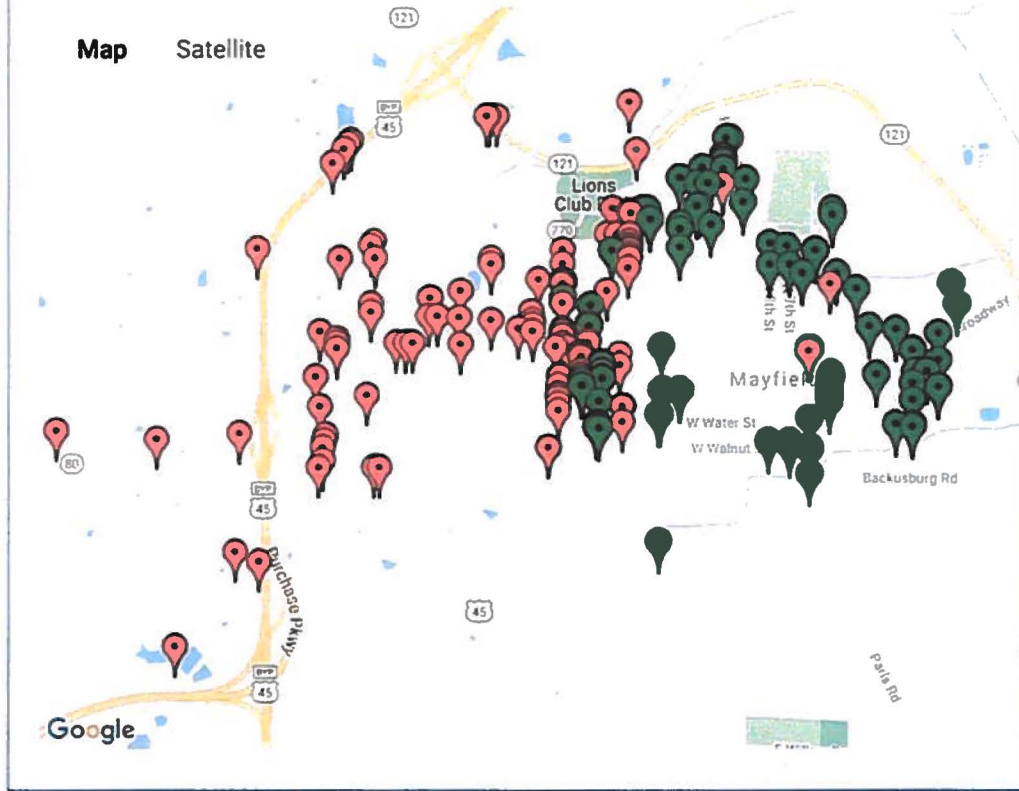
Select Order Status

Open Closed Both

Map Orders

Locations Map

Map Satellite



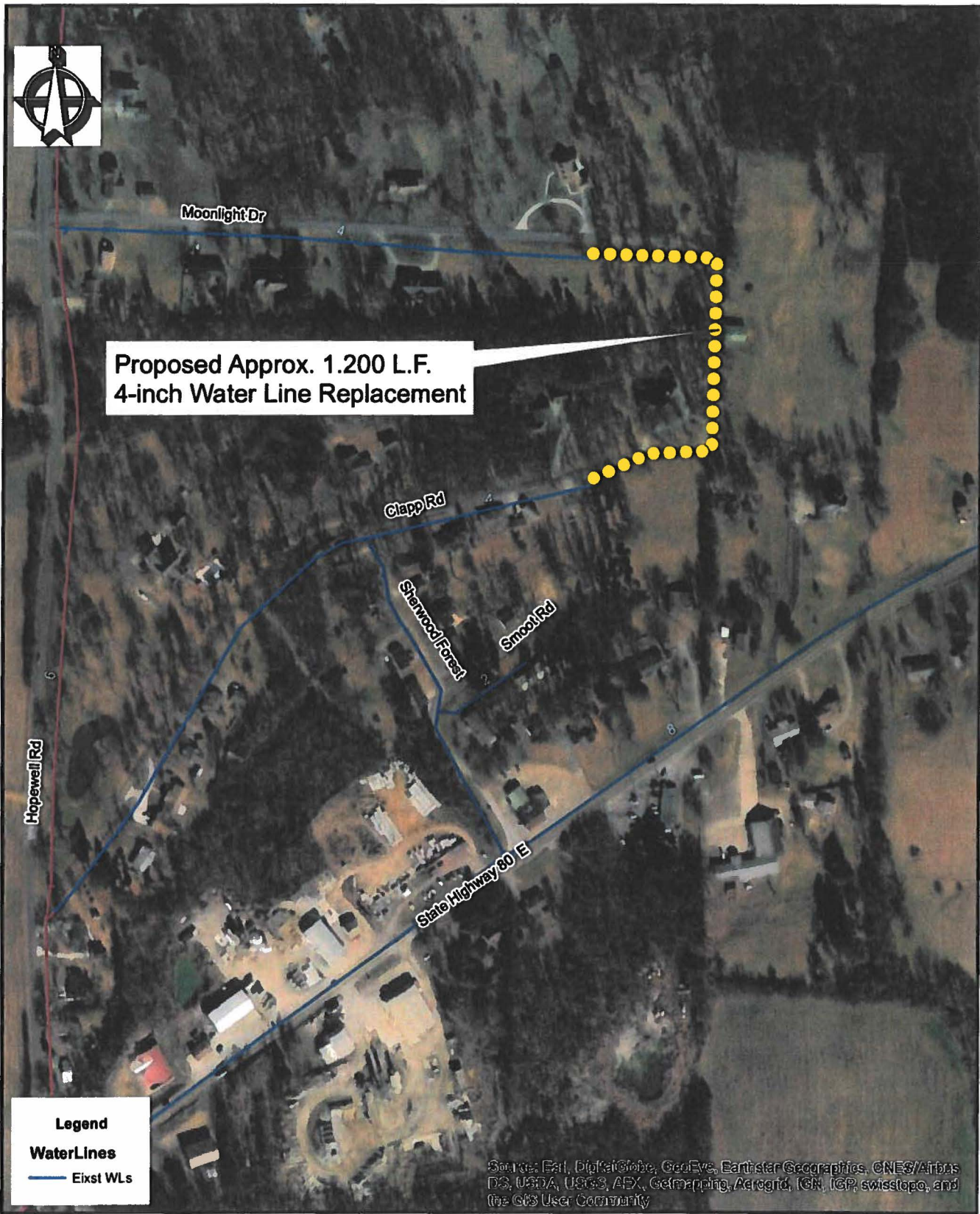
MANAGEMENT HAS THE ABILITY TO TRACK WORK OF EACH CREW

EXHIBIT 2

**GRAVES COUNTY WATER DISTRICT
IMMEDIATE INFRASTRUCTURE NEEDS**

Asbestos Concrete Water Main Replacement		
Moon Light Drive and Clapp Road Loop	\$142,000	
Cash Road	\$150,720	
Kentucky Highway 1276/Key Bottom Road	\$421,800	
Old Plant Road	\$188,880	
Highway 45 North	\$369,000	
Total Water Main Replacement Cost		\$1,272,400
Water Tank Inspections		
Hickory Plant Tank (50,000 gallons)	\$ 3,950	
Lowe's Tank (50,000 gallons)	\$ 3,950	
South Graves Elevated Tank (250,000 gallons)	\$ 3,950	
Hickory Industrial Park Plant (500,000 gallons)	\$ 4,150	
Hardeman Water Tank (50,000 gallons)	\$ 3,850	
Joan Sanders Elevated Tank (100,000 gallons)	\$ 3,900	
Fancy Farm Plant Tank (100,000 gallons)	\$ 3,900	
Fancy Farm New Tank (300,000 gallons)	\$ 4,000	
Sedalia Elevated Tank (50,000 gallons)	\$ 3,850	
Farmington Elevated Tank (250,000 gallons)	\$ 3,950	
Total Water Tank Inspection Cost		\$ 39,450
Total Immediate Infrastructure Needs		\$1,311,850

EXHIBIT 3



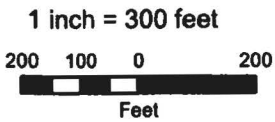
Proposed Approx. 1,200 L.F.
4-inch Water Line Replacement

Legend

WaterLines

— Exist WLs

Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, IGP, swisstopo, and the GIS User Community



