

COMMONWEALTH OF KENTUCKY
BEFORE THE PUBLIC SERVICE COMMISSION

In the Matter of:

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

NOTICE OF FILING

Notice is given to all parties that the following materials have been filed into the record of this proceeding:

- The digital video recording of the evidentiary hearing conducted on August 6, 2019 in this proceeding;
- Certification of the accuracy and correctness of the digital video recording;
- All exhibits introduced at the evidentiary hearing conducted on August 6, 2019 in this proceeding;
- A written log listing, *inter alia*, the date and time of where each witness' testimony begins and ends on the digital video recording of the evidentiary hearing conducted on August 6, 2019.

A copy of this Notice, the certification of the digital video record, hearing log, and exhibits have been served upon all persons listed at the end of this Notice. Parties desiring to view the digital video recording of the hearing may do so at <https://youtu.be/ZxvAEt5aiU4>.

Parties wishing an annotated digital video recording may submit a written request by electronic mail to pscfilings@ky.gov. A minimal fee will be assessed for a copy of this recording.

Done at Frankfort, Kentucky, this 26th day of August 2019.

A handwritten signature in black ink that reads "Gwen R. Pinson". The signature is written in a cursive style with a large initial 'G' and a long horizontal stroke at the end.

Gwen R. Pinson
Executive Director
Public Service Commission of Kentucky

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CERTIFICATION


I, KaBrenda L. Warfield, hereby certify that:

1. The attached DVD contains a digital recording of the Formal Hearing conducted in the above-styled proceeding on August 06, 2019. Hearing Log, Exhibit List, Exhibits, and Witness List are included with the recording on August 06, 2019.
2. I am responsible for the preparation of the digital recording;
3. The digital recording accurately and correctly depicts the Formal Hearing of August 06, 2019.
4. The Hearing Log attached to this Certificate accurately and correctly states the events that occurred at the Formal Hearing of August 06, 2019 and the time at which each occurred.

Signed this 23rd day of August, 2019.


KaBrenda L. Warfield, CKP
Paralegal Consultant




Jacqueline Hartzell, Notary Public
State at Large
Commission Expires: July 25, 2022
ID#: 605476



Date:	Type:	Location:	Department:
8/6/2019	Public Hearing\Public Comments	Hearing Room 1	Hearing Room 1 (HR 1)

Witness: Kevin Leonard
 Judge: Robert Cicero; Talina Mathews; Michael Schmitt
 Clerk: Candace Sacre

Event Time	Log Event	
12:34:39 PM	Session Started	
12:34:41 PM	Session Paused	
1:10:44 PM	Session Resumed	
1:10:45 PM	Chairman Schmitt Note: Warfield, KaBrenda	We are now on the record. This is the Kentucky Public Service Commission. My name is Michael Schmitt. I am Chairman of the Commission. Seated to my right is Vice Chairman Robert Cicero and, to my left, Commissioner Talina Mathews.
1:11:01 PM	Chairman Schmitt Note: Warfield, KaBrenda	We are here today for the purpose of holding a hearing in Case No. 2018-00429, the Application of Graves County Water District for an Alternative Rate Adjustment.
1:11:16 PM	Chairman Schmitt Note: Warfield, KaBrenda	The hearing today is limited to the specifics of Graves County Water District's water loss detection plan.
1:11:25 PM	Chairman Schmitt Note: Sacre, Candace	Is there something wrong with the speaker system? Apparently, we have an audio problem, so let's go off the record for a moment.
1:11:40 PM	Session Paused	
1:12:27 PM	Chairman Schmitt Note: Warfield, KaBrenda	We are now back on the record, but the problem apparently has not been solved.
1:12:27 PM	Session Resumed	
1:12:34 PM	Chairman Schmitt Note: Warfield, KaBrenda	Do we have somebody, a technician or somebody, present back here who is working on this?
1:12:53 PM	Chairman Schmitt Note: Warfield, KaBrenda	The party to this proceeding is the Graves County Water District. There has been no intervention in the case, so, at this time, would counsel for Graves County Water District please identify himself for the record, his client, and witnesses and others who are with him today?
1:13:12 PM	Atty Weutcher Graves District Note: Warfield, KaBrenda	Thank you, Your Honor. On behalf of Graves County Water District, Gerald Weutcher, with the law firm of Stoll Keenon Ogden. The address is 300 West Vine Street, Suite 2100, Lexington, Kentucky 40507.
1:13:30 PM	Atty Weutcher Graves District Note: Warfield, KaBrenda	And I have with me today, first, present are all but one of the members of the Board of Commissioners of the Graves County Water District, its Chairman Joey Morrow, its Vice Chairman Sam Davis, Commissioners Bill Sears, Steve Mason, Mickey Grooms, and Mark Carrico.

1:13:55 PM	Atty Weutcher Graves District Note: Warfield, KaBrenda	I also have Eric Blake of the Prime Group who prepared the initial application for Graves County, and seated next to me is Mr. Kevin Leonard, who is the Manager of Water and Sewer Operations for Mayfield Electric and Water System.
1:14:15 PM	Atty Weutcher Graves District Note: Warfield, KaBrenda	Mr. Leonard is scheduled to testify, and Mr. Blake and Mr. Morrow are available for questions should the Commission have any regarding either the preparation of the Application or any issues regarding the Board's policies.
1:14:30 PM	Chairman Schmitt Note: Warfield, KaBrenda	Okay. Thank you, and for Staff?
1:14:36 PM	Asst GC Nancy Vinsel PSC Note: Warfield, KaBrenda	Nancy Vinsel and Lauren Coltrane and Tina Frederick for Commission Staff.
1:14:42 PM	Chairman Schmitt Note: Warfield, KaBrenda	I will say that, after the Staff Report was issued, we learned that Mr. Leonard had spoken with a member of our staff and had agreed to come and make a presentation. (Click on link for continuation of remarks.)
1:15:22 PM	Chairman Schmitt Note: Warfield, KaBrenda	Also, Mr. Weutcher, the Commission notes for the record that, earlier this week or late last week, a Motion was filed on behalf of the Water District asking that an expedited Order be entered for the main body of the rate increase and, basically, then reserving the remainder of the surcharge issue for a later date.
1:15:54 PM	Chairman Schmitt Note: Warfield, KaBrenda	And the Commissioners have met and ruled in favor of the District on that matter, and, as I understand it, an Order granting the general rate increase should be issued sometime probably this week or early next week, at the latest.
1:16:11 PM	Asst GC Vinsel PSC Note: Sacre, Candace	This week.
1:16:13 PM	Chairman Schmitt Note: Warfield, KaBrenda	Thank you. I know there was an issue about notification, Mr. Weutcher, and prior to going on the record, you indicated that you had something to suggest in that regard, and if you would at this time tell us, we'd appreciate it.
1:16:28 PM	Atty Weutcher Graves District Note: Sacre, Candace	Yes, Your Honor, the District did fail to publish notice pursuant to 807 KAR 5:076, and it would move to ask for deviation to that regulation. (Click on link for continuation of comments.)
1:18:11 PM	Chairman Schmitt Note: Warfield, KaBrenda	Thank you. Ms. Vinsel, does that accurately state also Staff Counsel's position?
1:18:18 PM	Asst GC Vinsel PSC Note: Sacre, Candace	Yes, it is accurately stated.
1:18:21 PM	Chairman Schmitt Note: Warfield, KaBrenda	The Motion then will be sustained. Will a subsequent Order contain the substance of Mr. Weutcher's statement as to what we've done?
1:18:32 PM	Asst GC Vinsel PSC Note: Sacre, Candace	Yes, it will.
1:18:33 PM	Chairman Schmitt Note: Warfield, KaBrenda	Alright. Thank you. If there's nothing further and obviously no public comment available at this time, are we ready to proceed?

1:18:41 PM	Atty Weutcher Graves District Note: Sacre, Candace	Yes, Your Honor.
1:18:43 PM	Chairman Schmitt Note: Warfield, KaBrenda	Mr. Weutcher, please call your first witness.
1:18:48 PM	Atty Weutcher Graves District Note: Warfield, KaBrenda	Your Honor, while Mr. Leonard is getting to the witness stand, since the primary purpose of his testimony is for him to go ahead and make his presentation to the Commission, I would propose the following. (Click on link for continuation of remarks.)
1:19:45 PM	Chairman Schmitt Note: Warfield, KaBrenda	I think that would be satisfactory, but you'll have an opportunity at the end or, as you may want to interject yourself, please feel free to do that.
1:19:56 PM	Chairman Schmitt Note: Sacre, Candace	Witness is sworn.
1:20:05 PM	Chairman Schmitt Note: Warfield, KaBrenda	Please be seated. Counsel?
1:20:07 PM	Atty Weutcher Graves District Note: Sacre, Candace	Thank you, Your Honor.
1:20:08 PM	Atty Weutcher Graves District - witness Leonard Note: Sacre, Candace	Direct Examination. Good afternoon, Mr. Leonard. Would you please state your name and business address?
1:20:12 PM	Witness Leonard Note: Sacre, Candace	My name is Kevin Leonard. Our business address is 301 East Broadway, Mayfield, Kentucky.
1:20:18 PM	Atty Weutcher Graves District - witness Leonard Note: Sacre, Candace	And who is your employer?
1:20:19 PM	Witness Leonard Note: Sacre, Candace	Mayfield Electric and Water System.
1:20:21 PM	Atty Weutcher Graves District - witness Leonard Note: Sacre, Candace	Okay, and how long have you been a employee of Mayfield Electric?
1:20:24 PM	Witness Leonard Note: Sacre, Candace	Approximately 20 years.
1:20:26 PM	Atty Weutcher Graves District - witness Leonard Note: Sacre, Candace	And what's your current position with Mayfield Electric and Water?
1:20:29 PM	Witness Leonard Note: Sacre, Candace	Water and Waste Water Operations Manager.
1:20:33 PM	Atty Weutcher Graves District - witness Leonard Note: Sacre, Candace	And how long have you held that position?
1:20:35 PM	Witness Leonard Note: Sacre, Candace	Approximately 18 years.
1:20:37 PM	Atty Weutcher Graves District - witness Leonard Note: Sacre, Candace	Can you describe for us what your duties are as the Manager of Water and Waste Water Operations?
1:20:43 PM	Witness Leonard Note: Sacre, Candace	Oversee daily operations, water- and waste water-wise. (Click on link for further description of duties.)
1:22:04 PM	Atty Weutcher Graves District - witness Leonard Note: Sacre, Candace	Now, the Mayfield Electric and Water System, who owns that?
1:22:11 PM	Witness Leonard Note: Sacre, Candace	The Mayfield Electric Plant Board is our board. We are autonomous of the City of Mayfield.
1:22:16 PM	Atty Weutcher Graves District - witness Leonard Note: Sacre, Candace	Can you briefly describe the relationship between the Mayfield Electric and Water Systems and Graves County Water District?

