

AGENDA
REGULAR DRAINAGE MEETING
Wednesday, February 26, 2020 9:30 AM

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

Documents:

[02_19_20 - DRAINAGE MINUTES.PDF](#)
[02_19_20 - DRAINAGE MEETING W PRIVATE TRUSTEES.PDF](#)

4. DD 9 - WO 229 - Discuss W Possible Action - Set Date For Bid Letting

Documents:

[DD 9 - WO 229 1 PLAN SET - 4. 6735..PDF](#)
[DD 9 - WO 229 SPECIFICATIONS BOOK 1 OF 2 - 1. 6735.1.PDF](#)
[DD 9 - WO 229 GENERAL SPECIFICATIONS BOOK 2 OF 2 - 2. 6735.1.PDF](#)
[DD 9 - WO 229 - BID FORM 3. 6735.1.PDF](#)
[6735.1 -DD 9 MAIN TILE ENGRS REPORT.PDF](#)
[6735.1 -DD 9 MAIN TILE SUPP ENGRS REPORT.PDF](#)

5. DD 55-3 - WO 201 - Discuss W Possible Action - Notice To RR Of Damaged Box Culvert

Documents:

[DD 55-3 NOTICE TO RAILROAD, DAMAGED BOX CULVERT.DOCX](#)

6. DD 158 - WO 285 - Discuss W Possible Action

DD 158 - WO 285 - Clint Miller reports ground intake on W side of road has silted in w debris and intake is boiling out, water is flowing overland to culvert, goes under road, and continues overland once it is on E side of road. Clint thinks intake may need cleaned out and standpipe installed.

Documents:

[DD 158 WO 285.PDF](#)
[DD 158 - WO 285 MAP.PNG](#)

7. DD 165 - Discuss W Possible Action - Canvass Date For DD 165 Special Election
8. Discuss W Possible Action -Wind Turbine Ordinance And Drainage Utility Permit Language & Process
9. Other Business
10. Adjourn Meeting

REGULAR DRAINAGE MEETING
February 19, 2020 9:30 AM

2/19/2020 - Minutes

1. Open Meeting

Hardin County Drainage District Chairperson, Lance Granzow opened the meeting. Also present were Trustee BJ Hoffman; Trustee Renee McClellan; Lee Gallentine of Clapsaddle-Garber Associates; Landowner Curt Groen; and Drainage Clerk, Denise Smith.

2. Approve Agenda

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

3. Approve Minutes

Motion by McClellan to approve the minutes to Regular Drainage Meeting dated 02-12-20 and DD 34 Landowners Meeting dated 02-12-20. Second by Hoffman. All ayes. Motion carried.

4. DD 9 - Discuss W/ Possible Action - ROW Easement

DD -9 - A signed copy of the DD 9 ROW easement has been returned from the landowners, the Sailors.

Motion to direct Trustee Lance Granzow to sign said easement in front of the notary, Angela Silvey at the conclusion of today's meeting. Second by McClellan. All ayes. Motion carried.

Upon signing the easement, it will be filed in the Recorder's Office. It was discussed that there will be a bid letting needed for this project to move forward. It was discussed that the project may need to have televising and or mandrel testing and this should be an alternate on the bid. The Trustees would like to give the contractor time enough to complete the project and possibly do a two stage bid - with a price for getting it done sooner and a price for getting it done later, and recognize they hate to have the field sitting for another year. This will be added to next week's agenda to set a date and time for bid letting.

5. DD 25 - Discuss W Possible Action - Crop Damage Claim Update

DD 25 - It was discussed that payment would be made for areas in which work was actually done by contractors, not in additional areas that were flooded out. Motion by Hoffman to approve crop damages in the amount of \$353.49 to Jason Marten for DD 25 on WO 209 & WO 001. Second by McClellan. All ayes. Motion carried.

6. DD 55-3 - WO 201 - Discuss W Possible Action

DD 55-3 WO 201 - This project that goes under the tracks had been televised, but found the tile plugged on both east and west sides, with dirt, debris and tree roots. Last week it was discussed that we need to request permission to jet clean the tile. Gallentine had reread the file and we do have a permission letter, granting permission to jet until June of this year to do that, we would need to meet all the railroad's requirements to have flaggers, insurance, and all that is needed. Smith wanted to make sure the letter we send out was not asking permission if we already had it, but that we are notifying the RR that we are ready to jet clean. Gallentine asked if the Trustees were willing to meet the RR's requirements, all were in agreement that they are prepared to meet those requirements. Gallentine will get the jet cleaning and requirements organized.

Gallentine noted that the RR would still need notification of the damaged box culvert.

7. DD 56 - WO 3 - Discuss W Possible Action - Reclassification Report

DD 56- WO 3 - Reclassification report is complete, the report splits the district into two districts if the current project moves forward. This is ready for a hearing date to be set. Gallentine stated the Engineer's Report is complete and was at the original hearing that triggered the reclassification. It was discussed that the Public Hearing for the Reclassification Report will be held, with the Public Hearing on the repairs put forth in the Engineer's Report to immediately follow, so that the reclassification can be discussed, a then the repairs can be discussed with landowners there for both hearings.

Motion by Hoffman to hold the Public Hearing on the DD 56 Reclassification Report on Wednesday April 1, 2020 at 10:00 AM in the large conference room at the Courthouse. Second by McClellan. All ayes. Motion carried.

Motion by Hoffman to hold the Public Hearing on the DD 56 Engineer's Report on Wednesday April 1, 2020 at 10:15 AM, immediately following the Reclassification Report Hearing, on Wednesday April 1, 2020 at 10:15 AM. Second by McClellan. All ayes. Motion carried.

8. DD 25 WO1 - Discuss W/ Possible Action, Update On RR Crossing

DD 25 WO 1- Smith updated the Trustees that attorney Mike Richards sent out notice to the railroad on Tuesday, February 18, 2020 that construction on this project will commence.

Gallentine reached out to McDowell to let them know that we have the RR permit and to see when they can begin construction. McDowell would like to work on the project in July and would like a completion date extension to October 31, 2020. The Trustees, have not typically been granting long extensions, it was noted that the Contractors have been given shorter extension times and if a contractor needs more time they can ask. Gallentine stated before it goes into a change order, he wanted to make the Trustees aware of the situation. Granzow stated it is difficult, because McDowell is working with a jack and bore company. Granzow stated we should take it month by month as long as McDowell is working on it. Gallentine noted that McDowell is working on two projects, and hoped to have the DD 1 project done by the first of April. Current completion date is April 1, 2020, Gallentine stated he will let McDowell know that if he needs an extension he will need to make the request.

It was noted that McDowell had already received an extension from the original completion date of December 31, 2019, and the change to up-size the tile and subsequent delay by the Railroad were delays not caused by McDowell. It was recognized that was a difficult spot for the contractor.

9. Other Business

10. Adjourn Meeting

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

DRAINAGE MEETING WITH PRIVATE DRAINAGE TRUSTEES
Wednesday, February 19, 2020 12:30 PM

2/19/2020 - Minutes

1. Open Meeting

Hardin County Drainage District Chairperson, Lance Granzow opened the meeting. Also present were Trustee BJ Hoffman; Trustee Renee McClellan; Private Trustees George Ioger, Westhenry Ioger, Harold Roske, Harold Muller, Steve Marten, Jeff Roberts, Leonard Penning, John Kix, Russell Smith, Art Hensing; Landowners, Adam Seward, Craig Froning, Kay Froning, Curt Groen; Brad King, Vice President, Midwest Development of RWE Renewables; Josh Odom, Senior Development Manager, RWE Renewables; Bette Dossman, RWE Renewables; Tom Miller, Westwood Professional Services; Mark Buschkamp, Iowa Falls Economic Development Director; Darrell Meyer, County Attorney; Lee Gallentine, Clapsaddle-Garber Associates; James Sweeney, Clapsaddle-Garber Associates; and Drainage Clerk Denise Smith.

2. Approve Agenda

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

3. Introductions/Attendance

Introductions were made and attendance was verified.

4. Discuss W Possible Action -Wind Turbine Ordinance And Drainage Utility Permit Language & Process

Granzow introduced that we have had a Utility Permit Application, and some of the things that we are discussing changing on these Permits, with the windmills proposing, we have asked for a moratorium on new windmill construction, so that we can take the time to review these permits and have an updated permit and process in place. A lot of the reasons we are updating the policy is to protect our drainage facilities. We have invited you all in today to discuss these policies for the whole county not just where the new windmills are being proposed.

Gallentine stated that the drainage permit policy was put in place a few years ago. There is a code section of Iowa Drainage Law that states if a utility crosses a drainage district they need to get an easement. So as an extension of that, Hardin County came up with this permit process. The way the permit process is supposed to work is that when the construction is occurring, the Utility would contact the Drainage District or their representative, which is typically CGA. CGA would come out, observe as the Utility contractor uncovers the drainage district tile, while they are crossing it, the Utility is required to cross underneath district tile, and then CGA would document that and that they had not impacted the tile and that they maintain the clearance level. CGA then reports that back to the district Trustees. The Utility is also typically required to install a sign there, sometimes that isn't feasible if it is in the road ditch bottom, etc. So that is typically how the Drainage Utility Permit Process typically happens, and that has had varying degrees of success. Some local utilities, like Heart of Iowa are very good and do their own work, some other utilities contract the work out, and it gets sub-contracted out multiple times, and by the time they get to the job the contractor doesn't have a clue he is supposed to call/notify anyone and may not even have a clue what drainage tile is. Gallentine assumes a wind turbine would fall under the same Utility Permit process scenario.

Granzow stated that usually when we grant a Utility permit, it is in the road right of way, with wind turbines, the work would not be in the right of way. Granzow went on that the Private Trustees are Trustees of their own districts, and the wind turbine companies should be coming to the Private Trustees as well for permitting. Granzow stated we have been looking at changing the Utility Permit process, for wind turbines to tunnel under our drainage tile may not be feasible in all cases as we have tile buried 12' to 14' deep. One of the concerns, was that if the WEC transmission lines go over the top of tile, it should not cost the drainage districts any more for added costs. Gallentine stated the under the current process, the utility company is supposed to pay for the engineer's oversight costs, not the drainage district. That has met some resistance with some utilities who state we are careful, just trust us, some companies are better to work with and recognize that as a cost of doing business, however accidents do happen sometimes, and sometimes people are not aware of what tile is, there are some good installations out there too.

Granzow stated we want to make sure that the process goes smoothly and we do not interrupt drainage to our landowners, so that is why we called everyone in, to review our policies, to see if you have suggestions, or if you want to follow the same policy we use. Hoffman stated the public education of the people in the drainage districts are paramount to making this process work. When Hoffman had been contacted as a Supervisor about drainage, the knowledge level is all over the spectrum. When explaining how the percent of benefit works, and how what one landowner pays compared to another landowner may be different, and explaining how the percent of benefit works, people may be unaware how and why they pay different amounts for a project. For people outside of

drainage districts, that have never had an assessment, that may become quite a point of contention. Hoffman stated his family owns property in a district but has only had one assessment in 30 years, and were unaware that drainage districts were a thing. Hoffman wants to make sure that although we can't protect people from themselves, we want to make sure that as Private Trustees, you have the information you need to answer questions and provide your landowners the best information possible. It was noted by Hoffman, that our absentee landowners and their tenants need to be kept well aware of what is going on. Hoffman continued that we should be happy we still have some local control and governance to utilize that control, and it is important for all the private Trustees as leaders, to gather as much information as they can, to make educated and informed decisions.

It was asked by George Joger, if each drainage district could write their own permit or were they required to use the one used by the county. Gallentine noted that Code states the utility is just required to get an easement from the district. It was discussed that the Private Trustee districts could take the county's permit and modify it to their liking and use that. Smith stated no alterations have been made to the current Drainage Utility Permit yet, that we were seeking Private Trustee input before doing so. Granzow stated the permit needs revision, as it may not fit each situation as it is currently written. Gallentine stated the big issue is that a lot of contractors and subcontractors view this as, the contractor will plow in their utility and if water pops up the contractor will come back and fix it. Gallentine stated we should just avoid damaging the tile to start with, drainage was here first and the new utilities can put their lines in around it.

County Attorney Darrell Meyer stated that if each district wanted to adopt this permit as their policy, they could just file something with the Drainage Clerk that states we have adopted this document as our policy. Meyer noted that it is great that the WEC's promised to fix any issues, but the Private Trustees should view themselves as landlords and that there will be a tenant on that land for 30 years, do you want some damage deposit money upfront or do you want to chase them at the end of the lease, Meyer stated he believes it is better risk management to have a sufficient deposit upfront that the WEC's must maintain so that you have to fix the problem upfront that you identify, then if it is disputed, the WEC's are just arguing if they will get their money back rather than worrying if there was enough money there to fix it to begin with. Smith stated that if the Trustees choose to make this or any document their policies, the Private Trustees just need to write up their meeting minutes, with signatures for all 3 Trustees, stating that they have chosen this as their policy so it can be added to the District's records. It was asked if this needed to be an official meeting with all landowners present. Smith stated it could just be a meeting with a quorum of their Trustees for that district.

It was asked if neighboring counties have a similar policy. Hoffman stated he spoke with Grundy County Supervisor Barb Smith this past week, and Supervisor Smith asked Hoffman to keep an open mind on the WEC's. Hoffman stated that what Supervisor Smith failed to realize was that Grundy County is unique compared to Hardin County in that Grundy County has 1 drainage district, no state parks, no greenbelt, and fewer conservation areas. Supervisor Smith agreed we have different variables and Grundy County's policy may not meet the needs of Hardin County, everything we do here is unique to Hardin County. Gallentine spoke to Franklin County, in which they just finished a wind turbine project by Latimer. The Franklin County Supervisors, acting as Trustees, had a separate agreement with the WEC that anytime a transmission line crossed a district facility, which is mostly tile in that area, they had CGA on site, the contractor had to expose the tile and CGA had to verify the transmission line was buried underneath the tile. Gallentine went on to say the 2 largest cranes used on the project would cross that tile line with a crane walk, CGA had to be on-site to watch that area during the crane walk. The contractor would put out mats that are 12" to 18" thick, when the crane is pulled up onto the mat, they can compress flush with the ground, and when the crane comes back off it, the mat comes right back up out of the ground. That Franklin County Attorney recommit the utility pay the costs of observation, however they did not have the utility pay CGA directly, but instead they recommend CGA submits their bills directly to the county so it is clear that CGA is working for the County and the drainage constituents, so CGA is not receiving compensation directly from the utility company. Gallentine stated when that crane mat goes down 12" to 18", he can't tell you what gave way underneath, whether if it is dirt or tile. It was asked if we currently have language for observation for heavy equipment traversing over the top of tile lines in our permit. Granzow stated we did not, that language would have to be added to the permit.

Granzow suggested we have tile televised before WEC construction and again after WEC construction, so that we can determine if damage was done during WEC work or if it was already broken, this would remove all doubt of when the damage occurred. Gallentine stated that Franklin County had a second WEC project near Bradford, while there are fewer districts near Bradford, and now, ten years later, they are still finding issues that need fixed because they did not have anyone in the field during construction as a District representative. It was noted that the issues being discussed are just with district tile and does not include any possible impacts or regulations on private tile.

The moratorium was discussed, it was asked if Madison County had a ban on new WEC's. Hoffman stated that his colleague, Phill Clifton, Madison County Supervisor, stated they did not have an ordinance at all, and if WEC's got a conditional use permit they could build new wind turbines. So Madison County placed a moratorium on new

construction, and Clifton voted no because it was an indefinite moratorium. It was thought that if the moratorium was indefinite, the WEC's would just go away. Clifton hoped to develop a 6 month moratorium while they developed an ordinance, so instead of taking all county board's and committee's inputs, they have just halted all new development. Jessica Sheridan, stated they are working on developing a new ordinance in Madison County.

It was asked how much interest there was in the county for new turbine construction, Hoffman stated we need to keep the meeting cordial, and that we can have an open dialogue with the developers that are here today. It was asked if each district could have it's own moratorium. Gallentine stated the each district has its own Trustees that are in charge of it, so it is up to those Trustees to grant that permit request or not. If those Trustees are the Supervisors, they can put a moratorium on everything as Supervisors, but they have no authority as Trustees in a Private district, they have authority as Supervisors, but not the Drainage Trustees. Granzow asked that if an individual district says that if they don't want a wind turbine, they can not approve any permits. Gallentine stated that there can be windmills, but the Trustees have the authority to not allow the WEC's to cross their tile lines, if they can put up a turbine where they never cross your tile, the WEC's can still do that, the Trustees only have authority over the tile or the open ditch, and noted he was not an attorney.

Westhenry loger asked is Private Trustees have the right to not issue the permit. Gallentine stated yes but all that is stopping is their right to cross the tile line, and recommended if a Trustee is thinking of doing that, they should consult with an attorney first. Jessica Sheridan, stated that you should make sure your objections are based on drainage and not personal feelings. James Sweeney stated that with the new ordinance, there is a review by the Board of Adjustment, Jessica Sheridan stated that any applicant for a new turbine has to get approval from each of the Boards and Commissions on the list before they can even submit a conditional use application to the County. One of those groups on the list are the Drainage Trustees and also the Drainage Clerk, because the clerk needs to ensure the project is not going through a drainage ditch. It was noted that by default, the Supervisors are the Drainage District Trustees for all districts within Hardin County. If landowners wish to have control of their district, the majority of landowners can petition for Private Trustee management, and that the Private Trustees present today, represent districts, that sometime in their 100 year old history, have voted to do.

Brad King, Vice President of Midwest Development, of RWE Renewables, along with Josh Odom, Senior Development Manager of RWE Renewables introduced themselves, and stated they were here to answer any questions and concerns the group might have. They have been working on the project here in Hardin County for the last two years. Kings stated they have seen a lot of support but as part of the normal development process there is a lot of questions or concerns relative to drainage. King states their private agreements address that, and there is about a page of language that states that if we break it, we fix. As part of a best practices plan, they usually look to put together a drainage agreement, with counties or private landowners, very similar to what the Hardin County application spells out, with the appropriate language that spells out their obligations as part of that construction insight and process. It was asked if any of their lines would be plowed in. King stated that no they were not, it was all installed with an open trench, either a 16" or 18" open trench. Typically, during the collection line installation, anytime they identify a tile location, they stop, mark it, take a picture and GPS the location, then the repair crews come in, and then the tile line gets repaired as those lines go in. Any damage gets repaired with a rigid structure prior to that ditch being filled back in.

It was asked how much of an issue will the RWE fix, for example, drainage issues that don't show up right away may include a break in pattern tile, which could become silted in, how much of the tile would actually be repaired. King replied some companies will put a sunset on repairs in their agreements, but RWE will have maps that show where their collection lines went, that also includes crane walks, but they commit to repairs for life of the project. If it is damage that they did, that results in loss of production or loss of yield, they would address that and fix it. Granzow asked if they break a tile and flood out 160 acres, would they pay those damages, and King stated they would. Gallentine asked if they would be open to boring under district tile, because going over private tile may be ok, especially smaller tile, but he did not think that RWE would want to open cut over a 36" flowing concrete tile, because their trench would fill in so quick. King stated if it were district tile, RWE would come to the county and ask where all of their district tile is, and try to design their collection around that so as to avoid it as much as possible. Beyond that King stated they would bore under those larger tile lines. Gallentine stated in Franklin County the contractor was given a digitized copy of their 100 year old drainage maps, and said at this coordinate, there should be a tile, despite the location being on top of a hill. Those contractors were from Georgia and had no experience with drainage tile, to know to look at the bottom of the hill rather than the top of the hill. Eventually they would find it, but of all the crossings in Franklin County the turbine company only hit two tile, due to last minute changes. Gallentine stated if the contractor takes the effort on the front end, it can be a nice process.

King stated they have built lots of projects in the midwest, they have one in Indiana and several in Illinois, and they are well versed in working around tile, so they should be able to figure out the language and technical specification to identify any concerns that folks might have. Gallentine stated that Franklin County's project did try to utilize ground penetrating radar to locate tile lines, with very little success, it did not produce much good data. King stated they would like the landowner and their own tile person to be present when they do the work, to ensure that if a tile

is damaged, it is repaired to the landowners satisfaction. King went on that they do a lot of consultation ahead of time so they have a construction schedule that tells them where they will be on any given day, and reach out to those landowners, and then they map and GPS all the tile locations that are then provided to landowners post construction. Josh Odom, stated they usually give landowners three options for tile repair, RWE's contractor can repair it, the landowner can fix it on their own, and RWE will reimburse them for their equipment and materials to do that, or if there is a local tile installer and they can do the repair and RWE will pay the bills.

Gallentine stated that the landowners know their fields better than anyone, and their information and knowledge is invaluable to any contractor doing work in their field. Granzow stated he is aware that when working on tile and RWE has an easement, but if there are additional engineering costs for Districts to work around wind turbine installations, when Districts do a new project those additional costs should not be passed on to our district landowners, those additional costs should be paid by RWE. Gallentine stated that with erosion on an existing tile, and we do a repair that requires the new tile to be laid deeper, and if the wind turbine's cables or the tile need to be moved because of our deepening, who bears that cost. King stated if there are an additional cost to landowners because of their facilities, that is something that RWE would look to reimburse for.

Granzow stated that we are asking, because we have seen increased costs for engineering due to our issues with the railroads, and we hope to not pass those costs on to landowners. King stated we have had to reroute turbine lines if there is a specific facility that is in the way, and they try to avoid district tile as much as is possible. Granzow expressed concern that landowners that have not signed up for an easement with RWE, should not bear additional costs because their neighbors have agreed to a turbine easement. King noted that if they break it they fix it, so that they restore those drainage characteristics, so that if we break it your property, we fix it so the neighbor next door is not having an adverse effect. It was asked how deep the turbine lines are buried, King states they bury to 4' of overhead cover, and have gone down to 5' of overhead cover based on county regulations.

The were questions about RWE's development plan in Hardin County. King stated right now there are no expansion plans in Hardin County, and that they have been working on a project in Hardin County. The ordinance and permitting process is separate than some of the other agreements that go into a project development. These projects are usually permitted with a conditional or special use permit which then has conditions to prior to building permit receipt, and those include your road use agreements which dictate repairs and improvement, drainage district agreements, decommissioning agreements. Those are all things RWE will look at and enter into with a county, to make sure that it spells it out to RWE what their protections are and it spells out to the County and landowners what RWE's commitment is to them. Odom shared that RWE is independent of any previous turbine projects in the county, they currently have over 21,000 acres leased with landowners in the area, which cover 121 individual leases in the project area, and that they worked with the landowners to assuage their concerns over tile damage. Any damage that RWE causes, they will fix over the lifetime of this project, because sometimes tile issues don't pop up right away. If it does pop up years later, and RWE knows it was caused by them, they will come back and fix it. King stated there is a lot of scary misinformation out there, and he thanked the group for allowing RWE to be there and answer their concerns.

King went on that RWE has lots of projects in the midwest they have worked with and wanted to ensure that the group was informed and comfortable with RWE obligations, technical specifications and financial assurances to make sure that they are well informed as they craft this permit. McClellan asked about RWE's company having changed hands over time, and what impact that may have on their easement agreements and obligations, should the company change ownership or have a bankruptcy in the future. King stated there was a merger between Eon and RWE Renewables, and that does not change any of their obligations in their existing agreements. Landowners asked what happens to those obligations if this company is sold off two or three times in the future. King assured that historically they have been a developer and owner operator of projects and state hypothetically if a project were sold, the buyer would be contractually obligated to all of their existing contracts. One of the questions folks most often have go back to decommissioning, if RWE were no longer here, 15 to 20 years from now, what would happen to the project. All of the contracts have clauses in them that carry over to any assignees or buyers, and that contract would go along with that sale. There is a decommissioning plan and post decommissioning assurance that says if something were to happen to RWE there would be economic funds set aside to decommission the project. Jessica Sheridan stated there is language in our ordinance to cover that possibility. McClellan wanted to ensure if there were bankruptcy or foreclosure that the decommissioning were still covered. King replied yes.

Sheridan asked about a local RWE contact who can make decisions about drainage issues, she stated that there was a landowner who has a friend in western Iowa with drainage problems as a result of wind turbine installation that struggled to make contact with the turbine company to get it repaired, and the local contact in Omaha had no actual authority to get the drainage issue approved for repair. Smith stated that the landowner who reports a drainage issue may not be the landowner with the signed easement with RWE and may not have access to any contact information for someone at RWE. King stated that each project will have a local maintenance and operations building, with maintenance and operations staff. Those offices are open during regular business hours,

and they do have a 24/7 dispatch center number that can be reached in an emergency, there will be an on-site construction manager whose information can be provided as well that a broken tile line could be reported to during construction. Once construction is complete and it goes into operation, there will also be an on-site site supervisor that issues can be reported to as well. It was asked if our ordinance currently states that those contact numbers need to be provided. Sheridan stated it is not now but will be added to the ordinance.

It was asked what townships will be involved in the current project under development. Odom stated it will be in Alden, Buckeye, Sherman and Tipton townships. It was asked if this would be an expansion of the Radcliffe site. Odom stated no, this will be construction of new turbines. McClellan asked if they know now how many turbines will be built. Odom stated they do not have an exact number right now but they anticipate between 66 and 100 units depending on the size of the actual turbine. It will be up to a 200 megawatt project. It was asked where the closest transmission line will be. Odom stated it is north of Iowa Falls and goes into Franklin County. George Ioger inquired as to the timeliness of damage payments, and stated he has neighbors that are 2 years plus spent trying to get their damage payments from another turbine company. King stated he was not sure if it was specifically spelled out but their damage payment is within 45 days of confirmation of damage reported, they will do calculation on acres, crop prices, and within 45 days of verification payment will be made. Odom stated they have already paid one damage claim arising from trucks installing the meteorological tower, leaving ruts in a just planted field, and they waited till the crop came up and determined the landowner lost 1/4 of an acre of corn. Odom said the process took about 3 weeks until the time the landowner reached out about the damage in the field and the time the check was cut.

It was asked by Sweeney if there was a fund established by the new ordinance, that would be used for damages, and though it was \$50,000, and once a claim was filed and the fund depleted it would be replenished by the turbine company. King stated that RWE company policy stated that there is money to be held to be paid to the recipient of any damage. Sheridan stated for that each WEC application that includes an area with a public drainage system, the applicant shall provide and maintain a security deposit in the amount of \$50,000 to be held by Hardin County and to be used by Hardin County to make repairs during the productive life of the WEC. King states if there is damage that done by RWE that they don't fix themselves, and there is loss or damage due to that there is a separate fund to pay those damages. Sweeney states it is worth noting that there is difference between the RWE company policy, this is airtight or well written and up to the farmer and Trustees that the agreement they entered into themselves is well written but that the company still has to adhere to this county ordinance.

McClellan asks if there is a disagreement as to who caused the damage, who bears the burden of proof on whether RWE caused the damages or not. King stated that there is some dispute resolution language in their easements/contracts that specifies a third party dispute resolution process. McClellan asked if a drainage complaint is made with RWE, how long does it take them to come out and investigate if it was their problem or not. King stated usually a matter of days, since they have on-site staff, it was noted that when they are trenching in tile, any damage is photographed and GPS location noted, and a map will be provided to the landowner, so that they can look at it together later and figure out the drainage issue. In King's experience, he has not seen a drainage issue not be resolved and have to go to dispute resolution. McClellan asked if RWE would provide those GPS locations of damage on district tile to the county for our records. King stated they would. It was discussed who a mediator would be, and it was discussed that perhaps the Drainage Utility permit would be the best place to include dispute resolution language and who would pay for that. Landowners suggested perhaps the losing side has to pay for the winning sides attorney fees, because that makes things more reasonable before a lawsuit gets started.

It was asked what type of cabling was buried by RWE. Odom stated the turbines underground cabling consists of bundles of triplex (3 wires), above that is communications cable and fiber-optic cable and above that is warning tape, so if there is ever excavation in the area you would hit that warning tape before impacting any other cables.

Smith stated that we had received many questions in phone calls from landowners about decommissioning of wind turbines, and asked if King could address what that process looks like for a landowner that may not be the one with the turbine site, but may be his neighbor, so that the neighbors may understand that process as they don't see the company's easements and contracts to have that information. King stated decommissioning was way in the future and a common question. When they start a project they do a decommission analysis and a decommissioning plan that basically says here are our specifications, and we will remove everything down to 5' below ground surface and as part of the plan, there is a third party engineer that says what is the price of decommissioning and salvage. RWE will look at that delta and then put into place financial assurances based on that, and then they revisit that every 5 years to see if decommissioning has gotten more expensive, have materials gotten cheaper or more expensive to make sure the appropriate amount of money is in place to do the decommissioning. The plan itself will spell out what needs to be decommissioned, typically they don't recommend decommissioning deeper than where their cable is buried, because that would force them to cut all the tile again to get it out. So typically if we bury to 5' depth, we would decommission down to that 4' depth, and remove everything down to that depth, whether it is 4' or 5', typically the cable stays in the ground. King states RWE would remove the majority of the

foundation to that depth. Access roads can be kept by the farmer if they choose, if the farmer does not want to keep the access roads, it can be removed by RWE. Odom stated will remove access roads unless requested by the owner, some owners find they like the access roads to use to load out crops.

It was asked if the new ordinance has decommissioning language in it, Sheridan stated it has 130% of decommissioning costs. King stated that if they go in too deep for removal it causes double damage due to heavy equipment. It was asked how deep are the foundations. Odom state the typical foundation is 60' across by 16' deep depending on ground conditions, it is a large spreadfoot foundation, reinforced with rebar. The round pedestal base you see above ground is about 3' tall, the entire base contains about 35 tons of rebar and 300 to 400 cubic yards of concrete. There were questions about what is the deepest reasonable depth of removal, as some of the concerns we heard from farmers were that the removal needs to be as deep as possible. King replied that removal depth on most projects in the country are 4' and the last project they did in Illinois was 5' removal depth. RWE was the first signatories of a state level agricultural impact agreement with the Illinois Department of Agriculture and that specified 5' removal depth. Gallentine asked how deep their cable was, King replied their cable was 5' deep and they removed to just 5' of overhead cover, and the cable trench is 6' deep, so the cable remained in the bottom of the trench. Sheridan asked if we specified a 6' depth, would they bury cable to 6' depth. King replied that every foot we go deeper, adds significant costs. Granzow asked if we are decommissioning if we could have a different depth for the pedestal removal than the cable removal. King stated what has historically driven the pedestal removal, is how much do you need to remove to make that ground tenable again. Sheridan asked if King agreed that the land where the pedestal lies would no longer be tenable. King stated there would be a yield difference but you could still plant on it, Gallentine stated it would be much like demoing an acreage, you can still plant on it but there may always be a yield difference.

Sweeney asked if a pedestal base was made shorter or taller based on county ordinances. King replied that pedestal would be gone, and it would depend on costs and code requirements on how much further they would remove foundation. King stated that with their negotiations with Illinois Department of Agriculture, they felt that the 5' depth they specified would be reasonable, and RWE was one of the first companies to sign on with that depth, and now it is the standard within the state. King stated the pedestal would remain the same height based on engineering designs, and then they would just remove additional foundation material to meet the 5' depth of removal. Sheridan asked if in their agreements with landowners, does RWE only remove the above ground 3' of the pedestal and the landowner removes the further amounts or is RWE responsible to remove all material to that 4' or 5' depth. Odom stated that their contracts obligate them to remove to the 4' depth, and everyone who has signed on with us are comfortable with that. King says their lease says 4' , and if he county decides it should be 5' they will not go back to the landowner and say well our lease only goes to 4', they would do 5' removal consistently across the project.

King stated one of the things RWE would ask is what requirements they will have going forward, and they would like this to be as consistent as possible. They would like the county drainage requirements be consistent county wide. McClellan stated we need to look out for our future farming generations, is 4' enough of a removal depth when considering erosion and what kind of farm equipment will we have by then. King stated generational considerations are why we do what we do, looking at climate change, and environmental benefits and also the economic benefits that wind turbines can provide to a community to allow family farming to continue, those concerns are spot on.

Granzow asked about concerns about vibrations the turbines put off with clay tiles. King stated they continuously consult with US Fish and Wildlife and DNR for environmental impacts. Granzow stated he is specifically concerned with 100 year old clay drainage tiles, if these turbines are vibrating, what is keeping those vibrations from damaging clay tile, shortening the life of the tile and collapsing it. King stated that he has not seen any correlations between vibrations and damage to tile.

Granzow asked if there was any specific language in our ordinance that the private Trustees would like to see accepted in their ordinance. Westhenry loger addressed the Supervisors acting as Drainage Trustees, and fellow Trustees, to remind them to talk to the farmers in their districts, to keep listening to them, and it is appreciated. Westhenry loger went on to thank the RWE representatives for being here, but stated they will not come here and tell us that this is a bad idea, they are trying to sell this project to the farmers. loger asked the Trustees to talk to some of the other farmers who have been tied up for 2 years with WEC's trying to get their tile/crop damage reimbursement money out of them, and encouraged the Trustees to see what problems those farmers have had, so that we can put that in our agreement, to try and avoid those problems in the future. We do not want to go the route that a lot of our neighbors have with these problems. loger continued that another big concern he has is WEC going into bankruptcy, he says that they can put repair money in escrow accounts and if RWE goes bankrupt that money may be gone, and who would pay your damages then, and the big expense of getting a turbine out of your field. He would like to see stricter regulations in place now, to ensure farmers can get access to repair money in the event of a RWE bankruptcy. Drainage law is very complicated and he has a concern that anytime there is an issue with these large corporations, you would need to get a lawyer involved, and we are little guys compared to

these large corporations, you can win but legal costs are high, and it may not be worth it. Loger, would like the WEC's to pay their fair share of legal costs in any lawsuit related to drainage, especially if the WEC is determined to be at fault.

Granzow asked how many districts RWE is proposing to go through. Granzow stated it is a common cause for a small district, that small district may only have 5 landowners, and there is no way they could absorb those high legal costs, they would not be able to contend if there is a disagreement. Granzow pointed out that RWE would not be talking just to the Supervisors as Trustees, but to every district in the county, of which there are over 200 in this county, and to those private Trustees as well. King stated it was an understandable concern, and asked they they not all be lumped together as wind developers. There are good wind developers, and they have seen some projects that have not been developed as responsibly as they should have, but RWE is here and will continue to be here, and are committed to working with you. Westhenry Loger stated, he appreciates that King is willing to work with them but in 5 years it will most likely be someone else in King's place, and who knows what your company will look like in 10 to 20 years. King states that the language you feel comfortable with will protect you throughout the life of your contract.

Adam Seward stated he is suspicious of the harmonics caused by the vibrations with the relationship to clay tile, and he states that while RWE does not see the relationship, Seward asked if there is any other way besides televising that we could go in and get an idea of what tile looks like before turbine construction to create a baseline record before damage occurs. Gallentine stated the questions with harmonics is the same as with any cause of tile failure, you can do televising and there is a laser scanning technique that you can do that will create a 3D model of the tile interior. This would allow you to actually measure any tile deflection over time, compared to a previous scan. However the cost of this laser scanning would be about 20 times the cost of televising a tile, beyond that Gallentine is not aware of any other options to record tile conditions. Seward is concerned with added vibrations of wind turbines, along with heavy equipment may be too much for old clay tiles, and there may need to be better verbage in the permitting process, and this could end up with very costly repairs to districts.

One landowner brought up concerns about wildlife impact, he stated he found a woman parked on a turbine access road in his field, and he asked her what she was doing, she replied she was looking for dead bats under the turbine. King stated from a security standpoint, they typically don't gate their access roads, but if a landowner would like them gated they can do that. King stated one of the common questions they get is about bird and bat mortality. King stated RWE does extensive preconstruction avian analysis to determine if there are conditions in this area, that will in create a negative impact to local bird and bat species. To confirm their findings they go back post construction, once a turbine is operating, they will go back and reanalyze to see if what they thought is accurate and make sure they are not having an adverse effect. King stated that statistically, cars, cats and tall buildings kill more birds than wind turbines. Odom stated we are doing avian surveys right now, they have employed biologists to go out with binoculars to go out and observe and record wild bird species counts and build that database of what is in the area. McClellan stated we have Conservation areas that have bird watching facilities and that is a tourism draw for Hardin County.

Granzow stated we will put a drainage application package together and we will hand it out to each of the Private Trustees, so that they can review it , approve it or adopt as they see fit for their districts. We just want to make sure that our concerns for protecting district tile facilities are ensured. Gallentine stated the Franklin County project involved only Supervisor controlled districts, there were no private districts involved, and that is how the Supervisors, acting as Drainage Trustees, were able to sign all of the wind turbine permit applications as they were in charge of all the districts.

Sheridan stated if anyone has comments or concerns as to what they would like in the utility permit application, they have time to get those into the Drainage Clerk, as the Ordinance will have reference to the permit, but they have time to put together and edit the permit. Smith stated if you have comments or concerns, you can email those to the Drainage Clerk and she will share them with the Supervisors, and those can be included in the revision of the permit.

Landowner Steve Marten, stated if repair costs due to turbine constructions were ever assessed to landowners, it should be respective of who has those wind turbines on their property and who does not. Gallentine stated that current Iowa Drainage Code states that anything done in a district has to be assessed based on the current assessment schedule, which is based off of drainage benefits, there is a little room in there is benefits are based off of preventing erosion, but it is all drainage and water related. Marten states if someone is going to be assessed for repairs on a project, and they receive financial benefits from those wind turbines, they should have to pay their fair share. Granzow stated as part of the permitting, those costs caused by the WEC's should be paid by the WEC's. Marten stated the process should be in place to prevent those costs being passed on to the landowner from happening. One of the landowners expressed concerns about the WEC's working in too wet ground conditions, and doing additional damage to tile or fields, and that there should be some language in place to allow the landowner some protections. King stated there are weather days built into the contracts with landowners to

make sure they are not constructing when they should not be. Gallentine stated in Franklin County, there were a lot of crane walks that were postponed due to wet conditions.

Granzow asked if all the parcels in the project were being leased or purchased. King stated they are all leased with the exception of ground purchased for a collector substation where the ground lines come in and the ground for the switch yard interconnect has been deeded to the utility, otherwise there have been no purchases. Seward asked if there were maps available as to where they will locate or would like to locate. Odom stated we are done with land acquisition at this time, so they will work with landowners going forward on how sites will be connected. Seward asked if RWE had a copy of a landowner lease they could share. Odom stated he did not have one with him. Smith asked where would the local operations center for this project be located. Odom stated it would be centrally located and that location is to be determined, and it is usually with our collector substation, which is also a purchased parcel. It was asked if the leases are recorded at the Courthouse, Odom replied there is a memorandum at the Courthouse.

It was mentioned there was another separate meeting with RWE and the Board of Adjustment to follow this one, and anyone that wishes to attend may do so.

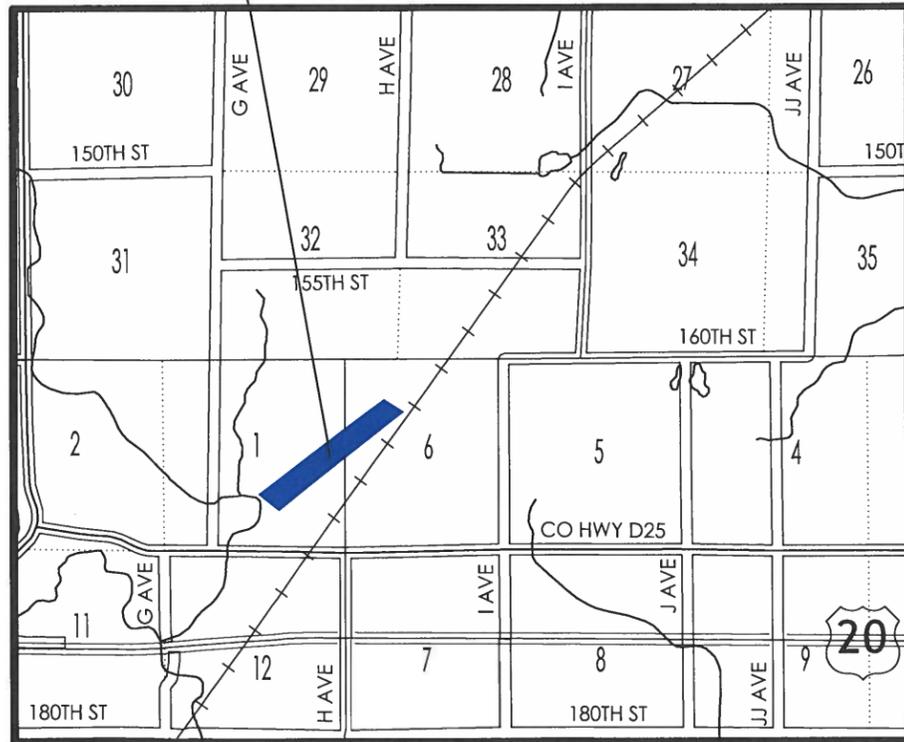
5. Other Business

6. Adjourn Meeting

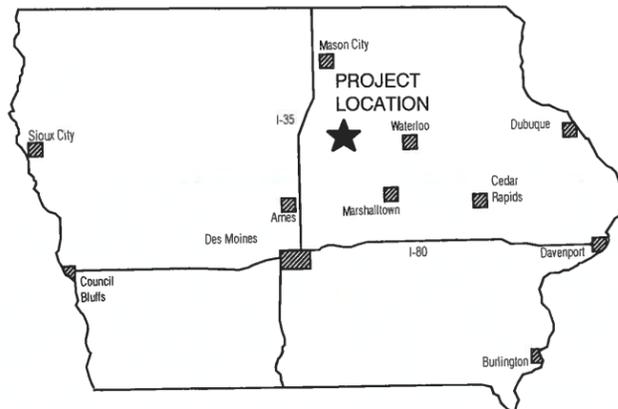
Motion by Hoffman to adjourn, second by Granzow. All ayes. Motion carried.