**MOON LIGHT DR &
CLAPP RD LOOP
WATER MAIN REPLACEMENT**

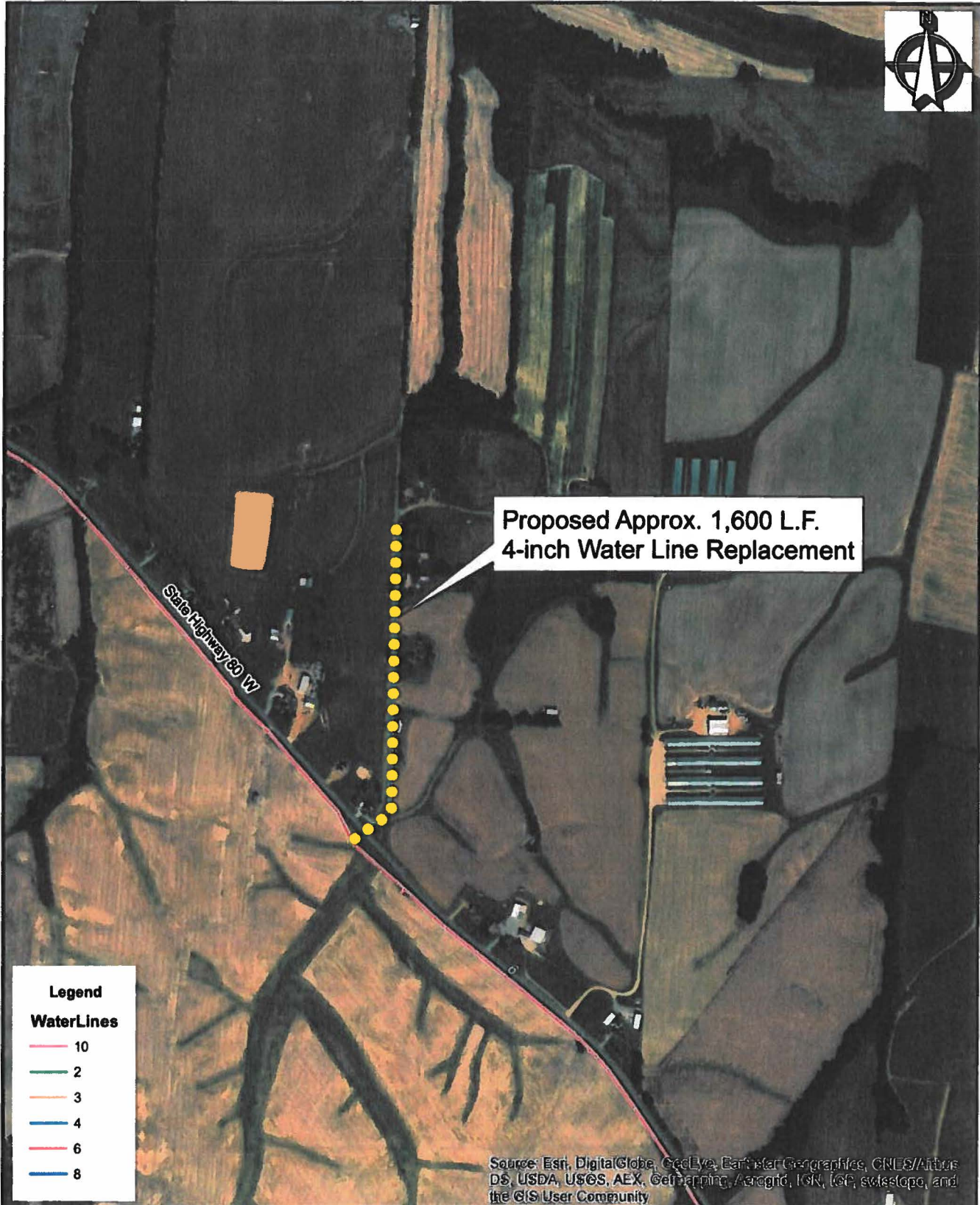
PREPARED BY:
**WATER MANAGEMENT
SERVICES, LLC**
PROFESSIONAL ENGINEERS
NASHVILLE TN

Proposed Project Title:
MOONLIGHT DR & CLAPP DR LOOP WATER MAIN REPLACEMENT

Project Location:
Starts on Moonlight Dr through private Easements to Clapp Dr, north of St Hwy 60E.

Project Description:
Replacement of Approx. 1,200 L.F. of existing 4-inch AC water main with Proposed 4-inch PVC Water Main.

Approximate Cost:	
Proposed Water Main	\$ 95,000.00
Service Reconnections	\$ 2,000.00
Connect to Exist Water Mains	\$ 10,000.00
Asphalt Paving	\$ 5,000.00
Topsoil/ Seed & Straw, etc.	\$ 6,500.00
Subtotal Cost:	\$ 118,500.00
Engineering, Inspection & Contingencies (20%)	\$ 23,700.00
Estimated Project Cost	\$ 142,200.00



Proposed Approx. 1,600 L.F.
4-inch Water Line Replacement

Legend

WaterLines

10
2
3
4
6
8

Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Geomatics, Aergrid, IGN, IGC, swisstopo, and the GIS User Community

