

**AGENDA**  
**REGULAR DRAINAGE MEETING**  
**Wednesday, March 3, 2021 9:30 AM**  
**Large Conference Room**

**This meeting will be held electronically and in-person due to Covid-19 concerns.**

**To access the meeting call: 1-(312)-626-6799, when prompted enter meeting**

**ID code: 820 7567 2007**

**You can also access the meeting online at:**

**<https://us02web.zoom.us/j/82075672007>**

1. Open Meeting
2. Approve Agenda
3. Approve Minutes

Documents:

[02\\_17\\_21 - DRAINAGE MEETING.PDF](#)  
[DD 11 LANDOWNER MTG MINUTES 02\\_17\\_21.PDF](#)

4. Approve Claims For Payment

Documents:

[PAYABLES-DRAINAGE PUBLICATION 03\\_05\\_21.PDF](#)

5. DD 14 WO 290 - Discuss W Possible Action - Landowner Concerns

Documents:

[DD 14 WO 290 INVESTIGATION SUMMARY 05\\_11\\_20.PDF](#)  
[DD 14 WO 290 - 6844.4 - INVESTIGATION REPORT - 2020-08-31.PDF](#)

6. DD 160 - WO 283 - Discuss W Possible Action - Update

Documents:

[DD 160 - WO 283 6798 - REPAIR SUMMARY 03\\_13\\_20 .PDF](#)

7. Discuss W Possible Action - Drainage Assessment Project
8. Discuss W Possible Action - 2021 Drainage Assessments
9. Other Business
10. Adjourn Meeting

**REGULAR DRAINAGE MEETING**  
**Wednesday, February 17, 2021 930 AM**  
**This meeting was held electronically and in-person due to Covid-19 concerns.**

2/17/2021 - Minutes

1. Open Meeting

Hardin County Drainage Chairperson BJ Hoffman opened the meeting. Also present were Trustee Renee McClellan, Trustee Lance Granzow; Lee Gallentine of Clapsaddle-Garber Associates; Michael Pearce, Network Specialist; and Denise Smith, Drainage Clerk.

2. Approve Agenda

Motion by McClellan to approve the agenda. Second by Granzow. All ayes. Motion carried.

3. Approve Minutes

Motion by Granzow to approve the minutes of Drainage Meetings dated 02-03-2021, 02-10-2021 and DD 55-3Lat 9 Landowner Meeting dated 01-27-2021. Second by McClellan. All ayes. Motion carried.

4. DD 56 WO 3 - Discuss W Possible Action - Available Dates For Bid Letting

Gallentine inquired of the Trustees availability for a March 10, 2021 for a Bid Letting for DD 56. Smith stated the Trustees' schedule was open after the 9:30 AM Drainage Meeting on March 10th.

Motion by Granzow to hold the DD 56 Upper Tile Diversion Project Bid Letting March 10, 2021 at 10:00 AM. Second by McClellan. All Ayes. Motion carried.

Gallentine stated they would get those plans wrapped up with the March 10, 21 Bid Letting date and get plans and specs to you next week for your official copies, and March 10th we will receive bids and open them.

5. DD 128 Lats 1 & 3 WO 2020-12 - Discuss W Possible Action - Tile Condition Update

Smith had hoped to have Bernie Oleksa of Alliant available today to speak with the Trustees about searching out Lateral 1, Oleksa's meeting schedule did not jive with ours this week, and he will be with us next week and Smith will put this at the top of the agenda.

6. Discuss W Possible Action - Drainage Assessment Project

Smith stated she provided the Trustees with a spreadsheet she has been working on for the potential assessment. The Trustees had tasked Smith with adding a \$5 per parcel assessment option, a \$10 per parcel assessment option or what it would look like at a \$1,500 per district assessment. Smith directed the Trustees to the back page of the handout that gives the totals of what that would look like. Smith stated the bright yellow bar of the last page, to the right of the total number of districts, it looks like you \$5 per parcel assessment would generate for all districts \$37,975, for a \$10 per parcel assessment for all districts it would generate \$75,950, and for a \$1,500 potential assessment on all districts would generate \$231,582. Smith stated basically that is if you were to assess all districts in one year, if we do what we had talked about, which is splitting the districts into thirds, into groups of possibly 51 districts, and assess that first group of 51 the first year, the second group of 51 the second year and the 3rd group of 51 the third year, we would look at a 1/3 split of those numbers below, that would be your annual amount you would generate.

Smith stated she put these numbers together for the Trustees to view and has also added some information, Smith worked with the Auditor to gather the Drainage Clerk's annual salary costs which would now include the FICA costs and family insurance costs, you have a more accurate number of what that would look like, Smith also included costs for IDDA Membership with the Optional Protection Fund dues, and for drainage legal fees, Smith has only included fees since she started as Clerk. Smith went back to her start date and looked at all of the drainage legal fees we have acquired through Davis Brown Law that were not one district specific, these would be general things we talked about like where we talked about the IRUA issue or we talked about wind turbines and wind mills. Smith stated for the total figure for those costs, for the Clerk's salary with FICA, IPERS, insurance, IDDA Membership and legal fees comes to about \$68,661. Smith stated if the Trustees look at how they would like to see this work, the Trustees will have to examine the numbers generated by the assessment options and see where they would like to be.

McClellan asked if the \$68,661 would be annual costs. Smith stated that would be an annual cost. Hoffman stated that would not include any wage or cost increases. McClellan asked if the assessments were figured on all the districts. Smith stated the bright yellow bar shows the total for all districts assessed in one year. Hoffman stated the tan bar, or next one down, would be the three-year rolling totals, Hoffman stated the last three columns in the tan bar are the \$500, \$1,000, and \$2,000 options, with a three-year rolling total. Hoffman stated we have to first of all rule out the assess all districts at once and go with a rolling assessment of every three years., Hoffman would like to take the yellow columns (\$500, \$1,000 & \$1,500 assessments out of the equation, and the next thing would be the \$1,500 assessment. Hoffman stated \$1,500 sounds like a lot, and it will be for some districts, it won't be for others. McClellan stated it would provide a little extra if something unforeseen came up. Granzow stated you could go \$30 per parcel on the assessment to get to about the same number. Smith stated you certainly could. Hoffman stated that may send Smith back to the drawing board, Smith stated that is okay, that is not that bad. Hoffman does not want the Clerk to be chasing her tail, Hoffman would like to have it come in somewhere closer to \$100,000 per year, this wind turbine litigation has Hoffman concerned. Granzow asked for clarification on Hoffman's number. Hoffman stated he would like the sum to be somewhere near \$100,000. Granzow stated we could look at either \$40 per parcel or the \$2,000 potential assessment per district, Granzow stated with him you are looking at the same dollar amount, but \$40 per parcel keeps it even to everybody. Hoffman stated that is true, the next thing Hoffman would like to rule out the district flat fee, for some of those districts that have small numbers. Smith stated we have a district that has 3 landowners in it, Hoffman stated he does not think there is equity in that, Granzow stated they may be 400 acres instead of 4,000 acres. Hoffman stated he would like to rule out the per district options and go to the per parcel options. Granzow agreed. Smith stated she thought the Trustees would get less pushback at the per parcel rate.

Granzow stated for example if you take the city of Radcliffe and you charge \$40 per parcel, how many houses are in one parcel, McClellan stated one house per parcel. Granzow stated so it is not a 40-acre parcel. Smith stated there are 454 parcels in DD 143 in Radcliffe. Hoffman asked would it be fair to ask the Drainage Clerk for next week to bring us a number for a \$40 per parcel number. Granzow stated \$101,274 roughly, just multiply the \$10 per parcel assessment times four. Smith stated you could take the \$10 per parcel total times 4 and that would be pretty accurate. Hoffman stated he thought next week the Trustees can take action on that and apologized for skipping ahead but is ready to comment on the letter as well, if you could add that for next week, we could be ready to move forward next week. Smith asked if the Trustees would like her to include the Auditor and Treasurer in next week's meeting as well. Hoffman stated yes, absolutely. Granzow stated in the letter, now that we have it narrowed down to which one option we want, we can explain it in the letter. Hoffman stated that can be included in the letter, include that in the mailing. Granzow stated it would be \$40 per parcel every 3 years. Granzow asked what we call this, a special assessment. McClellan stated it is for the costs incurred by the County, previously paid by taxpayers. Hoffman stated or mass assessment. Smith stated Iowa Code calls it Additional Help for the Auditor. Hoffman stated he would use verbiage from Iowa Code and call it what it is so if someone wants to challenge it, it is per Iowa Code. Granzow stated as far as he could tell, this is the fairest way you could do any of it, he has looked at this for 10 years, and we think we have found about the fairest way you could possibly do it, because a percent of a job is ridiculous.

Hoffman asked from Gallentine's standpoint, you work with many Drainage Trustees, do you think this is an equitable solution. Gallentine stated he thinks it is probably the most equitable he has seen. Hoffman stated not that he wants to be a trendsetter, or influencer is this probably where some other counties will take our lead and go with it. Gallentine stated he thinks so, potentially, you just don't know where some of those other counties try to generate some of those revenues, some have historically done an extra \$5 assessment when we got a project going, some charge different interest rates, and keep that interest, so you just don't know where that money is hidden in layers, but this is pretty open and transparent and makes sense to Gallentine. Granzow asked if Gallentine sees any flaws in it. Gallentine stated he does not know if it is a flaw, but he does see the argument that you are charging so much per parcel, someone might say DD 143 is paying how many thousands of dollars, that isn't fair, it should be so much per district. Hoffman stated he can make an educated argument that DD 143 is going to take a whole lot more of the Clerk's time than the district Hoffman lives in that hasn't had anything done in years. Gallentine stated that is what he is saying, that is the argument against it but the alternative is less equitable, where you charge so much per district when you only have a district with 3 landowners that hasn't had anything done. Gallentine stated the other thing he thinks is maybe some of those districts that only have 3 landowners, talk to them, and see if they want to dissolve the district. Granzow stated he thinks that is a good step.

Gallentine stated as you get one new landowner in there, right now everybody agrees and does their own thing, you get one new landowner in there it could cause a very expensive project for everybody, for something that they can probably maintain on their own for three landowners. Granzow stated or they can take the district back away from us, Granzow asked how we are doing this with all the other districts on top of this. Smith stated this does not include any of the Private Trustee Districts, if that is something that they would like to approve, that is something that Smith would have to have in minutes from each of those districts, is the way Smith understands this. Granzow stated and if they don't then we are just going to have to charge them a per hour fee. Smith stated that would be

up to the Trustees and is something that can be done. McClellan stated she does not agree with that, just like when some counties charge a \$5 minimum when they assess, those active districts that have more problems are paying the legal fees for something that is just as useful to a district that has very little going on in it. McClellan stated to her it is not fair. Gallentine stated the whole problem is if the Trustees are getting a legal opinion for a district that you are in charge of, and a Private Trustee district has the same issue it isn't like the Clerk will shut off her brain and go I don't know anything about that. Smith stated we do have Private Trustee districts that she is much more active for than other Private Trustee districts, right now DD 67 has some litigation that is going on and has done quite a bit for the DD 3 has quite a bit going on and Smith has done quite a bit of work for them, Smith stated having those Private Trustees come in for a meeting would probably be the most ideal way for the Trustees to have this conversation with them, and for the Private Trustees to understand the (Supervisor) Trustees perspective on this, and I think that is what the letter mentioned, a possible meeting in the spring depending on Covid-19 and how things turn out with that, that is a good opportunity for the Trustees to educate then and say despite the fact that you may have a district that is not active, other Private Trustee districts are and do utilize the Clerk for a lot of things. Gallentine stated that the legal precedence set in one district has implications for all the districts. McClellan stated she thinks it is a benefit to all districts. Gallentine stated whether that issue is wind towers, railroads, DOT or whatever, it is precedence setting.

Smith stated if the Trustees want to say that we can assess for the Clerk's time at an hourly rate, Smith does not think code would not allow that, it would allow that, and could definitely be something that happens, and would just need to create a log to log her time spent on each of those districts, in the past this may have been mentioned before, Smith had found one in the system that Schlemme had created and had a little bit of time logged in for a Private Trustee district, so Smith thinks that is something that could be an option for the Trustees. McClellan does not want to make any more additional work for the Clerk, Granzow stated they would be the controlling one, so maybe it would cost them twice as much as doing this. Smith stated that is something that can be hammered out as you discuss in the meeting with the Private Trustees that they are not open to the idea, and you still feel there needs to be a cost assessed for the Clerk's services or for legal, then that might be the time to set up a meeting with the Private Trustees to address that. Granzow stated he thought it could be addressed at that time, it could be one or the other, Granzow thinks the biggest complaint you will get is why do we have to pay for this, we never had to pay for it before, Granzow stated you have been paying for it, it has just been coming through on a different levy, it has been assessed to the entire community that doesn't have drainage and this is something separate that Code allows for, so if you have ground that is out of Drainage, you are paying the bill on both sides, this just narrows it down to you are paying a bill for something you are getting services for. Gallentine stated this really refines it to the point that the people who are getting the service are the ones paying for it, whereas now they are paying for it along with other people and it is just rolled into something they don't realize. Granzow stated yes, you could use the other examples that he would call bad examples, charging 5% to a project, that is not fair to anybody, that is what other counties do, and we haven't been doing anything, just absorbing it the budget and we can't continue to keep absorbing this through the budget.

Hoffman asked when the initial assessment for the first-year folks go out. Smith stated 2022 would be what we had talked about. Hoffman stated when we put our hats on at 10:00 and talk about budget for the County, this is something we can project and forecast for the future, here we will find about \$55,000 or maybe a little bit more in our budget now, and Hoffman thinks that is strong. Granzow stated it is more like \$65,000. Smith stated it comes out to about \$61,000 for just the Drainage Clerk salary and benefits. Hoffman stated that is something we can pat ourselves on the back for later, that is something as we are seeing where our budget shortfalls and longs are. Granzow stated he thinks it is fair, right, wrong or indifferent, Granzow thinks once it begins, it is easy to maintain and there can be changes in there, Granzow truly thinks it is fair to the residents of Hardin County, whether you are in or out of a drainage district, at that point they can decide whether or not they want to become their own Trustees, if they become their own Trustees, and you can take that dollar amount off there. McClellan stated then they may want to disband districts, some of those with only 3 owners. Granzow stated that would save them tremendous amounts of money, the easy button does not work when it is everybody's money, this isn't easy, Granzow thanked Smith for all the work on this. Hoffman stated we hate to send you back to the drawing board, but it is better to walk before we run with this. Granzow stated he has changed courses probably 3 or 4 times over the years as we have discussed this, but as we keep getting narrowed down, the new questions pop up and Granzow does not have any more questions. Gallentine stated you may have gone back to the drawing board a little bit but this is so much farther than when you talked about it 10 years ago, 10 years ago, it was no, we are not doing it, and pretty much everyone in the room thought so but Granzow at the time, the Clerk at the time stated she was not doing a time sheet, I am quitting. Granzow stated those were her words, they can do this after I leave. Gallentine stated she was not doing it and not even thinking about it, Gallentine stated he thought this was great progress.

Granzow stated putting the ideas together, Schlemme gave us a lot of info on what other counties are doing and does not think any of those are correct in his mind, he sees a lot of legality problems. McClellan does think this is the fairest. Granzow stated this is the most fair not just one district paying for the Clerk this year or that year or though a project, he sees problems with what those other Counties are doing. McClellan stated she thinks this will

have some good repercussions, some of those district that haven't been assessed for how many years, the people that own it probably they don't even know that they are in a drainage district.

Gallentine stated the whole problem, as we have discussed before, is if you assess for a project, sometimes an actual construction project will take less of the Clerk's time than projects that don't happen, if you go through a remonstrance it takes more of the Clerk's time than if you go through a bid letting, for a lesser dollar amount, that doesn't make sense, that is why Gallentine likes this. McClellan asked if you can't really do away with a drainage district, Gallentine stated you can dissolve an entire district you just can't get out of district; it is either totally gone or it is still there. McClellan stated once you are in you are in. Gallentine stated yes, but if everyone gets out then the whole thing goes away. Smith stated there is a petition process to dissolve a district. Granzow stated this might start some of that, but it takes it off our books and takes the labor off the Clerk's side. Gallentine stated this modernizes the system, a hundred years ago you might have had 10 landowners in that district and an 8" tile was a big deal, now three landowners and an 8" tile is nothing. Granzow stated he would like to thank everyone for all they have contributed.

7. Other Business

Smith stated she will have an update for the Trustees on 2021 Drainage Assessments for the Trustees next week and give the Trustees an idea of what she is looking at assessing on those. Smith stated Gallentine has been very helpful going over Smith's notes and making sure she is on the right track for those.

8. Adjourn Meeting

Motion by Granzow to adjourn. Second by McClellan. All ayes. Motion carried.

**REGULAR DRAINAGE MEETING**  
**Wednesday, February 17, 2021 11:30 AM**

**This meeting was held electronically and in-person due to Covid-19 concerns.**

2/17/2021 - Minutes

1. Open Meeting

Hardin County Drainage Chairperson BJ Hoffman opened the meeting. Also present were Trustee Renee McClellan; Trustee Lance Granzow; Landowners Morgan Vierkandt; Robert Smuck; Merv Vierkandt; Jack Runge; Dave Sweeney; Shirley Carolus; Lee Gallentine and Zeb Stanborough of Clapsaddle-Garber Associates (CGA); Michael Pearce, Network Specialist; and Denise Smith, Drainage Clerk.

2. Approve Agenda

Motion by McClellan to approve the agenda. Second by Granzow. All ayes. Motion carried.

3. Introductions/Attendance

Introductions were made and attendance verified.

4. DD 11 WO 294 - Discuss W Possible Action - Engineer's Opinion Of Costs

Smith stated in our last meeting back in November we had discussed having CGA draw up the estimated costs of replacement of the Main Tile from Prairie Ave. on the northeast to the outlet of the same, DD 11, we started there on the north edge of Buckeye and Clapsaddle-Garber Associates (CGA's) estimate is based on 5,100' of tile replacement w 24" tile for a construction cost of \$375,000 for the total project, some of this cost would be paid by Secondary Roads for the crossing on G Ave. Smith stated just to note the estimate does not include engineering, damages, legal, publication and costs to date and Smith does have a breakdown of estimated costs per parcel if anyone would like one of those today, Smith passed out copies of the breakdown.

Gallentine stated at the last Landowners Meeting there wasn't a huge amount of interest in this replacement but there was some curiosity as to what that cost would be, so we went ahead and drew that up, and that is what we came up with, and if you want to go forward with it, you are looking at about a mile of tile. Hoffman asked what the condition of the tile is currently. Gallentine stated this one is cracked and is the one that has the void on the side of it, and when you try to chase it, it collapses into that void on the side of it, but there hadn't been a huge amount of work orders in the past filed on this one. Smith stated we have some images on the screen you can look at; Pearce is going to share those. Gallentine stated as you can see it is cracked on the top and sides, they typically all are, once you start digging it up that crack will collapse into it, but it is still flowing.

Smuck asked the other reason we wanted to get the estimate was if there were any grants or anything like that that has come about, like some wetlands further on down the line, we would have a number we could use to apply for some of that, is that correct. Gallentine stated yes and pointed out an image that showed a piece of the side void where it has collapsed into it, Gallentine thinks the best bet would be a CREP type program or a wetland kind of thing, obviously that would probably have to be initiated by a landowner north of Prairie Ave, and asked if that is Smuck or if it is tenant, Smuck stated that would be him. Gallentine stated the other thing to keep in mind is that DD 21 is right next door and just a little south of this, Smuck stated they outlet in the same place, Gallentine stated if your wetland project was big enough you could outlet both those into there to feed it. Gallentine pointed out a good picture of the void on the side, that is more problematic than the cracked tile probably. Granzow stated there was a CREP program over there in New Providence, that was about a \$1,000,000 savings. Gallentine stated yes, in DD 102, they were talking about doing a decent replacement and instead they put in a wetland and IDALS replaced the main tile downstream of the wetland too at their nickel, so it saved the district quite a bit of money, Gallentine thought it was about 50 some aces. Hoffman stated he did not know what the Stolee project ended up being, but it was a significant savings as well, IDALS has been very helpful and generous to Hardin County. Gallentine stated wasn't it on Perry's property, Hoffman stated it was Steve Perry's. Hoffman stated if it was something you wanted to pursue Mike Bourland at IDALS would be very helpful. Smith stated she can provide Smuck with Bourland's contact information.

Smuck stated he would like the contact info, and it can't hurt to explore that and Smuck can chat with Bruce a little bit as it would be either on Bruce's place or Smuck's folks place that would be in the wetlands and Bruce's is already halfway in it anyway, so he does not see that there would be a really huge drawback. Granzow stated being a wetland they also got paid annually through this program. Smuck thought it was somewhere near \$300/acre. Granzow stated it does take the ground out of production.

Gallentine stated typically with IDALS, they are just like NRCS, most of that is typically landowner driven versus district driven, Smuck stated yes it is coming out in the next two to five years and this would be a great way to drain a whole lot of that with that benefit.

## 5. Comments/Discussion

Smith stated Shirley Carolus had some comments for the Trustees. Hoffman stated let's open everyone up, and we can start with Carolus, Sweeney and Runge. Hoffman invited Carolus to comment, to voice her opinions, comments, questions, or concerns. Carolus stated her concern is that she has 3 lots in town that are involved in this, one of them is a bare lot and according to an estimate Carolus will be paying \$900 for one lot and a couple thousand for the other two, and Carolus stated beings this is a retirement town how many people are going to be Able to afford this. Granzow stated plus your streets. Hoffman stated just so Carolus understands, and this is purely educational only, the Trustees have both a fiduciary responsibility but we also have a hydrology responsibility to maintain these tiles, and they have to be in operating conditions, if the conditions get worse or if the system fail, we have to by Iowa Code, maintain the facility so it is in operating condition. So at some point our hands may be tied that we have to do something and it does not bring Hoffman any pleasure to have to spend someone else's money on something that they see very little value in, and wanted to let Carolus know that we may have to do something at some point. Hoffman stated the second thing he would say, if a project does occur this current classification that has those estimates would very likely change, it could reduce your liability while increasing others or it could be vice versa, so just from an educational standpoint Hoffman thinks it is important that he lets Carolus know that as well.

Carolus stated what she has seen is that the figures that are out there now do not include everything like engineering and so on and so forth, and it could be higher. McClellan stated that was correct. Hoffman stated it will definitely be higher because he does not believe we would call them hidden fees but the estimate for engineering, damages, any legal expenses and publications, those are really hard to estimate on the front end, Hoffman believes our Drainage Engineer and Clapsaddle-Garber do a really good job to minimize those expenses and having them involved reduces the damages that could be potentially incurred, and having them involved helps with the legal issues that can potentially come up. Hoffman stated the publication costs those are fixed by the Iowa Falls Times-Citizen and the Eldora Herald newspapers so it is pretty tough to regulate those, but in the past 4-1/4 years, Hoffman has had very few complaints of excessive charges for engineering. Gallentine added that at this point is if everyone wanted to do the project, which Gallentine is not saying anyone does, it is a high enough cost we would still have to drop an Engineering Report and have a formal hearing, since there wasn't a huge amount of interest in the project the district just didn't want to spend the money to do that, so actually the Trustees are trying to save some money and not do that. Hoffman stated we have been very frugal and fiscally responsible in the project thus far and Hoffman thinks Smuck's comments about looking at some alternative options that have historically proven to be significant cost savings while, being environmentally friendly and good stewards of the land, could also be an option to save significantly.

Carolus stated her lots for the drainage district are going to cost 10 times more than the lot is worth. Hoffman stated he understands that and we have similar issues in the city of Radcliffe, where we are anticipating a project as well, there is no excuse for it, the classification is the classification, and asked Smith how old the classification is. Smith stated she believed it was the original classification which dates to around 1910 to 1912. Hoffman stated so we have a classification from 1910-1912, so it probably needs to be looked at again and see if there is equity that needs to be changed from party to party and parcel to parcel, that is something with this project would likely occur. Gallentine stated if the project were to occur.

Carolus stated she is part of another drainage ditch just southeast of town and Carolus had a large assessment, people were paying \$5 or \$10 and Carolus ended up in the thousands of dollars, Granzow asked if we reclassified that one, and Gallentine stated he did not think we had that wrapped up yet. Carolus stated she does not like to see here we go again. Hoffman stated there has been no decision to do anything, if anything we have spoken about today it is actually reducing the fiscal responsibility for landowners and like Smuck's idea if there is a means of allowing the Iowa Department of Agriculture and Land Stewardship to do a project minimizing the expense to the landowners, Hoffman thinks that is a great option if it is feasible it could be looked at. Merv Vierkandt stated it absolutely should be looked at. Gallentine stated he does not know how the Department of Ag will view it, but actually where you are downstream of Buckeye, which is a city, they may view it as a benefit as you are helping to treat the storm water that comes off of Buckeye, because typically urban storm water is more concentrated than ag with contaminants. Smuck stated and essentially it is the sole waste-water system for the town of Buckeye, Gallentine stated that is another issue too. Hoffman stated so at this point there is no pulling a trigger on a project we are just here to discuss all options and get valuable input today. Carolus stated she was told on the other drainage ditch if she had something earlier it could have been, the word isn't re-evaluated, it was some other word. McClellan stated reclassified is the word Hoffman stated the reclassification is what he was talking about earlier, the equity between parcels and property owners, at the end of the day the sum of all the parcels has to equal

100% so if you have a 10% classification and % of benefit today, and yours goes to 5%, someone else's has to take that 5% so the sum at the end of that classification has to equal 100%.

Merv Vierkandt stated she is talking about her is being reclassified on the other district and someone should let her know that Merv Vierkandt addressed Carolus, one thing you may have missed on your other parcel there east, that is so expensive for you, that is being reclassified, that is what you meant to say when you said re-evaluated, so you are not done on that one yet. Carolus thanked Vierkandt for putting the right words there. Hoffman thanked Carolus for her comments, Carolus stated you guys go ahead and she will listen.

Hoffman stated let's move on to Sweeney if he has input. Sweeney stated he does not have a lot to say, it sounds like this is more informative and Sweeney appreciates that and would ask if Smith could send Sweeney the estimate breakdown in an email after the meeting. Smith stated she would email it to Sweeney. Sweeney stated secondly it seems like there is two concerns: one is this tile is failing and that is one concern, secondly Sweeney would ask Gallentine, this tile as it exists in working condition, is it adequate capacity for the land that feeds into it, the way things are today. Gallentine stated he would say it is not, and he hasn't done an exact calculation, but based of Gallentine's experience, most of those original tile were designed to handle maybe an 1/8" per day and everyone is hoping for 1/2" to an 1" anymore, so Gallentine would assume it is not at capacity. Sweeney asked if we did do a repair thing, we would also be looking at more capacity and a larger tile. Gallentine stated he thinks if a replacement gained some more traction, he would look at recommending looking at an up-sizing too, this is just kind of a talking point.

Merv Vierkandt stated he had one thing that might be pertinent to Sweeney, Sweeney's cost of the \$375,000 is a little over \$60,000, on your two parcels, Merv stated he believed that was correct, \$42,000, and \$18,000. Sweeney stated it is more informative and he is learning more and more. Hoffman invited Runge to comment. Runge stated he is almost echo the comments he said on the previous meeting, his problem with this system as a personal benefit to Runge is not what is downstream, Runge realizes you have to have an outlet to make it work, Runge's problem is going through Buckeye, most of us on the west side of Buckeye, our issues are pretty much going through town, realizing we need to start on the bottom and you have got to bring it up. Runge stated he does not think we are experiencing a large amount of failure in the area, he knows there was one last year, Runge stated his initial thought was fix as fail, and did communicate that to Smith when we visited yesterday, Runge would in some way and maybe Smuck is going down the right track looking at the USDA, the descriptions we saw when we viewed the video going through Buckeye, the gross issues with the size of the tile were probably directly related to raw sewage, and Runge thinks he asked that question at that meeting and thinks Gallentine would reaffirm that and the issues with the plugging and stuff that were going on were probably closely tied to sewage. Runge stated realizing you have to start at the bottom and bring it up, Runge's biggest problem is getting water through the town of Buckeye. Smuck stated to address that if we got any sort of traction with the USDA and some money, Smuck does not know why for the most part we couldn't tee in or circumvent Buckeye with basically a landowners tile that would just drain agricultural ground and then tee Buckeye back in, nobody in Buckeye can afford for us to tear out and go underneath some of these buildings, to go under the railroad tracks, in a lot of these places and redo that so maybe we can do like what has been done on this drainage ditch in a couple different places, bring a tile around Buckeye to tee back in and drain the agricultural ground.

Merv Vierkandt stated what Smuck was talking about only pertains to those people on the east side of the railroad tracks if you are trying to avoid the railroad tracks. Smuck stated you would still have to cross the railroad tracks at some point, you just wouldn't have to do it in the middle of town. Vierkandt stated yes, but most of Runge's will still have to go across the railroad tracks, same with Sweeney's and Merv's own also. Merv Vierkandt stated one thing he wanted to bring out here that all of us should know is, what worries Merv is we might be opening up a can of worms, with the USDA and talking about the town and putting things that way, unless we don't care about Buckeye leaving as a town, if for instance we do something that requires a water treatment plant, for instance for the sewer Merv almost hates to bring it up, and asked if the others understood what he was saying. Merv Vierkandt stated if we are all willing to kill the town of Buckeye, that would be a great way to do it, Merv asked if Gallentine had any thoughts on that. Gallentine stated he does not know either, Gallentine thinks it just depends on who you talk with to start with in what their kind of personal opinions are and how they steer it, Mike Bourland with IDALS is pretty objective and thinks that would be a great place to start with. Gallentine stated Buckeye is like a lot of small towns, if they could have afforded a storm sewer system, they would have already had it, if they could have afforded a waste-water treatment plant, they would have already had it, the way it is they can't afford repairs to a tile, and that is just the honest truth, like Carolus said, the value of the repair exceeds the value of the land. Merv Vierkandt stated he may be mistaken and asked Runge if he happened to say that raw sewage was a big part of the blockage, and Merv does not know if Runge did say that, maybe Merv misunderstood or misheard Runge, but Merv thinks that was almost all gravel, we have got flat drains that were in Buckeye and people with road stones, especially on the west side of Smuck's shop there, it is just a flat drain, well that tile coming from the west side of Buckeye, from my bin site and from Carolus's was 3/4 full of gravel, there was a hole there at one time the size of a Volkswagen, it completely plugged up, well Don Fraser went down there, and if Don wasn't going to Merv was going, and Merv had called City Council member, he had gone down there and put those blocks in to keep the



gravel, it will fill in again, you can't have a flat type of drain, 1" road stone stand on top of it, and any time you have a big rain the road stone washed down and plugged the tile. Merv stated he felt that was the main issue, and Merv was sorry but did not know about any sewage there.

Runge stated maybe Gallentine can comment on this, when they were showing the videos, there was growth, and for lack of a better word, Runge asked the question at the time. Merv Vierkandt stated he does remember that now, Smuck stated he thought that was under the Co-Op and was agricultural fertilizer, Merv asked if that was under the Co-Op. Gallentine stated he thought it was under the Co-op and thinks the one that had a lot of possible sewage issues was DD 21, which is the east side of town, because all of those houses on the east side of town went out to that tile and connected to that tile, Gallentine stated there are some unique things with that tile that runs through Buckeye, and remembers possibly that fertilizer plant being one of them. Merv Vierkandt asked if we still have the blockage going underneath the feed shed, draining Carolus's and Merv's that have never been addressed, Merv does not know how bad it is because he hasn't had a problem, since the monsoons stopped, and probably will only happen then, we may be in for a dry period here, we may not see the diminished capacity with what we have got, we may not have a blow out for 5 years, we have had 3 in 5, but those 5 years have been the wettest years on record, so Merv stated if it is his turn and sorry if he interrupted but Merv is for fix the sails and is still for getting the information we need but is afraid it could put up a red flag there and get us into something we didn't want or at least Merv doesn't.

Hoffman asked for any other comments on the issue at hand and stated it has been good discussion and engagement on the issue. Runge stated he wanted to reiterate what he said earlier in his comments, Runge is pretty much fix as fail for right now, Merv Vierkandt stated he is also. Granzow stated he has heard that from pretty much everyone here now, just fix it. Gallentine would like to reiterate, it is flowing at this time to his knowledge, the issues we see did not stop flow. McClellan asked Smuck if he is going to continue to look into what can be done on his property. Smuck stated he thought it would be stupid not to, if we can cut this project in half, Smuck plans on living long enough to pay for it someday. Gallentine stated with a 100-year-old system it is just a matter of when. Smuck stated if the money is out there now and we can do potentially, and wondered if there was any assessments as far as dollar amounts in the other drainage district as far as what it would take, Smuck stated he knows there was some talk on that as well within the last year. Gallentine stated he would have to look, he does not recall. Smuck stated both of those numbers would be valid if we were to talk about wetlands, Smuck thinks that was at least a \$2,000,000 project if he is not mistaken. Gallentine stated probably it doesn't take much to wrap up a million dollars, the other thing is you are wise if you are ever going to think about doing a wetland to be on the front end of it, because it is kind of like ag drain wells and there was money to do that, the people were like I am never doing it, are getting to the point where there is no money and you have just got to do that, they are making them do that, Gallentine stated as he was thinking about it, you might as well do it while there is still grant money out there. Smuck stated with the current administration we have we are going to be headed down the part where if you want to use X amount of nitrogen you need to show that you can treat that and if have no treatment wetlands that your farm is drained into you are going to be limited on how much nitrogen because they want to keep everyone safe and healthy, so if you did the wetlands you might be able to put on 200 units and if you don't, you might be limited to 150. Gallentine stated the net neutral will be the new thing. Smuck stated he thinks we are headed there, if we can get ahead of this before that is a law and actually have the wetlands in place, the government will pay for it and after the fact we are going to want to pay for it because all of a sudden it cut our yields by 20%.

Merv Vierkandt asked Gallentine if there was any way we could explore this without opening a can of worms. Gallentine stated as he said before, he would recommend if you want to go down that road, to talk to Mike Bourland at IDALS – Iowa Department of Land Stewardship, don't call DNR because the DNR does not do these CREP programs, you would be putting a round peg in a square hole, they would be like oh you want to put in a treatment plant, no we want to put in a wetland and oh we don't know anything about that, Gallentine stated he would start by talking to IDALS and exploring it that way. Sweeney stated the Southfork Watershed Alliance has got some grant money and they are looking for farmers to do saturated buffers and stuff, maybe as part of the grant maybe CREP wetlands or any wetlands are a part of that too, Sweeney will inquire to that group. Merv asked Sweeney if he stated that was the Southfork Watershed Alliance. Sweeney stated the Southfork Watershed Alliance has grant money and is looking for farmers to do conservation practices as part of their nutrient reduction strategy, they were hand money and they are having trouble getting rid of it. Smuck stated he thinks we can help. Sweeney stated in terms of saturated buffers they will basically do that for free and pick up the tab, Sweeney will inquire about that to see if wetlands could be part of that grant, because that does go straight to the South Fork.

Merv Vierkandt asked if these landowners will have to do it on their own to look into that. Smuck asked if it would either have to be him or Bruce that would check into that because it has to be the location where the wetland would be at. Gallentine stated yes it would because the other ones that were done successfully in the County, the agreement wasn't with the Drainage Districts, the agreement was between IDALS and the landowner, the landowner got an agreement with the District, it is just like NRCS it is all with the producer and the landowner. Smuck stated we have to start at the bottom and work up. Granzow asked if that was about a two-year process.

Gallentine stated his probably was, it seemed like it went faster than that but that was probably because the Perry's did all the work. Hoffman stated once IDALS sees it is a really feasible project, they will work quickly, from what Hoffman has heard they were very good to work with the landowners. Smuck stated he knows with the other project we did right across from Loerger's house they were awesome, they went out of their way to make some improvements out there that were not their responsibility to start with. Gallentine stated they were very generous in replacing a 30" tile for quite a ways downstream of the wetland, when really they could have just said that is your problem District, just fix it, Gallentine thought it was a 1/2 mile of tile. Granzow stated he recalled it was 1/4 of a mile. Gallentine stated they replaced a 1/4 or 1/2 mile of tile on their nickel. Granzow stated we had just talked about doing the backfilling of the tile with rock, Gallentine stated we didn't even have to do that. Granzow stated it is a good program if someone is willing to take ground out of production. Gallentine stated it is not meant for every spot but where it works, it works well. Granzow stated it was a huge cost savings to the district.

Granzow stated so what he is hearing, let's go ahead and fix, and Smuck will initiate IDALS. Hoffman asked Smuck if he would do us a favor, and we would host it if Mike Bourland wants to come up and do anything, just make sure you include Smith and Gallentine in the conversation, because Hoffman thinks with previous experience that might lend you guys a hand too. Gallentine agreed. Smuck stated he would hate to miss an opportunity to do something that A: is right and B: would save us all a bunch of money that we could end up spending in the next 20 years regardless, it would really suck if this was a \$3,000,000 project in 2040 that we could have got done for \$500,000 in 2023. Gallentine stated if you could incorporate DD 21 in there also it is two birds with one stone, the one to the east. Smuck stated they are not 400 yards apart where they enter.

6. Possible Action

Granzow stated at this time, there is no action. Gallentine stated there are no repairs to be done, what had to be repaired, has been repaired and as more work orders come up, we will fix them as they come up. Hoffman asked for any further comments, hearing none, Granzow thanked the group for their participation today. Hoffman stated we had a lot of good information and dialogue. The Trustees thanked all participants.

7. Other Business

8. Adjourn Meeting

Motion by McClellan to adjourn. Second by Granzow. All ayes. Motion carried.



# Hardin County

Description	Vendor	Amount
DD 26 Lat 4 - Eng Svcs 1/20/21 to 2/03/21	Clapsaddle-Garber Assoc	636.75

**Total Regular Payables:** 636.75  
**Total Stamped Warrants:** 0.00

## Drainage District:

#14

## Investigation/Repair Summary:

- Tenant in the E½ of Section 34, Township 88 North, Range 22 West reported 3 tile blowouts/sinkholes in or near the waterway.
- Visual observation found all 3 sinkholes/blowouts with cracked/collapsed VCP main tile in the bottom of each.

## Contractor Time and Materials (spent while CGA was on-site):

None recorded as only visual observation was done.

## Additional Actions Recommended:

Including this work order, there have been 7 sinkholes/blowouts reported on this tile in the last 3 years and one of those included monitoring of a failing road crossing instead of actual replacement. Per the recommended actions for Work Order 170, an investigation into the need of a large scale replacement (including CCTV inspection) is probably justified at this point time. If said CCTV inspection is authorized before the above mentioned 3 sinkholes are repaired, they could be used as access points to perform CCTV from.





# Drainage Work Order Request For Repair

## Hardin County

**Date:** 3/31/2020

**Work Order #:** WO00000290

**Drainage District:** DDs\DD 14 (51027)

**Sec-Twp-Rge:** 34-88-22      **Qtr Sec:** SW NE & NW SE

**Location/GIS:** 88-22-34-200-004

**Requested By:** David Sweeney

**Contact Phone:** (641) 373-4340

**Contact Email:** \_\_\_\_\_

**Landowner (if different):** Cynthia loger

**Description:**

DD 14- 2 blowouts in waterway, 5' blowout N of drive is 4' deep w broken VCP tile in base, 3' blowout S of drive lane is 3' deep w broken VCP tile in base. Contractor should enter through the farmstead & drive down the lane to back of property.