1:22:24 PM	Witness Leonard Note: Sacre, Candace	We have a total management contract with the Graves County Water District, and that contract is undated with them periodically. I think it's every four years, I think is correct. I can give you a timeline on how this originated, if that would be helpful.
1:22:50 PM	Chairman Schmitt Note: Warfield, KaBrenda	It probably would.
1:22:53 PM	Witness Leonard Note: Warfield, KaBrenda	In 1995, Mayfield Electric and Water started selling water to the Consumer Water District, which is a water district that is in the south part of Graves County. (Click on link for continuation of explanation.)
1:27:30 PM	Chairman Schmitt - witness Leonard Note: Warfield, KaBrenda	Examination. May I ask you a question?
1:27:33 PM	Chairman Schmitt - witness Leonard Note: Warfield, KaBrenda	The Graves County Water District as it presently exists serves residents of Graves and Carlisle County, is that correct?
1:27:44 PM	Chairman Schmitt - witness Leonard Note: Warfield, KaBrenda	So is the Board made up entirely of citizens of Graves County, or are there residents of other counties, Carlisle County, for instance, on the Board?
1:28:15 PM	Chairman Schmitt - witness Leonard Note: Warfield, KaBrenda	So that's the only area outside of Graves County?
1:28:53 PM	Vice Chairman Cicero - witness Leonard Note: Warfield, KaBrenda	Examination. So may I ask a question as well? So it doesn't include the Graves Commissioners, or it doesn't include members from two different counties?
1:28:53 PM	Chairman Schmitt Note: Sacre, Candace	Okay. Thank you.
1:29:03 PM	Vice Chairman Cicero - witness Leonard Note: Warfield, KaBrenda	But when you consolidated all these different water districts together, did it become a makeup of commissioners from each of the areas, or was it a core group of commissioners that ended up assuming the responsibility for all of those districts after consolidation?
1:29:25 PM	Atty Weuchter Graves District Note: Sacre, Candace	To the best of my recollection, Mr. Cicero, I think what happened was there was merger agreement between all of the districts, and they specified that all the commissioners would stay on board for one year. (Click on link for continuation of Atty Weuchter's response.)
1:29:59 PM	Vice Chairman Cicero - witness Leonard Note: Warfield, KaBrenda	And no one was concerned that someone might not be looking out for their interests? (Click on link for continuation of Vice Chairman Cicero's question.)
1:30:50 PM	Vice Chairman Cicero - witness Leonard Note: Warfield, KaBrenda	So when the consolidation took place, did any of the districts have employees that had to be let go, or were they absorbed into the management company, or how did that work?
1:31:41 PM	Vice Chairman Cicero - witness Leonard Note: Warfield, KaBrenda	So there was no one that had an issue as far as not being employed and the management group taking over the operation?

1:31:55 PM Vice Chairman Cicero - witness Leonard
Note: Warfield, KaBrenda So one last question, and I know you really can't answer the question because it's wide open. But hearing the last example you used as Hickory, Milburn is exactly the same way. They have part-time people operating the system. It's connected to Fancy Farm, which is a direct inter-connection to Graves County, and, yet, it still stands alone on its own. And I'm just curious why there's not been a consolidation of that arm into the system?

1:33:43 PM Vice Chairman Cicero - witness Leonard
Note: Warfield, KaBrenda So if someone from Milburn approached Graves County or Mayfield to manage the system, you would be open to it?

1:34:08 PM Vice Chairman Cicero - witness Leonard
Note: Warfield, KaBrenda Thank you. Please continue.

1:34:11 PM Chairman Schmitt
Note: Warfield, KaBrenda Proceed please.

1:34:19 PM Atty Weutcher Graves District - witness Leonard
Note: Sacre, Candace Direct Examination (cont'd). In terms of what Mayfield does for the Board and what you all receive, you do all the day-to-day operations?

1:34:27 PM Atty Weutcher Graves District - witness Leonard
Note: Sacre, Candace And you do all the billings and collections?

1:34:29 PM Atty Weutcher Graves District - witness Leonard
Note: Sacre, Candace You do all the accounting?

1:34:31 PM Atty Weutcher Graves District - witness Leonard
Note: Sacre, Candace You do all the regulatory compliance?

1:34:33 PM Atty Weutcher Graves District - witness Leonard
Note: Sacre, Candace If there's any reports that the District has to submit to the state or to the feds?

1:34:41 PM Atty Weutcher Graves District - witness Leonard
Note: Sacre, Candace Okay, and you handle all customer complaints?

1:34:45 PM Atty Weutcher Graves District - witness Leonard
Note: Sacre, Candace Okay, and I take it, according to your contract, if the district requests, Mayfield will assist in procuring professional services for the district?

1:35:00 PM Atty Weutcher Graves District - witness Leonard
Note: Sacre, Candace Can you very briefly tell us how Mayfield is compensated for this?

1:36:42 PM Atty Weutcher Graves District - witness Leonard
Note: Sacre, Candace Okay, so it would be correct then to say you bill for actual labor?

1:36:48 PM Atty Weutcher Graves District - witness Leonard
Note: Sacre, Candace You bill for actual mileage?

1:36:51 PM Atty Weutcher Graves District - witness Leonard
Note: Sacre, Candace You bill, I guess, a fee for the use of any equipment that the District -

1:37:01 PM Atty Weutcher Graves District - witness Leonard
Note: Sacre, Candace And those rates are specified in the contract that Mayfield has to operate the system?

1:37:10 PM Atty Weutcher Graves District - witness Leonard
Note: Sacre, Candace And is it correct that there's also, basically, a monthly customer charge that the District pays for each customer that is served through Mayfield?

1:37:23 PM Atty Weutcher Graves District - witness Leonard
Note: Sacre, Candace Now, with that background, I want to go ahead and go to the issue of unaccounted-for water or water loss. Do you know what the unaccounted-for water loss was for Graves District for the test period 2017? If I told you it was around 25 percent, would that -

1:37:48 PM Atty Weutcher Graves District - witness Leonard
Note: Sacre, Candace And do you know what the unaccounted-for water loss was for Graves District for the past calendar year 2018?

1:38:06 PM Atty Weutcher Graves District - witness Leonard
Note: Sacre, Candace Well, no. I'm just trying to put this in context. In the annual report the Graves District filed, it was reported about a 31 percent line loss for that total system. Does that sound correct?

1:38:19 PM Atty Weutcher Graves District - witness Leonard
Note: Sacre, Candace Can you briefly describe for us the reasons for that level of unaccounted-for water?

1:42:06 PM Atty Weutcher Graves District - witness Leonard
Note: Warfield, KaBrenda I had some more questions, but I think at this point would be a good stopping point to go ahead and ask you if you would go ahead and give your presentation regarding the District's program for leak detection.

1:42:25 PM Via Presentation Activated

1:42:27 PM Atty Weutcher Graves District - witness Leonard
Note: Warfield, KaBrenda While you're trying to get that up, we left with each Commissioner a copy of the Power Point presentation and also provided a copy to Commission Staff.

1:43:23 PM Chairman Schmitt
Note: Warfield, KaBrenda While we are working on the screen, Mr. Weutcher, is Graves County the only water district or customer that Mayfield manages?

1:43:36 PM Atty Weutcher Graves District
Note: Sacre, Candace That's my understanding, yes, Your Honor.

1:44:00 PM POWER POINT PRESENTATION
Note: Warfield, KaBrenda WITNESS KEVIN LEONARD

1:44:05 PM Camera Lock PTZ Activated

1:44:06 PM Witness Leonard
Note: Sacre, Candace Again, about 2012 or 2013, we started looking at ways to prevent water loss besides just fixing leaks that appeared, that were called in, or things we saw, you know, leaking and started looking at different equipment and have tried a lot of different things. We've had a listening device, you know, we've had firms come in and do leak detection for us over the years, and never really saw a tremendous impact.

1:44:43 PM Witness Leonard
Note: Sacre, Candace And so what we decided to do is look at what we could do for impact not just for Mayfield but for Graves County, so the map that you see there is the system and the number of customers. (Click on link for continuing presentation.)

1:45:50 PM Witness Leonard
Note: Warfield, KaBrenda Does anybody have any questions as far as that map goes? You can see Sedalia, the consumer water district, South Graves, Hardeman, Fancy Farm, Hickory. Does anybody have any questions regarding that before I move on?

1:46:06 PM Vice Chairman Cicero - witness Leonard
Note: Sacre, Candace What's the greatest distance from the center to the furthest point?

1:46:34 PM Commissioner Mathews - witness Leonard
Note: Sacre, Candace While you do that, I have a question. On our map that we got from the Water Resource Information System, it appears that the Fancy Farm system actually extends some distance into Carlisle County on the Milburn system, and that the, I guess, point of sale is some distance into Carslie. Is it really on the Carlisle line?