UPPER MAIN TILE DIVERSION DRAINAGE DISTRICT NO. 9 HARDIN COUNTY, IOWA 2020

PROJECT
LOCATION



VICINITY MAP
NOT TO SCALE



LOCATION MAP

INDEX OF SHEETS

| SHEET | DESCRIPTION |
|-------|----------------------------------|
| 1 | COVER SHEET |
| 2 | LEGEND, NOTES, AND ABBREVIATIONS |
| 3 | PLAN AND PROFILE |
| 4 | DETAILS |



NOTES:

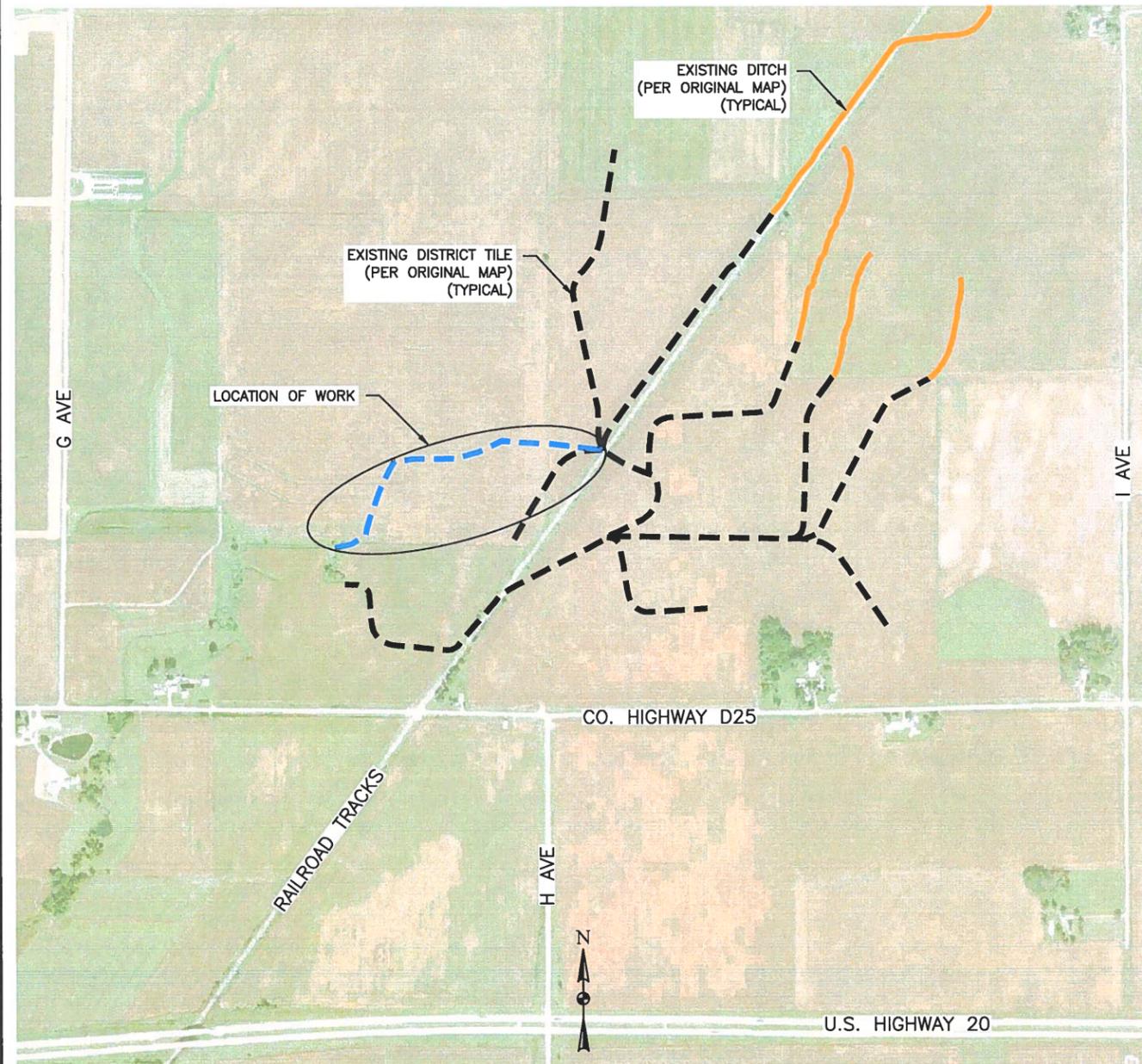
1. THE PLANS & SPECIFICATIONS PREPARED BY CGA SHALL GOVERN. ALL WORK SHALL COMPLY WITH THE DETAILS & SPECIFICATIONS REFERENCED.
2. CONTRACTOR SHALL CONTACT IOWA ONE-CALL TO OBTAIN UTILITY LOCATES PRIOR TO STARTING CONSTRUCTION.
3. ATTENTION IS DIRECTED TO THE FACT THAT THESE PLANS MAY HAVE BEEN REDUCED OR INCREASED IN SIZE BY REPRODUCTION. THIS MUST BE CONSIDERED WHEN OBTAINING SCALED DATA.
4. ALL ELEVATIONS SHOWN ON THESE PLANS ARE BASED ON 2019 SURVEY.



Clapsaddle-Garber Associates, Inc

Toll Free (800) 542-7981
www.cgaconsultants.com

| | |
|---|--|
| | <p>I hereby certify that this engineering document was prepared by me or under my direct personal supervision and that I am a duly licensed Professional Engineer under the laws of the State of Iowa.</p> <p style="text-align: right;"><i>Lee O. Gallentine</i> PE Feb 13, 2020</p> <p>Signature _____ Date _____ Lee O. Gallentine, PE Iowa License Number 15745 My license renewal date is December 31, 2020</p> |
| <p>Pages or sheets covered by this seal: <u>AS SHOWN ON INDEX</u></p> | |



VISUAL INDEX
NOT TO SCALE

BENCHMARKS:

HARDIN COUNTY GPS MONUMENT NO. 8016
2019 SURVEY ELEVATION = 1169.72'

HARDIN COUNTY GPS MONUMENT NO. 8024
2019 SURVEY ELEVATION = 1181.52'

15"Ø VCP EXISTING MAIN TILE OUTLET FLOWLINE
2019 SURVEY ELEVATION = 1127.85'

PIPE MATERIAL ABBREVIATIONS

| | | |
|------|---|-------------------------------------|
| ACP | — | ASPHALT COATED PIPE |
| AWWA | — | AMERICAN WATER WORKS ASSOCIATION |
| CMLC | — | CEMENT MORTAR LINED AND COATED |
| CMP | — | CORRUGATED METAL PIPE |
| DIP | — | DUCTILE IRON PIPE |
| ELL | — | ELLIPTICAL |
| HDPE | — | HIGH DENSITY POLYETHYLENE |
| PPL | — | POLYPROPYLENE PIPE |
| PVC | — | POLYVINYL CHLORIDE |
| RCP | — | REINFORCED CONCRETE PIPE |
| RCEC | — | REINFORCED CONCRETE ELLIPTICAL PIPE |
| VCP | — | VITRIFIED CLAY PIPE |

NOTES:

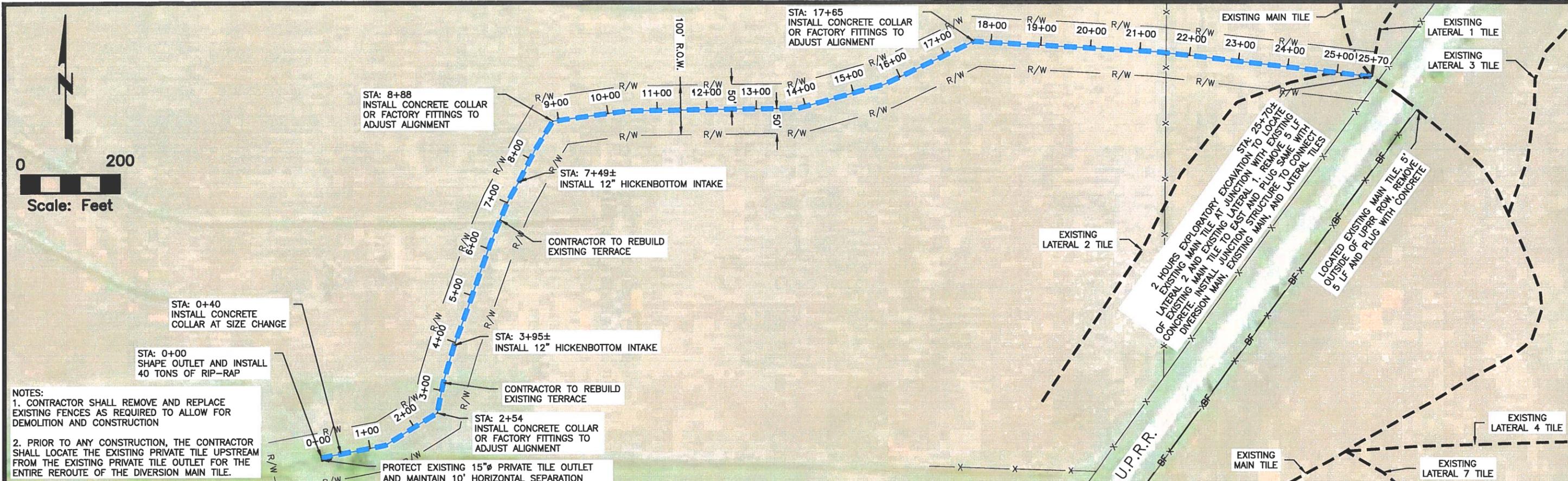
1. ALL PIPE LENGTHS SHOWN ARE THROUGH ALL STRUCTURES. HOWEVER, CONTRACTOR SHALL BE PAID ONLY FOR ACTUAL PIPE LENGTH INSTALLED IN COMPLETED SYSTEM.
2. CONTRACTOR SHALL PROTECT ALL TREES (INCLUDING LIMBS) SHOWN IN THE PROJECT PLANS UNLESS NOTED OTHERWISE. ALL TREES SHALL BE PROTECTED FROM DAMAGE TO TRUNKS, BRANCHES AND ROOTS. NO EXCAVATING, FILLING, GRADING, HAUL ROUTES OR MATERIAL STORAGE SHALL BE WITHIN THE DRIP LINE OF THE TREE(S) UNLESS OTHERWISE INDICATED. IF REQUIRED, CONTRACTOR SHALL PROVIDE BRANCH AND ROOT PRUNING REQUIRED FOR THE MEANS AND METHODS PROPOSED FOR THE NEW WORK BY A REGISTERED ARBORIST IN ADVANCE OF CONSTRUCTION. COST SHALL BE INCLUDED IN THE ASSOCIATED NEW WORK ITEM.
3. SOME UTILITIES ARE PLOTTED ON THESE PLANS. THERE MAY BE OTHER, THE EXISTENCE OF WHICH MAY BE KNOWN OR UNKNOWN. THE CONTRACTOR SHALL USE THE CONSTRUCTION PLANS IN CONJUNCTION WITH THE IOWA ONE-CALL SERVICE FOR THE ENTIRE PROJECT PRIOR TO STARTING ANY CONSTRUCTION TO ALLOW REVIEW FOR POSSIBLE UTILITY CONFLICTS. CONTRACTOR SHALL CONTACT ONE-CALL TO OBTAIN UTILITY LOCATES PRIOR TO STARTING CONSTRUCTION. WHERE PROPOSED CONSTRUCTION SHALL CROSS EXISTING UTILITIES, SERVICE, AND TILE LINES, CONTRACTOR SHALL LOCATE AND EXPOSE SAID UTILITIES, SERVICE, AND TILE LINES AT LEAST 24 HOURS PRIOR TO CONSTRUCTION TO ALLOW REVIEW FOR POSSIBLE UTILITY CONFLICTS.
4. ATTENTION IS DIRECTED TO THE FACT THAT THESE PLANS MAY HAVE BEEN REDUCED OR INCREASED IN SIZE BY REPRODUCTION. THIS MUST BE CONSIDERED WHEN OBTAINING SCALED DATA.

ABBREVIATIONS

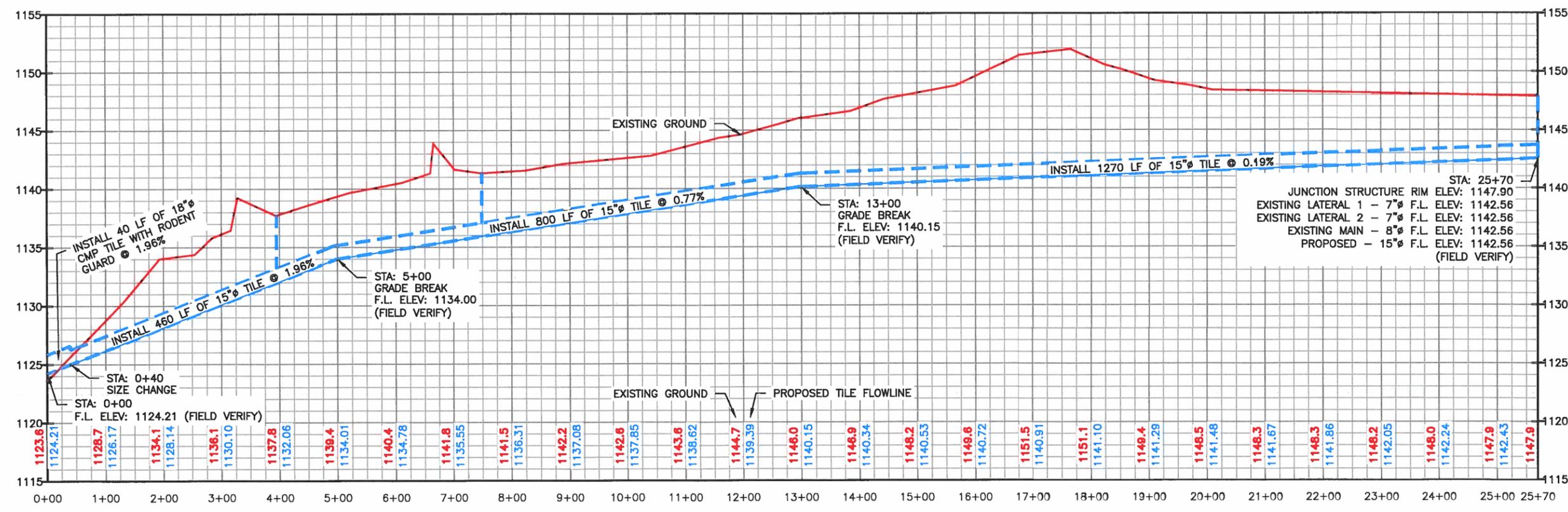
| | | |
|-------|---|--|
| ADAAG | — | AMERICAN DISABILITIES ACT ACCESSIBILITY GUIDELINES |
| BM | — | BENCHMARK |
| BOC | — | BACK OF CURB |
| CDS | — | CUL DE SAC |
| CL | — | CENTERLINE |
| EG | — | EXISTING GROUND |
| EP | — | EDGE OF PAVEMENT |
| FG | — | FORM GRADE |
| FL | — | FLOW LINE |
| HP | — | HIGH POINT |
| INV | — | INVERT |
| LP | — | LOW POINT |
| MAX | — | MAXIMUM |
| MIN | — | MINIMUM |
| MUTCD | — | MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES |
| PC | — | POINT OF CURVATURE |
| PCC | — | PORTLAND CEMENT CONCRETE |
| PRC | — | POINT OF REVERSE CURVATURE |
| PT | — | POINT OF TANGENCY |
| R/W | — | RIGHT OF WAY |
| TOC | — | TOP OF CONCRETE |
| TYP | — | TYPICAL |

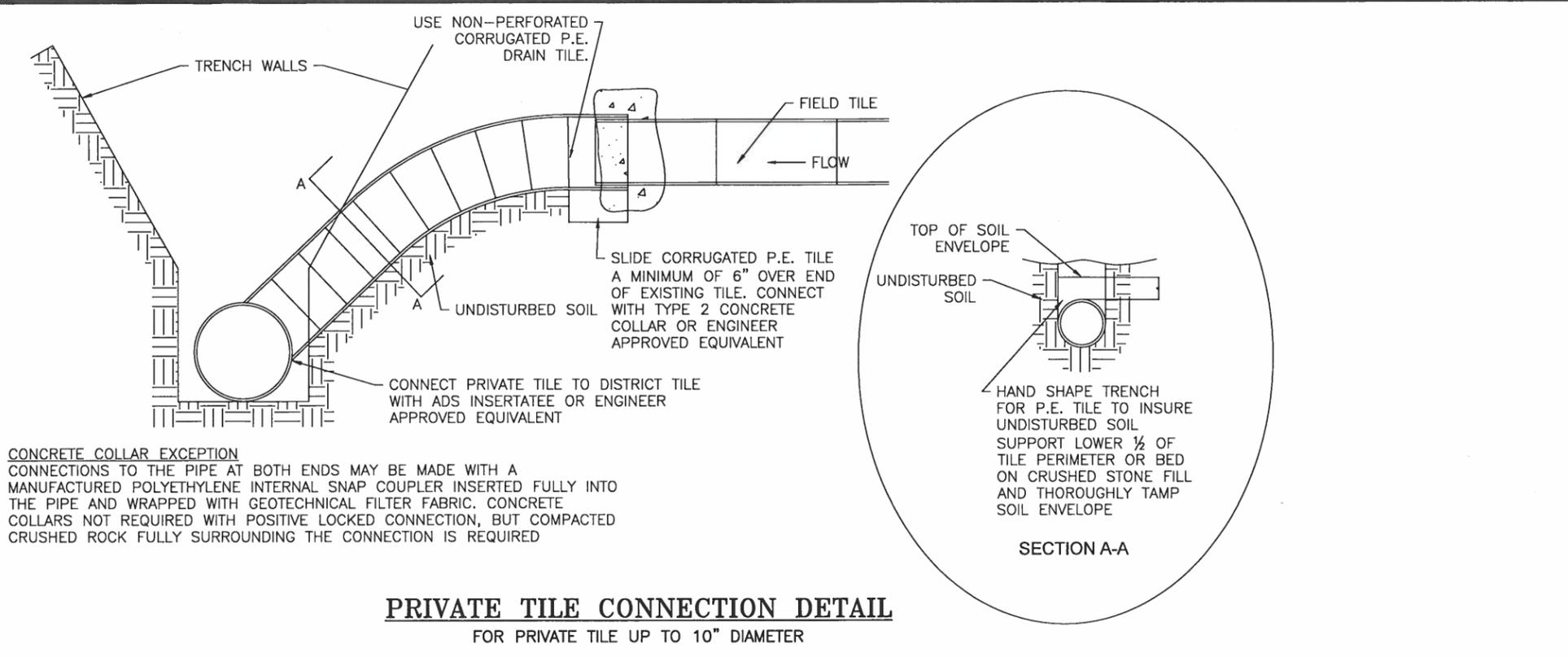
PLAN SHEET LEGEND

| EXISTING | PROPOSED | |
|----------|----------|---|
| | | — Street Sign Post |
| | | — Sign Post |
| | | — Ornamental Bush |
| | | — Deciduous Tree |
| | | — Coniferous Tree |
| | | — Guy Anchor |
| | | — Power Pole, w/Trans, w/Light, w/Trans & Light |
| | | — Telephone Pedestal |
| | | — Telephone Service |
| | | — Electric Pedestal |
| | | — Electric Panel |
| | | — Light Pole |
| | | — Gas Valve |
| | | — Gas Meter |
| | | — Fire Hydrant |
| | | — Water Valve |
| | | — Water Shut-Off |
| | | — Sanitary Sewer Manhole |
| | | — Storm Sewer/Tile Intake |
| | | — Buried Fiber Optic Line |
| | | — Overhead Electric Line |
| | | — Fence Line |
| | | — Gas Line |
| | | — Water Main |
| | | — Water Main Service Line |
| | | — Sanitary Sewer Line |
| | | — Sanitary Sewer Service Line |
| | | — Storm Sewer/Tile Line |
| | | — Future Storm Sewer Line |
| | | — Tile Removal |
| | | — Tile Abandoned |
| | | — Structure/Intake Removal |
| | | — Property Line |
| | | — Right-Of-Way Line |
| | | — Contour Line |
| | | — Baseline/Centerline |
| | | — Sawcut Line |
| | | — Proposed Concrete Surface |
| | | — Existing Concrete Surface/Removal |
| | | — Proposed Gravel Surface |
| | | — Gravel Surface/Removal |
| | | — Proposed ACC Pavement |
| | | — Existing ACC Pavement/Removal |
| | | — Existing Surface Milling/Overlay |
| | | — Existing Brick/Stamped Concrete |

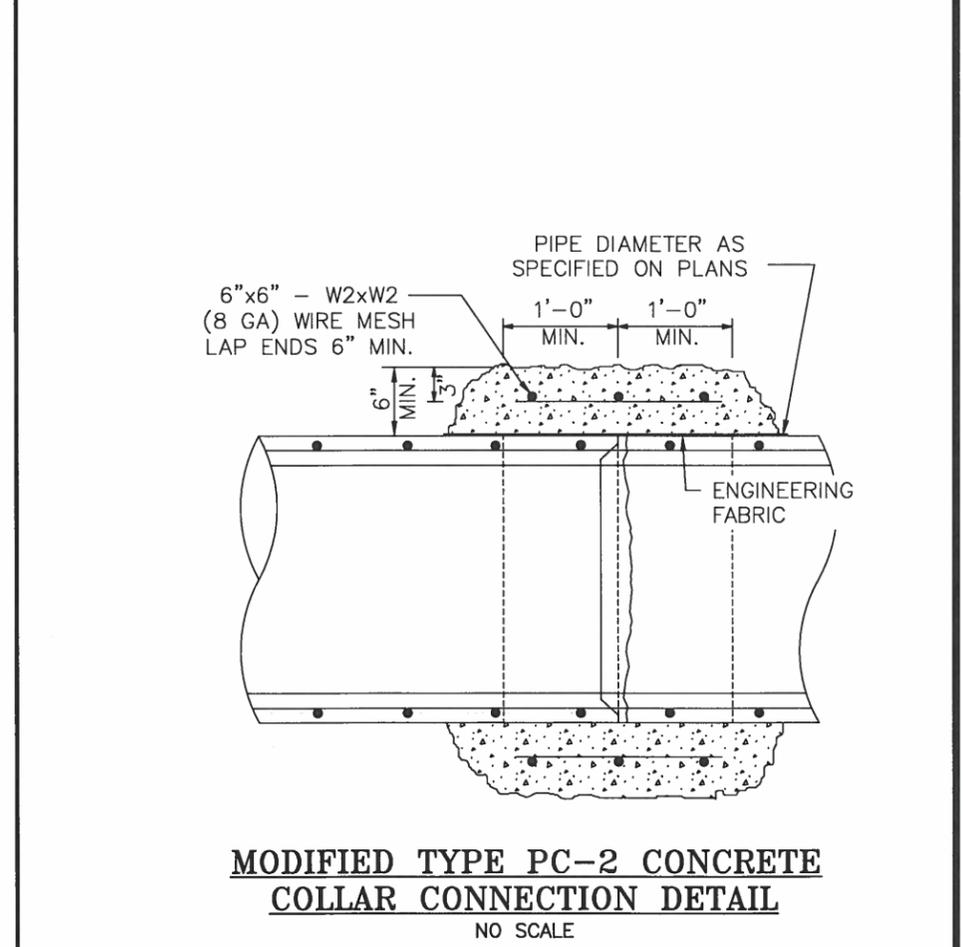
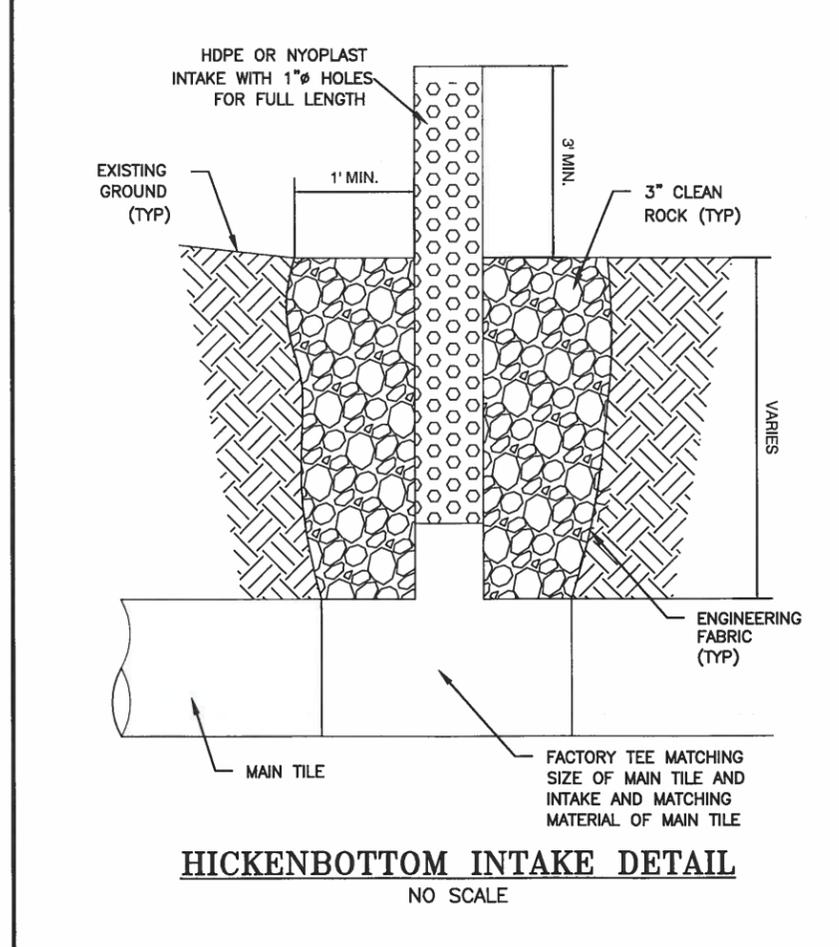
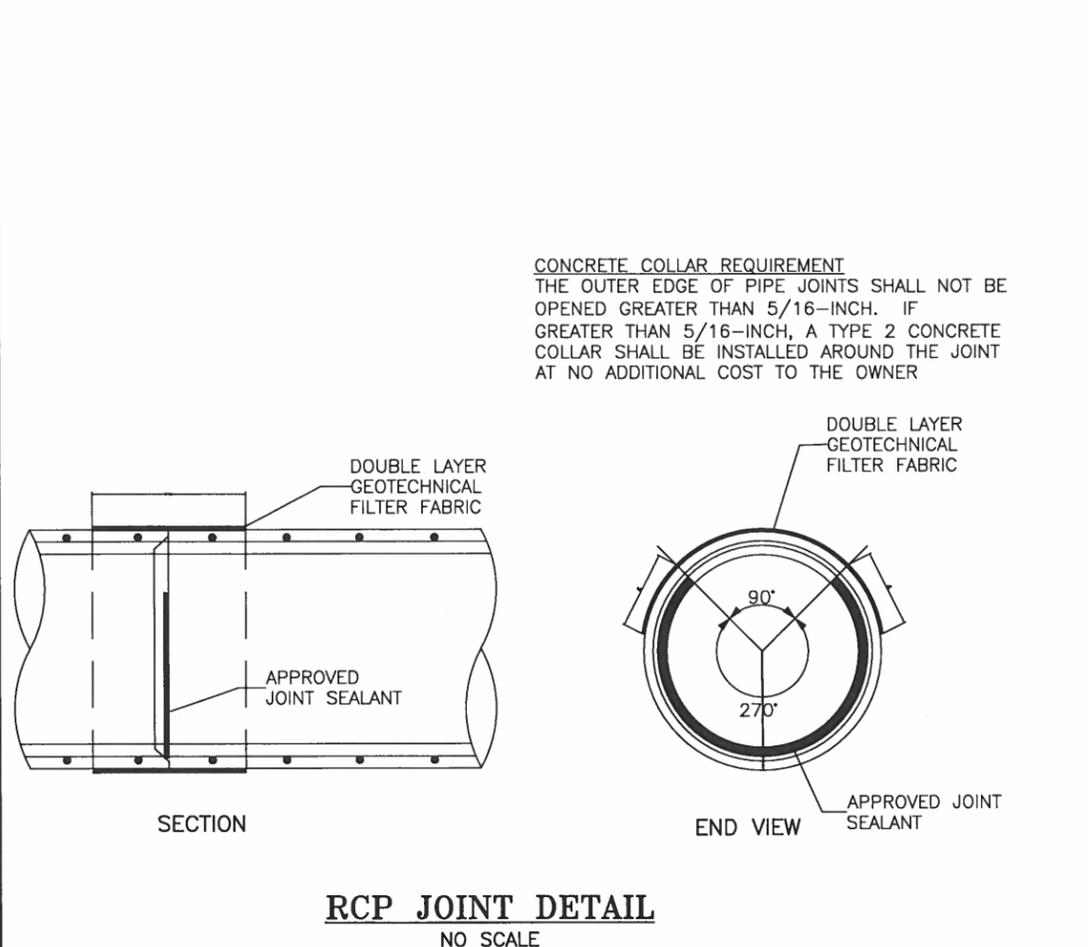
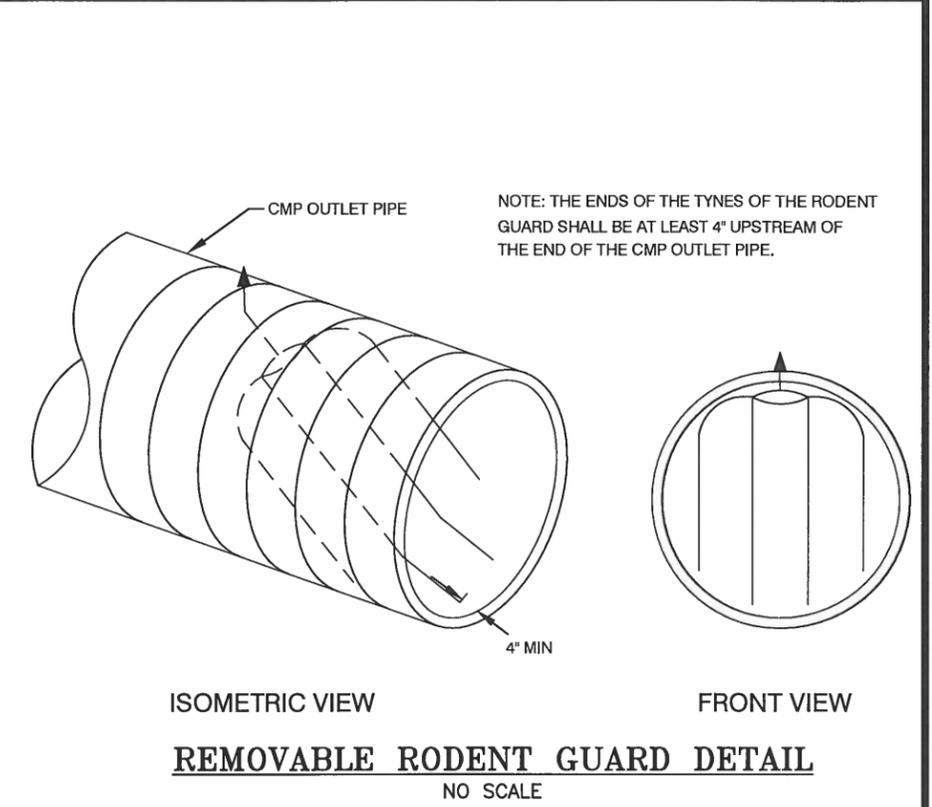


NOTES:
 1. CONTRACTOR SHALL REMOVE AND REPLACE EXISTING FENCES AS REQUIRED TO ALLOW FOR DEMOLITION AND CONSTRUCTION
 2. PRIOR TO ANY CONSTRUCTION, THE CONTRACTOR SHALL LOCATE THE EXISTING PRIVATE TILE UPSTREAM FROM THE EXISTING PRIVATE TILE OUTLET FOR THE ENTIRE REROUTE OF THE DIVERSION MAIN TILE.





PRIVATE TILE CONNECTION DETAIL
FOR PRIVATE TILE UP TO 10" DIAMETER



DRAWN BY: ZJS
DATE: 07-22-2019
FIELD BY:

APPROVED BY: LOG
PROJ. NO.: 6735.1



Clapsaddle-Garber Associates, Inc
Main Office: 16 East Main Street
Marshalltown, Iowa 50158
Ph 641-752-6701
www.cgaconsultants.com

ADDRESS:
739 PARK AVENUE
ACKLEY, IOWA 50601
PH 641-847-3273 FAX 641-847-2303

PROJECT:
DRAINAGE DISTRICT #9
HARDIN COUNTY, IOWA 2019

SHT. NAME:
DETAIL

SHT. NO.:
4 OF 4

GENERAL SPECIFICATIONS AND PROJECT FORMS

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| Transmittal of Shop Drawings, Equipment Data, Material Samples or Manufacturer's Certificates of Compliance | 1 thru 2 |

(BOOK 2 OF 2)



CLAPSADDLE-GARBER ASSOCIATES OFFICE LOCATIONS

16 East Main Street, PO Box 754 | Marshalltown, IA 50158
1523 S. Bell Avenue, Suite 101 | Ames, IA 50010
5106 Nordic Drive | Cedar Falls, IA 50613
739 Park Avenue | Ackley, IA 50601
511 Bank Street | Webster City, IA 50595

Project Office
739 Park Avenue
Ackley, IA. 50601
Phone: 641-847-3273
Fax: 641-847-2303

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STANDARD GENERAL CONDITIONS OF THE CONSTRUCTION CONTRACT

Prepared by

ENGINEERS JOINT CONTRACT DOCUMENTS COMMITTEE

and

Issued and Published Jointly by



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CONSTRUCTION SPECIFICATIONS INSTITUTE

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1420 King Street, Alexandria, VA 22314-2794
(703) 684-2882
www.nspe.org

American Council of Engineering Companies
1015 15th Street N.W., Washington, DC 20005
(202) 347-7474
www.acec.org

American Society of Civil Engineers
1801 Alexander Bell Drive, Reston, VA 20191-4400
(800) 548-2723
www.asce.org

Associated General Contractors of America
2300 Wilson Boulevard, Suite 400, Arlington, VA 22201-3308
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**STANDARD GENERAL CONDITIONS OF THE
CONSTRUCTION CONTRACT**

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ARTICLE 1 – DEFINITIONS AND TERMINOLOGY

1.01 *Defined Terms*

- A. Wherever used in the Bidding Requirements or Contract Documents and printed with initial capital letters, the terms listed below will have the meanings indicated which are applicable to both the singular and plural thereof. In addition to terms specifically defined, terms with initial capital letters in the Contract Documents include references to identified articles and paragraphs, and the titles of other documents or forms.
1. *Addenda*—Written or graphic instruments issued prior to the opening of Bids which clarify, correct, or change the Bidding Requirements or the proposed Contract Documents.
 2. *Agreement*—The written instrument which is evidence of the agreement between Owner and Contractor covering the Work.
 3. *Application for Payment*—The form acceptable to Engineer which is to be used by Contractor during the course of the Work in requesting progress or final payments and which is to be accompanied by such supporting documentation as is required by the Contract Documents.
 4. *Asbestos*—Any material that contains more than one percent asbestos and is friable or is releasing asbestos fibers into the air above current action levels established by the United States Occupational Safety and Health Administration.
 5. *Bid*—The offer or proposal of a Bidder submitted on the prescribed form setting forth the prices for the Work to be performed.
 6. *Bidder*—The individual or entity who submits a Bid directly to Owner.
 7. *Bidding Documents*—The Bidding Requirements and the proposed Contract Documents (including all Addenda).
 8. *Bidding Requirements*—The advertisement or invitation to bid, Instructions to Bidders, Bid security of acceptable form, if any, and the Bid Form with any supplements.
 9. *Change Order*—A document recommended by Engineer which is signed by Contractor and Owner and authorizes an addition, deletion, or revision in the Work or an adjustment in the Contract Price or the Contract Times, issued on or after the Effective Date of the Agreement.
 10. *Claim*—A demand or assertion by Owner or Contractor seeking an adjustment of Contract Price or Contract Times, or both, or other relief with respect to the terms of the Contract. A demand for money or services by a third party is not a Claim.
 11. *Contract*—The entire and integrated written agreement between the Owner and Contractor concerning the Work. The Contract supersedes prior negotiations, representations, or agreements, whether written or oral.
 12. *Contract Documents*—Those items so designated in the Agreement. Only printed or hard copies of the items listed in the Agreement are Contract Documents. Approved Shop Drawings, other Contractor submittals, and the reports and drawings of subsurface and physical conditions are not Contract Documents.

13. *Contract Price*—The moneys payable by Owner to Contractor for completion of the Work in accordance with the Contract Documents as stated in the Agreement (subject to the provisions of Paragraph 11.03 in the case of Unit Price Work).
14. *Contract Times*—The number of days or the dates stated in the Agreement to: (i) achieve Milestones, if any; (ii) achieve Substantial Completion; and (iii) complete the Work so that it is ready for final payment as evidenced by Engineer's written recommendation of final payment.
15. *Contractor*—The individual or entity with whom Owner has entered into the Agreement.
16. *Cost of the Work*—See Paragraph 11.01 for definition.
17. *Drawings*—That part of the Contract Documents prepared or approved by Engineer which graphically shows the scope, extent, and character of the Work to be performed by Contractor. Shop Drawings and other Contractor submittals are not Drawings as so defined.
18. *Effective Date of the Agreement*—The date indicated in the Agreement on which it becomes effective, but if no such date is indicated, it means the date on which the Agreement is signed and delivered by the last of the two parties to sign and deliver.
19. *Engineer*—The individual or entity named as such in the Agreement.
20. *Field Order*—A written order issued by Engineer which requires minor changes in the Work but which does not involve a change in the Contract Price or the Contract Times.
21. *General Requirements*—Sections of Division 1 of the Specifications.
22. *Hazardous Environmental Condition*—The presence at the Site of Asbestos, PCBs, Petroleum, Hazardous Waste, or Radioactive Material in such quantities or circumstances that may present a substantial danger to persons or property exposed thereto.
23. *Hazardous Waste*—The term Hazardous Waste shall have the meaning provided in Section 1004 of the Solid Waste Disposal Act (42 USC Section 6903) as amended from time to time.
24. *Laws and Regulations; Laws or Regulations*—Any and all applicable laws, rules, regulations, ordinances, codes, and orders of any and all governmental bodies, agencies, authorities, and courts having jurisdiction.
25. *Liens*—Charges, security interests, or encumbrances upon Project funds, real property, or personal property.
26. *Milestone*—A principal event specified in the Contract Documents relating to an intermediate completion date or time prior to Substantial Completion of all the Work.
27. *Notice of Award*—The written notice by Owner to the Successful Bidder stating that upon timely compliance by the Successful Bidder with the conditions precedent listed therein, Owner will sign and deliver the Agreement.
28. *Notice to Proceed*—A written notice given by Owner to Contractor fixing the date on which the Contract Times will commence to run and on which Contractor shall start to perform the Work under the Contract Documents.

29. *Owner*—The individual or entity with whom Contractor has entered into the Agreement and for whom the Work is to be performed.
30. *PCBs*—Polychlorinated biphenyls.
31. *Petroleum*—Petroleum, including crude oil or any fraction thereof which is liquid at standard conditions of temperature and pressure (60 degrees Fahrenheit and 14.7 pounds per square inch absolute), such as oil, petroleum, fuel oil, oil sludge, oil refuse, gasoline, kerosene, and oil mixed with other non-Hazardous Waste and crude oils.
32. *Progress Schedule*—A schedule, prepared and maintained by Contractor, describing the sequence and duration of the activities comprising the Contractor's plan to accomplish the Work within the Contract Times.
33. *Project*—The total construction of which the Work to be performed under the Contract Documents may be the whole, or a part.
34. *Project Manual*—The bound documentary information prepared for bidding and constructing the Work. A listing of the contents of the Project Manual, which may be bound in one or more volumes, is contained in the table(s) of contents.
35. *Radioactive Material*—Source, special nuclear, or byproduct material as defined by the Atomic Energy Act of 1954 (42 USC Section 2011 et seq.) as amended from time to time.
36. *Resident Project Representative*—The authorized representative of Engineer who may be assigned to the Site or any part thereof.
37. *Samples*—Physical examples of materials, equipment, or workmanship that are representative of some portion of the Work and which establish the standards by which such portion of the Work will be judged.
38. *Schedule of Submittals*—A schedule, prepared and maintained by Contractor, of required submittals and the time requirements to support scheduled performance of related construction activities.
39. *Schedule of Values*—A schedule, prepared and maintained by Contractor, allocating portions of the Contract Price to various portions of the Work and used as the basis for reviewing Contractor's Applications for Payment.
40. *Shop Drawings*—All drawings, diagrams, illustrations, schedules, and other data or information which are specifically prepared or assembled by or for Contractor and submitted by Contractor to illustrate some portion of the Work.
41. *Site*—Lands or areas indicated in the Contract Documents as being furnished by Owner upon which the Work is to be performed, including rights-of-way and easements for access thereto, and such other lands furnished by Owner which are designated for the use of Contractor.
42. *Specifications*—That part of the Contract Documents consisting of written requirements for materials, equipment, systems, standards and workmanship as applied to the Work, and certain administrative requirements and procedural matters applicable thereto.
43. *Subcontractor*—An individual or entity having a direct contract with Contractor or with any other Subcontractor for the performance of a part of the Work at the Site.