**Repair labor, materials and equipment:** \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

**Repaired By:** \_\_\_\_\_ **Date:** \_\_\_\_\_

**Please reference work order # and send statement for services to:**

Hardin County Auditor's Office  
Attn: Drainage Clerk  
1215 Edgington Ave, Suite 1  
Eldora, IA 50627  
Phone (641) 939-8111  
Fax (641) 939-8245

For Office Use Only

**Approved:** \_\_\_\_\_ **Date:** \_\_\_\_\_



# Drainage Work Order Request For Repair

## Hardin County

Date 3/31/2020

Work Order # \_\_\_\_\_

District # #14

Lateral Main Tile

Fund # \_\_\_\_\_

Township \_\_\_\_\_

Section 34 Twp 88

Rge 22 Qtr Sec SW NE & NW SE

Repair Requested By David Sweeney

Address 21547 Hwy S27, Alden, IA 50006 (also the repair location) Phone 641-373-4340

Landowner Cynthia loerger

Address 19672 Hwy D15, Iowa Falls, IA 50126 Phone 641-640-2191

Request Taken By \_\_\_\_\_

Available for Repair Now?  Yes

Date Available \_\_\_\_\_

Problem Description **Two blowouts in waterway:  
Blowout north of drive lane is 5 feet in diameter and 4 feet deep with broken VCP tile in the base.  
Blowout south of drive lane is 3 feet in diameter and 3 feet deep with broken VCP tile in the base.**  
  
**Contractor should enter through the farmstead and drive down the lane to the back of the property.**


Repair labor, materials and equipment \_\_\_\_\_

Potential Wetlands?  Yes-Repair existing tile only

No-Repair and maintain tile

Repaired By: \_\_\_\_\_

Date: \_\_\_\_\_

Please send statement for services to:

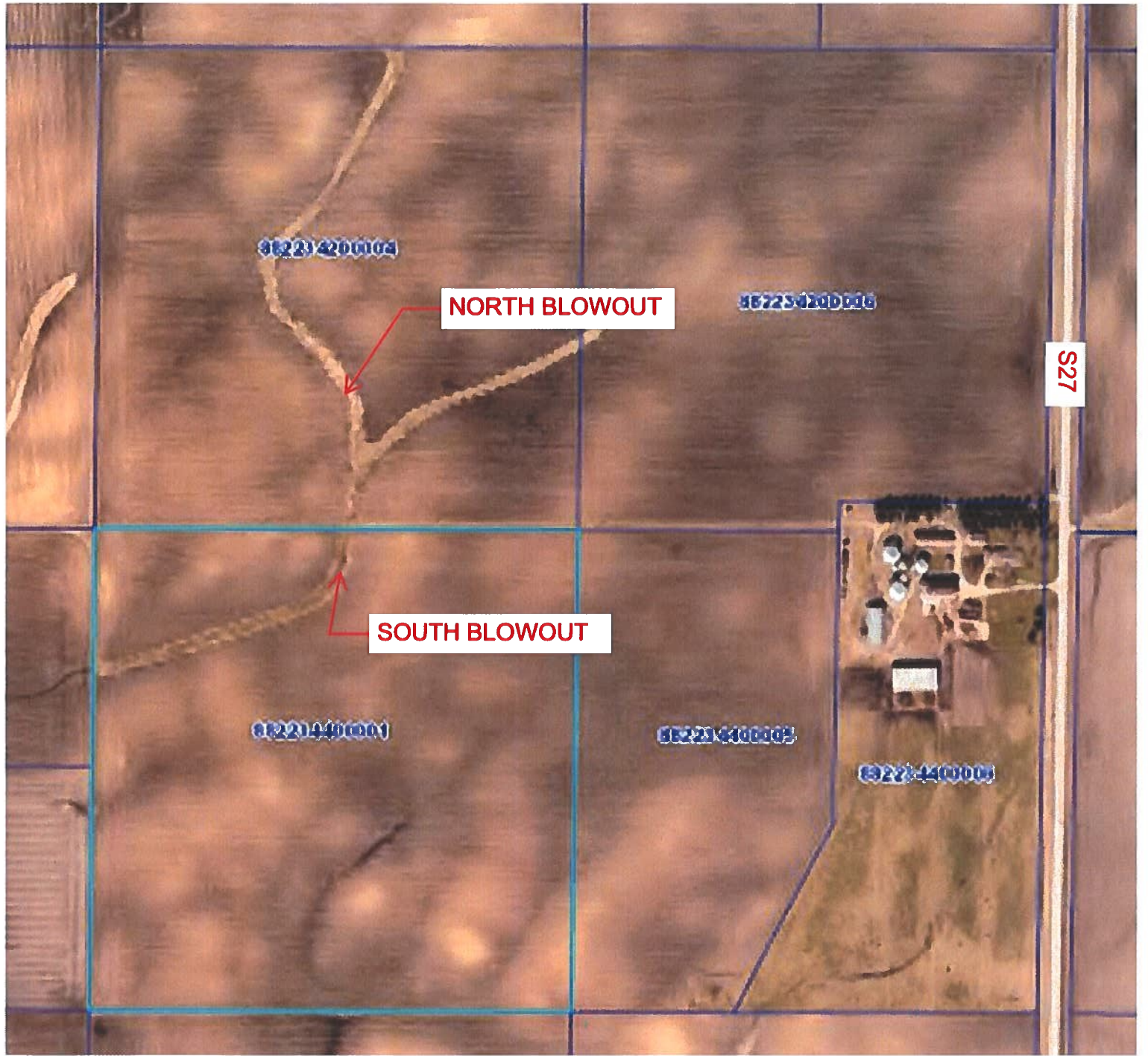
Phone (641) 939-8111  
Fax (641) 939-8245

Hardin County Auditor's Office  
Attn: Tina Schlemme  
1215 Edgington Ave, Suite 1  
Eldora, IA 50627

For Office Use Only

Approved: \_\_\_\_\_

Date: \_\_\_\_\_



**NORTH BLOWOUT**

**SOUTH BLOWOUT**

**S27**

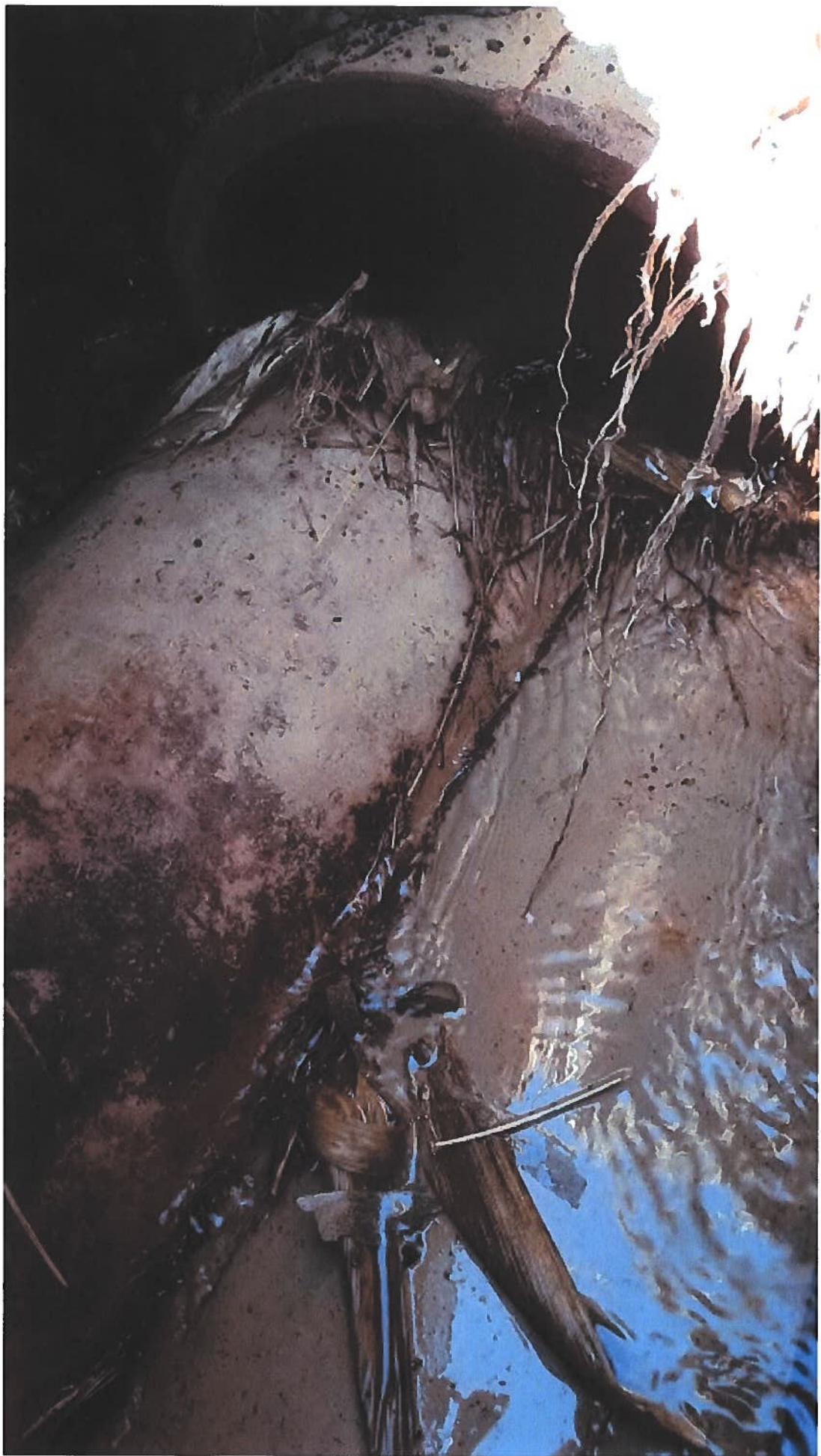
882234200004

882254200006

882214400001

882234400005

882274400008



South blowout





South blowout



North blowout



North blowout

CONSTRUCTION ENGINEERING  
OBSERVATION REPORT

DATE: 5/5/20

DAYS OF WEEK: 

S	M	<b>T</b>	W	T	F	S
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SHEET NO. 1 OF 1

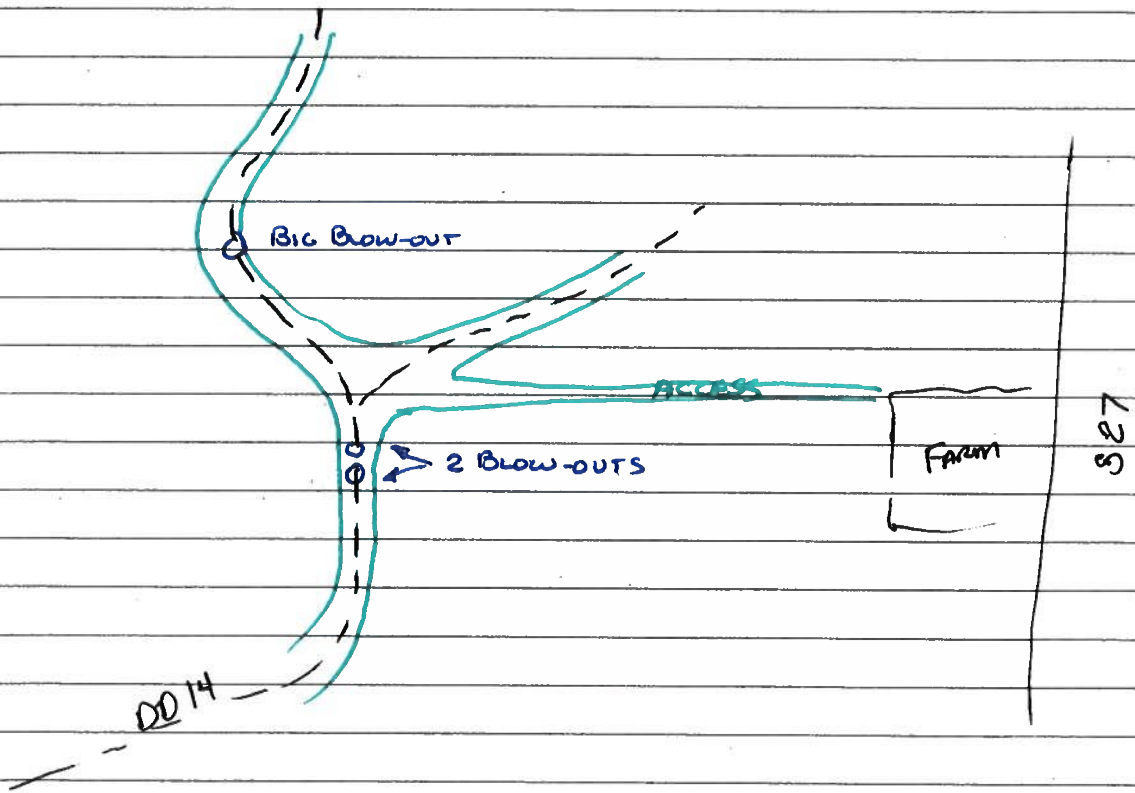
PROJECT NUMBER: 6844.4  
COUNTY, ROUTE, ROAD: DD 14  
LOCATION: HARDIN Co. ON 527

DESCRIPTION OF WORK AND MATERIAL USED FOR EACH OPERATION, INCLUDING CONTRACTOR/SUB NAME, ITEM NO. AND LOCATION CLOUDY, MIST, 45°

ARRIVED @ DAVID SWEENEY HOUSE, TALKED TO HIM, HE GAVE INSTRUCTION TO THE GRASS DRIVE OUT TO SWALE WITH BROKEN CLAY TILE ON DD 14. LOOKS LIKE 15"±. 3 BLOW-OUTS

REPAIR ASAP.

SH



I Certify that the work described in this report was incorporated into this contract unless otherwise noted.

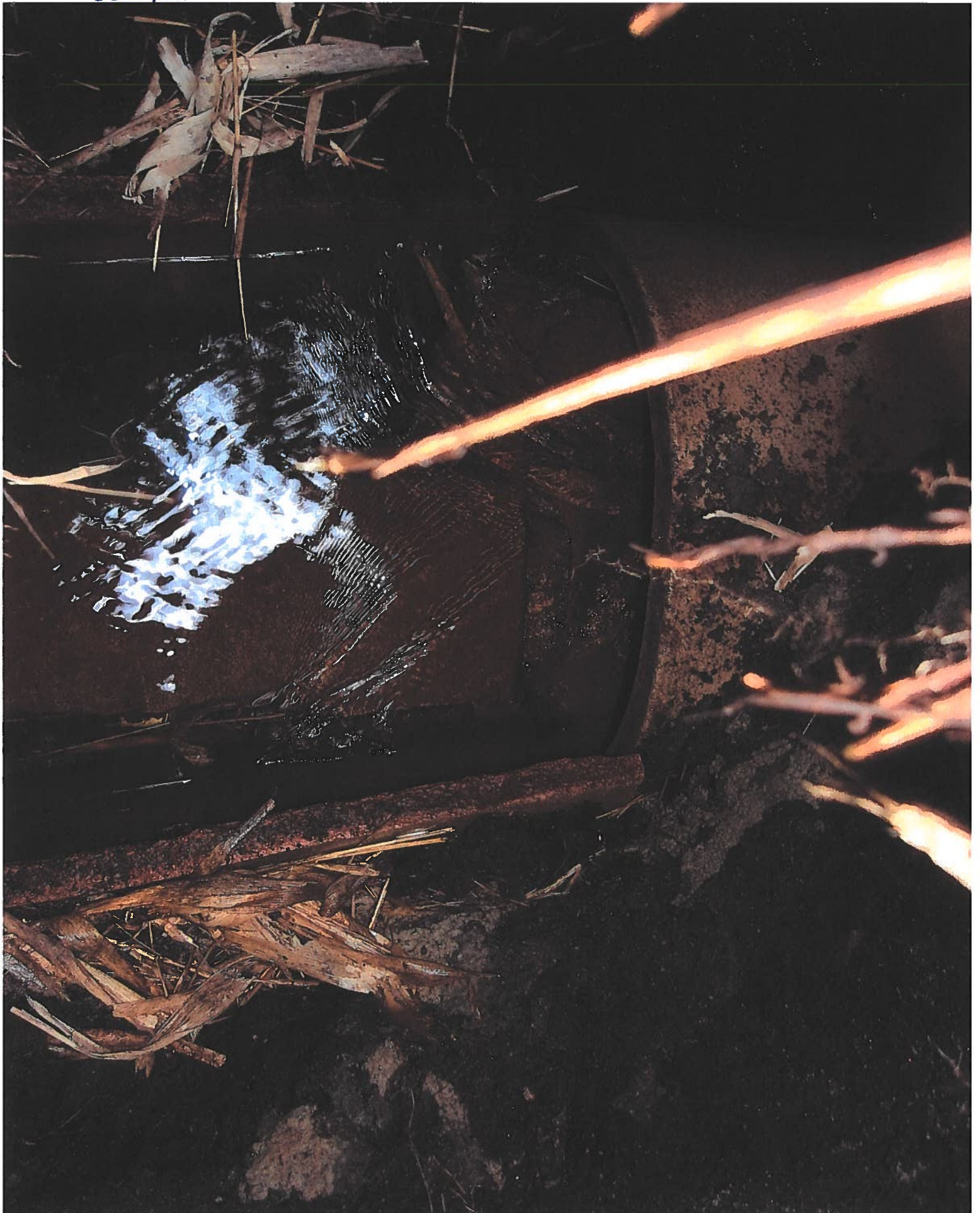
Observer's Signature: [Signature] Date Prepared: 5/5/20

Reviewed by: \_\_\_\_\_  Engineer Date Reviewed: \_\_\_\_\_

2 Blow-outs To South



COLLAPSED 15" E TILE



Clay FILL COLLAPSED



Collapsed Clay Tine





NORTHERN MOST Blow-out, COLLAPSED TILE 15"  $\phi$  ±



Collapsed Tile





# Drainage Work Order Request For Repair

## Hardin County

**Date:** 3/31/2020

**Work Order #:** WO00000290

**Drainage District:** DDs\DD 14 (51027)

**Sec-Twp-Rge:** 34-88-22      **Qtr Sec:** SW NE & NW SE

**Location/GIS:** 88-22-34-200-004

**Requested By:** David Sweeney

**Contact Phone:** (641) 373-4340

**Contact Email:** \_\_\_\_\_

**Landowner (if different):** Cynthia loger

**Description:** DD 14- 2 blowouts in waterway, 5' blowout N of drive is 4' deep w broken VCP tile in base, 3' blowout S of drive lane is 3' deep w broken VCP tile in base. Contractor should enter through the farmstead & drive down the lane to back of property.

**Repair labor, materials and equipment:** \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**Repaired By:** \_\_\_\_\_ **Date:** \_\_\_\_\_

**Please reference work order # and send statement for services to:**

Hardin County Auditor's Office  
Attn: Drainage Clerk  
1215 Edgington Ave, Suite 1  
Eldora, IA 50627  
Phone (641) 939-8111  
Fax (641) 939-8245

For Office Use Only

**Approved:** \_\_\_\_\_ **Date:** \_\_\_\_\_





# Drainage Work Order Request For Repair

## Hardin County

Date **3/31/2020** Work Order # \_\_\_\_\_  
 District # **#14** Lateral \_\_\_\_\_ Main Tile \_\_\_\_\_ Fund # \_\_\_\_\_  
 Township \_\_\_\_\_ Section **34** Twp **88** Rge **22** Qtr Sec **SW NE & NW SE**  
 Repair Requested By **David Sweeney**  
 Address **21547 Hwy S27, Alden, IA 50006 (also the repair location)** Phone **641-373-4340**  
 Landowner **Cynthia loerger**  
 Address **19672 Hwy D15, Iowa Falls, IA 50126** Phone **641-640-2191**

Request Taken By \_\_\_\_\_

Available for Repair Now?  Yes Date Available \_\_\_\_\_

Problem Description **Two blowouts in waterway:  
 Blowout north of drive lane is 5 feet in diameter and 4 feet deep with broken VCP tile in the base.  
 Blowout south of drive lane is 3 feet in diameter and 3 feet deep with broken VCP tile in the base.**  
  
**Contractor should enter through the farmstead and drive down the lane to the back of the property.**

Repair labor, materials and equipment \_\_\_\_\_

Potential Wetlands?  Yes-Repair existing tile only  No-Repair and maintain tile

Repaired By: \_\_\_\_\_

Date: \_\_\_\_\_

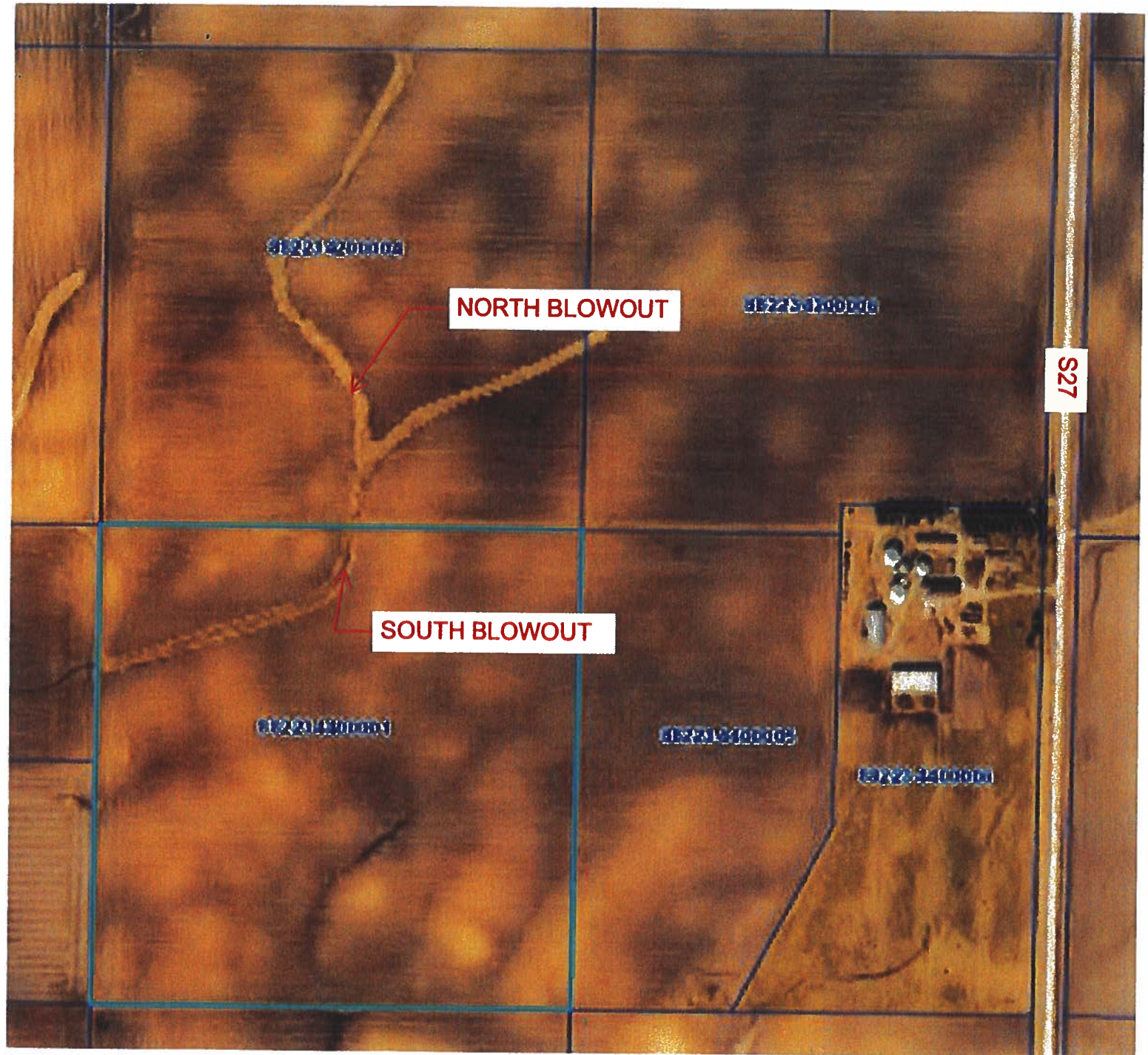
Please send statement for services to:  
 Hardin County Auditor's Office  
 Attn: Tina Schlemme  
 1215 Edgington Ave, Suite 1  
 Eldora, IA 50627

Phone (641) 939-8111  
 Fax (641) 939-8245

For Office Use Only

Approved: \_\_\_\_\_ Date: \_\_\_\_\_





NORTH BLOWOUT

SOUTH BLOWOUT

S27

S122312400002

S122312400016

S122312400001

S122312400002

S122312400003





## Drainage District:

#14

### Investigation Summary:

- Per the earlier recommendations and authorization, CCTV inspected the 15-inch VCP Main Tile starting at existing 3 feet diameter blowout located in the grass waterway approximately 1900 feet east of County Highway S27 and approximately 2650 feet south of County Highway D41.
- Televised 884.9 feet upstream (to the north) from said existing tile blowout and found 17 locations of partial/imminent collapse. (see attached Tabulated Defects sheet)
- Televised 995 feet downstream (to the south) from said existing tile blowout and found 9 locations of partial/imminent collapse. (see attached Tabulated Defects sheet)
- Temporarily repaired 4 tile locations, 2 north and 2 south (1 was at tenant's request) from the start location of the CCTV with 15" Dual Wall HDPE tile with fabric wrapped joints and backfilled the areas with on-site soil.

### Contractor Time and Materials (spent while CGA was on-site):

See attached Tabulated Contractor Time and Materials Tabulated Defects sheet.

### Additional Actions Recommended:

It is obvious that the Main tile is in disrepair and needs to be repaired based on the CCTV results and the history of repairs in the area. If nothing is done, the tile's condition will only continue to deteriorate which will result in future blowouts and sinkholes that will impact the drainage capacity of the Main tile. Therefore, we would recommend doing at least 6 spot repairs which would consist of replacing approximately 570 feet of existing tile. It is our opinion that the total construction cost would be \$35,000-\$45,000. This cost is low enough that neither a hearing nor Engineer's Report would be required. Alternatively, the District Trustees could pursue replacement of the Main tile for its entire length of CCTV, the cost of which would exceed \$50,000 and require a hearing and Engineer's Report.





## Tabulated Contractor Time and Materials

Date	Totals	5/14/2020
Workman (hrs)	18.75	18.75
Mini Excavator (hrs)	6.25	6.25
UTV with camera Equipment (hrs)	6.25	6.25
18" Dual Wall HDPE Tile (ft.)	19.9	19.9
CCTV inspection (ft.)	1878.3	1878.3





## Tabulated Defects

	Total	GPS #177 UPSTREAM	GPS #178 DOWNSTREAM
Total Length Televised (ft)	1879.9	884.9	995
Date:		5/14/2020	5/14/2020
Top crack (ft)	805.3	338.5	466.8
Side crack (ft)	161.4	69.2	92.2
Bottom crack (ft)	805.3	338.5	466.8
Partial or imminent collapse (#)	26	17	9
Full collapse (#)	0	0	0
Debris (ft)	3	3	0
Offset Joint (#)	6	5	1
Soil/voids visible in offset joint (#)	5	4	1
Single Wall HDPE (non-deformed) (ft)	6.2	1.5	4.7
Dual Wall HDPE (ft)	0	0	0
CMP (rusty) (ft)	49.8	34.3	15.5
Holes (non-fixed) (#)	0	0	0
Holes (fixed) (#)	0	0	0
Alligator Cracks (ft)	261.4	0	261.4
Radial Cracks (# of tile)	2	0	2



CONSTRUCTION ENGINEERING  
OBSERVATION REPORT

DATE:

05/14/2020

PROJECT NUMBER: HARDIN DD WO#

6844.4 / DD14

DAYS OF WEEK:

S M T W TH F S

COUNTY, ROUTE, ROAD: WEST OF CO HWY 527

BETWEEN CO HWY 041

& 220.74 ST

SHEET NO.

1 OF 6

LOCATION: DD#14 MAIN LOCATED SWNE & NWSE

34-88-22 HARDIN COUNTY

INVESTIGATE & TEMPORARILY REPAIR 3 TILE BLOWOUTS

MID 50'S TO UPPER 60'S CLOUDY  
WITH LIGHT WIND MIST AND FOG  
IN MORNING & RAIN IN LATE AFTERNOON  
JOB# 6844 DD 14. SURVEY

DESCRIPTION OF WORK AND MATERIAL USED FOR EACH OPERATION, INCLUDING CONTRACTOR/SUB  
NAME, ITEM NO. AND LOCATION

8:30 A.M. LEE CALLED THAT PAUL WOULD BE WORKING ON TELEVISIONING  
TILE UPSTREAM AND DOWNSTREAM FROM 2 BLOWOUTS 121.4'± TO 160.7'±  
SOUTH OF GRASS LAWE EAST TO ACREAGE @ 21547 CO HWY 527 IN  
GRASS WATERWAY & 1 BLOWOUT 445'± NORTH OF GRASS LAWE  
EAST TO ACREAGE @ 21547 CO HWY 527 IN GRASS WATERWAY  
AND MAKE TEMPORARY REPAIRS UNTIL DISTRICT DECIDES  
ON HOW MUCH OF TILE TO REPAIR. OBSERVER LOOKED  
FOR FILE AND UPLOADED IT TO DATA COLLECTOR.

9:45 A.M. LEE TEXT THAT PAULS CREW WAS JUST LEAVING  
SHOP AND OBSERVER LEFT FOR JOB SITE TOO.

10:25 A.M. OBSERVER ARRIVED ON SITE AND STARTED SETTING  
GPS BASE ON GPS# 23 3/4" Ø IRON REBAR FLUSH IN SW CORNER  
FIELD DRIVE IN SE QUADRANT OF CO HWY 041 & CO HWY 527.

10:30 A.M. OBSERVER COULD SEE THAT CREW HAD EQUIPMENT  
UNLOADED AND WERE DRIVING OUT TO REPAIR LOCATION.

10:50 A.M. OBSERVER CHECKED INTO GPS# 21 SURVEY MARK FLUSH IN  
ACC CO HWY 527 1/2 MILE SOUTH OF CO HWY 041 WITH BOTH HORIZONTAL  
AND VERTICAL POSITION CHECKING GOOD.

10:55 A.M. OBSERVER ARRIVED AT JOB SITE. PAUL, DOUG, & WILLIAM  
WAS ON SITE FOR CREW WITH BOBCAT E85 MINI EXCAVATOR  
AND UTV WITH TELEVISIONING EQUIPMENT IN BACK. CREW  
HAD TILE EXPOSED IN HOLE #15. 3.0' Ø BLOWOUT IN GRASS WATERWAY  
(120'± SOUTH GRASS LAWE EAST TO ACREAGE) AND WAS GETTING SETUP  
TO TELEVISE UPSTREAM FROM 15" CLAY TILE GPS# 177. TILE  
HAD ABOUT 5" FLOW

11:05 A.M. CREW STARTED TELEVISIONING UPSTREAM FROM GPS# 177  
IN HOLE #15

I Certify that the work described in this report was incorporated into this contract unless otherwise noted.

Observer's Signature:

Dean Penning

Date Prepared:

05/14/2020

Reviewed by:

[Signature]

Engineer

Date Reviewed

CONSTRUCTION ENGINEERING  
OBSERVATION REPORT

DATE:

05/14/2020

PROJECT NUMBER: HARDIN DD WOFF  
6844.4/0014

DAYS OF WEEK:

S M T W T F S

COUNTY, ROUTE, ROAD: WEST OF CO HWY 527 BETWEEN  
CO HWY 041 & 220 THST

SHEET NO.

2 OF 6

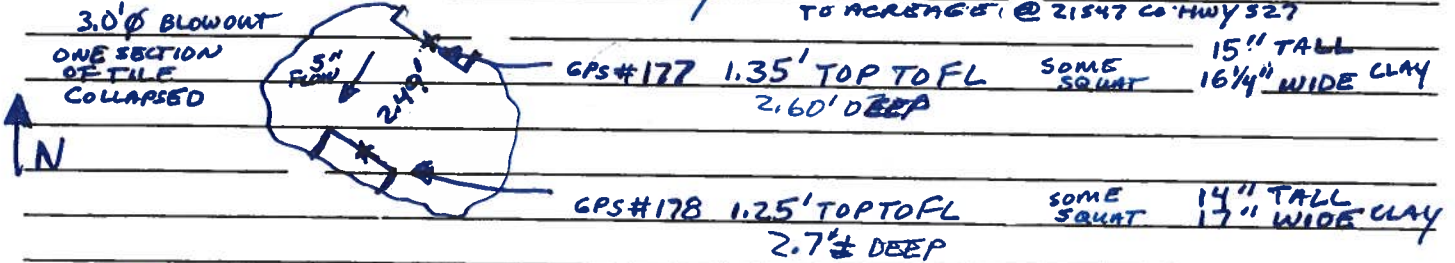
LOCATION: DD14 MANHOLE TILE LOCATED SWNE & NWSE  
34-88-22 HARDIN COUNTY  
INVESTIGATE & TEMPORARILY REPAIR 3 TILE BLOWOUTS

MID 50'S TO UPPER 60'S CLOUDY WITH LIGHT  
WIND MIST & FOG IN MORNING & RAIN  
IN LATE AFTERNOON

JOB # 6844 0014 SURVEY

DESCRIPTION OF WORK AND MATERIAL USED FOR EACH OPERATION, INCLUDING CONTRACTOR/SUB  
NAME, ITEM NO. AND LOCATION

BLOWOUT #15 IN GRASS WATERWAY 120.3'± SOUTH OF E GRASS LANE EAST  
TO ACRE 65 @ 21547 CO HWY 527



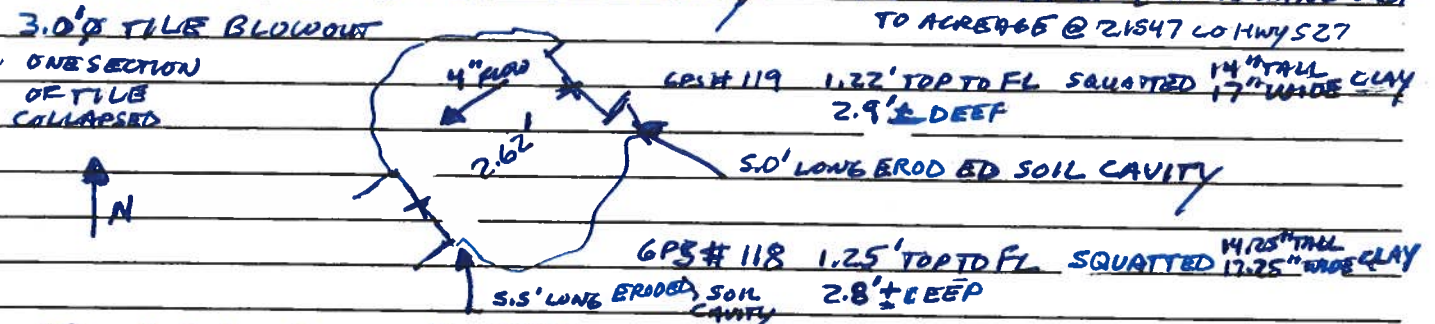
11:25 A.M. CREW STARTED EXCAVATE AT BLOWOUT #2S

11:25 A.M. PICTURE # 3538, 11:28 A.M. PICTURE # 3539, 11:32 A.M.

PICTURE # 3540 SEE PICTURES FOR DETAILS

11:42 A.M. PICTURE # 3541, 11:43 A.M. PICTURE # 3544, 11:48 A.M. PICTURE  
# 3543 & PICTURE # 3544

BLOWOUT #2S IN GRASS WATERWAY 159.9'± SOUTH OF E GRASS LANE EAST  
TO ACRE 65 @ 21547 CO HWY 527



12:07 P.M. PICTURE # 3545 & PICTURE # 3546 SEE PICTURE FOR  
DETAILS.

12:10 P.M. CREW RAN INTO A SECTION OF TILE THAT HAD COMPLETELY  
COLLAPSED.

12:15 P.M. CREW HEADED UP TO BLOWOUT 2N TO EXCAVATE  
& EXPOSE TILE SO CREW COULD LOCATE TILE FURTHER NORTH,

I Certify that the work described in this report was incorporated into this contract unless otherwise noted.

Observer's Signature: Dean Penning

Date Prepared: 05/14/2020

Reviewed by:  Engineer

Date Reviewed

CONSTRUCTION ENGINEERING  
OBSERVATION REPORT

DATE: 05/14/2020

PROJECT NUMBER: HARDIN DD W0# 6844.4/0014

DAYS OF WEEK: 

S	M	T	W	<b>T</b>	F	S
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COUNTY, ROUTE, ROAD: WEST OF CO HWY 927 BETWEEN COM WY 041 & 220 TH ST

SHEET NO. 3 OF 6

LOCATION: DD14 MANHOLE TILE LOCATED SWNB & NWSE 34-88-22 HARDIN COUNTY INVESTIGATE & TEMPORARILY REPAIR 3 TILE BLOWOUTS

MID 50'S TO UPPER 60'S CLOUDY WITH LIGHT WIND MIST & FOG IN MORNING & RAIN IN LATE AFTERNOON

JOB # 6844 DD14 SURVEY

DESCRIPTION OF WORK AND MATERIAL USED FOR EACH OPERATION, INCLUDING CONTRACTOR/SUB NAME, ITEM NO. AND LOCATION

12:25 P.M. CREW HAD TILE BLOWOUT # 2N EXPOSED AND SECTION OF CLAY TILE REMOVED. CREW RELIZED COLLAPSED TILE WAS NOT TILE BLOWOUT # 2N.

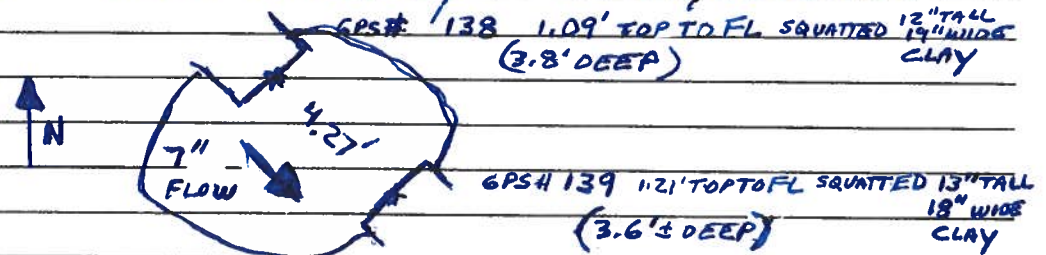
12:29 P.M. PICTURE # 3547 SEE PICTURE FOR DETAILS.

12:30 P.M. CREW LOCATED TILE FROM GPS# 177 NORTH TILE INSIDE TILE BLOWOUT # 18 UPSTREAM 537.2' WHERE SECTION OF TILE COLLAPSED (GPS 128-131, 133 TO 137)

12:43 P.M. PICTURE # 3548 SEE PICTURE FOR DETAILS.

12:58 P.M. CREW WAS DONE LOCATING TILE AND STARTED TO EXCAVATE @ 537.1' WHERE SECTION OF TILE COLLAPSED.

BLOWOUT # 2N IN GRASS WATER WAY 443.5' NORTH OF GRASS WATER WAY TO ACREAGE  
5.0' Ø TILE BLOWOUT  
2 SECTIONS OF TILE  
COLLAPSED



1:09 P.M. PICTURE # 3549 & 1:10 P.M. PICTURE # 3550 SEE PICTURE FOR DETAILS

1:12 P.M. PICTURE # 3551 & PICTURE # 3552 SEE PICTURE FOR DETAILS.

1:16 P.M. PICTURE # 3553 SEE PICTURE FOR DETAILS.

1:25 P.M. CREW LET WATER FLOW FOR A WHILE & CONTINUED TO TELEVIEW UPSTREAM PAST 537.1' TILE COLLAPSE UNTIL CAMERA FOUND A BROKEN CLAY TILE CHUNK IN FLOWLINE AND COULD NOT GET PAST THE CHUNK @ 883.28' GPS # 145.

1:42 P.M. CREW WAS LOCATING TILE.

1:57 P.M. CREW WAS DONE LOCATING TILE AND PULLING CAMERA BACK.

I Certify that the work described in this report was incorporated into this contract unless otherwise noted.

Observer's Signature: Dean Penning Date Prepared: 05/14/2020

Reviewed by: \_\_\_\_\_ Engineer  Date Reviewed: \_\_\_\_\_



CONSTRUCTION ENGINEERING  
OBSERVATION REPORT

DATE:

05/14/2020

PROJECT NUMBER: HARDIN DD WOFF  
6844.4/0014  
COUNTY, ROUTE, ROAD: WEST OF CO HWY 927 BETWEEN  
CO HWY 041 & 220 TH ST  
LOCATION: DD14 MARIETTA TILE LOCATED SWNE & NWSE  
34-88-22 HARRIS COUNTY  
INVESTIGATE & TEMPORARILY REPAIR 3 TILE BLOWOUTS

DAYS OF WEEK:

S M T W T F S

SHEET NO.

4 OF 6

MID 50'S TO UPPER 60'S CLOUDY WITH LIGHT  
WIND MIST & FOG IN MORNING & RAIN  
IN LATE AFTERNOON

JOB # 6844.0014 SURVEY

DESCRIPTION OF WORK AND MATERIAL USED FOR EACH OPERATION, INCLUDING CONTRACTOR/SUB  
NAME, ITEM NO. AND LOCATION

BLOWOUT # 1N IN GRASS WATERWAY 407.2'± NORTH OF GRASS WATERWAY  
TO ACREAGE  
1 SECTION OF TILE  
COLLAPSED  
GPS # 147 1.05' TOP TO FL 12" TALL  
3.4'± DEEP 19" WIDE CLAY  
SQUATED  
4.0' LONG  
ERODED  
SOIL CAVITY  
ON WEST SIDE  
2 1/2" FLOW  
N  
GPS # 146 1.32' TOP TO FL 15" TALL  
(3.3'± DEEP) 17" WIDE CLAY

2:05 P.M. PICTURE # 3557 SEE PICTURE FOR DETAILS

2:14 P.M. PICTURE # 3558 & PICTURE # 3559 SEE PICTURE FOR DETAILS.

CREW WILL REMOVE NEXT CLAY TILE SECTION TO NORTH IN  
TILE BLOWOUT # 1N DUE TO CONDITION.

2:33 P.M. PICTURE # 3560 SEE PICTURE FOR DETAILS.

BLOWOUT # 1N IN GRASS WATERWAY 407.2'± NORTH OF GRASS WATERWAY  
TO ACREAGE

TEMPORARY REPAIR TILL  
DISTRICT DECIDES ON REPAIR  
2.0' X 4.5' ENGINEERING  
FABRIC OVER JOINT  
6.3 LF 15" Ø DUAL WALL  
NONPERF HOPE TILE  
2.0' X 4.5' ENGINEERING FABRIC OVER JOINT  
GPS # 152 1.34' TOP TO FL 15.25" TALL  
3.3'± DEEP 16" WIDE CLAY  
2 1/2" FLOW  
GPS 146 1.32' TOP TO FL 15" TALL  
3.3'± DEEP 17" WIDE CLAY

2:42 P.M. CREW STARTED TELEVISIONING DOWNSTREAM FROM GPS # 178 IN TILE BLOWOUT # 1S.

CREW WILL REMOVE A CLAY TILE SECTION TO NORTH AND SOUTH IN  
TILE BLOWOUT # 2N DUE TO CONDITION.

3:11 P.M. PICTURE # 3562, 3:14 P.M. PICTURE # 3563, 3:19 P.M. PICTURE # 3564 SEE  
PICTURE FOR DETAILS.

BLOWOUT # 2N IN GRASS WATERWAY 443.5'± NORTH OF GRASS WATERWAY TO ACREAGE  
ENDED UP REMOVING 4 SECTIONS OF TILE  
FOR TEMPORARY REPAIR TILL  
DISTRICT DECIDES ON REPAIR  
GPS # 176 1.39' TOP TO FL (8.5'± DEEP)  
2.0' X 4.5' ENGINEERING FABRIC OVER JOINT  
8.5 LF OF 15" Ø DW HOPE NONPERF TILE  
2.0' X 4.5' ENGINEERING FABRIC OVER JOINT  
GPS # 175 1.39' TOP TO FL CLAY 3.6'± DEEP  
3" FLOW

I Certify that the work described in this report was incorporated into this contract unless otherwise noted.

Observer's Signature: Dean Penning

Date Prepared: 05/14/2020

Reviewed by: \_\_\_\_\_ Engineer

Date Reviewed \_\_\_\_\_

CONSTRUCTION ENGINEERING  
OBSERVATION REPORT

DATE:

05/14/2020

PROJECT NUMBER:

HARDIN DD W0#

6844.4/0014

COUNTY, ROUTE, ROAD:

WEST OF CO HWY 527 BETWEEN

CO HWY D41 & 220TH ST

LOCATION:

0041 MAIN TILE LOCATED SWNE & NWSE

34-88-22 HARDIN COUNTY

INVESTIGATE & TEMPORARILY REPAIR 3 TILE BLOWOUTS

DAYS OF WEEK:

S M T W D F S

SHEET NO.

.5 OF 6

MID 50'S TO UPPER 60'S CLOUDY WITH LIGHT WIND MIST & FOG IN MORNING & RAIN IN LATE AFTERNOON

JOB# 6844 0014 SURVEY

DESCRIPTION OF WORK AND MATERIAL USED FOR EACH OPERATION, INCLUDING CONTRACTOR/SUB NAME, ITEM NO. AND LOCATION

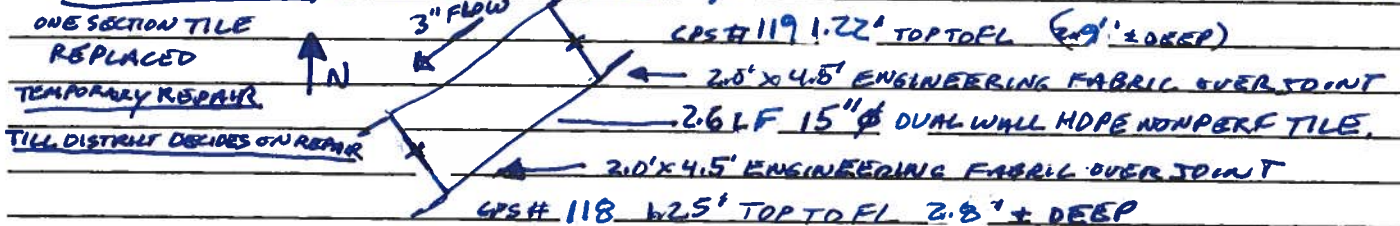
3:33 P.M. PICTURE # 3565 SEE PICTURE FOR DETAILS.

3:35 P.M. CREW WAS DONE BACK FILLING: TILE BLOWOUT #1N & #2N AND FINISHED TELE VISING 995' DOWNSTREAM TO END OF CAMERA CABLE. CREW STARTED TO LOCATE TILE.

3:50 P.M. CREW WAS DONE LOCATING TILE AND STARTED TO RETRIEVE CAMERA.

4:14 P.M. PICTURE # 3566 & PICTURE # 3567 SEE PICTURE FOR DETAILS.

BLOW OUT # 2S IN GRASS WATERWAY 159.9'± SOUTH OF GRASS LANE EAST TO ACRES.



4:19 P.M. PICTURE # 3568 & 4:21 P.M. PICTURE # 3569 SEE PICTURE FOR DETAILS.

BLOWOUT # 1S 120.3'± SOUTH OF GRASS LANE EAST TO ACRES



4:29 P.M. PICTURE # 3570 SEE PICTURE FOR DETAILS.

4:45 P.M. CREW LEFT SITE AFTER FINISHING BACK FILLING HOLES.

4:51 P.M. PICTURE # 3571 & 4:52 P.M. PICTURE # 3572. SEE PICTURE FOR DETAILS.

5:00 P.M. OBSERVER TORE DOWN GPS AND LEFT SITE.

SEE QUANTITIES ON SHEET 6

I Certify that the work described in this report was incorporated into this contract unless otherwise noted.

Observer's Signature:

*Dean Penning*

Date Prepared:

05/14/2020

Reviewed by:

Engineer

Date Reviewed

CONSTRUCTION ENGINEERING  
OBSERVATION REPORT

DATE:

05/14/2020

PROJECT NUMBER:

HARDIN DD W0#

DAYS OF WEEK:

S M T W **D** F S

COUNTY, ROUTE, ROAD:

6844.4/0014  
WEST OF CO HWY 527 BETWEEN  
CO HWY 041 & 220 EAST

SHEET NO.

6 OF 6

LOCATION:

0041 MAIN TILE LOCATED SW NB & NW SB  
34-88-22 HARDIN COUNTY

MID 50'S TO UPPER 60'S CLOUDY WITH LIGHT  
WIND MIST & FOG 'IN MORNING & RAIN  
IN LATE AFTERNOON

INVESTIGATE & TEMPORARILY REPAIR 3 TILE BLOWOUTS

JOB# 6844 0014 SURVEY

DESCRIPTION OF WORK AND MATERIAL USED FOR EACH OPERATION, INCLUDING CONTRACTOR/SUB  
NAME, ITEM NO. AND LOCATION

QUANTITIES

PAUL 6 1/4 HOURS

DOUG 6 1/4 HOURS

WILLIAM 6 1/4 HOURS

BOBCAT E85 MINI EXCAVATOR 6 1/4 HOURS

UTV WITH CAMERA EQUIPMENT 6 1/4 HOURS

TELEVISED UPSTREAM FROM GPS# 177 883.3 LF

DOWNSTREAM FROM GPS# 178 995.0 LF.

TEMPORARY REPAIR TILE BLOWOUT IN 6.3 LF 15" Ø DW HDPE NONPERF TILE

UNTIL DISTRICT DECIDES 2- 2.0' x 4.5' ENGINEERING FABRIC  
ON HOW MUCH TO REPAIR PIECES

TILE BLOWOUT 2N 8.5 LF 15" Ø DW HDPE NONPERF TILE

2- 2.0' x 4.5' ENGINEERING FABRIC  
PIECES

TILE BLOWOUT 1S 2.5 LF 15" Ø DW HDPE NONPERF TILE

2- 2.0' x 4.5' ENGINEERING FABRIC  
PIECES

NOTE #1 GPS# 145 REMOVE CLAY

TILE PIECE IN FLOWLINE

② ONCE REPAIR DECIDED  
FIX TEMPORARY REPAIRS

TILE BLOWOUT 2S 2.6 LF 15" Ø DW HDPE NONPERF TILE

2- 2.0' x 4.5' ENGINEERING FABRIC  
PIECES

NOTE: TILE BLOWOUT IN, 2N, & 2S NEED SEEDED

TILE BLOWOUT 1S NEEDS ADDITIONAL SOIL IN 6.0' x 6.0' x 1.0' x  
DEEP AREA THEN SEED.

TILE 1 HAS NUMEROUS BAD SPOTS TO NORTH AND SOUTH OF BLOWOUT 1S.

I Certify that the work described in this report was incorporated into this contract unless otherwise noted.