1:47:09 PM Commissioner Mathews - witness Leonard
Note: Sacre, Candace From your map, it looks to be in a different spot.

1:47:19 PM	Vice Chairman Cicero Note: Sacre, Candace	It looks like you're actually right. It's the same on this map as it is on this map. It goes across thte county line into -
1:47:26 PM	Commissioner Mathews Note: Sacre, Candace	Okay, okay. The color's got me confused.
1:47:36 PM	Chairman Schmitt Note: Sacre, Candace	I take it there isn't a water district in Carlisle County that basically provides service anywhere in the vicinity of Milburn or this area. That's a guess. I don't know.
1:49:02 PM	Vice Chairman Cicero Note: Sacre, Candace	It looks like it's pretty close. If you go the the furtherest reaches of the Hickory or maybe of the South Graves, it almost looks to be similar to Milburn.
1:49:19 PM	Vice Chairman Cicero Note: Sacre, Candace	And I'm not concentrated on Milburn, I'm just trying to get an idea because -
1:49:53 PM	Chairman Schmitt Note: Sacre, Candace	Well, they were very complimentary of you, Mayfield, and Graves County. It's a small system anyway. They only have 136 customers.
1:50:23 PM	Witness Leonard Note: Sacre, Candace	All right. The next page, No. 3, there (Steps to Leak Detection Program), kind of gives us an overview of what we're going to do here and what I'm going to try to cover to the best of my ability. (Click on link for continuing presentation.)
1:52:00 PM	Witness Leonard Note: Sacre, Candace	And if you look at the next page, Virtual Locations Per District, can be run daily, weekly, monthly, yearly. This is something I really wanted to be able to show you guys. (Click on link for continuing presentation.)
1:54:12 PM	Witness Leonard Note: Sacre, Candace	And we go to each meter individually (Determine Area for DMA) and verify the connection, see where it goes. If it's turned off, make sure it's locked off, and make sure it's not leaking. If it's a vancant account, for whatever reason it's not measuring water. In the process of this, we will put out our listening devices, and I'll come back to that in a minute. (Click on link for continuing presentation.)
1:55:40 PM	Witness Leonard Note: Sacre, Candace	On this original DMA we did, (35 Possible DMA Sites) there were 35 possible sites. The cost was approximately \$5,000 to \$6,000 for meter installation and the programming, time going out there, pulling that information. (Click on link for continuing presentation.)
1:57:18 PM	Chairman Schmitt Note: Sacre, Candace	Examination. Well, then what? Would you then develop or have you developed to date a program or a plan to replace all of this 1960 area infrastructure that ultimately is failing, right, all the time?
1:57:28 PM	Camera Lock Deactivated	
1:58:53 PM	Vice Chairman Cicero - witness Leonard Note: Sacre, Candace	Examination. But \$175,000 isn't the cost?
1:59:15 PM	Vice Chairman Cicero - witness Leonard Note: Sacre, Candace	But you said the meter cost for your was \$5200 and some dollars?
1:59:33 PM	Vice Chairman Cicero - witness Leonard Note: Sacre, Candace	So is \$5300 the average size meter?
1:59:38 PM	Vice Chairman Cicero - witness Leonard Note: Sacre, Candace	So there would be lower cost ones than \$5295?

2:00:31 PM Vice Chairman Cicero - witness Leonard
Note: Sacre, Candace You indicate that there's labor on top of that, there's equipment costs, and there's other costs that are going to be associated with this meter installation, so I'm just trying to get an idea.

2:00:52 PM Vice Chairman Cicero - witness Leonard
Note: Sacre, Candace So I used \$7500 before you said \$8,000. That's like \$263,000. So I mean, we don't have a good feel here for the numbers yet.

2:01:07 PM Vice Chairman Cicero - witness Leonard
Note: Sacre, Candace I guess we're looking at the philosophy of leak detection right now rather than the cost of the program because the numbers presented don't really represent what you believe, is that correct?

2:02:29 PM Vice Chairman Cicero - witness Leonard
Note: Sacre, Candace It seems pretty detailed.

2:02:38 PM Vice Chairman Cicero - witness Leonard
Note: Sacre, Candace So, if we look at just this program that you're showing here for the DMA sites, does this cost that you're reflecting here also include the cost - you already have the equipment, the leak detection equipment. Are there ancillary costs besides the installation of these meters?

2:04:05 PM Vice Chairman Cicero - witness Leonard
Note: Sacre, Candace So here's where the line of questioning is coming from. When you submitted the Application for a Rate Increase, \$136,000 or \$139,000 was included for a leak detection program. Is that about right?

2:04:56 PM Vice Chairman Cicero - witness Leonard
Note: Sacre, Candace That was my next question.

2:05:01 PM Vice Chairman Cicero - witness Leonard
Note: Sacre, Candace So the presentation that you're making is, in addition to the \$136,000 or \$139,000, is to install 35 DMA sites and the total leak detection program because, if I understand correctly, in order for it to be an efficient leak detection program, you need to install these meters so you can really localize where the leaks are. Is that a fair assessment?

2:05:31 PM Vice Chairman Cicero - witness Leonard
Note: Sacre, Candace So, if I use the \$262,000 and, let's say, \$139,000, that's basically \$400,000. Does that sound about right?

2:05:42 PM Vice Chairman Cicero - witness Leonard
Note: Sacre, Candace So that's the number we're really talking about for a leak detection program, just so I have ballpark of where we are as you go through this?

2:07:01 PM Vice Chairman Cicero - witness Leonard
Note: Sacre, Candace Well, I'm not talking about infrastructure replacement. I'm just talking about your leak detection proposal, which, from what I can understand, plus or minus five or ten percent, is around \$400,000. Is that a fair statement?

2:07:27 PM Camera Lock PTZ Activated
2:07:28 PM Witness Leonard
Note: Sacre, Candace If we move on to the next slide, that would be the installation of a master meter (DMA Master Meter). It doesn't have the head on it yet or anything, but that's the installation of the six-inch master meter which I said that's a six-inch there.

2:08:38 PM Witness Leonard
Note: Sacre, Candace The next one is a screen shot showing the consumption intervals along with the hourly intervals. If you look at that, you can see two, three, four a.m the usage goes down substantially. (Click on link for continuing presentation.)

2:09:19 PM	Vice Chairman Cicero - witness Leonard Note: Sacre, Candace	Examination. When it shows a negative consumption number, what does that mean?
2:09:42 PM	Vice Chairman Cicero - witness Leonard Note: Sacre, Candace	I mean, it looks like in a couple of cases the high for the day is next to the low for the day, and if you took the two of them, you probably would have a more representative number.
2:10:30 PM	Vice Chairman Cicero - witness Leonard Note: Sacre, Candace	I mean, there's back-flow prevention, isn't there?
2:10:40 PM	Witness Leonard Note: Sacre, Candace	The next page (Deploy Leak Loggers), these are what we deploy on the meters. Now, these have been around for a while, but what we have found is that when we were looking at this and looking at the different kinds of equipment, a lot of people put these on valves and hydrants and try to hear for noise, and they work okay for that. But if we really wanted to find the leaks, we put them on each meter. (Click on link for continuing presentation.)
2:11:47 PM	Witness Leonard Note: Sacre, Candace	It gives me this screen here, if you can see, the yellow are the potential leaks, the green is a little bit hot, the blue means there's not any noise there.
2:12:00 PM	Witness Leonard Note: Sacre, Candace	And the next page, and that was that 1710 test site where we deployed that, this is a histogram. The way that these things work is pretty smart. They come on at one for 15 minutes. If they hear something, they come on again at two for 15 minutes, and then they come on at three for fifteen minutes. (Click on link for continuing presentation.)
2:12:55 PM	Witness Leonard Note: Sacre, Candace	Somebody will come out there with this Macron 3 (Pin Point Exact Leak Location), and we'll listen for leaks to verify what we're dealing with. If it's a main and it might not be right there, but it might be that the meter is attached to the main and is close enough that it picked it up. (Click on link for continuing presentation.)
2:13:23 PM	Witness Leonard Note: Sacre, Candace	They go into our work order system (Tickets Sent to Crews Via Work Order System to Fix Leaks). That' s blacked out because it's got customer names on it there, but you can see it'll say "investigate," and it has a noise level of 29, and it gives the address and the creation date. Every one of my guys, every one of our crews, the tickets are sent out via the work order system, and this is how we address our leaks.
2:13:50 PM	Vice Chairman Cicero - witness Leonard Note: Sacre, Candace	Examination. Will you have to have any additional equipment if you go ahead with these 35?
2:14:20 PM	Vice Chairman Cicero - witness Leonard Note: Sacre, Candace	I thought you indicated that you should have one on each meter.
2:14:43 PM	Vice Chairman Cicero - witness Leonard Note: Sacre, Candace	But not necessary?
2:14:48 PM	Witness Leonard Note: Sacre, Candace	This is a map from our work order system (Management Has the Ability to Track Work of Each Crew), and let me explain a little bit here. When we started doing this and started putting these out on the meters, I said, "We're going to find a substantial amount of leaks," and this is a screen shot from Mayfield. (Click on link for continuing presentation.)

2:16:00 PM Vice Chairman Cicero - witness Leonard
Note: Sacre, Candace Examination. So is this reflective just that you focused your activity on the west side of Mayfield, or is the pipe in that area worse than pipe in other areas?

2:16:28 PM Witness Leonard
Note: Sacre, Candace And I handed you all a ruler (Graves District Exhibit 03), and I handed you those for a reason, If you look at the dots there and you turn it over to the back side, you know, you can look at 60 psi is what it's saying. Well, typically, the systems run a lot more than 60 psi. Mayfield does, most of Graves County, everywhere we have runs more than 60 pounds, pretty well. (Click on link for continuing presentation.)