1 inch = 700 feet



CASH ROAD WATER MAIN REPLACEMENT

PREPARED BY:
WATER MANAGEMENT SERVICES, LLC
PROFESSIONAL ENGINEERS
NASHVILLE, TN

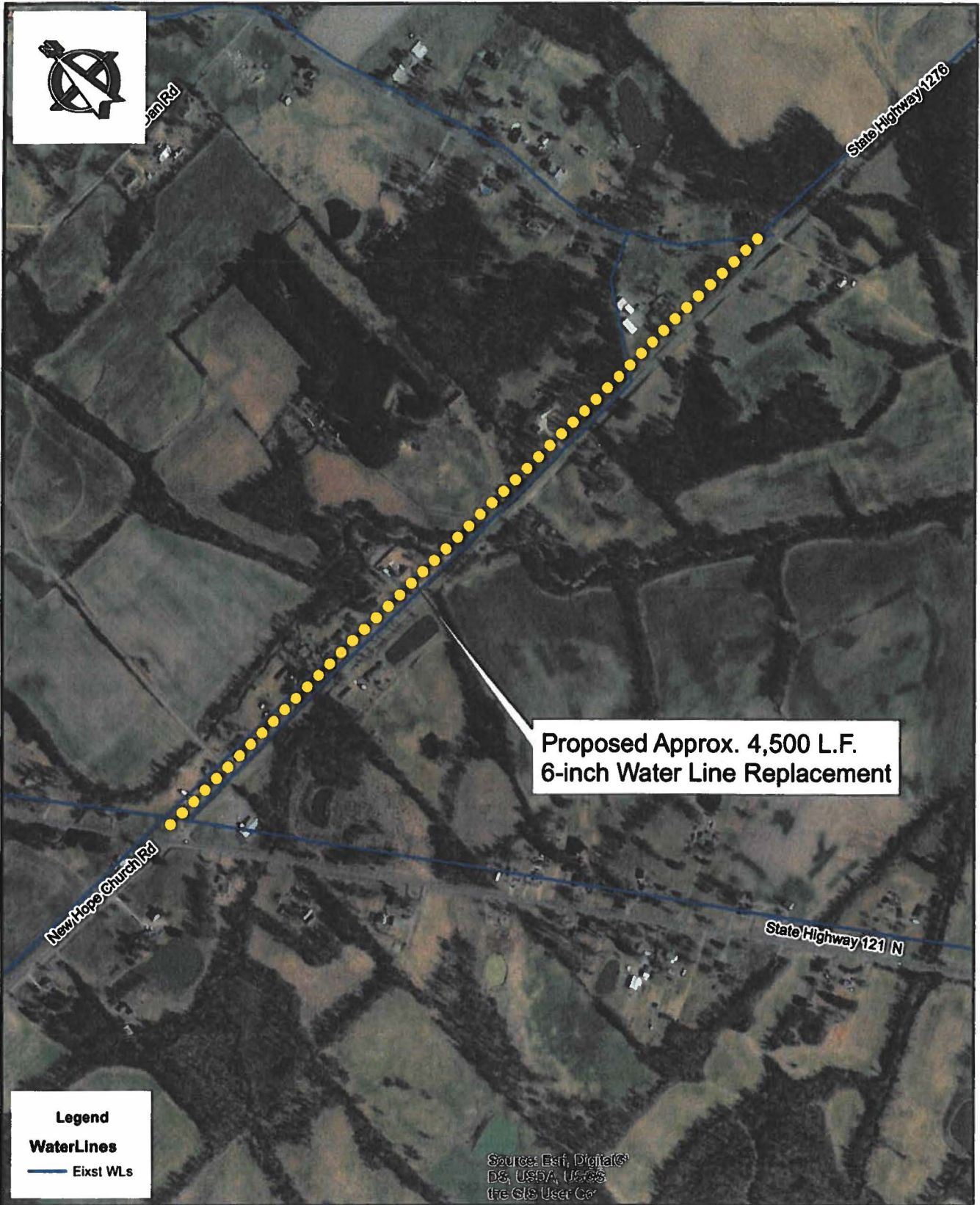


Proposed Project Title:
CASH ROAD WATER MAIN REPLACEMENT

Project Location:
Cash Road off of KY Highway 90W

Project Description:
Replacement of Approx. 1,600 L.F. of existing 4-inch AC water main with Proposed 4-inch PVC Water Main.

Approximate Cost:	
Replace Existing Water Main	\$ 105,900.00
Service Reconnections	\$ 2,000.00
Connect to Exist Water Mains	\$ 5,000.00
Asphalt Paving	\$ 5,500.00
Topsoil/ Seed & Straw, etc.	\$ 7,200.00
Subtotal Cost:	\$ 125,600.00
Engineering, Inspection & Contingencies (20%)	\$ 25,120.00
Estimated Project Cost	\$ 150,720.00



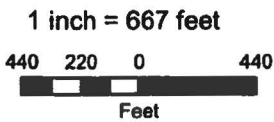
Proposed Approx. 4,500 L.F.
6-inch Water Line Replacement