Observer's Signature:

*Dream Perry*

Date Prepared:

05/14/2020

Reviewed by:

Engineer

Date Reviewed

Beacon Hardin County, IA

Login

Search

Layers - Map Comp Search

- Quick Links:
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Layers:

- Address
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- Structures
- Garden Winds Turbines
- Airport Protected
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- Two Mile Boundary
- School Districts
- Voting Districts
- LOMR



COUNTY TILE TELEVISION REPORT

DATE 05 / 14 / 2020

JOB # 6844.4

DD 14 MAIN

UPSTREAM

883.3'

START GPS # 177

END GPS # 145

0.0 CAMERA TIRES IN TILE WITH CAMERA HEAD ABOUT 1.0' +/- INSIDE TILE

FOOTAGE

0.00	GPS # 177	15" CLAY TILE UPSTREAM @ BLOWOUT IS 120.3' BLOWOUT SOUTH OF GRASS LANE EAST TO ACREAGE @ 21547 CO HWY 527.
0.00	(LC) @ 12	
0.9	LONGITUDINAL CRACK & CIRCUMFERENTIAL CRACK.	
11.4	LONGITUDINAL CRACK & CIRCUMFERENTIAL CRACK.	(EC)
11.4	LONGITUDINAL CRACK & CIRCUMFERENTIAL CRACK.	
18.2	LONGITUDINAL CRACK & CIRCUMFERENTIAL CRACK.	
18.2	LONGITUDINAL CRACK & CIRCUMFERENTIAL CRACK.	
20.6	LONGITUDINAL CRACK & CIRCUMFERENTIAL CRACK.	
20.6	LONGITUDINAL CRACK & CIRCUMFERENTIAL CRACK.	
28.8	LONGITUDINAL CRACK & CIRCUMFERENTIAL CRACK.	
28.8	LONGITUDINAL CRACK & CIRCUMFERENTIAL CRACK.	
31.0	LONGITUDINAL CRACK & CIRCUMFERENTIAL CRACK.	
31.0	LONGITUDINAL CRACK & CIRCUMFERENTIAL CRACK.	
33.8	LONGITUDINAL CRACK & CIRCUMFERENTIAL CRACK.	
33.8	LONGITUDINAL CRACK & CIRCUMFERENTIAL CRACK.	
68.7	CLAY TO CMP	

PICTURE # 3538 IS LOOKING SW @ BLOWOUT # 1 IS SHOWING CREW  
TELEVISIONING WASSTREAM FROM GPS# 177



GPS# 178  
TOP 14" TALL  
17" WIDE  
CLAY TILE  
1.25' TOP TO FL



05/14/2020  
11:25

GPS# 177 TOP 15" TALL 16 1/4" WIDE  
1.35' TOP TO FL



GPS# 119  
TOP 14" TALL  
17" WIDE  
CLAY TILE  
1.25' TOP TO FL

ERODED  
SOIL  
CAVITY

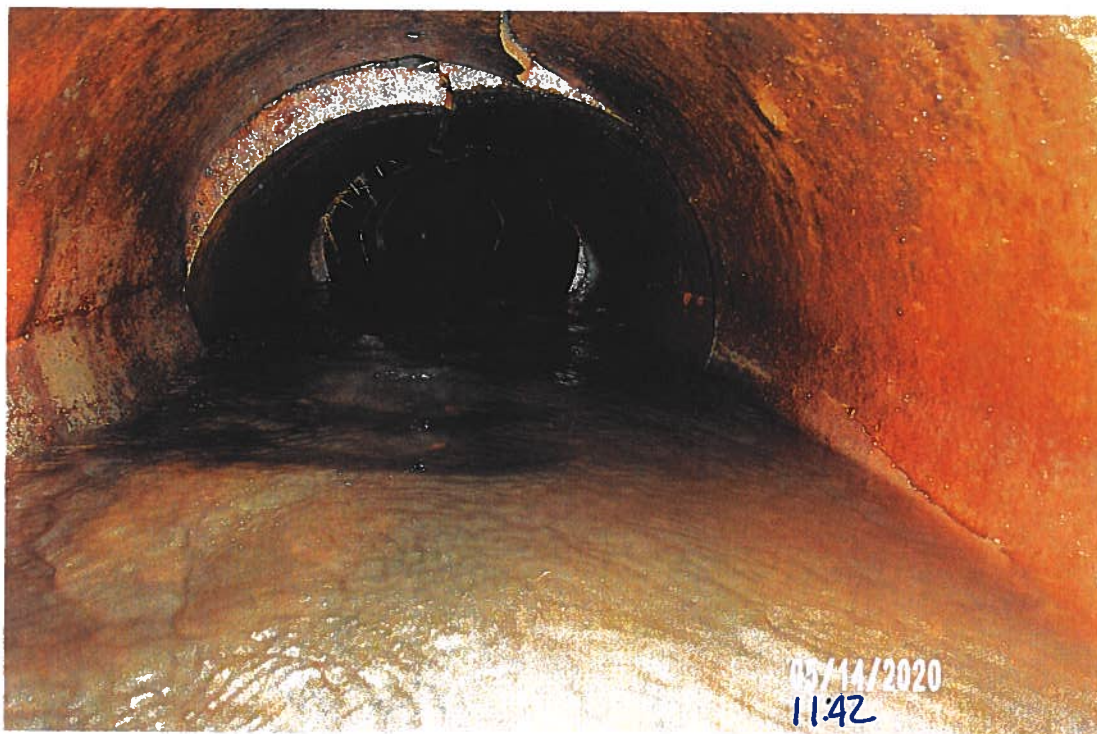
05/14/2020  
11:28

11:28

PICTURE # 3539 IS LOOKING NE @ BLOWOUT # 25 SHOWING A 5.0'  
LONG CAVITY ON EAST SIDE OF TILE WHERE SOIL ERODED  
AWAY

PICTURE #354D IS LOOKING SW IN BLOWOUT #2S SHOWING 5.5' LONG ERODED SOIL CAVITY ON EAST SIDE OF TILE

GPS# 118 TOP 14 1/4" TALL X 17 1/4" WIDE



PICTURE 354I IS LOOKING SW INSIDE CLAY TILE DOWNSTREAM INSIDE BLOWOUT 2S SHOWING NEXT COUPLE SECTIONS IN BAD SHAPE WITH CRACKS AND LEAVING DOWN. FROM GPS# 118

PICTURE # 3542 IS LOOKING NE INSIDE CLAY TILE UPSTREAM INSIDE BLOWOUT 2S SHOWING NEXT COUPLE SECTIONS IN BAD SHAPE WITH CRACKS AND APPEAR TO BE CAVING DOWN, FROM GPS # 119



PICTURE # 3543 IS LOOKING NE ON EAST SIDE OF TILE AT 5.0' LONG SOIL ERODED CAVITY IN BLOWOUT # 2S FROM GPS # 119

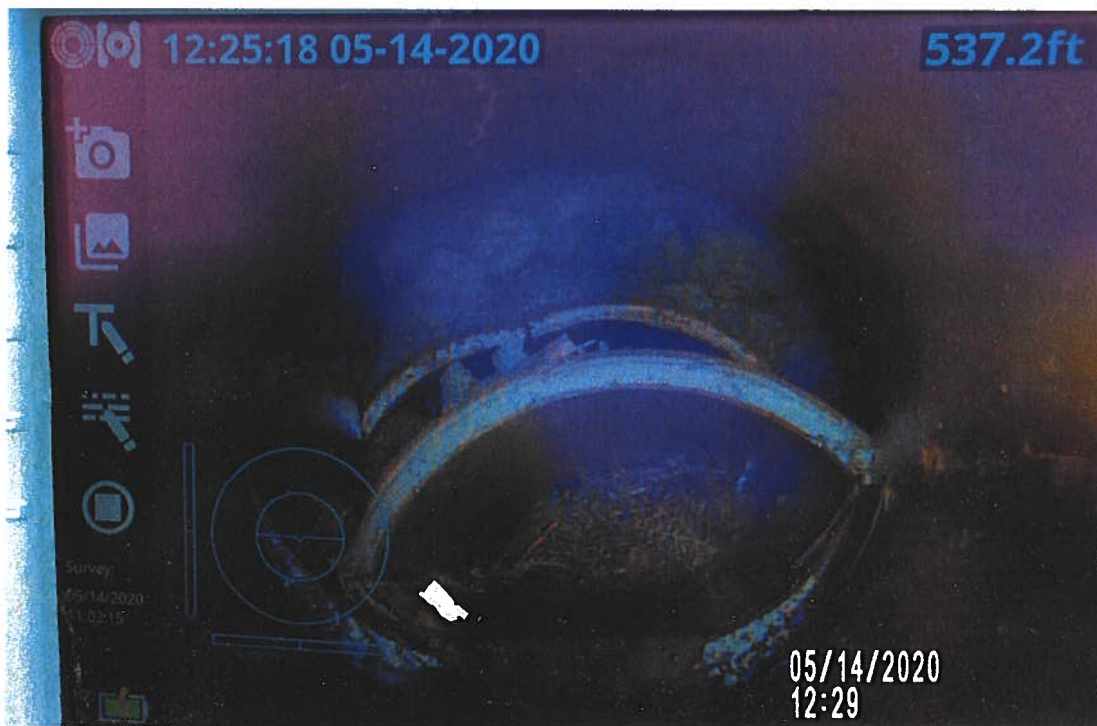


PICTURE # 3544 IS LOOKING SW ON EAST SIDE OF TILE AT 5.5' LONG  
SOIL ERODED CAVITY IN BLOWOUT # 28 FROM GPS # 118



PICTURE # 3545 IS LOOKING NW INSIDE BLOWOUT 2 IN 5.0'  $\phi$  HOLE  
WITH CORN STALKS AND SOIL IN BOTTOM.

PICTURE # 3546 IS LOOKING SOUTH AT BLOWOUT 2N (5" HOLE) IN GRASS  
WATER WAY BACK TOWARDS GRASSLANE TO ACREAGE



PICTURE # 3547 IS LOOKING UPSTREAM AT COMPLETELY COLLAPSED  
SECTION OF CLAY TILE @ 537.2' WHICH HAD NOT SURFACED  
YET & SOUTH OF TILE BLOWOUT # 2N,

PICTURE# 3548 IS LOOKING SE AT TILE BLOWOUT #2N TILE EXPOSED WITH 5" FLOW.



GPS# 139  
13" TALL  
18" WIDE  
SQUANDED  
1.25' TOPTOFL  
(3.6' ± DEEP)

GPS# 138  
12" TALL  
17" WIDE  
SQUANDED  
1.09' TOPTOFL  
(3.8' ± DEEP)

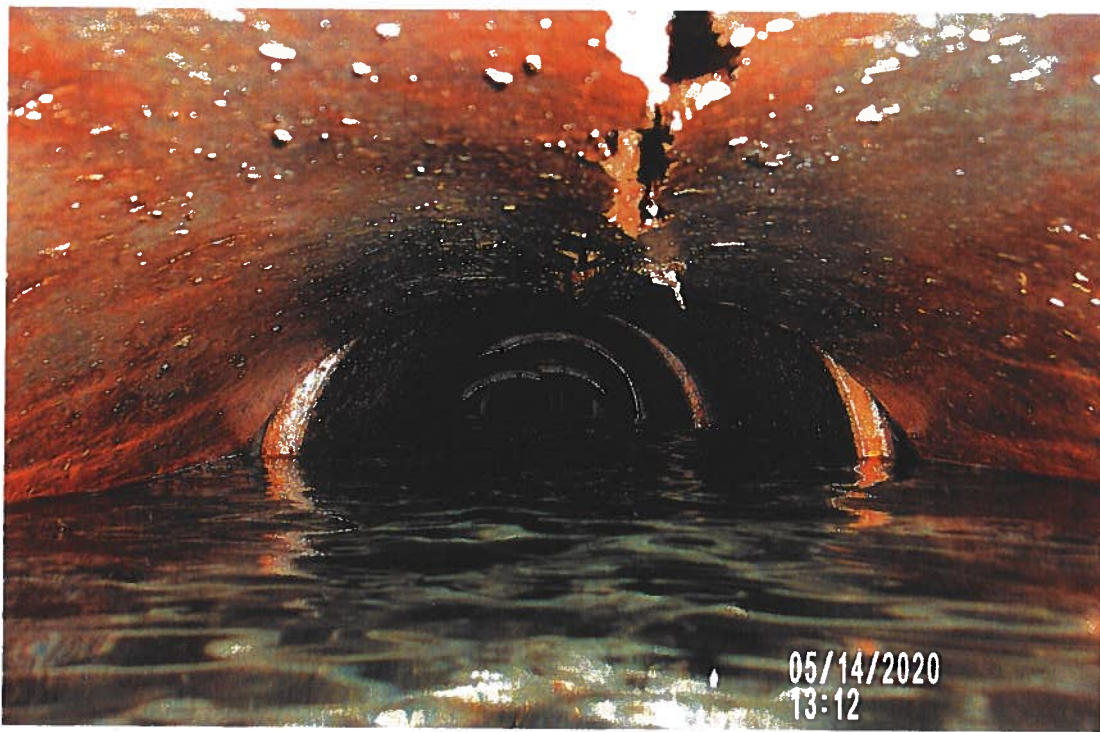
05/14/2020  
12:48



05/14/2020  
13:09

PICTURE# 3549 IS LOOKING NW SHOWING VOID UNDER GRASS WATERWAY THAT HAD NEVER SURFACED YET. ONLY 1.0' TO 1.5' OF SOIL OVER VOID @ 537.1' WHERE TILE COMPLETELY

PICTURE # 3550 IS LOOKING NW SHOWING VOID UNDER GRASS WATERWAY @ 537.1' WHERE TILE COMPLETELY COLLAPSED.



PICTURE # 3551 IS LOOKING NW SHOWING 1ST SECTION OF TILE WITH SEVERE LONGITUDINAL CRACK AND CAVING DOWN. UPSTREAM FROM GPS# 138 WITH SEVERAL OTHER TILE CRACKED AND CAVING DOWN SEVERAL FEET UPSTREAM.

PICTURE # 3552 IS LOOKING SE SHOWING 1ST SECTION OF CLAY TILE WITH LONGITUDINAL CRACKS AND CAVING DOWN DOWNSTREAM FROM CPS# 139 WITH REST OF SECTIONS OF TILE NOT LOOKING TOO BAD



N  
↓



N  
↑

CPS# 147  
12" TALL  
19" WIDE  
SQUATTER CLAY  
1.05' TOP TO FL:  
3.5' ± DEEP

CPS# 146  
15" TALL  
17" WIDE  
CLAY  
1.32' TOP TO FL  
3.3' ± DEEP

PICTURE # 3553 IS LOOKING NE SHOWING COLLAPSED SECTION OF TILE REMOVED AND NOW FLOWING GOOD IN BLOWOUT. IN

PICTURE# 3557 IS LOOKING NW SHOWING 4.0' LONG ERODED SOIL CAVITY ON WEST SIDE OF TILE IN IN TILE BLOWOUT # IN FROM GPS# 147



PICTURE# 3558 IS LOOKING SE INSIDE CLAY TILE IN TILE BLOWOUT # IN FROM GPS# 146 SHOWING TILE CRACKED BUT NOT GIVING DOWN,

PICTURE #3559 IS LOOKING NW INSIDE CLAY TILE FROM GPS# 147 IN TILE BLOWOUT # IN SHOWING TOP CRACKED AND CAVING DOWN



PICTURE # 3560 IS LOOKING NW INSIDE CLAY TILE FROM GPS # 152 IN TILE BLOWOUT # IN SHOWING TILE CRACKED BUT NOT CAVING DOWN.

PICTURE # 3561 IS LOOKING NW SHOWING TEMPORARY REPAIR OF 6.3 LF OF 15" Ø DUAL WALL NON PERFORATED TILE INSTALLED IN TILE BLOWOUT # 1N WITH BOTH JOINTS WRAPPED WITH FABRIC.



GPS#152  
TOP 15.25" TALL  
16" WIDE  
CLAY  
(1.34' TOP TO FL)

GPS#146  
TOP 15" TALL  
17" WIDE  
CLAY  
(1.32' TOP TO FL)



PICTURE # 3562 IS LOOKING SE INSIDE CLAY TILE FROM GPS# 175 IN TILE BLOWOUT # 2N SHOWING TILE WITH FINE CRACKS BUT NOT CAVING DOWN



PICTURE #3563 IS LOOKING NW INSIDE CLAY TILE FROM GPS #176  
 IN TILE BLOWOUT # 2N SHOWING TILE WITH FINE CRACKS BUT  
 NOT CAVING DOWN IN 1ST TWO SECTIONS BUT NEXT TWO SECTIONS  
 APPEAR TO BE CAVING DOWN. CREW ENDED UP REMOVING



2 SECTIONS  
 OF CLAY  
 TILE ON  
 NORTH END  
 DUE TO NEXT  
 SECTION  
 COLLAPSING  
 DURING  
 REMOVAL  
 N ↑

05/14/2020  
 15:14



GPS#176  
 15.75" TALL  
 16" WIDE  
 CLAY  
 (1.36' TOP TO FL)  
 ↑ N

GPS#175  
 15" TALL  
 15.75" WIDE  
 CLAY  
 (1.36' TOP TO FL)

05/14/2020  
 15:19

PICTURE # 3564 IS LOOKING NORTH SHOWING CREW INSTALLED 8.5 LF  
 OF 15" Ø DUAL WALL NONPERF TILE IN BLOWOUT # 2N WITH BOTH  
 JOINTS WRAPPED WITH FABRIC FOR TEMPORARY REPAIR UNTIL DISTRICT

PICTURE # 3567 IS LOOKING NW SHOWING TILE BLOWOUT #2N  
 BACK FILLED AND DRESSED UP IN GRASS WATERWAY BUT  
 STILL NEEDS SEEDED



GPS # 119  
 14" TALL  
 17" WIDE  
 SQUARED CLAY  
 (1.22' TOP TO FL)

GPS # 118  
 14.25" TALL  
 17.25" WIDE  
 SQUARED CLAY  
 (1.25' TOP TO FL)  
 (DUAL)

PICTURE # 3568 IS LOOKING NE SHOWING 2.6 LF OF 15" Ø DUAL  
 WALL HOPE NONPERF TILE INSTALLED WITH BOTH JOINTS  
 WRAPPED WITH FABRIC FOR TEMPORARY REPAIR IN BLOWOUT #2S

PICTURE# 3565 IS LOOKING NE INSIDE CLAY TILE UPSTREAM INSIDE  
BLOWOUT# 1S SHOWING TILE CRACKED BUT NOT CAVING DOWN FROM  
GPS# 177

↑



↑

PICTURE# 3566 IS LOOKING NW SHOWING TILE BLOWOUT# 1.N  
BACK FILLED AND DRESSED UP IN GRASS WATERWAY BUT  
STILL NEEDS SEEDED

PICTURE#3569 IS LOOKING SW INSIDE CLAY TILE DOWNSTREAM  
 INSIDE BLOWOUT#15 SHOWING TILE CRACKED AND CAVING DOWN  
 SOME FROM GPS# 178



GPS# 177  
 15" TALL  
 16.25" WIDE  
 CLAY  
 (1.35' TOP TO FL)

GPS# 178 14" TALL 17" WIDE CLAY (1.24' TOP TO FL)

PICTURE# 3570 IS LOOKING NW SHOWING 2.5 LF OF 15" Ø  
 DUAL WALL HOPE NONPERF TILE WITH BOTH JOINTS WRAPPED WITH FABRIC  
 FOR TEMPORARY REPAIR IN BLOWOUT # 15.

PICTURE # 3571 IS LOOKING NORTH SHOWING BLOWOUT 2S  
BACKFILLED AND DRESSED UP BUT NEEDS SEEDS  
YET.



PICTURE # 3572 IS LOOKING NORTH SHOWING BLOWOUT IS  
BACKFILLED. HOLE IS STILL SHORT OF SOIL IN 6.0' X 6.0'  
& 10'± DEEP AREA. NEED TO BACK FILL MORE SOIL AND SEED



WRc MSCC Third Edition

# Inspection Report

Produced on behalf of – HARDIN CO

Site location – ,

Survey reference – W/O 290

Date – 140520

WILLIAMS UNDERGROUND SVCS.

102 INDUSTRIAL DRIVVE, ACKLEY, IOWA

50601,

641-485-3925

## Contents

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# 1 Drain / Sewer Survey

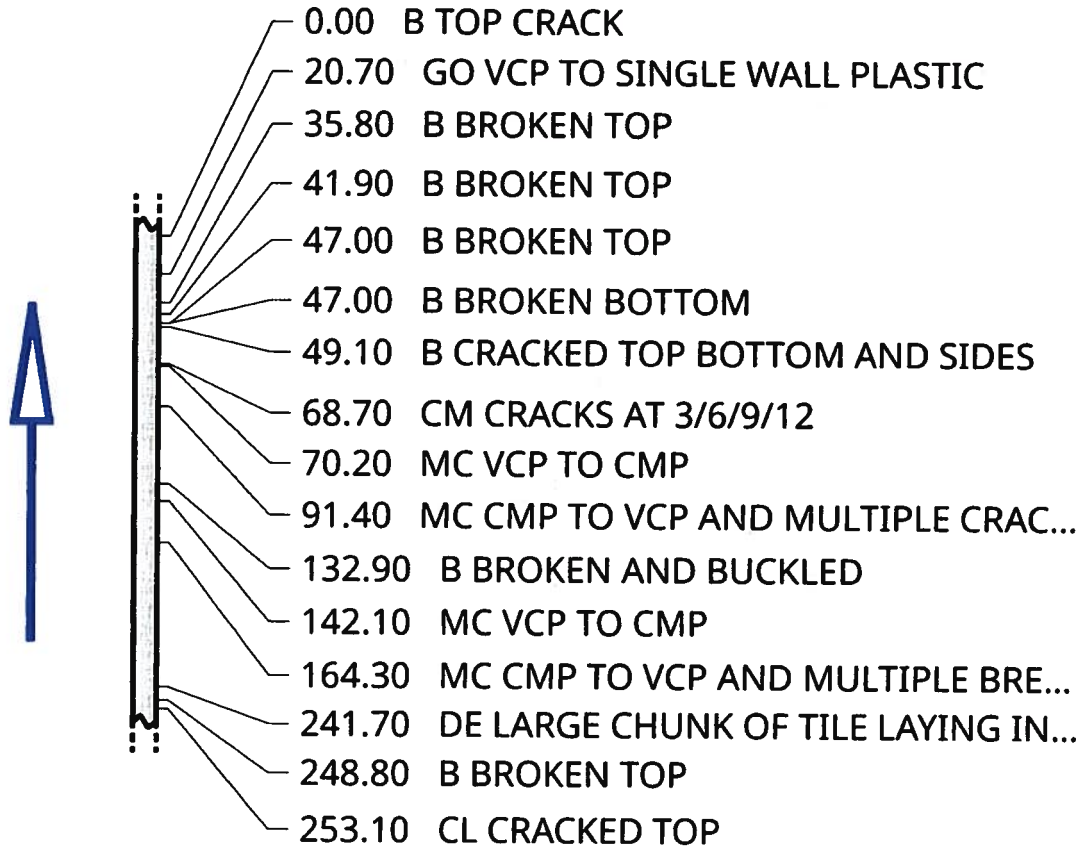
## 1.1 Survey Header

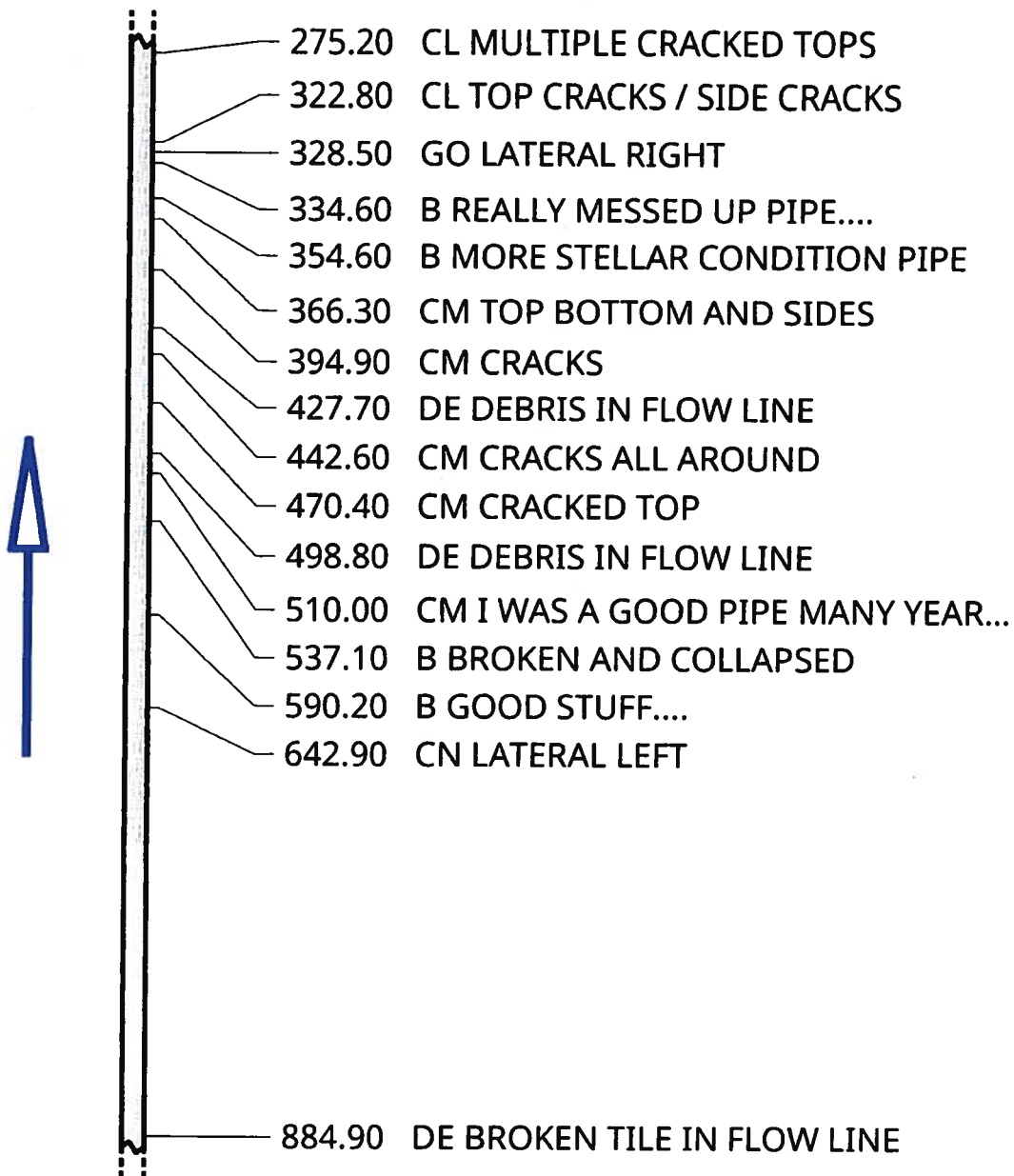
1.1.1	Surveyed by (Operator)	PAUL
1.1.2	Contract no.	
1.1.3	Job no.	W/O 290
1.1.4	Catchment (Drainage area)	DD14
1.1.5	Division	
1.1.6	District	DD14
1.1.7	Pipeline length ref	1000
1.1.8	Date	140520
1.1.9	Time	11:03
1.1.10	Location	
1.1.11	Start manhole no.	
1.1.12	Start depth	m
1.1.13	Start cover level	
1.1.14	Start invert level	
1.1.15	Finish manhole no.	
1.1.16	Finish depth	m
1.1.17	Finish cover level	
1.1.18	Finish invert level	
1.1.19	Use of Drain	
1.1.20	Direction	U
1.1.21	Size 1 (diameter/height)	18mm
1.1.22	Size 2 (width)	mm
1.1.23	Shape	C
1.1.24	Material	VC
1.1.25	Lining	
1.1.26	Pipe length	m
1.1.27	Total length	
1.1.28	Year laid	
1.1.29	Video cassette number	
1.1.30	Comments: General	
1.1.31	Purpose	F
1.1.32	Sewer category	
1.1.33	Pre-cleaning	
1.1.34	Weather	
1.1.35	Location code	
1.1.36	Further location details	












1.2 Diagram










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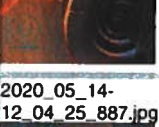
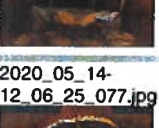
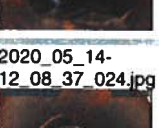
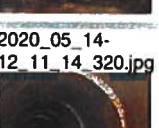
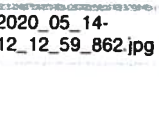









### 1.3 Observations

Video Ref	Dist (ft)	Cont Defect	Code	Photo Ref	Diameter/ Dimension	Clock		Intrusion		Remarks
						At	To	%	mm	
0:00:32	0.0		B	2020_05_14-11_06_59_253.jpg 		12	12			TOP CRACK
0:03:23	20.7		GO	2020_05_14-11_10_19_975.jpg 						VCP TO SINGLE WALL PLASTIC
0:10:12	35.8		B	2020_05_14-11_18_15_064.jpg 		11	01			BROKEN TOP
0:11:09	41.9		B	2020_05_14-11_19_50_872.jpg 		12	01			BROKEN TOP
0:11:54	47.0		B	2020_05_14-11_20_59_932.jpg 		12	02			BROKEN TOP
0:12:24	47.0		B	2020_05_14-11_21_48_750.jpg 		06	06			BROKEN BOTTOM
0:12:56	49.1		B	2020_05_14-11_22_48_871.jpg 		12	11			CRACKED TOP BOTTOM AND SIDES
0:16:39	68.7		CM	2020_05_14-11_27_25_733.jpg 		11	10			CRACKS AT 3/6/9/12
0:17:04	70.2		MC	2020_05_14-11_28_55_319.jpg 						VCP TO CMP
0:19:04	91.4		MC	2020_05_14-11_31_33_629.jpg						CMP TO VCP AND MULTIPLE

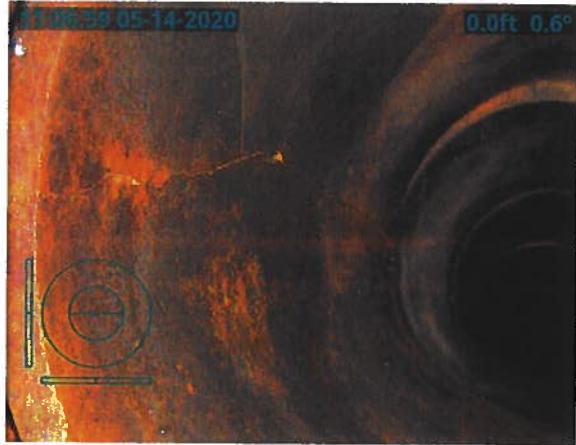
Video Ref	Dist (ft)	Cont Defect	Code	Photo Ref	Diameter/ Dimension	Clock		Intrusion		Remarks
						At	To	%	mm	
										CRACKS ALL AROUND
0:21:14	132.9		B	2020_05_14-11_34_21_116.jpg 		12	11			BROKEN AND BUCKLED
0:21:48	142.1		MC	2020_05_14-11_35_23_408.jpg 						VCP TO CMP
0:22:45	164.3		MC	2020_05_14-11_36_46_142.jpg 						CMP TO VCP AND MULTIPLE BREAKS AT ALL CLOCK POSITIONS
0:27:05	241.7		DE	2020_05_14-11_42_18_623.jpg 				35%		LARGE CHUNK OF TILE LAYING IN FLOW LINE
0:28:47	248.8		B	2020_05_14-11_45_05_840.jpg 		12	12			BROKEN TOP
0:29:39	253.1		CL	2020_05_14-11_46_32_650.jpg 		12				CRACKED TOP
0:31:09	275.2		CL	2020_05_14-11_48_36_134.jpg 		12				MULTIPLE CRACKED TOPS
0:33:47	322.8		CL	2020_05_14-11_51_44_890.jpg 		12				TOP CRACKS / SIDE CRACKS
0:35:01	328.5		GO	2020_05_14-11_53_44_167.jpg						LATERAL RIGHT

Video Ref	Dist (ft)	Cont Defect	Code	Photo Ref	Diameter/ Dimension	Clock		Intrusion		Remarks
						At	To	%	mm	
										
0:35:36	334.6		B	2020_05_14-11_56_23_311.jpg 		12	11			REALLY MESSED UP PIPE....
0:36:50	354.6		B	2020_05_14-11_58_15_678.jpg 		11	12			MORE STELLAR CONDITION PIPE
0:37:47	366.3		CM	2020_05_14-11_59_48_835.jpg 		11	12			TOP BOTTOM AND SIDES
0:39:47	394.9		CM	2020_05_14-12_02_18_136.jpg 		11	12			CRACKS
0:41:19	427.7		DE	2020_05_14-12_04_25_887.jpg 				25%		DEBRIS IN FLOW LINE
0:42:27	442.6		CM	2020_05_14-12_06_25_077.jpg 		11	12			CRACKS ALL AROUND
0:44:01	470.4		CM	2020_05_14-12_08_37_024.jpg 		12	02			CRACKED TOP
0:46:09	498.8		DE	2020_05_14-12_11_14_320.jpg 				25%		DEBRIS IN FLOW LINE
0:47:23	510.0		CM	2020_05_14-12_12_59_862.jpg		11	12			I WAS A GOOD PIPE MANY YEARS AGO...

Video Ref	Dist (ft)	Cont Defect	Code	Photo Ref	Diameter/ Dimension	Clock		Intrusion		Remarks
						At	To	%	mm	
										
0:50:12	537.1		B	2020_05_14-12_16_39_476.jpg 		08	03			BROKEN AND COLLAPSED
1:19:44	590.2		B	2020_05_14-13_24_29_424.jpg 		10	12			GOOD STUFF....
1:21:51	642.9		CN	2020_05_14-13_27_02_815.jpg 	4?	10				LATERAL LEFT
1:31:25	884.9		DE	2020_05_14-13_37_34_943.jpg 				50%		BROKEN TILE IN FLOW LINE

## 1.4 Photographs

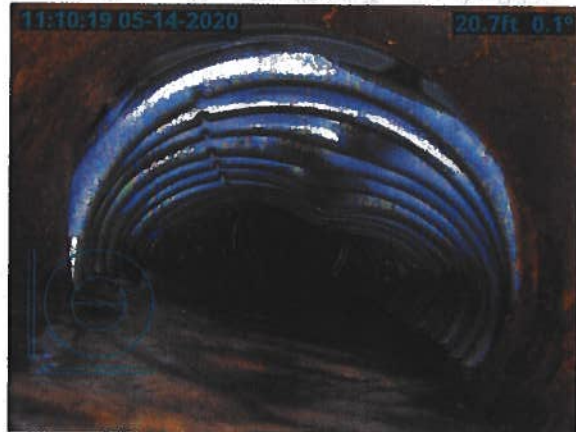
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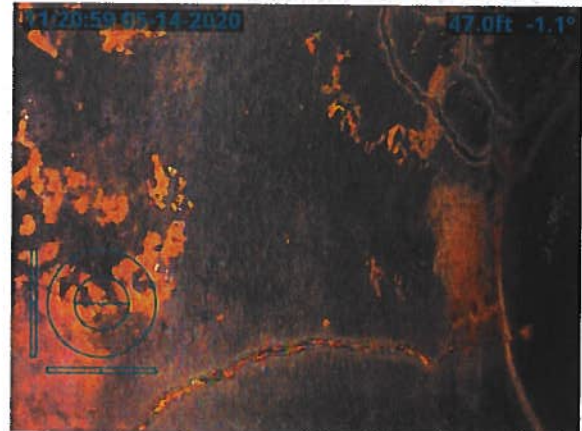
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GO 2020\_05\_14-11\_10\_19\_975.jpg



B 2020\_05\_14-11\_20\_59\_932.jpg



B 2020\_05\_14-11\_18\_15\_064.jpg



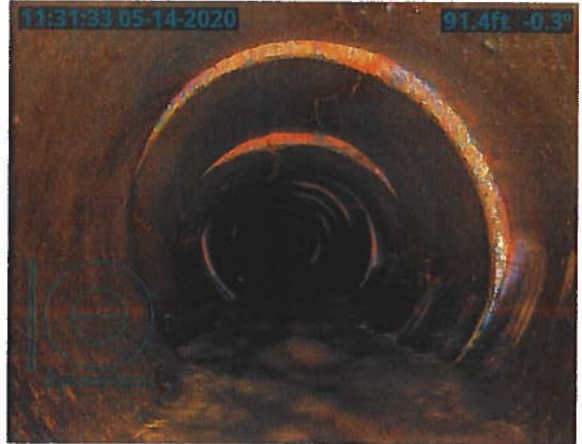
B 2020\_05\_14-11\_21\_48\_750.jpg



B 2020\_05\_14-11\_22\_48\_871.jpg



MC 2020\_05\_14-11\_31\_33\_629.jpg



CM 2020\_05\_14-11\_27\_25\_733.jpg



B 2020\_05\_14-11\_34\_21\_116.jpg



MC 2020\_05\_14-11\_28\_55\_319.jpg

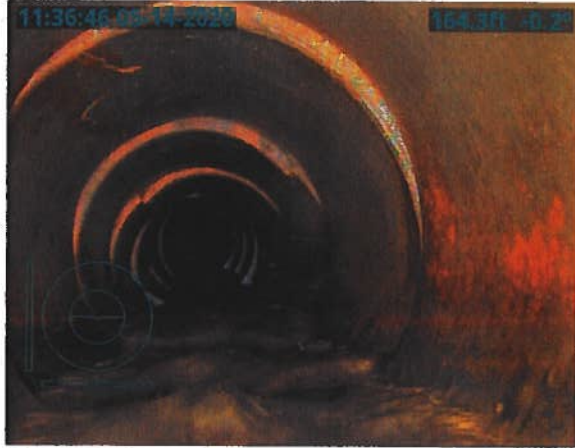


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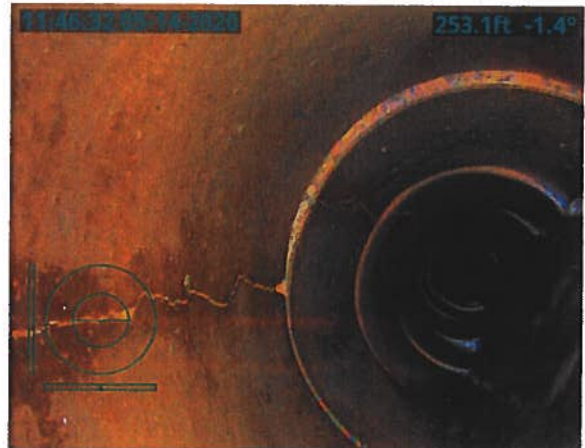




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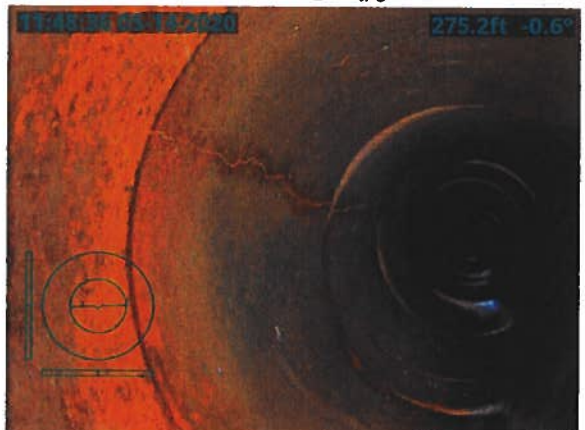
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DE 2020\_05\_14-11\_42\_18\_623.jpg