2:17:43 PM Camera Lock Deactivated

2:18:29 PM Vice Chairman Cicero
Note: Sacre, Candace If you think you have to convince us that water loss is bad, you've already cleared that hurdle, okay?

2:18:36 PM Chairman Schmitt
Note: Sacre, Candace You're preaching to the choir.

2:19:14 PM Vice Chairman Cicero - witness Leonard
Note: Sacre, Candace Examination. What's the total workforce for Mayfield?

2:19:25 PM Vice Chairman Cicero - witness Leonard
Note: Sacre, Candace Okay. Just for water?

2:19:43 PM Vice Chairman Cicero - witness Leonard
Note: Sacre, Candace Okay, so you're not overstaffed by any stretch?

2:20:00 PM Vice Chairman Cicero - witness Leonard
Note: Sacre, Candace You're kind of locked in from a no-growth perspective, so you're not going to add any, and even Milburn would only be 136 customers.

2:20:14 PM Vice Chairman Cicero - witness Leonard
Note: Sacre, Candace Yes, I understand. Well, it will be interesting to see how long it took from an estimate to replace 35 or to install 35 valves with the limited resources that you have.

2:21:44 PM Witness Leonard
Note: Sacre, Candace And the other handout I gave you (Graves County Exhibit 02) was some infrastructure needs because, if you look at fixing these service leaks and these mains that might be leaking, most of them, I think, are service leaks that are causing the problem, they're all Band-Aids. They're not a permanent solution, and nobody wants to increase rates. (Click on link for remaining comments.)

2:22:03 PM Via Presentation Deactivated

2:22:53 PM Vice Chairman Cicero - witness Leonard
Note: Sacre, Candace Examination. But the problem with the \$2 and the \$3.20 is I believe that that number was calculated off the \$136,000 or the \$139,000.

2:23:01 PM Vice Chairman Cicero - witness Leonard
Note: Sacre, Candace And now we're talking about three times that, which means we're talking about \$6 or \$10. If you really are proposing to do that, I mean, reality has to be faced on what the cost per customer will be, going forward. I mean, you're proposing the plan, and I think that the Commission is in favor of water loss detection and reduction in water loss, so, I mean, that's why I tried to establish what is the cost we're talking here. (Click on link for remaining comments.)

2:24:36 PM Vice Chairman Cicero - witness Leonard
Note: Sacre, Candace From that perspective, I guess the Commission would look for what the proposal is that Graves is saying that they need to do so that we can determine what the appropriate surcharge is and what Graves is willing to do in terms of implementing that surcharge.

2:24:57 PM	Chairman Schmitt Note: Sacre, Candace	Of course, too, one of the problems, it always seems to me, that local government is, it's probably all government but especially local government, is prices go up, groceries go up, gasoline, the price of a motor vehicle, and you can't do anything about it. And, yet, when the most important utility that any human being has is water, because you can't live. You can live without electricity, you wouldn't want to, or natural gas, but you can't live without water, But because it's controlled locally by our friends and neighbors, people say, "Everything else is going up. I can't afford this." And so the tendency is to say, "Well, you know, everything's going okay. We don't have problems. We'll defer it." (Click on link for remaining comments.)
2:27:11 PM	Chairman Schmitt Note: Sacre, Candace	And I don't know what to do about it, and you say, "Well, it's like the pension system." I mean, it's the same thing. You can kick the can down the road so far, and then you've just got to pray every night they blame somebody else for it. That's it, that it happens on somebody else's watch, not mine. I mean, that was just a statement. We've got a district I was in a meeting earlier today. Their problem is they're broke. (Click on link for remaining comments.)
2:29:37 PM	Chairman Schmitt Note: Sacre, Candace	Well, because a lot of districts, once they go beyond 15 percent and they get up to 30 or 35 and under the regulations we don't give them above 15, the truth is they can't survive. You can never fix it then, so you say, "Well, why not give them the money?" Well, when they did have the money, they weren't fixing it, so you ought to ensure at least that they make an effort.
2:30:34 PM	Vice Chairman Cicero Note: Sacre, Candace	It's almost you can't afford not to.
2:30:40 PM	Chairman Schmitt Note: Sacre, Candace	
2:31:11 PM	Atty Weutcher Graves District Note: Sacre, Candace	Well, we agree, so, I mean, if the plan is - I mean, you've submitted your application, and I don't know if you can answer this question or not, but does the Water District want more money? Do you want to submit a different plan? If you do, you know, now is the time to think about what is it that you want, or do you want to come back later like you did in Estill or something? I don't know.
2:31:11 PM	Atty Weutcher Graves District Note: Sacre, Candace	Your Honor, I think Graves' position would be it would not want to have to come back again, at least so soon, because it would require meeting again all the requirements for a general rate adjustment. But what we would propose is if we could have maybe a few days to give you the more details you want in terms of the amount. (Click on link for remaining comments.)
2:32:16 PM	Vice Chairman Cicero Note: Sacre, Candace	I don't think there's anything magical about a three-year amortization period. You can extend it out to some other period. I think that's what was proposed.
2:32:26 PM	Atty Weutcher Graves District	

2:33:02 PM	Chairman Schmitt Note: Sacre, Candace	Well, I guess, in the past, as we're sort of new at this, the idea was, well, the water district ought to have a plan and have an engineer and do all these things, but that seemed unrealistic for small water districts. So, if somebody had a plan, like your plan, I mean, we could permit, and just my own personal thinking, was collection of the money and then withhold spending it. (Click on link for remaining comments.)
2:34:08 PM	Atty Weutcher Graves District Note: Sacre, Candace	Your Honor, we would agree with that, and I think our position would be that, in terms of allowing the utility to collect the money, recognizing there's going to be commission oversight and before we spend any money, you would be aware of where's it's being spent. (Click on link for remaining comments.)
2:34:49 PM	Chairman Schmitt Note: Sacre, Candace	And we have had, in terms of at least a gas company or two, where lines were hazardous or needed to be replaced, the surcharge served as a fund that was dedicated to pay off a loan that somebody could get to do a larger project. But come and see us about the loan. Just file something. (Click on link for remaining comments.)
2:35:36 PM	Commissioner Mathews Note: Sacre, Candace	Be creative.
2:35:41 PM	Chairman Schmitt Note: Sacre, Candace	Okay. Any questions? Are you finished? Have you completed?
2:35:45 PM	Witness Leonard Note: Sacre, Candace	Your Honor, if anybody has any questions for me, I'll be glad to try to answer them.
2:35:53 PM	Chairman Schmitt Note: Sacre, Candace	Ms. Vinsel, questions?
2:35:56 PM	Asst GC Vinsel PSC - witness Leonard Note: Sacre, Candace	Cross Examination. You said that you knew pretty much what the expected cost savings would be from your proposed plan. Can you give us those numbers now? If not, can you -
2:36:52 PM	Asst GC Vinsel PSC - witness Leonard Note: Sacre, Candace	And why don't you compute it on an annual basis?
2:36:58 PM	Asst GC Vinsel Note: Sacre, Candace	I just have one question to ask (consulting with Staff).
2:37:01 PM	Vice Chairman Cicero - witness Leonard Note: Sacre, Candace	Examination. And your hypothetical should be, hypothetically, a good estimate.
2:37:19 PM	Commissioner Mathews - witness Leonard Note: Sacre, Candace	Examination. And that's an average based on the cost of purchasing water and the cost of producing water for the different areas?
2:37:43 PM	Commissioner Mathews - witness Leonard Note: Sacre, Candace	And zero may be too far. It would likely cost more to get to zero than you would benefit from getting to zero.
2:37:57 PM	Vice Chairman Cicero - witness Leonard Note: Sacre, Candace	Examination. I think we usually do savings based on anything over the 15 percent rate is how we try to look at it, knowing that you're never going to get to zero.
2:38:08 PM	Asst GC Vinsel PSC - witness Leonard Note: Sacre, Candace	Cross Examination (cont'd). I do have one more question. Because Mayfield has implemented a program, have you seen savings or a reduced water loss?
2:38:18 PM	Asst GC Vinsel PSC - witness Leonard Note: Sacre, Candace	Can you give me an estimate?

2:39:12 PM Asst GC Vinsel PSC
Note: Sacre, Candace Thank you. Staff has nothing further.

2:39:15 PM Chairman Schmitt
Note: Sacre, Candace Commissioner Cicero, any questions, anything else?

2:39:18 PM Vice Chairman Cicero
Note: Sacre, Candace Nothing else.

2:39:19 PM Chairman Schmitt
Note: Sacre, Candace Commissioner Mathews?

2:39:20 PM Commissioner Mathews - witness Leonard
Note: Sacre, Candace Examination. We've had some folks in giving us presentations on a, for lack of a better, water audit, a different system of looking at water loss. Your philosophy sounds a little bit different from that philosophy. Is that true, or is it just your presentation is different?

2:39:42 PM Commissioner Mathews - witness Leonard
Note: Sacre, Candace I mean, their presentation seems to be along the lines of the Commission is wrong in looking at this, that we're measuring the wrong things, that the 15 percent is -

2:39:58 PM Chairman Schmitt
Note: Sacre, Candace Arbitrary.

2:39:59 PM Commissioner Mathews - witness Leonard
Note: Sacre, Candace - arbitrary and not likely the correct amount, and that we're worrying about the wrong things, that water loss is not what you should be concerned with. Am I kinda summarizing some of what we've heard?

2:40:16 PM Chairman Schmitt - witness Leonard
Note: Sacre, Candace Examination. I mean, as I said, water loss is a problem and water loss is expensive, but you need to measure what is an acceptable water loss by how much you're saving versus how much it cost.