Legend

WaterLines

— Eixst WLS

Source: Esri, DigitalGlobe, USDA, USGS, the GIS User Co



**KY HWY 1276/ KEY BOTTOM RD
WATER MAIN REPLACEMENT**

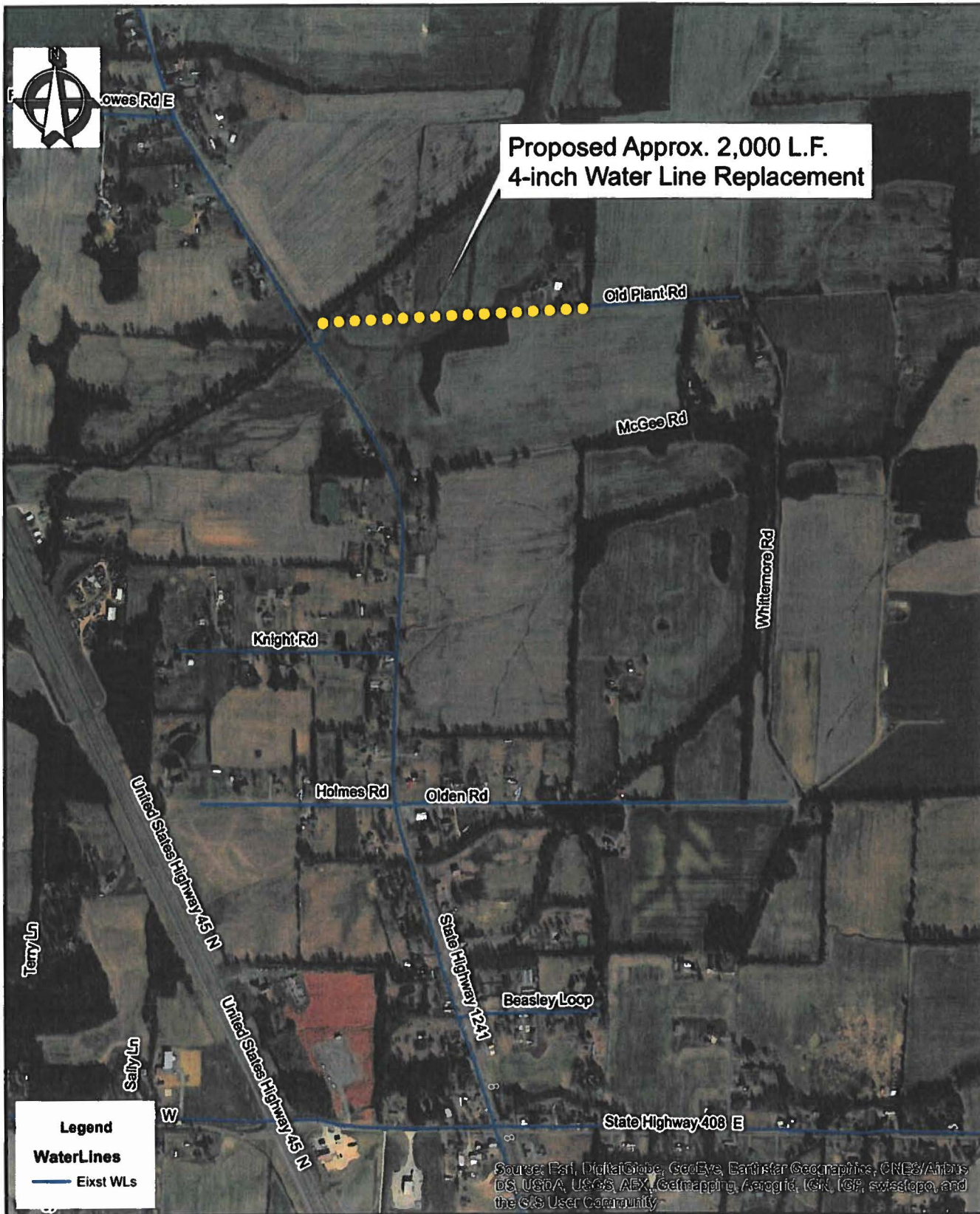
PREPARED BY:
**WATER MANAGEMENT
SERVICES, LLC**
PROFESSIONAL ENGINEERS
NASHVILLE, TN

Proposed Project Title:
HIGHWAY 1276/ KEY BOTTOM ROAD WATER MAIN REPLACEMENT

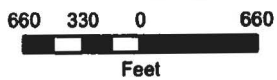
Project Location:
Key Bottom Road between Ky Hwy 121 N & Carter Road

Project Description:
Replacement of Approx. 4,500 L.F. of existing 6-inch AC water main with Proposed 6-inch PVC Water Main.

Approximate Cost:		
Replace Existing Water Main	\$	291,500.00
Service Reconnections	\$	7,500.00
Connect to Exist Water Mains	\$	5,000.00
Asphalt Paving	\$	27,500.00
Topsoil/ Seed & Straw, etc.	\$	20,000.00
	Subtotal Cost:	\$ 351,500.00
	Engineering, Inspection & Contingencies (20%)	\$ 70,300.00
	Estimated Project Cost	\$ 421,800.00