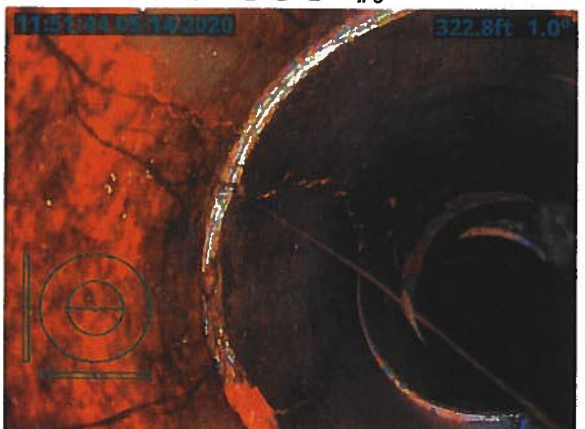
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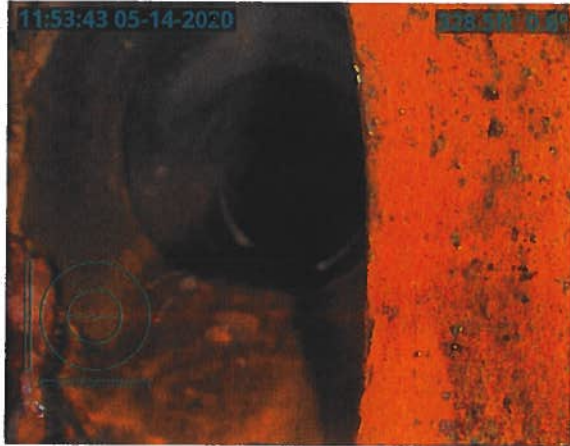
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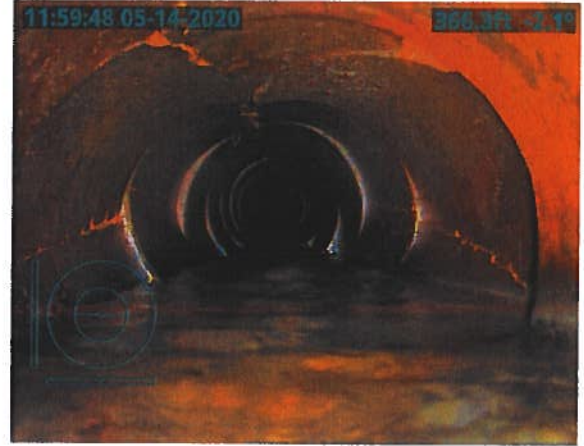
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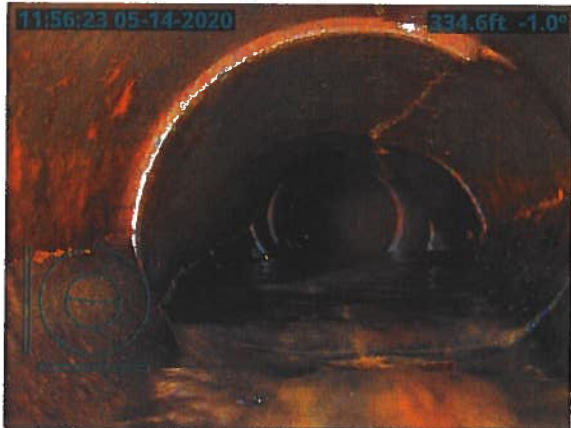
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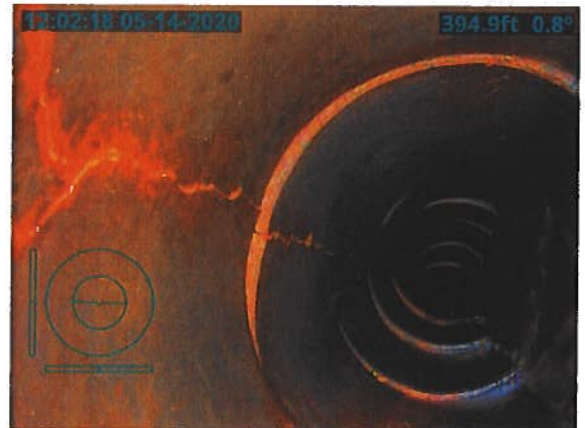
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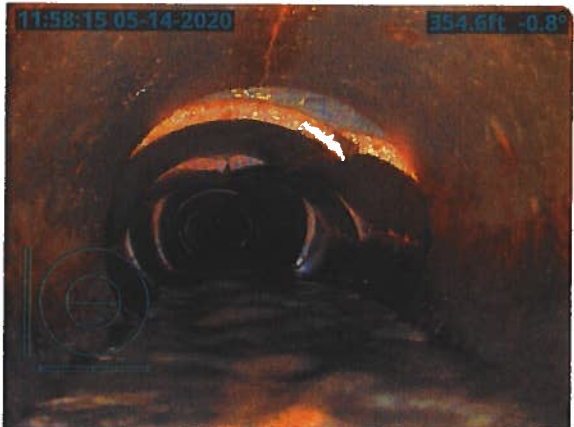
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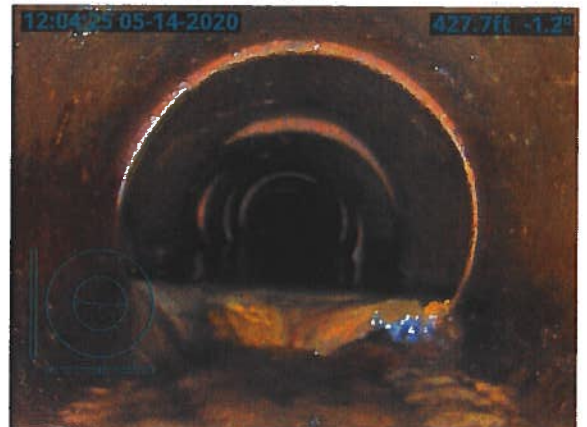
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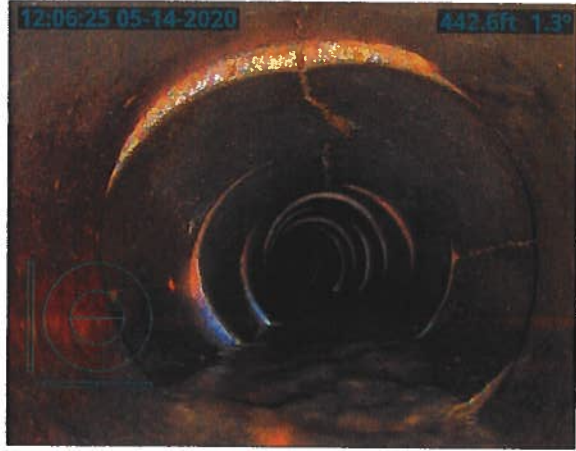
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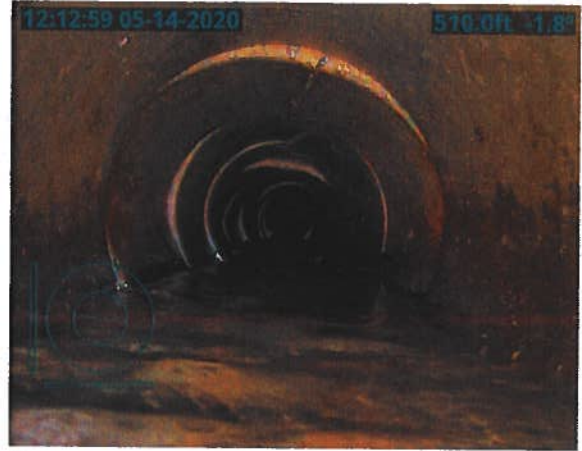
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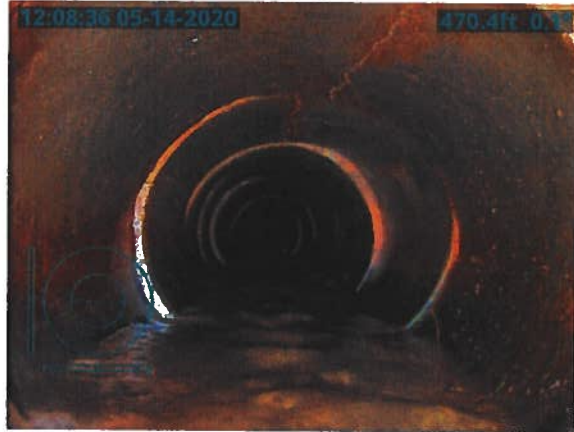
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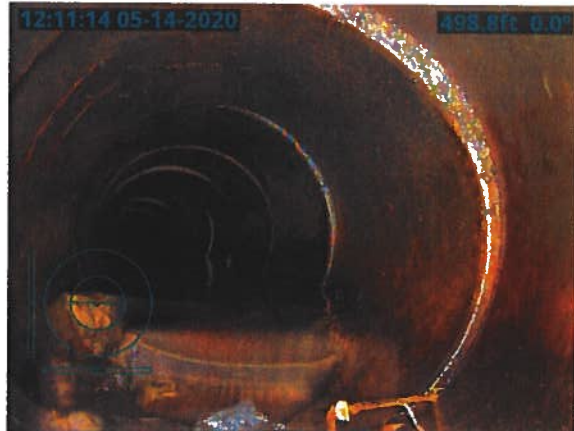
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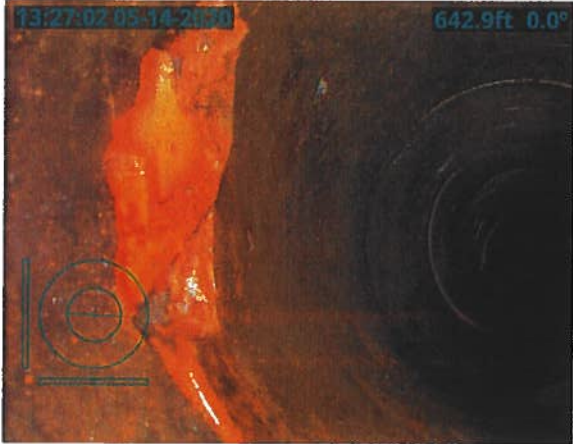
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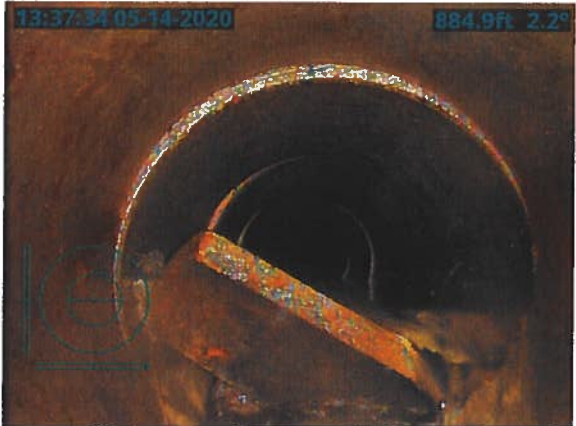
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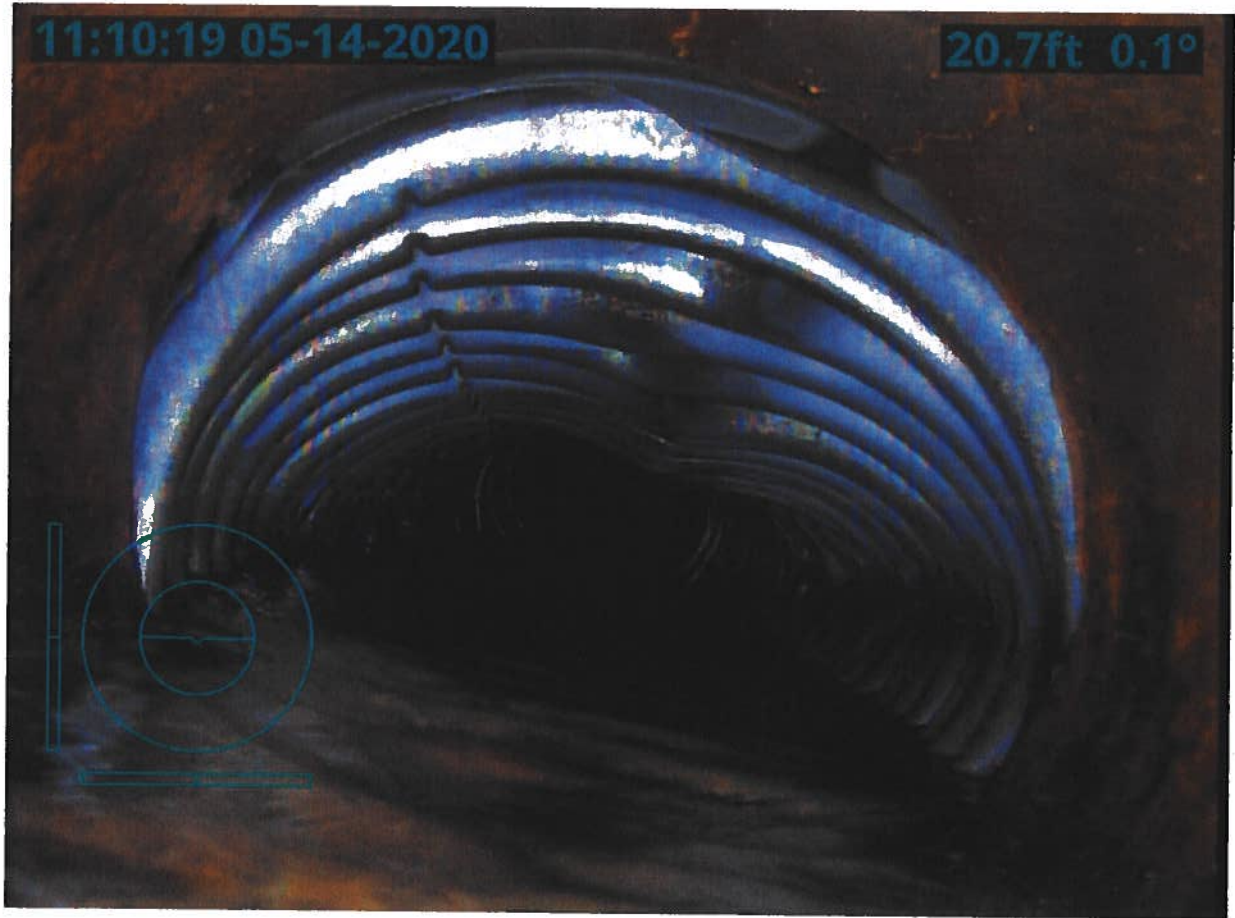
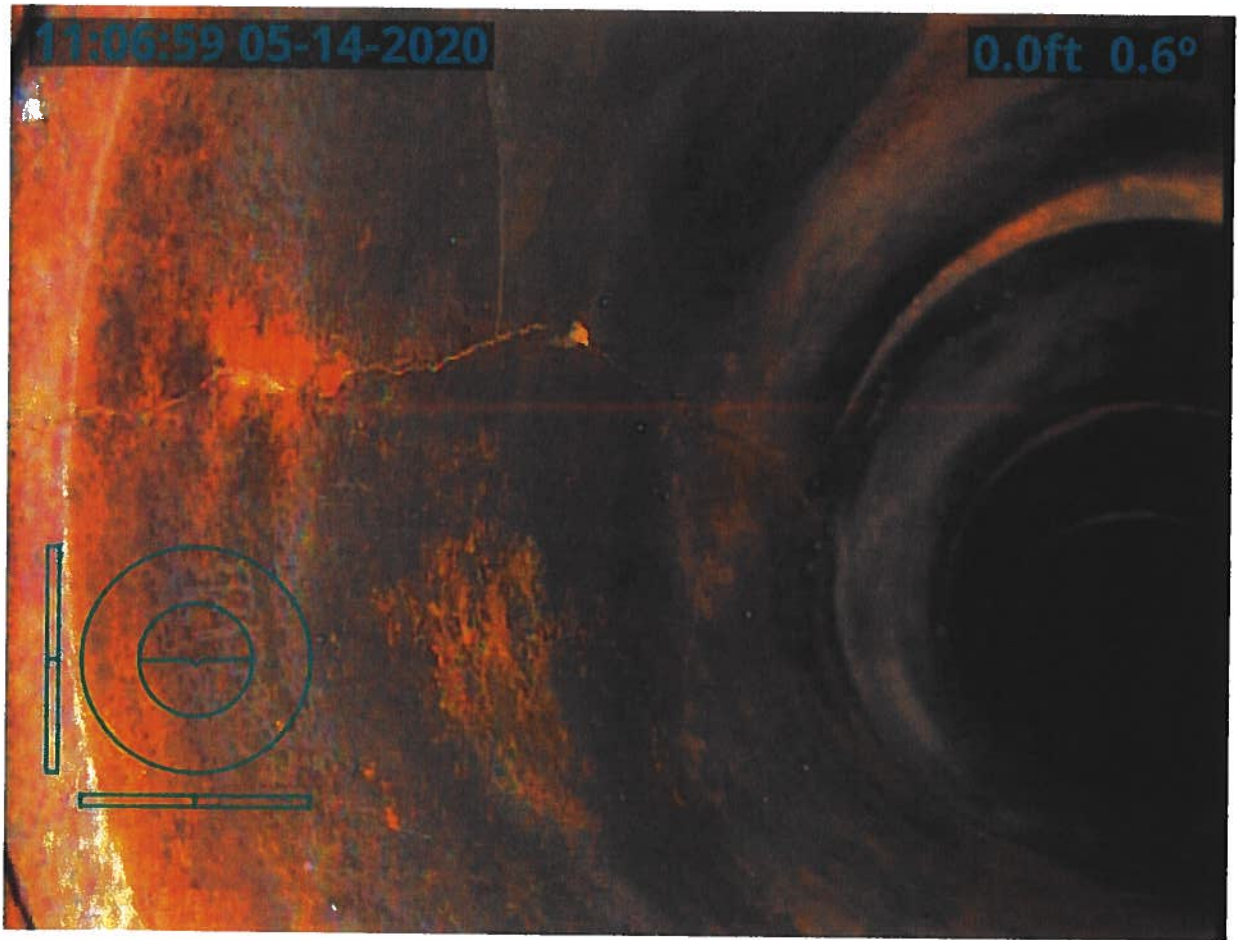


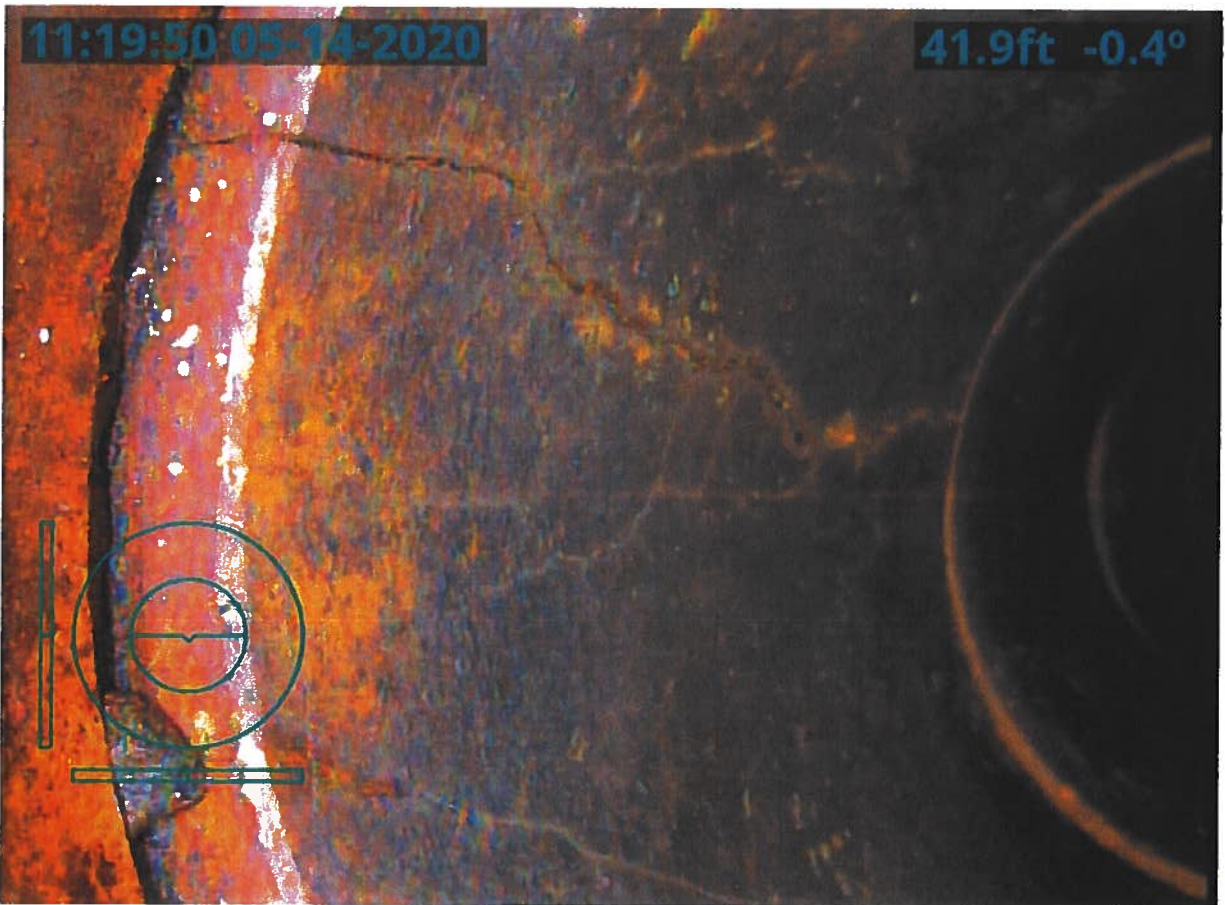
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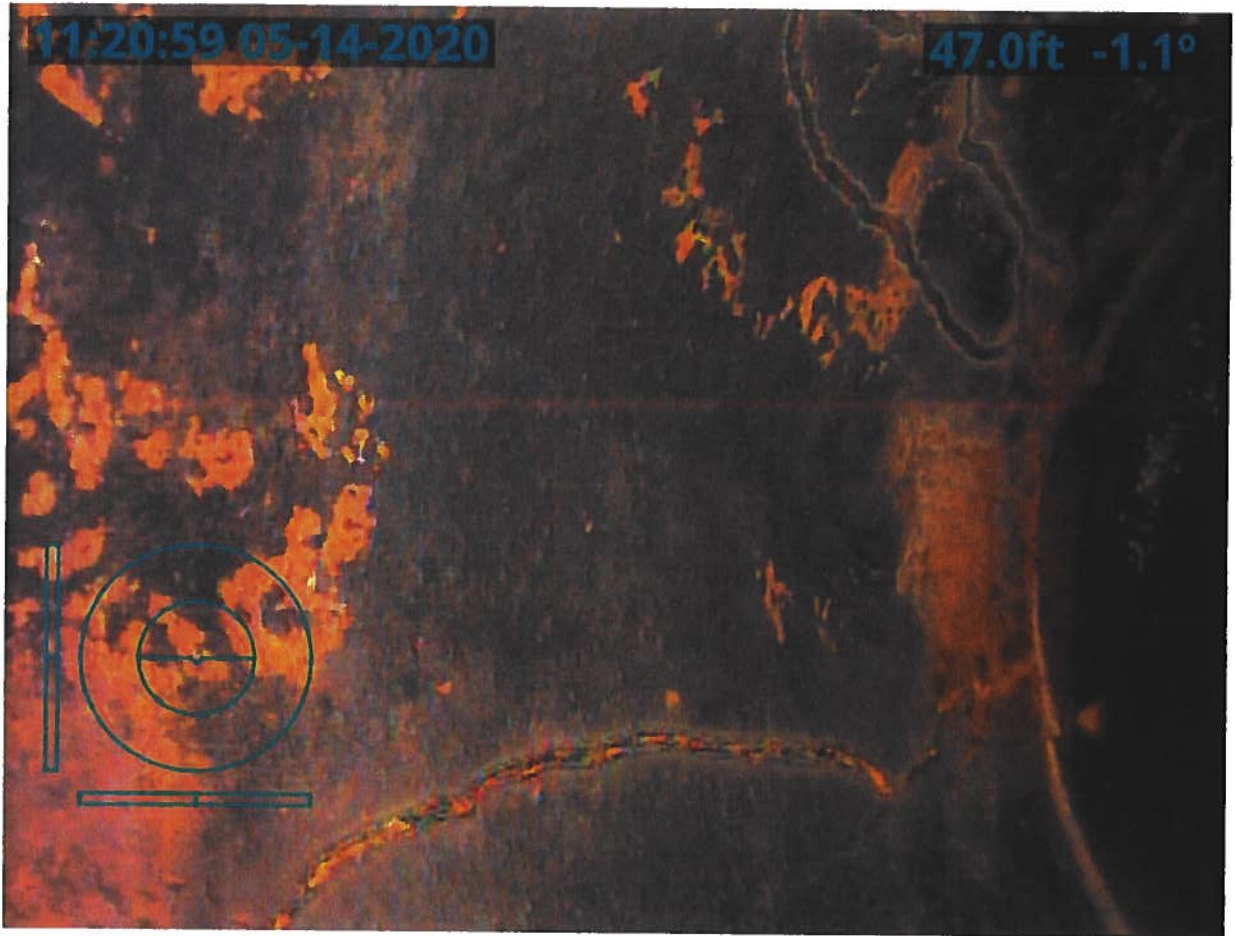






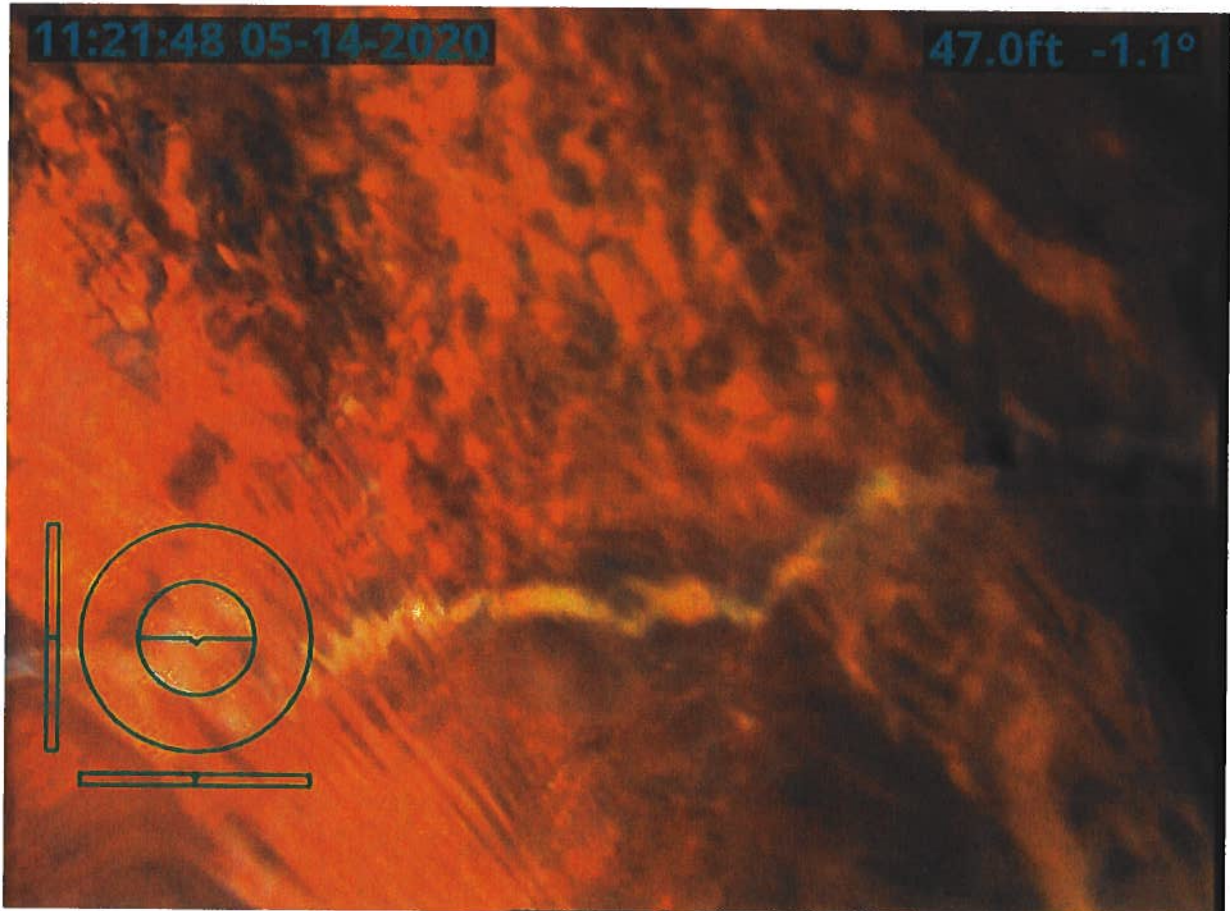
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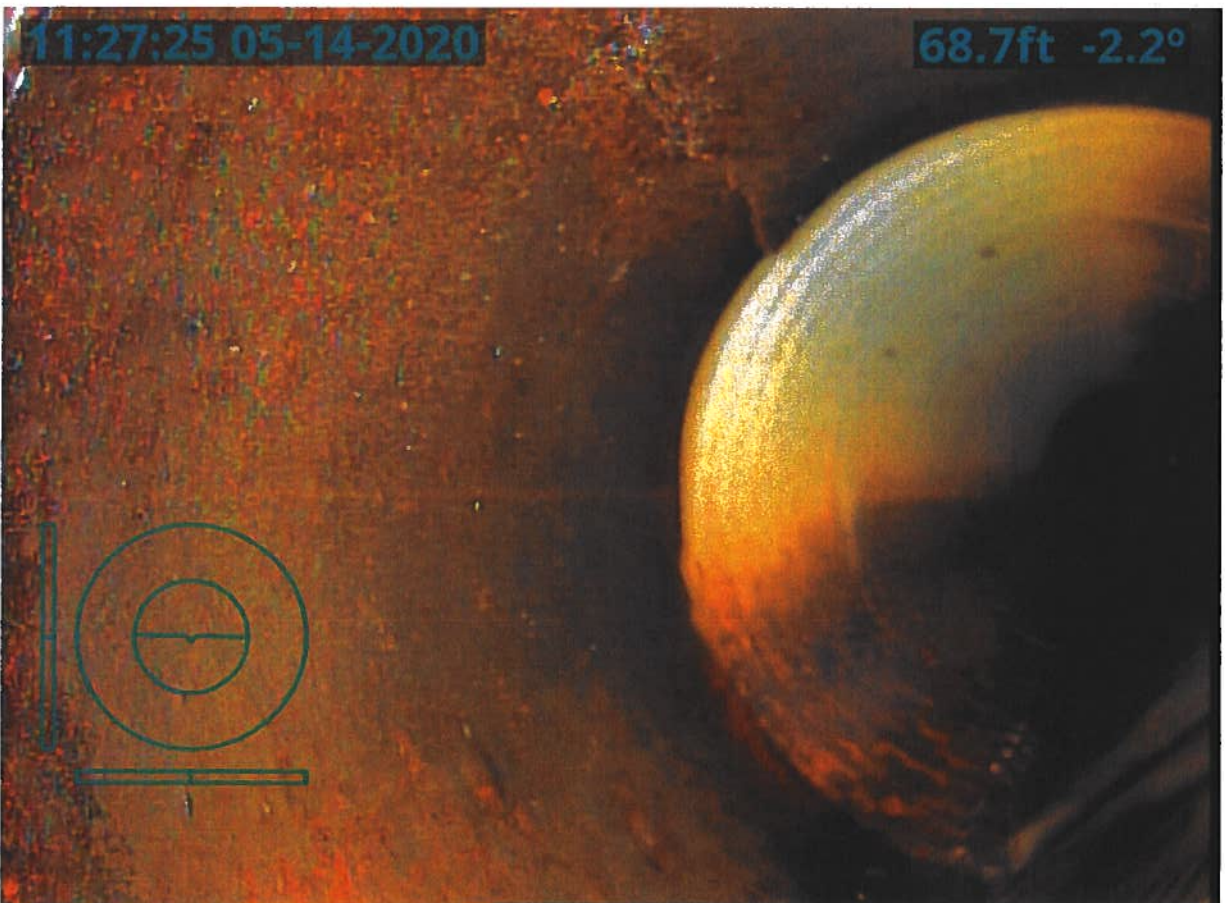
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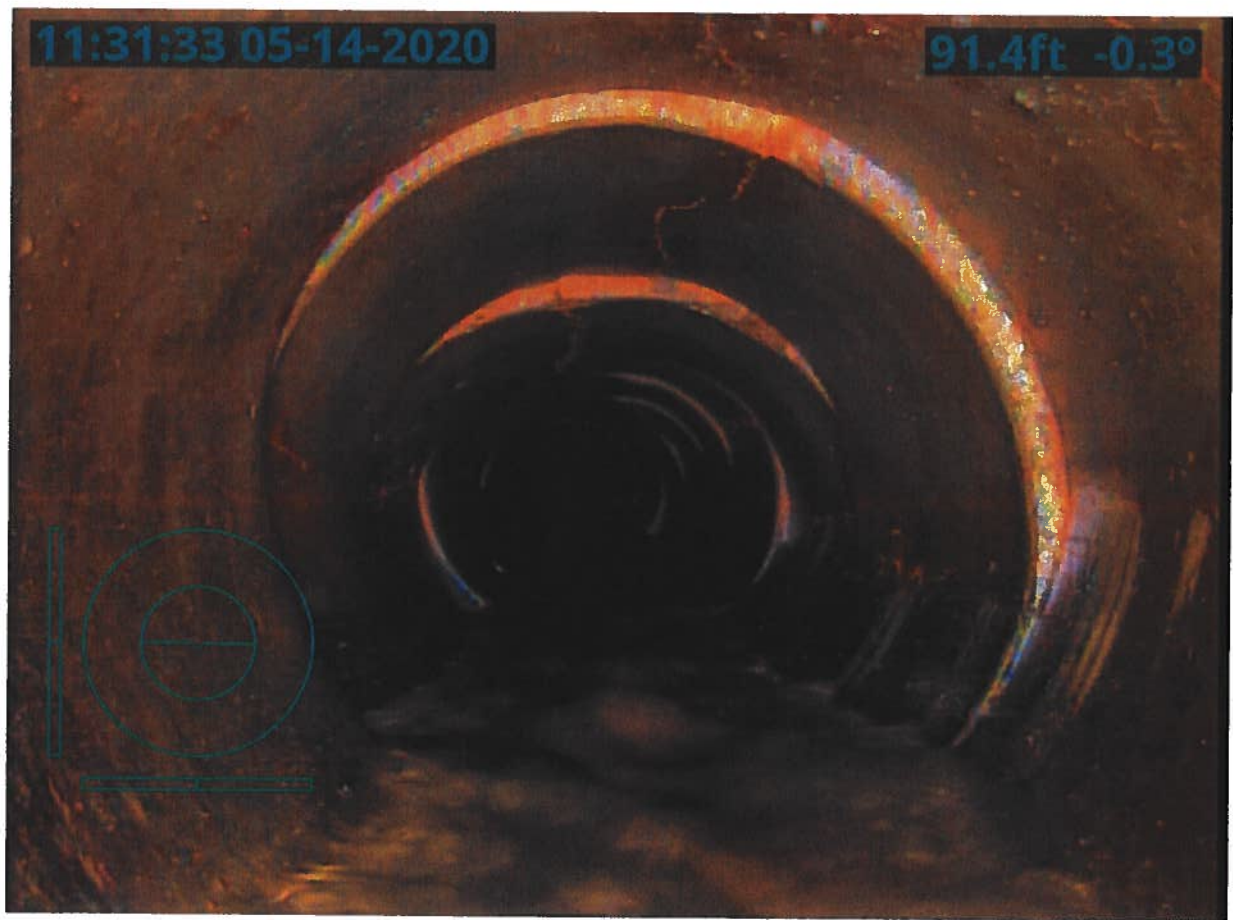
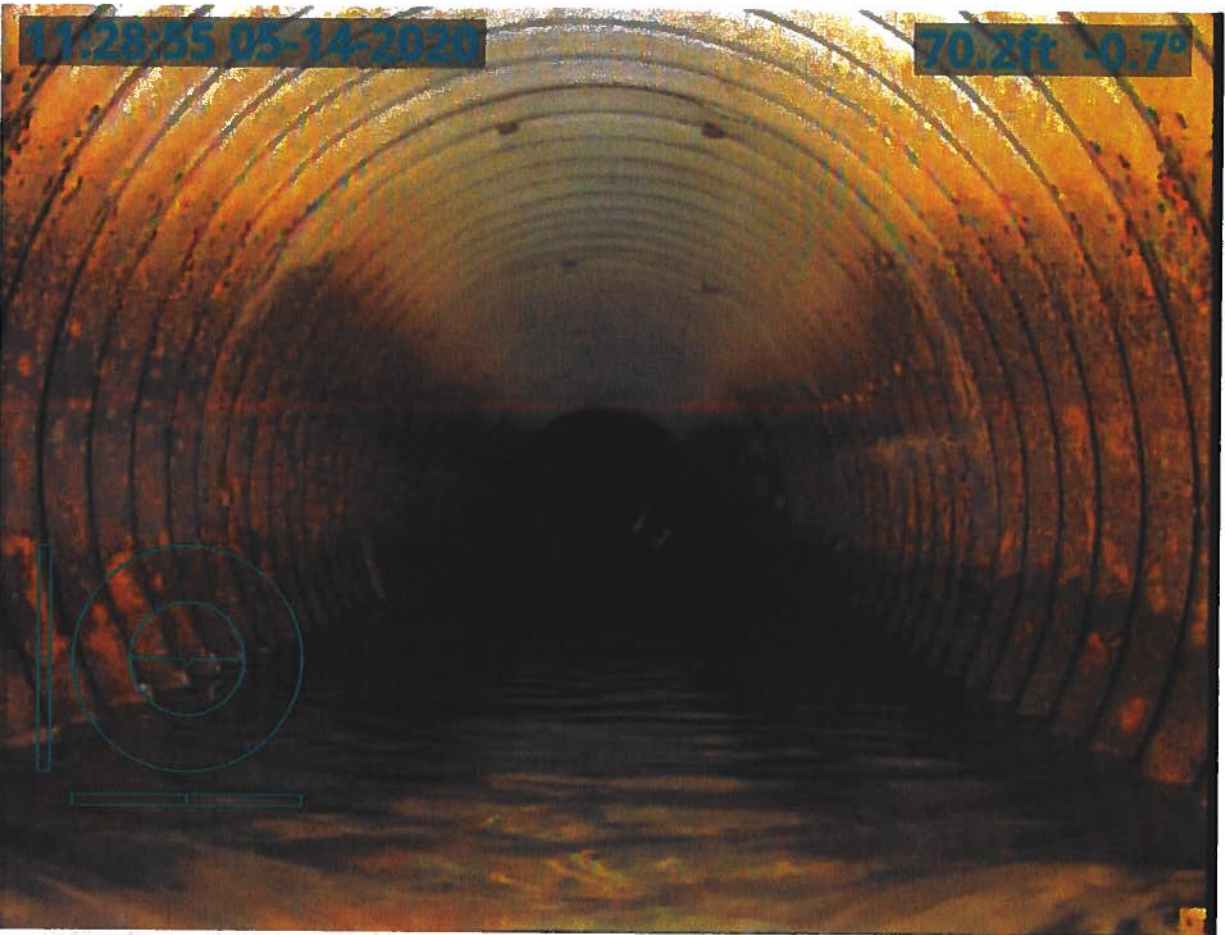
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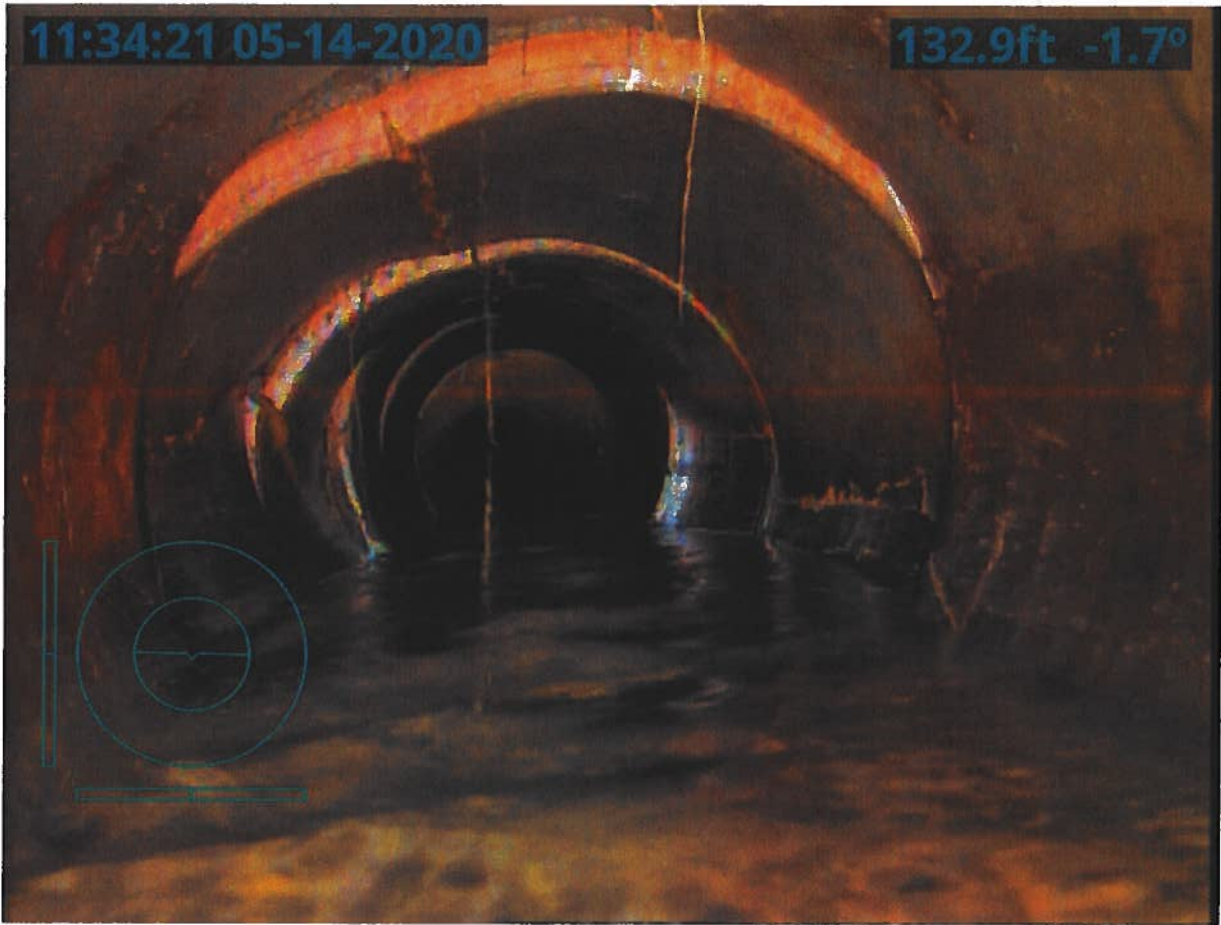
47.0ft -1.1°





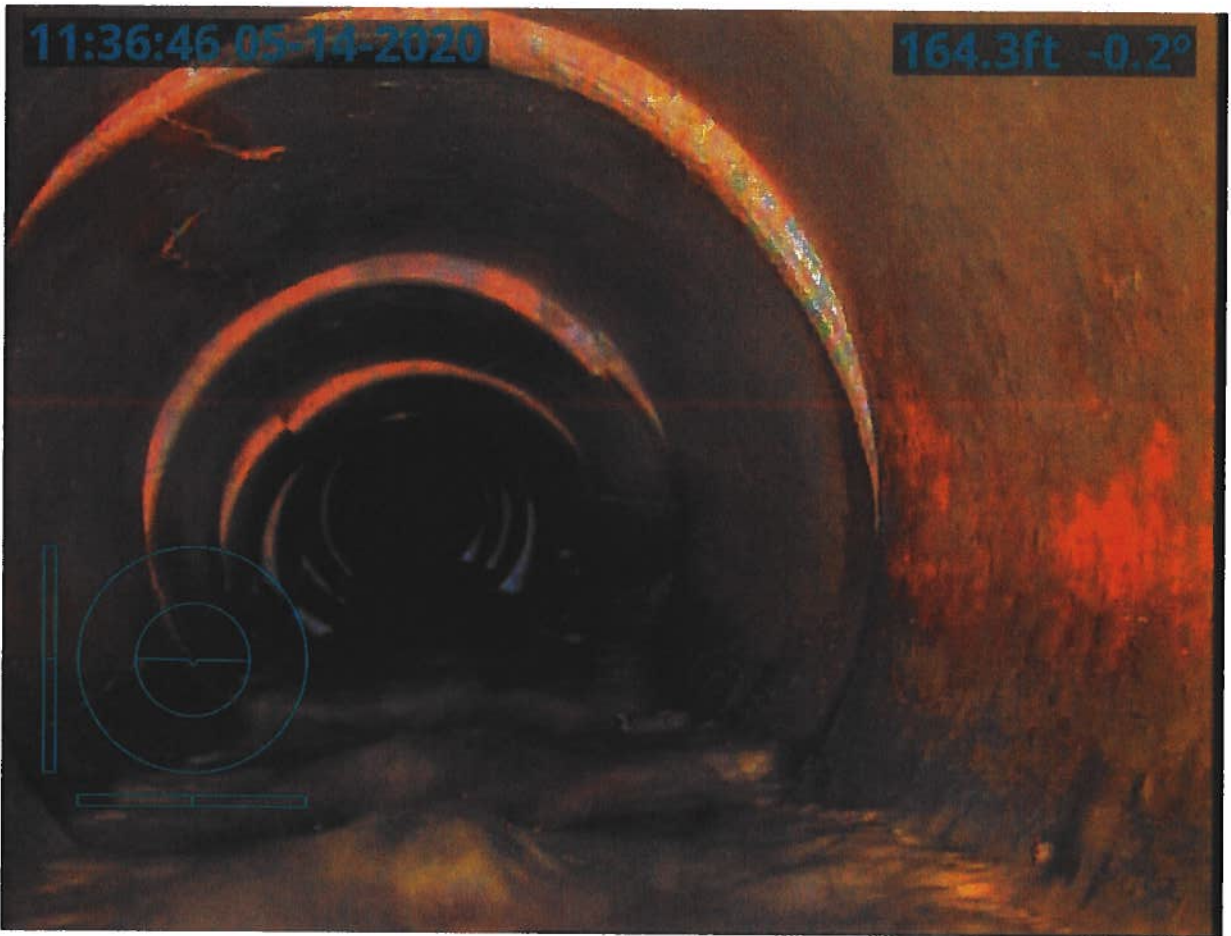






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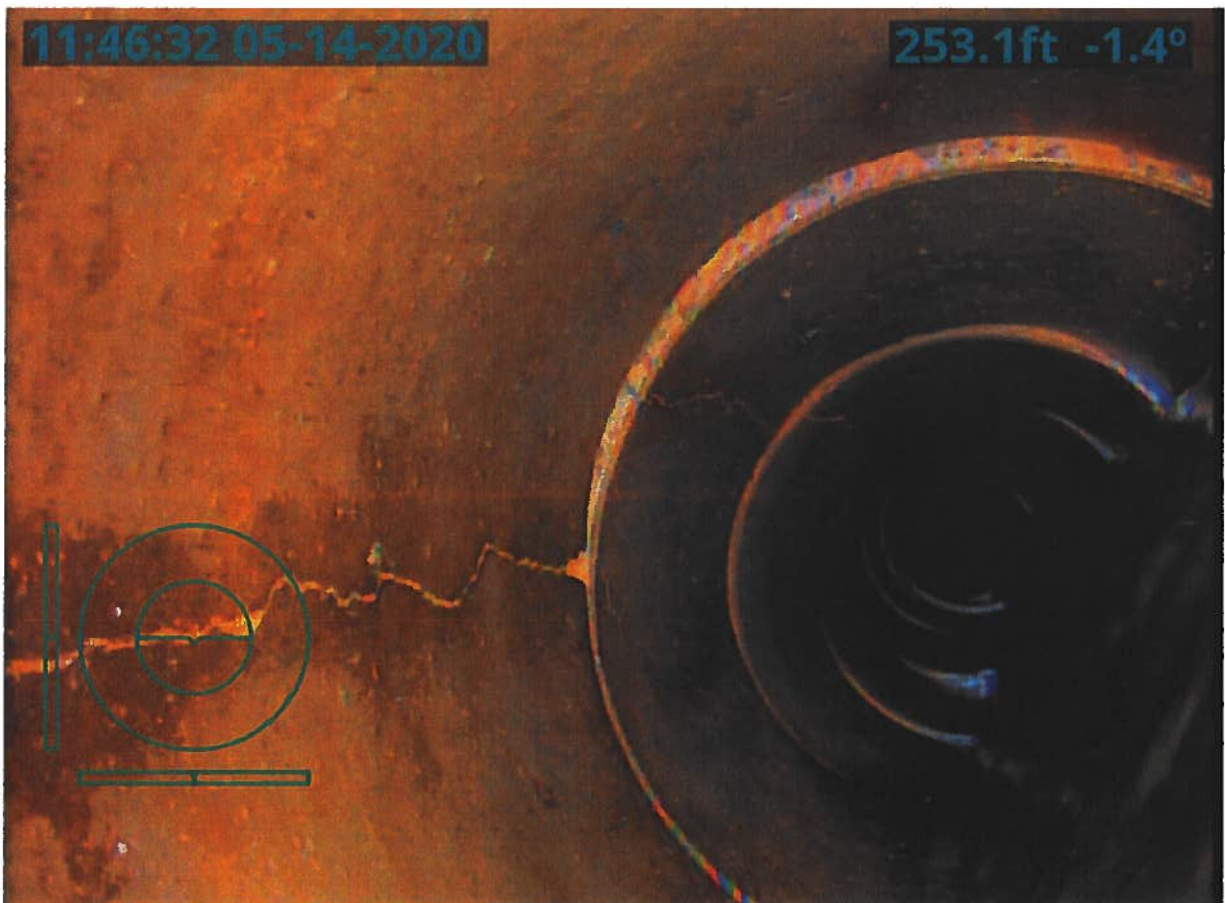
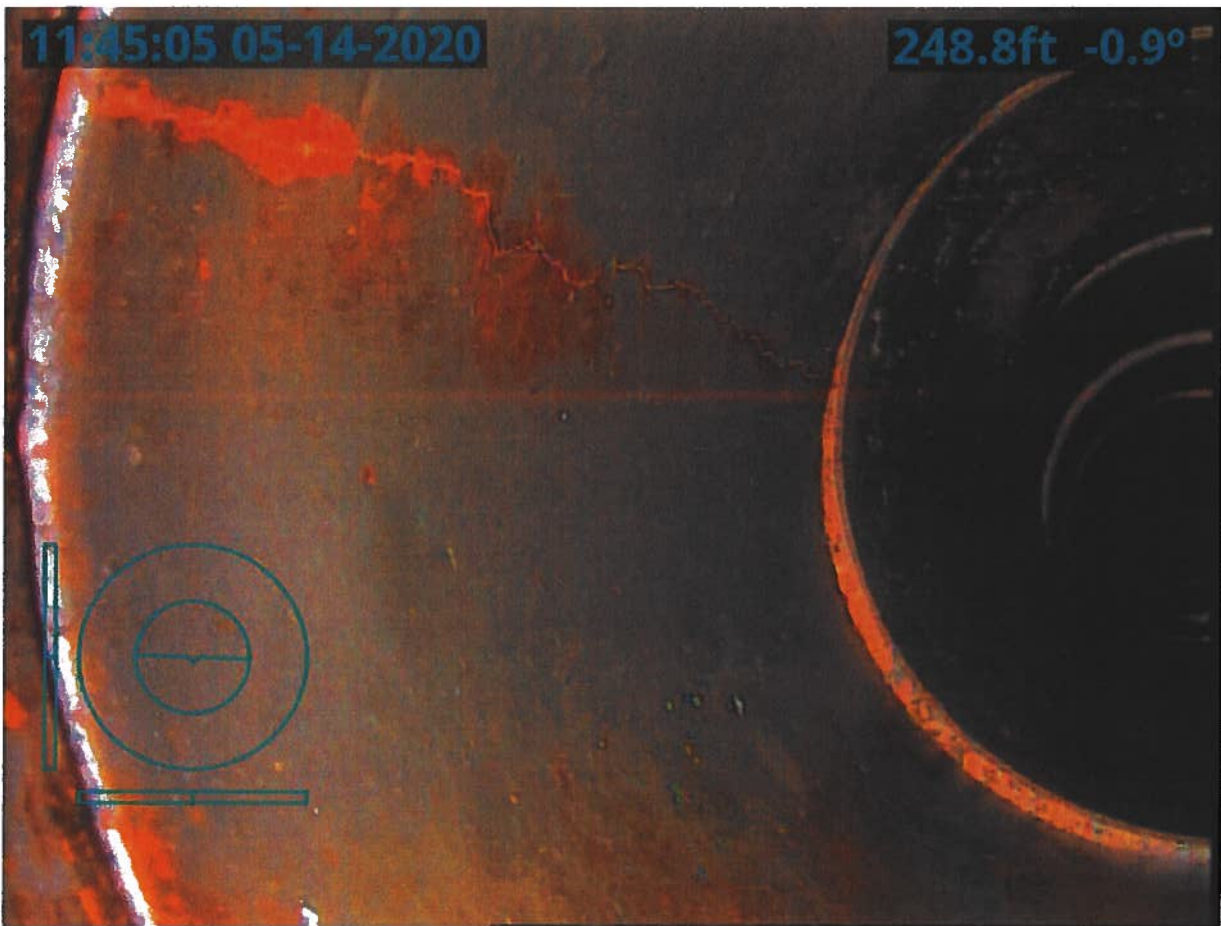
164.3ft -0.2°