2:40:39 PM Chairman Schmitt - witness Leonard
Note: Sacre, Candace No, they're not saying one way or the other. They're just saying you ought to establish some criteria or model or something by which it can be determined how much the water loss is, how much water is lost, what the cost is, and then what the cost of fixing it is, and, if there is a penalty, it ought to only involve so much as - you shouldn't penalize people for not spending more money than it's worth. (Click on link for remaining comments.)

2:42:03 PM Commissioner Mathews - witness Leonard
Note: Sacre, Candace Examination. But what you said earlier was you would love to see zero because any water that's lost is water you're not selling; you have to pay to produce it and pay to pump it. But you'll never get to zero.

2:42:23 PM Commissioner Mathews - witness Leonard
Note: Sacre, Candace You'll never get to zero because you'll fix A and B will pop up. It's a dynamic system.

2:42:28 PM Chairman Schmitt - witness Leonard
Note: Sacre, Candace Examination. It's an ongoing maintenance and replacement program. It's just like your home. You've got to replace the shingles, you have to paint, you have to replace the carpet, you have to patch the driveway. I mean, that's just what it is, isn't it?

2:42:50 PM Commissioner Mathews - witness Leonard
Note: Sacre, Candace We have an administrative docket open, a water loss reporting, and I believe they filed their comments in that docket. I'm looking at one of our attorneys. If you want to go back and look at that, I think it's publicly available.

2:43:12 PM Chairman Schmitt
Note: Sacre, Candace Anything else? May this witness be excused?

2:43:18 PM	Chairman Schmitt Note: Sacre, Candace	May this witness be excused?
2:43:19 PM	Asst GC Vinsel PSC Note: Sacre, Candace	Yes, he may.
2:43:20 PM	Chairman Schmitt Note: Sacre, Candace	You may step down, sir, and be seated. Is there a need to call another witness? If there is and Mr. Weutcher would like to, that would be fine.
2:43:30 PM	Asst GC Vinsel PSC Note: Sacre, Candace	Actually, no. Staff had one other question that dealt with the phased-in approach for the surcharge, but based on Graves County coming back with a different proposal, there's no need to ask that question. So, no, we have no further questions for any of the witnesses.
2:43:45 PM	Atty Weutcher Graves District Note: Sacre, Candace	Your Honor, I don't want to present anyone I don't have to. I would ask, since we've handed these out, that they be made a part of the record, the actual copy of the presentation as Graves County Water District Exhibit 01, the Infrastructure Needs as Graves County Water District No. 02, and the ruler as Graves County Water District Exhibit 03.
2:44:22 PM	Chairman Schmitt Note: Sacre, Candace	All right. Let those be filed.
2:44:24 PM	GRAVES DISTRICT EXHIBITS 01, 02, AND 03 Note: Sacre, Candace Note: Sacre, Candace Note: Sacre, Candace	GRAVES DISTRICT EXHIBIT 01; GRAVES COUNTY WATER LOSS. GRAVES DISTRICT EXHIBITS 02; GRAVES COUNTY WATER DISTRICT INFRASTRUCTURE NEEDS. GRAVES DISTRICT EXHIBITS 03; MAYFIELD ELECTRIC & WATER RULER.
2:44:25 PM	Atty Weutcher Graves District Note: Sacre, Candace	And I will provide those to the court report after the hearing concludes. We have no other witnesses, Your Honor.
2:44:31 PM	Chairman Schmitt Note: Sacre, Candace	If there's nothing else, then we're going to adjourn the hearing, but I'd like to ask your people or make a statement after we're off the record on something completely different. If there's nothing further, this hearing is adjourned.
2:44:48 PM	Session Paused	
2:44:52 PM	Session Ended	



Exhibit List Report

2018-00429 06AUG2019

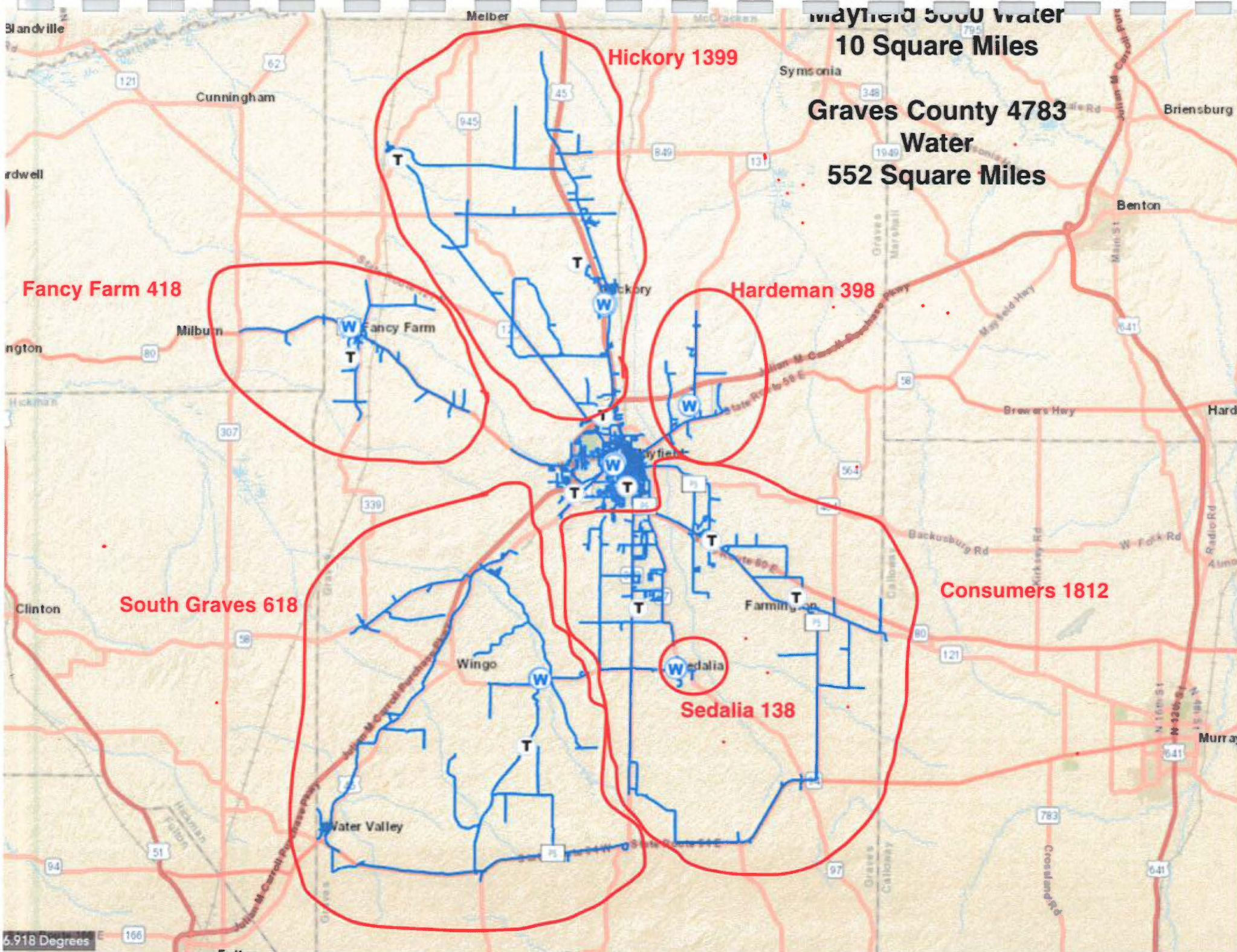
Graves County Water District
(Graves District)

Name:	Description:
Graves District Exhibit 01	Graves County Water Loss
Graves District Exhibit 02	Graves County Water District Infrastructure Needs
Graves District Exhibit 03	Mayfield Electric & Water Ruler



Graves County Water Loss

GRAVES DISTRICT EXHIBIT 01



Mayfield 5000 Water
10 Square Miles

Graves County 4783
Water
552 Square Miles

Hickory 1399

Fancy Farm 418

Hardeman 398

South Graves 618

Consumers 1812

Sedalia 138

6.918 Degrees

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 [» list of all virtual locations](#)