1 inch = 1,000 feet



OLD PLANT ROAD WATER MAIN REPLACEMENT



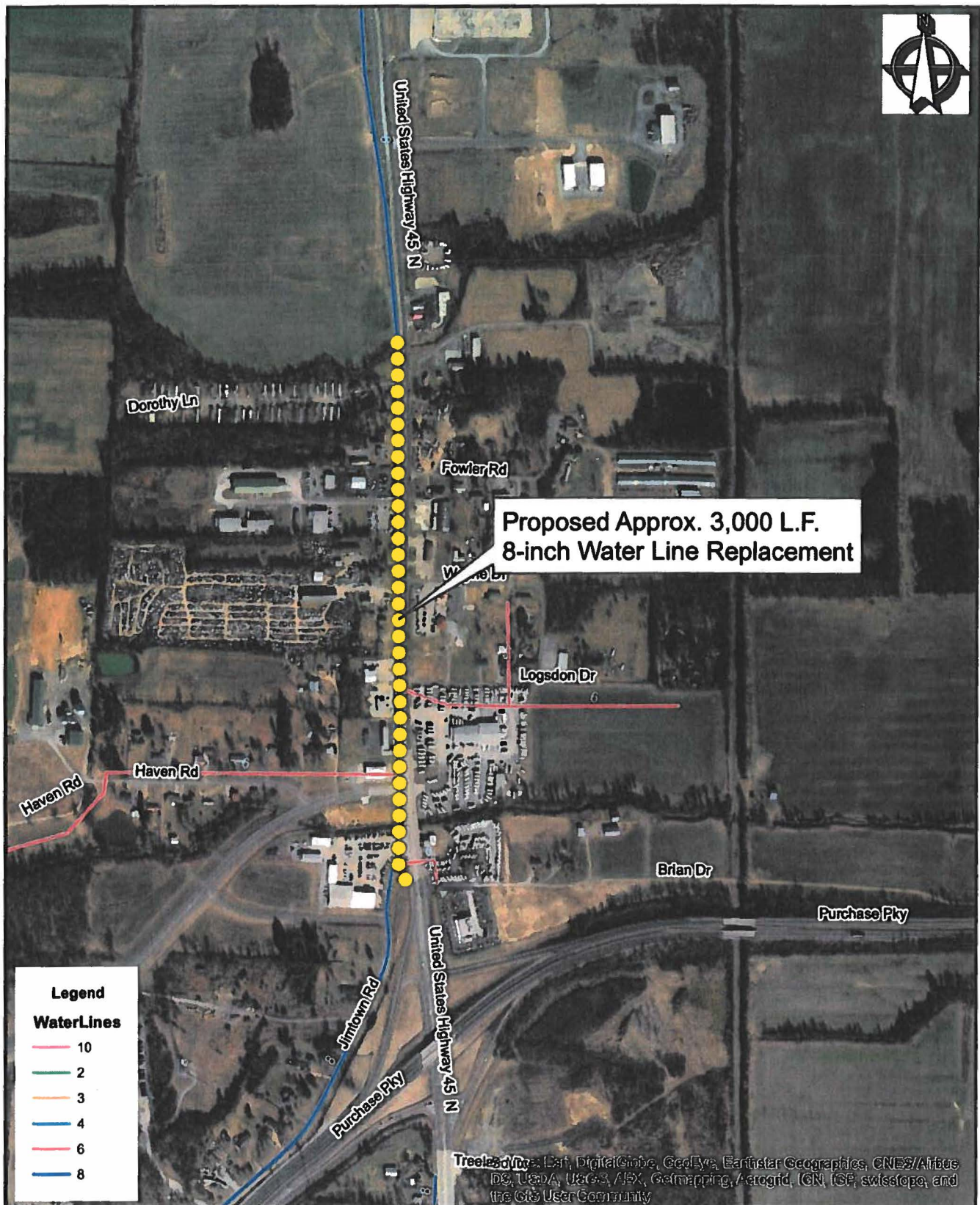
PREPARED BY:
**WATER MANAGEMENT
SERVICES, LLC**
PROFESSIONAL ENGINEERS
NASHVILLE, TN

Proposed Project Title:
OLD PLANT ROAD WATER MAIN REPLACEMENT

Project Location:
Old Plant Road off of St Hwy 1241 north of Holmes Road intersection.

Project Description:
Replacement of Approx. 2,000 L.F. of existing 4-inch AC water main with Proposed 4-inch PVC Water Main.

Approximate Cost:	
Replace Existing Water Main	\$ 131,400.00
Service Reconnections	\$ 1,000.00
Connect to Exist Water Mains	\$ 5,000.00
Asphalt Paving	\$ 11,000.00
Topsoil/ Seed & Straw, etc.	\$ 9,000.00
Subtotal Cost:	\$ 157,400.00
Engineering, Inspection & Contingencies (20%)	\$ 31,480.00
Estimated Project Cost	\$ 188,880.00



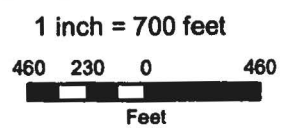
Proposed Approx. 3,000 L.F.
8-inch Water Line Replacement

Legend

WaterLines

10	(Pink line)
2	(Green line)
3	(Orange line)
4	(Blue line)
6	(Red line)
8	(Dark Blue line)

Treeless Data: Lant, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Geomapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community



HIGHWAY 45 NORTH WATER MAIN REPLACEMENT

PREPARED BY:
 **WATER MANAGEMENT SERVICES, LLC**
 PROFESSIONAL ENGINEERS
 NASHVILLE, TN

Proposed Project Title:
HIGHWAY 45 NORTH WATER MAIN REPLACEMENT

Project Location:
US HWY 45 North from JimTown Rd to Dorothy Lane

Project Description:
Replacement of Approx. 3,000 L.F. of existing 8-inch AC water main with Proposed 8-inch PVC Water Main.