11:42:18 05-14-2020

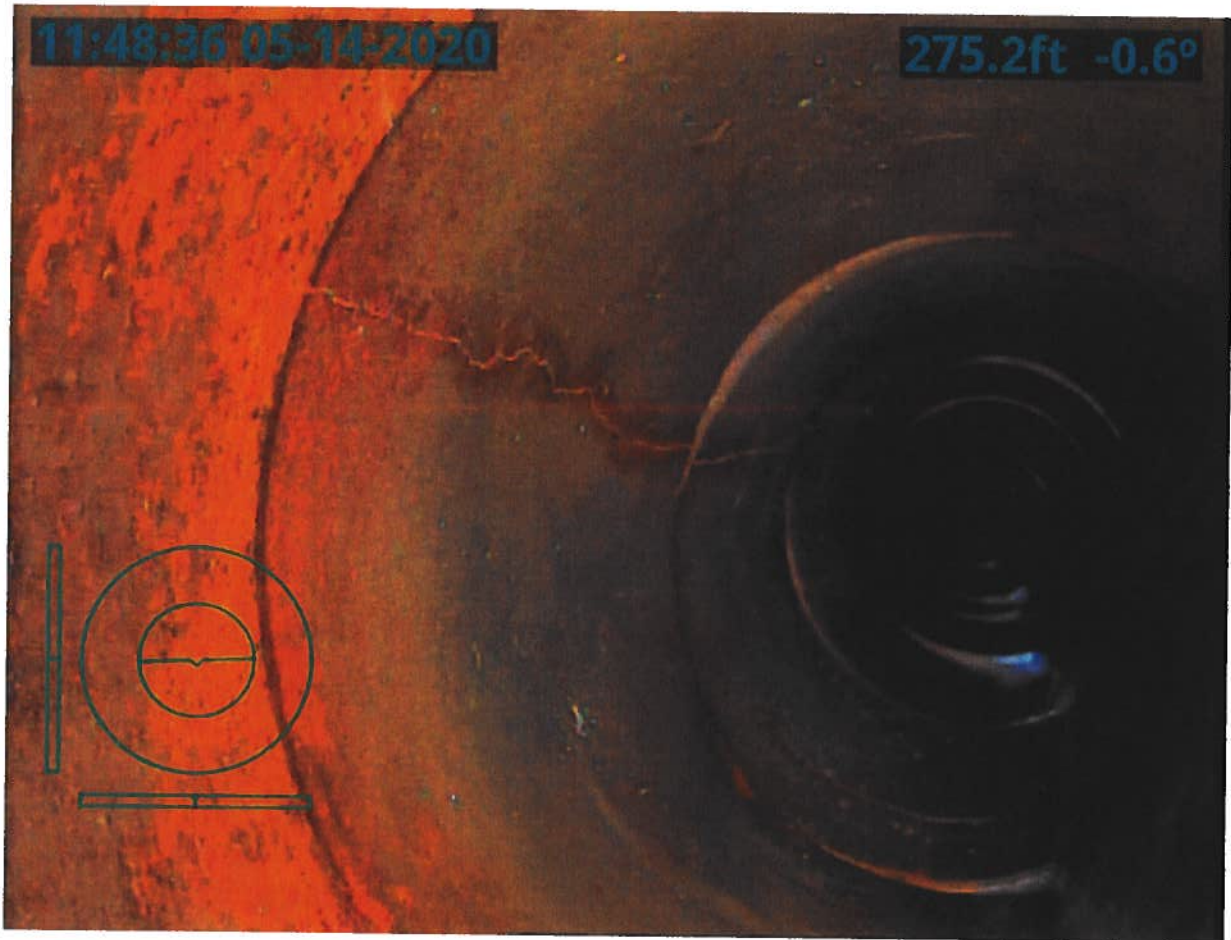
241.7ft 0.5°





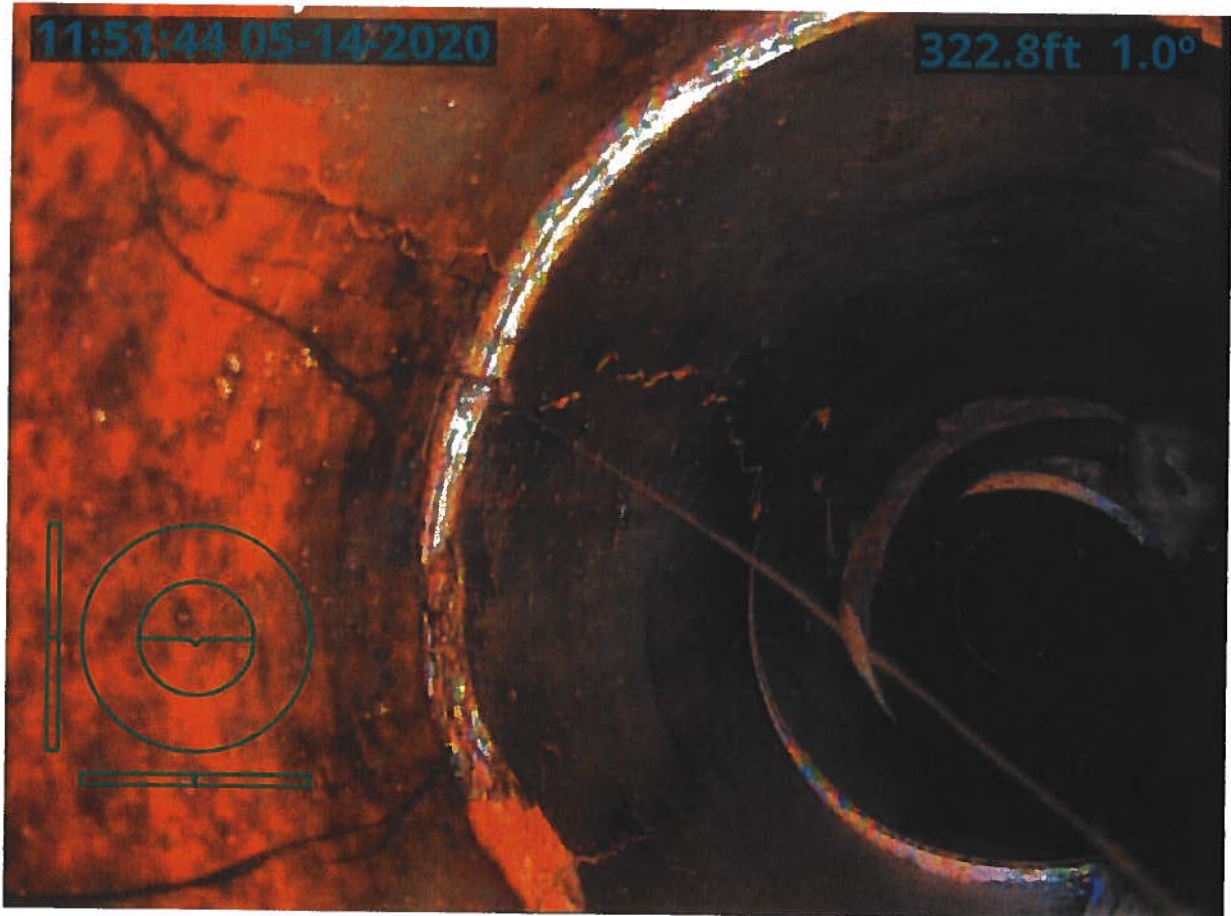
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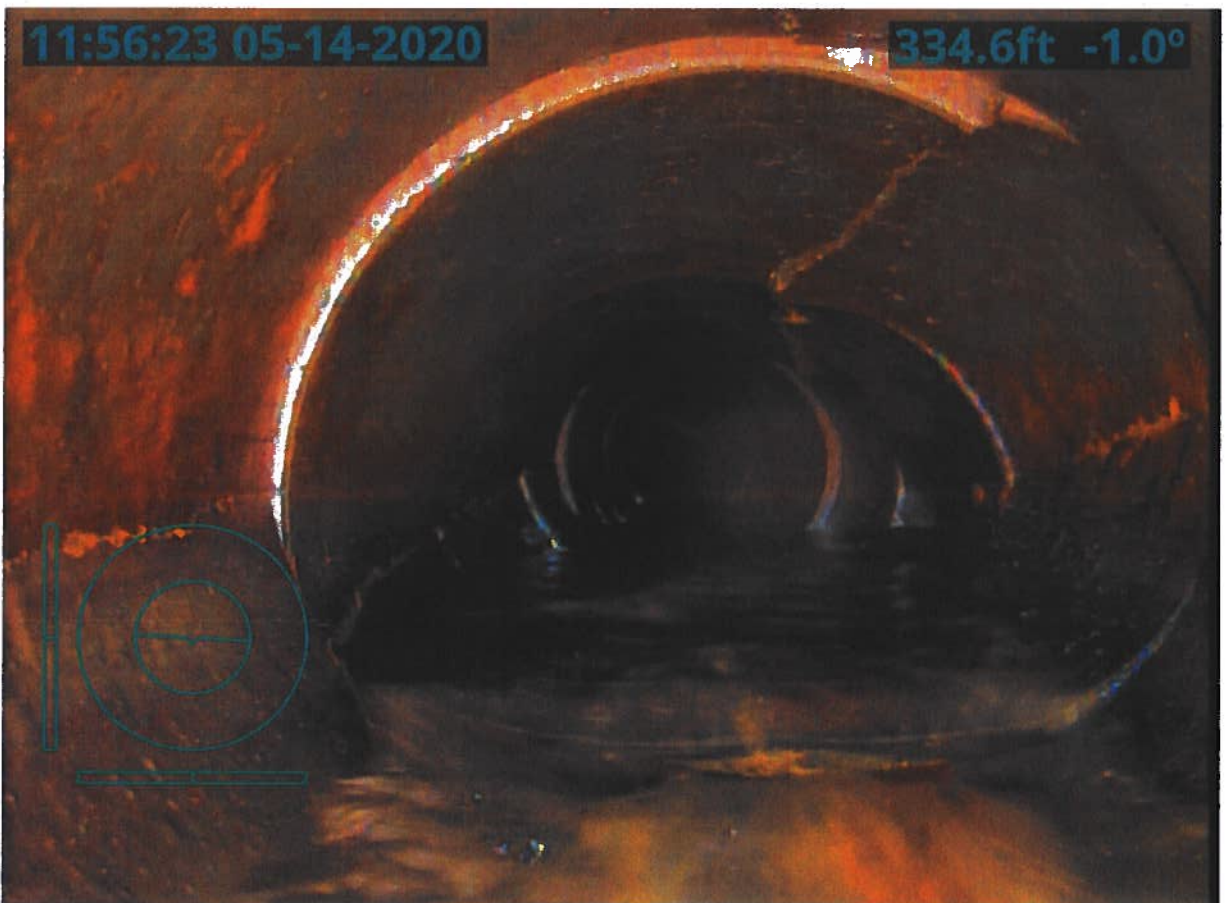
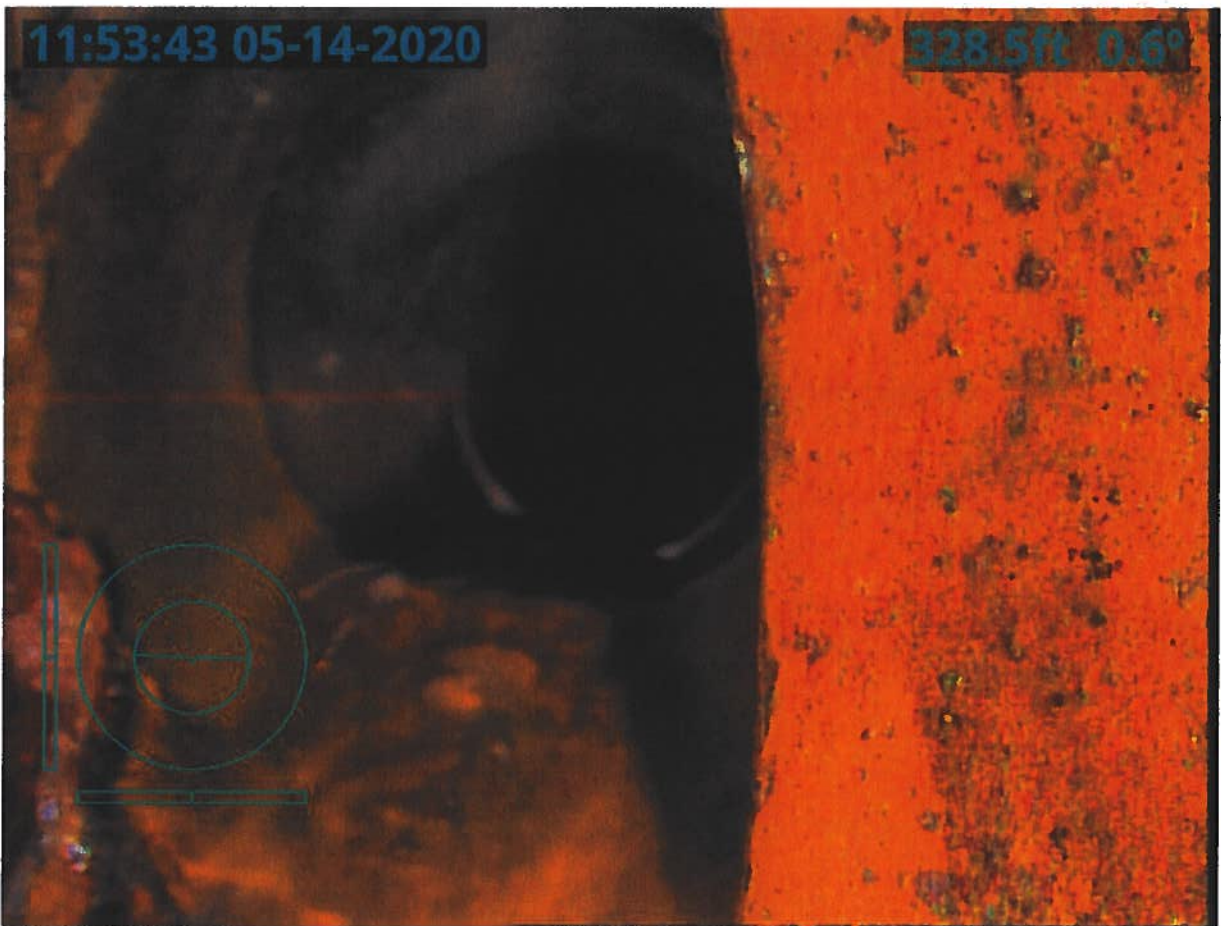
275.2ft -0.6°



11:51:44 05-14-2020

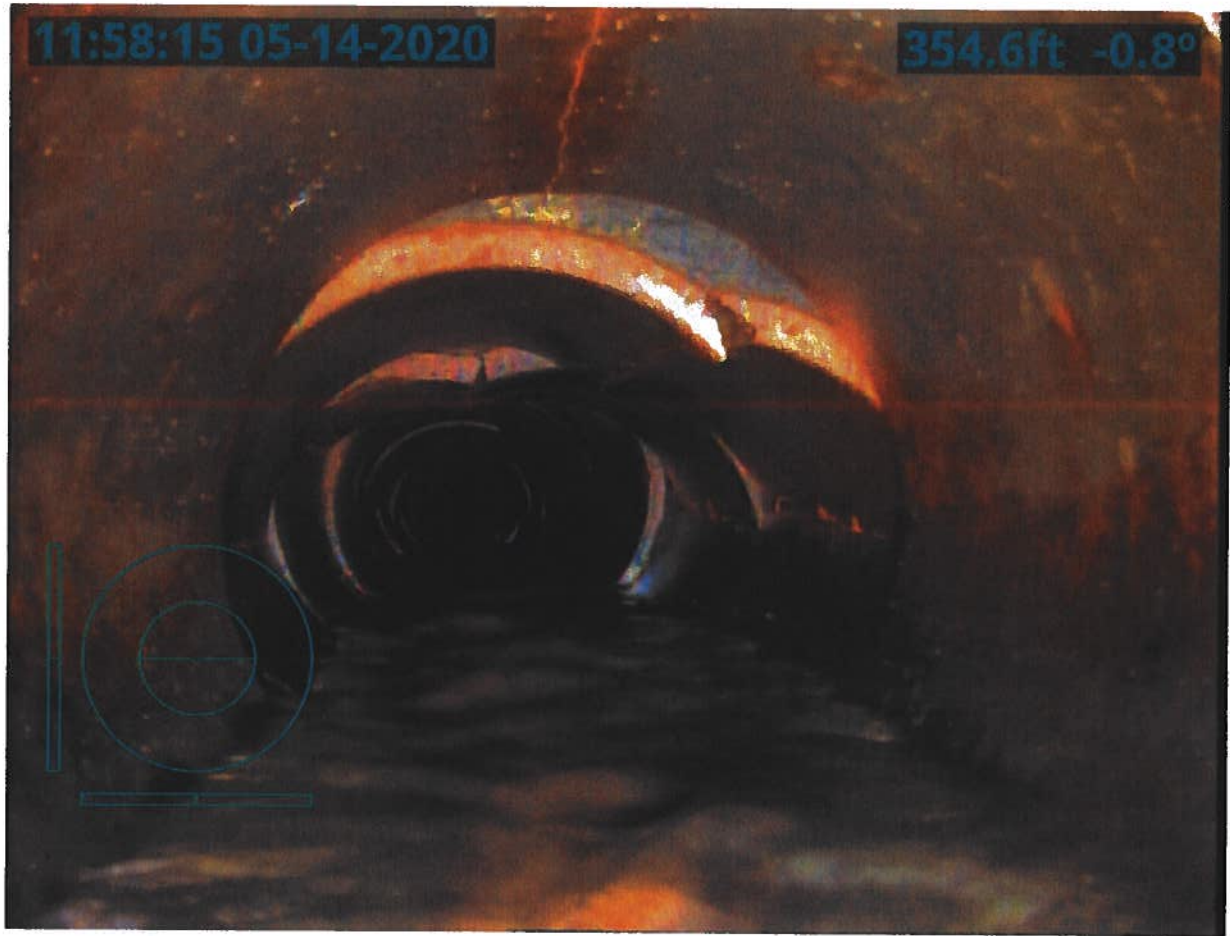
322.8ft 1.0°





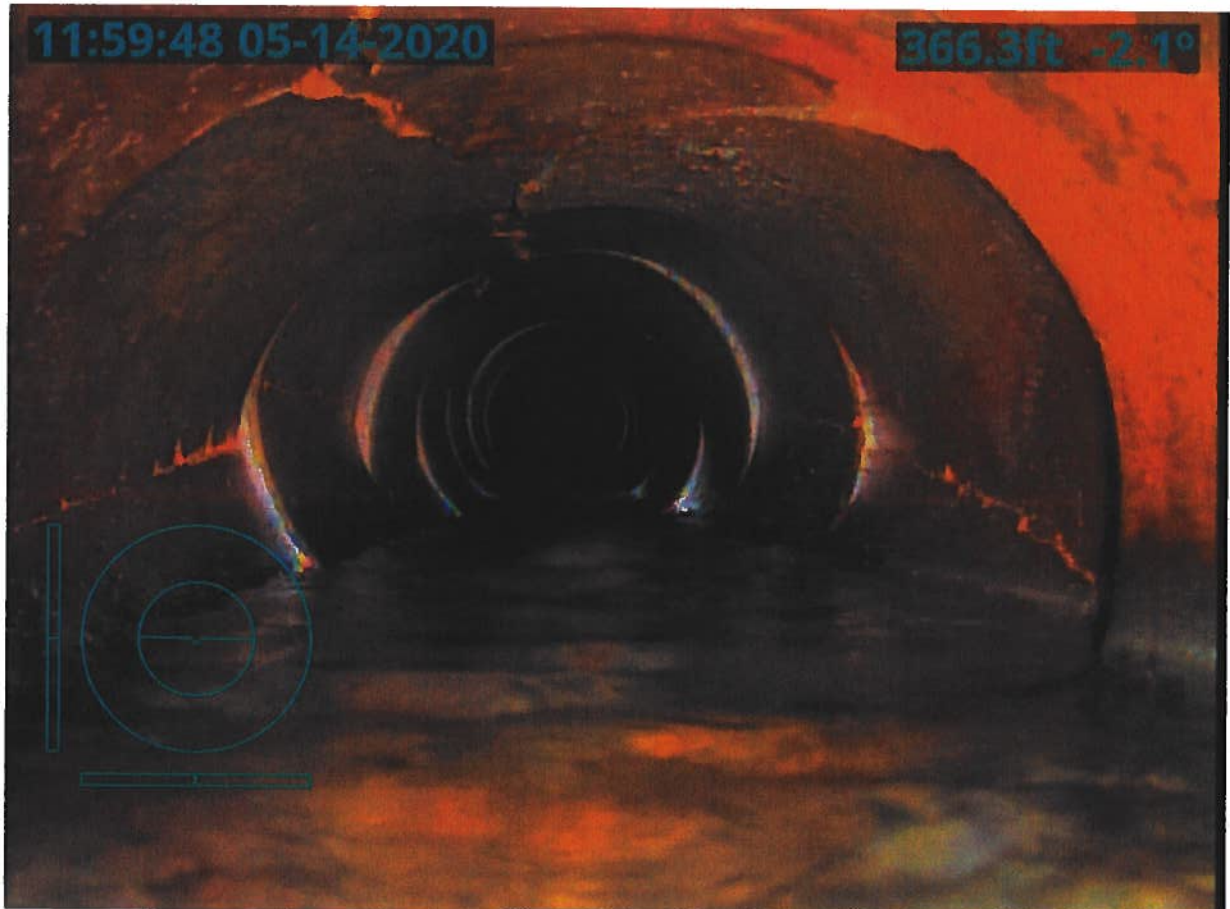
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354.6ft -0.8°



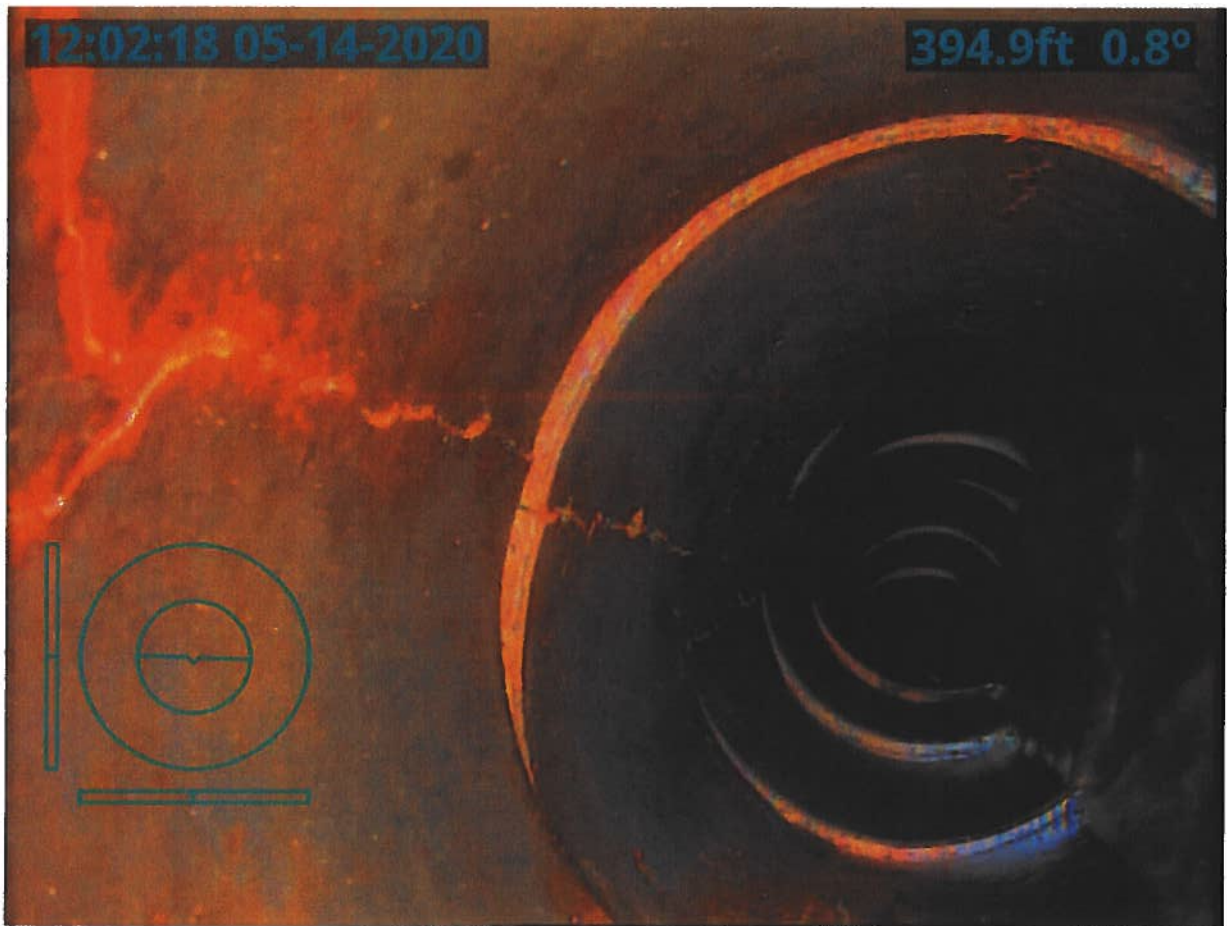
11:59:48 05-14-2020

366.3ft -2.1°



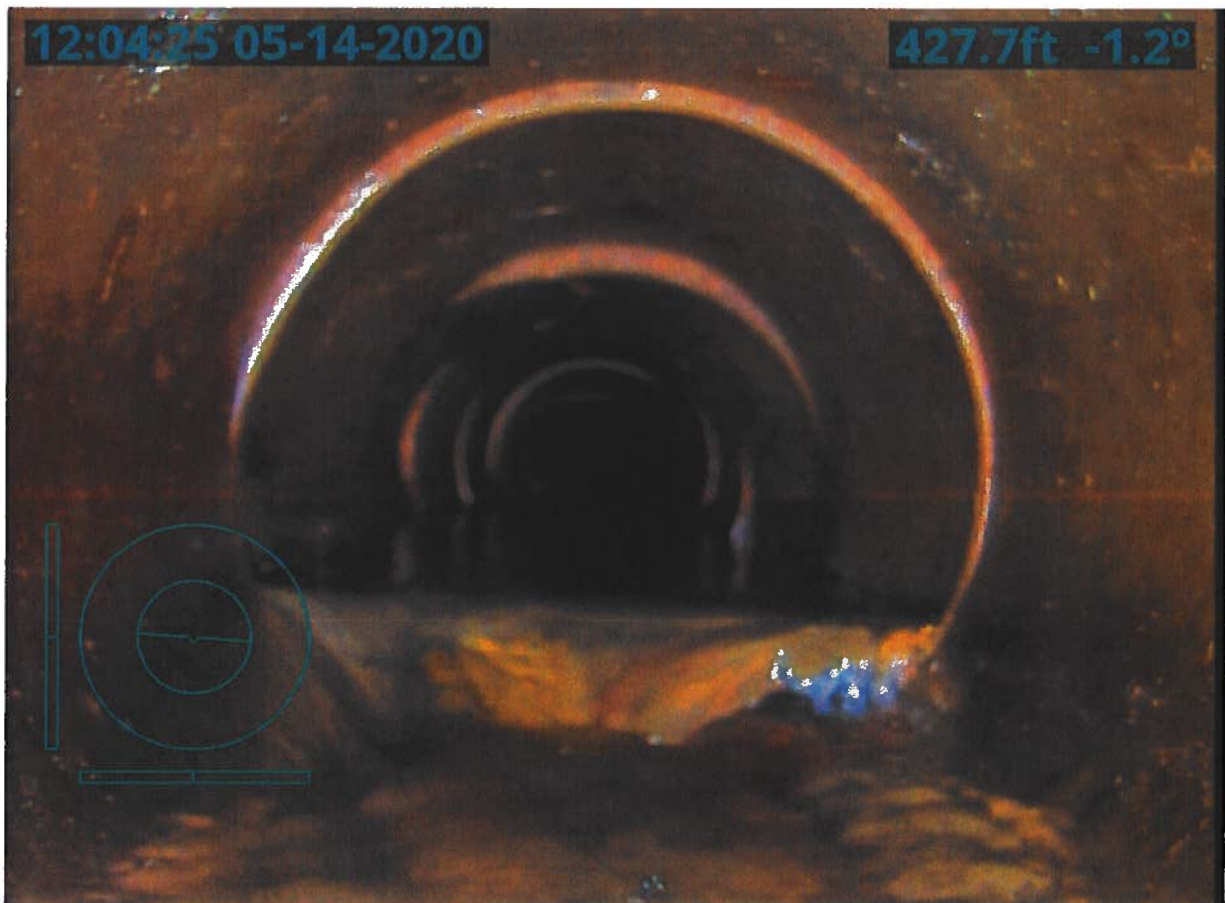
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394.9ft 0.8°



12:04:25 05-14-2020

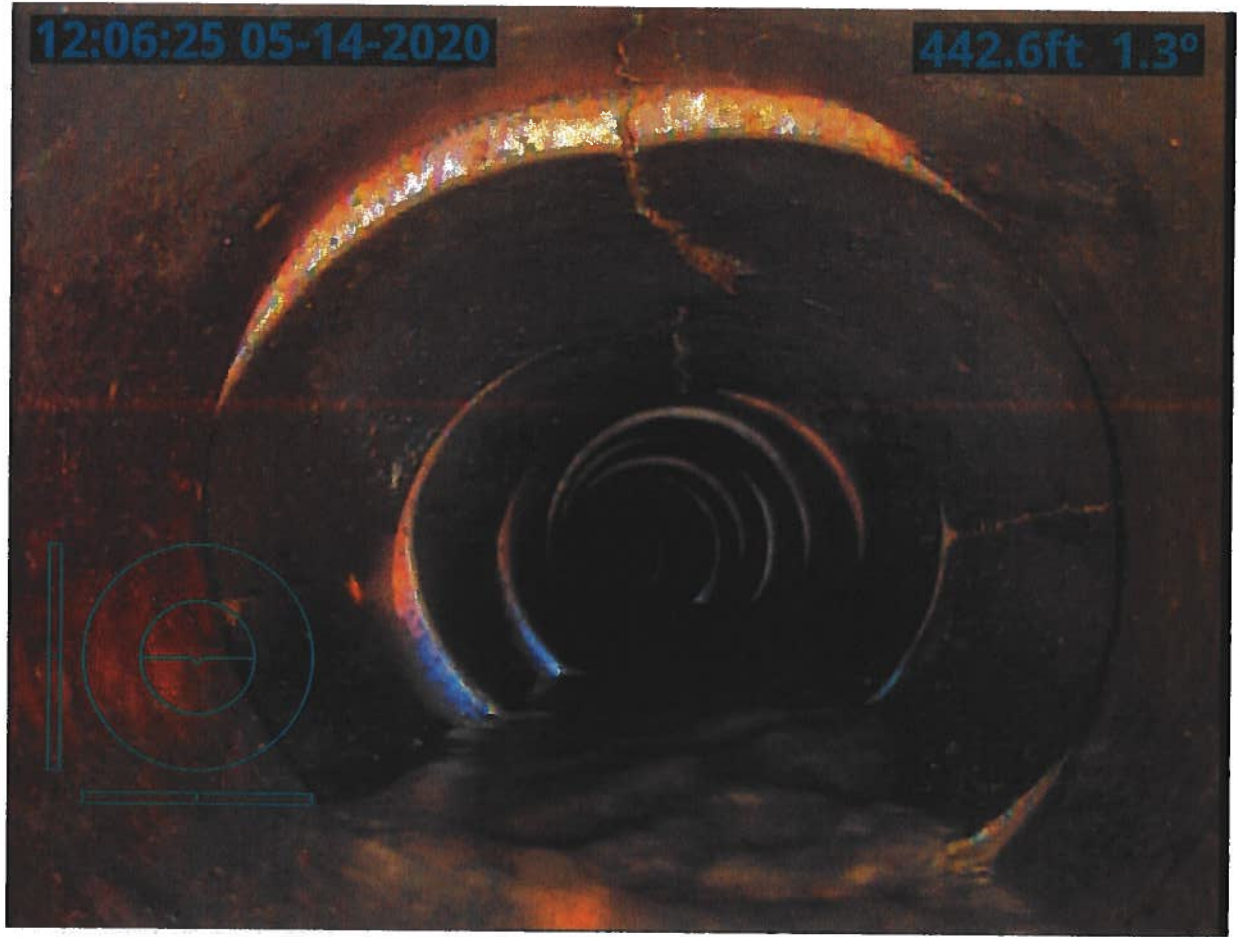
427.7ft -1.2°





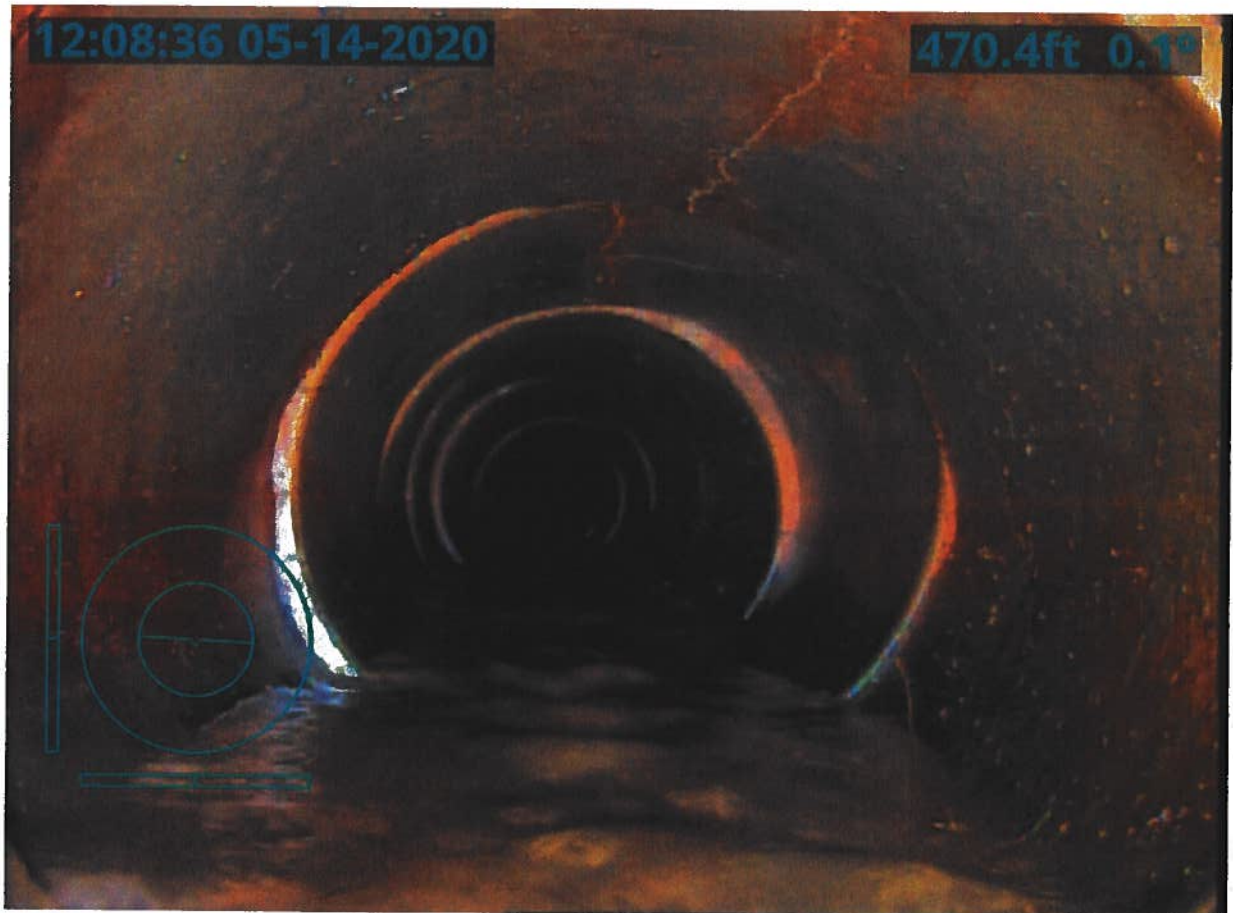
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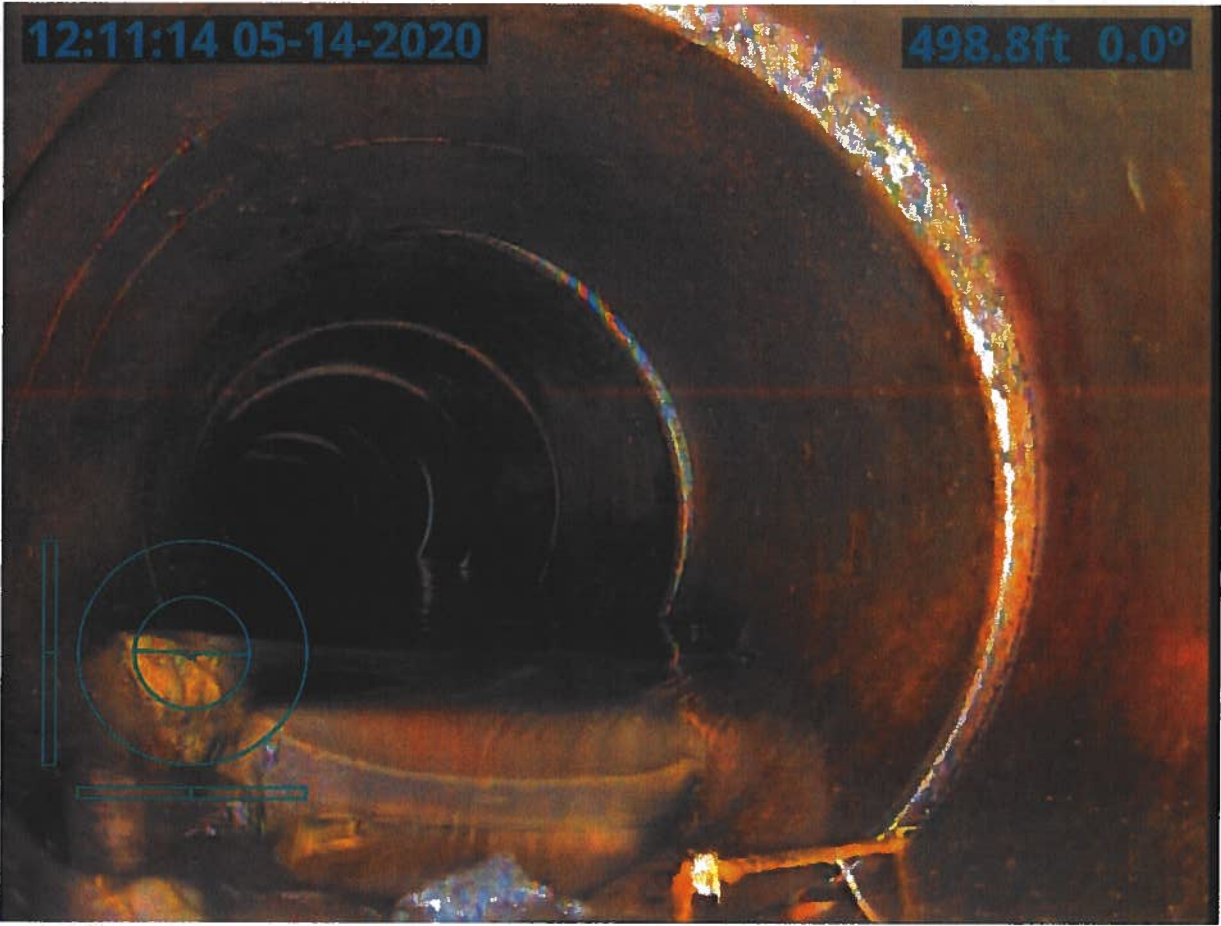
442.6ft 1.3°