Electric **Water**

Display 10 records

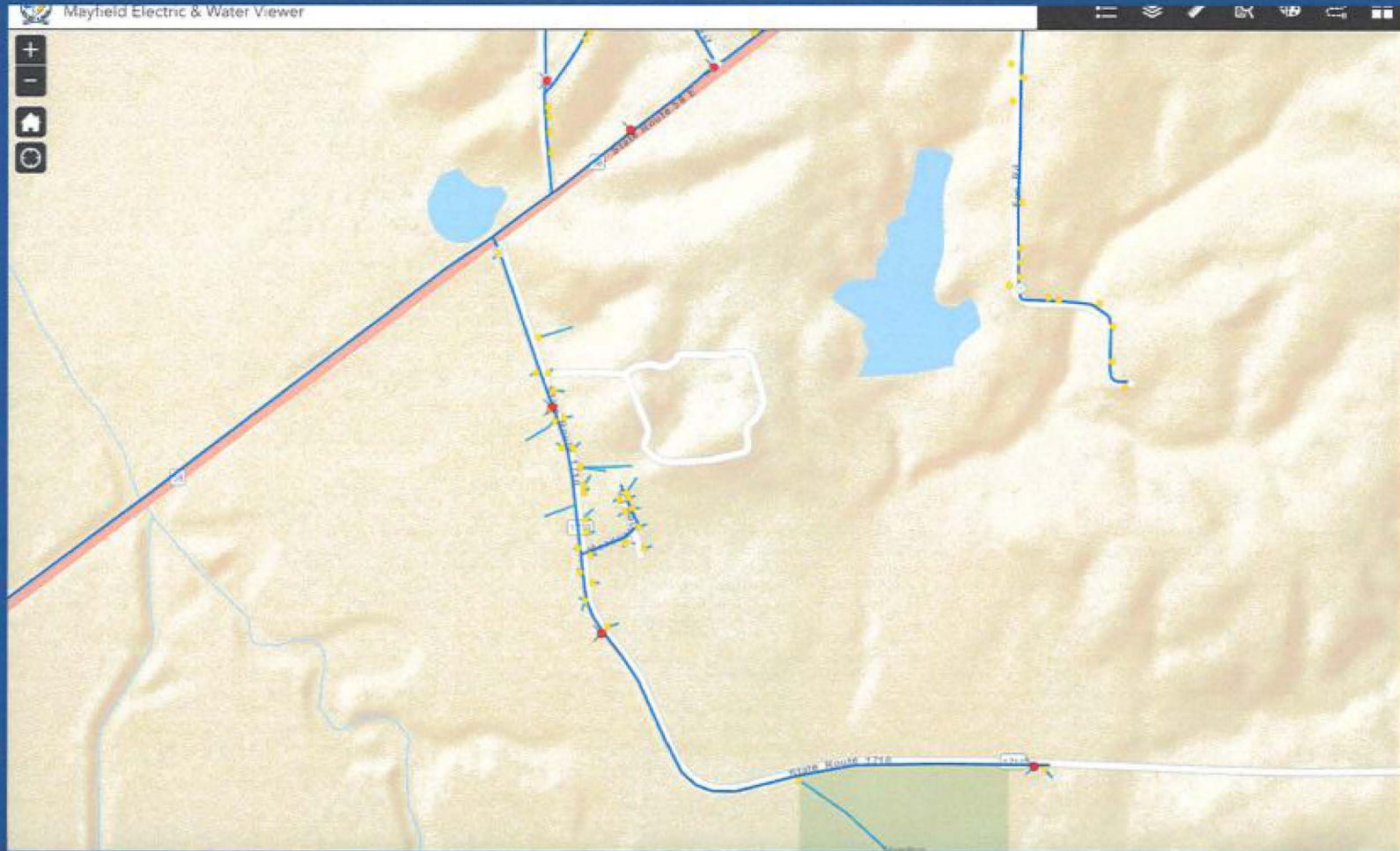
Search:

Virtual Location Name	Description	Start Date	End Date	Status
Sedalia	Sedalia Water Loss	2019-04-01		ACTIVE
Hardeman	Hardeman Water Loss	2016-01-01		ACTIVE
Fancy Farm	Fancy Farm Water Loss	2016-01-01		ACTIVE
Consumers 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 Insertion Meter	1710 Water Loss	2019-05-01		ACTIVE
Hale Test Virtual Location	VL Test	2019-04-01		ACTIVE
VM Demo Test	VM Demo test	2018-01-02		ACTIVE

Showing 1 to 9 of 9 entries

« 1 » [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

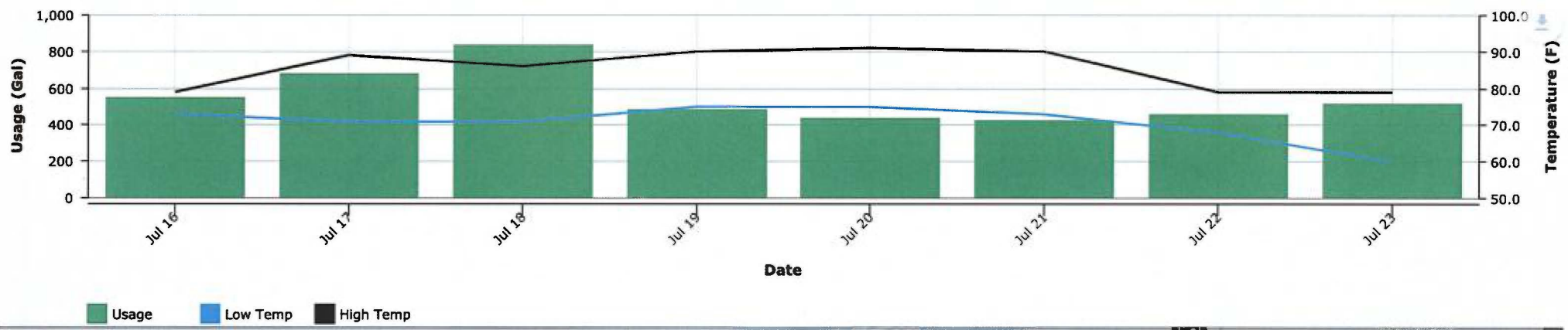
Location Statistics for Period

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

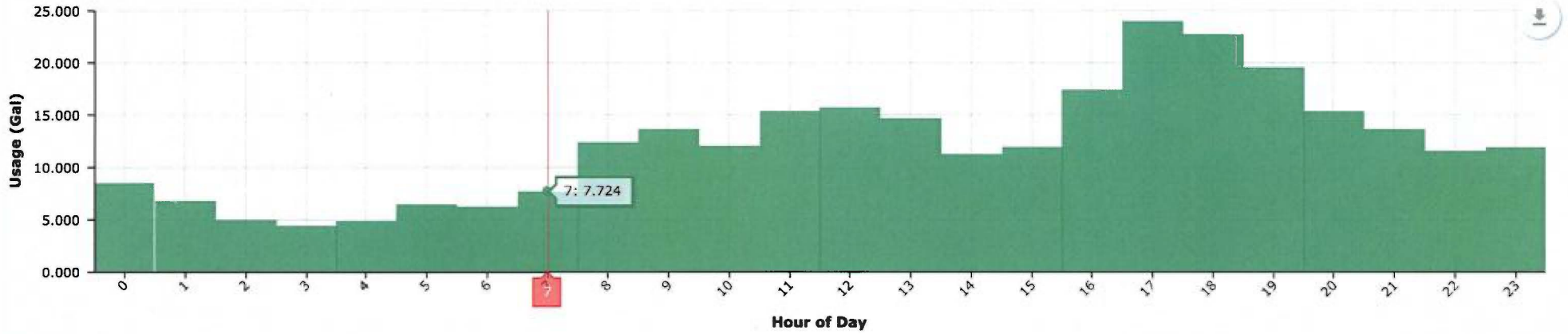
Location	Meter	Usage (Gal)	Percent Of Virtual Location
004192	B90969878	38280.000	53.056%
000243	B72358626	5070.000	7.027%
000253	B883030974	3530.000	4.893%
000199	B72358610	2920.000	4.047%
000311	B72358505	2600.000	3.604%
003042	B74809922	2150.000	2.98%
000229	B81389487	1850.000	2.564%
000213	B72358607	1680.000	2.328%
000272	B72358691	1460.000	2.024%

Daily Use



Legend: Low Temp (Blue), High Temp (Black)

Average Hourly Use



Consumption Intervals

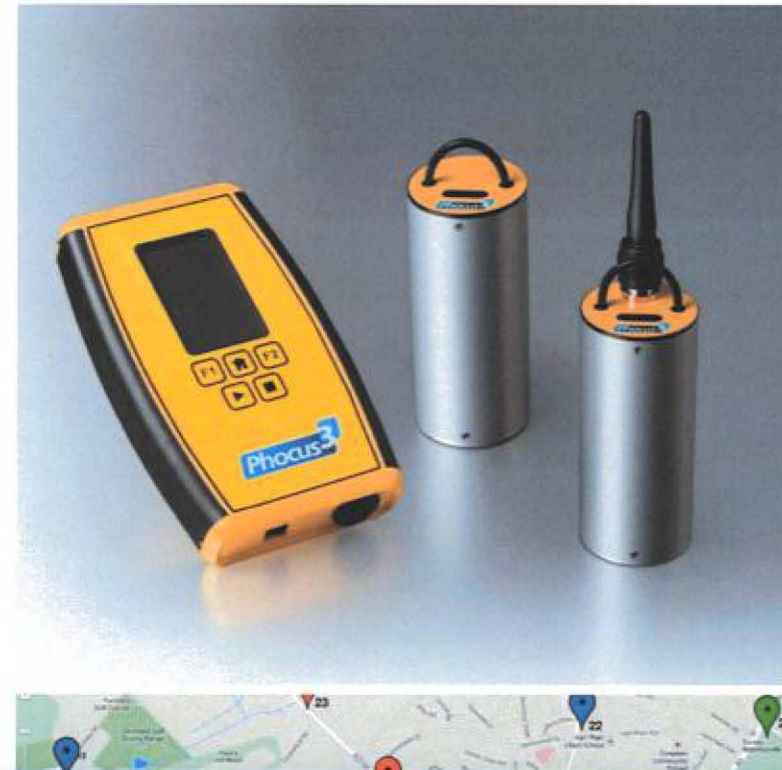
																							Bad Read (QC)	Zero Usage	Low for Day	Critical Peak	High for Day	Estimated Read	Missing Read		
01:00	02:00	03:00	04:00	05:00	06:00	07:00	08:00	09:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	Daily Total								
20.000	30.000	0.000	0.000	20.000	10.000	50.000	30.000	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	250.000	-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								
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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								
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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