44. *Substantial Completion*—The time at which the Work (or a specified part thereof) has progressed to the point where, in the opinion of Engineer, the Work (or a specified part thereof) is sufficiently complete, in accordance with the Contract Documents, so that the Work (or a specified part thereof) can be utilized for the purposes for which it is intended. The terms “substantially complete” and “substantially completed” as applied to all or part of the Work refer to Substantial Completion thereof.
45. *Successful Bidder*—The Bidder submitting a responsive Bid to whom Owner makes an award.
46. *Supplementary Conditions*—That part of the Contract Documents which amends or supplements these General Conditions.
47. *Supplier*—A manufacturer, fabricator, supplier, distributor, materialman, or vendor having a direct contract with Contractor or with any Subcontractor to furnish materials or equipment to be incorporated in the Work by Contractor or Subcontractor.
48. *Underground Facilities*—All underground pipelines, conduits, ducts, cables, wires, manholes, vaults, tanks, tunnels, or other such facilities or attachments, and any encasements containing such facilities, including those that convey electricity, gases, steam, liquid petroleum products, telephone or other communications, cable television, water, wastewater, storm water, other liquids or chemicals, or traffic or other control systems.
49. *Unit Price Work*—Work to be paid for on the basis of unit prices.
50. *Work*—The entire construction or the various separately identifiable parts thereof required to be provided under the Contract Documents. Work includes and is the result of performing or providing all labor, services, and documentation necessary to produce such construction, and furnishing, installing, and incorporating all materials and equipment into such construction, all as required by the Contract Documents.
51. *Work Change Directive*—A written statement to Contractor issued on or after the Effective Date of the Agreement and signed by Owner and recommended by Engineer ordering an addition, deletion, or revision in the Work, or responding to differing or unforeseen subsurface or physical conditions under which the Work is to be performed or to emergencies. A Work Change Directive will not change the Contract Price or the Contract Times but is evidence that the parties expect that the change ordered or documented by a Work Change Directive will be incorporated in a subsequently issued Change Order following negotiations by the parties as to its effect, if any, on the Contract Price or Contract Times.

1.02 Terminology

- A. The words and terms discussed in Paragraph 1.02.B through F are not defined but, when used in the Bidding Requirements or Contract Documents, have the indicated meaning.
- B. *Intent of Certain Terms or Adjectives:*
 1. The Contract Documents include the terms “as allowed,” “as approved,” “as ordered,” “as directed” or terms of like effect or import to authorize an exercise of professional judgment by Engineer. In addition, the adjectives “reasonable,” “suitable,” “acceptable,” “proper,” “satisfactory,” or adjectives of like effect or import are used to describe an action or determination of Engineer as to the Work. It is intended that such exercise of professional judgment, action, or determination will be solely to evaluate, in general, the Work for compliance with the information in the Contract Documents and

with the design concept of the Project as a functioning whole as shown or indicated in the Contract Documents (unless there is a specific statement indicating otherwise). The use of any such term or adjective is not intended to and shall not be effective to assign to Engineer any duty or authority to supervise or direct the performance of the Work, or any duty or authority to undertake responsibility contrary to the provisions of Paragraph 9.09 or any other provision of the Contract Documents.

C. *Day:*

1. The word “day” means a calendar day of 24 hours measured from midnight to the next midnight.

D. *Defective:*

1. The word “defective,” when modifying the word “Work,” refers to Work that is unsatisfactory, faulty, or deficient in that it:
 - a. does not conform to the Contract Documents; or
 - b. does not meet the requirements of any applicable inspection, reference standard, test, or approval referred to in the Contract Documents; or
 - c. has been damaged prior to Engineer’s recommendation of final payment (unless responsibility for the protection thereof has been assumed by Owner at Substantial Completion in accordance with Paragraph 14.04 or 14.05).

E. *Furnish, Install, Perform, Provide:*

1. The word “furnish,” when used in connection with services, materials, or equipment, shall mean to supply and deliver said services, materials, or equipment to the Site (or some other specified location) ready for use or installation and in usable or operable condition.
2. The word “install,” when used in connection with services, materials, or equipment, shall mean to put into use or place in final position said services, materials, or equipment complete and ready for intended use.
3. The words “perform” or “provide,” when used in connection with services, materials, or equipment, shall mean to furnish and install said services, materials, or equipment complete and ready for intended use.
4. When “furnish,” “install,” “perform,” or “provide” is not used in connection with services, materials, or equipment in a context clearly requiring an obligation of Contractor, “provide” is implied.

- F. Unless stated otherwise in the Contract Documents, words or phrases that have a well-known technical or construction industry or trade meaning are used in the Contract Documents in accordance with such recognized meaning.

ARTICLE 2 – PRELIMINARY MATTERS

2.01 Delivery of Bonds and Evidence of Insurance

- A. When Contractor delivers the executed counterparts of the Agreement to Owner, Contractor shall also deliver to Owner such bonds as Contractor may be required to furnish.

- B. *Evidence of Insurance:* Before any Work at the Site is started, Contractor and Owner shall each deliver to the other, with copies to each additional insured identified in the Supplementary Conditions, certificates of insurance (and other evidence of insurance which either of them or any additional insured may reasonably request) which Contractor and Owner respectively are required to purchase and maintain in accordance with Article 5.

2.02 *Copies of Documents*

- A. Owner shall furnish to Contractor up to ten printed or hard copies of the Drawings and Project Manual. Additional copies will be furnished upon request at the cost of reproduction.

2.03 *Commencement of Contract Times; Notice to Proceed*

- A. The Contract Times will commence to run on the thirtieth day after the Effective Date of the Agreement or, if a Notice to Proceed is given, on the day indicated in the Notice to Proceed. A Notice to Proceed may be given at any time within 30 days after the Effective Date of the Agreement. In no event will the Contract Times commence to run later than the sixtieth day after the day of Bid opening or the thirtieth day after the Effective Date of the Agreement, whichever date is earlier.

2.04 *Starting the Work*

- A. Contractor shall start to perform the Work on the date when the Contract Times commence to run. No Work shall be done at the Site prior to the date on which the Contract Times commence to run.

2.05 *Before Starting Construction*

- A. *Preliminary Schedules:* Within 10 days after the Effective Date of the Agreement (unless otherwise specified in the General Requirements), Contractor shall submit to Engineer for timely review:
 1. a preliminary Progress Schedule indicating the times (numbers of days or dates) for starting and completing the various stages of the Work, including any Milestones specified in the Contract Documents;
 2. a preliminary Schedule of Submittals; and
 3. a preliminary Schedule of Values for all of the Work which includes quantities and prices of items which when added together equal the Contract Price and subdivides the Work into component parts in sufficient detail to serve as the basis for progress payments during performance of the Work. Such prices will include an appropriate amount of overhead and profit applicable to each item of Work.

2.06 *Preconstruction Conference; Designation of Authorized Representatives*

- A. Before any Work at the Site is started, a conference attended by Owner, Contractor, Engineer, and others as appropriate will be held to establish a working understanding among the parties as to the Work and to discuss the schedules referred to in Paragraph 2.05.A, procedures for handling Shop Drawings and other submittals, processing Applications for Payment, and maintaining required records.
- B. At this conference Owner and Contractor each shall designate, in writing, a specific individual to act as its authorized representative with respect to the services and responsibilities under the Contract. Such individuals shall have the authority to transmit instructions, receive information, render decisions relative to the Contract, and otherwise act on behalf of each respective party.

2.07 *Initial Acceptance of Schedules*

- A. At least 10 days before submission of the first Application for Payment a conference attended by Contractor, Engineer, and others as appropriate will be held to review for acceptability to Engineer as provided below the schedules submitted in accordance with Paragraph 2.05.A. Contractor shall have an additional 10 days to make corrections and adjustments and to complete and resubmit the schedules. No progress payment shall be made to Contractor until acceptable schedules are submitted to Engineer.
 - 1. The Progress Schedule will be acceptable to Engineer if it provides an orderly progression of the Work to completion within the Contract Times. Such acceptance will not impose on Engineer responsibility for the Progress Schedule, for sequencing, scheduling, or progress of the Work, nor interfere with or relieve Contractor from Contractor's full responsibility therefor.
 - 2. Contractor's Schedule of Submittals will be acceptable to Engineer if it provides a workable arrangement for reviewing and processing the required submittals.
 - 3. Contractor's Schedule of Values will be acceptable to Engineer as to form and substance if it provides a reasonable allocation of the Contract Price to component parts of the Work.

ARTICLE 3 – CONTRACT DOCUMENTS: INTENT, AMENDING, REUSE

3.01 *Intent*

- A. The Contract Documents are complementary; what is required by one is as binding as if required by all.
- B. It is the intent of the Contract Documents to describe a functionally complete project (or part thereof) to be constructed in accordance with the Contract Documents. Any labor, documentation, services, materials, or equipment that reasonably may be inferred from the Contract Documents or from prevailing custom or trade usage as being required to produce the indicated result will be provided whether or not specifically called for, at no additional cost to Owner.
- C. Clarifications and interpretations of the Contract Documents shall be issued by Engineer as provided in Article 9.

3.02 *Reference Standards*

- A. Standards, Specifications, Codes, Laws, and Regulations
 - 1. Reference to standards, specifications, manuals, or codes of any technical society, organization, or association, or to Laws or Regulations, whether such reference be specific or by implication, shall mean the standard, specification, manual, code, or Laws or Regulations in effect at the time of opening of Bids (or on the Effective Date of the Agreement if there were no Bids), except as may be otherwise specifically stated in the Contract Documents.
 - 2. No provision of any such standard, specification, manual, or code, or any instruction of a Supplier, shall be effective to change the duties or responsibilities of Owner, Contractor, or Engineer, or any of their subcontractors, consultants, agents, or employees, from those set forth in the Contract Documents. No such provision or instruction shall be effective to assign to Owner, Engineer, or any of their officers, directors, members, partners, employees, agents, consultants, or subcontractors, any duty or authority to supervise or direct the performance of the Work or any duty or authority to undertake responsibility inconsistent with the provisions of the Contract Documents.

3.03 *Reporting and Resolving Discrepancies*

A. *Reporting Discrepancies:*

1. *Contractor's Review of Contract Documents Before Starting Work:* Before undertaking each part of the Work, Contractor shall carefully study and compare the Contract Documents and check and verify pertinent figures therein and all applicable field measurements. Contractor shall promptly report in writing to Engineer any conflict, error, ambiguity, or discrepancy which Contractor discovers, or has actual knowledge of, and shall obtain a written interpretation or clarification from Engineer before proceeding with any Work affected thereby.
2. *Contractor's Review of Contract Documents During Performance of Work:* If, during the performance of the Work, Contractor discovers any conflict, error, ambiguity, or discrepancy within the Contract Documents, or between the Contract Documents and (a) any applicable Law or Regulation, (b) any standard, specification, manual, or code, or (c) any instruction of any Supplier, then Contractor shall promptly report it to Engineer in writing. Contractor shall not proceed with the Work affected thereby (except in an emergency as required by Paragraph 6.16.A) until an amendment or supplement to the Contract Documents has been issued by one of the methods indicated in Paragraph 3.04.
3. Contractor shall not be liable to Owner or Engineer for failure to report any conflict, error, ambiguity, or discrepancy in the Contract Documents unless Contractor had actual knowledge thereof.

B. *Resolving Discrepancies:*

1. Except as may be otherwise specifically stated in the Contract Documents, the provisions of the Contract Documents shall take precedence in resolving any conflict, error, ambiguity, or discrepancy between the provisions of the Contract Documents and:
 - a. the provisions of any standard, specification, manual, or code, or the instruction of any Supplier (whether or not specifically incorporated by reference in the Contract Documents); or
 - b. the provisions of any Laws or Regulations applicable to the performance of the Work (unless such an interpretation of the provisions of the Contract Documents would result in violation of such Law or Regulation).

3.04 *Amending and Supplementing Contract Documents*

- A. The Contract Documents may be amended to provide for additions, deletions, and revisions in the Work or to modify the terms and conditions thereof by either a Change Order or a Work Change Directive.
- B. The requirements of the Contract Documents may be supplemented, and minor variations and deviations in the Work may be authorized, by one or more of the following ways:
 1. A Field Order;
 2. Engineer's approval of a Shop Drawing or Sample (subject to the provisions of Paragraph 6.17.D.3); or
 3. Engineer's written interpretation or clarification.

3.05 *Reuse of Documents*

- A. Contractor and any Subcontractor or Supplier shall not:
1. have or acquire any title to or ownership rights in any of the Drawings, Specifications, or other documents (or copies of any thereof) prepared by or bearing the seal of Engineer or its consultants, including electronic media editions; or
 2. reuse any such Drawings, Specifications, other documents, or copies thereof on extensions of the Project or any other project without written consent of Owner and Engineer and specific written verification or adaptation by Engineer.
- B. The prohibitions of this Paragraph 3.05 will survive final payment, or termination of the Contract. Nothing herein shall preclude Contractor from retaining copies of the Contract Documents for record purposes.

3.06 *Electronic Data*

- A. Unless otherwise stated in the Supplementary Conditions, the data furnished by Owner or Engineer to Contractor, or by Contractor to Owner or Engineer, that may be relied upon are limited to the printed copies (also known as hard copies). Files in electronic media format of text, data, graphics, or other types are furnished only for the convenience of the receiving party. Any conclusion or information obtained or derived from such electronic files will be at the user's sole risk. If there is a discrepancy between the electronic files and the hard copies, the hard copies govern.
- B. Because data stored in electronic media format can deteriorate or be modified inadvertently or otherwise without authorization of the data's creator, the party receiving electronic files agrees that it will perform acceptance tests or procedures within 60 days, after which the receiving party shall be deemed to have accepted the data thus transferred. Any errors detected within the 60-day acceptance period will be corrected by the transferring party.
- C. When transferring documents in electronic media format, the transferring party makes no representations as to long term compatibility, usability, or readability of documents resulting from the use of software application packages, operating systems, or computer hardware differing from those used by the data's creator.

ARTICLE 4 – AVAILABILITY OF LANDS; SUBSURFACE AND PHYSICAL CONDITIONS; HAZARDOUS ENVIRONMENTAL CONDITIONS; REFERENCE POINTS

4.01 *Availability of Lands*

- A. Owner shall furnish the Site. Owner shall notify Contractor of any encumbrances or restrictions not of general application but specifically related to use of the Site with which Contractor must comply in performing the Work. Owner will obtain in a timely manner and pay for easements for permanent structures or permanent changes in existing facilities. If Contractor and Owner are unable to agree on entitlement to or on the amount or extent, if any, of any adjustment in the Contract Price or Contract Times, or both, as a result of any delay in Owner's furnishing the Site or a part thereof, Contractor may make a Claim therefor as provided in Paragraph 10.05.
- B. Upon reasonable written request, Owner shall furnish Contractor with a current statement of record legal title and legal description of the lands upon which the Work is to be performed and Owner's interest

therein as necessary for giving notice of or filing a mechanic's or construction lien against such lands in accordance with applicable Laws and Regulations.

- C. Contractor shall provide for all additional lands and access thereto that may be required for temporary construction facilities or storage of materials and equipment.

4.02 *Subsurface and Physical Conditions*

A. *Reports and Drawings:* The Supplementary Conditions identify:

1. those reports known to Owner of explorations and tests of subsurface conditions at or contiguous to the Site; and
2. those drawings known to Owner of physical conditions relating to existing surface or subsurface structures at the Site (except Underground Facilities).

B. *Limited Reliance by Contractor on Technical Data Authorized:* Contractor may rely upon the accuracy of the "technical data" contained in such reports and drawings, but such reports and drawings are not Contract Documents. Such "technical data" is identified in the Supplementary Conditions. Except for such reliance on such "technical data," Contractor may not rely upon or make any claim against Owner or Engineer, or any of their officers, directors, members, partners, employees, agents, consultants, or subcontractors with respect to:

1. the completeness of such reports and drawings for Contractor's purposes, including, but not limited to, any aspects of the means, methods, techniques, sequences, and procedures of construction to be employed by Contractor, and safety precautions and programs incident thereto; or
2. other data, interpretations, opinions, and information contained in such reports or shown or indicated in such drawings; or
3. any Contractor interpretation of or conclusion drawn from any "technical data" or any such other data, interpretations, opinions, or information.

4.03 *Differing Subsurface or Physical Conditions*

A. *Notice:* If Contractor believes that any subsurface or physical condition that is uncovered or revealed either:

1. is of such a nature as to establish that any "technical data" on which Contractor is entitled to rely as provided in Paragraph 4.02 is materially inaccurate; or
2. is of such a nature as to require a change in the Contract Documents; or
3. differs materially from that shown or indicated in the Contract Documents; or
4. is of an unusual nature, and differs materially from conditions ordinarily encountered and generally recognized as inherent in work of the character provided for in the Contract Documents;

then Contractor shall, promptly after becoming aware thereof and before further disturbing the subsurface or physical conditions or performing any Work in connection therewith (except in an emergency as required by Paragraph 6.16.A), notify Owner and Engineer in writing about such condition. Contractor

shall not further disturb such condition or perform any Work in connection therewith (except as aforesaid) until receipt of written order to do so.

B. *Engineer's Review:* After receipt of written notice as required by Paragraph 4.03.A, Engineer will promptly review the pertinent condition, determine the necessity of Owner's obtaining additional exploration or tests with respect thereto, and advise Owner in writing (with a copy to Contractor) of Engineer's findings and conclusions.

C. *Possible Price and Times Adjustments:*

1. The Contract Price or the Contract Times, or both, will be equitably adjusted to the extent that the existence of such differing subsurface or physical condition causes an increase or decrease in Contractor's cost of, or time required for, performance of the Work; subject, however, to the following:
 - a. such condition must meet any one or more of the categories described in Paragraph 4.03.A; and
 - b. with respect to Work that is paid for on a unit price basis, any adjustment in Contract Price will be subject to the provisions of Paragraphs 9.07 and 11.03.
2. Contractor shall not be entitled to any adjustment in the Contract Price or Contract Times if:
 - a. Contractor knew of the existence of such conditions at the time Contractor made a final commitment to Owner with respect to Contract Price and Contract Times by the submission of a Bid or becoming bound under a negotiated contract; or
 - b. the existence of such condition could reasonably have been discovered or revealed as a result of any examination, investigation, exploration, test, or study of the Site and contiguous areas required by the Bidding Requirements or Contract Documents to be conducted by or for Contractor prior to Contractor's making such final commitment; or
 - c. Contractor failed to give the written notice as required by Paragraph 4.03.A.
3. If Owner and Contractor are unable to agree on entitlement to or on the amount or extent, if any, of any adjustment in the Contract Price or Contract Times, or both, a Claim may be made therefor as provided in Paragraph 10.05. However, neither Owner or Engineer, or any of their officers, directors, members, partners, employees, agents, consultants, or subcontractors shall be liable to Contractor for any claims, costs, losses, or damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) sustained by Contractor on or in connection with any other project or anticipated project.

4.04 *Underground Facilities*

A. *Shown or Indicated:* The information and data shown or indicated in the Contract Documents with respect to existing Underground Facilities at or contiguous to the Site is based on information and data furnished to Owner or Engineer by the owners of such Underground Facilities, including Owner, or by others. Unless it is otherwise expressly provided in the Supplementary Conditions:

1. Owner and Engineer shall not be responsible for the accuracy or completeness of any such information or data provided by others; and

2. the cost of all of the following will be included in the Contract Price, and Contractor shall have full responsibility for:
 - a. reviewing and checking all such information and data;
 - b. locating all Underground Facilities shown or indicated in the Contract Documents;
 - c. coordination of the Work with the owners of such Underground Facilities, including Owner, during construction; and
 - d. the safety and protection of all such Underground Facilities and repairing any damage thereto resulting from the Work.

B. *Not Shown or Indicated:*

1. If an Underground Facility is uncovered or revealed at or contiguous to the Site which was not shown or indicated, or not shown or indicated with reasonable accuracy in the Contract Documents, Contractor shall, promptly after becoming aware thereof and before further disturbing conditions affected thereby or performing any Work in connection therewith (except in an emergency as required by Paragraph 6.16.A), identify the owner of such Underground Facility and give written notice to that owner and to Owner and Engineer. Engineer will promptly review the Underground Facility and determine the extent, if any, to which a change is required in the Contract Documents to reflect and document the consequences of the existence or location of the Underground Facility. During such time, Contractor shall be responsible for the safety and protection of such Underground Facility.
2. If Engineer concludes that a change in the Contract Documents is required, a Work Change Directive or a Change Order will be issued to reflect and document such consequences. An equitable adjustment shall be made in the Contract Price or Contract Times, or both, to the extent that they are attributable to the existence or location of any Underground Facility that was not shown or indicated or not shown or indicated with reasonable accuracy in the Contract Documents and that Contractor did not know of and could not reasonably have been expected to be aware of or to have anticipated. If Owner and Contractor are unable to agree on entitlement to or on the amount or extent, if any, of any such adjustment in Contract Price or Contract Times, Owner or Contractor may make a Claim therefor as provided in Paragraph 10.05.

4.05 *Reference Points*

- A. Owner shall provide engineering surveys to establish reference points for construction which in Engineer's judgment are necessary to enable Contractor to proceed with the Work. Contractor shall be responsible for laying out the Work, shall protect and preserve the established reference points and property monuments, and shall make no changes or relocations without the prior written approval of Owner. Contractor shall report to Engineer whenever any reference point or property monument is lost or destroyed or requires relocation because of necessary changes in grades or locations, and shall be responsible for the accurate replacement or relocation of such reference points or property monuments by professionally qualified personnel.

4.06 *Hazardous Environmental Condition at Site*

- A. *Reports and Drawings:* The Supplementary Conditions identify those reports and drawings known to Owner relating to Hazardous Environmental Conditions that have been identified at the Site.

- B. *Limited Reliance by Contractor on Technical Data Authorized:* Contractor may rely upon the accuracy of the “technical data” contained in such reports and drawings, but such reports and drawings are not Contract Documents. Such “technical data” is identified in the Supplementary Conditions. Except for such reliance on such “technical data,” Contractor may not rely upon or make any claim against Owner or Engineer, or any of their officers, directors, members, partners, employees, agents, consultants, or subcontractors with respect to:
1. the completeness of such reports and drawings for Contractor’s purposes, including, but not limited to, any aspects of the means, methods, techniques, sequences and procedures of construction to be employed by Contractor and safety precautions and programs incident thereto; or
 2. other data, interpretations, opinions and information contained in such reports or shown or indicated in such drawings; or
 3. any Contractor interpretation of or conclusion drawn from any “technical data” or any such other data, interpretations, opinions or information.
- C. Contractor shall not be responsible for any Hazardous Environmental Condition uncovered or revealed at the Site which was not shown or indicated in Drawings or Specifications or identified in the Contract Documents to be within the scope of the Work. Contractor shall be responsible for a Hazardous Environmental Condition created with any materials brought to the Site by Contractor, Subcontractors, Suppliers, or anyone else for whom Contractor is responsible.
- D. If Contractor encounters a Hazardous Environmental Condition or if Contractor or anyone for whom Contractor is responsible creates a Hazardous Environmental Condition, Contractor shall immediately: (i) secure or otherwise isolate such condition; (ii) stop all Work in connection with such condition and in any area affected thereby (except in an emergency as required by Paragraph 6.16.A); and (iii) notify Owner and Engineer (and promptly thereafter confirm such notice in writing). Owner shall promptly consult with Engineer concerning the necessity for Owner to retain a qualified expert to evaluate such condition or take corrective action, if any. Promptly after consulting with Engineer, Owner shall take such actions as are necessary to permit Owner to timely obtain required permits and provide Contractor the written notice required by Paragraph 4.06.E.
- E. Contractor shall not be required to resume Work in connection with such condition or in any affected area until after Owner has obtained any required permits related thereto and delivered written notice to Contractor: (i) specifying that such condition and any affected area is or has been rendered safe for the resumption of Work; or (ii) specifying any special conditions under which such Work may be resumed safely. If Owner and Contractor cannot agree as to entitlement to or on the amount or extent, if any, of any adjustment in Contract Price or Contract Times, or both, as a result of such Work stoppage or such special conditions under which Work is agreed to be resumed by Contractor, either party may make a Claim therefor as provided in Paragraph 10.05.
- F. If after receipt of such written notice Contractor does not agree to resume such Work based on a reasonable belief it is unsafe, or does not agree to resume such Work under such special conditions, then Owner may order the portion of the Work that is in the area affected by such condition to be deleted from the Work. If Owner and Contractor cannot agree as to entitlement to or on the amount or extent, if any, of an adjustment in Contract Price or Contract Times as a result of deleting such portion of the Work, then either party may make a Claim therefor as provided in Paragraph 10.05. Owner may have such deleted portion of the Work performed by Owner’s own forces or others in accordance with Article 7.
- G. To the fullest extent permitted by Laws and Regulations, Owner shall indemnify and hold harmless Contractor, Subcontractors, and Engineer, and the officers, directors, members, partners, employees,

agents, consultants, and subcontractors of each and any of them from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to a Hazardous Environmental Condition, provided that such Hazardous Environmental Condition: (i) was not shown or indicated in the Drawings or Specifications or identified in the Contract Documents to be included within the scope of the Work, and (ii) was not created by Contractor or by anyone for whom Contractor is responsible. Nothing in this Paragraph 4.06.G shall obligate Owner to indemnify any individual or entity from and against the consequences of that individual's or entity's own negligence.

- H. To the fullest extent permitted by Laws and Regulations, Contractor shall indemnify and hold harmless Owner and Engineer, and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to a Hazardous Environmental Condition created by Contractor or by anyone for whom Contractor is responsible. Nothing in this Paragraph 4.06.H shall obligate Contractor to indemnify any individual or entity from and against the consequences of that individual's or entity's own negligence.
- I. The provisions of Paragraphs 4.02, 4.03, and 4.04 do not apply to a Hazardous Environmental Condition uncovered or revealed at the Site.

ARTICLE 5 – BONDS AND INSURANCE

5.01 Performance, Payment, and Other Bonds

- A. Contractor shall furnish performance and payment bonds, each in an amount at least equal to the Contract Price as security for the faithful performance and payment of all of Contractor's obligations under the Contract Documents. These bonds shall remain in effect until one year after the date when final payment becomes due or until completion of the correction period specified in Paragraph 13.07, whichever is later, except as provided otherwise by Laws or Regulations or by the Contract Documents. Contractor shall also furnish such other bonds as are required by the Contract Documents.
- B. All bonds shall be in the form prescribed by the Contract Documents except as provided otherwise by Laws or Regulations, and shall be executed by such sureties as are named in the list of "Companies Holding Certificates of Authority as Acceptable Sureties on Federal Bonds and as Acceptable Reinsuring Companies" as published in Circular 570 (amended) by the Financial Management Service, Surety Bond Branch, U.S. Department of the Treasury. All bonds signed by an agent or attorney-in-fact must be accompanied by a certified copy of that individual's authority to bind the surety. The evidence of authority shall show that it is effective on the date the agent or attorney-in-fact signed each bond.
- C. If the surety on any bond furnished by Contractor is declared bankrupt or becomes insolvent or its right to do business is terminated in any state where any part of the Project is located or it ceases to meet the requirements of Paragraph 5.01.B, Contractor shall promptly notify Owner and Engineer and shall, within 20 days after the event giving rise to such notification, provide another bond and surety, both of which shall comply with the requirements of Paragraphs 5.01.B and 5.02.

5.02 Licensed Sureties and Insurers

- A. All bonds and insurance required by the Contract Documents to be purchased and maintained by Owner or Contractor shall be obtained from surety or insurance companies that are duly licensed or authorized in the jurisdiction in which the Project is located to issue bonds or insurance policies for the limits and

coverages so required. Such surety and insurance companies shall also meet such additional requirements and qualifications as may be provided in the Supplementary Conditions.

5.03 *Certificates of Insurance*

- A. Contractor shall deliver to Owner, with copies to each additional insured and loss payee identified in the Supplementary Conditions, certificates of insurance (and other evidence of insurance requested by Owner or any other additional insured) which Contractor is required to purchase and maintain.
- B. Owner shall deliver to Contractor, with copies to each additional insured and loss payee identified in the Supplementary Conditions, certificates of insurance (and other evidence of insurance requested by Contractor or any other additional insured) which Owner is required to purchase and maintain.
- C. Failure of Owner to demand such certificates or other evidence of Contractor's full compliance with these insurance requirements or failure of Owner to identify a deficiency in compliance from the evidence provided shall not be construed as a waiver of Contractor's obligation to maintain such insurance.
- D. Owner does not represent that insurance coverage and limits established in this Contract necessarily will be adequate to protect Contractor.
- E. The insurance and insurance limits required herein shall not be deemed as a limitation on Contractor's liability under the indemnities granted to Owner in the Contract Documents.

5.04 *Contractor's Insurance*

- A. Contractor shall purchase and maintain such insurance as is appropriate for the Work being performed and as will provide protection from claims set forth below which may arise out of or result from Contractor's performance of the Work and Contractor's other obligations under the Contract Documents, whether it is to be performed by Contractor, any Subcontractor or Supplier, or by anyone directly or indirectly employed by any of them to perform any of the Work, or by anyone for whose acts any of them may be liable:
 - 1. claims under workers' compensation, disability benefits, and other similar employee benefit acts;
 - 2. claims for damages because of bodily injury, occupational sickness or disease, or death of Contractor's employees;
 - 3. claims for damages because of bodily injury, sickness or disease, or death of any person other than Contractor's employees;
 - 4. claims for damages insured by reasonably available personal injury liability coverage which are sustained:
 - a. by any person as a result of an offense directly or indirectly related to the employment of such person by Contractor, or
 - b. by any other person for any other reason;
 - 5. claims for damages, other than to the Work itself, because of injury to or destruction of tangible property wherever located, including loss of use resulting therefrom; and

6. claims for damages because of bodily injury or death of any person or property damage arising out of the ownership, maintenance or use of any motor vehicle.

B. The policies of insurance required by this Paragraph 5.04 shall:

1. with respect to insurance required by Paragraphs 5.04.A.3 through 5.04.A.6 inclusive, be written on an occurrence basis, include as additional insureds (subject to any customary exclusion regarding professional liability) Owner and Engineer, and any other individuals or entities identified in the Supplementary Conditions, all of whom shall be listed as additional insureds, and include coverage for the respective officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of all such additional insureds, and the insurance afforded to these additional insureds shall provide primary coverage for all claims covered thereby;
2. include at least the specific coverages and be written for not less than the limits of liability provided in the Supplementary Conditions or required by Laws or Regulations, whichever is greater;
3. include contractual liability insurance covering Contractor's indemnity obligations under Paragraphs 6.11 and 6.20;
4. contain a provision or endorsement that the coverage afforded will not be canceled, materially changed or renewal refused until at least 30 days prior written notice has been given to Owner and Contractor and to each other additional insured identified in the Supplementary Conditions to whom a certificate of insurance has been issued (and the certificates of insurance furnished by the Contractor pursuant to Paragraph 5.03 will so provide);
5. remain in effect at least until final payment and at all times thereafter when Contractor may be correcting, removing, or replacing defective Work in accordance with Paragraph 13.07; and
6. include completed operations coverage:
 - a. Such insurance shall remain in effect for two years after final payment.
 - b. Contractor shall furnish Owner and each other additional insured identified in the Supplementary Conditions, to whom a certificate of insurance has been issued, evidence satisfactory to Owner and any such additional insured of continuation of such insurance at final payment and one year thereafter.

5.05 *Owner's Liability Insurance*

- A. In addition to the insurance required to be provided by Contractor under Paragraph 5.04, Owner, at Owner's option, may purchase and maintain at Owner's expense Owner's own liability insurance as will protect Owner against claims which may arise from operations under the Contract Documents.

5.06 *Property Insurance*

- A. Unless otherwise provided in the Supplementary Conditions, Owner shall purchase and maintain property insurance upon the Work at the Site in the amount of the full replacement cost thereof (subject to such deductible amounts as may be provided in the Supplementary Conditions or required by Laws and Regulations). This insurance shall:

1. include the interests of Owner, Contractor, Subcontractors, and Engineer, and any other individuals or entities identified in the Supplementary Conditions, and the officers, directors, members, partners,

employees, agents, consultants, and subcontractors of each and any of them, each of whom is deemed to have an insurable interest and shall be listed as a loss payee;

2. be written on a Builder's Risk "all-risk" policy form that shall at least include insurance for physical loss or damage to the Work, temporary buildings, falsework, and materials and equipment in transit, and shall insure against at least the following perils or causes of loss: fire, lightning, extended coverage, theft, vandalism and malicious mischief, earthquake, collapse, debris removal, demolition occasioned by enforcement of Laws and Regulations, water damage (other than that caused by flood), and such other perils or causes of loss as may be specifically required by the Supplementary Conditions.
 3. include expenses incurred in the repair or replacement of any insured property (including but not limited to fees and charges of engineers and architects);
 4. cover materials and equipment stored at the Site or at another location that was agreed to in writing by Owner prior to being incorporated in the Work, provided that such materials and equipment have been included in an Application for Payment recommended by Engineer;
 5. allow for partial utilization of the Work by Owner;
 6. include testing and startup; and
 7. be maintained in effect until final payment is made unless otherwise agreed to in writing by Owner, Contractor, and Engineer with 30 days written notice to each other loss payee to whom a certificate of insurance has been issued.
- B. Owner shall purchase and maintain such equipment breakdown insurance or additional property insurance as may be required by the Supplementary Conditions or Laws and Regulations which will include the interests of Owner, Contractor, Subcontractors, and Engineer, and any other individuals or entities identified in the Supplementary Conditions, and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them, each of whom is deemed to have an insurable interest and shall be listed as a loss payee.
- C. All the policies of insurance (and the certificates or other evidence thereof) required to be purchased and maintained in accordance with this Paragraph 5.06 will contain a provision or endorsement that the coverage afforded will not be canceled or materially changed or renewal refused until at least 30 days prior written notice has been given to Owner and Contractor and to each other loss payee to whom a certificate of insurance has been issued and will contain waiver provisions in accordance with Paragraph 5.07.
- D. Owner shall not be responsible for purchasing and maintaining any property insurance specified in this Paragraph 5.06 to protect the interests of Contractor, Subcontractors, or others in the Work to the extent of any deductible amounts that are identified in the Supplementary Conditions. The risk of loss within such identified deductible amount will be borne by Contractor, Subcontractors, or others suffering any such loss, and if any of them wishes property insurance coverage within the limits of such amounts, each may purchase and maintain it at the purchaser's own expense.
- E. If Contractor requests in writing that other special insurance be included in the property insurance policies provided under this Paragraph 5.06, Owner shall, if possible, include such insurance, and the cost thereof will be charged to Contractor by appropriate Change Order. Prior to commencement of the Work at the Site, Owner shall in writing advise Contractor whether or not such other insurance has been procured by Owner.

5.07 *Waiver of Rights*

- A. Owner and Contractor intend that all policies purchased in accordance with Paragraph 5.06 will protect Owner, Contractor, Subcontractors, and Engineer, and all other individuals or entities identified in the Supplementary Conditions as loss payees (and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them) in such policies and will provide primary coverage for all losses and damages caused by the perils or causes of loss covered thereby. All such policies shall contain provisions to the effect that in the event of payment of any loss or damage the insurers will have no rights of recovery against any of the insureds or loss payees thereunder. Owner and Contractor waive all rights against each other and their respective officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them for all losses and damages caused by, arising out of or resulting from any of the perils or causes of loss covered by such policies and any other property insurance applicable to the Work; and, in addition, waive all such rights against Subcontractors and Engineer, and all other individuals or entities identified in the Supplementary Conditions as loss payees (and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them) under such policies for losses and damages so caused. None of the above waivers shall extend to the rights that any party making such waiver may have to the proceeds of insurance held by Owner as trustee or otherwise payable under any policy so issued.
- B. Owner waives all rights against Contractor, Subcontractors, and Engineer, and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them for:
1. loss due to business interruption, loss of use, or other consequential loss extending beyond direct physical loss or damage to Owner's property or the Work caused by, arising out of, or resulting from fire or other perils whether or not insured by Owner; and
 2. loss or damage to the completed Project or part thereof caused by, arising out of, or resulting from fire or other insured peril or cause of loss covered by any property insurance maintained on the completed Project or part thereof by Owner during partial utilization pursuant to Paragraph 14.05, after Substantial Completion pursuant to Paragraph 14.04, or after final payment pursuant to Paragraph 14.07.
- C. Any insurance policy maintained by Owner covering any loss, damage or consequential loss referred to in Paragraph 5.07.B shall contain provisions to the effect that in the event of payment of any such loss, damage, or consequential loss, the insurers will have no rights of recovery against Contractor, Subcontractors, or Engineer, and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them.

5.08 *Receipt and Application of Insurance Proceeds*

- A. Any insured loss under the policies of insurance required by Paragraph 5.06 will be adjusted with Owner and made payable to Owner as fiduciary for the loss payees, as their interests may appear, subject to the requirements of any applicable mortgage clause and of Paragraph 5.08.B. Owner shall deposit in a separate account any money so received and shall distribute it in accordance with such agreement as the parties in interest may reach. If no other special agreement is reached, the damaged Work shall be repaired or replaced, the moneys so received applied on account thereof, and the Work and the cost thereof covered by an appropriate Change Order.
- B. Owner as fiduciary shall have power to adjust and settle any loss with the insurers unless one of the parties in interest shall object in writing within 15 days after the occurrence of loss to Owner's exercise of this power. If such objection be made, Owner as fiduciary shall make settlement with the insurers in accordance with such agreement as the parties in interest may reach. If no such agreement among the

parties in interest is reached, Owner as fiduciary shall adjust and settle the loss with the insurers and, if required in writing by any party in interest, Owner as fiduciary shall give bond for the proper performance of such duties.

5.09 *Acceptance of Bonds and Insurance; Option to Replace*

- A. If either Owner or Contractor has any objection to the coverage afforded by or other provisions of the bonds or insurance required to be purchased and maintained by the other party in accordance with Article 5 on the basis of non-conformance with the Contract Documents, the objecting party shall so notify the other party in writing within 10 days after receipt of the certificates (or other evidence requested) required by Paragraph 2.01.B. Owner and Contractor shall each provide to the other such additional information in respect of insurance provided as the other may reasonably request. If either party does not purchase or maintain all of the bonds and insurance required of such party by the Contract Documents, such party shall notify the other party in writing of such failure to purchase prior to the start of the Work, or of such failure to maintain prior to any change in the required coverage. Without prejudice to any other right or remedy, the other party may elect to obtain equivalent bonds or insurance to protect such other party's interests at the expense of the party who was required to provide such coverage, and a Change Order shall be issued to adjust the Contract Price accordingly.

5.10 *Partial Utilization, Acknowledgment of Property Insurer*

- A. If Owner finds it necessary to occupy or use a portion or portions of the Work prior to Substantial Completion of all the Work as provided in Paragraph 14.05, no such use or occupancy shall commence before the insurers providing the property insurance pursuant to Paragraph 5.06 have acknowledged notice thereof and in writing effected any changes in coverage necessitated thereby. The insurers providing the property insurance shall consent by endorsement on the policy or policies, but the property insurance shall not be canceled or permitted to lapse on account of any such partial use or occupancy.

ARTICLE 6 – CONTRACTOR'S RESPONSIBILITIES

6.01 *Supervision and Superintendence*

- A. Contractor shall supervise, inspect, and direct the Work competently and efficiently, devoting such attention thereto and applying such skills and expertise as may be necessary to perform the Work in accordance with the Contract Documents. Contractor shall be solely responsible for the means, methods, techniques, sequences, and procedures of construction. Contractor shall not be responsible for the negligence of Owner or Engineer in the design or specification of a specific means, method, technique, sequence, or procedure of construction which is shown or indicated in and expressly required by the Contract Documents.
- B. At all times during the progress of the Work, Contractor shall assign a competent resident superintendent who shall not be replaced without written notice to Owner and Engineer except under extraordinary circumstances.

6.02 *Labor; Working Hours*

- A. Contractor shall provide competent, suitably qualified personnel to survey and lay out the Work and perform construction as required by the Contract Documents. Contractor shall at all times maintain good discipline and order at the Site.
- B. Except as otherwise required for the safety or protection of persons or the Work or property at the Site or adjacent thereto, and except as otherwise stated in the Contract Documents, all Work at the Site shall be

performed during regular working hours. Contractor will not permit the performance of Work on a Saturday, Sunday, or any legal holiday without Owner's written consent (which will not be unreasonably withheld) given after prior written notice to Engineer.