12:08:36 05-14-2020

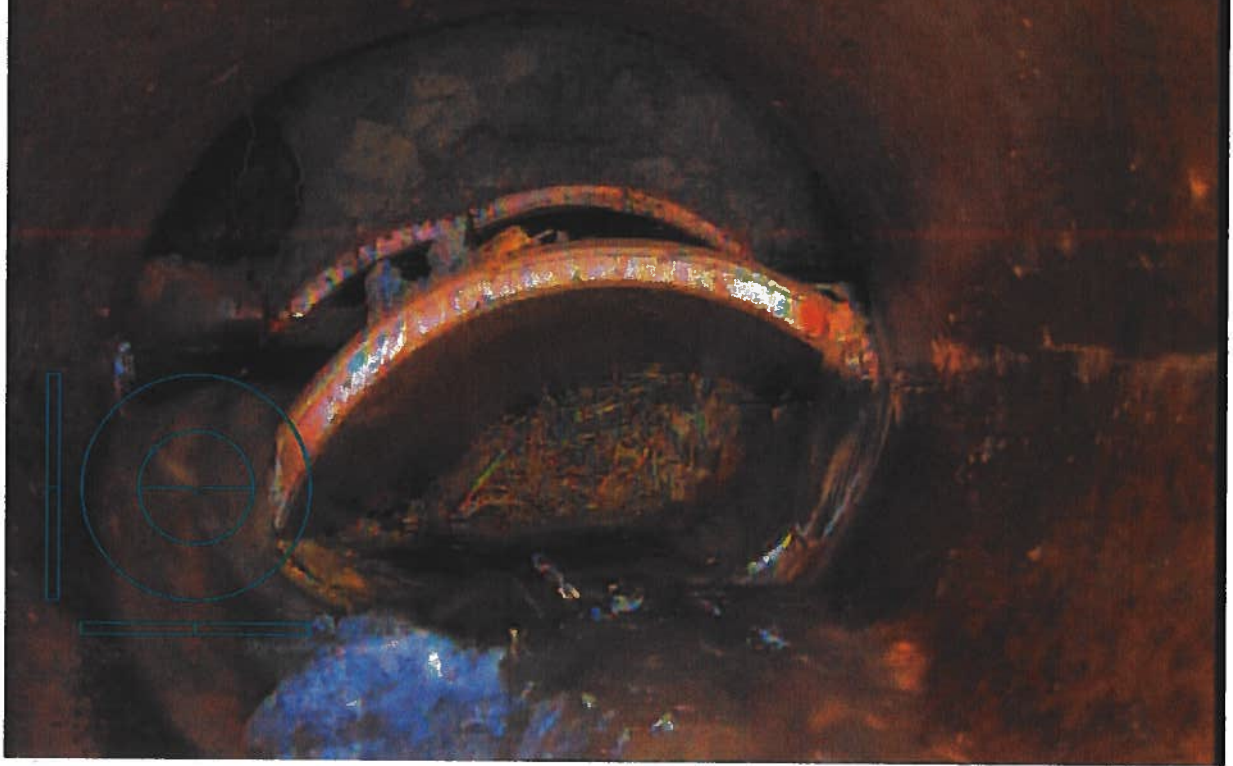
470.4ft 0.1°





12:16:39 05-14-2020

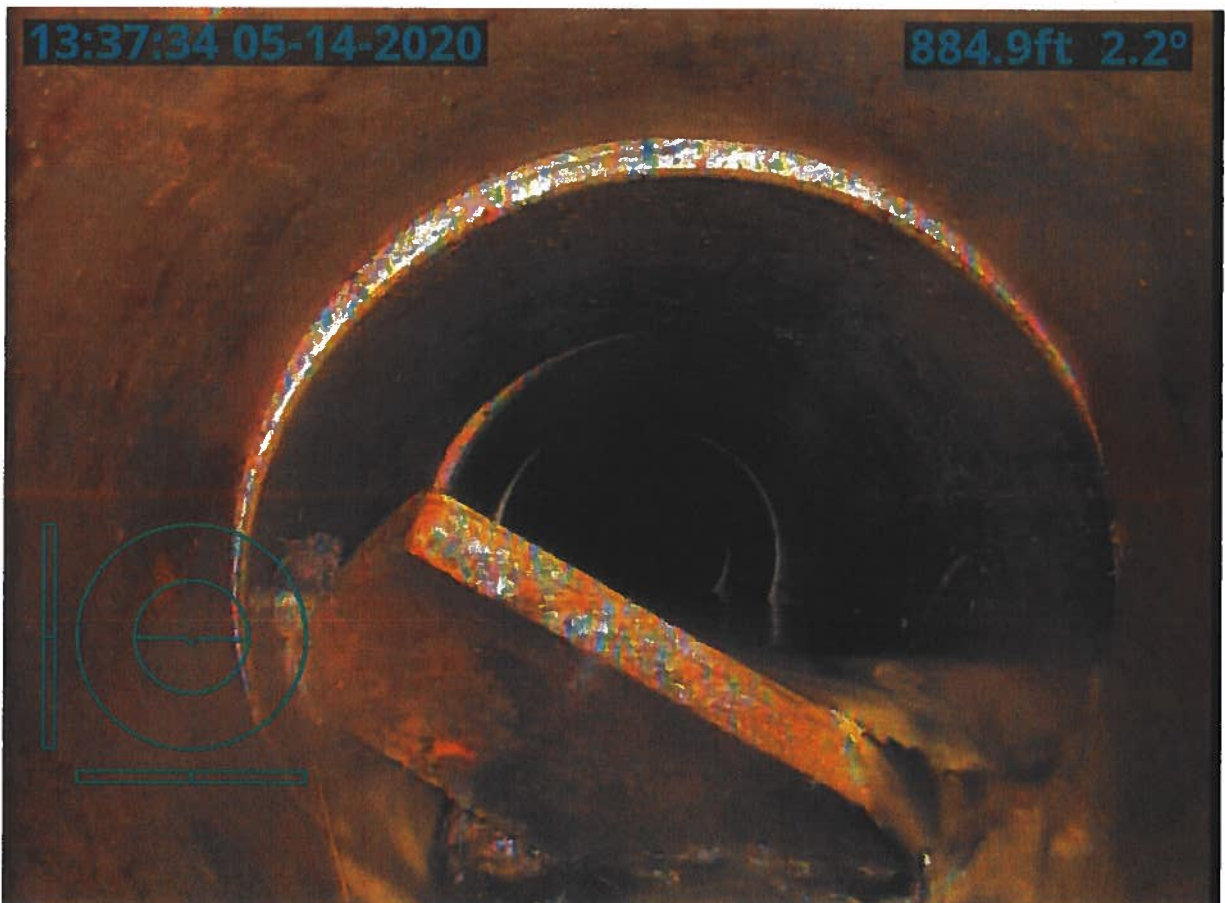
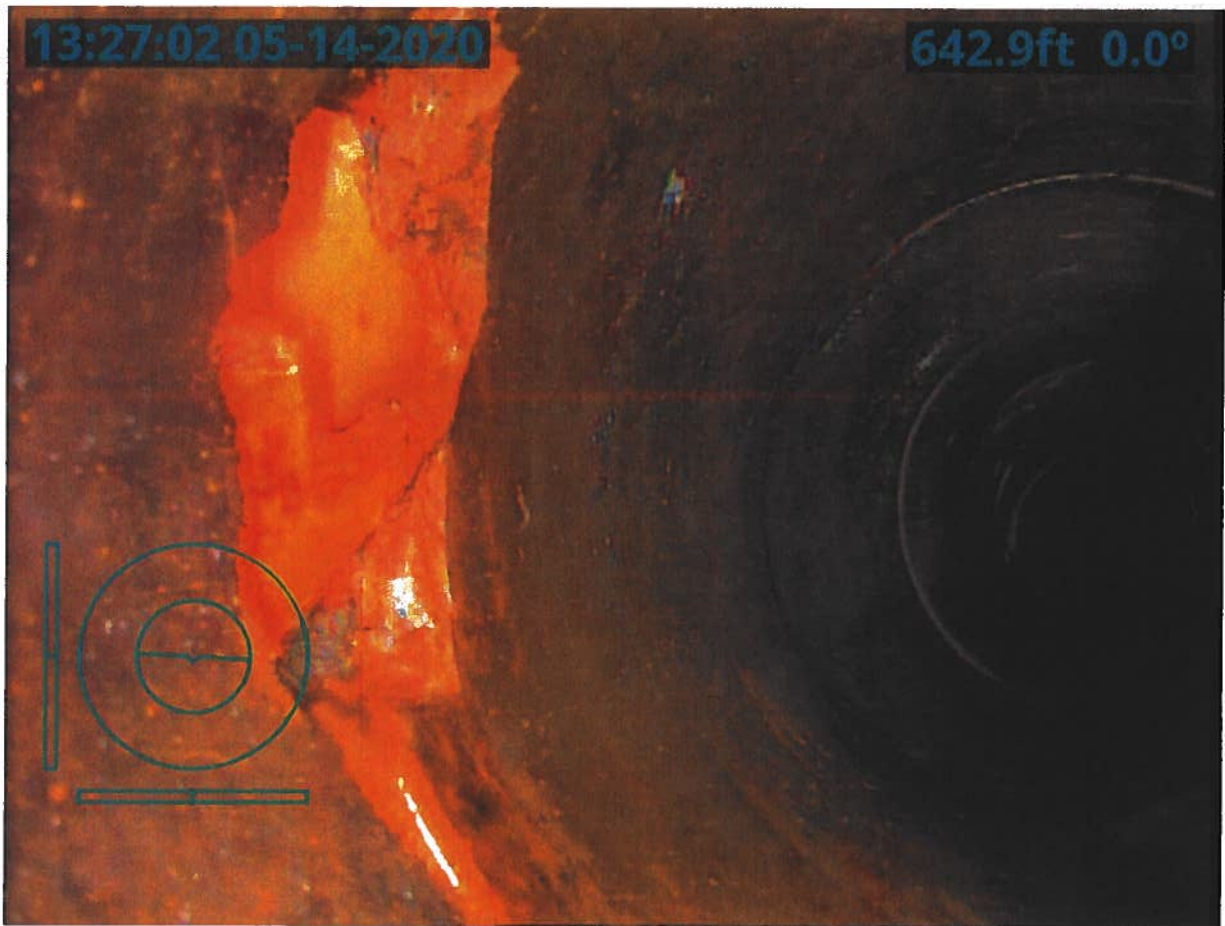
537.1ft 0.2°



13:24:29 05-14-2020

590.2ft 1.4°





# Inspection Report

Produced on behalf of – HARDIN

Site location – ,

Survey reference –

Date – 140520

WILLIAMS UNDERGROUND SVCS.

102 INDUSTRIAL DRIVVE, ACKLEY, IOWA

50601,

641-485-3925

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  - 1.3 Survey Details .....Error! Bookmark not defined.*
  - 1.4 Drain / Sewer Diagram .....Error! Bookmark not defined.*
  - 1.5 Observations .....Error! Bookmark not defined.*
  - 1.6 Photographs.....Error! Bookmark not defined.*
  
- 2 Drain / Sewer Survey .....Error! Bookmark not defined.**
  - 2.1 Site information .....Error! Bookmark not defined.*
  - 2.2 Drain / Sewer Details .....Error! Bookmark not defined.*
  - 2.3 Survey Details .....Error! Bookmark not defined.*
  - 2.4 Drain / Sewer Diagram .....Error! Bookmark not defined.*
  - 2.5 Observations .....Error! Bookmark not defined.*
  - 2.6 Photographs.....Error! Bookmark not defined.*

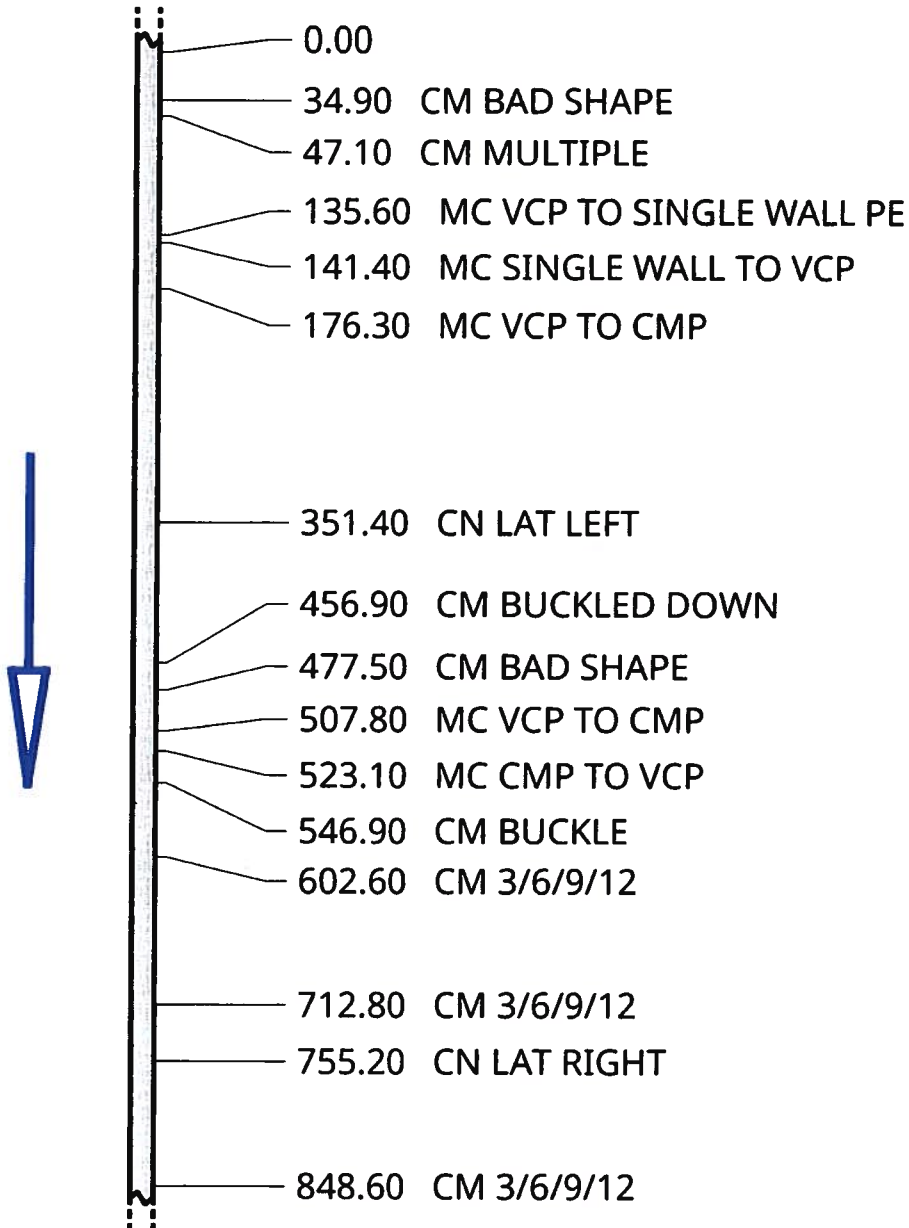
# 1 Drain / Sewer Survey

## 1.1 Survey Header

1.1.1	Surveyed by (Operator)	PAUL
1.1.2	Contract no.	
1.1.3	Job no.	
1.1.4	Catchment (Drainage area)	DD14
1.1.5	Division	
1.1.6	District	HOLE #1
1.1.7	Pipeline length ref	1000
1.1.8	Date	140520
1.1.9	Time	14:40
1.1.10	Location	
1.1.11	Start manhole no.	
1.1.12	Start depth	m
1.1.13	Start cover level	
1.1.14	Start invert level	
1.1.15	Finish manhole no.	
1.1.16	Finish depth	m
1.1.17	Finish cover level	
1.1.18	Finish invert level	
1.1.19	Use of Drain	
1.1.20	Direction	D
1.1.21	Size 1 (diameter/height)	15mm
1.1.22	Size 2 (width)	POSSIBLY 18mm
1.1.23	Shape	C
1.1.24	Material	VC
1.1.25	Lining	
1.1.26	Pipe length	1000m
1.1.27	Total length	
1.1.28	Year laid	
1.1.29	Video cassette number	
1.1.30	Comments: General	
1.1.31	Purpose	F
1.1.32	Sewer category	Z
1.1.33	Pre-cleaning	
1.1.34	Weather	
1.1.35	Location code	
1.1.36	Further location details	











1.2 Diagram







[page 1/1]





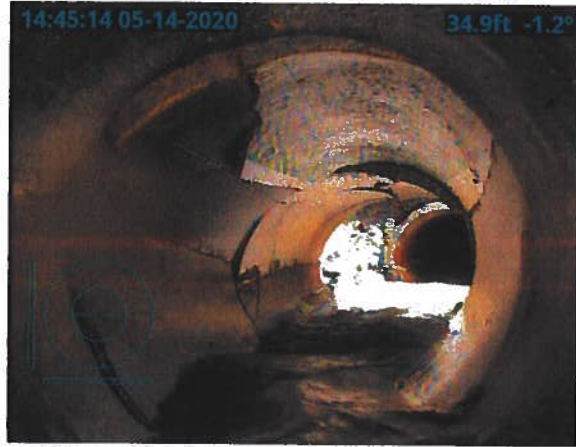
### 1.3 Observations

Video Ref	Dist (ft)	Cont Defect	Code	Photo Ref	Diameter/ Dimension	Clock		Intrusion		Remarks
						At	To	%	mm	
0:02:43	34.9		CM	2020_05_14-14_45_14_552.jpg 		08	02			BAD SHAPE
0:03:29	47.1		CM	2020_05_14-14_46_35_553.jpg 		08	04			MULTIPLE
0:06:19	135.6		MC	2020_05_14-14_49_57_525.jpg 						VCP TO SINGLE WALL PE
0:07:03	141.4		MC	2020_05_14-14_51_51_164.jpg 						SINGLE WALL TO VCP
0:08:02	176.3		MC	2020_05_14-14_53_09_064.jpg 						VCP TO CMP
0:19:16	351.4		CN	2020_05_14-15_04_38_643.jpg 	4?	10				LAT LEFT
0:22:26	456.9		CM	2020_05_14-15_08_30_218.jpg 		08	04			BUCKLED DOWN
0:23:48	477.5		CM	2020_05_14-15_13_40_522.jpg 		08	03			BAD SHAPE
0:25:02	507.8		MC	2020_05_14-15_15_19_324.jpg 						VCP TO CMP
0:27:07	523.1		MC	2020_05_14-15_17_43_224.jpg 						CMP TO VCP

Video Ref	Dist (ft)	Cont Defect	Code	Photo Ref	Diameter/ Dimension	Clock		Intrusion		Remarks
						At	To	%	mm	
										
0:28:36	546.9		CM	2020_05_14-15_19_32_358.jpg 		11	04			BUCKLE
0:30:08	602.6		CM	2020_05_14-15_21_29_661.jpg 		12	11			3/6/9/12
0:33:47	712.8		CM	2020_05_14-15_25_39_785.jpg 		01	12			3/6/9/12
0:35:56	755.2		CN	2020_05_14-15_28_19_497.jpg 	4?	02				LAT RIGHT
0:38:02	848.6		CM	2020_05_14-15_30_54_138.jpg 		01	12			3/6/9/12

# 1.4 Photographs

CM 2020\_05\_14-14\_45\_14\_552.jpg



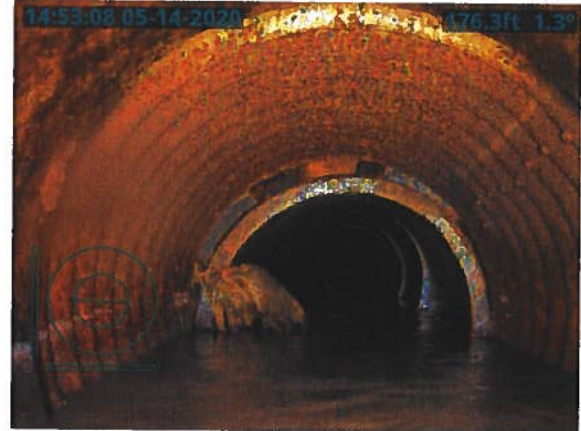
MC 2020\_05\_14-14\_51\_51\_164.jpg



CM 2020\_05\_14-14\_46\_35\_553.jpg



MC 2020\_05\_14-14\_53\_09\_064.jpg



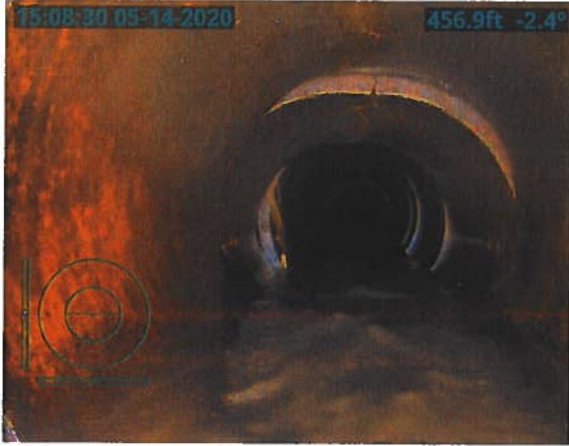
MC 2020\_05\_14-14\_49\_57\_525.jpg



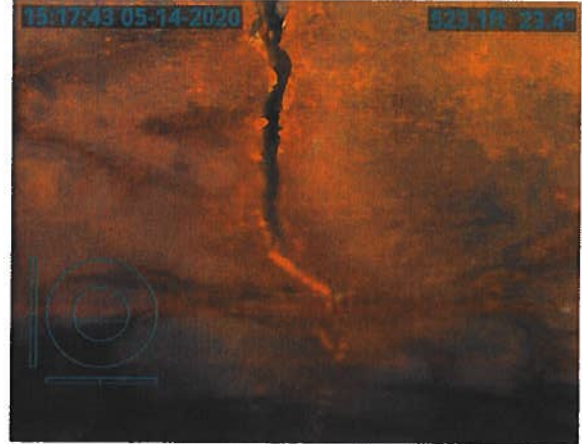
CN 2020\_05\_14-15\_04\_38\_643.jpg



CM 2020\_05\_14-15\_08\_30\_218.jpg



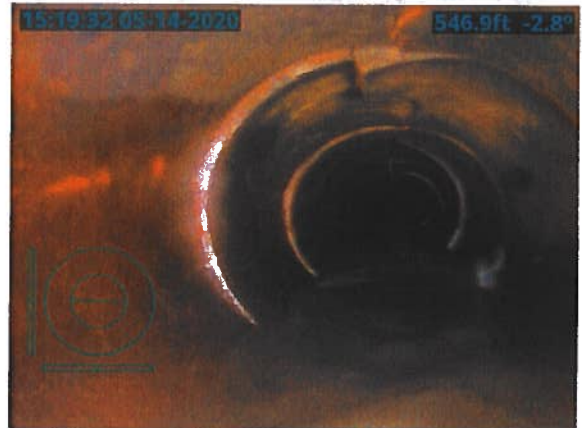
MC 2020\_05\_14-15\_17\_43\_224.jpg



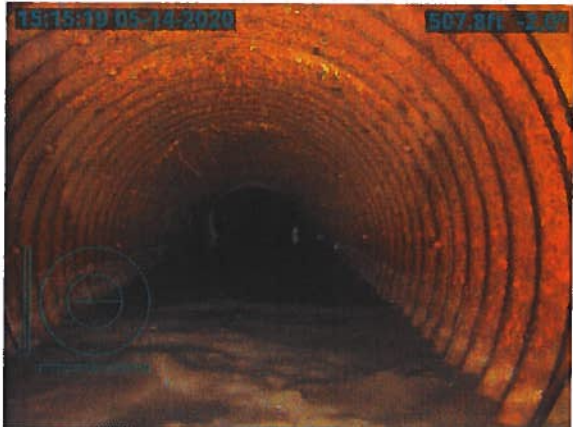
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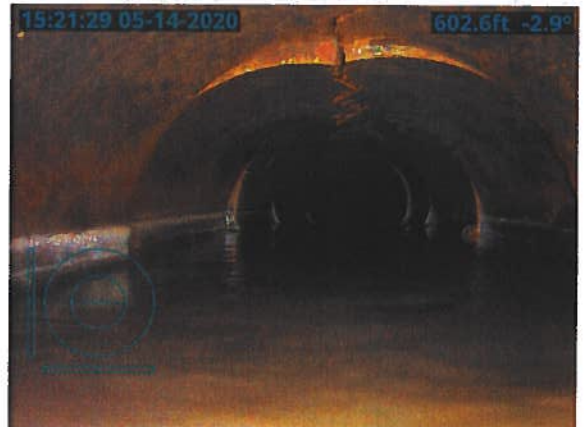
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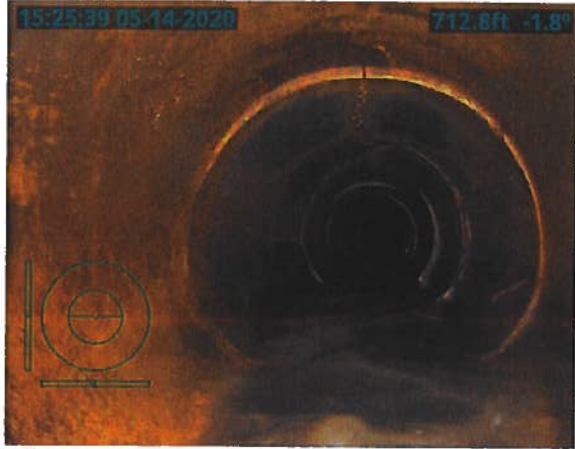
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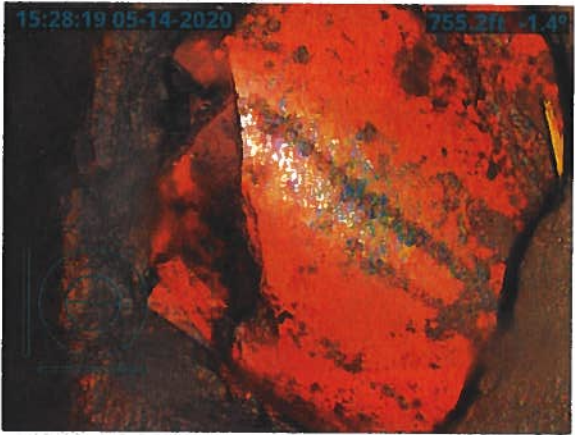
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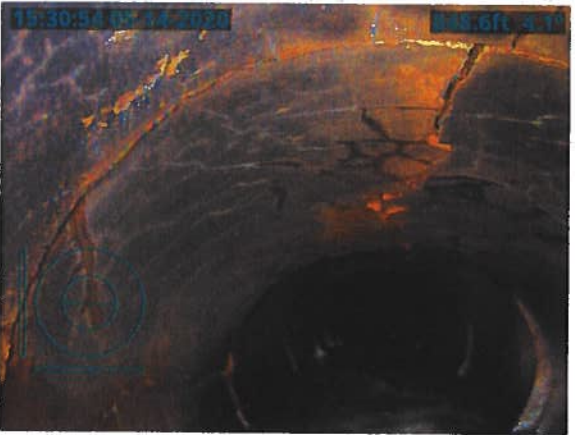
CM 2020\_05\_14-15\_25\_39\_785.jpg



CN 2020\_05\_14-15\_28\_19\_497.jpg

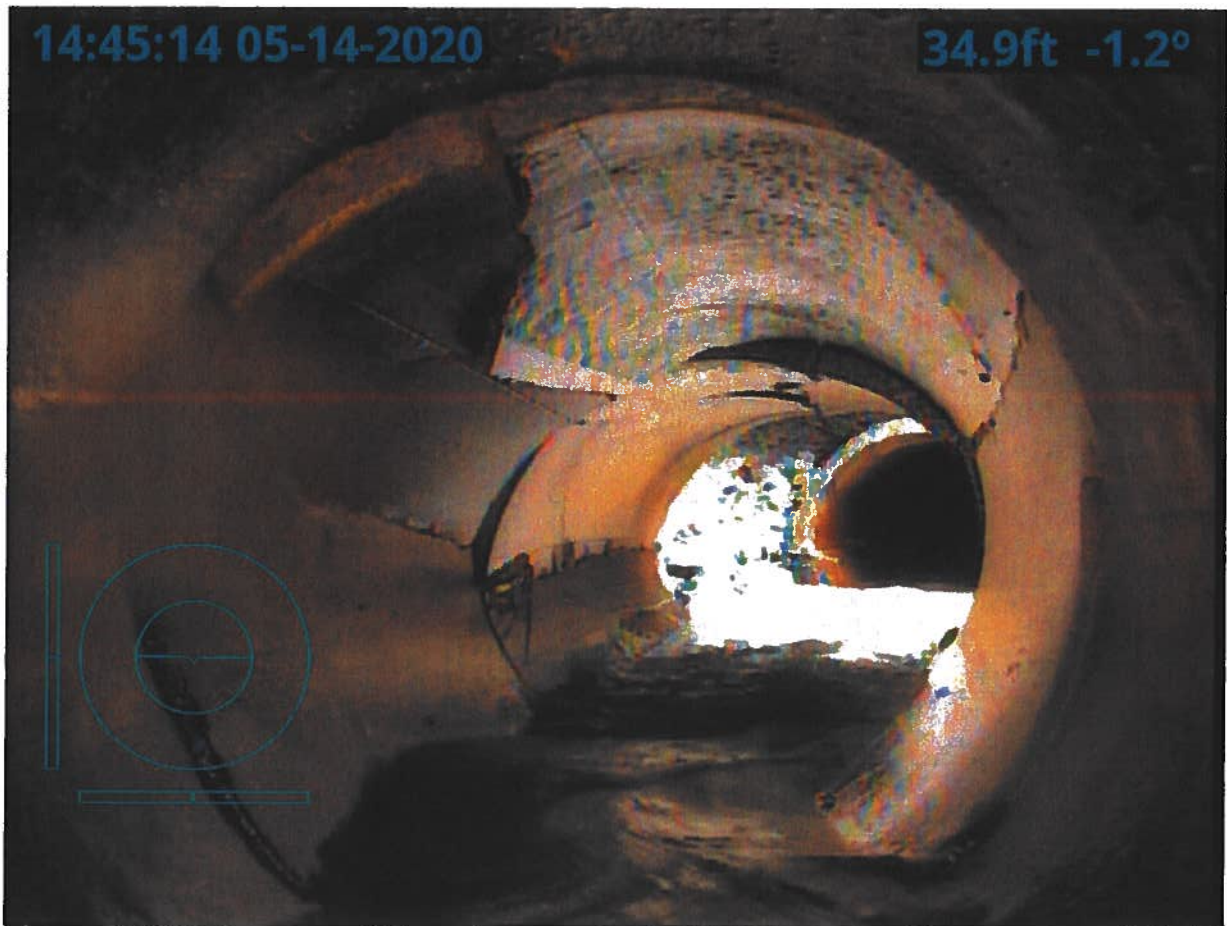


CM 2020\_05\_14-15\_30\_54\_138.jpg



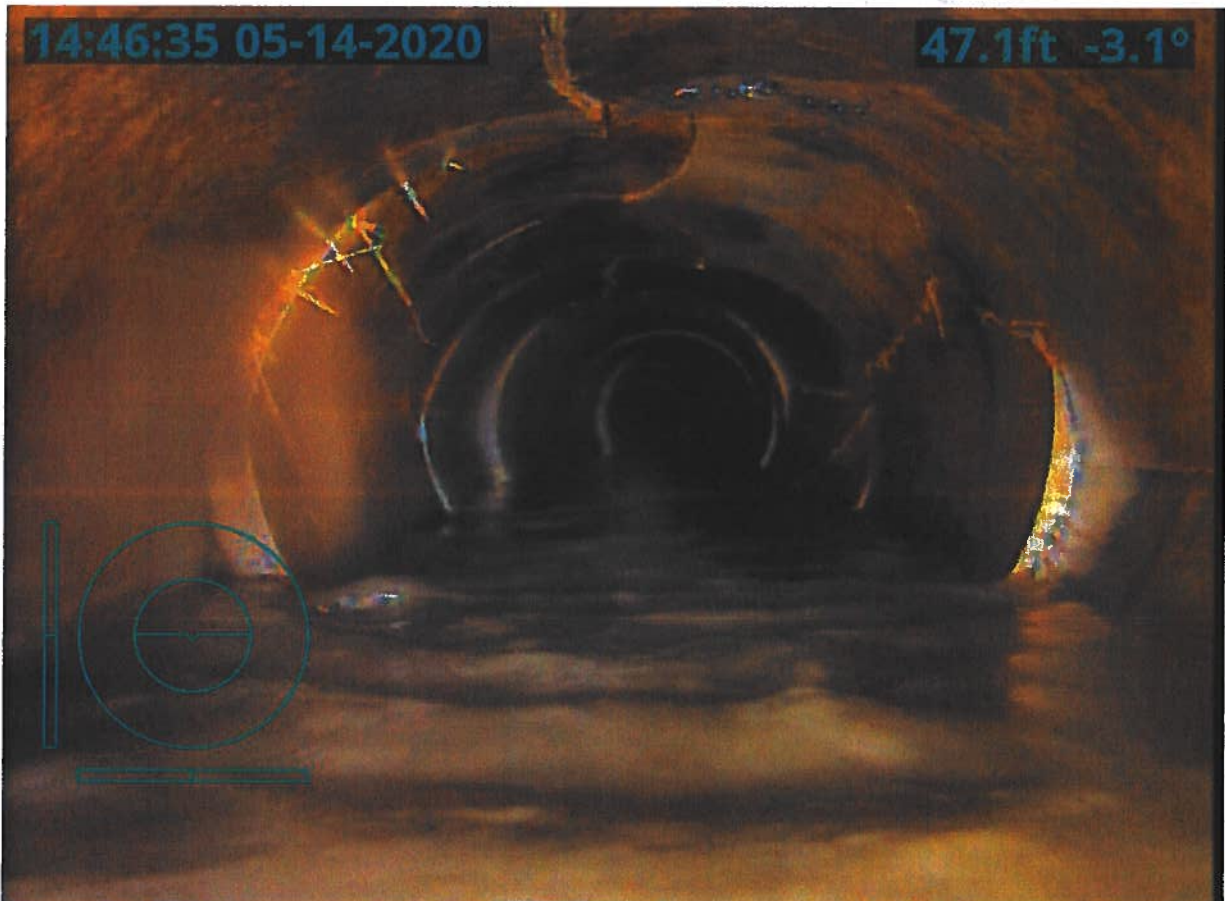
14:45:14 05-14-2020

34.9ft -1.2°

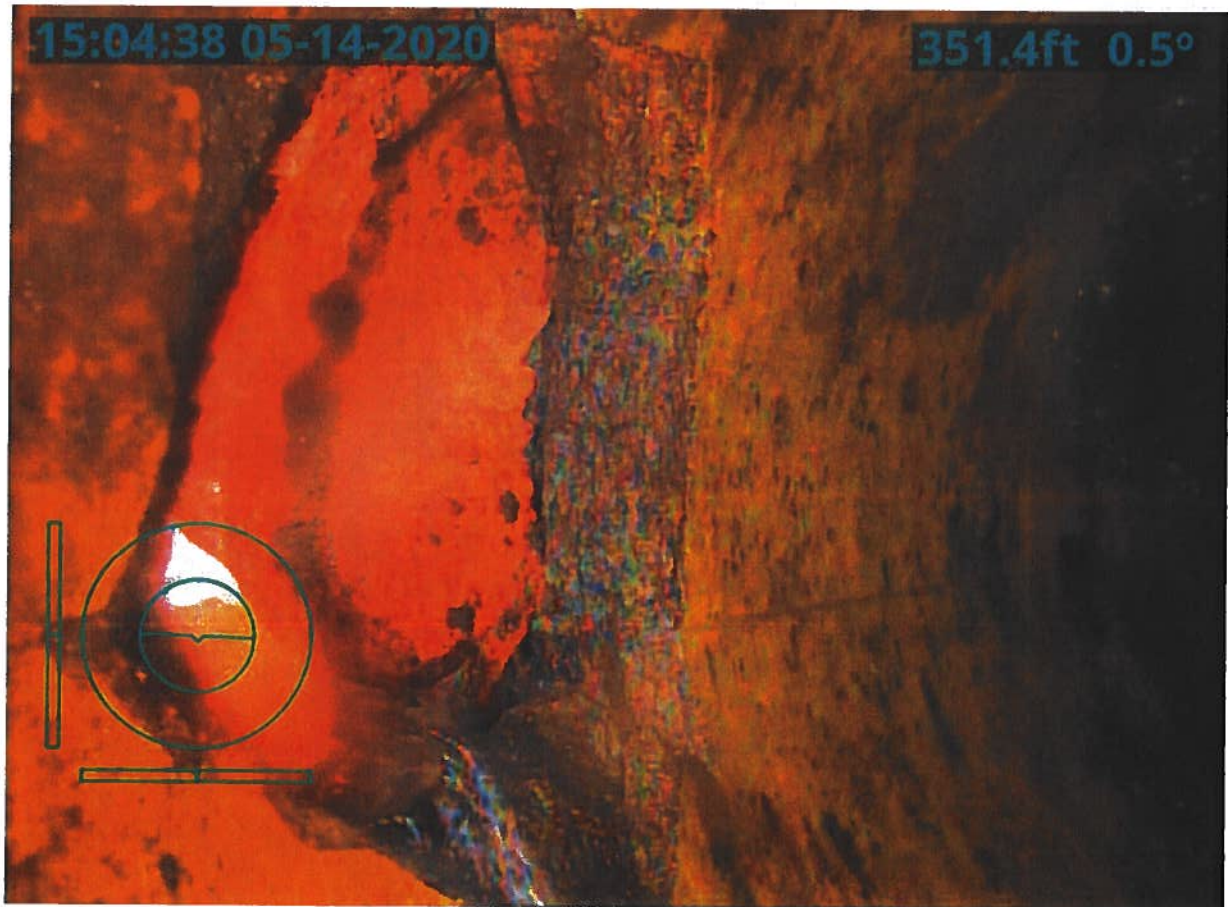
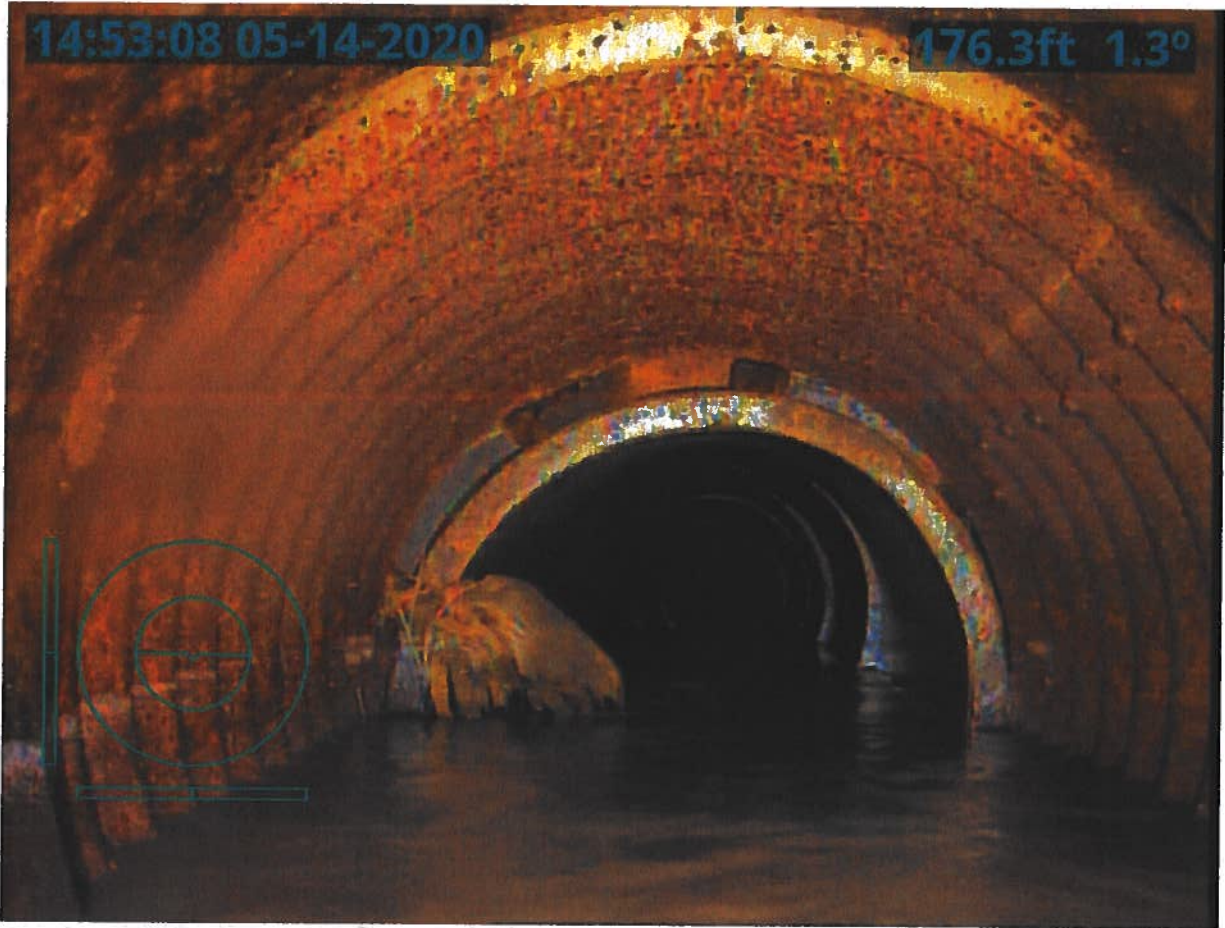


14:46:35 05-14-2020

47.1ft -3.1°



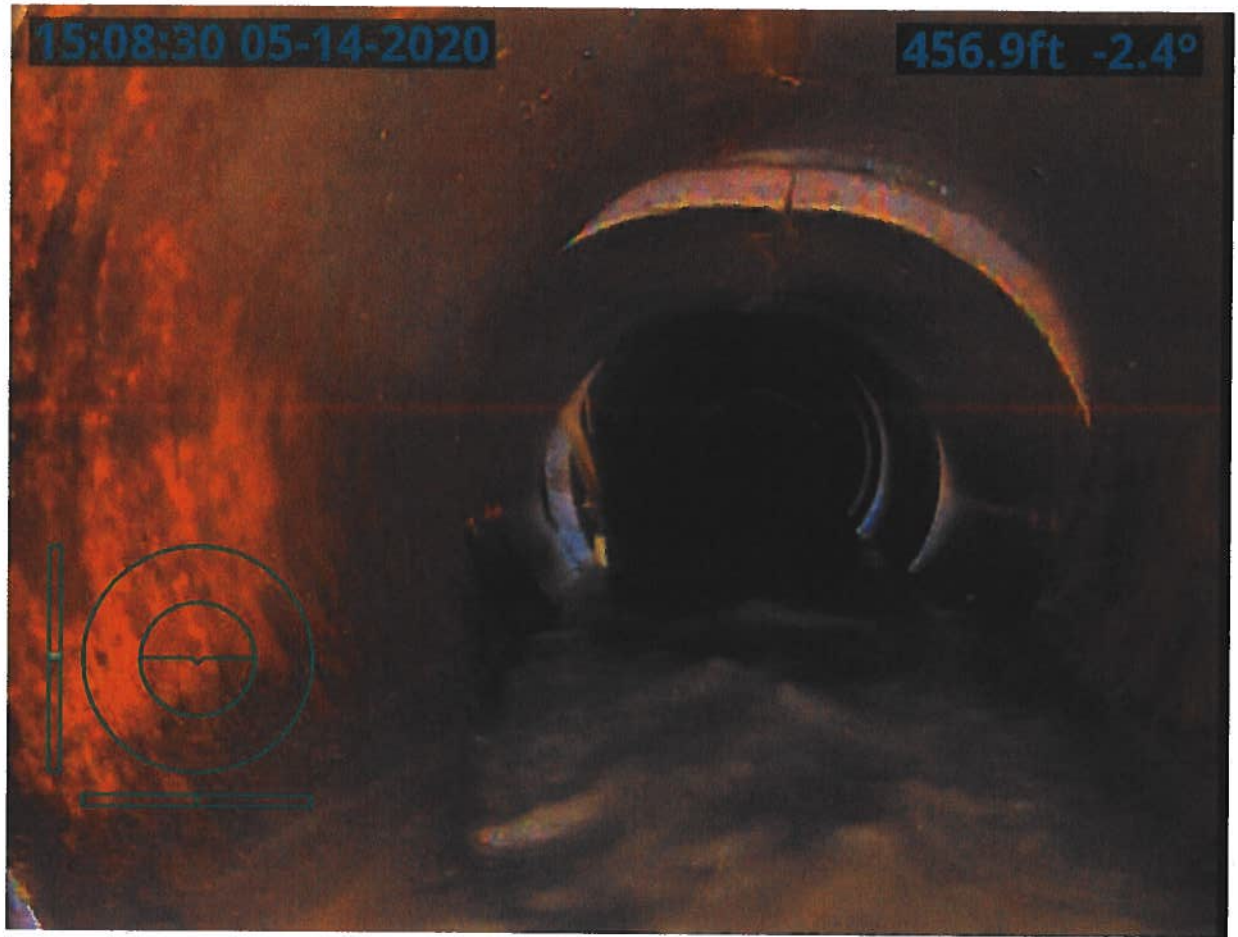






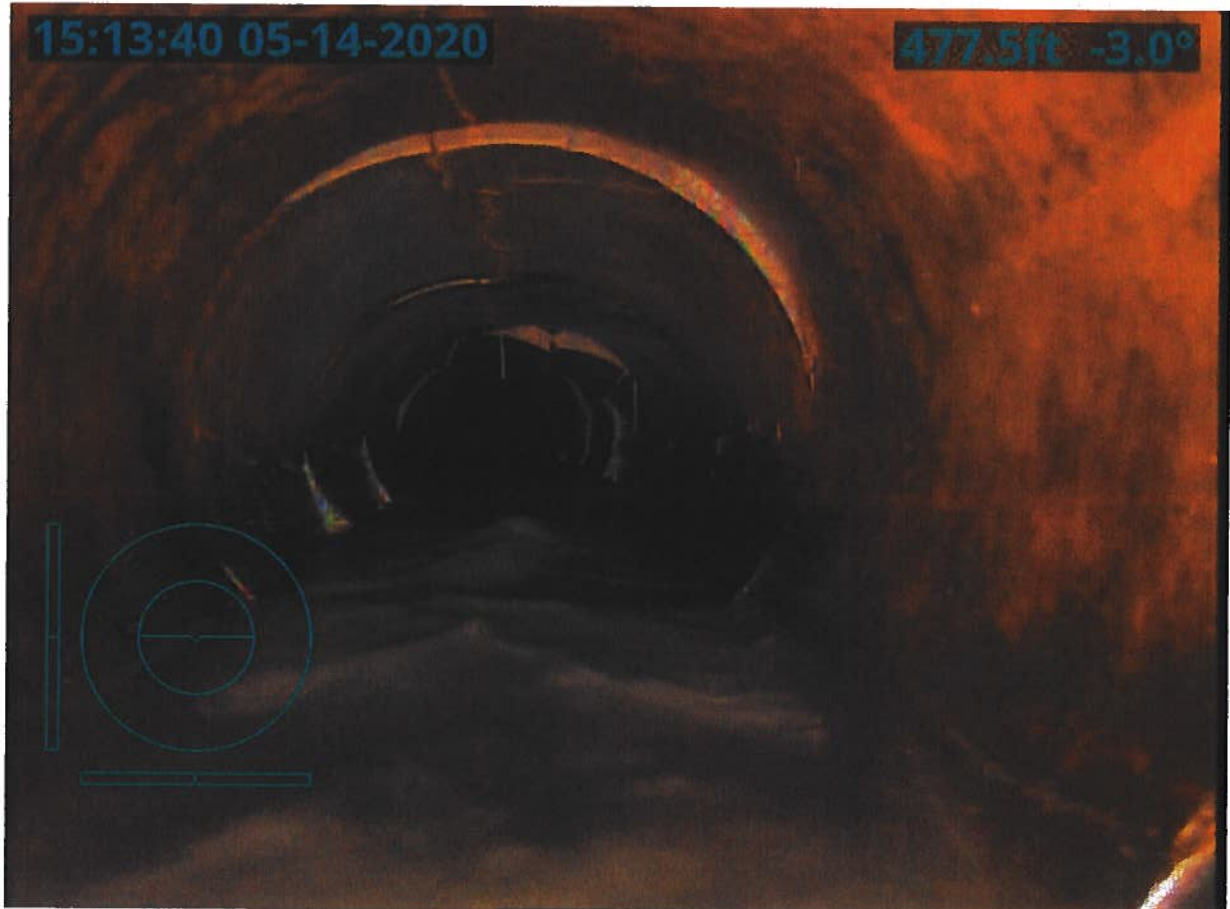
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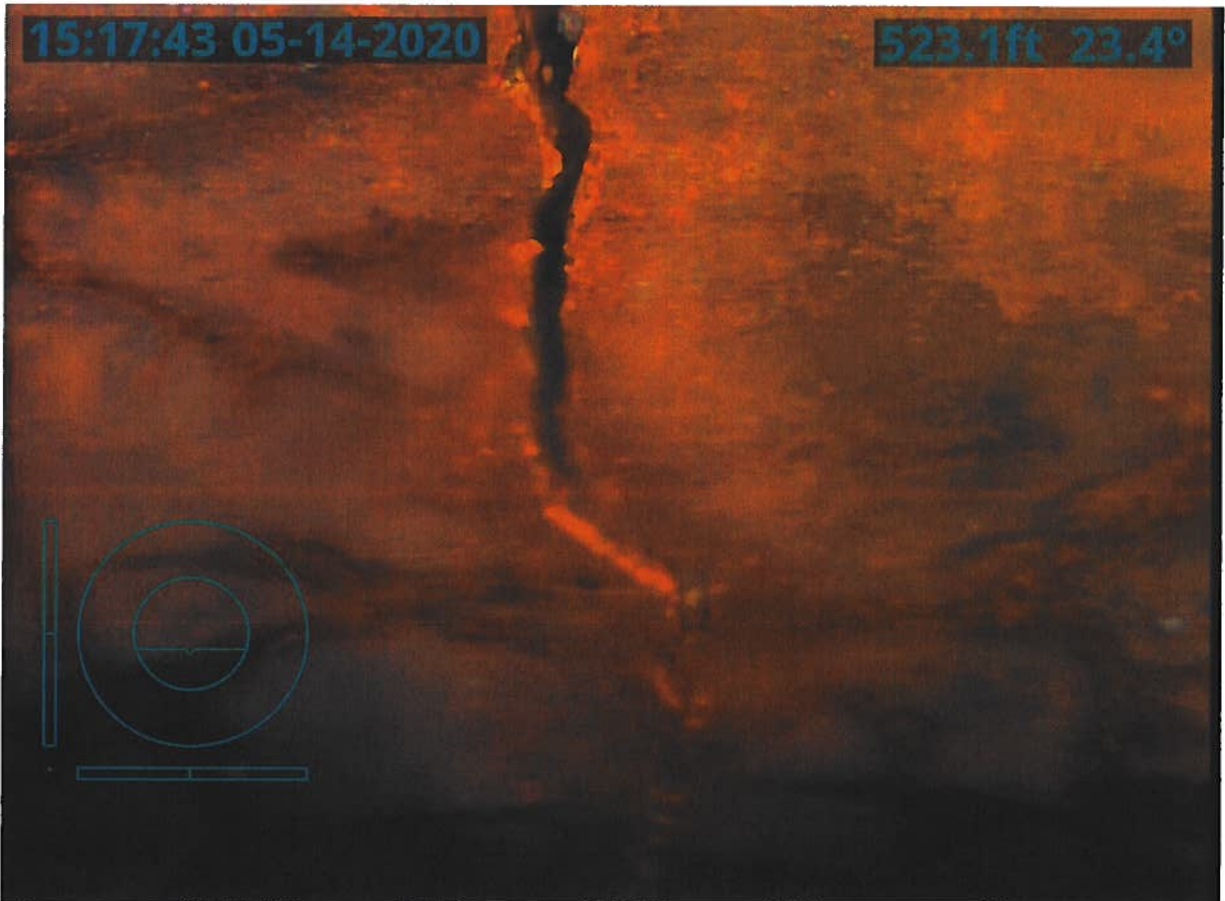
456.9ft -2.4°