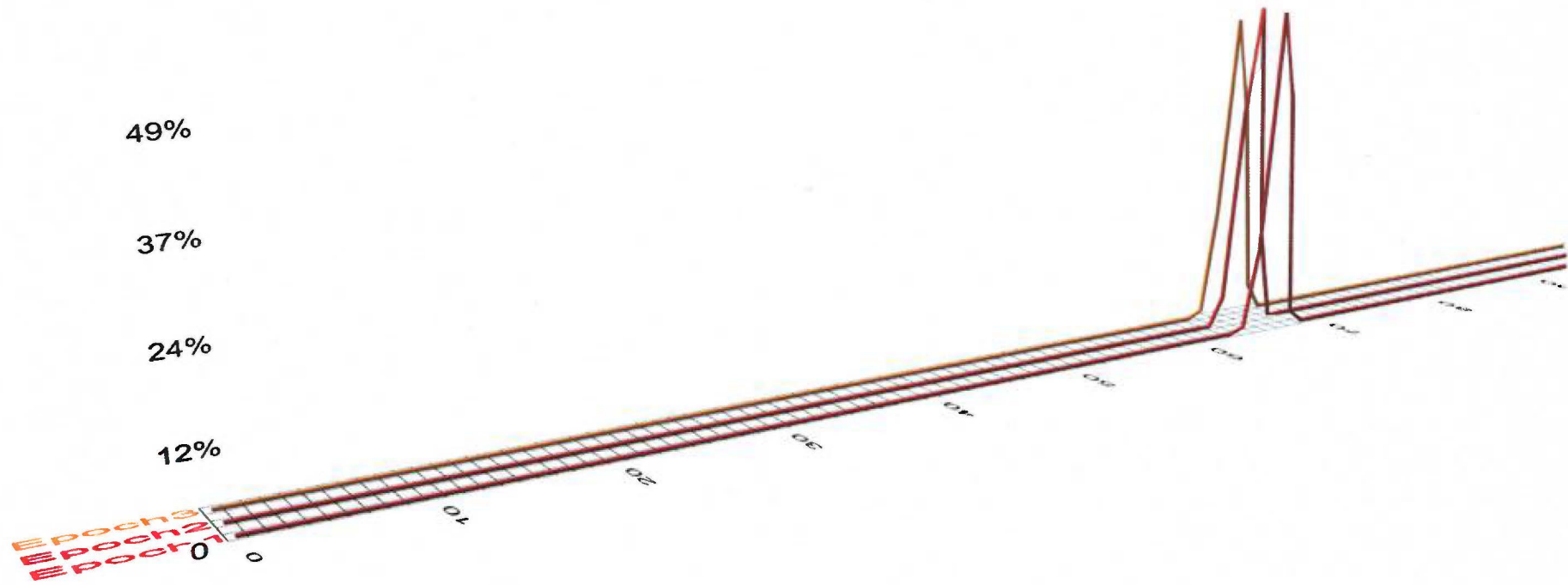
DEPLOY LEAK LOGGERS



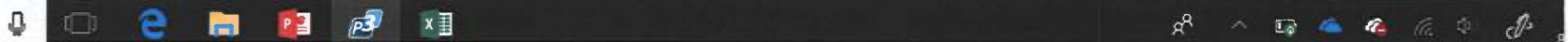
Histogram: 179160 - 8/14/2018 - 15Minutes - CNV Threshold: 20dB

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

	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



Click 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	
201331	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

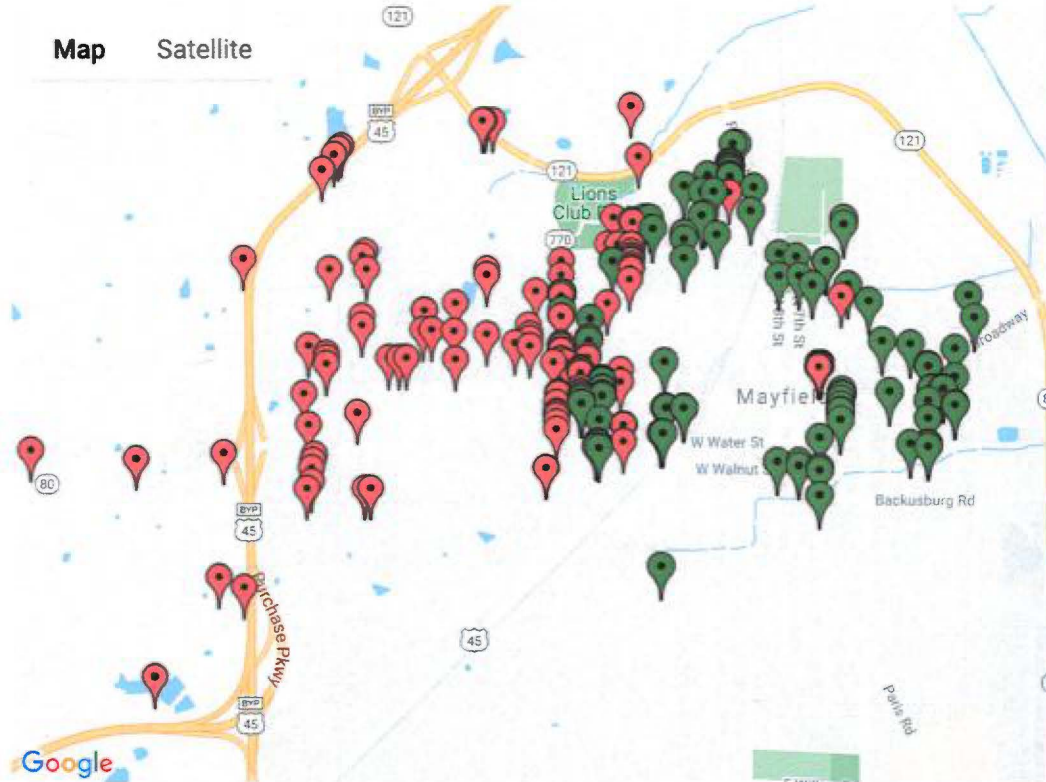
Select Order Status

Open Closed Both

Map Orders

Locations Map

Map Satellite



MANAGEMENT HAS THE ABILITY TO
TRACK WORK OF EACH CREW



Graves County Water District

Infrastructure Needs

**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	
Lowes 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



Moonlight Dr

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

Clapp Rd

Sherwood Forest

Smoot Rd

Hopewell Rd

State Highway 80 E

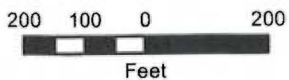
Legend

WaterLines

— Exist WLS

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

1 inch = 300 feet



MOON LIGHT DR & CLAPP RD LOOP WATER MAIN REPLACEMENT



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

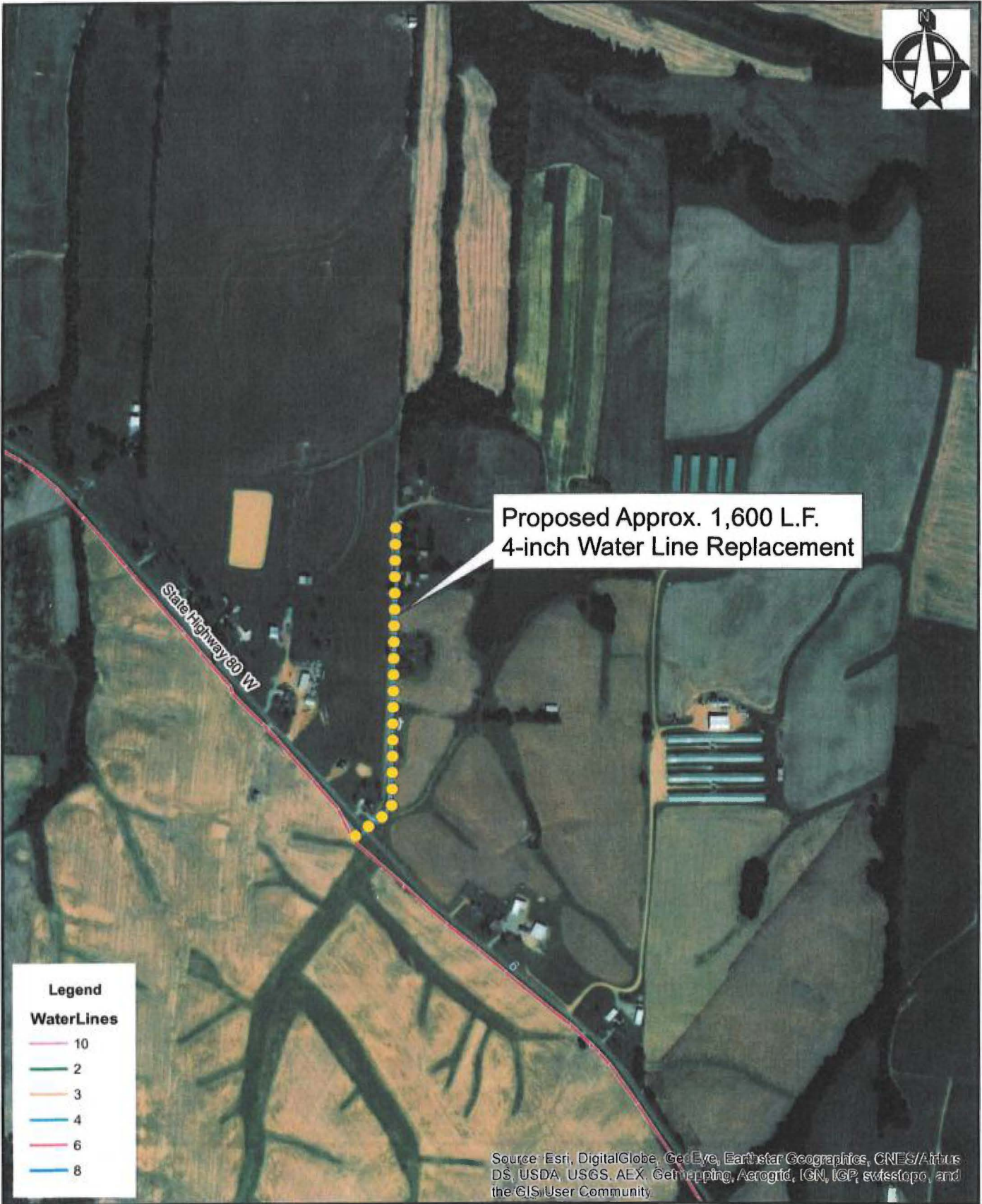
Proposed Project Title:
MOONLIGHT DR & CLAPP DR LOOP WATER MAIN REPLACEMENT

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

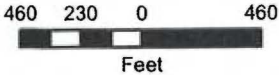
Legend

WaterLines

10
2
3
4
6
8

Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, 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



Jan Rd

State Highway 1276

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

New Hope Church Rd

State Highway 121 N

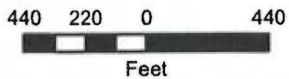
Legend

WaterLines

— Exist WLs

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

1 inch = 667 feet



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



owes Rd E

Proposed Approx. 2,000 L.F.
4-inch Water Line Replacement

Old Plant Rd

McGee Rd

Whittemore Rd

Knight Rd

Hoimes Rd

Olden Rd

United States Highway 45 N

State Highway 1241

Beasley Loop

State Highway 408 E

Terry Ln

Sally Ln

United States Highway 45 N

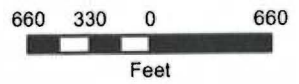
Legend

WaterLines

— Exist WLs

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

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

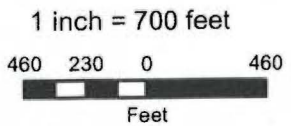
Project Location:
Old Plant Road off of St Hwy 1241 north of Holmes Road intersection.