6.03 *Services, Materials, and Equipment*

- A. Unless otherwise specified in the Contract Documents, Contractor shall provide and assume full responsibility for all services, materials, equipment, labor, transportation, construction equipment and machinery, tools, appliances, fuel, power, light, heat, telephone, water, sanitary facilities, temporary facilities, and all other facilities and incidentals necessary for the performance, testing, start-up, and completion of the Work.
- B. All materials and equipment incorporated into the Work shall be as specified or, if not specified, shall be of good quality and new, except as otherwise provided in the Contract Documents. All special warranties and guarantees required by the Specifications shall expressly run to the benefit of Owner. If required by Engineer, Contractor shall furnish satisfactory evidence (including reports of required tests) as to the source, kind, and quality of materials and equipment.
- C. All materials and equipment shall be stored, applied, installed, connected, erected, protected, used, cleaned, and conditioned in accordance with instructions of the applicable Supplier, except as otherwise may be provided in the Contract Documents.

6.04 *Progress Schedule*

- A. Contractor shall adhere to the Progress Schedule established in accordance with Paragraph 2.07 as it may be adjusted from time to time as provided below.
 - 1. Contractor shall submit to Engineer for acceptance (to the extent indicated in Paragraph 2.07) proposed adjustments in the Progress Schedule that will not result in changing the Contract Times. Such adjustments will comply with any provisions of the General Requirements applicable thereto.
 - 2. Proposed adjustments in the Progress Schedule that will change the Contract Times shall be submitted in accordance with the requirements of Article 12. Adjustments in Contract Times may only be made by a Change Order.

6.05 *Substitutes and "Or-Equals"*

- A. Whenever an item of material or equipment is specified or described in the Contract Documents by using the name of a proprietary item or the name of a particular Supplier, the specification or description is intended to establish the type, function, appearance, and quality required. Unless the specification or description contains or is followed by words reading that no like, equivalent, or "or-equal" item or no substitution is permitted, other items of material or equipment or material or equipment of other Suppliers may be submitted to Engineer for review under the circumstances described below.
 - 1. *"Or-Equal" Items:* If in Engineer's sole discretion an item of material or equipment proposed by Contractor is functionally equal to that named and sufficiently similar so that no change in related Work will be required, it may be considered by Engineer as an "or-equal" item, in which case review and approval of the proposed item may, in Engineer's sole discretion, be accomplished without compliance with some or all of the requirements for approval of proposed substitute items. For the purposes of this Paragraph 6.05.A.1, a proposed item of material or equipment will be considered functionally equal to an item so named if:

- a. in the exercise of reasonable judgment Engineer determines that:
 - 1) it is at least equal in materials of construction, quality, durability, appearance, strength, and design characteristics;
 - 2) it will reliably perform at least equally well the function and achieve the results imposed by the design concept of the completed Project as a functioning whole; and
 - 3) it has a proven record of performance and availability of responsive service.
- b. Contractor certifies that, if approved and incorporated into the Work:
 - 1) there will be no increase in cost to the Owner or increase in Contract Times; and
 - 2) it will conform substantially to the detailed requirements of the item named in the Contract Documents.

2. *Substitute Items:*

- a. If in Engineer's sole discretion an item of material or equipment proposed by Contractor does not qualify as an "or-equal" item under Paragraph 6.05.A.1, it will be considered a proposed substitute item.
- b. Contractor shall submit sufficient information as provided below to allow Engineer to determine if the item of material or equipment proposed is essentially equivalent to that named and an acceptable substitute therefor. Requests for review of proposed substitute items of material or equipment will not be accepted by Engineer from anyone other than Contractor.
- c. The requirements for review by Engineer will be as set forth in Paragraph 6.05.A.2.d, as supplemented by the General Requirements, and as Engineer may decide is appropriate under the circumstances.
- d. Contractor shall make written application to Engineer for review of a proposed substitute item of material or equipment that Contractor seeks to furnish or use. The application:
 - 1) shall certify that the proposed substitute item will:
 - a) perform adequately the functions and achieve the results called for by the general design,
 - b) be similar in substance to that specified, and
 - c) be suited to the same use as that specified;
 - 2) will state:
 - a) the extent, if any, to which the use of the proposed substitute item will prejudice Contractor's achievement of Substantial Completion on time,
 - b) whether use of the proposed substitute item in the Work will require a change in any of the Contract Documents (or in the provisions of any other direct contract with Owner for other work on the Project) to adapt the design to the proposed substitute item, and

- c) whether incorporation or use of the proposed substitute item in connection with the Work is subject to payment of any license fee or royalty;
- 3) will identify:
 - a) all variations of the proposed substitute item from that specified, and
 - b) available engineering, sales, maintenance, repair, and replacement services; and
- 4) shall contain an itemized estimate of all costs or credits that will result directly or indirectly from use of such substitute item, including costs of redesign and claims of other contractors affected by any resulting change.

- B. *Substitute Construction Methods or Procedures:* If a specific means, method, technique, sequence, or procedure of construction is expressly required by the Contract Documents, Contractor may furnish or utilize a substitute means, method, technique, sequence, or procedure of construction approved by Engineer. Contractor shall submit sufficient information to allow Engineer, in Engineer's sole discretion, to determine that the substitute proposed is equivalent to that expressly called for by the Contract Documents. The requirements for review by Engineer will be similar to those provided in Paragraph 6.05.A.2.
- C. *Engineer's Evaluation:* Engineer will be allowed a reasonable time within which to evaluate each proposal or submittal made pursuant to Paragraphs 6.05.A and 6.05.B. Engineer may require Contractor to furnish additional data about the proposed substitute item. Engineer will be the sole judge of acceptability. No "or equal" or substitute will be ordered, installed or utilized until Engineer's review is complete, which will be evidenced by a Change Order in the case of a substitute and an approved Shop Drawing for an "or equal." Engineer will advise Contractor in writing of any negative determination.
- D. *Special Guarantee:* Owner may require Contractor to furnish at Contractor's expense a special performance guarantee or other surety with respect to any substitute.
- E. *Engineer's Cost Reimbursement:* Engineer will record Engineer's costs in evaluating a substitute proposed or submitted by Contractor pursuant to Paragraphs 6.05.A.2 and 6.05.B. Whether or not Engineer approves a substitute so proposed or submitted by Contractor, Contractor shall reimburse Owner for the reasonable charges of Engineer for evaluating each such proposed substitute. Contractor shall also reimburse Owner for the reasonable charges of Engineer for making changes in the Contract Documents (or in the provisions of any other direct contract with Owner) resulting from the acceptance of each proposed substitute.
- F. *Contractor's Expense:* Contractor shall provide all data in support of any proposed substitute or "or-equal" at Contractor's expense.

6.06 *Concerning Subcontractors, Suppliers, and Others*

- A. Contractor shall not employ any Subcontractor, Supplier, or other individual or entity (including those acceptable to Owner as indicated in Paragraph 6.06.B), whether initially or as a replacement, against whom Owner may have reasonable objection. Contractor shall not be required to employ any Subcontractor, Supplier, or other individual or entity to furnish or perform any of the Work against whom Contractor has reasonable objection.
- B. If the Supplementary Conditions require the identity of certain Subcontractors, Suppliers, or other individuals or entities to be submitted to Owner in advance for acceptance by Owner by a specified date

prior to the Effective Date of the Agreement, and if Contractor has submitted a list thereof in accordance with the Supplementary Conditions, Owner's acceptance (either in writing or by failing to make written objection thereto by the date indicated for acceptance or objection in the Bidding Documents or the Contract Documents) of any such Subcontractor, Supplier, or other individual or entity so identified may be revoked on the basis of reasonable objection after due investigation. Contractor shall submit an acceptable replacement for the rejected Subcontractor, Supplier, or other individual or entity, and the Contract Price will be adjusted by the difference in the cost occasioned by such replacement, and an appropriate Change Order will be issued. No acceptance by Owner of any such Subcontractor, Supplier, or other individual or entity, whether initially or as a replacement, shall constitute a waiver of any right of Owner or Engineer to reject defective Work.

- C. Contractor shall be fully responsible to Owner and Engineer for all acts and omissions of the Subcontractors, Suppliers, and other individuals or entities performing or furnishing any of the Work just as Contractor is responsible for Contractor's own acts and omissions. Nothing in the Contract Documents:
 - 1. shall create for the benefit of any such Subcontractor, Supplier, or other individual or entity any contractual relationship between Owner or Engineer and any such Subcontractor, Supplier or other individual or entity; nor
 - 2. shall create any obligation on the part of Owner or Engineer to pay or to see to the payment of any moneys due any such Subcontractor, Supplier, or other individual or entity except as may otherwise be required by Laws and Regulations.
- D. Contractor shall be solely responsible for scheduling and coordinating the Work of Subcontractors, Suppliers, and other individuals or entities performing or furnishing any of the Work under a direct or indirect contract with Contractor.
- E. Contractor shall require all Subcontractors, Suppliers, and such other individuals or entities performing or furnishing any of the Work to communicate with Engineer through Contractor.
- F. The divisions and sections of the Specifications and the identifications of any Drawings shall not control Contractor in dividing the Work among Subcontractors or Suppliers or delineating the Work to be performed by any specific trade.
- G. All Work performed for Contractor by a Subcontractor or Supplier will be pursuant to an appropriate agreement between Contractor and the Subcontractor or Supplier which specifically binds the Subcontractor or Supplier to the applicable terms and conditions of the Contract Documents for the benefit of Owner and Engineer. Whenever any such agreement is with a Subcontractor or Supplier who is listed as a loss payee on the property insurance provided in Paragraph 5.06, the agreement between the Contractor and the Subcontractor or Supplier will contain provisions whereby the Subcontractor or Supplier waives all rights against Owner, Contractor, Engineer, and all other individuals or entities identified in the Supplementary Conditions to be listed as insureds or loss payees (and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them) for all losses and damages caused by, arising out of, relating to, or resulting from any of the perils or causes of loss covered by such policies and any other property insurance applicable to the Work. If the insurers on any such policies require separate waiver forms to be signed by any Subcontractor or Supplier, Contractor will obtain the same.

6.07 *Patent Fees and Royalties*

- A. Contractor shall pay all license fees and royalties and assume all costs incident to the use in the performance of the Work or the incorporation in the Work of any invention, design, process, product, or device which is the subject of patent rights or copyrights held by others. If a particular invention, design, process, product, or device is specified in the Contract Documents for use in the performance of the Work and if, to the actual knowledge of Owner or Engineer, its use is subject to patent rights or copyrights calling for the payment of any license fee or royalty to others, the existence of such rights shall be disclosed by Owner in the Contract Documents.
- B. To the fullest extent permitted by Laws and Regulations, Owner shall indemnify and hold harmless Contractor, and its officers, directors, members, partners, employees, agents, consultants, and subcontractors from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals, and all court or arbitration or other dispute resolution costs) arising out of or relating to any infringement of patent rights or copyrights incident to the use in the performance of the Work or resulting from the incorporation in the Work of any invention, design, process, product, or device specified in the Contract Documents, but not identified as being subject to payment of any license fee or royalty to others required by patent rights or copyrights.
- C. To the fullest extent permitted by Laws and Regulations, Contractor shall indemnify and hold harmless Owner and Engineer, and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to any infringement of patent rights or copyrights incident to the use in the performance of the Work or resulting from the incorporation in the Work of any invention, design, process, product, or device not specified in the Contract Documents.

6.08 *Permits*

- A. Unless otherwise provided in the Supplementary Conditions, Contractor shall obtain and pay for all construction permits and licenses. Owner shall assist Contractor, when necessary, in obtaining such permits and licenses. Contractor shall pay all governmental charges and inspection fees necessary for the prosecution of the Work which are applicable at the time of opening of Bids, or, if there are no Bids, on the Effective Date of the Agreement. Owner shall pay all charges of utility owners for connections for providing permanent service to the Work.

6.09 *Laws and Regulations*

- A. Contractor shall give all notices required by and shall comply with all Laws and Regulations applicable to the performance of the Work. Except where otherwise expressly required by applicable Laws and Regulations, neither Owner nor Engineer shall be responsible for monitoring Contractor's compliance with any Laws or Regulations.
- B. If Contractor performs any Work knowing or having reason to know that it is contrary to Laws or Regulations, Contractor shall bear all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to such Work. However, it shall not be Contractor's responsibility to make certain that the Specifications and Drawings are in accordance with Laws and Regulations, but this shall not relieve Contractor of Contractor's obligations under Paragraph 3.03.

- C. Changes in Laws or Regulations not known at the time of opening of Bids (or, on the Effective Date of the Agreement if there were no Bids) having an effect on the cost or time of performance of the Work shall be the subject of an adjustment in Contract Price or Contract Times. If Owner and Contractor are unable to agree on entitlement to or on the amount or extent, if any, of any such adjustment, a Claim may be made therefor as provided in Paragraph 10.05.

6.10 *Taxes*

- A. Contractor shall pay all sales, consumer, use, and other similar taxes required to be paid by Contractor in accordance with the Laws and Regulations of the place of the Project which are applicable during the performance of the Work.

6.11 *Use of Site and Other Areas*

A. *Limitation on Use of Site and Other Areas:*

1. Contractor shall confine construction equipment, the storage of materials and equipment, and the operations of workers to the Site and other areas permitted by Laws and Regulations, and shall not unreasonably encumber the Site and other areas with construction equipment or other materials or equipment. Contractor shall assume full responsibility for any damage to any such land or area, or to the owner or occupant thereof, or of any adjacent land or areas resulting from the performance of the Work.
2. Should any claim be made by any such owner or occupant because of the performance of the Work, Contractor shall promptly settle with such other party by negotiation or otherwise resolve the claim by arbitration or other dispute resolution proceeding or at law.
3. To the fullest extent permitted by Laws and Regulations, Contractor shall indemnify and hold harmless Owner and Engineer, and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to any claim or action, legal or equitable, brought by any such owner or occupant against Owner, Engineer, or any other party indemnified hereunder to the extent caused by or based upon Contractor's performance of the Work.

- B. *Removal of Debris During Performance of the Work:* During the progress of the Work Contractor shall keep the Site and other areas free from accumulations of waste materials, rubbish, and other debris. Removal and disposal of such waste materials, rubbish, and other debris shall conform to applicable Laws and Regulations.

- C. *Cleaning:* Prior to Substantial Completion of the Work Contractor shall clean the Site and the Work and make it ready for utilization by Owner. At the completion of the Work Contractor shall remove from the Site all tools, appliances, construction equipment and machinery, and surplus materials and shall restore to original condition all property not designated for alteration by the Contract Documents.

- D. *Loading Structures:* Contractor shall not load nor permit any part of any structure to be loaded in any manner that will endanger the structure, nor shall Contractor subject any part of the Work or adjacent property to stresses or pressures that will endanger it.

6.12 *Record Documents*

- A. Contractor shall maintain in a safe place at the Site one record copy of all Drawings, Specifications, Addenda, Change Orders, Work Change Directives, Field Orders, and written interpretations and clarifications in good order and annotated to show changes made during construction. These record documents together with all approved Samples and a counterpart of all approved Shop Drawings will be available to Engineer for reference. Upon completion of the Work, these record documents, Samples, and Shop Drawings will be delivered to Engineer for Owner.

6.13 *Safety and Protection*

- A. Contractor shall be solely responsible for initiating, maintaining and supervising all safety precautions and programs in connection with the Work. Such responsibility does not relieve Subcontractors of their responsibility for the safety of persons or property in the performance of their work, nor for compliance with applicable safety Laws and Regulations. Contractor shall take all necessary precautions for the safety of, and shall provide the necessary protection to prevent damage, injury or loss to:
 - 1. all persons on the Site or who may be affected by the Work;
 - 2. all the Work and materials and equipment to be incorporated therein, whether in storage on or off the Site; and
 - 3. other property at the Site or adjacent thereto, including trees, shrubs, lawns, walks, pavements, roadways, structures, utilities, and Underground Facilities not designated for removal, relocation, or replacement in the course of construction.
- B. Contractor shall comply with all applicable Laws and Regulations relating to the safety of persons or property, or to the protection of persons or property from damage, injury, or loss; and shall erect and maintain all necessary safeguards for such safety and protection. Contractor shall notify owners of adjacent property and of Underground Facilities and other utility owners when prosecution of the Work may affect them, and shall cooperate with them in the protection, removal, relocation, and replacement of their property.
- C. Contractor shall comply with the applicable requirements of Owner's safety programs, if any. The Supplementary Conditions identify any Owner's safety programs that are applicable to the Work.
- D. Contractor shall inform Owner and Engineer of the specific requirements of Contractor's safety program with which Owner's and Engineer's employees and representatives must comply while at the Site.
- E. All damage, injury, or loss to any property referred to in Paragraph 6.13.A.2 or 6.13.A.3 caused, directly or indirectly, in whole or in part, by Contractor, any Subcontractor, Supplier, or any other individual or entity directly or indirectly employed by any of them to perform any of the Work, or anyone for whose acts any of them may be liable, shall be remedied by Contractor (except damage or loss attributable to the fault of Drawings or Specifications or to the acts or omissions of Owner or Engineer or anyone employed by any of them, or anyone for whose acts any of them may be liable, and not attributable, directly or indirectly, in whole or in part, to the fault or negligence of Contractor or any Subcontractor, Supplier, or other individual or entity directly or indirectly employed by any of them).
- F. Contractor's duties and responsibilities for safety and for protection of the Work shall continue until such time as all the Work is completed and Engineer has issued a notice to Owner and Contractor in accordance with Paragraph 14.07.B that the Work is acceptable (except as otherwise expressly provided in connection with Substantial Completion).

6.14 *Safety Representative*

- A. Contractor shall designate a qualified and experienced safety representative at the Site whose duties and responsibilities shall be the prevention of accidents and the maintaining and supervising of safety precautions and programs.

6.15 *Hazard Communication Programs*

- A. Contractor shall be responsible for coordinating any exchange of material safety data sheets or other hazard communication information required to be made available to or exchanged between or among employers at the Site in accordance with Laws or Regulations.

6.16 *Emergencies*

- A. In emergencies affecting the safety or protection of persons or the Work or property at the Site or adjacent thereto, Contractor is obligated to act to prevent threatened damage, injury, or loss. Contractor shall give Engineer prompt written notice if Contractor believes that any significant changes in the Work or variations from the Contract Documents have been caused thereby or are required as a result thereof. If Engineer determines that a change in the Contract Documents is required because of the action taken by Contractor in response to such an emergency, a Work Change Directive or Change Order will be issued.

6.17 *Shop Drawings and Samples*

- A. Contractor shall submit Shop Drawings and Samples to Engineer for review and approval in accordance with the accepted Schedule of Submittals (as required by Paragraph 2.07). Each submittal will be identified as Engineer may require.

- 1. *Shop Drawings:*

- a. Submit number of copies specified in the General Requirements.
- b. Data shown on the Shop Drawings will be complete with respect to quantities, dimensions, specified performance and design criteria, materials, and similar data to show Engineer the services, materials, and equipment Contractor proposes to provide and to enable Engineer to review the information for the limited purposes required by Paragraph 6.17.D.

- 2. *Samples:*

- a. Submit number of Samples specified in the Specifications.
- b. Clearly identify each Sample as to material, Supplier, pertinent data such as catalog numbers, the use for which intended and other data as Engineer may require to enable Engineer to review the submittal for the limited purposes required by Paragraph 6.17.D.

- B. Where a Shop Drawing or Sample is required by the Contract Documents or the Schedule of Submittals, any related Work performed prior to Engineer's review and approval of the pertinent submittal will be at the sole expense and responsibility of Contractor.

C. *Submittal Procedures:*

1. Before submitting each Shop Drawing or Sample, Contractor shall have:
 - a. reviewed and coordinated each Shop Drawing or Sample with other Shop Drawings and Samples and with the requirements of the Work and the Contract Documents;
 - b. determined and verified all field measurements, quantities, dimensions, specified performance and design criteria, installation requirements, materials, catalog numbers, and similar information with respect thereto;
 - c. determined and verified the suitability of all materials offered with respect to the indicated application, fabrication, shipping, handling, storage, assembly, and installation pertaining to the performance of the Work; and
 - d. determined and verified all information relative to Contractor's responsibilities for means, methods, techniques, sequences, and procedures of construction, and safety precautions and programs incident thereto.
2. Each submittal shall bear a stamp or specific written certification that Contractor has satisfied Contractor's obligations under the Contract Documents with respect to Contractor's review and approval of that submittal.
3. With each submittal, Contractor shall give Engineer specific written notice of any variations that the Shop Drawing or Sample may have from the requirements of the Contract Documents. This notice shall be both a written communication separate from the Shop Drawings or Sample submittal; and, in addition, by a specific notation made on each Shop Drawing or Sample submitted to Engineer for review and approval of each such variation.

D. *Engineer's Review:*

1. Engineer will provide timely review of Shop Drawings and Samples in accordance with the Schedule of Submittals acceptable to Engineer. Engineer's review and approval will be only to determine if the items covered by the submittals will, after installation or incorporation in the Work, conform to the information given in the Contract Documents and be compatible with the design concept of the completed Project as a functioning whole as indicated by the Contract Documents.
2. Engineer's review and approval will not extend to means, methods, techniques, sequences, or procedures of construction (except where a particular means, method, technique, sequence, or procedure of construction is specifically and expressly called for by the Contract Documents) or to safety precautions or programs incident thereto. The review and approval of a separate item as such will not indicate approval of the assembly in which the item functions.
3. Engineer's review and approval shall not relieve Contractor from responsibility for any variation from the requirements of the Contract Documents unless Contractor has complied with the requirements of Paragraph 6.17.C.3 and Engineer has given written approval of each such variation by specific written notation thereof incorporated in or accompanying the Shop Drawing or Sample. Engineer's review and approval shall not relieve Contractor from responsibility for complying with the requirements of Paragraph 6.17.C.1.

E. *Resubmittal Procedures:*

1. Contractor shall make corrections required by Engineer and shall return the required number of corrected copies of Shop Drawings and submit, as required, new Samples for review and approval. Contractor shall direct specific attention in writing to revisions other than the corrections called for by Engineer on previous submittals.

6.18 *Continuing the Work*

- A. Contractor shall carry on the Work and adhere to the Progress Schedule during all disputes or disagreements with Owner. No Work shall be delayed or postponed pending resolution of any disputes or disagreements, except as permitted by Paragraph 15.04 or as Owner and Contractor may otherwise agree in writing.

6.19 *Contractor's General Warranty and Guarantee*

- A. Contractor warrants and guarantees to Owner that all Work will be in accordance with the Contract Documents and will not be defective. Engineer and its officers, directors, members, partners, employees, agents, consultants, and subcontractors shall be entitled to rely on representation of Contractor's warranty and guarantee.
- B. Contractor's warranty and guarantee hereunder excludes defects or damage caused by:
 1. abuse, modification, or improper maintenance or operation by persons other than Contractor, Subcontractors, Suppliers, or any other individual or entity for whom Contractor is responsible; or
 2. normal wear and tear under normal usage.
- C. Contractor's obligation to perform and complete the Work in accordance with the Contract Documents shall be absolute. None of the following will constitute an acceptance of Work that is not in accordance with the Contract Documents or a release of Contractor's obligation to perform the Work in accordance with the Contract Documents:
 1. observations by Engineer;
 2. recommendation by Engineer or payment by Owner of any progress or final payment;
 3. the issuance of a certificate of Substantial Completion by Engineer or any payment related thereto by Owner;
 4. use or occupancy of the Work or any part thereof by Owner;
 5. any review and approval of a Shop Drawing or Sample submittal or the issuance of a notice of acceptability by Engineer;
 6. any inspection, test, or approval by others; or
 7. any correction of defective Work by Owner.

6.20 *Indemnification*

- A. To the fullest extent permitted by Laws and Regulations, Contractor shall indemnify and hold harmless Owner and Engineer, and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them from and against all claims, costs, losses, and damages (including

but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to the performance of the Work, provided that any such claim, cost, loss, or damage is attributable to bodily injury, sickness, disease, or death, or to injury to or destruction of tangible property (other than the Work itself), including the loss of use resulting therefrom but only to the extent caused by any negligent act or omission of Contractor, any Subcontractor, any Supplier, or any individual or entity directly or indirectly employed by any of them to perform any of the Work or anyone for whose acts any of them may be liable .

- B. In any and all claims against Owner or Engineer or any of their officers, directors, members, partners, employees, agents, consultants, or subcontractors by any employee (or the survivor or personal representative of such employee) of Contractor, any Subcontractor, any Supplier, or any individual or entity directly or indirectly employed by any of them to perform any of the Work, or anyone for whose acts any of them may be liable, the indemnification obligation under Paragraph 6.20.A shall not be limited in any way by any limitation on the amount or type of damages, compensation, or benefits payable by or for Contractor or any such Subcontractor, Supplier, or other individual or entity under workers' compensation acts, disability benefit acts, or other employee benefit acts.
- C. The indemnification obligations of Contractor under Paragraph 6.20.A shall not extend to the liability of Engineer and Engineer's officers, directors, members, partners, employees, agents, consultants and subcontractors arising out of:
 - 1. the preparation or approval of, or the failure to prepare or approve maps, Drawings, opinions, reports, surveys, Change Orders, designs, or Specifications; or
 - 2. giving directions or instructions, or failing to give them, if that is the primary cause of the injury or damage.

6.21 *Delegation of Professional Design Services*

- A. Contractor will not be required to provide professional design services unless such services are specifically required by the Contract Documents for a portion of the Work or unless such services are required to carry out Contractor's responsibilities for construction means, methods, techniques, sequences and procedures. Contractor shall not be required to provide professional services in violation of applicable law.
- B. If professional design services or certifications by a design professional related to systems, materials or equipment are specifically required of Contractor by the Contract Documents, Owner and Engineer will specify all performance and design criteria that such services must satisfy. Contractor shall cause such services or certifications to be provided by a properly licensed professional, whose signature and seal shall appear on all drawings, calculations, specifications, certifications, Shop Drawings and other submittals prepared by such professional. Shop Drawings and other submittals related to the Work designed or certified by such professional, if prepared by others, shall bear such professional's written approval when submitted to Engineer.
- C. Owner and Engineer shall be entitled to rely upon the adequacy, accuracy and completeness of the services, certifications or approvals performed by such design professionals, provided Owner and Engineer have specified to Contractor all performance and design criteria that such services must satisfy.
- D. Pursuant to this Paragraph 6.21, Engineer's review and approval of design calculations and design drawings will be only for the limited purpose of checking for conformance with performance and design criteria given and the design concept expressed in the Contract Documents. Engineer's review and

approval of Shop Drawings and other submittals (except design calculations and design drawings) will be only for the purpose stated in Paragraph 6.17.D.1.

- E. Contractor shall not be responsible for the adequacy of the performance or design criteria required by the Contract Documents.

ARTICLE 7 – OTHER WORK AT THE SITE

7.01 Related Work at Site

- A. Owner may perform other work related to the Project at the Site with Owner's employees, or through other direct contracts therefor, or have other work performed by utility owners. If such other work is not noted in the Contract Documents, then:
 - 1. written notice thereof will be given to Contractor prior to starting any such other work; and
 - 2. if Owner and Contractor are unable to agree on entitlement to or on the amount or extent, if any, of any adjustment in the Contract Price or Contract Times that should be allowed as a result of such other work, a Claim may be made therefor as provided in Paragraph 10.05.
- B. Contractor shall afford each other contractor who is a party to such a direct contract, each utility owner, and Owner, if Owner is performing other work with Owner's employees, proper and safe access to the Site, provide a reasonable opportunity for the introduction and storage of materials and equipment and the execution of such other work, and properly coordinate the Work with theirs. Contractor shall do all cutting, fitting, and patching of the Work that may be required to properly connect or otherwise make its several parts come together and properly integrate with such other work. Contractor shall not endanger any work of others by cutting, excavating, or otherwise altering such work; provided, however, that Contractor may cut or alter others' work with the written consent of Engineer and the others whose work will be affected. The duties and responsibilities of Contractor under this Paragraph are for the benefit of such utility owners and other contractors to the extent that there are comparable provisions for the benefit of Contractor in said direct contracts between Owner and such utility owners and other contractors.
- C. If the proper execution or results of any part of Contractor's Work depends upon work performed by others under this Article 7, Contractor shall inspect such other work and promptly report to Engineer in writing any delays, defects, or deficiencies in such other work that render it unavailable or unsuitable for the proper execution and results of Contractor's Work. Contractor's failure to so report will constitute an acceptance of such other work as fit and proper for integration with Contractor's Work except for latent defects and deficiencies in such other work.

7.02 Coordination

- A. If Owner intends to contract with others for the performance of other work on the Project at the Site, the following will be set forth in Supplementary Conditions:
 - 1. the individual or entity who will have authority and responsibility for coordination of the activities among the various contractors will be identified;
 - 2. the specific matters to be covered by such authority and responsibility will be itemized; and
 - 3. the extent of such authority and responsibilities will be provided.

- B. Unless otherwise provided in the Supplementary Conditions, Owner shall have sole authority and responsibility for such coordination.

7.03 *Legal Relationships*

- A. Paragraphs 7.01.A and 7.02 are not applicable for utilities not under the control of Owner.
- B. Each other direct contract of Owner under Paragraph 7.01.A shall provide that the other contractor is liable to Owner and Contractor for the reasonable direct delay and disruption costs incurred by Contractor as a result of the other contractor's wrongful actions or inactions.
- C. Contractor shall be liable to Owner and any other contractor under direct contract to Owner for the reasonable direct delay and disruption costs incurred by such other contractor as a result of Contractor's wrongful action or inactions.

ARTICLE 8 – OWNER'S RESPONSIBILITIES

8.01 *Communications to Contractor*

- A. Except as otherwise provided in these General Conditions, Owner shall issue all communications to Contractor through Engineer.

8.02 *Replacement of Engineer*

- A. In case of termination of the employment of Engineer, Owner shall appoint an engineer to whom Contractor makes no reasonable objection, whose status under the Contract Documents shall be that of the former Engineer.

8.03 *Furnish Data*

- A. Owner shall promptly furnish the data required of Owner under the Contract Documents.

8.04 *Pay When Due*

- A. Owner shall make payments to Contractor when they are due as provided in Paragraphs 14.02.C and 14.07.C.

8.05 *Lands and Easements; Reports and Tests*

- A. Owner's duties with respect to providing lands and easements and providing engineering surveys to establish reference points are set forth in Paragraphs 4.01 and 4.05. Paragraph 4.02 refers to Owner's identifying and making available to Contractor copies of reports of explorations and tests of subsurface conditions and drawings of physical conditions relating to existing surface or subsurface structures at the Site.

8.06 *Insurance*

- A. Owner's responsibilities, if any, with respect to purchasing and maintaining liability and property insurance are set forth in Article 5.

8.07 *Change Orders*

A. Owner is obligated to execute Change Orders as indicated in Paragraph 10.03.

8.08 *Inspections, Tests, and Approvals*

A. Owner's responsibility with respect to certain inspections, tests, and approvals is set forth in Paragraph 13.03.B.

8.09 *Limitations on Owner's Responsibilities*

A. The Owner shall not supervise, direct, or have control or authority over, nor be responsible for, Contractor's means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto, or for any failure of Contractor to comply with Laws and Regulations applicable to the performance of the Work. Owner will not be responsible for Contractor's failure to perform the Work in accordance with the Contract Documents.

8.10 *Undisclosed Hazardous Environmental Condition*

A. Owner's responsibility in respect to an undisclosed Hazardous Environmental Condition is set forth in Paragraph 4.06.

8.11 *Evidence of Financial Arrangements*

A. Upon request of Contractor, Owner shall furnish Contractor reasonable evidence that financial arrangements have been made to satisfy Owner's obligations under the Contract Documents.

8.12 *Compliance with Safety Program*

A. While at the Site, Owner's employees and representatives shall comply with the specific applicable requirements of Contractor's safety programs of which Owner has been informed pursuant to Paragraph 6.13.D.

ARTICLE 9 – ENGINEER'S STATUS DURING CONSTRUCTION

9.01 *Owner's Representative*

A. Engineer will be Owner's representative during the construction period. The duties and responsibilities and the limitations of authority of Engineer as Owner's representative during construction are set forth in the Contract Documents.

9.02 *Visits to Site*

A. Engineer will make visits to the Site at intervals appropriate to the various stages of construction as Engineer deems necessary in order to observe as an experienced and qualified design professional the progress that has been made and the quality of the various aspects of Contractor's executed Work. Based on information obtained during such visits and observations, Engineer, for the benefit of Owner, will determine, in general, if the Work is proceeding in accordance with the Contract Documents. Engineer will not be required to make exhaustive or continuous inspections on the Site to check the quality or quantity of the Work. Engineer's efforts will be directed toward providing for Owner a greater degree of confidence that the completed Work will conform generally to the Contract Documents. On the basis of

such visits and observations, Engineer will keep Owner informed of the progress of the Work and will endeavor to guard Owner against defective Work.

- B. Engineer's visits and observations are subject to all the limitations on Engineer's authority and responsibility set forth in Paragraph 9.09. Particularly, but without limitation, during or as a result of Engineer's visits or observations of Contractor's Work, Engineer will not supervise, direct, control, or have authority over or be responsible for Contractor's means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto, or for any failure of Contractor to comply with Laws and Regulations applicable to the performance of the Work.

9.03 *Project Representative*

- A. If Owner and Engineer agree, Engineer will furnish a Resident Project Representative to assist Engineer in providing more extensive observation of the Work. The authority and responsibilities of any such Resident Project Representative and assistants will be as provided in the Supplementary Conditions, and limitations on the responsibilities thereof will be as provided in Paragraph 9.09. If Owner designates another representative or agent to represent Owner at the Site who is not Engineer's consultant, agent or employee, the responsibilities and authority and limitations thereon of such other individual or entity will be as provided in the Supplementary Conditions.

9.04 *Authorized Variations in Work*

- A. Engineer may authorize minor variations in the Work from the requirements of the Contract Documents which do not involve an adjustment in the Contract Price or the Contract Times and are compatible with the design concept of the completed Project as a functioning whole as indicated by the Contract Documents. These may be accomplished by a Field Order and will be binding on Owner and also on Contractor, who shall perform the Work involved promptly. If Owner or Contractor believes that a Field Order justifies an adjustment in the Contract Price or Contract Times, or both, and the parties are unable to agree on entitlement to or on the amount or extent, if any, of any such adjustment, a Claim may be made therefor as provided in Paragraph 10.05.

9.05 *Rejecting Defective Work*

- A. Engineer will have authority to reject Work which Engineer believes to be defective, or that Engineer believes will not produce a completed Project that conforms to the Contract Documents or that will prejudice the integrity of the design concept of the completed Project as a functioning whole as indicated by the Contract Documents. Engineer will also have authority to require special inspection or testing of the Work as provided in Paragraph 13.04, whether or not the Work is fabricated, installed, or completed.

9.06 *Shop Drawings, Change Orders and Payments*

- A. In connection with Engineer's authority, and limitations thereof, as to Shop Drawings and Samples, see Paragraph 6.17.
- B. In connection with Engineer's authority, and limitations thereof, as to design calculations and design drawings submitted in response to a delegation of professional design services, if any, see Paragraph 6.21.
- C. In connection with Engineer's authority as to Change Orders, see Articles 10, 11, and 12.
- D. In connection with Engineer's authority as to Applications for Payment, see Article 14.

9.07 *Determinations for Unit Price Work*

- A. Engineer will determine the actual quantities and classifications of Unit Price Work performed by Contractor. Engineer will review with Contractor the Engineer's preliminary determinations on such matters before rendering a written decision thereon (by recommendation of an Application for Payment or otherwise). Engineer's written decision thereon will be final and binding (except as modified by Engineer to reflect changed factual conditions or more accurate data) upon Owner and Contractor, subject to the provisions of Paragraph 10.05.

9.08 *Decisions on Requirements of Contract Documents and Acceptability of Work*

- A. Engineer will be the initial interpreter of the requirements of the Contract Documents and judge of the acceptability of the Work thereunder. All matters in question and other matters between Owner and Contractor arising prior to the date final payment is due relating to the acceptability of the Work, and the interpretation of the requirements of the Contract Documents pertaining to the performance of the Work, will be referred initially to Engineer in writing within 30 days of the event giving rise to the question.
- B. Engineer will, with reasonable promptness, render a written decision on the issue referred. If Owner or Contractor believes that any such decision entitles them to an adjustment in the Contract Price or Contract Times or both, a Claim may be made under Paragraph 10.05. The date of Engineer's decision shall be the date of the event giving rise to the issues referenced for the purposes of Paragraph 10.05.B.
- C. Engineer's written decision on the issue referred will be final and binding on Owner and Contractor, subject to the provisions of Paragraph 10.05.
- D. When functioning as interpreter and judge under this Paragraph 9.08, Engineer will not show partiality to Owner or Contractor and will not be liable in connection with any interpretation or decision rendered in good faith in such capacity.

9.09 *Limitations on Engineer's Authority and Responsibilities*

- A. Neither Engineer's authority or responsibility under this Article 9 or under any other provision of the Contract Documents nor any decision made by Engineer in good faith either to exercise or not exercise such authority or responsibility or the undertaking, exercise, or performance of any authority or responsibility by Engineer shall create, impose, or give rise to any duty in contract, tort, or otherwise owed by Engineer to Contractor, any Subcontractor, any Supplier, any other individual or entity, or to any surety for or employee or agent of any of them.
- B. Engineer will not supervise, direct, control, or have authority over or be responsible for Contractor's means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto, or for any failure of Contractor to comply with Laws and Regulations applicable to the performance of the Work. Engineer will not be responsible for Contractor's failure to perform the Work in accordance with the Contract Documents.
- C. Engineer will not be responsible for the acts or omissions of Contractor or of any Subcontractor, any Supplier, or of any other individual or entity performing any of the Work.
- D. Engineer's review of the final Application for Payment and accompanying documentation and all maintenance and operating instructions, schedules, guarantees, bonds, certificates of inspection, tests and approvals, and other documentation required to be delivered by Paragraph 14.07.A will only be to determine generally that their content complies with the requirements of, and in the case of certificates of

inspections, tests, and approvals that the results certified indicate compliance with, the Contract Documents.

- E. The limitations upon authority and responsibility set forth in this Paragraph 9.09 shall also apply to the Resident Project Representative, if any, and assistants, if any.

9.10 *Compliance with Safety Program*

- A. While at the Site, Engineer's employees and representatives shall comply with the specific applicable requirements of Contractor's safety programs of which Engineer has been informed pursuant to Paragraph 6.13.D.

ARTICLE 10 – CHANGES IN THE WORK; CLAIMS

10.01 *Authorized Changes in the Work*

- A. Without invalidating the Contract and without notice to any surety, Owner may, at any time or from time to time, order additions, deletions, or revisions in the Work by a Change Order, or a Work Change Directive. Upon receipt of any such document, Contractor shall promptly proceed with the Work involved which will be performed under the applicable conditions of the Contract Documents (except as otherwise specifically provided).
- B. If Owner and Contractor are unable to agree on entitlement to, or on the amount or extent, if any, of an adjustment in the Contract Price or Contract Times, or both, that should be allowed as a result of a Work Change Directive, a Claim may be made therefor as provided in Paragraph 10.05.

10.02 *Unauthorized Changes in the Work*

- A. Contractor shall not be entitled to an increase in the Contract Price or an extension of the Contract Times with respect to any work performed that is not required by the Contract Documents as amended, modified, or supplemented as provided in Paragraph 3.04, except in the case of an emergency as provided in Paragraph 6.16 or in the case of uncovering Work as provided in Paragraph 13.04.D.

10.03 *Execution of Change Orders*

- A. Owner and Contractor shall execute appropriate Change Orders recommended by Engineer covering:
 - 1. changes in the Work which are: (i) ordered by Owner pursuant to Paragraph 10.01.A, (ii) required because of acceptance of defective Work under Paragraph 13.08.A or Owner's correction of defective Work under Paragraph 13.09, or (iii) agreed to by the parties;
 - 2. changes in the Contract Price or Contract Times which are agreed to by the parties, including any undisputed sum or amount of time for Work actually performed in accordance with a Work Change Directive; and
 - 3. changes in the Contract Price or Contract Times which embody the substance of any written decision rendered by Engineer pursuant to Paragraph 10.05; provided that, in lieu of executing any such Change Order, an appeal may be taken from any such decision in accordance with the provisions of the Contract Documents and applicable Laws and Regulations, but during any such appeal, Contractor shall carry on the Work and adhere to the Progress Schedule as provided in Paragraph 6.18.A.

10.04 *Notification to Surety*

- A. If the provisions of any bond require notice to be given to a surety of any change affecting the general scope of the Work or the provisions of the Contract Documents (including, but not limited to, Contract Price or Contract Times), the giving of any such notice will be Contractor's responsibility. The amount of each applicable bond will be adjusted to reflect the effect of any such change.