15:13:40 05-14-2020

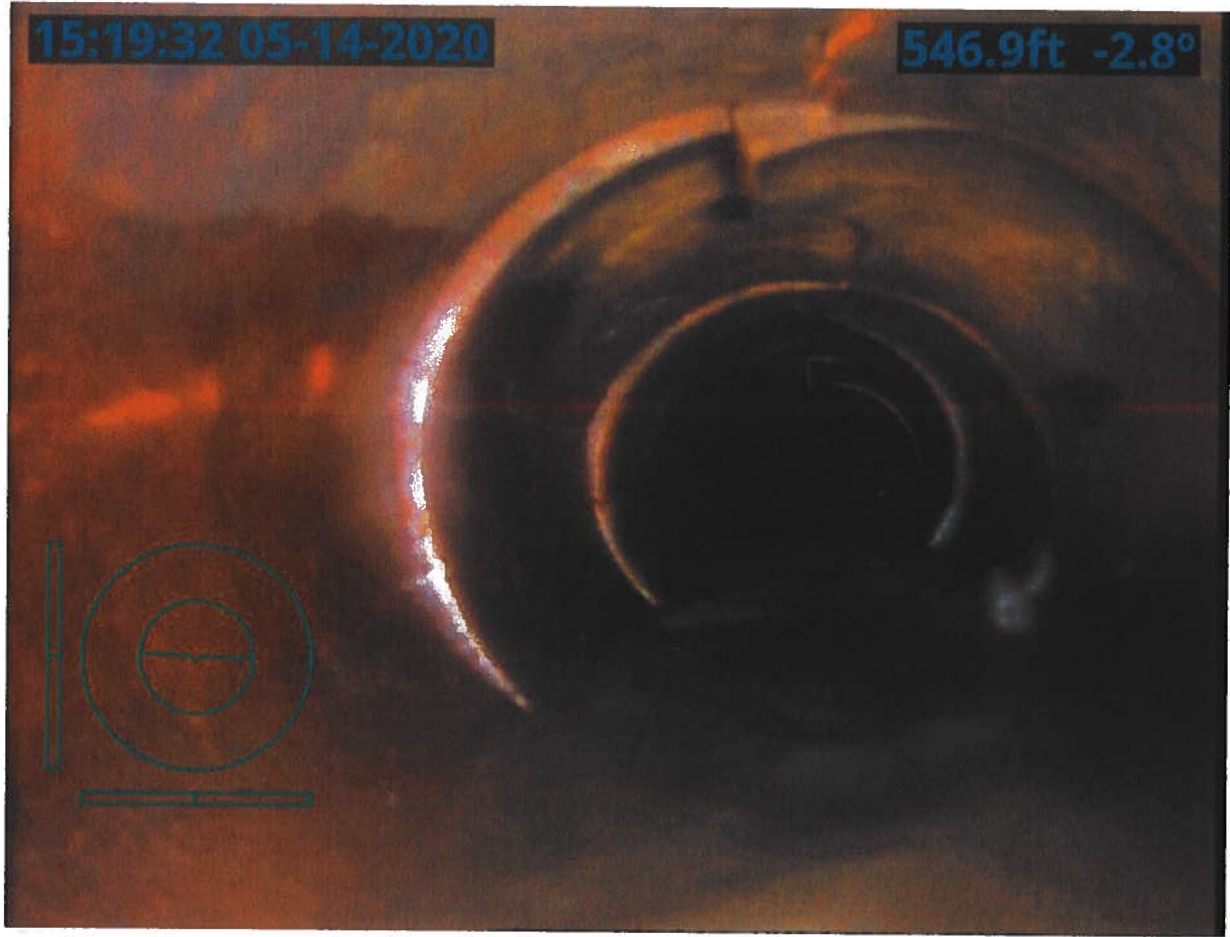
477.5ft -3.0°





15:19:32 05-14-2020

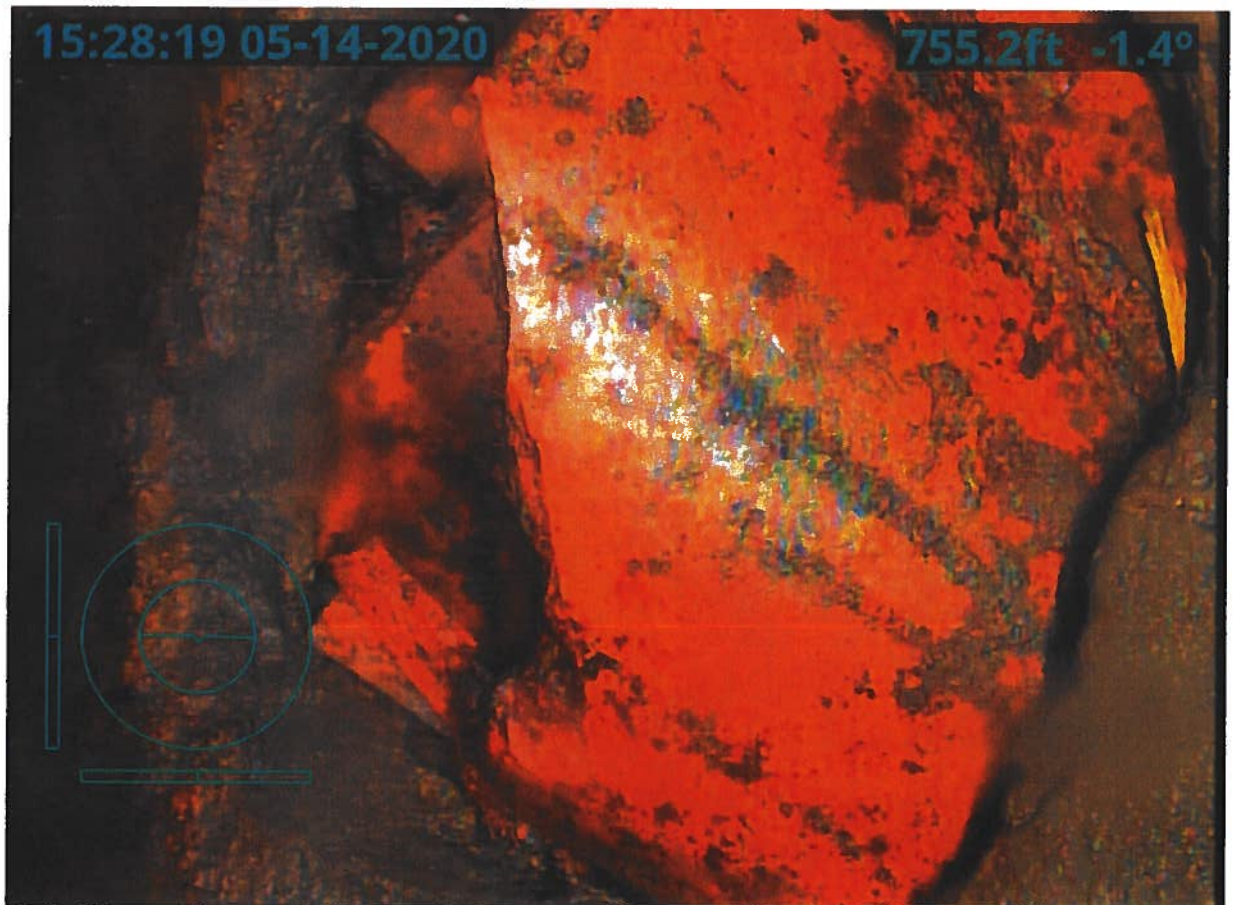
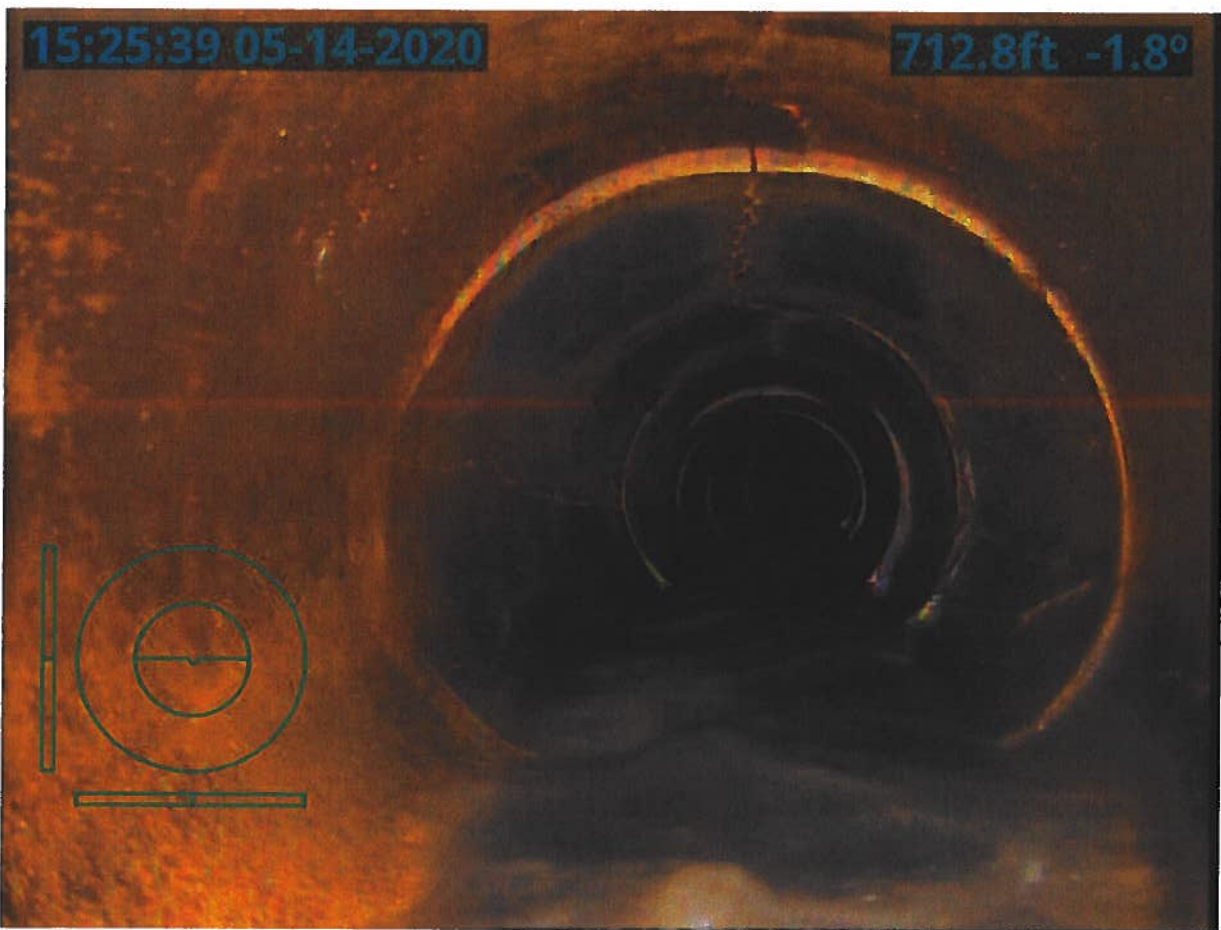
546.9ft -2.8°



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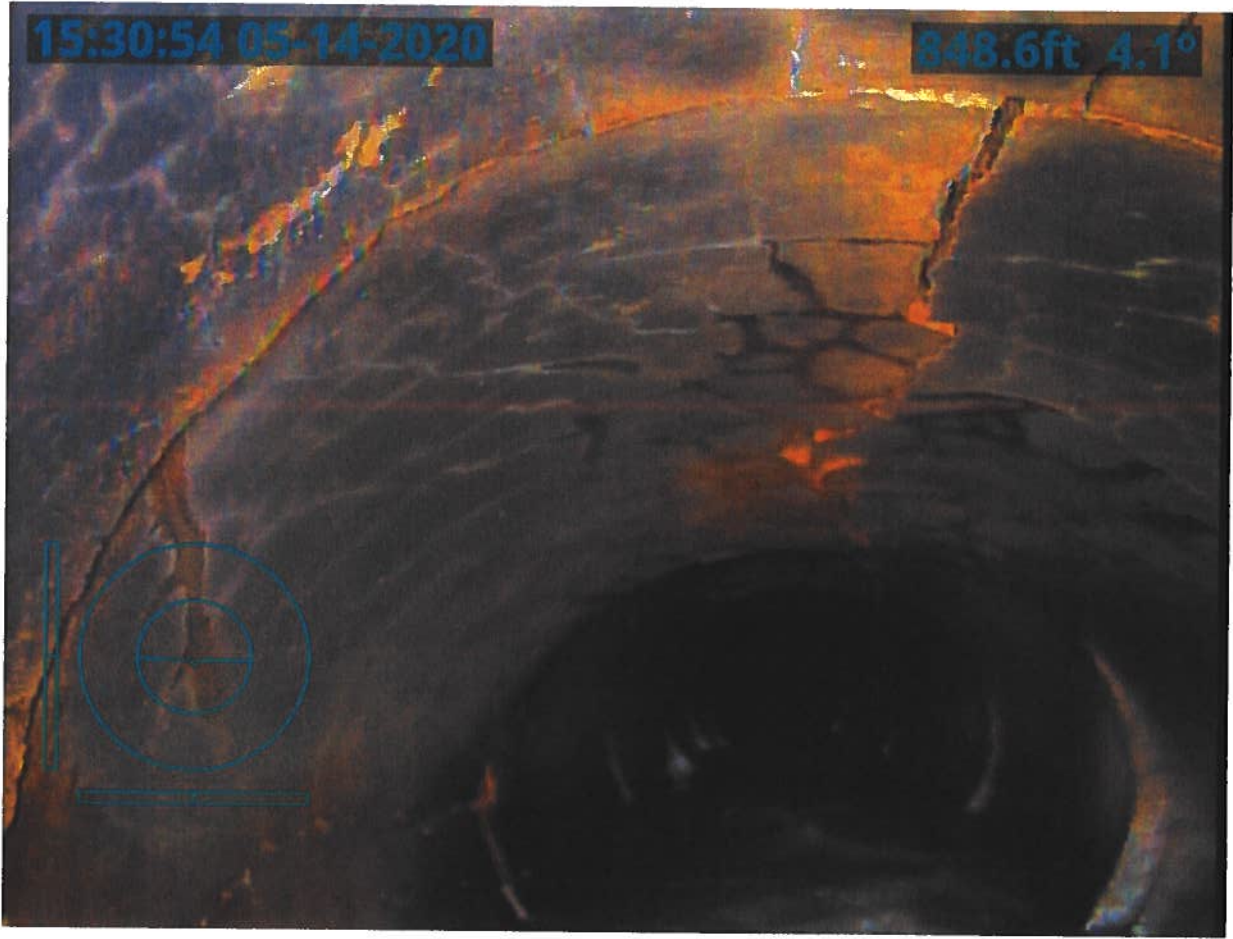
602.6ft -2.9°





15:30:54 05-14-2020

848.6ft 4.1°



1,3603240.750,4962602.710,1176.370,HC GPSMON 8026  
2,3603240.750,4962602.710,1176.370,Autonomous Setup  
3,3618688.957,4946916.051,1169.764,HC GPS 8016  
4,3605705.123,4952677.153,1135.516, TOP 12"VCP JOINT 1.06'TOP TO FL  
5,3606415.768,4950139.889,1135.574,GS TILE BLOWOUT N SIDE  
6,3606436.207,4950151.534,1135.854,GS TILE BLOWOUT N SIDE  
7,3606433.594,4950154.282,1135.676,GS TILE BLOWOUT N SIDE  
8,3606806.866,4950366.902,1140.171,FENCE E-W  
9,3606807.989,4950160.633,1143.206,FENCE E-W  
10,3606808.684,4950069.741,1147.297,FENCE E-W  
11,3606418.172,4950139.776,1130.823, TOP 15" VCP TILE JOINT (1.35'TOFTO FL)  
12,3606416.527,4950138.554,1130.832, TOP 15" TILE (1.35' TOP TO FL  
13,3606433.374,4950151.026,1130.931, TOP 15" TILE (1.30' TOP TO FL  
14,3606431.767,4950149.817,1130.912, TOP 15" TILE (1.35' TOP TO FL  
15,3606430.189,4950148.568,1130.898, TOP 15" TILE (1.33' TOP TO FL  
16,3605706.138,4952688.229,1139.481,GS  
17,3605704.925,4952670.361,1139.347,GS  
18,3605480.270,4952811.838,1148.799,FENCE E-W  
19,3605485.212,4952217.754,1137.030,FENCE E-W  
20,3608115.762,4952199.343,1155.903,MAG NAIL  
21,3605484.284,4952146.915,1142.370,SURVEY MARK NAIL  
22,3606802.079,4952129.144,1147.964,FENCE S&W  
23,3608053.507,4952267.497,1152.132,CPT 34 IR 0.2'D  
24,3607989.169,4950926.173,1140.628, TOP EXISTING 15"CMP  
25,3608049.542,4950961.076,1141.017, TOP 14" VCP (1.17'TOFTOFL)  
26,3608053.288,4950963.091,1140.699, TOP 14" VCP (0.96'TOFTOFL)  
27,3607983.653,4950923.063,1140.661, TOP 14" VCP (1.21'TOFTOFL)  
28,3608080.752,4950995.945,1141.522, TOP EXISTING 15" SW HDPE TILE  
29,3608083.253,4950994.402,1141.500, TOP 6"SW CPP (0.49'TOFTOFL)  
30,3608092.799,4951005.494,1141.648, TOP 15" CMP (1.23' TOP TO FL)  
31,3608077.605,4950993.300,1145.298,GS  
32,3608060.368,4950969.312,1145.175,GS  
33,3608037.548,4950953.803,1145.213,GS  
34,3608015.699,4950941.810,1145.088,GS  
35,3607980.101,4950921.322,1144.873,GS  
36,3608000.481,4950932.767,1140.940, TOP 15" HDPE PERFTILE (0.67'NTOBELL)(1.35'TOFTO FL)  
37,3608084.607,4950949.402,1145.388,GS FIELD/DITCH  
38,3608084.599,4950983.584,1145.143,GS FIELD/DITCH  
39,3608082.212,4951024.307,1146.627,GS FIELD/DITCH  
40,3608100.133,4950999.532,1145.416,FL 4'\*2'TALL CONC BOX  
41,3608089.162,4950987.889,1148.373, TOP 6" HICKENBOTTOM INTAKE (6.31' TOP TO FL)  
42,3608017.662,4950942.112,1141.078, TOP 15" HDPE PERF TILE (1.35'TOFTO FL)  
43,3608034.233,4950952.510,1141.216, TOP 15" HDPE PERF TILE (1.35'TOP TO FL)  
44,3608051.197,4950962.357,1141.350, TOP 15" HDPE TILE (1.35'TOFTOFL  
45,3608033.829,4950950.107,1140.548, TOP 6" PERF TILE (0.51'TOFTO FL)  
46,3608034.571,4950947.776,1140.544, TOP 6" PERF TILE (0.51'TOFTO FL)  
47,3608034.608,4950940.382,1140.602, TOP 6" PERF TILE (0.51'TOFTO FL)  
48,3608034.739,4950934.740,1140.530, TOP 6" PERF TILE (0.51'TOFTO FL)

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104,3606801.246,4950330.369,1139.443,GS  
105,3606785.751,4950322.663,1139.572,GS  
106,3606781.230,4950330.843,1139.443,GS  
107,3606800.988,4950343.062,1139.717,GS  
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109,3606806.277,4950329.481,1140.050,FENCE E-W  
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115,3606801.757,4950336.845,1134.463, TOP 15" HDPE PERF TILE  
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117,3605340.655,4950146.152,1122.854,GS ABOVE TILE  
118,3605342.974,4950149.013,1120.006,TILE TOP "CLAY (1.25'TOP TO FL)  
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121,3605379.508,4950173.853,1123.177,GS ABOVE TILE  
122,3605414.981,4950167.886,1124.101,GS WATERWAY  
123,3605371.837,4950148.276,1123.621,GS WATERWAY  
124,3605332.279,4950112.525,1122.863,GS WATERWAY  
125,3605309.994,4950133.091,1122.804,GS WATERWAY  
126,3605355.127,4950171.596,1123.269,GS WATERWAY  
127,3605414.606,4950191.842,1123.890,GS WATERWAY  
128,3605452.781,4950199.659,1124.464,GS TILE LOCATE  
129,3605507.884,4950208.120,1125.500,GS TILE LOCATE  
130,3605566.488,4950211.914,1125.840,GS TILE LOCATE  
131,3605624.107,4950214.918,1126.524,GS TILE LOCATE  
133,3605683.158,4950217.229,1126.920,GS TILE LOCATE  
134,3605750.126,4950216.561,1127.637,GS TILE LOCATE  
135,3605805.896,4950206.324,1128.247,GS TILE LOCATE  
136,3605869.322,4950185.200,1128.558,GS TILE LOCATE  
137,3605907.201,4950164.902,1128.683,GS TILE LOCATE END CAMERA  
138,3605951.503,4950135.957,1125.608,TILE TOP "CLAY (1.09'TOP TO FL) REMOVED  
139,3605948.015,4950138.425,1125.762,TILE TOP "CLAY (1.21'TOP TO FL) REMOVED  
140,3606002.087,4950097.117,1129.897,GS TILE LOCATE  
141,3606047.969,4950060.252,1130.485,GS TILE LOCATE  
142,3606093.946,4950024.079,1131.195,GS TILE LOCATE  
143,3606148.452,4949995.916,1131.594,GS TILE LOCATE  
144,3606194.832,4949987.959,1131.959,GS TILE LOCATE  
145,3606198.408,4949987.796,1132.012,GS TILE LOCATE END LOCATE  
146,3605911.704,4950162.539,1125.405,TILE TOP "CLAY 1.32'TOPTOFL  
147,3605913.527,4950161.426,1125.261,TILE TOP "CLAY 1.05'TOPTOFL REMOVED  
148,3605905.139,4950166.616,1128.680,GS ABOVE TILE  
149,3605914.838,4950160.561,1128.801,GS ABOVE TILE  
150,3605945.044,4950140.580,1129.365,GS ABOVE TILE  
151,3605953.724,4950134.445,1129.394,GS ABOVE TILE

201,3606210.807,4949998.901,1132.203,GS WATERWAY  
202,3606214.261,4949964.616,1132.458,GS WATERWAY  
203,3606132.656,4949976.520,1131.497,GS WATERWAY  
204,3606052.849,4950031.398,1130.741,GS WATERWAY  
205,3605988.156,4950092.948,1129.841,GS WATERWAY  
206,3605267.201,4950069.065,1122.129,GS WATERWAY  
207,3605228.432,4949964.232,1121.465,GS WATERWAY  
208,3605197.938,4949866.193,1120.875,GS WATERWAY  
209,3605163.386,4949760.174,1119.578,GS WATERWAY  
210,3605125.162,4949640.384,1118.926,GS WATERWAY  
211,3605110.716,4949585.173,1118.333,GS WATERWAY  
212,3605100.210,4949499.905,1117.402,GS WATERWAY  
213,3605122.963,4949510.205,1118.127,GS WATERWAY  
214,3605495.092,4949501.521,1129.346,FNL N-S&W  
215,3605133.332,4949555.621,1118.404,GS WATERWAY  
216,3605178.871,4949717.223,1119.920,GS WATERWAY  
217,3605241.192,4949906.375,1121.016,GS WATERWAY  
218,3605271.139,4950005.075,1121.944,GS WATERWAY  
219,3605312.635,4950088.007,1122.763,GS WATERWAY





# Drainage Work Order Request For Repair

## Hardin County

**Date:** 12/31/2019

**Work Order #:** WO00000283

**Drainage District:** DDs\DD 160 (51177)

**Sec-Twp-Rge:** 11-89-19      **Qtr Sec:** SW NW EX RR

**Location/GIS:** 89-19-11-300-001

**Requested By:** Ken Smith

**Contact Phone:** (641) 847-2782

**Contact Email:** \_\_\_\_\_

**Landowner (if different):** Lawrence Ryken

**Description:**

Ken Smith reports plugged tile outlet where it meets the open drainage ditch and water is bubbling up out of the ground. Ken states that recently utility contractor replaced electric poles and left diggings in ditch plugging up the tile outlet and did not return to remove diggings.

**Repair labor, materials and equipment** \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

**Repaired By:** \_\_\_\_\_ **Date:** \_\_\_\_\_

**Please reference work order # and send statement for services to:**

Hardin County Auditor's Office  
Attn: Drainage Clerk  
1215 Edgington Ave, Suite 1  
Eldora, IA 50627  
Phone (641) 939-8111  
Fax (641) 939-8245

**For Office Use Only**

**Approved:** \_\_\_\_\_ **Date:** \_\_\_\_\_



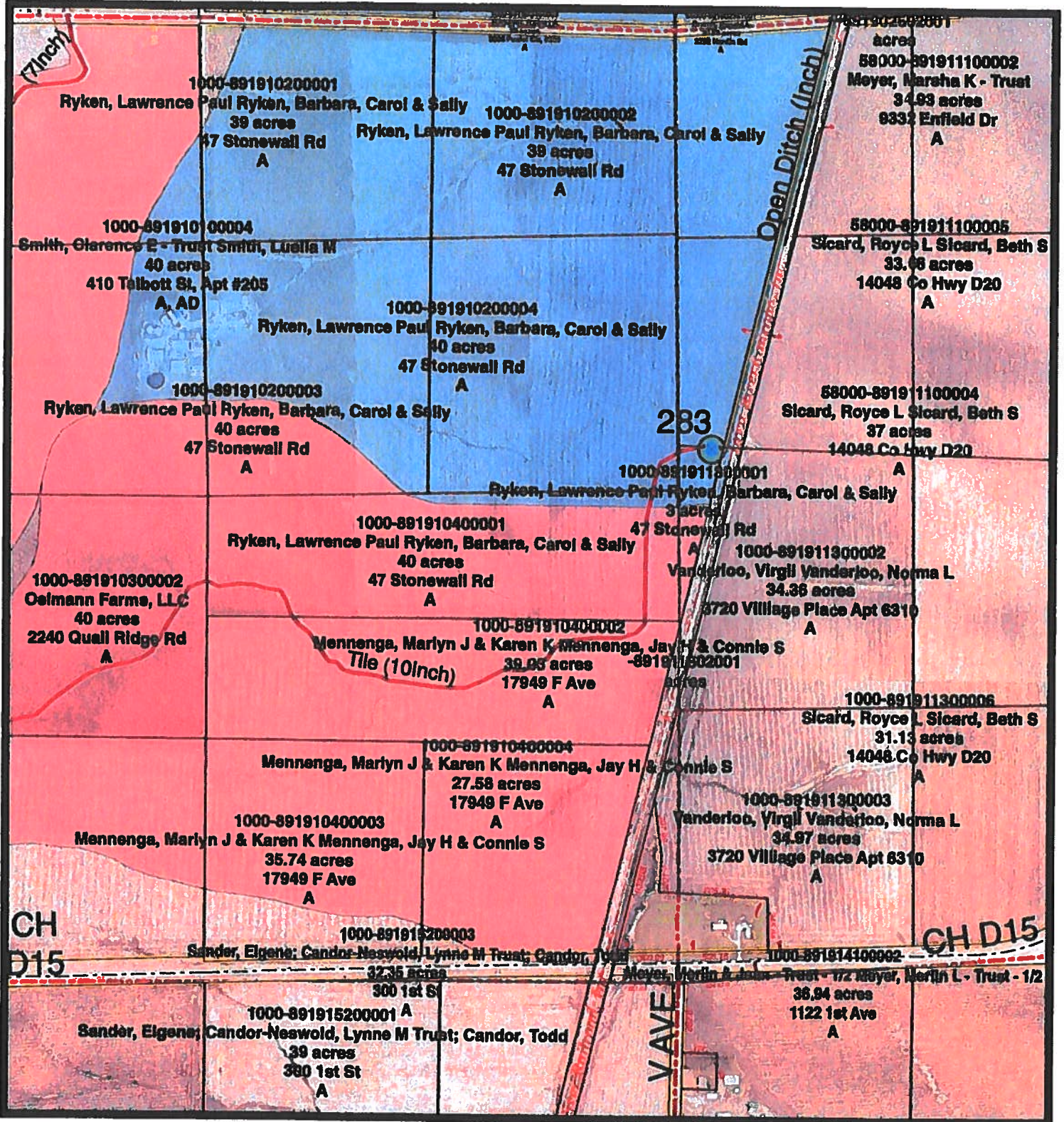
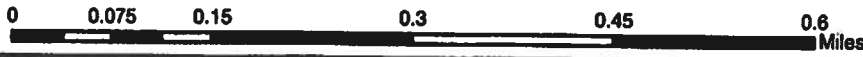
### Drainage Tiles

- Lateral
- Main
- Open Ditch
- Private Tile

# Hardin County Auditor's Office



Date: 12/31/2019



The Data is provided "as is" without warranty or any representation of accuracy, timeliness or completeness. The burden for determining accuracy, completeness, timeliness, merchantability and fitness for or the appropriateness for use rests solely on the requester. Hardin County makes no warranties, express or implied is to the use of the Data. There are no implied warranties of merchantability or fitness for a particular purpose. The requester acknowledges and accepts the limitations of the Data, including the fact that the Data is dynamic and is in a constant state of maintenance, correction and update. Cadastral Data represents land ownership, but does not define it. This Data does not replace a legal survey.

## Drainage District:

#160

### Investigation/Repair Summary:

- Landowner in the SW¼ NW¼ Section 11, Township 89 North, Range 19 West reported a plugged tile outlet where the Main tile outlets into the Main Open Ditch of D.D. 155.
- Visual observation found a potential blowout/sinkhole with water boiling out and flowing overland at approximately 70-feet upstream of a drainage juncture structure. This potential blowout/sinkhole was not fully visible due to the excess surface water present. The Main tile outlets into said drainage juncture, which was found to be in deteriorating condition itself. This then flows through a 30-inch CMP driveway culvert that was rusted and mangled at the point of discharge.
- By the time of exploratory excavation, surface signs of the possible blowout/sinkhole had disappeared. Upon excavation, the 15-inch Main CMP outlet tile was found to be completely rusted through. Said tile was removed until encountering 14-inch concrete tile, which collapsed upon excavation. Continued removing concrete sections until cracked, but round, tile was encountered. While removing said concrete sections, the blockage within the tile was also removed, and tile was able to freely drain.
- The Main tile outlet was repaired with 15-inch CMP tile, rodent guard, rock bedding and backfill, and ¾ concrete collars at connections. The stretch of tile that was removed to the upstream (south) of the CMP outlet was repaired with 15-inch dual wall HDPE tile, rock bedding and backfill, and ¾ concrete collars at connections. All excavations were filled with on-site soil.

### Contractor Time and Materials (spent while CGA was on-site):

See attached Tabulated Contractor Time and Materials Sheet.

### Additional Actions Recommended:

- Due to the deteriorated condition of the Main tile junction structure, and the mangled and rusted culvert downstream of such, CGA recommends a new outlet structure be considered. The adjacent CMP culvert needs to be either removed or replaced before it collapses and restricts drainage.
- The Main open ditch of D.D. 155 (downstream of the D.D. 160 outlet) appears to be in need of a cleanout due to the buildup of excess sediment (possibly as far north as 110<sup>th</sup> St.). CGA recommends an investigation be conducted to determine the scope and extent of sedimentation within the flowline of said open ditch to determine if a cleanout is needed.



## Tabulated Contractor Time and Materials

Date	Totals	1/9/2020	2/11/2020
Workman (hrs)	12 3/4	3	9 3/4
Backhoe (hrs)	4 1/4	1	3 1/4
15" Dual Wall HDPE (ft)	38		38
1" Clean Bedding Rock	Yes		
Concrete Collars	Yes		
15" CMP Tile (ft.)	20		20

CONSTRUCTION ENGINEERING  
OBSERVATION REPORT

DATE: 01/02/2020

DAYS OF WEEK: 

S	M	T	W	<b>T</b>	F	S
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SHEET NO. 1 OF 1

PROJECT NUMBER: WO# 283  
6798 DD#160  
COUNTY, ROUTE, ROAD: HARDIN COUNTY DD#160  
11-89-19 SW NW <sup>W OF RR ROW</sup> AND IN RR ROW  
LOCATION: WEST & ALONG FOUR RIVER RAILROAD, ENS.  
SOUTH OF 10TH AVE 110TH & NORTH OF  
CONVY D-15 IN SW 1/4 NW 1/4

M 10 30'S CLOUDY WITH LIGHT  
WINDS

DESCRIPTION OF WORK AND MATERIAL USED FOR EACH OPERATION, INCLUDING CONTRACTOR/SUB NAME, ITEM NO. AND LOCATION

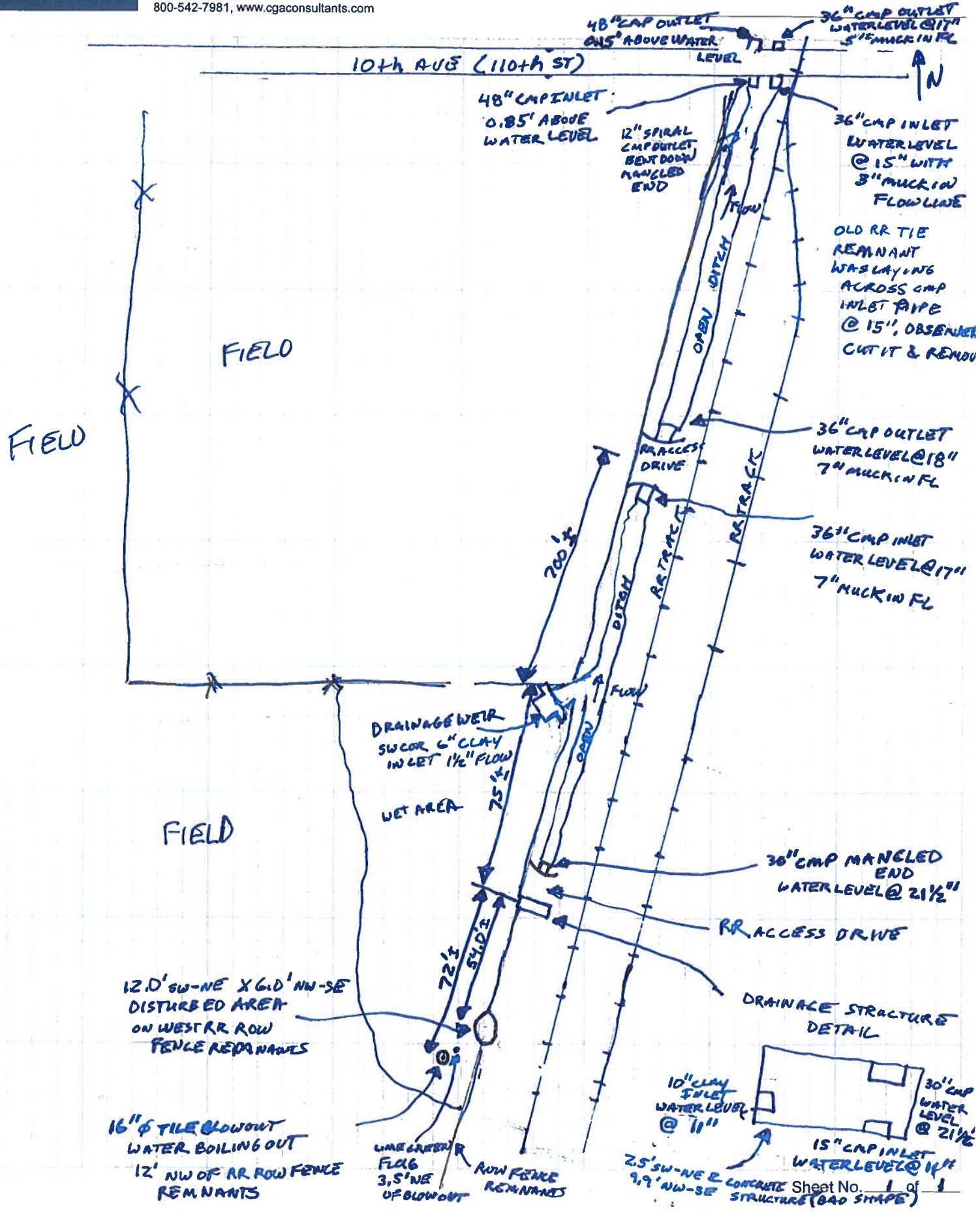
11:00 A.M. OBSERVER ARRIVED ON SITE AND WALKED OUT TO PLUGGED TILE OUTLET  
FROM 1ST FIELD DRIVE WEST OF RR TRACKS & NORTH OF 10TH AVENUE (110TH STREET)  
ALONG WEST RR ROW. UNTIL OBSERVER FOUND DRAINAGE STRUCTURE ON SW SIDE  
OF RR ACCESS DRIVE 75.0' & SOUTH OF FENCE LINE WEST. WATER WAS STANDING  
IN STRUCTURE. 54.0' E SOUTH OF DRAINAGE STRUCTURE ON WEST RR. RIGHT  
OF WAY FENCE REMAINTS FOUND 12' SW-NE & 6' SE-NW AREA DISTURBED  
WITH A 16" Ø TILE BLOWOUT HOLE WITH WATER BOILING OUT & RUNNING IN  
FIELD TO DRAINAGE WEIR (IN LINE WITH FENCE WEST) FOR OPEN DITCH.  
DRAINAGE STRUCTURE HAS 10" CLAY TILE INLET IN SW CORNER OF STRUCTURE  
IS COMPLETELY UNDER WATER BUT FLOWING & 15" CMP INLET IN SE CORNER.  
STRUCTURE WATER LEVEL IS @ 11" WITH NOT MUCH FLOW. MOST LIKELY  
TILE IS PLUGGED BETWEEN DISTURBED AREA & TILE BLOWOUT.  
OBSERVER TOOK PICTURES AND DOCUMENTED ISSUES AND WATER LEVELS.  
SEE ATTACHED PICTURES AND SKETCH FOR DETAILS.  
OBSERVER REMOVED OLD RR TIE POST LAYING ACROSS CMP INLET  
PIPE ON SOUTH SIDE OF 110TH STREET WEST OF RR TRACKS.  
1:30 P.M. OBSERVER HEADED BACK TO OFFICE. ON OPEN DITCH  
MAY HAVE TO CLEAN MUCK OUT OF FLOW LINES OF PIPES  
AT ACCESS DRIVES, UNDER ROAD & DOWNSTREAM FROM DRAINAGE  
WEIR IN LINE WITH FENCE TO WEST IN OPEN DITCH.

I Certify that the work described in this report was incorporated into this contract unless otherwise noted.  
Observer's Signature: Dean Penning Date Prepared: 01/02/2020  
Reviewed by: \_\_\_\_\_  Engineer  
Date Reviewed \_\_\_\_\_



**Clapsaddle-Garber Associates, Inc.**  
16 East Main Street, Marshalltown, Iowa 50158, ph 641-752-6701  
1523 South Bell Avenue, Suite 101, Ames, Iowa 50010, ph 515-232-1784  
5106 Nordic Drive, Cedar Falls, Iowa 50613, ph 319-266-0258  
739 Park Avenue, Ackley, Iowa 50601, ph 641-847-3273  
511 Bank Street, Webster City, Iowa 50595, ph 515-832-1876  
800-542-7981, www.cgaconsultants.com

PN D.A.P. 01/02/2020  
Computed By \_\_\_\_\_ Date \_\_\_\_\_  
Checked By \_\_\_\_\_ Date \_\_\_\_\_  
Subject \_\_\_\_\_



PICT# 2603 IS LOOKING NE AT 16" Ø HOLE WHERE WATER BOILING OUT  
3.5' SW OF LIME GREEN FLAG OR 147' ± SOUTH OF FENCE LINE WEST  
& 12.0' WEST OF REMNANT FENCE LINE WEST (WEST RR ROW)



↑ N  
BLOW OUT



↑ N

PICT# 2604 IS LOOKING NE SHOW WET AREA WEST OF WEST RR ROW  
FENCE REMNANT & SOUTH OF FENCE LINE WEST.