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



TreeSolving: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, 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

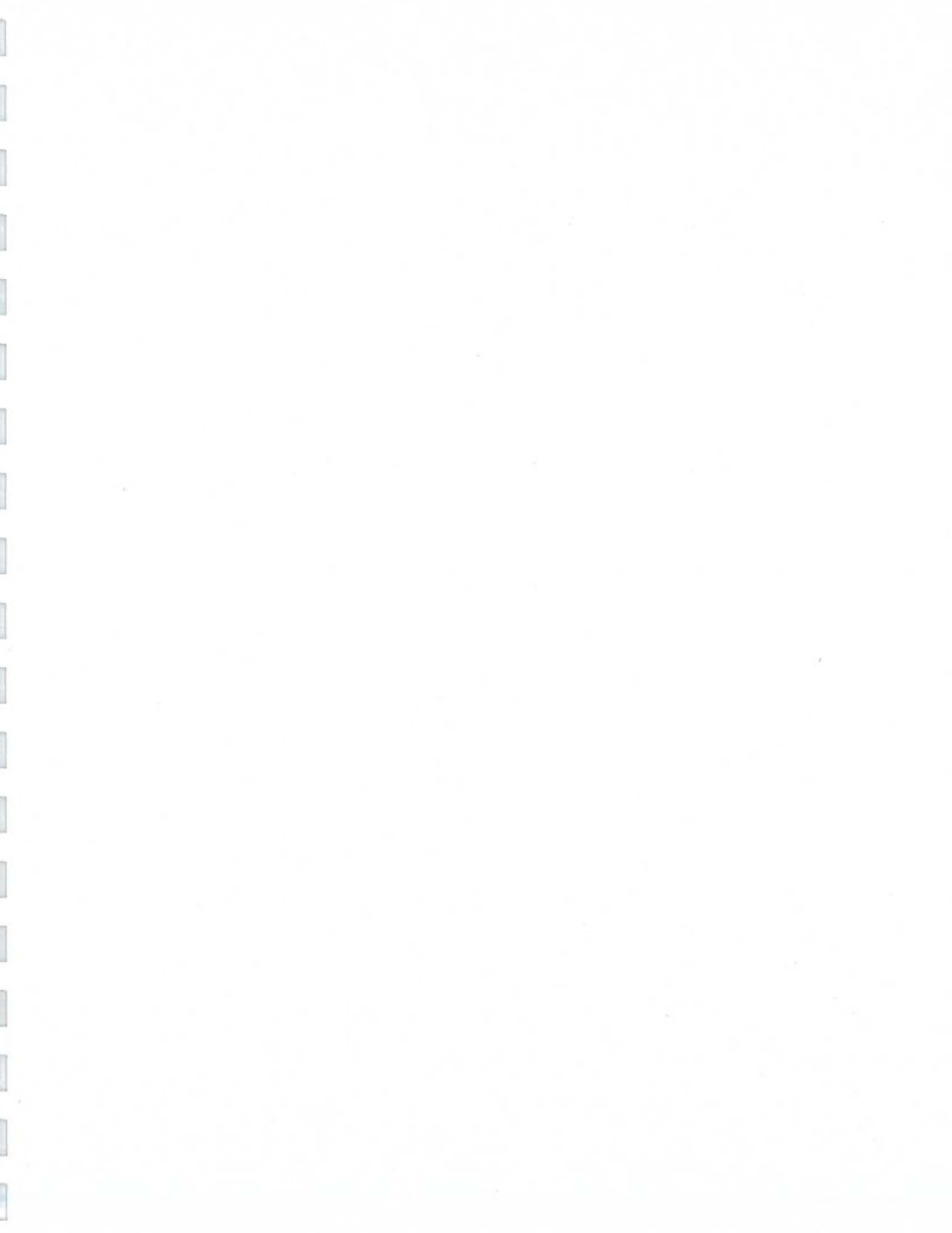
Proposed Project Title:
HIGHWAY 45 NORTH WATER MAIN REPLACEMENT

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





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:

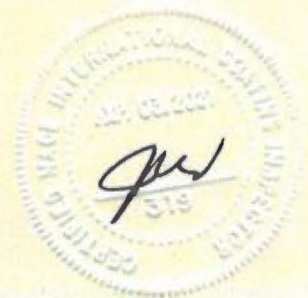
Jeff W. Oakley
NACE #319

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. 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 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
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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 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.
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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 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.
 - d. Paint Chip Analysis for Lead Content.
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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:

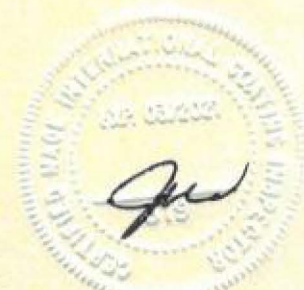
Jeff W. Oakley
NACE #319

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 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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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 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
 - c. Fourier Transform Infrared Spectrum Analysis of existing coating for recoat compatibility.
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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 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
 - c. Fourier Transform Infrared Spectrum Analysis of existing coating for recoat compatibility.
 - d. Paint Chip Analysis for Lead Content.
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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 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
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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 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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Submitted by:

Jeff W. Oakley
NACE #319

Accepted by:

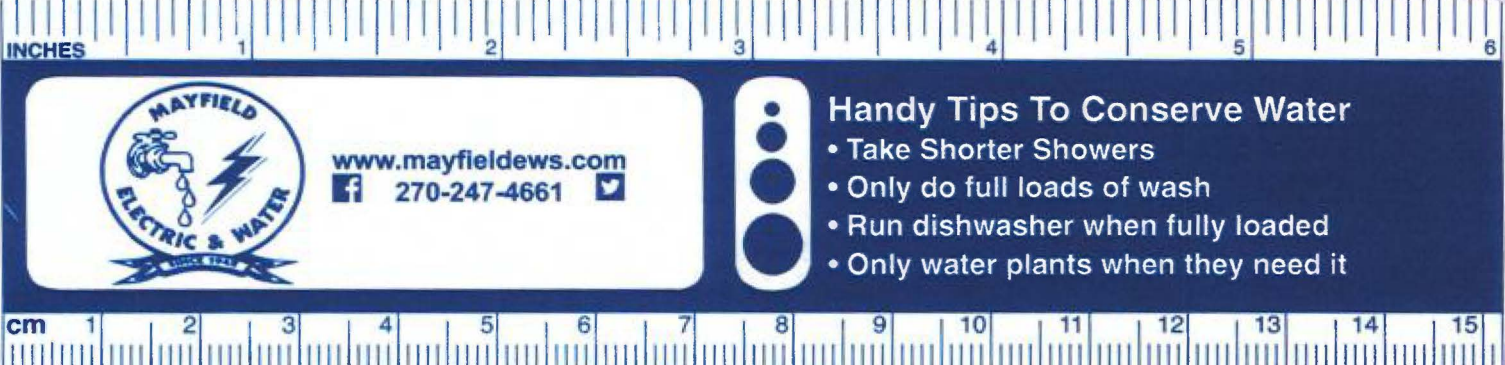
Date:

November 30, 2018

Date:



FRONT



MAYFIELD
ELECTRIC & WATER
SINCE 1924

www.mayfieldews.com
f 270-247-4661 t

Handy Tips To Conserve Water

- Take Shorter Showers
- Only do full loads of wash
- Run dishwasher when fully loaded
- Only water plants when they need it





***Water costs money...
don't waste it!***

A dripping faucet or fixture can waste 3 gallons a day...a total of 1095 gallons a year.

Conserve Water and Save Money!

A reminder from your local water utility where we're dedicated to quality and service.

Waste per quarter at 60 psi water pressure

Diameter of stream	Gallons	Cubic Feet	Cubic Meters
 1/4"	1,181,500	158,000	4,475
 3/16"	666,000	89,031	2,521
 1/8"	296,000	39,400	1,115
 1/16"	74,000	9,850	280



A continuous leak from a hole this size would, over a three month period, waste water in the amounts shown above.

*S. Boyd Neely, Jr.
Neely, Brien, Wilson, & Toombs, PLLC
238 North 7th Street
P.O. Box 708
Mayfield, KENTUCKY 42066

*Gerald E Wuetcher
Attorney at Law
STOLL KEENON OGDEN PLLC
300 West Vine Street
Suite 2100
Lexington, KENTUCKY 40507-1801

*Graves County Water District
P. O. Box 329
301 East Broadway
Mayfield, KY 42066

*Kevin Leonard
Water & Wastewater Manager
Mayfield Electric & Water Systems
301 East Broadway
P.O. Box 347
Mayfield, KENTUCKY 42066