10.05 *Claims*

- A. *Engineer's Decision Required:* All Claims, except those waived pursuant to Paragraph 14.09, shall be referred to the Engineer for decision. A decision by Engineer shall be required as a condition precedent to any exercise by Owner or Contractor of any rights or remedies either may otherwise have under the Contract Documents or by Laws and Regulations in respect of such Claims.
- B. *Notice:* Written notice stating the general nature of each Claim shall be delivered by the claimant to Engineer and the other party to the Contract promptly (but in no event later than 30 days) after the start of the event giving rise thereto. The responsibility to substantiate a Claim shall rest with the party making the Claim. Notice of the amount or extent of the Claim, with supporting data shall be delivered to the Engineer and the other party to the Contract within 60 days after the start of such event (unless Engineer allows additional time for claimant to submit additional or more accurate data in support of such Claim). A Claim for an adjustment in Contract Price shall be prepared in accordance with the provisions of Paragraph 12.01.B. A Claim for an adjustment in Contract Times shall be prepared in accordance with the provisions of Paragraph 12.02.B. Each Claim shall be accompanied by claimant's written statement that the adjustment claimed is the entire adjustment to which the claimant believes it is entitled as a result of said event. The opposing party shall submit any response to Engineer and the claimant within 30 days after receipt of the claimant's last submittal (unless Engineer allows additional time).
- C. *Engineer's Action:* Engineer will review each Claim and, within 30 days after receipt of the last submittal of the claimant or the last submittal of the opposing party, if any, take one of the following actions in writing:
 - 1. deny the Claim in whole or in part;
 - 2. approve the Claim; or
 - 3. notify the parties that the Engineer is unable to resolve the Claim if, in the Engineer's sole discretion, it would be inappropriate for the Engineer to do so. For purposes of further resolution of the Claim, such notice shall be deemed a denial.
- D. In the event that Engineer does not take action on a Claim within said 30 days, the Claim shall be deemed denied.
- E. Engineer's written action under Paragraph 10.05.C or denial pursuant to Paragraphs 10.05.C.3 or 10.05.D will be final and binding upon Owner and Contractor, unless Owner or Contractor invoke the dispute resolution procedure set forth in Article 16 within 30 days of such action or denial.
- F. No Claim for an adjustment in Contract Price or Contract Times will be valid if not submitted in accordance with this Paragraph 10.05.

ARTICLE 11 – COST OF THE WORK; ALLOWANCES; UNIT PRICE WORK

11.01 *Cost of the Work*

A. *Costs Included:* The term Cost of the Work means the sum of all costs, except those excluded in Paragraph 11.01.B, necessarily incurred and paid by Contractor in the proper performance of the Work. When the value of any Work covered by a Change Order or when a Claim for an adjustment in Contract Price is determined on the basis of Cost of the Work, the costs to be reimbursed to Contractor will be only those additional or incremental costs required because of the change in the Work or because of the event giving rise to the Claim. Except as otherwise may be agreed to in writing by Owner, such costs shall be in amounts no higher than those prevailing in the locality of the Project, shall not include any of the costs itemized in Paragraph 11.01.B, and shall include only the following items:

1. Payroll costs for employees in the direct employ of Contractor in the performance of the Work under schedules of job classifications agreed upon by Owner and Contractor. Such employees shall include, without limitation, superintendents, foremen, and other personnel employed full time on the Work. Payroll costs for employees not employed full time on the Work shall be apportioned on the basis of their time spent on the Work. Payroll costs shall include, but not be limited to, salaries and wages plus the cost of fringe benefits, which shall include social security contributions, unemployment, excise, and payroll taxes, workers' compensation, health and retirement benefits, bonuses, sick leave, vacation and holiday pay applicable thereto. The expenses of performing Work outside of regular working hours, on Saturday, Sunday, or legal holidays, shall be included in the above to the extent authorized by Owner.
2. Cost of all materials and equipment furnished and incorporated in the Work, including costs of transportation and storage thereof, and Suppliers' field services required in connection therewith. All cash discounts shall accrue to Contractor unless Owner deposits funds with Contractor with which to make payments, in which case the cash discounts shall accrue to Owner. All trade discounts, rebates and refunds and returns from sale of surplus materials and equipment shall accrue to Owner, and Contractor shall make provisions so that they may be obtained.
3. Payments made by Contractor to Subcontractors for Work performed by Subcontractors. If required by Owner, Contractor shall obtain competitive bids from subcontractors acceptable to Owner and Contractor and shall deliver such bids to Owner, who will then determine, with the advice of Engineer, which bids, if any, will be acceptable. If any subcontract provides that the Subcontractor is to be paid on the basis of Cost of the Work plus a fee, the Subcontractor's Cost of the Work and fee shall be determined in the same manner as Contractor's Cost of the Work and fee as provided in this Paragraph 11.01.
4. Costs of special consultants (including but not limited to engineers, architects, testing laboratories, surveyors, attorneys, and accountants) employed for services specifically related to the Work.
5. Supplemental costs including the following:
 - a. The proportion of necessary transportation, travel, and subsistence expenses of Contractor's employees incurred in discharge of duties connected with the Work.
 - b. Cost, including transportation and maintenance, of all materials, supplies, equipment, machinery, appliances, office, and temporary facilities at the Site, and hand tools not owned by the workers, which are consumed in the performance of the Work, and cost, less market value, of such items used but not consumed which remain the property of Contractor.

- c. Rentals of all construction equipment and machinery, and the parts thereof whether rented from Contractor or others in accordance with rental agreements approved by Owner with the advice of Engineer, and the costs of transportation, loading, unloading, assembly, dismantling, and removal thereof. All such costs shall be in accordance with the terms of said rental agreements. The rental of any such equipment, machinery, or parts shall cease when the use thereof is no longer necessary for the Work.
- d. Sales, consumer, use, and other similar taxes related to the Work, and for which Contractor is liable, as imposed by Laws and Regulations.
- e. Deposits lost for causes other than negligence of Contractor, any Subcontractor, or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable, and royalty payments and fees for permits and licenses.
- f. Losses and damages (and related expenses) caused by damage to the Work, not compensated by insurance or otherwise, sustained by Contractor in connection with the performance of the Work (except losses and damages within the deductible amounts of property insurance established in accordance with Paragraph 5.06.D), provided such losses and damages have resulted from causes other than the negligence of Contractor, any Subcontractor, or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable. Such losses shall include settlements made with the written consent and approval of Owner. No such losses, damages, and expenses shall be included in the Cost of the Work for the purpose of determining Contractor's fee.
- g. The cost of utilities, fuel, and sanitary facilities at the Site.
- h. Minor expenses such as telegrams, long distance telephone calls, telephone service at the Site, express and courier services, and similar petty cash items in connection with the Work.
- i. The costs of premiums for all bonds and insurance Contractor is required by the Contract Documents to purchase and maintain.

B. *Costs Excluded:* The term Cost of the Work shall not include any of the following items:

- 1. Payroll costs and other compensation of Contractor's officers, executives, principals (of partnerships and sole proprietorships), general managers, safety managers, engineers, architects, estimators, attorneys, auditors, accountants, purchasing and contracting agents, expeditors, timekeepers, clerks, and other personnel employed by Contractor, whether at the Site or in Contractor's principal or branch office for general administration of the Work and not specifically included in the agreed upon schedule of job classifications referred to in Paragraph 11.01.A.1 or specifically covered by Paragraph 11.01.A.4, all of which are to be considered administrative costs covered by the Contractor's fee.
- 2. Expenses of Contractor's principal and branch offices other than Contractor's office at the Site.
- 3. Any part of Contractor's capital expenses, including interest on Contractor's capital employed for the Work and charges against Contractor for delinquent payments.
- 4. Costs due to the negligence of Contractor, any Subcontractor, or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable, including but not limited to, the correction of defective Work, disposal of materials or equipment wrongly supplied, and making good any damage to property.

5. Other overhead or general expense costs of any kind and the costs of any item not specifically and expressly included in Paragraphs 11.01.A.
- C. *Contractor's Fee:* When all the Work is performed on the basis of cost-plus, Contractor's fee shall be determined as set forth in the Agreement. When the value of any Work covered by a Change Order or when a Claim for an adjustment in Contract Price is determined on the basis of Cost of the Work, Contractor's fee shall be determined as set forth in Paragraph 12.01.C.
- D. *Documentation:* Whenever the Cost of the Work for any purpose is to be determined pursuant to Paragraphs 11.01.A and 11.01.B, Contractor will establish and maintain records thereof in accordance with generally accepted accounting practices and submit in a form acceptable to Engineer an itemized cost breakdown together with supporting data.

11.02 Allowances

- A. It is understood that Contractor has included in the Contract Price all allowances so named in the Contract Documents and shall cause the Work so covered to be performed for such sums and by such persons or entities as may be acceptable to Owner and Engineer.
- B. *Cash Allowances:*
 1. Contractor agrees that:
 - a. the cash allowances include the cost to Contractor (less any applicable trade discounts) of materials and equipment required by the allowances to be delivered at the Site, and all applicable taxes; and
 - b. Contractor's costs for unloading and handling on the Site, labor, installation, overhead, profit, and other expenses contemplated for the cash allowances have been included in the Contract Price and not in the allowances, and no demand for additional payment on account of any of the foregoing will be valid.
- C. *Contingency Allowance:*
 1. Contractor agrees that a contingency allowance, if any, is for the sole use of Owner to cover unanticipated costs.
- D. Prior to final payment, an appropriate Change Order will be issued as recommended by Engineer to reflect actual amounts due Contractor on account of Work covered by allowances, and the Contract Price shall be correspondingly adjusted.

11.03 Unit Price Work

- A. Where the Contract Documents provide that all or part of the Work is to be Unit Price Work, initially the Contract Price will be deemed to include for all Unit Price Work an amount equal to the sum of the unit price for each separately identified item of Unit Price Work times the estimated quantity of each item as indicated in the Agreement.
- B. The estimated quantities of items of Unit Price Work are not guaranteed and are solely for the purpose of comparison of Bids and determining an initial Contract Price. Determinations of the actual quantities and classifications of Unit Price Work performed by Contractor will be made by Engineer subject to the provisions of Paragraph 9.07.

- C. Each unit price will be deemed to include an amount considered by Contractor to be adequate to cover Contractor's overhead and profit for each separately identified item.
- D. Owner or Contractor may make a Claim for an adjustment in the Contract Price in accordance with Paragraph 10.05 if:
 - 1. the quantity of any item of Unit Price Work performed by Contractor differs materially and significantly from the estimated quantity of such item indicated in the Agreement; and
 - 2. there is no corresponding adjustment with respect to any other item of Work; and
 - 3. Contractor believes that Contractor is entitled to an increase in Contract Price as a result of having incurred additional expense or Owner believes that Owner is entitled to a decrease in Contract Price and the parties are unable to agree as to the amount of any such increase or decrease.

ARTICLE 12 – CHANGE OF CONTRACT PRICE; CHANGE OF CONTRACT TIMES

12.01 *Change of Contract Price*

- A. The Contract Price may only be changed by a Change Order. Any Claim for an adjustment in the Contract Price shall be based on written notice submitted by the party making the Claim to the Engineer and the other party to the Contract in accordance with the provisions of Paragraph 10.05.
- B. The value of any Work covered by a Change Order or of any Claim for an adjustment in the Contract Price will be determined as follows:
 - 1. where the Work involved is covered by unit prices contained in the Contract Documents, by application of such unit prices to the quantities of the items involved (subject to the provisions of Paragraph 11.03); or
 - 2. where the Work involved is not covered by unit prices contained in the Contract Documents, by a mutually agreed lump sum (which may include an allowance for overhead and profit not necessarily in accordance with Paragraph 12.01.C.2); or
 - 3. where the Work involved is not covered by unit prices contained in the Contract Documents and agreement to a lump sum is not reached under Paragraph 12.01.B.2, on the basis of the Cost of the Work (determined as provided in Paragraph 11.01) plus a Contractor's fee for overhead and profit (determined as provided in Paragraph 12.01.C).
- C. *Contractor's Fee:* The Contractor's fee for overhead and profit shall be determined as follows:
 - 1. a mutually acceptable fixed fee; or
 - 2. if a fixed fee is not agreed upon, then a fee based on the following percentages of the various portions of the Cost of the Work:
 - a. for costs incurred under Paragraphs 11.01.A.1 and 11.01.A.2, the Contractor's fee shall be 15 percent;
 - b. for costs incurred under Paragraph 11.01.A.3, the Contractor's fee shall be five percent;

- c. where one or more tiers of subcontracts are on the basis of Cost of the Work plus a fee and no fixed fee is agreed upon, the intent of Paragraphs 12.01.C.2.a and 12.01.C.2.b is that the Subcontractor who actually performs the Work, at whatever tier, will be paid a fee of 15 percent of the costs incurred by such Subcontractor under Paragraphs 11.01.A.1 and 11.01.A.2 and that any higher tier Subcontractor and Contractor will each be paid a fee of five percent of the amount paid to the next lower tier Subcontractor;
- d. no fee shall be payable on the basis of costs itemized under Paragraphs 11.01.A.4, 11.01.A.5, and 11.01.B;
- e. the amount of credit to be allowed by Contractor to Owner for any change which results in a net decrease in cost will be the amount of the actual net decrease in cost plus a deduction in Contractor's fee by an amount equal to five percent of such net decrease; and
- f. when both additions and credits are involved in any one change, the adjustment in Contractor's fee shall be computed on the basis of the net change in accordance with Paragraphs 12.01.C.2.a through 12.01.C.2.e, inclusive.

12.02 *Change of Contract Times*

- A. The Contract Times may only be changed by a Change Order. Any Claim for an adjustment in the Contract Times shall be based on written notice submitted by the party making the Claim to the Engineer and the other party to the Contract in accordance with the provisions of Paragraph 10.05.
- B. Any adjustment of the Contract Times covered by a Change Order or any Claim for an adjustment in the Contract Times will be determined in accordance with the provisions of this Article 12.

12.03 *Delays*

- A. Where Contractor is prevented from completing any part of the Work within the Contract Times due to delay beyond the control of Contractor, the Contract Times will be extended in an amount equal to the time lost due to such delay if a Claim is made therefor as provided in Paragraph 12.02.A. Delays beyond the control of Contractor shall include, but not be limited to, acts or neglect by Owner, acts or neglect of utility owners or other contractors performing other work as contemplated by Article 7, fires, floods, epidemics, abnormal weather conditions, or acts of God.
- B. If Owner, Engineer, or other contractors or utility owners performing other work for Owner as contemplated by Article 7, or anyone for whom Owner is responsible, delays, disrupts, or interferes with the performance or progress of the Work, then Contractor shall be entitled to an equitable adjustment in the Contract Price or the Contract Times, or both. Contractor's entitlement to an adjustment of the Contract Times is conditioned on such adjustment being essential to Contractor's ability to complete the Work within the Contract Times.
- C. If Contractor is delayed in the performance or progress of the Work by fire, flood, epidemic, abnormal weather conditions, acts of God, acts or failures to act of utility owners not under the control of Owner, or other causes not the fault of and beyond control of Owner and Contractor, then Contractor shall be entitled to an equitable adjustment in Contract Times, if such adjustment is essential to Contractor's ability to complete the Work within the Contract Times. Such an adjustment shall be Contractor's sole and exclusive remedy for the delays described in this Paragraph 12.03.C.
- D. Owner, Engineer, and their officers, directors, members, partners, employees, agents, consultants, or subcontractors shall not be liable to Contractor for any claims, costs, losses, or damages (including but

not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) sustained by Contractor on or in connection with any other project or anticipated project.

- E. Contractor shall not be entitled to an adjustment in Contract Price or Contract Times for delays within the control of Contractor. Delays attributable to and within the control of a Subcontractor or Supplier shall be deemed to be delays within the control of Contractor.

ARTICLE 13 – TESTS AND INSPECTIONS; CORRECTION, REMOVAL OR ACCEPTANCE OF DEFECTIVE WORK

13.01 Notice of Defects

- A. Prompt notice of all defective Work of which Owner or Engineer has actual knowledge will be given to Contractor. Defective Work may be rejected, corrected, or accepted as provided in this Article 13.

13.02 Access to Work

- A. Owner, Engineer, their consultants and other representatives and personnel of Owner, independent testing laboratories, and governmental agencies with jurisdictional interests will have access to the Site and the Work at reasonable times for their observation, inspection, and testing. Contractor shall provide them proper and safe conditions for such access and advise them of Contractor's safety procedures and programs so that they may comply therewith as applicable.

13.03 Tests and Inspections

- A. Contractor shall give Engineer timely notice of readiness of the Work for all required inspections, tests, or approvals and shall cooperate with inspection and testing personnel to facilitate required inspections or tests.
- B. Owner shall employ and pay for the services of an independent testing laboratory to perform all inspections, tests, or approvals required by the Contract Documents except:
 - 1. for inspections, tests, or approvals covered by Paragraphs 13.03.C and 13.03.D below;
 - 2. that costs incurred in connection with tests or inspections conducted pursuant to Paragraph 13.04.B shall be paid as provided in Paragraph 13.04.C; and
 - 3. as otherwise specifically provided in the Contract Documents.
- C. If Laws or Regulations of any public body having jurisdiction require any Work (or part thereof) specifically to be inspected, tested, or approved by an employee or other representative of such public body, Contractor shall assume full responsibility for arranging and obtaining such inspections, tests, or approvals, pay all costs in connection therewith, and furnish Engineer the required certificates of inspection or approval.
- D. Contractor shall be responsible for arranging and obtaining and shall pay all costs in connection with any inspections, tests, or approvals required for Owner's and Engineer's acceptance of materials or equipment to be incorporated in the Work; or acceptance of materials, mix designs, or equipment submitted for approval prior to Contractor's purchase thereof for incorporation in the Work. Such inspections, tests, or approvals shall be performed by organizations acceptable to Owner and Engineer.

- E. If any Work (or the work of others) that is to be inspected, tested, or approved is covered by Contractor without written concurrence of Engineer, Contractor shall, if requested by Engineer, uncover such Work for observation.
- F. Uncovering Work as provided in Paragraph 13.03.E shall be at Contractor's expense unless Contractor has given Engineer timely notice of Contractor's intention to cover the same and Engineer has not acted with reasonable promptness in response to such notice.

13.04 *Uncovering Work*

- A. If any Work is covered contrary to the written request of Engineer, it must, if requested by Engineer, be uncovered for Engineer's observation and replaced at Contractor's expense.
- B. If Engineer considers it necessary or advisable that covered Work be observed by Engineer or inspected or tested by others, Contractor, at Engineer's request, shall uncover, expose, or otherwise make available for observation, inspection, or testing as Engineer may require, that portion of the Work in question, furnishing all necessary labor, material, and equipment.
- C. If it is found that the uncovered Work is defective, Contractor shall pay all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to such uncovering, exposure, observation, inspection, and testing, and of satisfactory replacement or reconstruction (including but not limited to all costs of repair or replacement of work of others); and Owner shall be entitled to an appropriate decrease in the Contract Price. If the parties are unable to agree as to the amount thereof, Owner may make a Claim therefor as provided in Paragraph 10.05.
- D. If the uncovered Work is not found to be defective, Contractor shall be allowed an increase in the Contract Price or an extension of the Contract Times, or both, directly attributable to such uncovering, exposure, observation, inspection, testing, replacement, and reconstruction. If the parties are unable to agree as to the amount or extent thereof, Contractor may make a Claim therefor as provided in Paragraph 10.05.

13.05 *Owner May Stop the Work*

- A. If the Work is defective, or Contractor fails to supply sufficient skilled workers or suitable materials or equipment, or fails to perform the Work in such a way that the completed Work will conform to the Contract Documents, Owner may order Contractor to stop the Work, or any portion thereof, until the cause for such order has been eliminated; however, this right of Owner to stop the Work shall not give rise to any duty on the part of Owner to exercise this right for the benefit of Contractor, any Subcontractor, any Supplier, any other individual or entity, or any surety for, or employee or agent of any of them.

13.06 *Correction or Removal of Defective Work*

- A. Promptly after receipt of written notice, Contractor shall correct all defective Work, whether or not fabricated, installed, or completed, or, if the Work has been rejected by Engineer, remove it from the Project and replace it with Work that is not defective. Contractor shall pay all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to such correction or removal (including but not limited to all costs of repair or replacement of work of others).

- B. When correcting defective Work under the terms of this Paragraph 13.06 or Paragraph 13.07, Contractor shall take no action that would void or otherwise impair Owner's special warranty and guarantee, if any, on said Work.

13.07 *Correction Period*

- A. If within one year after the date of Substantial Completion (or such longer period of time as may be prescribed by the terms of any applicable special guarantee required by the Contract Documents) or by any specific provision of the Contract Documents, any Work is found to be defective, or if the repair of any damages to the land or areas made available for Contractor's use by Owner or permitted by Laws and Regulations as contemplated in Paragraph 6.11.A is found to be defective, Contractor shall promptly, without cost to Owner and in accordance with Owner's written instructions:
 - 1. repair such defective land or areas; or
 - 2. correct such defective Work; or
 - 3. if the defective Work has been rejected by Owner, remove it from the Project and replace it with Work that is not defective, and
 - 4. satisfactorily correct or repair or remove and replace any damage to other Work, to the work of others or other land or areas resulting therefrom.
- B. If Contractor does not promptly comply with the terms of Owner's written instructions, or in an emergency where delay would cause serious risk of loss or damage, Owner may have the defective Work corrected or repaired or may have the rejected Work removed and replaced. All claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to such correction or repair or such removal and replacement (including but not limited to all costs of repair or replacement of work of others) will be paid by Contractor.
- C. In special circumstances where a particular item of equipment is placed in continuous service before Substantial Completion of all the Work, the correction period for that item may start to run from an earlier date if so provided in the Specifications.
- D. Where defective Work (and damage to other Work resulting therefrom) has been corrected or removed and replaced under this Paragraph 13.07, the correction period hereunder with respect to such Work will be extended for an additional period of one year after such correction or removal and replacement has been satisfactorily completed.
- E. Contractor's obligations under this Paragraph 13.07 are in addition to any other obligation or warranty. The provisions of this Paragraph 13.07 shall not be construed as a substitute for, or a waiver of, the provisions of any applicable statute of limitation or repose.

13.08 *Acceptance of Defective Work*

- A. If, instead of requiring correction or removal and replacement of defective Work, Owner (and, prior to Engineer's recommendation of final payment, Engineer) prefers to accept it, Owner may do so. Contractor shall pay all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) attributable to Owner's evaluation of and determination to accept such defective Work (such costs to be approved by Engineer as to reasonableness) and for the diminished value of the

Work to the extent not otherwise paid by Contractor pursuant to this sentence. If any such acceptance occurs prior to Engineer's recommendation of final payment, a Change Order will be issued incorporating the necessary revisions in the Contract Documents with respect to the Work, and Owner shall be entitled to an appropriate decrease in the Contract Price, reflecting the diminished value of Work so accepted. If the parties are unable to agree as to the amount thereof, Owner may make a Claim therefor as provided in Paragraph 10.05. If the acceptance occurs after such recommendation, an appropriate amount will be paid by Contractor to Owner.

13.09 *Owner May Correct Defective Work*

- A. If Contractor fails within a reasonable time after written notice from Engineer to correct defective Work, or to remove and replace rejected Work as required by Engineer in accordance with Paragraph 13.06.A, or if Contractor fails to perform the Work in accordance with the Contract Documents, or if Contractor fails to comply with any other provision of the Contract Documents, Owner may, after seven days written notice to Contractor, correct, or remedy any such deficiency.
- B. In exercising the rights and remedies under this Paragraph 13.09, Owner shall proceed expeditiously. In connection with such corrective or remedial action, Owner may exclude Contractor from all or part of the Site, take possession of all or part of the Work and suspend Contractor's services related thereto, take possession of Contractor's tools, appliances, construction equipment and machinery at the Site, and incorporate in the Work all materials and equipment stored at the Site or for which Owner has paid Contractor but which are stored elsewhere. Contractor shall allow Owner, Owner's representatives, agents and employees, Owner's other contractors, and Engineer and Engineer's consultants access to the Site to enable Owner to exercise the rights and remedies under this Paragraph.
- C. All claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) incurred or sustained by Owner in exercising the rights and remedies under this Paragraph 13.09 will be charged against Contractor, and a Change Order will be issued incorporating the necessary revisions in the Contract Documents with respect to the Work; and Owner shall be entitled to an appropriate decrease in the Contract Price. If the parties are unable to agree as to the amount of the adjustment, Owner may make a Claim therefor as provided in Paragraph 10.05. Such claims, costs, losses and damages will include but not be limited to all costs of repair, or replacement of work of others destroyed or damaged by correction, removal, or replacement of Contractor's defective Work.
- D. Contractor shall not be allowed an extension of the Contract Times because of any delay in the performance of the Work attributable to the exercise by Owner of Owner's rights and remedies under this Paragraph 13.09.

ARTICLE 14 – PAYMENTS TO CONTRACTOR AND COMPLETION

14.01 *Schedule of Values*

- A. The Schedule of Values established as provided in Paragraph 2.07.A will serve as the basis for progress payments and will be incorporated into a form of Application for Payment acceptable to Engineer. Progress payments on account of Unit Price Work will be based on the number of units completed.

14.02 *Progress Payments*

A. *Applications for Payments:*

1. At least 20 days before the date established in the Agreement for each progress payment (but not more often than once a month), Contractor shall submit to Engineer for review an Application for Payment filled out and signed by Contractor covering the Work completed as of the date of the Application and accompanied by such supporting documentation as is required by the Contract Documents. If payment is requested on the basis of materials and equipment not incorporated in the Work but delivered and suitably stored at the Site or at another location agreed to in writing, the Application for Payment shall also be accompanied by a bill of sale, invoice, or other documentation warranting that Owner has received the materials and equipment free and clear of all Liens and evidence that the materials and equipment are covered by appropriate property insurance or other arrangements to protect Owner's interest therein, all of which must be satisfactory to Owner.
2. Beginning with the second Application for Payment, each Application shall include an affidavit of Contractor stating that all previous progress payments received on account of the Work have been applied on account to discharge Contractor's legitimate obligations associated with prior Applications for Payment.
3. The amount of retainage with respect to progress payments will be as stipulated in the Agreement.

B. *Review of Applications:*

1. Engineer will, within 10 days after receipt of each Application for Payment, either indicate in writing a recommendation of payment and present the Application to Owner or return the Application to Contractor indicating in writing Engineer's reasons for refusing to recommend payment. In the latter case, Contractor may make the necessary corrections and resubmit the Application.
2. Engineer's recommendation of any payment requested in an Application for Payment will constitute a representation by Engineer to Owner, based on Engineer's observations of the executed Work as an experienced and qualified design professional, and on Engineer's review of the Application for Payment and the accompanying data and schedules, that to the best of Engineer's knowledge, information and belief:
 - a. the Work has progressed to the point indicated;
 - b. the quality of the Work is generally in accordance with the Contract Documents (subject to an evaluation of the Work as a functioning whole prior to or upon Substantial Completion, the results of any subsequent tests called for in the Contract Documents, a final determination of quantities and classifications for Unit Price Work under Paragraph 9.07, and any other qualifications stated in the recommendation); and
 - c. the conditions precedent to Contractor's being entitled to such payment appear to have been fulfilled in so far as it is Engineer's responsibility to observe the Work.
3. By recommending any such payment Engineer will not thereby be deemed to have represented that:
 - a. inspections made to check the quality or the quantity of the Work as it has been performed have been exhaustive, extended to every aspect of the Work in progress, or involved detailed inspections of the Work beyond the responsibilities specifically assigned to Engineer in the Contract Documents; or

- b. there may not be other matters or issues between the parties that might entitle Contractor to be paid additionally by Owner or entitle Owner to withhold payment to Contractor.
4. Neither Engineer's review of Contractor's Work for the purposes of recommending payments nor Engineer's recommendation of any payment, including final payment, will impose responsibility on Engineer:
- a. to supervise, direct, or control the Work, or
 - b. for the means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto, or
 - c. for Contractor's failure to comply with Laws and Regulations applicable to Contractor's performance of the Work, or
 - d. to make any examination to ascertain how or for what purposes Contractor has used the moneys paid on account of the Contract Price, or
 - e. to determine that title to any of the Work, materials, or equipment has passed to Owner free and clear of any Liens.
5. Engineer may refuse to recommend the whole or any part of any payment if, in Engineer's opinion, it would be incorrect to make the representations to Owner stated in Paragraph 14.02.B.2. Engineer may also refuse to recommend any such payment or, because of subsequently discovered evidence or the results of subsequent inspections or tests, revise or revoke any such payment recommendation previously made, to such extent as may be necessary in Engineer's opinion to protect Owner from loss because:
- a. the Work is defective, or completed Work has been damaged, requiring correction or replacement;
 - b. the Contract Price has been reduced by Change Orders;
 - c. Owner has been required to correct defective Work or complete Work in accordance with Paragraph 13.09; or
 - d. Engineer has actual knowledge of the occurrence of any of the events enumerated in Paragraph 15.02.A.

C. Payment Becomes Due:

- 1. Ten days after presentation of the Application for Payment to Owner with Engineer's recommendation, the amount recommended will (subject to the provisions of Paragraph 14.02.D) become due, and when due will be paid by Owner to Contractor.

D. Reduction in Payment:

- 1. Owner may refuse to make payment of the full amount recommended by Engineer because:
 - a. claims have been made against Owner on account of Contractor's performance or furnishing of the Work;

- b. Liens have been filed in connection with the Work, except where Contractor has delivered a specific bond satisfactory to Owner to secure the satisfaction and discharge of such Liens;
 - c. there are other items entitling Owner to a set-off against the amount recommended; or
 - d. Owner has actual knowledge of the occurrence of any of the events enumerated in Paragraphs 14.02.B.5.a through 14.02.B.5.c or Paragraph 15.02.A.
2. If Owner refuses to make payment of the full amount recommended by Engineer, Owner will give Contractor immediate written notice (with a copy to Engineer) stating the reasons for such action and promptly pay Contractor any amount remaining after deduction of the amount so withheld. Owner shall promptly pay Contractor the amount so withheld, or any adjustment thereto agreed to by Owner and Contractor, when Contractor remedies the reasons for such action.
 3. Upon a subsequent determination that Owner's refusal of payment was not justified, the amount wrongfully withheld shall be treated as an amount due as determined by Paragraph 14.02.C.1 and subject to interest as provided in the Agreement.

14.03 *Contractor's Warranty of Title*

- A. Contractor warrants and guarantees that title to all Work, materials, and equipment covered by any Application for Payment, whether incorporated in the Project or not, will pass to Owner no later than the time of payment free and clear of all Liens.

14.04 *Substantial Completion*

- A. When Contractor considers the entire Work ready for its intended use Contractor shall notify Owner and Engineer in writing that the entire Work is substantially complete (except for items specifically listed by Contractor as incomplete) and request that Engineer issue a certificate of Substantial Completion.
- B. Promptly after Contractor's notification, Owner, Contractor, and Engineer shall make an inspection of the Work to determine the status of completion. If Engineer does not consider the Work substantially complete, Engineer will notify Contractor in writing giving the reasons therefor.
- C. If Engineer considers the Work substantially complete, Engineer will deliver to Owner a tentative certificate of Substantial Completion which shall fix the date of Substantial Completion. There shall be attached to the certificate a tentative list of items to be completed or corrected before final payment. Owner shall have seven days after receipt of the tentative certificate during which to make written objection to Engineer as to any provisions of the certificate or attached list. If, after considering such objections, Engineer concludes that the Work is not substantially complete, Engineer will, within 14 days after submission of the tentative certificate to Owner, notify Contractor in writing, stating the reasons therefor. If, after consideration of Owner's objections, Engineer considers the Work substantially complete, Engineer will, within said 14 days, execute and deliver to Owner and Contractor a definitive certificate of Substantial Completion (with a revised tentative list of items to be completed or corrected) reflecting such changes from the tentative certificate as Engineer believes justified after consideration of any objections from Owner.
- D. At the time of delivery of the tentative certificate of Substantial Completion, Engineer will deliver to Owner and Contractor a written recommendation as to division of responsibilities pending final payment between Owner and Contractor with respect to security, operation, safety, and protection of the Work, maintenance, heat, utilities, insurance, and warranties and guarantees. Unless Owner and Contractor agree otherwise in writing and so inform Engineer in writing prior to Engineer's issuing the definitive

certificate of Substantial Completion, Engineer's aforesaid recommendation will be binding on Owner and Contractor until final payment.

- E. Owner shall have the right to exclude Contractor from the Site after the date of Substantial Completion subject to allowing Contractor reasonable access to remove its property and complete or correct items on the tentative list.

14.05 *Partial Utilization*

- A. Prior to Substantial Completion of all the Work, Owner may use or occupy any substantially completed part of the Work which has specifically been identified in the Contract Documents, or which Owner, Engineer, and Contractor agree constitutes a separately functioning and usable part of the Work that can be used by Owner for its intended purpose without significant interference with Contractor's performance of the remainder of the Work, subject to the following conditions:
 - 1. Owner at any time may request Contractor in writing to permit Owner to use or occupy any such part of the Work which Owner believes to be ready for its intended use and substantially complete. If and when Contractor agrees that such part of the Work is substantially complete, Contractor, Owner, and Engineer will follow the procedures of Paragraph 14.04.A through D for that part of the Work.
 - 2. Contractor at any time may notify Owner and Engineer in writing that Contractor considers any such part of the Work ready for its intended use and substantially complete and request Engineer to issue a certificate of Substantial Completion for that part of the Work.
 - 3. Within a reasonable time after either such request, Owner, Contractor, and Engineer shall make an inspection of that part of the Work to determine its status of completion. If Engineer does not consider that part of the Work to be substantially complete, Engineer will notify Owner and Contractor in writing giving the reasons therefor. If Engineer considers that part of the Work to be substantially complete, the provisions of Paragraph 14.04 will apply with respect to certification of Substantial Completion of that part of the Work and the division of responsibility in respect thereof and access thereto.
 - 4. No use or occupancy or separate operation of part of the Work may occur prior to compliance with the requirements of Paragraph 5.10 regarding property insurance.

14.06 *Final Inspection*

- A. Upon written notice from Contractor that the entire Work or an agreed portion thereof is complete, Engineer will promptly make a final inspection with Owner and Contractor and will notify Contractor in writing of all particulars in which this inspection reveals that the Work is incomplete or defective. Contractor shall immediately take such measures as are necessary to complete such Work or remedy such deficiencies.

14.07 *Final Payment*

A. *Application for Payment:*

1. After Contractor has, in the opinion of Engineer, satisfactorily completed all corrections identified during the final inspection and has delivered, in accordance with the Contract Documents, all maintenance and operating instructions, schedules, guarantees, bonds, certificates or other evidence of insurance, certificates of inspection, marked-up record documents (as provided in Paragraph 6.12), and other documents, Contractor may make application for final payment following the procedure for progress payments.
2. The final Application for Payment shall be accompanied (except as previously delivered) by:
 - a. all documentation called for in the Contract Documents, including but not limited to the evidence of insurance required by Paragraph 5.04.B.6;
 - b. consent of the surety, if any, to final payment;
 - c. a list of all Claims against Owner that Contractor believes are unsettled; and
 - d. complete and legally effective releases or waivers (satisfactory to Owner) of all Lien rights arising out of or Liens filed in connection with the Work.
3. In lieu of the releases or waivers of Liens specified in Paragraph 14.07.A.2 and as approved by Owner, Contractor may furnish receipts or releases in full and an affidavit of Contractor that: (i) the releases and receipts include all labor, services, material, and equipment for which a Lien could be filed; and (ii) all payrolls, material and equipment bills, and other indebtedness connected with the Work for which Owner might in any way be responsible, or which might in any way result in liens or other burdens on Owner's property, have been paid or otherwise satisfied. If any Subcontractor or Supplier fails to furnish such a release or receipt in full, Contractor may furnish a bond or other collateral satisfactory to Owner to indemnify Owner against any Lien.

B. *Engineer's Review of Application and Acceptance:*

1. If, on the basis of Engineer's observation of the Work during construction and final inspection, and Engineer's review of the final Application for Payment and accompanying documentation as required by the Contract Documents, Engineer is satisfied that the Work has been completed and Contractor's other obligations under the Contract Documents have been fulfilled, Engineer will, within ten days after receipt of the final Application for Payment, indicate in writing Engineer's recommendation of payment and present the Application for Payment to Owner for payment. At the same time Engineer will also give written notice to Owner and Contractor that the Work is acceptable subject to the provisions of Paragraph 14.09. Otherwise, Engineer will return the Application for Payment to Contractor, indicating in writing the reasons for refusing to recommend final payment, in which case Contractor shall make the necessary corrections and resubmit the Application for Payment.

C. *Payment Becomes Due:*

1. Thirty days after the presentation to Owner of the Application for Payment and accompanying documentation, the amount recommended by Engineer, less any sum Owner is entitled to set off against Engineer's recommendation, including but not limited to liquidated damages, will become due and will be paid by Owner to Contractor.

14.08 *Final Completion Delayed*

- A. If, through no fault of Contractor, final completion of the Work is significantly delayed, and if Engineer so confirms, Owner shall, upon receipt of Contractor's final Application for Payment (for Work fully completed and accepted) and recommendation of Engineer, and without terminating the Contract, make payment of the balance due for that portion of the Work fully completed and accepted. If the remaining balance to be held by Owner for Work not fully completed or corrected is less than the retainage stipulated in the Agreement, and if bonds have been furnished as required in Paragraph 5.01, the written consent of the surety to the payment of the balance due for that portion of the Work fully completed and accepted shall be submitted by Contractor to Engineer with the Application for such payment. Such payment shall be made under the terms and conditions governing final payment, except that it shall not constitute a waiver of Claims.

14.09 *Waiver of Claims*

- A. The making and acceptance of final payment will constitute:
1. a waiver of all Claims by Owner against Contractor, except Claims arising from unsettled Liens, from defective Work appearing after final inspection pursuant to Paragraph 14.06, from failure to comply with the Contract Documents or the terms of any special guarantees specified therein, or from Contractor's continuing obligations under the Contract Documents; and
 2. a waiver of all Claims by Contractor against Owner other than those previously made in accordance with the requirements herein and expressly acknowledged by Owner in writing as still unsettled.

ARTICLE 15 – SUSPENSION OF WORK AND TERMINATION

15.01 *Owner May Suspend Work*

- A. At any time and without cause, Owner may suspend the Work or any portion thereof for a period of not more than 90 consecutive days by notice in writing to Contractor and Engineer which will fix the date on which Work will be resumed. Contractor shall resume the Work on the date so fixed. Contractor shall be granted an adjustment in the Contract Price or an extension of the Contract Times, or both, directly attributable to any such suspension if Contractor makes a Claim therefore as provided in Paragraph 10.05.

15.02 *Owner May Terminate for Cause*

- A. The occurrence of any one or more of the following events will justify termination for cause:
1. Contractor's persistent failure to perform the Work in accordance with the Contract Documents (including, but not limited to, failure to supply sufficient skilled workers or suitable materials or equipment or failure to adhere to the Progress Schedule established under Paragraph 2.07 as adjusted from time to time pursuant to Paragraph 6.04);
 2. Contractor's disregard of Laws or Regulations of any public body having jurisdiction;
 3. Contractor's repeated disregard of the authority of Engineer; or
 4. Contractor's violation in any substantial way of any provisions of the Contract Documents.
- B. If one or more of the events identified in Paragraph 15.02.A occur, Owner may, after giving Contractor (and surety) seven days written notice of its intent to terminate the services of Contractor:

1. exclude Contractor from the Site, and take possession of the Work and of all Contractor's tools, appliances, construction equipment, and machinery at the Site, and use the same to the full extent they could be used by Contractor (without liability to Contractor for trespass or conversion);
 2. incorporate in the Work all materials and equipment stored at the Site or for which Owner has paid Contractor but which are stored elsewhere; and
 3. complete the Work as Owner may deem expedient.
- C. If Owner proceeds as provided in Paragraph 15.02.B, Contractor shall not be entitled to receive any further payment until the Work is completed. If the unpaid balance of the Contract Price exceeds all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) sustained by Owner arising out of or relating to completing the Work, such excess will be paid to Contractor. If such claims, costs, losses, and damages exceed such unpaid balance, Contractor shall pay the difference to Owner. Such claims, costs, losses, and damages incurred by Owner will be reviewed by Engineer as to their reasonableness and, when so approved by Engineer, incorporated in a Change Order. When exercising any rights or remedies under this Paragraph, Owner shall not be required to obtain the lowest price for the Work performed.
- D. Notwithstanding Paragraphs 15.02.B and 15.02.C, Contractor's services will not be terminated if Contractor begins within seven days of receipt of notice of intent to terminate to correct its failure to perform and proceeds diligently to cure such failure within no more than 30 days of receipt of said notice.
- E. Where Contractor's services have been so terminated by Owner, the termination will not affect any rights or remedies of Owner against Contractor then existing or which may thereafter accrue. Any retention or payment of moneys due Contractor by Owner will not release Contractor from liability.
- F. If and to the extent that Contractor has provided a performance bond under the provisions of Paragraph 5.01.A, the termination procedures of that bond shall supersede the provisions of Paragraphs 15.02.B and 15.02.C.

15.03 *Owner May Terminate For Convenience*

- A. Upon seven days written notice to Contractor and Engineer, Owner may, without cause and without prejudice to any other right or remedy of Owner, terminate the Contract. In such case, Contractor shall be paid for (without duplication of any items):
1. completed and acceptable Work executed in accordance with the Contract Documents prior to the effective date of termination, including fair and reasonable sums for overhead and profit on such Work;
 2. expenses sustained prior to the effective date of termination in performing services and furnishing labor, materials, or equipment as required by the Contract Documents in connection with uncompleted Work, plus fair and reasonable sums for overhead and profit on such expenses;
 3. all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) incurred in settlement of terminated contracts with Subcontractors, Suppliers, and others; and
 4. reasonable expenses directly attributable to termination.