Approximate Cost:	
Replace Existing Water Main	\$ 225,000.00
Service Reconnections	\$ 7,500.00
Connect to Exist Water Mains	\$ 10,000.00
Asphalt Paving	\$ 55,000.00
Topsoil/ Seed & Straw, etc.	\$ 10,000.00
Subtotal Cost:	\$ 307,500.00
Engineering, Inspection & Contingencies (20%)	\$ 61,500.00
Estimated Project Cost	\$ 369,000.00

EXHIBIT 4



Mid-South Tank Consultants

P.O. Box 11083 • Jackson, Tennessee 38308-0118
(270) 559-4727

Mr. Kevin Leonard
Mayfield Electric & Water Systems
301 East Broadway
Mayfield, Kentucky 42066



Dear Mr. Leonard,

Preliminary Inspection of the 50,000 Gallon Hickory Plant Tank; Hickory, KY

This proposal has been prepared in response to our recent phone call regarding the washout and preliminary inspection of the subject tank. Our inspection service and costs are as follows:

PRELIMINARY TANK INSPECTION.....\$3,950.00

1. Complete washout of tank interior.
2. Visual inspection of interior and exterior surfaces.
3. Survey of surface and structural corrosion.
4. Condition of existing coating system:
 - a. Adhesion Test ASTM D3359
 - b. Film Thickness SSPC-PA2
 - c. Fourier Transform Infrared Spectrum Analysis of existing coating for recoat compatibility.
 - d. Paint Chip Analysis for Lead Content.
5. Pit depth measurement.
6. Condition of corrosion protection, piping and accessories.
7. Safety evaluation and recommendations.
8. Photographic documentation of overall condition and critical areas requiring adjustment, repair and/or replacement.
9. Technical repaint and repair specifications for competitive bids.
10. Budgetary analysis for repaint and repair.

Submitted by:

Jeff W. Oakley
NACE #319

Accepted by:

Date:

November 30, 2018

Date:





Mid-South Tank Consultants

P.O. Box 11083 • Jackson, Tennessee 38308-0118
(270) 559-4727

Mr. Kevin Leonard
Mayfield Electric & Water Systems
301 East Broadway
Mayfield, Kentucky 42066



Dear Mr. Leonard,

Preliminary Inspection of the 50,000 Gallon Lowes Tank; Lowes, Kentucky

This proposal has been prepared in response to our recent phone call regarding the washout and preliminary inspection of the subject tank. Our inspection service and costs are as follows:

PRELIMINARY TANK INSPECTION.....\$3,950.00

1. Complete washout of tank interior.
2. Visual inspection of interior and exterior surfaces.
3. Survey of surface and structural corrosion.
4. Condition of existing coating system:
 - a. Adhesion Test ASTM D3359
 - b. Film Thickness SSPC-PA2
 - c. Fourier Transform Infrared Spectrum Analysis of existing coating for recoat compatibility.
 - d. Paint Chip Analysis for Lead Content.
5. Pit depth measurement.
6. Condition of corrosion protection, piping and accessories.
7. Safety evaluation and recommendations.
8. Photographic documentation of overall condition and critical areas requiring adjustment, repair and/or replacement.
9. Technical repaint and repair specifications for competitive bids.
10. Budgetary analysis for repaint and repair.

Submitted by:

Jeff W. Oades
NACE #319

Date:

November 30, 2018

Accepted by:

Date:





Mid-South Tank Consultants

P.O. Box 11083 • Jackson, Tennessee 38308-0118
(270) 559-4727

Mr. Kevin Leonard
Mayfield Electric & Water Systems
301 East Broadway
Mayfield, Kentucky 42066



Dear Mr. Leonard,

Preliminary Inspection of the 250,000 Gallon South Graves Elevated Tank; Graves Co., KY

This proposal has been prepared in response to our recent phone call regarding the washout and preliminary inspection of the subject tank. Our inspection service and costs are as follows:

PRELIMINARY TANK INSPECTION.....\$3,950.00

1. Complete washout of tank interior.
2. Visual inspection of interior and exterior surfaces.
3. Survey of surface and structural corrosion.
4. Condition of existing coating system:
 - a. Adhesion Test ASTM D3359
 - b. Film Thickness SSPC-PA2
 - c. Fourier Transform Infrared Spectrum Analysis of existing coating for recoat compatibility.
 - d. Paint Chip Analysis for Lead Content.
5. Pit depth measurement.
6. Condition of corrosion protection, piping and accessories.
7. Safety evaluation and recommendations.
8. Photographic documentation of overall condition and critical areas requiring adjustment, repair and/or replacement.
9. Technical repaint and repair specifications for competitive bids.
10. Budgetary analysis for repaint and repair.

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Mr. Kevin Leonard
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301 East Broadway
Mayfield, Kentucky 42066



Dear Mr. Leonard,

Preliminary Inspection of the 500,000 Gallon Hickory Industrial Park Tank; Hickory, KY

This proposal has been prepared in response to our recent phone call regarding the washout and preliminary inspection of the subject tank. Our inspection service and costs are as follows:

PRELIMINARY TANK INSPECTION.....\$4,150.00

1. Complete washout of tank interior.
2. Visual inspection of interior and exterior surfaces.
3. Survey of surface and structural corrosion.
4. Condition of existing coating system:
 - a. Adhesion Test ASTM D3359
 - b. Film Thickness SSPC-PA2
 - c. Fourier Transform Infrared Spectrum Analysis of existing coating for recoat compatibility.
 - d. Paint Chip Analysis for Lead Content.
5. Pit depth measurement.
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Mr. Kevin Leonard
Mayfield Electric & Water Systems
301 East Broadway
Mayfield, Kentucky 42066



Dear Mr. Leonard,

Preliminary Inspection of the 50,000 Gallon Hardeman Water Tank near Mayfield, KY