PICT# 2605 IS LOOKING NORTH SHOWING WET AREA WEST OF WEST RR ROW & SOUTH OF FENCE LINE WEST



↑ N



↑ N

PICT# 2606 LOOKING WE AT 16" Ø HOLE WATER BOILING OUT IN FBLD WEST OF RR ROW



PILT# 2607 IS LOOKING NE OF 16"  $\phi$  TILE BLOWOUT  
SHOWING 12' N-S X 6' E-W DISTURBED AREA IN WEST  
RR ROW FENCE REMNANTS & 129'  $\pm$  SOUTH OF



PILT# 2608 LOOKING NE AT 12' NE-SW X 6' SE-NW AREA  
DISTURBED IN WEST RAILROAD ROW FENCE REMNANT.  
(TILE BROKE?)

PICT# 2609 LOOKING SE AT RR ACCESS DRIVE FROM FIELD

N  
↑



N  
↑

PICT# 2610 IS LOOKING NE AT 2.5' NE-SW X 9.9' NW-SE  
CONCRETE DRAINAGE STRUCTURE ON SW SIDE OF RR ACCESS DRIVE

PICT# 2611 IS LOOKING NE AT DRAINAGE STRUCTURE OUTLET  
SHOWING IT IS IN POOR CONDITION.

(SE HALF OF STRUCTURE)



↑ N



↑ N

PICT# 2612 IS LOOKING NE AT DRAINAGE STRUCTURE (NW 1/2  
OF STRUCTURE SHOWING IT IS IN POOR CONDITION,

PICT# 2613 IS LOOKING NW AT DRAINAGE STRUCTURE SHOWING IT IS IN POOR CONDITION

16" CLAY INLET WATER LEVEL 11" ABOVE FLOW LINE



PICT# 2614 IS LOOKING NE AT 30" CMP OUTLET IN DRAINAGE STRUCTURE WITH WATER LEVEL AT 21 1/2"

PICT# 2615 IS LOOKING NE AT OPEN DITCH FROM RR ACCESS DRIVE AND 30" CMP OUTLET. 75'± SW OF FENCELINE WEST



↑ N



↓ W

PICT# 2617 IS LOOKING SW SHOWING 30" CMP OUT LET ON NWSIDE OF RR ACCESS DRIVE ON NE SIDE OF DRAINAGE STRUCTURE WITH END CMP ALL MANGLED UP BUT FLOWING WATER LEVEL AT 20"

PICT# 2618 IS LOOKING SW AT 15" CMP INLET (WATER LEVEL AT 11")  
IN SW CORNER OF DRAINAGE STRUCTURE.



PICT# 2619 TOP VIEW OF MANGLED 30" CMP OUTLET ON N SIDE  
OF RR ACCESS DRIVE

PICT# 2620 IS LOOKING WEST AT DRAINAGE WEIR JUST SOUTH  
OF FENCE LINE WEST SW CORNER OF WEIR IS A 6" CLAY  
PIPE OUTLET 1 1/2" FLOW



PICT # 2621 IS LOOKING NE OPEN DITCH NE OF FENCE WEST

PICT# 2622 IS LOOKING SW TOWARDS RR DRIVE ACCESS FROM  
FENCELINE WEST



PICT# 2623 IS LOOKING WEST AT DRAINAGE WEIR JUST SW OF  
FENCELINE WEST (MAY NEED CLEANED OUT)



PICT# 2623 IS LOOKING EAST FROM FENCELINE WEST  
WITH WATER PONDING ON SOUTH SIDE OF FENCE IN FIELD



PICT # 2624 IS LOOKING EAST AT FENCELINE WEST SHOWING  
WATER PONDING BEFORE DRAINAGE WEIR

PICT# 2626 IN LOOKING SW FROM RR ACCESS DRIVE  
700'± NE OF FENCE LINE WEST, 36" CMP INLET  
WATER LEVEL AT 17" WITH 7" MUCK IN FLOWLINE.

↓  
W



↑  
N



PICT# 2627 IS LOOKING NE FROM RR ACCESS 700'± NE  
OF FENCE LINE WEST. 36" CMP OUTLET WATER LEVEL AT 18"  
WITH 7" MUCK IN FL.

PICT # 2628 (WEST RR TRACKS & SOUTH OF 10TH AVE (110TH STREET))  
 IS LOOKING SW SHOWING 48" CMP INLET 0.85' ABOVE  
 TOP OF WATER & 36" CMP INLET WITH WATER LEVEL AT 15"

WITH 3" MUCK IN FLOWLINE. ALSO NOTE AT 15" UP ON 36" CMP  
 AN OLD RR TIE CHUNK WAS BLOCKING FLOW. OBSERVER CUT IT OUT  
 COULD FLOW YET BUT WAS RESTRICTED



COULD FLOW  
 YET BUT  
 WAS RESTRICTED



PICT # 2629 IS LOOKING NE WEST OF RR TRACKS & NORTH OF 10TH AVE  
 (110TH STREET) SHOWING 48" CMP OUTLET 0.15' ABOVE WATER LEVEL &  
 36" CMP OUTLET WITH WATER LEVEL AT 17" WITH 5" MUCK IN FLOWLINE

PICT # 2630 IS LOOKING NE AT 36" CMP INLET WEST RR TRACKS  
& SOUTH OF 10TH AVE 110TH STREET. SHOWING RR TIE REMNANT  
THAT RUNNING ACROSS INLET PIPE AT 15" UP (STILL FLOWED).  
OBSERVER CUT IT OUT

↑  
N



01/02/2020  
13:23

CONSTRUCTION ENGINEERING  
OBSERVATION REPORT

DATE:

1-9-20

DAYS OF WEEK:

S M T W T F S

SHEET NO.

1 OF 1

PROJECT NUMBER: 6798  
COUNTY, ROUTE, ROAD: DD #160  
LOCATION: 1/2 MILE N. OF ROAD ON W SIDE RR

DESCRIPTION OF WORK AND MATERIAL USED FOR EACH OPERATION, INCLUDING CONTRACTOR/SUB NAME, ITEM NO. AND LOCATION

ARRIVED ON SITE @ 1:30, CREW ARRIVED ON SITE @ 1:45  
3 MEN 1 TRUCK + 1 BACKHOE, CREW STARTED DIGGING 25'  
S OF CONC STRUCTURE @ ACCESS DRIVE FOR RR.  
@ 25' CREW FOUND A VERY CORRODED CMP FLOWING 1/2-1/4 FULL  
CREW EXPOSED THE TOP OF THE CMP UNTIL THEY FOUND A  
THE TILE SWITCHED TO CONCRETE THIS APPEARED TO BE WHERE  
THE TILE WAS PLUGGED @ 50' ± S. OF STRUCTURE. ~~THE~~  
PIPE IS NOW FLOWING @ FULL CAPACITY CREW (MCDOWELL)  
SAID THEY WERE GOING TO FIX A TILE ISSUE THE FARMER  
HAD AT 250' ± S, + 500' W OF OUTLET.  
CREW WAS WORKING ON THAT WHEN I LEFT THE SITE @  
2:40.

I Certify that the work described in this report was incorporated into this contract unless otherwise noted.

Observer's Signature:

*Chris [Signature]*

Date Prepared:

1-9-20

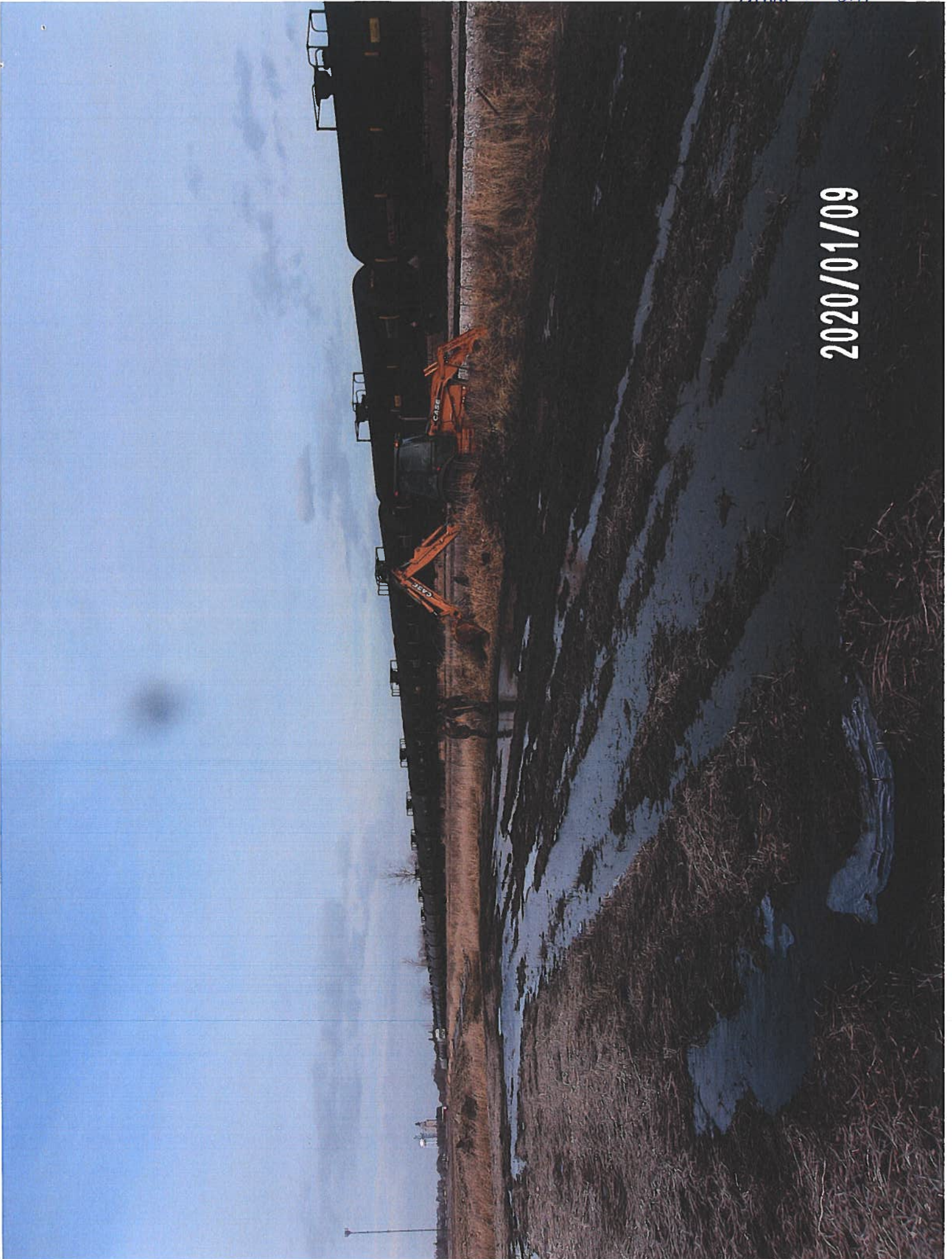
Reviewed by:

Engineer

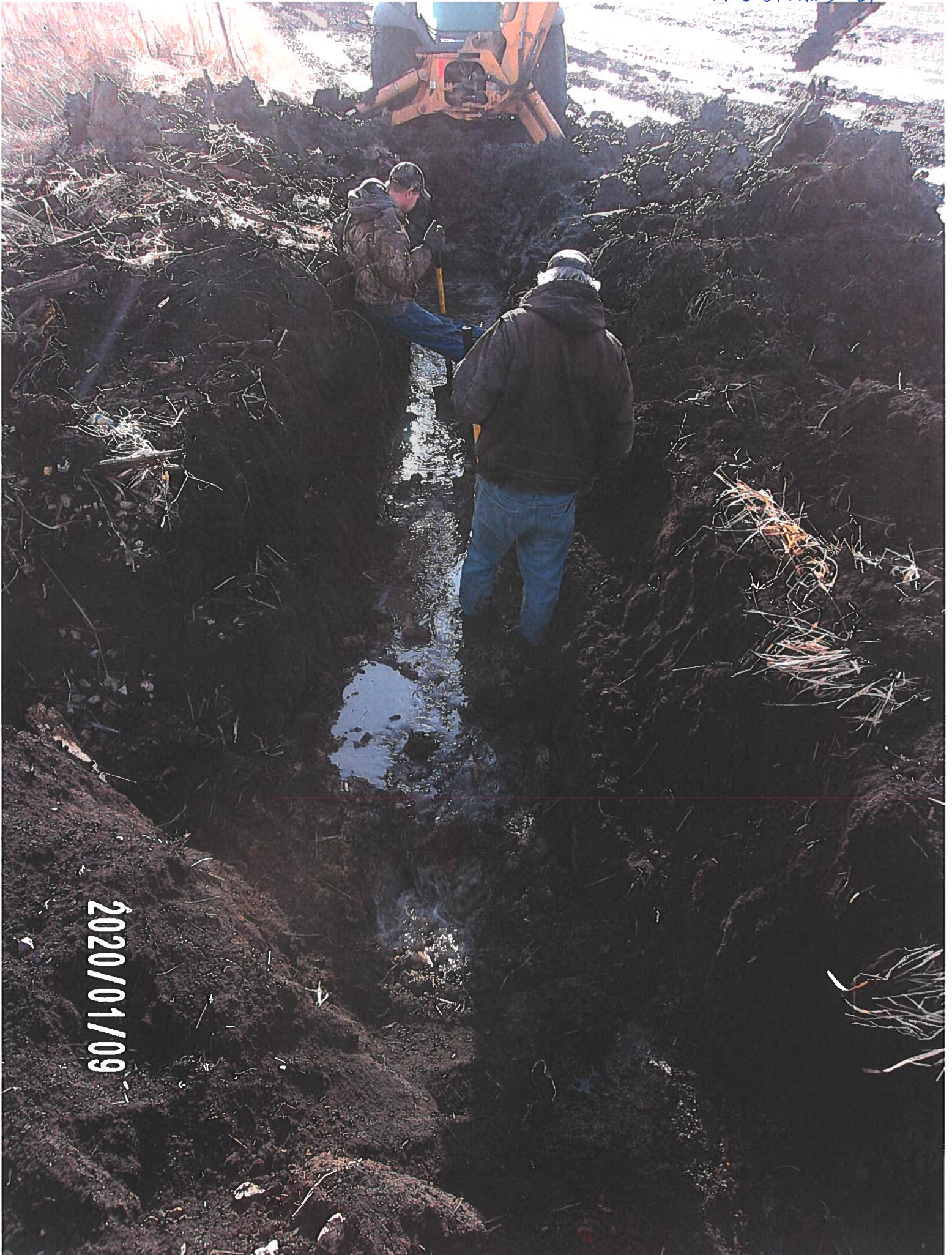
Date Reviewed

START OF DAY

2020/01/09

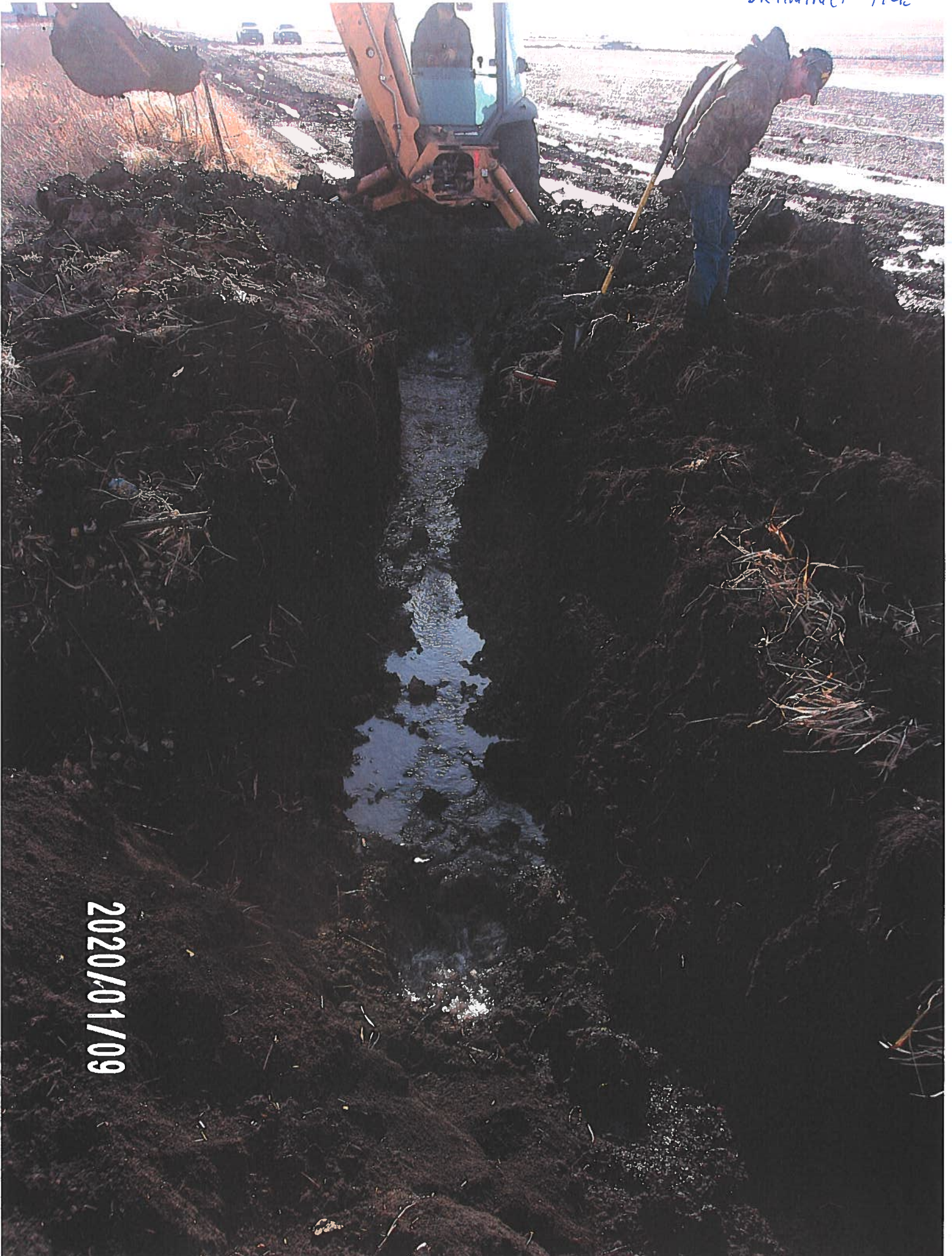


TILE OPENED JP



2020/01/09

DRAINING TIME



2020/01/09

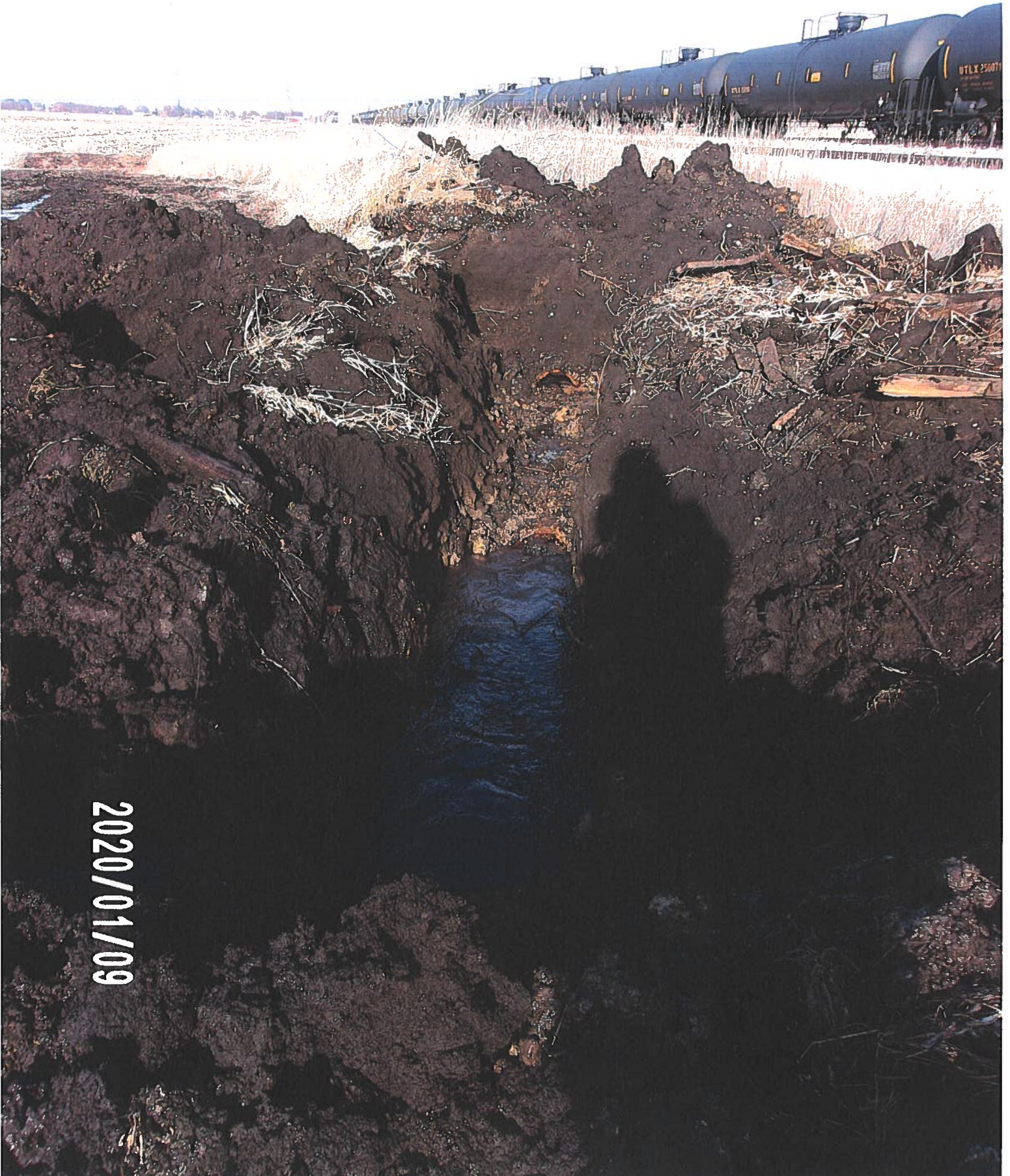


CONC PIPE @ UPSTREAM



2020/01/09

LOOKING DOWNSTREAM  
@ END OF DAY



2020/01/09

CONSTRUCTION ENGINEERING  
OBSERVATION REPORT

DATE:

2-11-20

DAYS OF WEEK:

S M T W T F S

SHEET NO.

1 OF 1

PROJECT NUMBER:

6798

COUNTY, ROUTE, ROAD:

DD 160

LOCATION: W. OF RR + S. OF MIDSEC LINE SEC 10-89-19

DESCRIPTION OF WORK AND MATERIAL USED FOR EACH OPERATION, INCLUDING CONTRACTOR/SUB NAME, ITEM NO. AND LOCATION

9:30 SET UP BASE @ PT#2 (SET 1/2" x 2.0' IR IN SW QUAD OF FIELD DRIVE @ SW QUAD OF S 1/4 COR SEC 10-89-19)

10:00 ARRIVED ON SITE RELEASED JWH CREW (3 MAN - 2 BACKHOES - 1 TRUCK) JUST GOT DONE REMOVING RR DEBRIS FROM OVER TOP OF TILE + TOOK A COFFEE BREAK

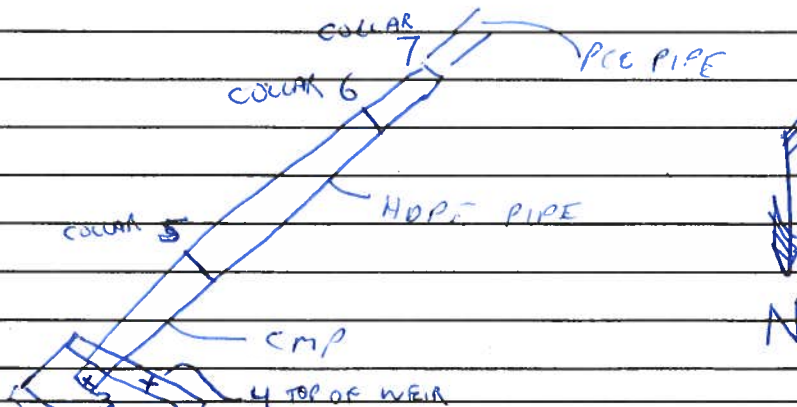
10:30 MAN CAME W/ A DUMP TRUCK OF ROCK + 2 MEN LEFT THE SITE.

10:45 1 MAN RETURNED W/ HDPE PIPE (Dual Wall)

12:00 CREW BROKE FOR LUNCH

12:30 CREW STARTED WORKING

1:15 CREW GOT LAST PIECE OF PIPE IN PLACE + CALLED FOR CONC. CREW LAYED 57.3' ± OF PIPE @ 1.36% ± PER GPS



I Certify that the work described in this report was incorporated into this contract unless otherwise noted.

Observer's Signature:

*Chris [Signature]*

Date Prepared:

2-11-20

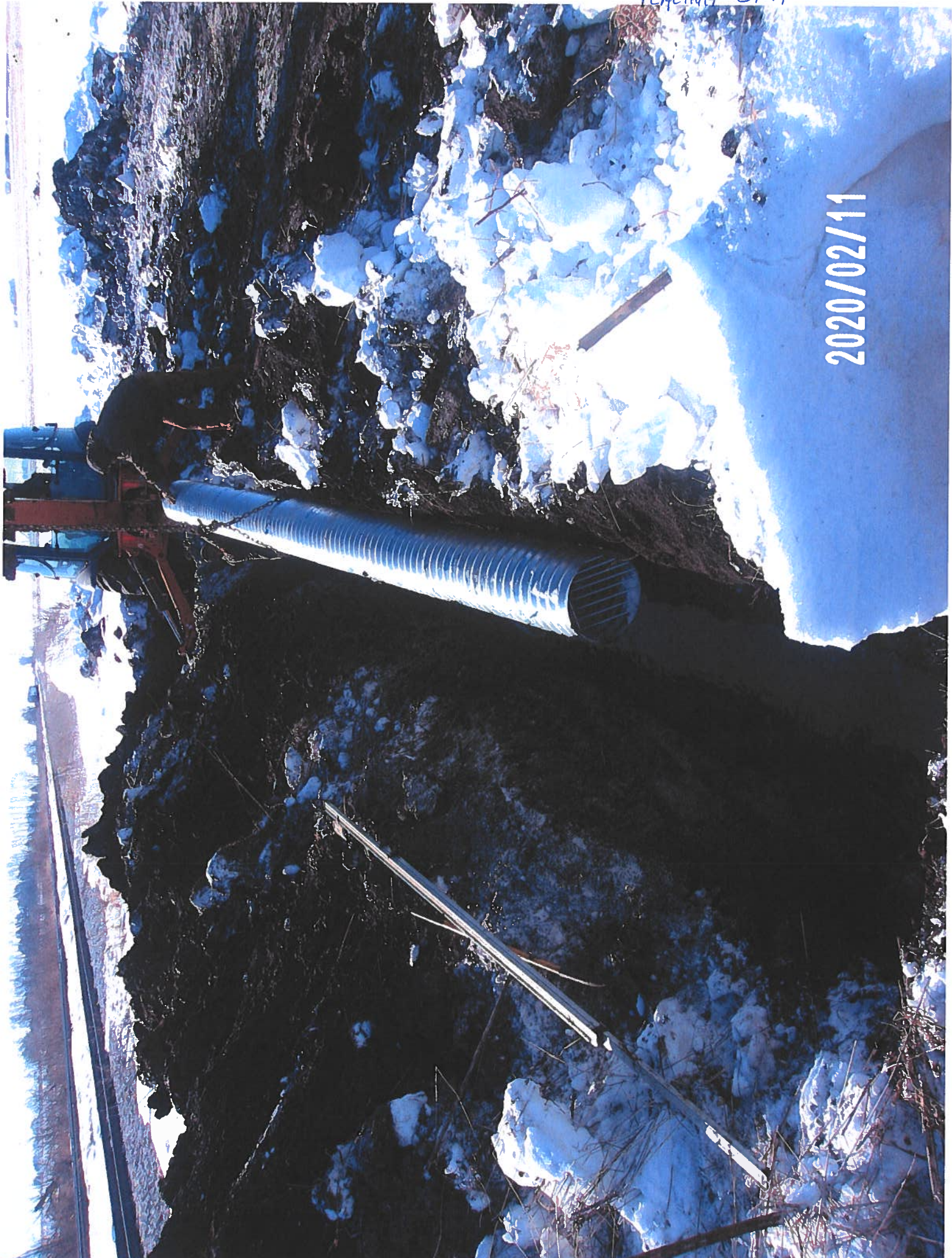
Reviewed by:

Engineer

Date Reviewed

PLACING CMP

2020/02/11



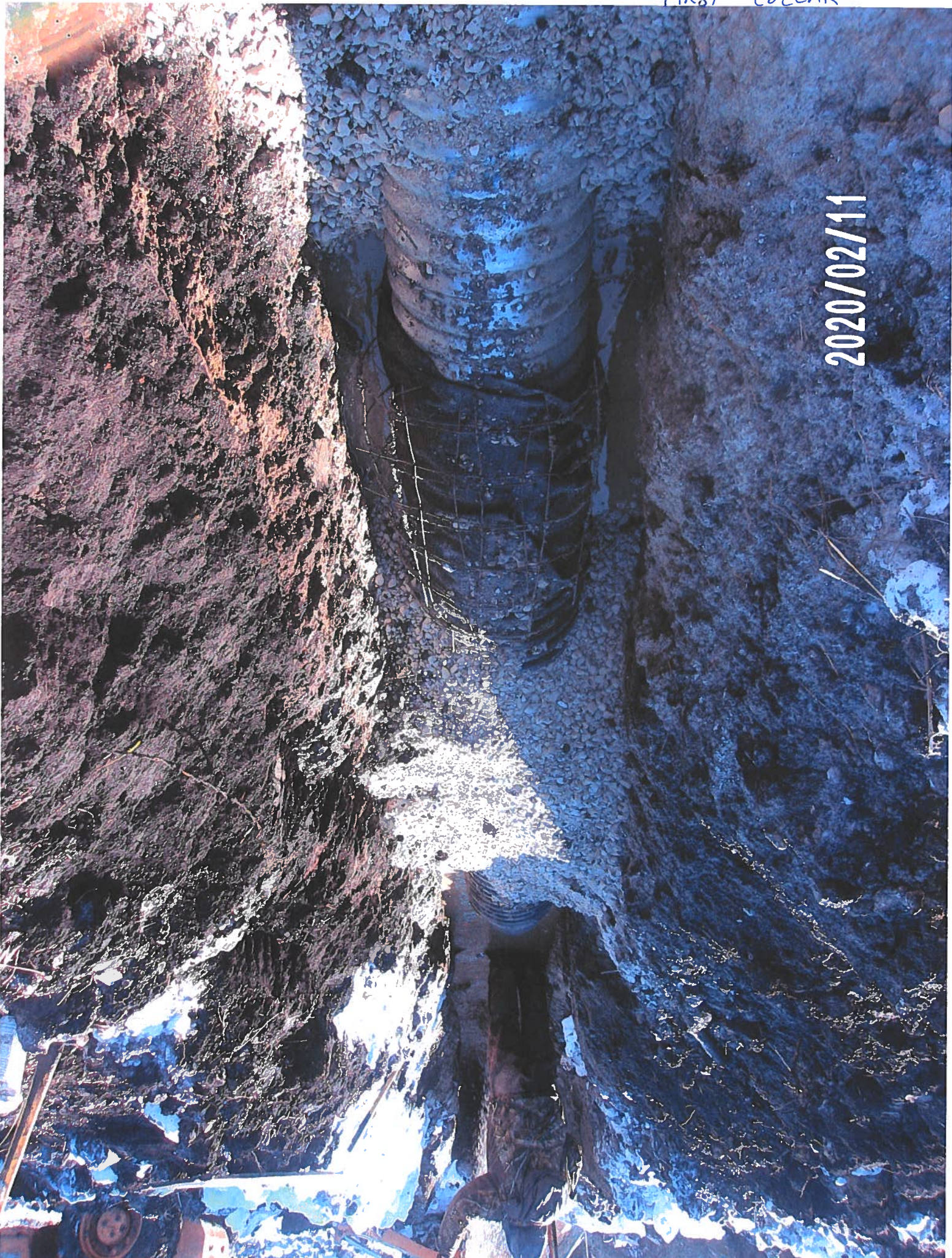
CMP IN PLACE

2020/02/11



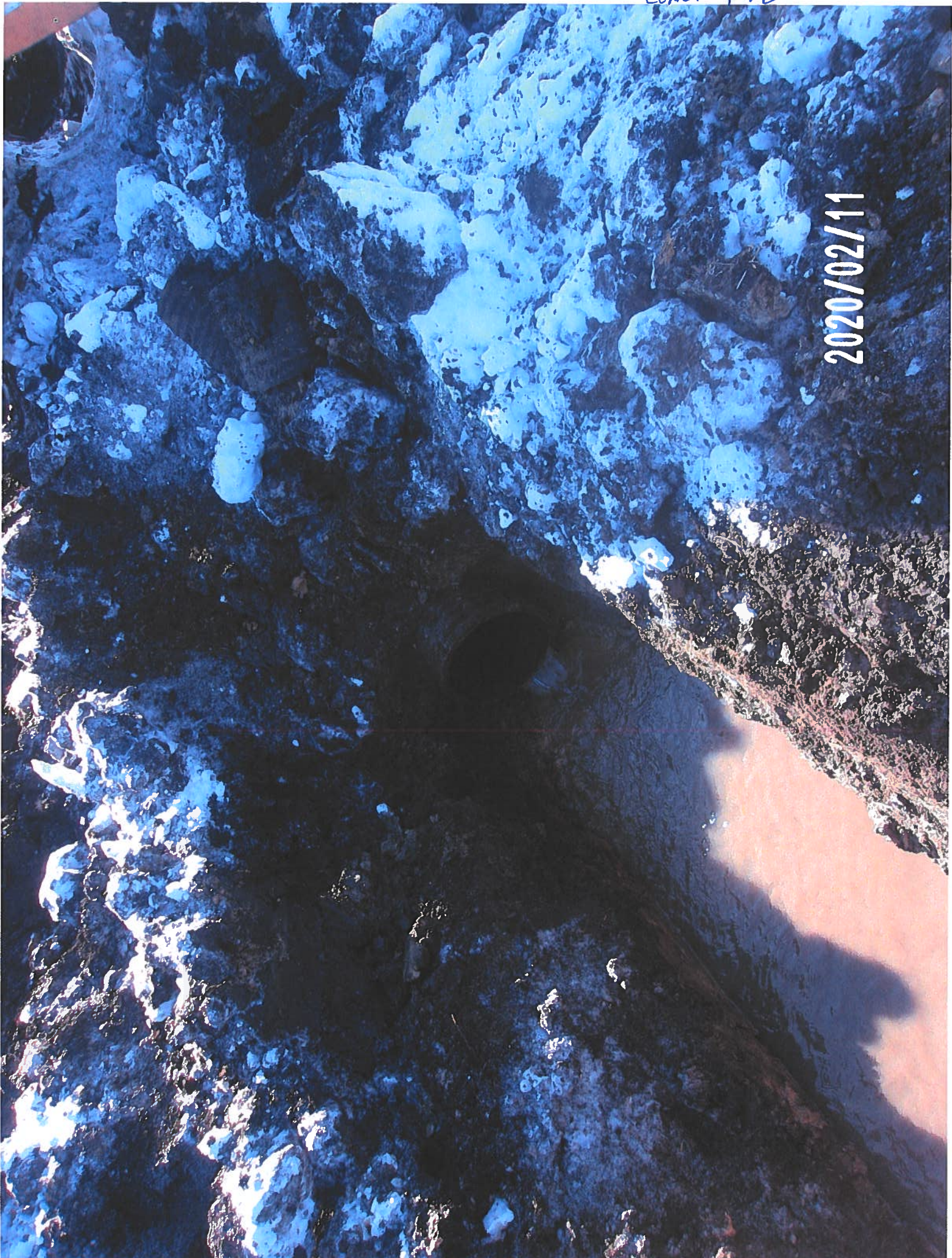
FIRST COLLAR

2020/02/11



CONC. PIPE

2020/02/11



PLACING COLLARS

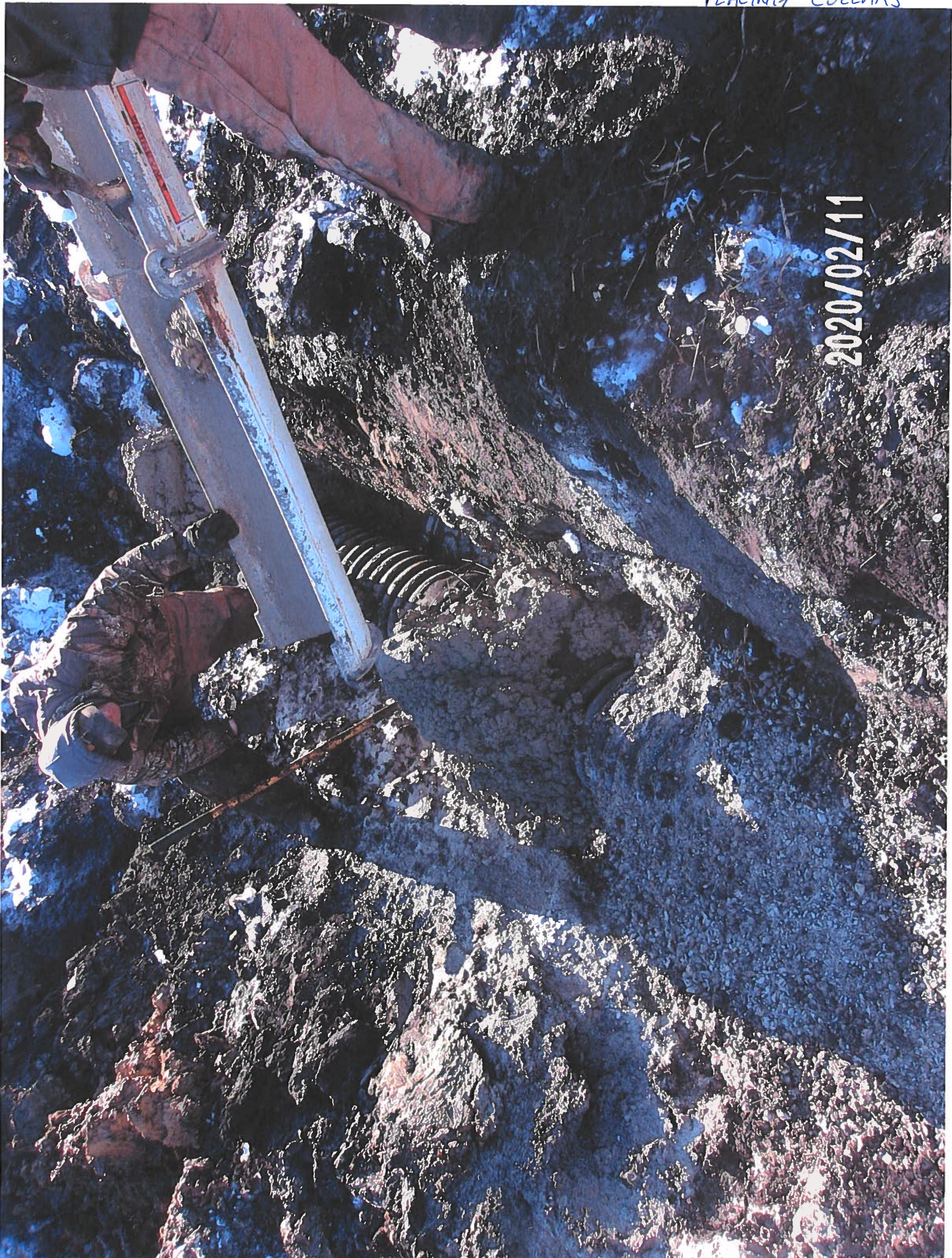
2020/02/11





PLACING COLLARS

2020/02/11



OUT LET



OUTLET

2020/02/11



1ST COLLAR

2020/02/11



CONC. @ HEADWALL

2020/02/11



STARTING TO BACKFILL



ACCOUNTING OFFICE  
 1710 EAST MAIN STREET  
 MARSHALLTOWN, IOWA 50158  
 PHONE: (641) 752-3696  
 FAX: (641) 752-8644



**CONCRETE INC.**

SOLD TO:

MCDOWELL & SONS CONTRACTORS

110TH ST  
 ACKLEY

TIME	FORMULA	LOAD SIZE	YARDS ORDERED	DRIVER/TRUCK	P.O. NUMBER	PLANT/TRANSACTION#
13:14:00	M40	1.50	1.50	FORTLING	61	08
DATE	LOAD #	YARDS DEL.	BATCH #	WATER TRIM	SLUMP	TICKET NUMBER
2/11/20	1	1.50	25602	0.00	4.00 in	25229

**WARNING**  
**IRRITATING TO THE SKIN AND EYES**  
 Contains Portland Cement. Wear Rubber Boots and Gloves. PROLONGED CONTACT MAY CAUSE BURNS. Avoid Contact With Eyes and Prolonged Contact With Skin. In Case of Contact With Skin or Eyes, Flush Thoroughly With Water. If Irritation Persists, Get Medical Attention. KEEP CHILDREN AWAY. See back for additional warning information.

CONCRETE is a PERISHABLE COMMODITY and BECOMES the PROPERTY of the PURCHASER UPON LEAVING the PLANT. ANY CHANGES OR CANCELLATION of ORIGINAL INSTRUCTIONS MUST be TELEPHONED to the OFFICE BEFORE LOADING STARTS.  
 The undersigned promises to pay all costs, including reasonable attorney's fees, incurred in collecting any sums owed.  
 All accounts not paid within 30 days of delivery will bear interest at the rate of 16% per annum.  
 Not Responsible for Reactive Aggregate or Color Quality. No Claim Allowed Unless Made at Time Material is Delivered.  
 A \$15.00 Service Charge and Loss of the Cash Discount will be Collected on all Returned Checks.  
 Excess Delay Time Charged at \$70.00/HR.

**PROPERTY DAMAGE RELEASE**  
 (TO BE SIGNED IF DELIVERY TO BE MADE INSIDE CURB LINE)  
 Dear Customer: The driver of this truck in presenting this RELEASE to you for your signature is of the opinion that the size and weight of his truck may possibly cause damage to the premises and/or adjacent property if he places the material in this load where you desired. It is our wish to help you in every way that we can, but in order to do this the driver is requesting that you sign this RELEASE relieving him and this supplier from any responsibility from any damage that may occur to the premises and/or adjacent property, buildings, sidewalks, drive-ways, curbs, etc., by the delivery of this material, and that you also agree to help him remove mud from the wheels of his vehicle so that he will not litter the public street. Further, as additional consideration, the undersigned agrees to indemnify and hold harmless the driver of this truck and this supplier for any and all damage to the premises and/or adjacent property which may be claimed by anyone to have arisen out of delivery of this order.  
 SIGNED  
 X

Excessive Water is Detrimental to Concrete Performance  
 H<sub>2</sub>O Added By Request/Authorized By  
 GAL X

WEIGHMASTER

NOTICE MY SIGNATURE BELOW INDICATES THAT I HAVE READ THE HEALTH WARNING NOTICE AND SUPPLIER WILL NOT BE RESPONSIBLE FOR ANY DAMAGE CAUSED WHEN DELIVERING INSIDE CURB LINE

LOAD RECEIVED BY:  
 X

QUANTITY	CODE	DESCRIPTION	UNIT PRICE	EXTENDED PRICE
1.50	yd	M40 4000WRC100RE		
1.00	EA	MINLOAD		
1.50	CY	TRUCKING		
1.50	CY	WINTERCH		

RETURNED TO PLANT	LEFT JOB	FINISH UNLOADING	DELAY EXPLANATION/CYLINDER TEST TAKEN	TIME ALLOWED
			1. JOB NOT READY 2. SLOW POUR OR PUMP 3. TRUCK AHEAD ON JOB 4. CONTRACTOR BROKE DOWN 5. ADDED WATER 6. TRUCK BROKE DOWN 7. ACCIDENT 8. CITATION 9. OTHER	
LEFT PLANT	ARRIVED JOB	START UNLOADING		TIME DUE
TOTAL ROUND TRIP	TOTAL AT JOB	UNLOADING TIME		DELAY TIME

ADDITIONAL CHARGE 1 \_\_\_\_\_  
 ADDITIONAL CHARGE 2 \_\_\_\_\_  
**GRAND TOTAL** ▶▶

1,10000.000,10000.000,1000.000,cpt ir 12  
2,10000.000,10000.000,1000.000,Autonomous Setup  
3,12876.789,12900.677,950.475,top 15 cmp  
4,12875.863,12897.696,952.805,top pcc block weir  
5,12858.673,12891.415,950.537,top 15 cmp 15 hdpe joint  
6,12832.979,12877.248,950.843,top 15 hdpe joint collar  
7,12826.370,12873.515,951.255,top 15 hdpe 14 conc joint collar  
8,4878.165,7272.171,1058.917,gps mon 8072  
9,4710.024,23269.728,951.698,gps mon 7002  
10,20207.545,23197.344,929.412,gps mon 7001  
11,20161.513,9938.421,982.822,gps mon 8073

the ~~notepad~~ notepad  
app I use doesn't  
have that functionality,  
If you'd like, I can  
switch apps to begin  
doing this. Ones you've seen  
are coming from field  
guys using something else,  
- No  $\Rightarrow$  It's ok as is

Thanks for  
the explanation.