- B. Contractor shall not be paid on account of loss of anticipated profits or revenue or other economic loss arising out of or resulting from such termination.

15.04 *Contractor May Stop Work or Terminate*

- A. If, through no act or fault of Contractor, (i) the Work is suspended for more than 90 consecutive days by Owner or under an order of court or other public authority, or (ii) Engineer fails to act on any Application for Payment within 30 days after it is submitted, or (iii) Owner fails for 30 days to pay Contractor any sum finally determined to be due, then Contractor may, upon seven days written notice to Owner and Engineer, and provided Owner or Engineer do not remedy such suspension or failure within that time, terminate the Contract and recover from Owner payment on the same terms as provided in Paragraph 15.03.
- B. In lieu of terminating the Contract and without prejudice to any other right or remedy, if Engineer has failed to act on an Application for Payment within 30 days after it is submitted, or Owner has failed for 30 days to pay Contractor any sum finally determined to be due, Contractor may, seven days after written notice to Owner and Engineer, stop the Work until payment is made of all such amounts due Contractor, including interest thereon. The provisions of this Paragraph 15.04 are not intended to preclude Contractor from making a Claim under Paragraph 10.05 for an adjustment in Contract Price or Contract Times or otherwise for expenses or damage directly attributable to Contractor's stopping the Work as permitted by this Paragraph.

ARTICLE 16 – DISPUTE RESOLUTION

16.01 *Methods and Procedures*

- A. Either Owner or Contractor may request mediation of any Claim submitted to Engineer for a decision under Paragraph 10.05 before such decision becomes final and binding. The mediation will be governed by the Construction Industry Mediation Rules of the American Arbitration Association in effect as of the Effective Date of the Agreement. The request for mediation shall be submitted in writing to the American Arbitration Association and the other party to the Contract. Timely submission of the request shall stay the effect of Paragraph 10.05.E.
- B. Owner and Contractor shall participate in the mediation process in good faith. The process shall be concluded within 60 days of filing of the request. The date of termination of the mediation shall be determined by application of the mediation rules referenced above.
- C. If the Claim is not resolved by mediation, Engineer's action under Paragraph 10.05.C or a denial pursuant to Paragraphs 10.05.C.3 or 10.05.D shall become final and binding 30 days after termination of the mediation unless, within that time period, Owner or Contractor:
 - 1. elects in writing to invoke any dispute resolution process provided for in the Supplementary Conditions; or
 - 2. agrees with the other party to submit the Claim to another dispute resolution process; or
 - 3. gives written notice to the other party of the intent to submit the Claim to a court of competent jurisdiction.

ARTICLE 17 – MISCELLANEOUS

17.01 *Giving Notice*

- A. Whenever any provision of the Contract Documents requires the giving of written notice, it will be deemed to have been validly given if:
 - 1. delivered in person to the individual or to a member of the firm or to an officer of the corporation for whom it is intended; or
 - 2. delivered at or sent by registered or certified mail, postage prepaid, to the last business address known to the giver of the notice.

17.02 *Computation of Times*

- A. When any period of time is referred to in the Contract Documents by days, it will be computed to exclude the first and include the last day of such period. If the last day of any such period falls on a Saturday or Sunday or on a day made a legal holiday by the law of the applicable jurisdiction, such day will be omitted from the computation.

17.03 *Cumulative Remedies*

- A. The duties and obligations imposed by these General Conditions and the rights and remedies available hereunder to the parties hereto are in addition to, and are not to be construed in any way as a limitation of, any rights and remedies available to any or all of them which are otherwise imposed or available by Laws or Regulations, by special warranty or guarantee, or by other provisions of the Contract Documents. The provisions of this Paragraph will be as effective as if repeated specifically in the Contract Documents in connection with each particular duty, obligation, right, and remedy to which they apply.

17.04 *Survival of Obligations*

- A. All representations, indemnifications, warranties, and guarantees made in, required by, or given in accordance with the Contract Documents, as well as all continuing obligations indicated in the Contract Documents, will survive final payment, completion, and acceptance of the Work or termination or completion of the Contract or termination of the services of Contractor.

17.05 *Controlling Law*

- A. This Contract is to be governed by the law of the state in which the Project is located.

17.06 *Headings*

- A. Article and paragraph headings are inserted for convenience only and do not constitute parts of these General Conditions.

These Supplementary Conditions amend or supplement the Standard General Conditions of the Construction Contract, EJCDC C-700 (2007 Edition). All provisions which are not so amended or supplemented remain in full force and effect.

The terms used in these Supplementary Conditions have the meanings stated in the General Conditions. Additional terms used in these Supplementary Conditions have the meanings stated below, which are applicable to both the singular and plural thereof.

The address system used in these Supplementary Conditions is the same as the address system used in the General Conditions, with the prefix "SC" added thereto.

SC-2.02 *Copies of Documents*

SC-2.02 Delete Paragraph 2.02.A in its entirety and insert the following in its place:

- A. Owner shall furnish to Contractor up to 2 printed or hard copies of the Drawings and Project Manual and one set in electronic format. Additional copies will be furnished upon request at the cost of reproduction.

SC-4.02 *Subsurface and Physical Conditions*

SC-4.02 Delete Paragraphs 4.02.A and 4.02.B in their entirety and insert the following:

- A. No reports of explorations or tests of subsurface conditions at or contiguous to the Site, or drawings of physical conditions relating to existing surface or subsurface structures at the Site, are known to Owner.

SC-4.05 *Reference Points*

SC-4.05 Delete Paragraph 4.05 A in its entirety and insert the following:

- A. Owner shall provide engineering surveys to establish reference points and offsets for construction which in Engineer's judgment are necessary to enable Contractor to proceed with the Work. Contractor shall be responsible for laying out the Work, shall protect and preserve the established reference points, offsets, and property monuments, and shall make no changes or relocations without the prior written approval of Owner. Contractor shall report to Engineer whenever any reference point, offsets or property monument is lost or destroyed or requires relocation because of necessary changes in grades or locations, and shall be responsible for the accurate replacement or relocation of such reference points, offsets, or property monuments by professionally qualified personnel.

SC-4.06 *Hazardous Environmental Conditions*

SC-4.06 Delete Paragraphs 4.06.A and 4.06.B in their entirety and insert the following:

A. No reports or drawings related to Hazardous Environmental Conditions at the Site are known to Owner.

B. Not Used.

SC-5.04 *Contractor's Liability Insurance*

SC-5.04 Add the following new paragraph immediately after Paragraph 5.04.B:

C. The limits of liability for the insurance required by Paragraph 5.04 of the General Conditions shall provide coverage for not less than the following amounts or greater where required by Laws and Regulations:

1. Workers' Compensation, and related coverages under Paragraphs 5.04.A.1 and A.2 of the General Conditions:

- a. State: Statutory
- b. Applicable Federal (e.g., Longshoreman's): Statutory
- c. Employer's Liability: \$ 500,000

2. Contractor's General Liability under Paragraphs 5.04.A.3 through A.6 of the General Conditions which shall include completed operations and product liability coverages and eliminate the exclusion with respect to property under the care, custody and control of Contractor:

- a. General Aggregate \$1,000,000
- b. Products - Completed Operations Aggregate \$ 500,000
- c. Personal and Advertising Injury \$1,000,000
- d. Each Occurrence (Bodily Injury and Property Damage) \$1,000,000
- e. Property Damage liability insurance will provide Explosion, Collapse, and Under-ground coverages where applicable.
- f. Excess or Umbrella Liability
 - General Aggregate \$1,000,000

Each Occurrence \$1,000,000

3. Automobile Liability under Paragraph 5.04.A.6 of the General Conditions:

- a. Bodily Injury:
Each person \$ 500,000
Each accident \$1,000,000
- b. Property Damage:
Each Accident \$500,000

[or]

- a. Combined Single Limit of \$500,000

4. The Contractual Liability coverage required by Paragraph 5.04.B.4 of the General Conditions shall provide coverage for not less than the following amounts:

- a. Bodily Injury:
Each person \$1,000,000
Each Accident \$1,000,000
- b. Property Damage:
Each Accident \$500,000
Annual Aggregate \$500,000

5. The Owner, and Clapsaddle-Garber Associates Inc. shall be named as additional insured.

SC-5.06 *Property Insurance*

GC-5.06.A.1 refers to other individuals or entities that are to be identified in SCs as being entitled to protection as loss payees under the property insurance on the Work. In such cases use the following:

SC-5.06.A.1 Add the following new subparagraph after subparagraph GC-5.06.A.1:

- a. In addition to the individuals and entities specified, include as loss payees the following: The Owner, and Clapsaddle-Garber Associates, Inc. shall be named as additional insured.

SC-6.06 *Concerning Subcontractors, Suppliers, and Others*

SC-6.06 Add a new paragraph immediately after Paragraph 6.06.G:

- H. Owner may furnish to any Subcontractor or Supplier, to the extent practicable, information about amounts paid to Contractor on account of Work performed for Contractor by a particular Subcontractor or Supplier.

SC-6.17 *Shop Drawings and Samples*

SC-6.17 Add the following new paragraphs immediately after Paragraph 6.17.E:

- F. Contractor shall furnish required submittals with sufficient information and accuracy in order to obtain required approval of an item with no more than three submittals. Engineer will record Engineer's time for reviewing subsequent submittals of Shop Drawings, samples, or other items requiring approval and Contractor shall reimburse Owner for Engineer's charges for such time.
- G. In the event that Contractor requests a change of a previously approved item, Contractor shall reimburse Owner for Engineer's charges for its review time unless the need for such change is beyond the control of Contractor.

SC-9.03 *Project Representative*

As indicated in GC-9.03, in those cases in which the Engineer will provide a Resident Project Representative (RPR) during construction, the authority and responsibilities of the RPR and any assistants must be specified in the Supplementary Conditions; thus this is a mandatory Supplementary Condition in such cases. The following suggested language which parallels the working of Exhibit D to EJCDC E-500, the Standard Form of Agreement Between Owner and Engineer for Professional Services, should be edited to indicate the RPR authority and responsibilities that apply to this project:

SC-9.03 Add the following new paragraphs immediately after Paragraph 9.03.A:

- B. The Resident Project Representative (RPR) will be Engineer's employee or agent at the Site, will act as directed by and under the supervision of Engineer, and will confer with Engineer regarding RPR's actions. RPR's dealings in matters pertaining to the Work in general shall be with Engineer and Contractor. RPR's dealings with Subcontractors shall be through or with the full knowledge and approval of Contractor. The RPR shall:
 - 1. *Schedules:* Review the progress schedule, schedule of Shop Drawing and Sample submittals, and schedule of values prepared by Contractor and consult with Engineer concerning acceptability.
 - 2. *Conferences and Meetings:* Attend meetings with Contractor, such as preconstruction conferences, progress meetings, job conferences and other project-related meetings, and prepare and circulate copies of minutes thereof.
 - 3. *Liaison:*

- a. Serve as Engineer's liaison with Contractor, working principally through Contractor's authorized representative, assist in providing information regarding the intent of the Contract Documents.
 - b. Assist Engineer in serving as Owner's liaison with Contractor when Contractor's operations affect Owner's on-Site operations.
 - c. Assist in obtaining from Owner additional details or information, when required for proper execution of the Work.
4. *Interpretation of Contract Documents:* Report to Engineer when clarifications and interpretations of the Contract Documents are needed and transmit to Contractor clarifications and interpretations as issued by Engineer.
5. *Shop Drawings and Samples:*
- a. Record date of receipt of Samples and approved Shop Drawings.
 - b. Receive Samples which are furnished at the Site by Contractor, and notify Engineer of availability of Samples for examination.
6. *Modifications:* Consider and evaluate Contractor's suggestions for modifications in Drawings or Specifications and report such suggestions, together with RPR's recommendations, to Engineer. Transmit to Contractor in writing decisions as issued by Engineer.
7. *Review of Work and Rejection of Defective Work:*
- a. Conduct on-Site observations of Contractor's work in progress to assist Engineer in determining if the Work is in general proceeding in accordance with the Contract Documents.
 - b. Report to Engineer whenever RPR believes that any part of Contractor's work in progress will not produce a completed Project that conforms generally to the Contract Documents or will imperil the integrity of the design concept of the completed Project as a functioning whole as indicated in the Contract Documents, or has been damaged, or does not meet the requirements of any inspection, test or approval required to be made; and advise Engineer of that part of work in progress that RPR believes should be corrected or rejected or should be uncovered for observation, or requires special testing, inspection or approval.
8. *Inspections, Tests, and System Startups:*
- a. Verify that tests, equipment, and systems start-ups and operating and maintenance training are conducted in the presence of appropriate Owner's personnel, and that Contractor maintains adequate records thereof.

- b. Observe, record, and report to Engineer appropriate details relative to the test procedures and systems start-ups.

9. *Records:*

- a. Record names, addresses, fax numbers, e-mail addresses, web site locations, and telephone numbers of all Contractors, Subcontractors, and major Suppliers of materials and equipment.
- b. Maintain records for use in preparing Project documentation.

10. *Reports:*

- a. Furnish to Engineer periodic reports as required of progress of the Work and of Contractor's compliance with the progress schedule and schedule of Shop Drawing and Sample submittals.
- b. Draft and recommend to Engineer proposed Change Orders, Work Change Directives, and Field Orders. Obtain backup material from Contractor.
- c. Immediately notify Engineer of the occurrence of any Site accidents, emergencies, acts of God endangering the Work, damage to property by fire or other causes, or the discovery of any Hazardous Environmental Condition.

11. *Payment Requests:* Review Applications for Payment with Contractor for compliance with the established procedure for their submission and forward with recommendations to Engineer, noting particularly the relationship of the payment requested to the schedule of values, Work completed, and materials and equipment delivered at the Site but not incorporated in the Work.

12. *Certificates, Operation and Maintenance Manuals:* During the course of the Work, verify that materials and equipment certificates, operation and maintenance manuals and other data required by the Specifications to be assembled and furnished by Contractor are applicable to the items actually installed and in accordance with the Contract Documents, and have these documents delivered to Engineer for review and forwarding to Owner prior to payment for that part of the Work.

13. *Completion:*

- a. Participate in a Substantial Completion inspection, assist in the determination of Substantial Completion and the preparation of lists of items to be completed or corrected.
- b. Participate in a final inspection in the company of Engineer, Owner, and Contractor and prepare a final list of items to be completed and deficiencies to be remedied.

- c. Observe whether all items on the final list have been completed or corrected and make recommendations to Engineer concerning acceptance and issuance of the Notice of Acceptability of the Work.

C. The RPR shall not:

1. Authorize any deviation from the Contract Documents or substitution of materials or equipment (including “or-equal” items).
2. Exceed limitations of Engineer’s authority as set forth in the Contract Documents.
3. Undertake any of the responsibilities of Contractor, Subcontractors, Suppliers, or Contractor’s superintendent.
4. Advise on, issue directions relative to, or assume control over any aspect of the means, methods, techniques, sequences or procedures of Contractor’s work unless such advice or directions are specifically required by the Contract Documents.
5. Advise on, issue directions regarding, or assume control over safety practices, precautions, and programs in connection with the activities or operations of Owner or Contractor.
6. Participate in specialized field or laboratory tests or inspections conducted off-site by others except as specifically authorized by Engineer.
7. Accept Shop Drawing or Sample submittals from anyone other than Contractor.
8. Authorize Owner to occupy the Project in whole or in part.

SC-11.03 *Unit Price Work*

SC-11.03.B Add the following sentence immediately after the last sentence of the paragraph.

Owner and Engineer reserve the right to adjust quantities.

SC-11.03.D Delete Paragraph 11.03.D in its entirety and insert the following in its place:

D. The unit price of an item of Unit Price Work shall be subject to reevaluation and adjustment under the following conditions:

1. if the Bid price of a particular item of Unit Price Work amounts to 10 percent or more of the Contract Price and the variation in the quantity of that particular item of Unit Price Work performed by Contractor differs by more than 25 percent from the estimated quantity of such item indicated in the Agreement; and

2. if there is no corresponding adjustment with respect to any other item of Work; and
3. if Contractor believes that Contractor has incurred additional expense as a result thereof or if Owner believes that the quantity variation entitles Owner to an adjustment in the unit price, either Owner or Contractor may make a Claim for an adjustment in the Contract Price in accordance with Article 10 if the parties are unable to agree as to the effect of any such variations in the quantity of Unit Price Work performed.

SC-16.01 *Methods and Procedure*

As an alternative to the dispute resolution process set forth in the General Conditions (mediation followed by litigation), the contract could pair final and binding arbitration with mediation. A discussion of the pros and cons of the arbitration process (and there are many advocates on either side) is beyond the scope of this Guide. Consultation with the Owner's legal counsel is highly recommended. Users should also note that they will need to insert the name of an arbitration agency, such as the American Arbitration Association or the CPR Institute for Dispute Resolution, in SC-16.02.A. The mediation/arbitration option requires the following:

SC-16.01 Delete Paragraph 16.01.C in its entirety and insert the following in its place:

- C. If the Claim is not resolved by mediation, Engineer's action under Paragraph 10.05.C or a denial pursuant to Paragraphs 10.05.C.3 or 10.05.D shall become final and binding 30 days after termination of the mediation unless, within that time period, Owner or Contractor:
 1. elects in writing to demand arbitration of the Claim, pursuant to Paragraph SC-16.02; or
 2. agrees with the other party to submit the Claim to another dispute resolution process.

SC-16.02 Add the following new paragraph immediately after Paragraph 16.01.

SC-16.02 *Arbitration*

- A. All Claims or counterclaims, disputes, or other matters in question between Owner and Contractor arising out of or relating to the Contract Documents or the breach thereof (except for Claims which have been waived by the making or acceptance of final payment as provided by Paragraph 14.09) including but not limited to those not resolved under the provisions of Paragraphs SC-16.01A and 16.01.B will be decided by arbitration in accordance with the rules of *[insert name of selected arbitration agency]*, subject to the conditions and limitations of this Paragraph SC-16.02. This agreement to arbitrate and any other agreement or consent to arbitrate entered into will be specifically enforceable under the prevailing law of any court having jurisdiction.
- B. The demand for arbitration will be filed in writing with the other party to the Contract and with the selected arbitrator or arbitration provider, and a copy

will be sent to Engineer for information. The demand for arbitration will be made within the 30 day period specified in Paragraph SC-16.01.C, and in all other cases within a reasonable time after the Claim or counterclaim, dispute, or other matter in question has arisen, and in no event shall any such demand be made after the date when institution of legal or equitable proceedings based on such Claim or other dispute or matter in question would be barred by the applicable statute of limitations.

- C. No arbitration arising out of or relating to the Contract Documents shall include by consolidation, joinder, or in any other manner any other individual or entity (including Engineer, and Engineer's consultants and the officers, directors, partners, agents, employees or consultants of any of them) who is not a party to this Contract unless:
 - 1. the inclusion of such other individual or entity is necessary if complete relief is to be afforded among those who are already parties to the arbitration; and
 - 2. such other individual or entity is substantially involved in a question of law or fact which is common to those who are already parties to the arbitration and which will arise in such proceedings.
- D. The award rendered by the arbitrator(s) shall be consistent with the agreement of the parties, in writing, and include: (i) a concise breakdown of the award; (ii) a written explanation of the award specifically citing the Contract Document provisions deemed applicable and relied on in making the award.
- E. The award will be final. Judgment may be entered upon it in any court having jurisdiction thereof, and it will not be subject to modification or appeal, subject to provisions of the Controlling Law relating to vacating or modifying an arbitral award.
- F. The fees and expenses of the arbitrators and any arbitration service shall be shared equally by Owner and Contractor.

ADMINISTRATIVE PROVISIONS

PART 1 GENERAL

1.01 WORK COVERED BY CONTRACT DOCUMENTS

- A. Work under this contract includes all work shown on the plans and described in these specifications.

1.02 AGREEMENT

- A. Construction work shall be by one separate unit priced agreement.

1.03 WORK SEQUENCE

- A. Work shall be done by the Contractor in accordance with a work schedule and sequence established by the Contractor. Work shall begin within 10 days of the Owner's Notice to Proceed, and work shall proceed continuously until complete.

1.04 CONTRACTOR USE OF PREMISES

- A. Limit use of premises to Work and construction operations, to allow for public access.
- B. Coordinate use of premises under direction of ENGINEER>

1.05 APPLICATION FOR PAYMENT

- A. Submit each application using the payment items listed in the Proposal.

1.06 COORDINATION

- A. Coordinate Work of various sections of Specifications to assure efficient and orderly sequence of installation of construction elements, with provisions for accommodating items installed later.
- B. Verify characteristics of elements of interrelated operating equipment are compatible; coordinate Work of various sections having interdependent responsibilities for installing, connecting to, and placing in service, such equipment.
- C. Execute cutting and patching to integrate elements of Work, uncover ill-timed, defective, and nonconforming work, provide openings for penetrations of existing surfaces, and provide samples for testing.

1.07 FIELD ENGINEERING

- A. Contractors shall be responsible for the layout of Work including setting exact grades, lines, and levels from Engineer provided offsets so that Work can be done in accordance with the plans.
- B. Control datum survey will be established by the OWNER. The OWNER will establish horizontal and vertical control through the project by locating control points and setting elevations at control points.

1.08 BUILDING CODES AND PERMITS

- A. CONTRACTOR shall obtain and pay for all construction permits and licenses. OWNER shall assist CONTRACTOR, when necessary, in obtaining such permits and licenses.
- B. Pay all government charges and inspection fees necessary for prosecution of Work, which are applicable at time of opening of Bids. Pay all charges of utility service companies for connections to Work. OWNER will pay all charges of such companies for capital costs related thereto.
- C. Give all notices and comply with all laws, ordinances, building and construction codes, rules, and regulations applicable to Work. If CONTRACTOR observes that Specifications or Drawings are at variance therewith, give ENGINEER prompt written notice thereof, and any necessary changes shall be adjusted by appropriate Modification.
- D. If CONTRACTOR performs any Work knowing or having reason to know that it is contrary to such laws, ordinances, rules, and regulations, and without such notice to ENGINEER, CONTRACTOR shall bear all costs arising therefrom; however, it shall not be CONTRACTOR'S primary responsibility to make certain that Specifications and Drawings are in accordance with such laws, ordinances, rules, and regulations.

1.09 TAXES

- A. Pay all sales, consumer, use and other similar taxes required to be paid by it in accordance with law of place of Project.

1.10 JOB SITE ADMINISTRATION

- A. CONTRACTOR shall provide competent, suitably qualified personnel to lay out Work and perform construction as required by Contract Documents. CONTRACTOR shall at all times maintain good discipline and order at site.
- B. Except in connection with safety or protection of persons or Work or property at site or adjacent thereto, and except as otherwise indicated in Contract Documents, all Work at site shall be performed during regular working hours, and CONTRACTOR shall not perform work outside of normal working hours without written authorization from owner.
- C. Incompetent or incorrigible employees shall be dismissed from Work by CONTRACTOR or its representative when requested by ENGINEER, and such persons shall not again be permitted to return to Work without written consent of ENGINEER.
- D. Workmanship shall be of best quality.

1.11 COPIES OF DRAWINGS AND PROJECT MANUALS

- A. After Notice of Award, CONTRACTOR may obtain, at no charge, maximum of 5 complete sets of full-size Drawings, as listed in project manual, and 5 sets of project manuals. Unless digital files are supplied. (See Supplementary Conditions)
- B. Additional copies of project manuals and full-size Drawings may be obtained under following conditions:
 - 1. Project Manuals:
 - a. Furnished at ENGINEER'S reproduction cost plus handling charge.
 - b. If CONTRACTOR'S requirement for additional project manuals necessitates reprinting of project manuals, CONTRACTOR shall pay entire cost of such reprinting.
 - c. Partial sets of project manuals will not be provided.

2. Full-size Drawings:
 - a. Complete sets of full-size Drawings may be purchased from ENGINEER at ENGINEER'S reproduction cost plus handling charge per set.
 - b. Complete sets of reproducible prints of full-size Drawings may be purchased from ENGINEER at ENGINEER'S reproduction cost plus handling charge per set.
- C. Revised Drawings and project manuals, if required, will be provided by ENGINEER to show authorized changes or extra Work under following conditions:
 1. Project Manuals: Furnished at no charge, in same quantity as original issuance.
 2. Full-size Drawings:
 - a. One revised, complete set of full-size Drawings will be issued, at no charge, for each full-size set originally issued.
 - b. One revised, complete set of full-size Drawings will be issued, at no charge, for each full-size set originally issued, and for each full-size set purchased by CONTRACTOR after Notice of Award, up to 4 copies maximum.
 - c. One full-size reproducible set will be issued to accommodate fifth and subsequent sets purchased by CONTRACTOR. CONTRACTOR shall use reproducible set to complete printing for additional Drawings in its possession.

1.12 REFERENCE STANDARDS

- A. For products specified by association or trade standards, comply with requirements of standard, except when more rigid requirements are specified or are required by applicable codes.
- B. Date of standard is that in effect as of Bid date, or date of Agreement when there are no Bids, except when specific date is specified.
- C. When required by individual Specifications Section, obtain copy of standard. Maintain copy at job site during submittals, planning, and progress of specific work, until Substantial Completion.
- D. Abbreviations used in Drawings and Specifications are as specified in ANSI Y1.1 and IEEE 260.

1.13 SCHEDULE OF REFERENCES

- A. AASHTO – American Association of State Highway and Transportation Officials.
- B. ASTM – American Society for Testing and Materials.
- C. OSHA – Occupational Safety and Health Administration.
- D. IDOT – Iowa Department of Transportation

1.14 QUALITY CONTROL, GENERAL

- A. Maintain quality control over suppliers, manufacturers, products, services, Site conditions, and workmanship, to produce Work of specified quality.

1.15 WORKMANSHIP

- A. Comply with industry standards except when more restrictive tolerances or specified requirements indicate more rigid standards or more precise workmanship.
- B. Perform Work by persons qualified to produce workmanship of specified quality.

- C. Secure products in place with positive anchorage devices designed and sized to withstand stresses, vibration, and racking.

1.16 MANUFACTURERS' INSTRUCTIONS

- A. Comply with instructions in full detail, including each step in sequence. Should instructions conflict with Contract Documents, request clarification from ENGINEER before proceeding.

1.17 MANUFACTURERS' CERTIFICATES

- A. When required by individual Specifications section, submit manufacturer's certificate, in duplicate, that products meet or exceed specified requirements.

1.18 CLOSEOUT PROCEDURES

- A. Comply with procedures stated in General Conditions of Contract for issuance of Certificate of Substantial Completion.
- B. When CONTRACTOR considers Work has reached final completion, submit written certification that Contract Documents have been reviewed, Work has been inspected, and that Work is complete in accordance with Contract Documents and ready for ENGINEER'S inspection.
- C. In addition to submittals required by conditions of Agreement, provide submittals required by governing authorities, and submit final statement of accounting giving total adjusted Contract Price, previous payments, and sum remaining due.
- D. ENGINEER will issue final change order reflecting approved adjustments to Contract Price not previously made by Change Order.

1.19 FINAL CLEANING

- A. Execute prior to final inspection.
- B. Clean site; sweep paved areas, rake clean other surfaces.
- C. Remove waste and surplus materials, rubbish, and construction facilities from Project and from site.

1.20 PROJECT RECORD DOCUMENTS

- A. Store documents separate from those used for construction.
- B. Keep documents current; do not permanently conceal any Work until required information has been recorded.
- C. At Contract closeout, submit documents with transmittal letter containing date, Project title, CONTRACTOR'S name and address, list of documents, and signature of CONTRACTOR.

END OF SECTION

SUBMITTALS

PART 1 GENERAL

1.01 PROCEDURES

- A. Deliver submittals to:
- Clapsaddle-Garber Associates, Inc.
739 Park Avenue
Ackley, IA 50601
(or)
Electronically via email (to the Engineer listed in the Instructions to Bidder)
- B. Transmit each item under Shop Drawing Transmittal Form, bound herein. Identify Project, CONTRACTOR, Subcontractor, major supplier; identify pertinent Drawing sheet and detail number, and Specification section number, as appropriate. Identify deviations from Contract Documents. Provide space for CONTRACTOR and ENGINEER review stamps on each item.
- C. Submit initial progress schedules and schedule of values in duplicate within 15 days after award of contract. After review by ENGINEER revise and resubmit as required. Submit revised schedules with each Application for Payment, reflecting changes since previous submittal.
- D. Comply with progress schedule for submittals related to Work progress. Coordinate submittal of related items.
- E. Notify ENGINEER in writing, at time of submission, of any deviations in submittals from requirements of Contract Documents. Any such deviations permitted by ENGINEER will require modifications of Contract Documents.
- F. Begin no fabrication or Work which requires submittals until return of submittals by ENGINEER with ENGINEER stamp, as either "Reviewed" or "Reviewed as Noted."
- G. After ENGINEER review of submittal, revise and resubmit as required, identifying changes made since previous submittal.
- H. Distribute reproductions of Shop Drawings which carry ENGINEER stamp as either "Reviewed" or "Reviewed as Noted" to:
1. Job site file.
 2. Record documents file.
 3. Subcontractors.
- I. Distribute Samples which carry ENGINEER stamp as either "Reviewed" or "Reviewed as Noted" as directed by ENGINEER.

1.02 CONSTRUCTION PROGRESS SCHEDULES

- A. Submit horizontal bar chart with separate bar for each major trade or operation, identifying first work day of each week.

- B. Show complete sequence of construction by activity, identifying work of separate stages and other logically grouped activities. Show projected percentage of completion for each item of Work as of time of each progress Application for Payment.
- C. Show submittal dates required for Shop Drawings, Product Data, and Samples, and Product delivery dates, including those furnished by OWNER and those under Allowances.

1.03 SCHEDULE OF VALUES

- A. Submit typed schedule on 8 ½" x 11" paper; CONTRACTOR's standard form or media-driven printout will be considered on request.
- B. Format: Table of Contents of this Project Manual. Identify each line item with number and title of the major Specifications sections.
- C. Include in each line item a directly proportional amount of CONTRACTOR's overhead and profit.
- D. Revise schedule to list change orders, for each application for payment.

1.04 SAFETY PROCEDURES MANUAL

- A. CONTRACTOR shall prepare and submit to OWNER safety procedures manual defining CONTRACTOR's safety program for work on site. Manual shall include:
 - 1. Safety responsibilities of CONTRACTOR's personnel.
 - 2. Description of CONTRACTOR's safety program.
 - 3. Requirements of use of personal protective equipment.
 - 4. General safety-related rules of conduct.
 - 5. Fire prevention measures.
 - 6. Accident reporting procedures.
 - 7. Procedures for hot work (welding, cutting, etc.), overhead work, and work in enclosed, confined spaces (tank, boiler, etc.).

1.05 SHOP DRAWINGS

- A. Shop Drawings shall be presented in clear and thorough manner, complete with respect to dimensions, design criteria, materials of construction, and like information to enable ENGINEER to review information as required. Details shall be identified by reference to sheet and detail shown on Drawings.
- B. Minimum sheet size 8 ½" x 11"
- C. Make submittals to ENGINEER promptly in accordance with approved schedule, and in such sequence as to cause no delay in Work on in work of any other contractor.
- D. Shop Drawings:
 - 1. Submit one opaque reproducible copy of each Shop Drawing.

2. Shop Drawings not larger than 11" x 17", copies of Drawing submitted shall be black line on white background. Electronic submittals will not be accepted.
 3. ENGINEER will reproduce additional copies of Shop Drawings as required for distribution.
 4. ENGINEER will scan Shop Drawings. All Shop Drawings shall be suitable for scanning to PDF. Shop Drawings submitted which are not suitable for scanning will not be reviewed.
 5. If CONTRACTOR will not grant permission for ENGINEER to reproduce Shop Drawings, CONTRACTOR shall submit 5 copies of each Shop Drawing.
 6. For Shop Drawings larger than 11" x 17", printed catalog information or brochures, or other multiple page documents, submit 5 copies of each Shop Drawing.
- E. Reproducible copies of Shop Drawings, if request herein:
1. Submit PDF, or equal, reproducible electronic file. Vellum, sepias, mylar or other nonpermanent reproducible prints are not acceptable.
 2. Reproducible copies of Shop Drawings shall show "as built" conditions of equipment and shall show field modifications required during installation.
 3. CONTRACTOR will provide marked-up print of application Shop Drawings showing field modifications made during installation, within 7 days after it has sufficient information to prepare same.
- F. Submittals shall contain:
1. Date of submission and dates of any previous submissions.
 2. Project title and number.
 3. Contract identification.
 4. Names of:
 - A. CONTRACTOR.
 - B. Supplier.
 - C. Manufacturer.
 5. Identification of product, with Specification section number.
 6. Field dimensions, clearly identified as such.
 7. Relation to adjacent or critical features of Work or materials.
 8. Applicable standards, such as ASTM or Federal Specification numbers.
 9. Identification of deviations from Contract Documents.
 10. Identification of revisions on resubmittals.
 11. An 8" x 3" blank space for CONTRACTOR and ENGINEER stamps.
 12. Indication of CONTRACTOR's approval, initialed or signed, with wording substantially as follows:

"CONTRACTOR represents to OWNER and ENGINEER that CONTRACTOR has either determined and verified all quantities, dimensions, field construction criteria, materials, catalog numbers, and similar data, or assumes full responsibility for doing so and has reviewed or coordinated each Shop Drawing Sample with requirements of Work and Contract Documents."
 13. Shop Drawing Transmittal Form is bound herein.

CONTRACTOR shall reproduce any additional copies required and use in accordance with instructions given with Transmittal Form. CONTRACTOR shall submit 1 copy of Transmittal Form for initial submittals and resubmittals.

- G. Resubmission requirements: Make any corrections or changes in submittals required by ENGINEER and resubmit until stamped as either “Reviewed” or “Reviewed as Noted” by ENGINEER. Indicate any changes which have been made other than those requested by ENGINEER.

1.06 ENGINEER DUTIES

- A. Review required submittals with reasonable promptness and in accord with schedule, only for general conformance to design concept of Project and compliance with information given in Contract Documents. Review shall not extend to means, methods, sequences, techniques, or procedures of construction or to safety precautions or program incident thereto. Review of a separate item as such will not indicate approval of assembly in which item functions.
- B. Affix stamp and initials or signature, and indicate requirements for resubmittal, or review of submittal. ENGINEER’s action on submittals is classified as follows:
1. **Reviewed:** Submittal has been reviewed and appears to be in conformance to design concept of Project and Contract Documents. CONTRACTOR may proceed with fabrication of Work detailed in submittal.
 2. **Reviewed As Noted:** Submittal has been reviewed and appears to be in conformance to design concept of Project and Contract Documents, except as noted by ENGINEER. CONTRACTOR may proceed with fabrication of Work detailed in submittal with modifications and corrections as indicated by ENGINEER.
 3. **Resubmit:** Submittal has been reviewed and appears not to be in conformance to design concept of Project or Contract Documents. CONTRACTOR shall not proceed with fabrication of Work detailed in submittal, but instead shall make any corrections required by ENGINEER and resubmit for review.
 4. **Returned:** Submittal has not been reviewed because lacking CONTRACTOR’s approval stamp or signature or because otherwise substantially contrary to design concept of the Project or Contract Documents. CONTRACTOR shall not proceed with fabrication of Work as detailed in submittal but instead shall cure defects and resubmit for review, if required by Contract Documents.
- C. Return submittals to CONTRACTOR.
- D. ENGINEER’s review of submittals shall not relieve CONTRACTOR from responsibility for any deviations from Contract Documents unless CONTRACTOR has, in writing, called ENGINEER’s attention to such deviation at time of submission, and ENGINEER has given written concurrence pursuant to Contract Documents to specific deviation, nor shall any concurrence by ENGINEER relieve CONTRACTOR from responsibility for errors or omissions in submittals.

CONSTRUCTION FACILITIES AND TEMPORARY CONTROLS

PART 1 GENERAL

1.01 WATER

- A. Provide service required for construction operations. Extend branch piping with outlets located so that water is available by use of hoses.

1.02 SANITARY FACILITIES

- A. Provide and maintain required facilities and enclosures.

1.03 BARRIERS

- A. Provide as required to prevent public entry to construction areas and to protect existing facilities and adjacent properties from damage from construction operations.
- B. Provide barricades and covered walkways as required by governing authorities for public rights-of-way and for public access.
- C. Provide barriers around trees and plants designated to remain. Protect against vehicular traffic, stored materials, dumping, chemically injurious materials, and puddling or continuous running water.

1.04 SECURITY

- A. Provide Security program and facilities to protect, Work, and from unauthorized entry, vandalism, and theft. Coordinate with OWNER's security program.

1.05 WATER CONTROL

- A. Grade site to drain. Maintain excavations free of water. Provide and operate pumping equipment.

1.06 CLEANING DURING CONSTRUCTION

- A. Control accumulation of waste materials and rubbish; periodically dispose of off-site.

1.07 FIELD OFFICES AND SHEDS

- A. Office
 - 1. Weathertight, with lightning, electrical outlets, heating, cooling, and ventilating equipment, and equipped with furniture.
 - 2. Provide, in addition, space for Project meetings, with table and chairs to accommodate 6 persons.
- B. Storage sheds, for tools, materials, and equipment: Weathertight, with ventilation for Products requiring controlled conditions, with adequate space for organized storage and access, and lighting for inspection of stored materials.

1.08 REMOVAL

- A. Remove temporary materials, equipment, services, and construction prior to Substantial Completion inspection.
- B. Clean and repair damage caused by installation or use of temporary facilities. Remove Underground installations to a depth of 2'; grade site as indicated.
- C. Restore existing facilities used during construction to specified, or to original, condition.

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SAMPLE FORM OF AGREEMENT BETWEEN OWNER AND CONTRACTOR

Date: _____

THIS AGREEMENT is by and between _____ (“Owner”) and
_____ (“Contractor”).

Owner and Contractor hereby agree as follows:

ARTICLE 1 – WORK

1.01 Contractor shall complete all Work as specified or indicated in the Contract Documents. The Work is generally described as follows:

ARTICLE 2 – THE PROJECT

2.01 The Project for which the Work under the Contract Documents may be the whole or only a part is generally described as follows:

ARTICLE 3 – ENGINEER

3.01 The Project has been designed by, which is to act as Owner’s representative, assume all duties and responsibilities, and have the rights and authority assigned to Engineer in the Contract Documents in connection with the completion of the Work in accordance with the Contract Documents.

ARTICLE 4 – CONTRACT TIMES

4.01 Time of the Essence

A. All time limits for Milestones, if any, Substantial Completion, and completion and readiness for final payment as stated in the Contract Documents are of the essence of the Contract.

4.02 Dates for Substantial Completion and Final Payment

A. The Work will be substantially completed on or before _____, and completed and ready for final payment in accordance with Paragraph 14.07 of the General Conditions on or before _____.

4.03 Liquidated Damages

A. Contractor and Owner recognize that time is of the essence as stated in Paragraph 4.01 above and that Owner will suffer financial loss if the Work is not completed within the times specified in Paragraph 4.02 above, plus any extensions thereof allowed in accordance with Article 12 of the General Conditions. The parties also recognize the delays, expense, and difficulties involved in proving in a legal or arbitration proceeding the actual loss suffered by Owner if the Work is not completed on time. Accordingly, instead of requiring any such proof, Owner and Contractor agree that as liquidated damages for delay (but not as a penalty), Contractor shall pay Owner \$_____ for each day that expires after the time specified in Paragraph 4.02 above for Substantial Completion until the Work is substantially complete. After Substantial Completion, if Contractor shall neglect, refuse, or fail to

complete the remaining Work within the Contract Time or any proper extension thereof granted by Owner, Contractor shall pay Owner \$_____ for each day that expires after the time specified in Paragraph 4.02 above for completion and readiness for final payment until the Work is completed and ready for final payment.

ARTICLE 5 – CONTRACT PRICE

5.01 *Owner shall pay Contractor for completion of the Work in accordance with the Contract Documents an amount in current funds equal to the sum of the amounts determined pursuant to Paragraphs 5.01.A, 5.01.B, and 5.01.C below:*

All specific cash allowances are included in the above price in accordance with Paragraph 11.02 of the General Conditions.

A. For all Unit Price Work, an amount equal to the sum of the established unit price for each separately identified item of Unit Price Work times the actual quantity of that item:

| | | <u>UNIT PRICE WORK</u> | | | |
|---|--------------------|------------------------|---------------------------|-----------------------|------------------|
| <u>Item No.</u> | <u>Description</u> | <u>Unit</u> | <u>Estimated Quantity</u> | <u>Bid Unit Price</u> | <u>Bid Price</u> |
| Total of all Bid Prices (Unit Price Work) | | | | | \$ _____ |

The Bid prices for Unit Price Work set forth as of the Effective Date of the Agreement are based on estimated quantities. As provided in Paragraph 11.03 of the General Conditions, estimated quantities are not guaranteed, and determinations of actual quantities and classifications are to be made by Engineer as provided in Paragraph 9.07 of the General Conditions.

B. For all Work, at the prices stated in Contractor’s Bid, attached hereto as an exhibit.

ARTICLE 6 – PAYMENT PROCEDURES

6.01 *Submittal and Processing of Payments*

A. Contractor shall submit Applications for Payment in accordance with Article 14 of the General Conditions. Applications for Payment will be processed by Engineer as provided in the General Conditions.