This proposal has been prepared in response to your recent phone call regarding the washout and preliminary inspection of the subject tank. Our inspection service and costs are as follows:

PRELIMINARY TANK INSPECTION.....\$3,850.00

1. Complete washout of tank interior.
2. Visual inspection of interior and exterior surfaces.
3. Survey of surface and structural corrosion.
4. Condition of existing coating system:
 - a. Adhesion Test ASTM D3359
 - b. Film Thickness SSPC-PA2
 - c. Fourier Transform Infrared Spectrum Analysis for recoat compatibility.
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Mr. Kevin Leonard
Mayfield Electric & Water Systems
301 East Broadway
Mayfield, Kentucky 42066



Dear Mr. Leonard,

Preliminary Inspection of the 100,000 Gallon Joan Sanders Elevated Tank; Mayfield, KY

This proposal has been prepared in response to our recent phone call regarding the washout and preliminary inspection of the subject tank. Our inspection service and costs are as follows:

PRELIMINARY TANK INSPECTION.....\$3,900.00

1. Complete washout of tank interior.
2. Visual inspection of interior and exterior surfaces.
3. Survey of surface and structural corrosion.
4. Condition of existing coating system:
 - a. Adhesion Test ASTM D3359
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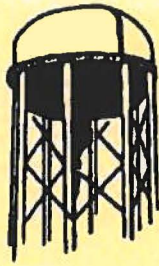
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Mr. Kevin Leonard
Mayfield Electric & Water Systems
301 East Broadway
Mayfield, Kentucky 42066



Dear Mr. Leonard,

Preliminary Inspection of the 100,000 Gallon Fancy Farm Plant Tank; Fancy Farm, KY

This proposal has been prepared in response to our recent phone call regarding the washout and preliminary inspection of the subject tank. Our inspection service and costs are as follows:

PRELIMINARY TANK INSPECTION.....\$3,900.00

1. Complete washout of tank interior.
2. Visual inspection of interior and exterior surfaces.
3. Survey of surface and structural corrosion.
4. Condition of existing coating system:
 - a. Adhesion Test ASTM D3359
 - b. Film Thickness SSPC-PA2
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 - d. Paint Chip Analysis for Lead Content.
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6. Condition of corrosion protection, piping and accessories.
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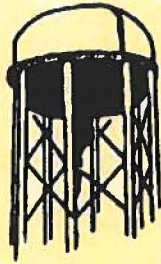
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Mr. Kevin Leonard
Mayfield Electric & Water Systems
301 East Broadway
Mayfield, Kentucky 42066



Dear Mr. Leonard,

Preliminary Inspection of the 300,000 Gallon Fancy Farm New Tank; Fancy Farm, KY

This proposal has been prepared in response to our recent phone call regarding the washout and preliminary inspection of the subject tank. Our inspection service and costs are as follows:

PRELIMINARY TANK INSPECTION.....\$4,000.00

1. Complete washout of tank interior.
2. Visual inspection of interior and exterior surfaces.
3. Survey of surface and structural corrosion.
4. Condition of existing coating system:
 - a. Adhesion Test ASTM D3359
 - b. Film Thickness SSPC-PA2
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 - d. Paint Chip Analysis for Lead Content.
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Mr. Kevin Leonard
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301 East Broadway
Mayfield, Kentucky 42066



Dear Mr. Leonard,

Preliminary Inspection of the 50,000 Gallon Sedalia Elevated Tank; Sedalia, Kentucky

This proposal has been prepared in response to our recent phone call regarding the washout and preliminary inspection of the subject tank. Our inspection service and costs are as follows:

PRELIMINARY TANK INSPECTION.....\$3,850.00

1. Complete washout of tank interior.
2. Visual inspection of interior and exterior surfaces.
3. Survey of surface and structural corrosion.
4. Condition of existing coating system:
 - a. Adhesion Test ASTM D3359
 - b. Film Thickness SSPC-PA2
 - c. Fourier Transform Infrared Spectrum Analysis of existing coating for recoat compatibility.
 - d. Paint Chip Analysis for Lead Content.
5. Pit depth measurement.
6. Condition of corrosion protection, piping and accessories.
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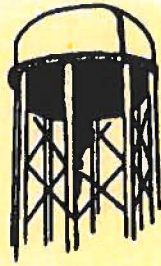
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Mr. Kevin Leonard
Mayfield Electric & Water Systems
301 East Broadway
Mayfield, Kentucky 42066



Dear Mr. Leonard,

Preliminary Inspection of the 250,000 Gallon Farmington Elevated Tank; Farmington, KY

This proposal has been prepared in response to our recent phone call regarding the washout and preliminary inspection of the subject tank. Our inspection service and costs are as follows:

PRELIMINARY TANK INSPECTION.....\$3,950.00

1. Complete washout of tank interior.
2. Visual inspection of interior and exterior surfaces.
3. Survey of surface and structural corrosion.
4. Condition of existing coating system:
 - a. Adhesion Test ASTM D3359
 - b. Film Thickness SSPC-PA2
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