6.02 *Progress Payments; Retainage*

A. Owner shall make progress payments on account of the Contract Price on the basis of Contractor’s Applications for Payment on or about the ____ day of each month during performance of the Work as provided in Paragraph 6.02.A.1 below. All such payments will be measured by the schedule of values established as provided in Paragraph 2.07.A of the General Conditions (and in the case of Unit Price Work based on the number of units completed) or, in the event there is no schedule of values, as provided in the General Requirements.

1. Prior to Substantial Completion, progress payments will be made in an amount equal to the percentage indicated below but, in each case, less the aggregate of payments previously made and

less such amounts as Engineer may determine or Owner may withhold, including but not limited to liquidated damages, in accordance with Paragraph 14.02 of the General Conditions.

- a. _____ percent of Work completed (with the balance being retainage). If the Work has been 50 percent completed as determined by Engineer, and if the character and progress of the Work have been satisfactory to Owner and Engineer, then as long as the character and progress of the Work remain satisfactory to Owner and Engineer, there will be no additional retainage; and
 - b. _____ percent of cost of materials and equipment not incorporated in the Work (with the balance being retainage).
- B. Upon Substantial Completion, Owner shall pay an amount sufficient to increase total payments to Contractor to _____ percent of the Work completed, less such amounts as Engineer shall determine in accordance with Paragraph 14.02.B.5 of the General Conditions and less _____ percent of Engineer's estimate of the value of Work to be completed or corrected as shown on the tentative list of items to be completed or corrected attached to the certificate of Substantial Completion.

6.03 *Final Payment*

- A. Upon final completion and acceptance of the Work in accordance with Paragraph 14.07 of the General Conditions, Owner shall pay the remainder of the Contract Price as recommended by Engineer as provided in said Paragraph 14.07.

ARTICLE 7 – INTEREST

- 7.01 All moneys not paid when due as provided in Article 14 of the General Conditions shall bear interest at the rate of _____ percent per annum.

ARTICLE 8 – CONTRACTOR'S REPRESENTATIONS

- 8.01 In order to induce Owner to enter into this Agreement, Contractor makes the following representations:
- A. Contractor has examined and carefully studied the Contract Documents and the other related data identified in the Bidding Documents.
 - B. Contractor has visited the Site and become familiar with and is satisfied as to the general, local, and Site conditions that may affect cost, progress, and performance of the Work.
 - C. Contractor is familiar with and is satisfied as to all federal, state, and local Laws and Regulations that may affect cost, progress, and performance of the Work.
 - D. Contractor has carefully studied all drawings of physical conditions relating to existing surface or subsurface structures at the Site (except Underground Facilities), if any, that have been identified in Paragraph SC-4.02 of the Supplementary Conditions as containing reliable "technical data," and (2) reports and drawings of Hazardous Environmental Conditions, if any, at the Site that have been identified in Paragraph SC-4.06 of the Supplementary Conditions as containing reliable "technical data."
 - E. Contractor has considered the information known to Contractor; information commonly known to contractors doing business in the locality of the Site; information and observations obtained from visits to the Site; the Contract Documents; and the Site-related reports and drawings identified in the Contract

Documents, with respect to the effect of such information, observations, and documents on (1) the cost, progress, and performance of the Work; (2) the means, methods, techniques, sequences, and procedures of construction to be employed by Contractor, including any specific means, methods, techniques, sequences, and procedures of construction expressly required by the Contract Documents; and (3) Contractor's safety precautions and programs.

- F. Based on the information and observations referred to in Paragraph 8.01.E above, Contractor does not consider that further examinations, investigations, explorations, tests, studies, or data are necessary for the performance of the Work at the Contract Price, within the Contract Times, and in accordance with the other terms and conditions of the Contract Documents.
- G. Contractor is aware of the general nature of work to be performed by Owner and others at the Site that relates to the Work as indicated in the Contract Documents.
- H. Contractor has given Engineer written notice of all conflicts, errors, ambiguities, or discrepancies that Contractor has discovered in the Contract Documents, and the written resolution thereof by Engineer is acceptable to Contractor.
- I. The Contract Documents are generally sufficient to indicate and convey understanding of all terms and conditions for performance and furnishing of the Work.

ARTICLE 9 – CONTRACT DOCUMENTS

9.01 *Contents*

- A. The Contract Documents consist of the following:
 - 1. This Agreement (pages 1 to __, inclusive).
 - 2. Performance bond (pages ____ to ____, inclusive).
 - 3. Payment bond (pages ____ to ____, inclusive).
 - 4. General Conditions (pages ____ to ____, inclusive).
 - 5. Supplementary Conditions (pages ____ to ____, inclusive).
 - 6. Specifications as listed in the table of contents of the Project Manual.
 - 7. Drawings consisting of ____ sheets.
 - 8. Addenda (numbers ____ to ____, inclusive).
 - 9. Exhibits to this Agreement (enumerated as follows):
 - a. Contractor's Bid (pages ____ to ____, inclusive).
 - b. Documentation submitted by Contractor prior to Notice of Award (pages ____ to ____, inclusive).

10. The following which may be delivered or issued on or after the Effective Date of the Agreement and are not attached hereto:
 - a. Notice to Proceed (pages _____ to _____, inclusive).
 - b. Work Change Directives.
 - c. Change Orders.
- B. The documents listed in Paragraph 9.01.A are attached to this Agreement (except as expressly noted otherwise above).
- C. There are no Contract Documents other than those listed above in this Article 9.
- D. The Contract Documents may only be amended, modified, or supplemented as provided in Paragraph 3.04 of the General Conditions.

ARTICLE 10 – MISCELLANEOUS

10.01 *Terms*

- A. Terms used in this Agreement will have the meanings stated in the General Conditions and the Supplementary Conditions.

10.02 *Assignment of Contract*

- A. No assignment by a party hereto of any rights under or interests in the Contract will be binding on another party hereto without the written consent of the party sought to be bound; and, specifically but without limitation, moneys that may become due and moneys that are due may not be assigned without such consent (except to the extent that the effect of this restriction may be limited by law), and unless specifically stated to the contrary in any written consent to an assignment, no assignment will release or discharge the assignor from any duty or responsibility under the Contract Documents.

10.03 *Successors and Assigns*

- A. Owner and Contractor each binds itself, its partners, successors, assigns, and legal representatives to the other party hereto, its partners, successors, assigns, and legal representatives in respect to all covenants, agreements, and obligations contained in the Contract Documents.

10.04 *Severability*

- A. Any provision or part of the Contract Documents held to be void or unenforceable under any Law or Regulation shall be deemed stricken, and all remaining provisions shall continue to be valid and binding upon Owner and Contractor, who agree that the Contract Documents shall be reformed to replace such stricken provision or part thereof with a valid and enforceable provision that comes as close as possible to expressing the intention of the stricken provision.

10.05 *Contractor's Certifications*

- A. Contractor certifies that it has not engaged in corrupt, fraudulent, collusive, or coercive practices in competing for or in executing the Contract. For the purposes of this Paragraph 10.05:

1. “corrupt practice” means the offering, giving, receiving, or soliciting of any thing of value likely to influence the action of a public official in the bidding process or in the Contract execution;
2. “fraudulent practice” means an intentional misrepresentation of facts made (a) to influence the bidding process or the execution of the Contract to the detriment of Owner, (b) to establish Bid or Contract prices at artificial non-competitive levels, or (c) to deprive Owner of the benefits of free and open competition;
3. “collusive practice” means a scheme or arrangement between two or more Bidders, with or without the knowledge of Owner, a purpose of which is to establish Bid prices at artificial, non-competitive levels; and
4. “coercive practice” means harming or threatening to harm, directly or indirectly, persons or their property to influence their participation in the bidding process or affect the execution of the Contract.

IN WITNESS WHEREOF, Owner and Contractor have signed this Agreement. Counterparts have been delivered to Owner and Contractor. All portions of the Contract Documents have been signed or have been identified by Owner and Contractor or on their behalf.

This Agreement will be effective on _____ (which is the Effective Date of the Agreement).

OWNER:

CONTRACTOR

By: _____

By: _____

Title: _____

Title: _____

(If Contractor is a corporation, a partnership, or a joint venture, attach evidence of authority to sign.)

Attest: _____

Attest: _____

Title: _____

Title: _____

Address for giving notices:

Address for giving notices:

License No.: _____

(If Owner is a corporation, attach evidence of authority to sign. If Owner is a public body, attach evidence of authority to sign and resolution or other documents authorizing execution of this Agreement.)

Agent for service of process:

BID BOND

Any singular reference to Bidder, Surety, Owner or other party shall be considered plural where applicable.

BIDDER (*Name and Address*):

SURETY (*Name and Address of Principal Place of Business*):

OWNER (*Name and Address*):

BID

Bid Due Date:

Description (*Project Name and Include Location*):

BOND

Bond Number:

Date (*Not earlier than Bid due date*):

Penal sum _____ \$ _____
(Words) (Figures)

Surety and Bidder, intending to be legally bound hereby, subject to the terms set forth below, do each cause this Bid Bond to be duly executed by an authorized officer, agent, or representative.

BIDDER

SURETY

Bidder's Name and Corporate Seal (Seal)

Surety's Name and Corporate Seal (Seal)

By: _____
Signature

By: _____
Signature (Attach Power of Attorney)

Print Name

Print Name

Title

Title

Attest: _____
Signature

Attest: _____
Signature

Title

Title

1. Bidder and Surety, jointly and severally, bind themselves, their heirs, executors, administrators, successors, and assigns to pay to Owner upon default of Bidder the penal sum set forth on the face of this Bond. Payment of the penal sum is the extent of Bidder's and Surety's liability. Recovery of such penal sum under the terms of this Bond shall be Owner's sole and exclusive remedy upon default of Bidder.
2. Default of Bidder shall occur upon the failure of Bidder to deliver within the time required by the Bidding Documents (or any extension thereof agreed to in writing by Owner) the executed Agreement required by the Bidding Documents and any performance and payment bonds required by the Bidding Documents.
3. This obligation shall be null and void if:
 - 3.1 Owner accepts Bidder's Bid and Bidder delivers within the time required by the Bidding Documents (or any extension thereof agreed to in writing by Owner) the executed Agreement required by the Bidding Documents and any performance and payment bonds required by the Bidding Documents, or
 - 3.2 All Bids are rejected by Owner, or
 - 3.3 Owner fails to issue a Notice of Award to Bidder within the time specified in the Bidding Documents (or any extension thereof agreed to in writing by Bidder and, if applicable, consented to by Surety when required by Paragraph 5 hereof).
4. Payment under this Bond will be due and payable upon default of Bidder and within 30 calendar days after receipt by Bidder and Surety of written notice of default from Owner, which notice will be given with reasonable promptness, identifying this Bond and the Project and including a statement of the amount due.
5. Surety waives notice of any and all defenses based on or arising out of any time extension to issue Notice of Award agreed to in writing by Owner and Bidder, provided that the total time for issuing Notice of Award including extensions shall not in the aggregate exceed 120 days from Bid due date without Surety's written consent.
6. No suit or action shall be commenced under this Bond prior to 30 calendar days after the notice of default required in Paragraph 4 above is received by Bidder and Surety and in no case later than one year after Bid due date.
7. Any suit or action under this Bond shall be commenced only in a court of competent jurisdiction located in the state in which the Project is located.
8. Notices required hereunder shall be in writing and sent to Bidder and Surety at their respective addresses shown on the face of this Bond. Such notices may be sent by personal delivery, commercial courier, or by United States Registered or Certified Mail, return receipt requested, postage pre-paid, and shall be deemed to be effective upon receipt by the party concerned.
9. Surety shall cause to be attached to this Bond a current and effective Power of Attorney evidencing the authority of the officer, agent, or representative who executed this Bond on behalf of Surety to execute, seal, and deliver such Bond and bind the Surety thereby.
10. This Bond is intended to conform to all applicable statutory requirements. Any applicable requirement of any applicable statute that has been omitted from this Bond shall be deemed to be included herein as if set forth at length. If any provision of this Bond conflicts with any applicable statute, then the provision of said statute shall govern and the remainder of this Bond that is not in conflict therewith shall continue in full force and effect.
11. The term "Bid" as used herein includes a Bid, offer, or proposal as applicable.

PERFORMANCE BOND

Any singular reference to Contractor, Surety, Owner, or other party shall be considered plural where applicable.

CONTRACTOR (*Name and Address*): SURETY (*Name, and Address of Principal Place of Business*):

OWNER (*Name and Address*):

CONTRACT

Effective Date of Agreement:
Amount:
Description (*Name and Location*):

BOND

Bond Number:
Date (*Not earlier than Effective Date of Agreement*):
Amount:
Modifications to this Bond Form:

Surety and Contractor, intending to be legally bound hereby, subject to the terms set forth below, do each cause this Performance Bond to be duly executed by an authorized officer, agent, or representative.

CONTRACTOR AS PRINCIPAL

SURETY

Contractor's Name and Corporate Seal (Seal)

Surety's Name and Corporate Seal (Seal)

By: _____
Signature

By: _____
Signature (Attach Power of Attorney)

Print Name

Print Name

Title

Title

Attest: _____
Signature

Attest: _____
Signature

Title

Title

Note: Provide execution by additional parties, such as joint venturers, if necessary.

Contractor and Surety, jointly and severally, bind themselves, their heirs, executors, administrators, successors, and assigns to Owner for the performance of the Contract, which is incorporated herein by reference.

1. If Contractor performs the Contract, Surety and Contractor have no obligation under this Bond, except to participate in conferences as provided in Paragraph 2.1.
2. If there is no Owner Default, Surety's obligation under this Bond shall arise after:
 - 2.1 Owner has notified Contractor and Surety, at the addresses described in Paragraph 9 below, that Owner is considering declaring a Contractor Default and has requested and attempted to arrange a conference with Contractor and Surety to be held not later than 15 days after receipt of such notice to discuss methods of performing the Contract. If Owner, Contractor, and Surety agree, Contractor shall be allowed a reasonable time to perform the Contract, but such an agreement shall not waive Owner's right, if any, subsequently to declare a Contractor Default; and
 - 2.2 Owner has declared a Contractor Default and formally terminated Contractor's right to complete the Contract. Such Contractor Default shall not be declared earlier than 20 days after Contractor and Surety have received notice as provided in Paragraph 2.1; and
 - 2.3 Owner has agreed to pay the Balance of the Contract Price to:
 1. Surety in accordance with the terms of the Contract; or
 2. Another contractor selected pursuant to Paragraph 3.3 to perform the Contract.
3. When Owner has satisfied the conditions of Paragraph 2, Surety shall promptly, and at Surety's expense, take one of the following actions:
 - 3.1 Arrange for Contractor, with consent of Owner, to perform and complete the Contract; or
 - 3.2 Undertake to perform and complete the Contract itself, through its agents or through independent contractors; or
 - 3.3 Obtain bids or negotiated proposals from qualified contractors acceptable to Owner for a contract for performance and completion of the Contract, arrange for a contract to be prepared for execution by Owner and contractor selected with Owner's concurrence, to be secured with performance and payment bonds executed by a qualified surety equivalent to the bonds issued on the Contract, and pay to Owner the amount of damages as described in Paragraph 5 in excess of the Balance of the Contract Price incurred by Owner resulting from Contractor Default; or
 - 3.4 Waive its right to perform and complete, arrange for completion, or obtain a new contractor, and with reasonable promptness under the circumstances:
 1. After investigation, determine the amount for which it may be liable to Owner and, as soon as practicable after the amount is determined, tender payment therefor to Owner; or
 2. Deny liability in whole or in part and notify Owner citing reasons therefor.
4. If Surety does not proceed as provided in Paragraph 3 with reasonable promptness, Surety shall be deemed to be in default on this Bond 15 days after receipt of an additional written notice from Owner to Surety demanding that Surety perform its obligations under this Bond, and Owner shall be entitled to enforce any remedy available to Owner. If Surety proceeds as provided in Paragraph 3.4, and Owner refuses the payment tendered or Surety has denied liability, in whole or in part, without further notice Owner shall be entitled to enforce any remedy available to Owner.
5. After Owner has terminated Contractor's right to complete the Contract, and if Surety elects to act under Paragraph 3.1, 3.2, or 3.3 above, then the responsibilities of Surety to Owner shall not be greater than those of Contractor under the Contract, and the responsibilities of Owner to Surety shall not be greater than those of Owner under the Contract. To the limit of the amount of this Bond, but subject to commitment by Owner of the Balance of the Contract Price to mitigation of costs and damages on the Contract, Surety is obligated without duplication for:

- 5.1 The responsibilities of Contractor for correction of defective Work and completion of the Contract;
- 5.2 Additional legal, design professional, and delay costs resulting from Contractor's Default, and resulting from the actions of or failure to act of Surety under Paragraph 3; and
- 5.3 Liquidated damages, or if no liquidated damages are specified in the Contract, actual damages caused by delayed performance or non-performance of Contractor.

6. Surety shall not be liable to Owner or others for obligations of Contractor that are unrelated to the Contract, and the Balance of the Contract Price shall not be reduced or set off on account of any such unrelated obligations. No right of action shall accrue on this Bond to any person or entity other than Owner or its heirs, executors, administrators, or successors.

7. Surety hereby waives notice of any change, including changes of time, to Contract or to related subcontracts, purchase orders, and other obligations.

8. Any proceeding, legal or equitable, under this Bond may be instituted in any court of competent jurisdiction in the location in which the Work or part of the Work is located, and shall be instituted within two years after Contractor Default or within two years after Contractor ceased working or within two years after Surety refuses or fails to perform its obligations under this Bond, whichever occurs first. If the provisions of this paragraph are void or prohibited by law, the minimum period of limitation available to sureties as a defense in the jurisdiction of the suit shall be applicable.

9. Notice to Surety, Owner, or Contractor shall be mailed or delivered to the address shown on the signature page.

10. When this Bond has been furnished to comply with a statutory requirement in the location where the Contract was to be performed, any provision in this Bond conflicting with said statutory requirement shall be deemed deleted herefrom and provisions conforming to such statutory requirement shall be deemed incorporated herein. The intent is that this Bond shall be construed as a statutory bond and not as a common law bond.

11. Definitions.

- 11.1 Balance of the Contract Price: The total amount payable by Owner to Contractor under the Contract after all proper adjustments have been made, including allowance to Contractor of any amounts received or to be received by Owner in settlement of insurance or other Claims for damages to which Contractor is entitled, reduced by all valid and proper payments made to or on behalf of Contractor under the Contract.
- 11.2 Contract: The agreement between Owner and Contractor identified on the signature page, including all Contract Documents and changes thereto.
- 11.3 Contractor Default: Failure of Contractor, which has neither been remedied nor waived, to perform or otherwise to comply with the terms of the Contract.
- 11.4 Owner Default: Failure of Owner, which has neither been remedied nor waived, to pay Contractor as required by the Contract or to perform and complete or otherwise comply with the other terms thereof.

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PAYMENT BOND

Any singular reference to Contractor, Surety, Owner, or other party shall be considered plural where applicable.

CONTRACTOR (*Name and Address*):

SURETY (*Name, and Address of Principal Place of Business*):

OWNER (*Name and Address*):

CONTRACT

Effective Date of Agreement:

Amount:

Description (*Name and Location*):

BOND

Bond Number:

Date (*Not earlier than Effective Date of Agreement*):

Amount:

Modifications to this Bond Form:

Surety and Contractor, intending to be legally bound hereby, subject to the terms set forth below, do each cause this Payment Bond to be duly executed by an authorized officer, agent, or representative.

CONTRACTOR AS PRINCIPAL

SURETY

(Seal)
Contractor's Name and Corporate Seal

(Seal)
Surety's Name and Corporate Seal

By: _____
Signature

By: _____
Signature (Attach Power of Attorney)

Print Name

Print Name

Title

Title

Attest: _____
Signature

Attest: _____
Signature

Title

Title

Note: Provide execution by additional parties, such as joint venturers, if necessary.

1. Contractor and Surety, jointly and severally, bind themselves, their heirs, executors, administrators, successors, and assigns to Owner to pay for labor, materials, and equipment furnished by Claimants for use in the performance of the Contract, which is incorporated herein by reference.
2. With respect to Owner, this obligation shall be null and void if Contractor:
 - 2.1 Promptly makes payment, directly or indirectly, for all sums due Claimants, and
 - 2.2 Defends, indemnifies, and holds harmless Owner from all claims, demands, liens, or suits alleging non-payment by Contractor by any person or entity who furnished labor, materials, or equipment for use in the performance of the Contract, provided Owner has promptly notified Contractor and Surety (at the addresses described in Paragraph 12) of any claims, demands, liens, or suits and tendered defense of such claims, demands, liens, or suits to Contractor and Surety, and provided there is no Owner Default.
3. With respect to Claimants, this obligation shall be null and void if Contractor promptly makes payment, directly or indirectly, for all sums due.
4. Surety shall have no obligation to Claimants under this Bond until:
 - 4.1 Claimants who are employed by or have a direct contract with Contractor have given notice to Surety (at the address described in Paragraph 12) and sent a copy, or notice thereof, to Owner, stating that a claim is being made under this Bond and, with substantial accuracy, the amount of the claim.
 - 4.2 Claimants who do not have a direct contract with Contractor:
 1. Have furnished written notice to Contractor and sent a copy, or notice thereof, to Owner, within 90 days after having last performed labor or last furnished materials or equipment included in the claim stating, with substantial accuracy, the amount of the claim and the name of the party to whom the materials or equipment were furnished or supplied, or for whom the labor was done or performed; and
 2. Have either received a rejection in whole or in part from Contractor, or not received within 30 days of furnishing the above notice any communication from Contractor by which Contractor had indicated the claim will be paid directly or indirectly; and
 3. Not having been paid within the above 30 days, have sent a written notice to Surety (at the address described in Paragraph 12) and sent a copy, or notice thereof, to Owner, stating that a claim is being made under this Bond and enclosing a copy of the previous written notice furnished to Contractor.
5. If a notice by a Claimant required by Paragraph 4 is provided by Owner to Contractor or to Surety, that is sufficient compliance.
6. Reserved.
7. Surety's total obligation shall not exceed the amount of this Bond, and the amount of this Bond shall be credited for any payments made in good faith by Surety.
8. Amounts owed by Owner to Contractor under the Contract shall be used for the performance of the Contract and to satisfy claims, if any, under any performance bond. By Contractor furnishing and Owner accepting this Bond, they agree that all funds earned by Contractor in the performance of the Contract are dedicated to satisfy obligations of Contractor and Surety under this Bond, subject to Owner's priority to use the funds for the completion of the Work.
9. Surety shall not be liable to Owner, Claimants, or others for obligations of Contractor that are unrelated to the Contract. Owner shall not be liable for payment of any costs or expenses of any Claimant under this Bond, and shall have under this Bond no obligations to make payments to, give notices on behalf of, or otherwise have obligations to Claimants under this Bond.

10. Surety hereby waives notice of any change, including changes of time, to the Contract or to related subcontracts, purchase orders, and other obligations.

11. No suit or action shall be commenced by a Claimant under this Bond other than in a court of competent jurisdiction in the location in which the Work or part of the Work is located or after the expiration of one year from the date (1) on which the Claimant gave the notice required by Paragraph 4.1 or Paragraph 4.2.3, or (2) on which the last labor or service was performed by anyone or the last materials or equipment were furnished by anyone under the Contract, whichever of (1) or (2) first occurs. If the provisions of this paragraph are void or prohibited by law, the minimum period of limitation available to sureties as a defense in the jurisdiction of the suit shall be applicable.

12. Notice to Surety, Owner, or Contractor shall be mailed or delivered to the addresses shown on the signature page. Actual receipt of notice by Surety, Owner, or Contractor, however accomplished, shall be sufficient compliance as of the date received at the address shown on the signature page.

13. When this Bond has been furnished to comply with a statutory requirement in the location where the Contract was to be performed, any provision in this Bond conflicting with said statutory requirement shall be deemed deleted herefrom and provisions conforming to such statutory requirement shall be deemed incorporated herein. The intent is that this Bond shall be construed as a statutory Bond and not as a common law bond.

14. Upon request of any person or entity appearing to be a potential beneficiary of this Bond, Contractor shall promptly furnish a copy of this Bond or shall permit a copy to be made.

15. Definitions

15.1 Claimant: An individual or entity having a direct contract with Contractor, or with a first-tier subcontractor of Contractor, to furnish labor, materials, or equipment for use in the performance of the Contract. The intent of this Bond shall be to include without limitation in the terms "labor, materials or equipment" that part of water, gas, power, light, heat, oil, gasoline, telephone service, or rental equipment used in the Contract, architectural and engineering services required for performance of the Work of Contractor and Contractor's subcontractors, and all other items for which a mechanic's lien may be asserted in the jurisdiction where the labor, materials, or equipment were furnished.

15.2 Contract: The agreement between Owner and Contractor identified on the signature page, including all Contract Documents and changes thereto.

15.3 Owner Default: Failure of Owner, which has neither been remedied nor waived, to pay Contractor as required by the Contract, or to perform and complete or otherwise comply with the other terms thereof.

FOR INFORMATION ONLY – *(Name, Address, and Telephone)*

Surety Agency or Broker:

Owner's Representative *(Engineer or other)*:

Contractor's Qualification Statement

SUBMITTED TO: Clapsaddle-Garber Associates, Inc.
739 Park Avenue
Ackley, Iowa 50601

SUBMITTED BY: _____

NAME OF PROJECT: _____

TYPE OF WORK Concrete Underground Utilities
 Asphalt Drainage
 Grading/Dirtwork Sewer Inspection/Televising
 Jack & Boring Other _____

COMPANY INFORMATION:

How many years has your company been in business as a Contractor?

Under what other or former names (and what years) has your company operated?

If your company is a corporation, answer the following:

Date of Incorporation:

State of Incorporation:

President's name:

If your company is a partnership, answer the following:

Date of organization:

Type of partnership:

Name(s) of general partner(s):

If your company is individually owned, answer the following:

Date of organization:

Name of owner:

List of equipment that will be used by your company for this project:

LICENSING

List trade categories to which your company is legally qualified to do business, and indicate registration or license numbers for the State of Iowa:

EXPERIENCE

List the type of work that your company normally performs:

List major construction projects your company has in progress, giving the names of project owners, contract amount, percent complete and scheduled completion. (Attach extra sheets if needed)

State total worth of work in progress and under contract:

List last ten major projects your company has completed in the past five years, stating nature of the project, owner, contract amount, date of completion and percentage of the cost of the work performed with your own forces.

State average annual amount of construction work performed during the last five years:

State name of Project Supervisor:

Experience level of Project Supervisor and Field Crew:

CLAIMS AND SUITS (If you answer yes to any of the below, please attach details)

Has your company ever failed to complete any work it has been awarded?

Are there any judgments, claims, arbitration proceedings or suits pending or outstanding against your company or its officers?

Has your company filed any lawsuits or requested arbitration with regard to construction contracts within the last five years.

Within the last five years has any officer of your company ever been an officer for another company when it failed to complete a construction contract?

REFERENCES

Professional References:

Supplier References:

Bank References:

Surety:

Name of bonding company:

Name and address of the agent:

FINANCING – Statements to be submitted only if contract awarded.

Signature

Name of Company

Dated this ____ day of _____, 20__

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INSTRUCTIONS

1. Section I will be initiated by the Contractor in the required number of copies.
2. Each Transmittal shall be numbered consecutively. The Transmittal Number typically includes two parts separated by a dash (-). The first part is the specification section number. The second part is a sequential number for the submittals under that spec section. If the Transmittal is a resubmittal, then add a decimal point to the end of the original Transmittal Number and begin numbering the resubmittal packages sequentially after the decimal.
3. The "Item No." for each entry on this form will be the same "Item No." as indicated on ENG FORM 4288-R.
4. Submittals requiring expeditious handling will be submitted on a separate ENG Form 4025-R.
5. Items transmitted on each transmittal form will be from the same specification section. Do not combine submittal information from different specification sections in a single transmittal.
6. If the data submitted are intentionally in variance with the contract requirements, indicate a variation in column h, and enter a statement in the Remarks block describing the detailed reason for the variation.
7. ENG Form 4025-R is self-transmitting - a letter of transmittal is not required.
8. When submittal items are transmitted, indicate the "Submittal Type" (*SD-01 through SD-11*) in column c of Section I.
Submittal types are the following:
SD-01 - Preconstruction SD-02 - Shop Drawings SD-03 - Product Data SD-04 - Samples SD-05 - Design Data SD-06 - Test Reports
SD-07 - Certificates SD-08 - Manufacturer's Instructions SD-09 - Manufacturer's Field Reports SD-10 - O&M Data SD-11 - Closeout
9. For each submittal item, the Contractor will assign Submittal Action Codes in column g of Section I. The U.S. Army Corps of Engineers approving authority will assign Submittal Action Codes in column i of Section I. The Submittal Action Codes are:

| | |
|---|--|
| A -- Approved as submitted. | F -- Receipt acknowledged. |
| B -- Approved, except as noted on drawings. Resubmission not required. | X -- Receipt acknowledged, does not comply with contract requirements, as noted. |
| C -- Approved, except as noted on drawings. Refer to attached comments. Resubmission required. | G -- Other action required (<i>Specify</i>) |
| D -- Will be returned by separate correspondence. | K -- Government concurs with intermediate design. (<i>For D-B contracts</i>) |
| E -- Disapproved. Refer to attached comments. | R -- Design submittal is acceptable for release for construction. (<i>For D-B contracts</i>) |
10. Approval of items does not relieve the contractor from complying with all the requirements of the contract.

ARTICLE 1 – BID RECIPIENT

1.01 This Bid is submitted to:

Hardin County Auditor
c/o Drainage Clerk
Hardin County Courthouse
1215 Edgington Avenue, Suite 1
Eldora, Iowa 50627

1.02 The undersigned Bidder proposes and agrees, if this Bid is accepted, to enter into an Agreement with Owner in the form included in the Bidding Documents to perform all Work as specified or indicated in the Bidding Documents for the prices and within the times indicated in this Bid and in accordance with the other terms and conditions of the Bidding Documents.

ARTICLE 2 – BIDDER’S ACKNOWLEDGEMENTS

2.01 Bidder accepts all of the terms and conditions of the Instructions to Bidders, including without limitation those dealing with the disposition of Bid security. This Bid will remain subject to acceptance for 60 days after the Bid opening, or for such longer period of time that Bidder may agree to in writing upon request of Owner.

ARTICLE 3 – BIDDER’S REPRESENTATIONS

3.01 In submitting this Bid, Bidder represents that:

A. Bidder has examined and carefully studied the Bidding Documents, other related data identified in the Bidding Documents, and the following Addenda, receipt of which is hereby acknowledged:

| <u>Addendum No.</u> | <u>Addendum Date</u> |
|---------------------|----------------------|
| _____ | _____ |
| _____ | _____ |
| _____ | _____ |

B. Bidder has visited the Site and become familiar with and is satisfied as to the general, local, and Site conditions that may affect cost, progress, and performance of the Work.

C. Bidder is familiar with and is satisfied as to all Laws and Regulations that may affect cost, progress, and performance of the Work.

D. Bidder has carefully studied all: (1) all drawings of physical conditions relating to existing surface or subsurface structures at the Site (except Underground Facilities) that have been identified in SC-4.02 as containing reliable "technical data," and (2) reports and drawings of Hazardous Environmental Conditions, if any, at the Site that have been identified in SC-4.06 as containing reliable "technical data."

E. Bidder has considered the information known to Bidder; information commonly known to contractors doing business in the locality of the Site; information and observations obtained from visits to the Site; the Bidding Documents; and the Site-related reports and drawings identified in the Bidding Documents, with respect to the effect of such information, observations, and documents on (1) the cost, progress, and performance of the Work; (2) the

means, methods, techniques, sequences, and procedures of construction to be employed by Bidder (3) Bidder's safety precautions and programs.

- F. Based on the information and observations referred to in Paragraph 3.01.E above, Bidder does not consider that further examinations, investigations, explorations, tests, studies, or data are necessary for the determination of this Bid for performance of the Work at the price(s) bid and within the times required, and in accordance with the other terms and conditions of the Bidding Documents.
- G. Bidder is aware of the general nature of work to be performed by Owner and others at the Site that relates to the Work as indicated in the Bidding Documents.
- H. Bidder has given Engineer written notice of all conflicts, errors, ambiguities, or discrepancies that Bidder has discovered in the Bidding Documents, and the written resolution thereof by Engineer is acceptable to Bidder.
- I. The Bidding Documents are generally sufficient to indicate and convey understanding of all terms and conditions for the performance of the Work for which this Bid is submitted.

ARTICLE 4 – BIDDER'S CERTIFICATION

4.01 Bidder certifies that:

- A. This Bid is genuine and not made in the interest of or on behalf of any undisclosed individual or entity and is not submitted in conformity with any collusive agreement or rules of any group, association, organization, or corporation;
- B. Bidder has not directly or indirectly induced or solicited any other Bidder to submit a false or sham Bid;
- C. Bidder has not solicited or induced any individual or entity to refrain from bidding; and
- D. Bidder has not engaged in corrupt, fraudulent, collusive, or coercive practices in competing for the Contract. For the purposes of this Paragraph 4.01.D:
 - 1. "corrupt practice" means the offering, giving, receiving, or soliciting of anything of value likely to influence the action of a public official in the bidding process;
 - 2. "fraudulent practice" means an intentional misrepresentation of facts made (a) to influence the bidding process to the detriment of Owner, (b) to establish bid prices at artificial non-competitive levels, or (c) to deprive Owner of the benefits of free and open competition;
 - 3. "collusive practice" means a scheme or arrangement between two or more Bidders, with or without the knowledge of Owner, a purpose of which is to establish bid prices at artificial, non-competitive levels; and
 - 4. "coercive practice" means harming or threatening to harm, directly or indirectly, persons or their property to influence their participation in the bidding process or affect the execution of the Contract.

ARTICLE 5 – BASIS OF BID

5.01 Bidder will complete the Work in accordance with the Contract Documents for the following price(s):

NAME OF BIDDER _____

ADDRESS OF BIDDER _____

DD 9 BASE BID – PROPOSAL TO FURNISH ALL LABOR, MATERIALS, AND EQUIPMENT TO PERFORM THE WORK DESCRIBED BELOW FOR THE DIVERSION OF MAIN TILE USING POLYPROPYLENE TILE, DRAINAGE DISTRICT 9, HARDIN COUNTY, IOWA INCLUDING PROVIDING A TWO-YEAR MAINTENANCE WARRANTY, PERFORMANCE, AND PAYMENT BONDS. CONTRACTOR TO REVIEW BID ITEM DESCRIPTIONS IN THE DETAILED SPECIFICATIONS.

| <u>DD 9 BASE BID</u> | | | | | |
|---|---------------------------|--------------------|------|------------|----------------|
| Item No. | Description | Estimated Quantity | Unit | Unit Price | Extended Price |
| 1 | 15" Ø Polypropylene Tile | 2530 | LF | \$ _____ | \$ _____ |
| 2 | 18" Ø CMP Tile Outlet | 40 | LF | \$ _____ | \$ _____ |
| 3 | Junction Structure | 1 | EA | \$ _____ | \$ _____ |
| 4 | Concrete Collar | 4 | EA | \$ _____ | \$ _____ |
| 5 | Private Tile Connection | 4 | EA | \$ _____ | \$ _____ |
| 6 | 12" Ø Hickenbottom Intake | 2 | EA | \$ _____ | \$ _____ |
| 7 | Rip-Rap | 40 | TN | \$ _____ | \$ _____ |
| 8 | Tile Removal | 10 | LF | \$ _____ | \$ _____ |
| 9 | Fences | 1 | LS | \$ _____ | \$ _____ |
| 10 | Rebuild Terrace | 2 | LS | \$ _____ | \$ _____ |
| 11 | Outlet Shaping | 1 | LS | \$ _____ | \$ _____ |
| 12 | Locate Private Tile | 25 | STA | \$ _____ | \$ _____ |
| 13 | Exploratory Excavation | 2 | HR | \$ _____ | \$ _____ |
| 14 | Plug Existing Tile | 2 | LOC | \$ _____ | \$ _____ |
| 15 | Seeding | 1 | LS | \$ _____ | \$ _____ |
| 16 | Seeding Warranty | 1 | LS | \$ _____ | \$ _____ |
| DD 9 BASE BID TOTAL (Bid Items 1 – 16 Inclusive) | | | | \$ | _____ |

DD 9 ALTERNATE BID – PROPOSAL TO FURNISH ALL LABOR, MATERIALS, AND EQUIPMENT TO PERFORM THE WORK DESCRIBED BELOW FOR THE DIVERSION OF MAIN TILE USING CONCRETE TILE, DRAINAGE DISTRICT 9, HARDIN COUNTY, IOWA INCLUDING PROVIDING A TWO-YEAR MAINTENANCE WARRANTY, PERFORMANCE, AND PAYMENT BONDS. CONTRACTOR TO REVIEW BID ITEM DESCRIPTIONS IN THE DETAILED SPECIFICATIONS.

| <u>DD 9 ALTERNATE BID</u> | | | | | | |
|--|--------------------------------|--------------------|------|------------|----------------|----|
| Item No. | Description | Estimated Quantity | Unit | Unit Price | Extended Price | |
| 1ALT | 15" Ø RCP Tile | 2530 | LF | \$ | \$ | |
| 2ALT | 18" Ø CMP Tile Outlet | 40 | LF | \$ | \$ | |
| 3ALT | Junction Structure with Intake | 1 | EA | \$ | \$ | |
| 4ALT | Concrete Collar | 4 | EA | \$ | \$ | |
| 5ALT | Private Tile Connection | 4 | EA | \$ | \$ | |
| 6ALT | 12" Ø Hickenbottom Intake | 2 | EA | \$ | \$ | |
| 7ALT | Rip-Rap | 40 | TN | \$ | \$ | |
| 8ALT | Tile Removal | 10 | LF | \$ | \$ | |
| 9ALT | Fences | 1 | LS | \$ | \$ | |
| 10ALT | Rebuild Terrace | 2 | LS | \$ | \$ | |
| 11ALT | Outlet Shaping | 1 | LS | \$ | \$ | |
| 12ALT | Locate Private Tile | 25 | STA | \$ | \$ | |
| 13ALT | Exploratory Excavation | 2 | HR | \$ | \$ | |
| 14ALT | Plug Existing Tile | 2 | LOC | \$ | \$ | |
| 15ALT | Seeding | 1 | LS | \$ | \$ | |
| 16ALT | Seeding Warranty | 1 | LS | \$ | \$ | |
| DD 9 ALTERNATE BID TOTAL (Bid Items 1ALT – 16ALT Inclusive) | | | | | | \$ |

DD 9 ADD ALTERNATES BID – PROPOSAL TO FURNISH ALL LABOR, MATERIALS, AND EQUIPMENT TO PERFORM THE ADDITIONAL WORK DESCRIBED BELOW FOR THE DIVERSION OF MAIN TILE, DRAINAGE DISTRICT 9, HARDIN COUNTY, IOWA INCLUDING PROVIDING A TWO-YEAR MAINTENANCE WARRANTY, PERFORMANCE, AND PAYMENT BONDS. CONTRACTOR TO REVIEW BID ITEM DESCRIPTIONS IN THE DETAILED SPECIFICATIONS.

| <u>DD 9 ADD ALTERNATES BID</u> | | | | | | |
|---------------------------------------|-------------------------------|--------------------|------|------------|----------------|--|
| Item No. | Description | Estimated Quantity | Unit | Unit Price | Extended Price | |
| 1ADD | Mandrel Testing of Tile | 2570 | LF | \$ | \$ | |
| 2ADD | CCTV Inspection of Tile | 2570 | LF | \$ | \$ | |
| 3ADD | Trench Compaction | 25.7 | STA | \$ | \$ | |
| 4ADD | Mandrel and CCTV Access Point | 2 | EA | \$ | \$ | |

Unit Prices have been computed in accordance with Paragraph 11.03.B of the General Conditions and the detailed technical specifications.

Bidder acknowledges that estimated quantities are not guaranteed and are solely for the purpose of comparison of Bids, and final payment for all unit price Bid items will be based on actual quantities, determined as provided in the Contract Documents.

ARTICLE 6 – TIME OF COMPLETION

6.01 Bidder agrees that the Work will be completed on or before the dates stated in the Notice to Contractors Page N-2.

6.02 Bidder accepts the liquidated damage and bonus provisions as stated in the Notice, Page N-2.

ARTICLE 7 – ATTACHMENTS TO THIS BID

7.01 The following documents are submitted with and made a condition of this Bid:

- A. Required Bid security in the form of bond or check;
- B. List of Proposed Subcontractors (to be submitted by apparent low bidder within 48 hours of bid opening);
- C. List of Proposed Suppliers (to be submitted by apparent low bidder within 48 hours of bid opening);
- D. List of Project References (to be submitted by apparent low bidder within 48 hours of bid opening);
- E. Evidence of authority to do business in the state of the Project; or a written covenant to obtain such license within the time for acceptance of Bids;
- F. Contractor's License No.: _____ [or] Evidence of Bidder's ability to obtain a State Contractor's License and a covenant by Bidder to obtain said license within the time for acceptance of Bids;
- G. Required Bidder Qualification Statement with Supporting Data (to be submitted by apparent low bidder within 48 hours of bid opening);

ARTICLE 8 – DEFINED TERMS

8.01 The terms used in this Bid with initial capital letters have the meanings stated in the Instructions to Bidders, the General Conditions, and the Supplementary Conditions.

ARTICLE 9- BID SUBMITTAL

9.01 This Bid is submitted by:

If Bidder is:

An Individual

Name (typed or printed): _____

By: _____
(Individual's signature)

Doing business as: _____

A Partnership

Partnership Name: _____

By: _____
(Signature of general partner -- attach evidence of authority to sign)

Name (typed or printed): _____

A Corporation

Corporation Name: _____
(SEAL)

State of Incorporation: _____
Type (General Business, Professional, Service, Limited Liability): _____

By: _____
(Signature -- attach evidence of authority to sign)

Name (typed or printed): _____

Title: _____
(CORPORATE SEAL)

Attest _____

Date of Qualification to do business in [Iowa] is ____/____/____.

A Joint Venture

Name of Joint Venture: _____

First Joint Venturer Name: _____
(SEAL)

By: _____
(Signature of first joint venture partner -- attach evidence of authority to sign)

Name (typed or printed): _____

Title: _____

Second Joint Venturer Name: _____ (SEAL)

By: _____
(Signature of second joint venture partner -- attach evidence of authority to sign)

Name (typed or printed): _____

Title: _____

(Each joint venturer must sign. The manner of signing for each individual, partnership, and corporation that is a party to the joint venture should be in the manner indicated above.)

Bidder's Business Address _____

Phone No. _____ Fax No. _____

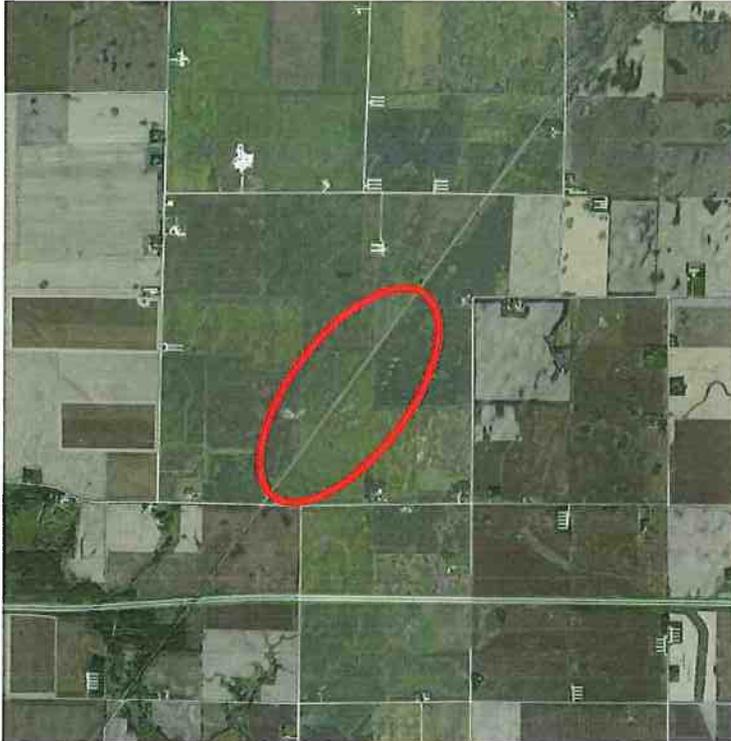
E-mail _____

SUBMITTED on _____, 20____.

State Contractor License No. _____ . *[If applicable]*

HARDIN COUNTY, IOWA

2019



**ENGINEER'S REPORT
ON REPAIRS OR
IMPROVEMENTS TO
MAIN TILE
DRAINAGE DISTRICT
NO. 9
HARDIN COUNTY,
IOWA**



I HEREBY CERTIFY THAT THIS ENGINEERING DOCUMENT WAS PREPARED BY ME OR UNDER MY DIRECT PERSONAL SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF IOWA

LEE O. GALLENTINE, P.E.

DATE

LICENSE NUMBER: 15745
MY LICENSE RENEWAL DATE IS DECEMBER 31, 2020
PAGES OR SHEETS COVERED BY THIS SEAL:
SHOWN ON TABLE OF CONTENTS



CLAPSADDLE-GARBER ASSOCIATES OFFICE LOCATIONS

16 East Main Street, PO Box 754 | Marshalltown, IA 50158
1523 S. Bell Avenue, Suite 101 | Ames, IA 50010
5106 Nordic Drive | Cedar Falls, IA 50613
739 Park Avenue | Ackley, IA 50601
511 Bank Street | Webster City, IA 50595

Project Office
739 Park Avenue
Ackley, IA. 50601
Phone: 641-847-3273
Fax: 641-847-2303

**Engineer's Report on Repairs or Improvements
to Main Tile, Drainage District No. 9
Hardin County, Iowa**

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Engineer's Report on Repairs or Improvements to Main Tile, Drainage District No. 9 Hardin County, Iowa

1.0 INTRODUCTION

- SCOPE OF WORK – The Hardin County Board of Supervisors, acting as District Trustees, requested Clapsaddle-Garber Associates to investigate and report concerning repairs or improvements to the Main tile of Drainage District No. 9. This report will summarize the history of repairs, investigate the necessity and feasibility of said repairs or improvements, and present opinions of probable construction costs associated with said repairs or improvements. At the Drainage District Meeting held on November 28, 2018, the preliminary results of the investigation for Work Order #229 were discussed and reviewed by the District Trustees. For reference, a copy of the meeting minutes is included in Appendix A and a copy of the final Investigation Summary for Work Order #229 (as considered at the April 24, 2019 Drainage District Meeting) is included in Appendix B. As a result of these meetings, the District Trustees requested Clapsaddle-Garber Associates to move ahead with an investigation and report concerning repairs or improvements to the Main tile.

- LOCATION – The area of investigation was limited to the middle portion of the Main tile that is southeast of the existing railroad. Said middle portion is located in Section 6, Township 88 North (T88N), Range 21 West (R21W) and Section 1, Township 88 North (T88N), Range 22 West (R22W), Hardin County, Iowa. Specifically, the downstream limit of the investigation is at the southernmost railroad crossing approximately 1/8 mile north of County Highway D-25. Going upstream, the tile then proceeds northeast for approximately 1/4 mile when it turns northwest. It then continues northwest for approximately 1/4 mile where it crosses said railroad again. For reference, a map showing the limits of investigation is included in Appendix C.

2.0 PARTIAL DISTRICT HISTORY – The following is a summary of the partial history of Drainage District No. 9 as obtained from the Hardin County Auditor’s drainage minutes and records.

- 1909, June 30 Contract with S.W. Ansell for construction of original district facilities.
- 1917, Sept. 12 Recommendation of repair of the Main tile outlet.
- 1959, May 13 Bill for repair of tile located in Section 6.
- 1959, May 25 Bill for repair of tile located in Section 6.
- 1960, Jun. 1 Bill for repair of tile located in Section 6.
- 1962, May 29 Bill for repair and cleaning of tile located in Section 6.
- 1962, Jun. 27 Bill for repair of tile located in Section 6.
- 1962, Oct. 12 Bill for repair of tile located in Section 6.
- 1968, Nov. 1 Request for repair of tile located in Section 6 as tile was not working along railroad tracks.
- 1969, Apr. 21 Request to repair broken tile located in Section 6.
- 1970, Oct. 20 Request for extension of the Main tile at its outlet and possible annexation as a result.
- 1970, Sept. 14 Bill for repair of Main tile located in Section 1.
- 1972, Oct. 27 Bill for repair of tile blowout located in Section 1.
- 1978, Apr. 27 Bill for repair of broken tile located in Section 6.
- 1991, Oct. 9 Bill for repair of broken Main tile in or near railroad located in Section 1.
- 1995, Nov. 27 Bill for repair of broken Lateral 2 tile located along railroad right of way fence in Section 6.
- 2004, Apr. 28 Request for repair of broken Main tile located in Section 6.

- 3.0 INVESTIGATION – All field investigation for this report was performed as part of the Investigation Summary for Work Order #229. Said investigation was limited repairing a tile blowout, excavating the tile at regular intervals, locating tile (including GPS survey), and noting the level of debris in the tile at each excavation. For reference, a copy of the Investigation Summary is included in Appendix B. The following key issues should be noted:
- At the upstream limits of investigation, another sinkhole was found in or near the railroad right of way. From this sinkhole, the tile could not be located upstream (i.e. underneath the existing railroad) due to debris and the Main tile appeared to be approximately ½ full of debris (i.e. rock, sand, soil, silt, etc). It was also noted that the upstream land on the other side of the railroad tracks was extremely saturated and appeared not to be draining.
 - At the last excavation (near the downstream limits of investigation), the tile could not be located downstream (i.e. underneath the existing railroad) due to apparent tree growth inside the railroad right of way.

A review of district history shows that 15 repairs since the original district construction. These repairs have consisted of tile replacement in lengths up to 20 feet and repairs of blowouts/sinkholes. It should be noted that 3 of the repairs have been in or near the existing railroad. It is also possible that a lack of other repairs is not an indication of lack of repairs, but instead an indication of lack of documentation.

- 4.0 DISCUSSION AND CONCLUSIONS – Based on the above, it is obvious that the Main tile has a history of failure, especially in or near railroad right of way. Since the original profile for the Main tile shows installation depths of approximately 3 to 5 feet at the above mentioned upstream sinkhole, the issue is probably not attributable to lack of ground cover. Instead, it is probably due to the utility installation, tile age, or both. Differentiating between these causes would be hard at best.

Regardless of the cause of the tile failure, if repairs or improvements are not performed the Main tile will not properly drain any of the land upstream of the railroad track due to its plugged or restricted state. This will likely prevent crop production on a large portion of the field upstream of the same location. Also, depending upon the condition of said Main tile under the existing railroad tracks, there may be a liability exposure by the drainage district if a sinkhole were to develop in the existing railbed.

5.0 REPAIR METHOD – To repair the existing Main tile, the following option is the most straightforward available:

Tile Replacement

- For the portion of the Main tile in the railroad right of way at the upstream limits of investigation, install a new Main tile at the location dictated by railroad standards and abandon the existing Main tile at its current location.
- For the portion of the Main tile in the railroad right of way at the downstream limits of investigation, jet clean the existing Main tile, CCTV inspect the existing Main tile to verify its condition and remove the trees inside the railroad right of way.
- For reference, the locations of proposed work are shown on the map included in Appendix D.

With the above-mentioned repair methods, the following should be noted:

- The condition of the Main tile at the downstream railroad crossing is unknown.
- For the above option, the current railroad crossing would not be removed, but would be abandoned and a new crossing will be installed at a location dictated by railroad standards.
- For the above option, trees within 50' of the locations of the existing or replaced Main tile inside railroad right of way would be removed to stop infiltration of tree roots.
- The pipe sizes used are those that are currently manufactured that most closely meet the current Main tile size.
- The above option would only remove soil and debris in the existing Main tile at the areas of work.
- The above work is for the identified portions of the Main tile only. No work is proposed for the remainder of the existing Main tile.
- Repairs have historically been viewed as not having an impact on jurisdictional wetlands. As such, individual landowners should consult with applicable staff at the Hardin County NRCS offices to verify the existence of said jurisdictional wetlands and that there will be no impact on them.

Per Iowa Code Chapter 468.126, any of the above actions that do not increase capacity would be considered a repair. As such, Subsection 1, paragraph c of Chapter 468.126 states "If the estimated cost of the repair does not exceed fifty thousand dollars, the board may order the work done without conducting a hearing on the matter. Otherwise, the board shall set a date for a hearing. . ." The opinion of probable construction cost contained in the next section of this report exceeds said \$50,000 limit. Therefore, a hearing will be required. Per Iowa Code Chapter 468.126.1.g, the right of remonstrance does not apply to the proposed repairs.

6.0 IMPROVEMENT METHOD – To improve the drainage capacity for the existing Main tile, the following option is the most straightforward available:

Tile Reroute

- Sever the existing Main tile upstream of the upstream railroad crossing and plug the downstream end on northwest side of the railroad right of way.
- Abandon existing Main tile at said upstream railroad crossing under the railroad tracks.
- Install a new Main tile from the location of severing southwest parallel with the railroad right of way to the downstream side of the downstream railroad crossing and connect the new Main tile with the existing Main tile at this location.
- For the portion of the Main tile in the railroad right of way at the downstream limits of investigation, jet clean the existing Main tile, CCTV inspect the existing Main tile to verify its condition and remove the trees inside the railroad right of way.
- For reference, the locations of proposed work are shown on the map included in Appendix E.

With the above-mentioned improvement method, the following should be noted:

- The condition of the Main tile at the downstream railroad crossing is unknown.
- For the above option, the current railroad crossing would not be removed, but would be abandoned as dictated by railroad standards.
- For the above option, trees within 50' of the locations of the existing Main tile inside railroad right of way would be removed to stop infiltration of tree roots.
- The pipe sizes used are those that are currently manufactured that most closely meet the current Main tile size.
- The above option would only remove soil and debris in the existing Main tile at the areas of work.
- The above work is for the identified portions of the Main tile only. No work is proposed for the remainder of the existing Main tile.
- This improvement would split the current drainage shed of the Main into two different pieces. As a result, these watersheds should be separated and each have its own classification.
- Improvements have historically been viewed as having an impact on jurisdictional wetlands. As such, individual landowners should consult with applicable staff at the Hardin County NRCS office to determine the existence of said jurisdictional wetlands and what said impact may be on them.

Per Iowa Code Chapter 468.126, the above actions would be considered an improvement. As such, Subsection 4, paragraph c of Chapter 468.126 states "If the estimated cost of the improvement does not exceed fifty thousand dollars, the board may order the work done without conducting a hearing on the matter. Otherwise, the board shall set a date for a hearing on whether to construct the proposed improvement and whether there shall be a reclassification of benefits for the cost of the proposed improvement." The opinion of probable construction cost contained in the next section of this report exceeds said \$50,000 limit. Therefore, a hearing will be required. Per Iowa Code Chapter 468.126.4.e, the right of remonstrance may apply to the proposed improvements.

7.0 OPINIONS OF PROBABLE CONSTRUCTION COSTS – Using the above methods of repair and improvement, an itemized list of project quantities and associated opinions of probable construction cost for each option were compiled and are included in Appendices F and G of this report. A summary of said costs are as follows:

| METHOD | DRAINAGE COEFF. | CONSTRUCTION COST |
|----------------------------|----------------------------|------------------------------|
| Tile Replacement – Repair | Existing | \$195,600 |
| Tile Reroute – Improvement | Existing | \$154,200 |

It should be noted that said costs include materials, labor, and equipment supplied by the contractor to complete the necessary repair and include applicable engineering, construction observation, and project administration fees by Clapsaddle-Garber Associates. However, said costs do not include any interest, legal fees, county administrative fees, crop damages, other damages, previous repairs, engineering fees to date, wetland mitigation fees, or reclassification fees (if applicable). As always, all costs shown are opinions of Clapsaddle-Garber Associates based on previous lettings on other projects. Said costs are just a guideline and are not a guarantee of actual costs.

8.0 OWNERSHIP AND CLASSIFICATIONS – Any and all information concerning ownership of lands and classifications of said lands within Drainage District No. 9 can be obtained from the Hardin County Auditor’s office.

It should be noted that Iowa Code Chapter 468.65 states “When, after a drainage . . . district has been established . . .” and “. . . a repair . . . has become necessary, the board may consider whether the existing assessments are equitable as a basis for payment of the expense of . . . making the repair . . .” and “If they find the same to be inequitable in any particular . . . they shall . . . order a reclassification . . .” Based on this, it is our opinion that a reclassification may be required if the repair were to move forward.

It should also be noted that since the Main tile is being split into two watersheds, a reclassification of at least the Main tile would be required if the improvement were to move forward.

The final note is that Iowa Code Chapter 468.131 states “When an assessment for improvements . . . exceeds twenty-five percent of the original assessment and the original or subsequent assessment . . . did not designate separately the amount each tract should pay for the main ditch and tile lateral drains then the board shall order a reclassification . . .” Since the proposed project does not involve the laterals, it is not clear if a reclassification separating the laterals would be required or not. Therefore, it is our recommendation that the District Trustees seek advice from their legal counsel.

9.0 RECOMMENDATIONS – There is a definite need to perform one of the above-mentioned actions. The repair would remove the current restrictions and impediments to the Main tile and extend the lifespan of the same. The improvement would do the same and increase the capacity of the Main tile east of the railroad. Therefore, it is recommended that the Hardin County Board of Supervisors, acting as District Trustees, should take action to accomplish the following:

- Approve the Engineer’s Report as prepared by Clapsaddle-Garber Associates.
- Hold the required hearing on the proposed repairs or improvements.
- Adopt one of the recommendations of the Engineer’s Report.
- Direct plans and specifications for the proposed repairs or improvements be prepared by Clapsaddle-Garber Associates.
- Proceed with receiving bids from interested contractors by Clapsaddle-Garber Associates.
- Award contract to the lowest responsible contractor.
- If desired or required by Iowa Code, proceed with reclassification proceedings

REGULAR DRAINAGE MEETING

11/28/2018 - Minutes

1. Open Meeting

Hardin County Board of Supervisor Chairman, BJ Hoffman, opened the meeting. Also present were Supervisors, Lance Granzow and Renee McClellan; Hardin County Attorney, Darrell Meyer; Contractor, Jacob Handsaker with Hands On Excavating; Lee Gallentine with Clapsaddle-Garber Associates (CGA); Drainage Clerk, Tina Schlemme.

2. Approve Agenda

McClellan moved, Hoffman seconded to approve the agenda as presented. All ayes. Motion carried.

3. Approve Minutes

McClellan moved, Hoffman seconded to approve the minutes of the November 14, 2018 regular drainage meeting. All ayes. Motion carried.

4. Approve Claims For Payment

McClellan moved, Hoffman seconded to approve the claims for payment with pay date of Friday, November 30, 2018. All ayes. Motion carried.

| | | |
|--|--------------------------|------------|
| DD H-S 3-58 Assessments 2018 | Story County Auditor | \$ 943.90 |
| DD H-H 1-103 ASSESSMENTS 2018 | Hamilton Co Auditor | \$ 781.00 |
| DD H-F 4-53 ASSESSMENTS 2017 | Franklin Co Auditor | \$ 6.00 |
| DD 22 ENG SVCS 9/15-10/20/18 | Clapsaddle-Garber Assoc | \$ 660.00 |
| DD 55-3 LAT 9A WO 29 ENG FEES | Clapsaddle-Garber Assoc | \$ 544.65 |
| DD 136 WO 146 POSTAGE | Hardin County Auditor | \$ 7.98 |
| DD 25 CANCEL CONTRACT BONDING COSTS | Farm Tile Pro LC | \$5,336.00 |
| DD 52 Legal Advice for filing petition | The Davis Brown Law Firm | \$ 57.00 |
| DD 148 WO 211 Repair | R D Customs LLC | \$ 967.00 |

5. DD 41, 77, 123, 128, 143 & Big 4 Main - Approve Change Order #2

Hoffman stated there were concerns with Hands On completing some municipal projects and not working on the contracted drainage projects to meet the deadline. Handsaker replied that due to the weather, they were only able to work on the municipal projects because they were rock surfaces. They completed the streets and waterway drainage projects but did not get the excavator work done due to wet soil conditions. He added that they were hoping to get it done yet this winter or early spring. McClellan moved, Hoffman seconded to approve Change Order #2 for a time extension from November 30, 2018 to May 1, 2019. All ayes. Motion carried.

6. DD 48 - Approve Work Order Request #237

McClellan moved, Granzow seconded to approve Work Order Request #237 for an outlet problem in section 23-88-21. CGA is to investigate and report back. All ayes. Motion carried.

7. DD 21 - Approve Work Order Request #239 For Reclassification

McClellan moved, Granzow seconded to approve Work Order Request #239 for a reclassification to result as discussed at the June 13, 2018 regular drainage meeting. All ayes. Motion carried.

8. DD 9 - Discuss, With Possible Action, Updates To Work Order #229

Gallentine presented a few problems discovered: 1) Trees in the RR right of way with some water flow on the south track crossing of the main tile. 2) A sinkhole in/near RR right of way with fiber optic warning tape in hole. Tile 1/2-3/4 full of dirt and rock and no water flow on the north track crossing of the main tile. 3) A sinkhole in field with tile 1/4-1/2 full of dirt and sand and some water flow on the main tile east of tracks. A couple options were discussed, both being over \$50,000. McClellan moved, Granzow seconded for CGA to

prepare an engineer's report. All ayes. Motion carried.

9. Discuss, With Possible Action, Drainage Clerk Position

Much discussion was had regarding changing the drainage clerk position to a full-time position under the Board of Supervisors. Meyer submitted Code of Iowa sections pertaining to drainage clerk position. After many ideas were discussed, the Trustees agreed for Meyer to draft an agreement between the Auditor and the Board. The position will begin January 1, 2019 and the clerk will then track all time spent on drainage districts, which will be assessed to the districts annually based off of the calendar year. The current budget will be used for January 1, 2019 to June 30, 2019 and then 100% of the salary will be taken out of a new line item under the Board from the general fund and will be reimbursed when assessments are collected (first collecting in 2020). The Trustees understood that the salary would not be 100% reimbursed due to general administrative duties.

10. Other Business

DD 55-3 Lat 12 - Schlemme updated the Trustees that the Notice of Repair Across Railroad Right-of-Way was mailed to the UPRR on September 27, 2018, giving them 30 days notice. Granzow moved, McClellan seconded to perform the additional actions recommended of removing the trees within 50 feet of the tile, root cleaning and jetting the lateral tile and televising the lateral to verify the condition, as shown in the Repair Summary for Work Order #201. All ayes. Motion carried.

11. Adjourn Meeting

Granzow moved, McClellan seconded to adjourn the meeting. All ayes. Motion carried.

Drainage District:

9

Repair Summary:

- Tenant in SW¼ Section 6, Township 89 North, Range 22 West reported two blowouts/sinkholes on Main tile.
- Visually searched area and found one blowout/sinkhole, approximately 225 feet southeast of railroad right of way (see attached spot repair map).
- Tile blowout/sinkhole is missing one section of VCP tile and is 1/3 full of debris.
- Located Main tile upstream for 590'± and downstream for 1430'± from blowout/sinkhole.
- Upstream found broken VCP tile in sinkhole/blowout just downstream of railroad. The tile appears to have possibly been broken when fiber optic line was installed (see attached spot repair map).
- During location of main tile, excavated 7 observation holes. Excavation of one of the observation holes damaged a 4" private tile. Repaired private tile with 2' of 6" Dual Wall HDPE tile.
- Repaired first blowout/sinkhole with 18.3' of 15" Dual Wall HDPE tile with concrete collars.
- Repaired observation hole approximately 150' south railroad right of way with 6.25' of 15" Dual Wall HDPE tile with fabric wrapped joints.
- Filled holes as much as possible with on-site soil.
- Note: Contractor was changed midway through repairs from Randy Brown per 1-16-2019 Drainage Meeting minutes. McDowell and Sons Contractors completed the work after this date (see breakdown on attached).
- In April, backfilling of excavation was completed by McDowell with un-frozen soil.

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

See attached Tabulated Contractor Time and Materials Sheet.

Additional Actions Recommended:

The unrepaired broken tile in the railroad right of way is severely limiting the drainage upstream and will eventually cause additional blowouts/sinkholes and ponding. Moving forward, we would recommend abandoning the current railroad crossing, install a new crossing meeting Union Pacific Railroad standards/permits to restore the drainage to its original design or install a bypass tile on the north side of the railroad right of way. Based on either of these options, it is my opinion that the construction cost would be well over \$50,000. This cost is high enough that a hearing and engineering report would be required.



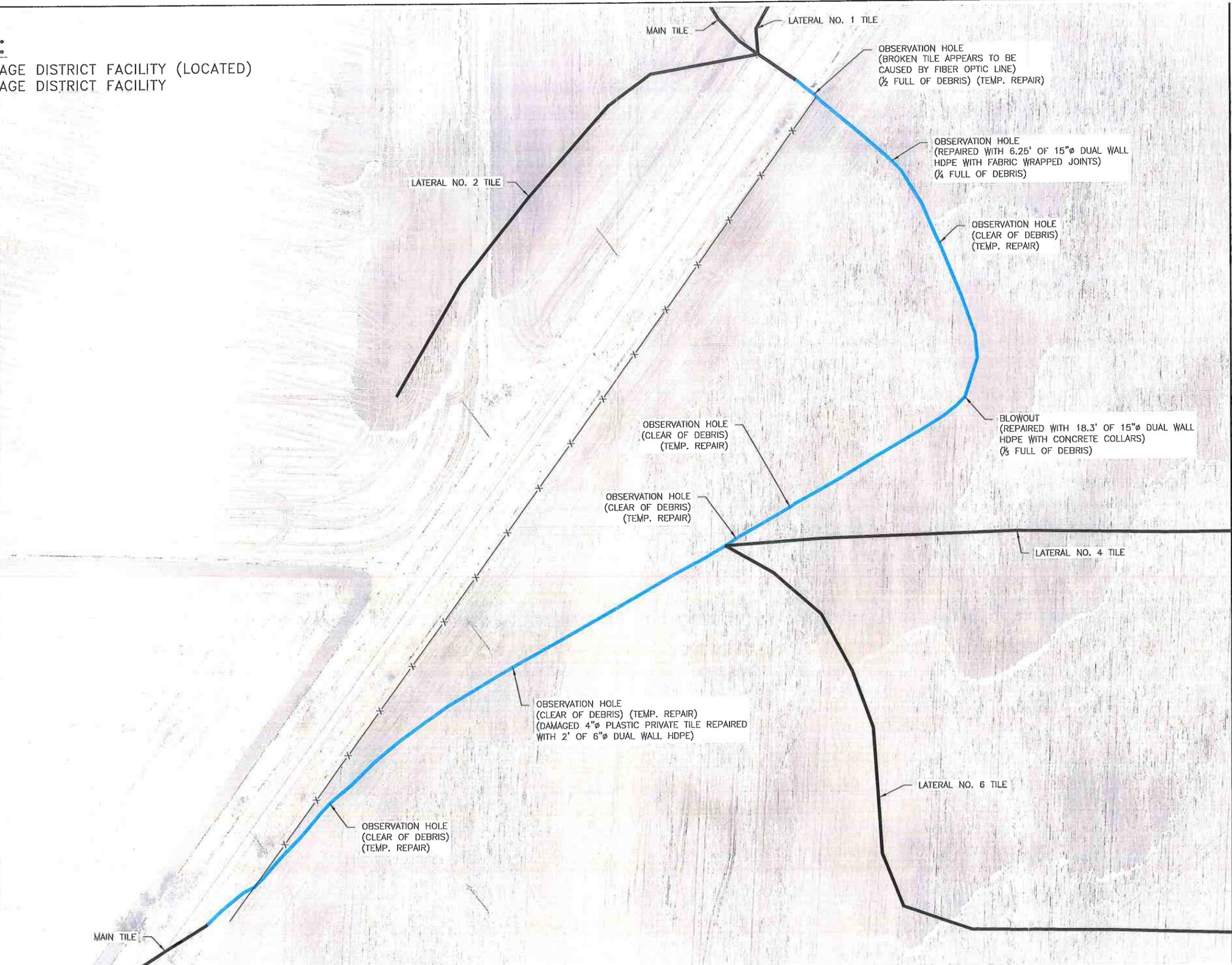
Tabulated Contractor Time and Materials

| Date | Totals | 11/16/2018 | 11/19/2018 | 11/21/2018 | 11/23/2018 | 11/26/2018 | 11/29/2018 | 3/8/2019 |
|--------------------------|--------|------------|------------|------------|------------|------------|------------|----------|
| Workman (hrs) | 39 | 7 | 5.5 | 2.25 | 1 | 2.5 | 5.5 | 15 |
| Backhoe (hrs) | 17 | | 5.5 | 2.25 | | 1.25 | 2.75 | 5 |
| 15" Dual Wall HDPE (ft.) | 24.55 | | | | | | 6.25 | 18.3 |
| Concrete Collar (ea.) | 2 | | | | | | | 2 |
| RD Customs | | | | | | | | |
| McDowell | | | | | | | | |



LEGEND:

- DRAINAGE DISTRICT FACILITY (LOCATED)
- DRAINAGE DISTRICT FACILITY



P:\6735\6735-00\Quantities\6735-repair_summary.dwg - CGA Plan - 04-10-19 - 4:49pm - ZDS43



| NO. | REVISION | BY | DATE | NO. | REVISION | BY | DATE |
|-----|----------|----|------|-----|----------|----|------|
| | | | | | | | |

CGA Clapsdelle-Garber Associates, Inc.
 1323 S. Bell Ave., Suite 101
 Ames, Iowa 50010
 Ph 515-232-1784
 www.cgaconsultants.com

DESIGNED: ### DATE: ###
 DRAWN: ### DATE: ###
 CHECKED: ### DATE: ###
 APPROVED: ### DATE: ###

DRAINAGE DISTRICT #9 HARDIN, IOWA

SPOT REPAIRS

PROJECT NO. 6735
 SHEET NO. 1



Drainage Work Order Request For Repair Hardin County

Date: 10/26/2018

Work Order #: WO00000229

Drainage District: Drainage Districts \DD 9 (51022)

Sec-Twp-Rge: 06-88-21 Qtr Sec: SW

Location/GIS: 88-21-06-300-002

Requested By: Scott Renaud (Tenant)

Contact Phone: (641) 751-4734

Contact Email: _____

Landowner (if different): Tom Roberts

Description:

| |
|---|
| DD 9 - Huge lake (approx 15 acres) of corn under water. Blowout approximately 300-500 yards southeast of RR and another one NW of RR along fenceline. All crops are out except those around blowouts. |
|---|

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: _____



Hardin County Auditor's Office



Date: 10/26/201



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.

CONSTRUCTION ENGINEERING
OBSERVATION REPORT

DATE:

11/19/18
11/16/18

PROJECT NUMBER:

6735

COUNTY, ROUTE, ROAD:

DD 9 HARLOW CO

LOCATION:

D25, "RACINE", UPRR

DAYS OF WEEK:

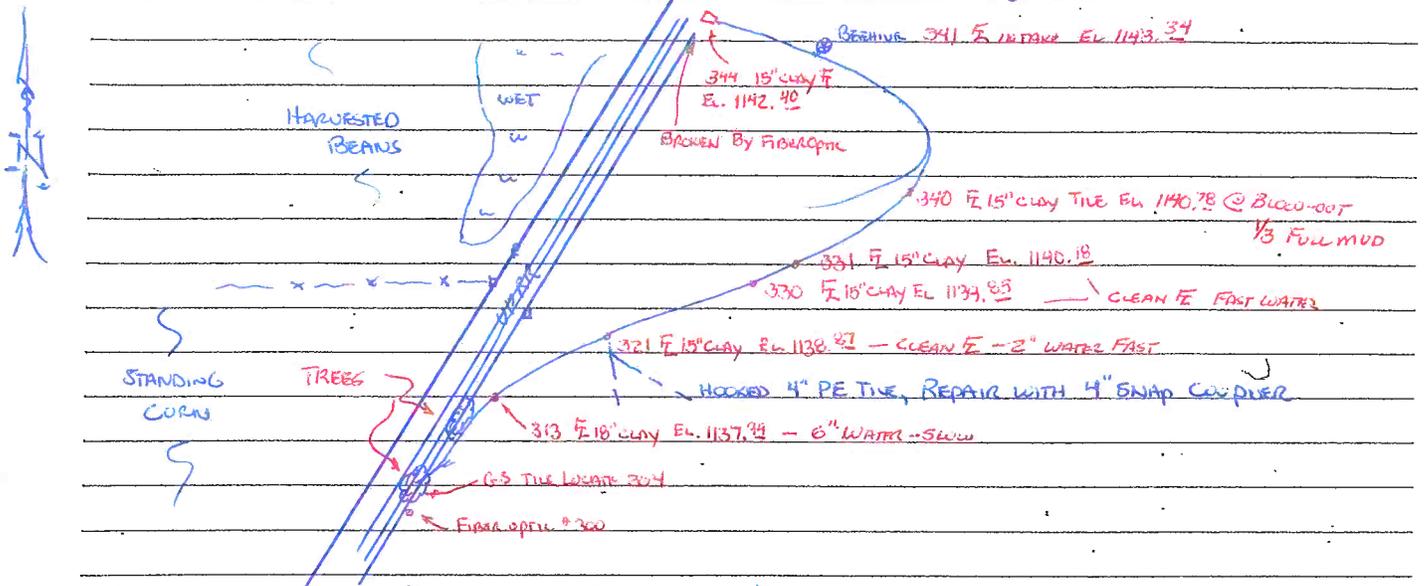
S M T W T F S

SHEET NO.

1 OF 1

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

9:00, 2 man crew on site, dug up TIE @ Blow-out AND TRIED To FIND TIE WHERE IT CROSSES UPRR DOWN STREAM TO SW.



11/19/18; 10:00, SET \bar{R} ON *87 (DD41 JOB), RANDY BROWN ON SITE WITH RUBBER TIRE BACKHOE (NO HELPER). 2:00 DONE LOCATING DOWNSTREAM TO UPRR. COULD NOT GET UNDER RR WITH CABLE. WHEN CORN IS OUT ON W. SIDE RR, WE SHOULD LOCATE AND INSPECT TIE ON WEST SIDE OF RR. DUG 4 POT HOLES AND LOCATED WITH CABLE FROM BLOW-OUT TO UPRR. SHOTS 300-344 LEFT JOB @ 3:30

WATER ON W. SIDE RR IS SURFACE BRAINING THRU RR CMP TO DOWNSTREAM TIE @ 344. INTAKE @ 341 HAS BROKEN BECAUSE BUT \bar{R} IS DRY (OFFSET INTAKE)

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

Observer's Signature:

[Handwritten Signature]

Date Prepared:

11/16/18, 11/19/18

Reviewed by:

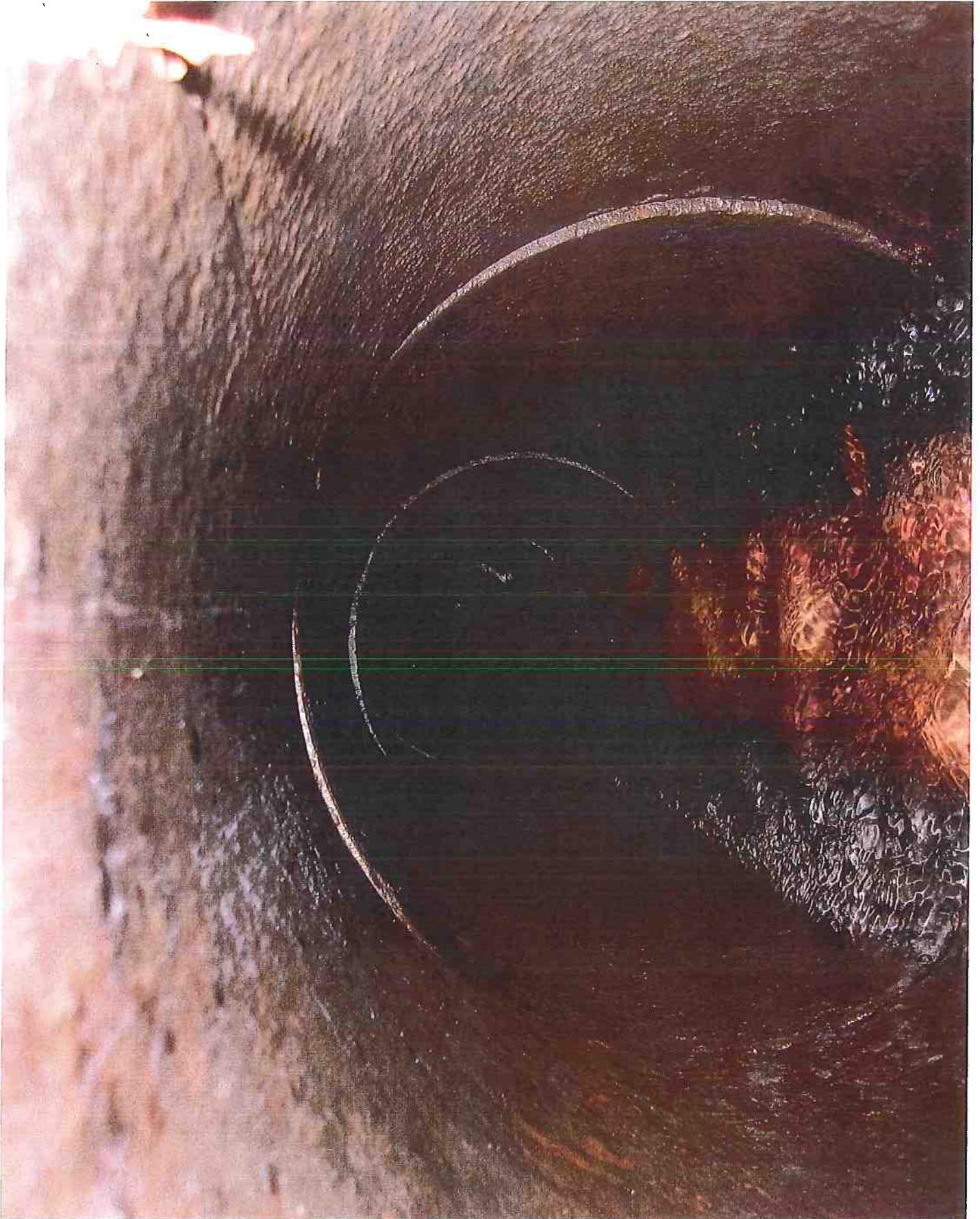
Engineer

Date Reviewed

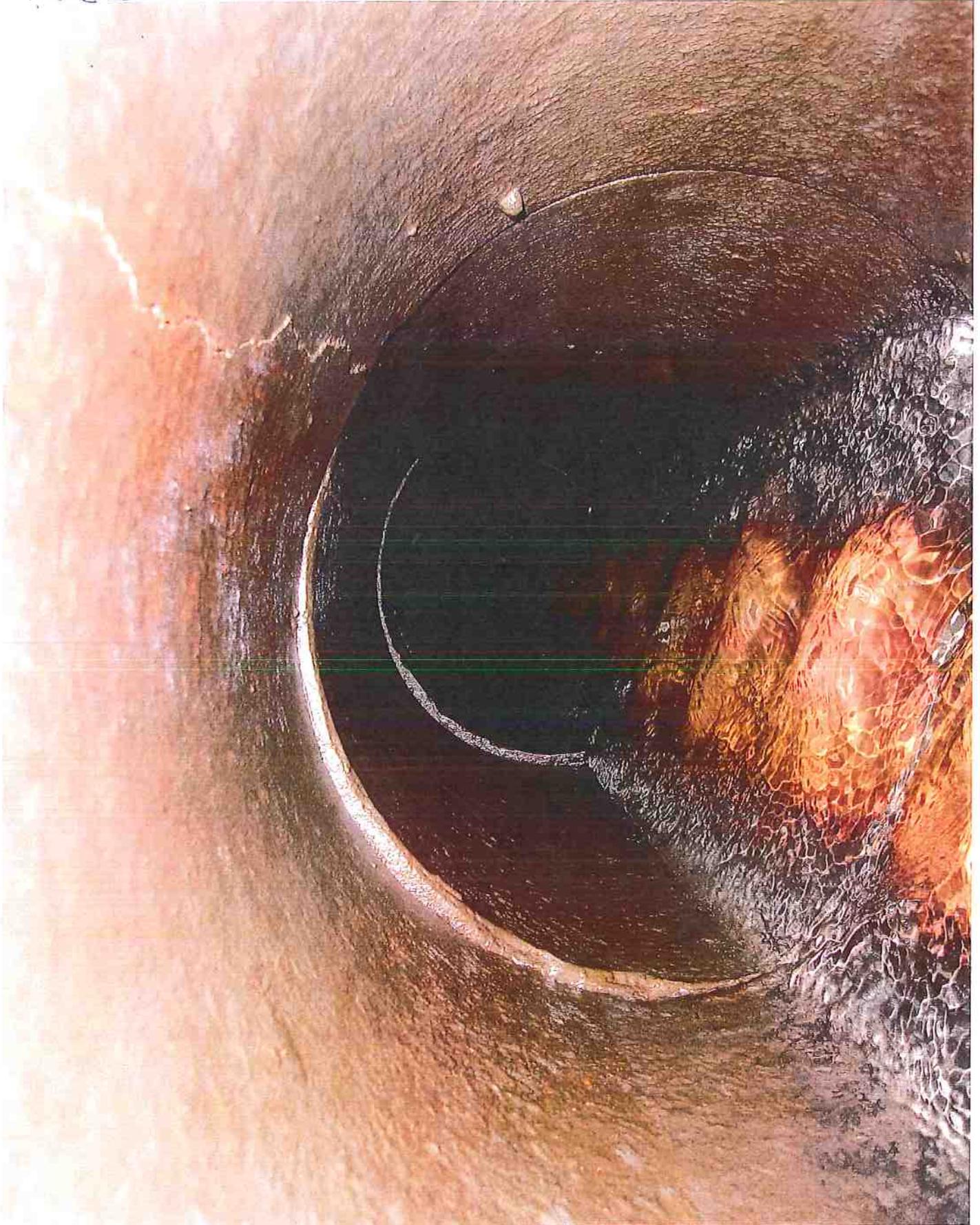
Tide @ 331



TILE © 331



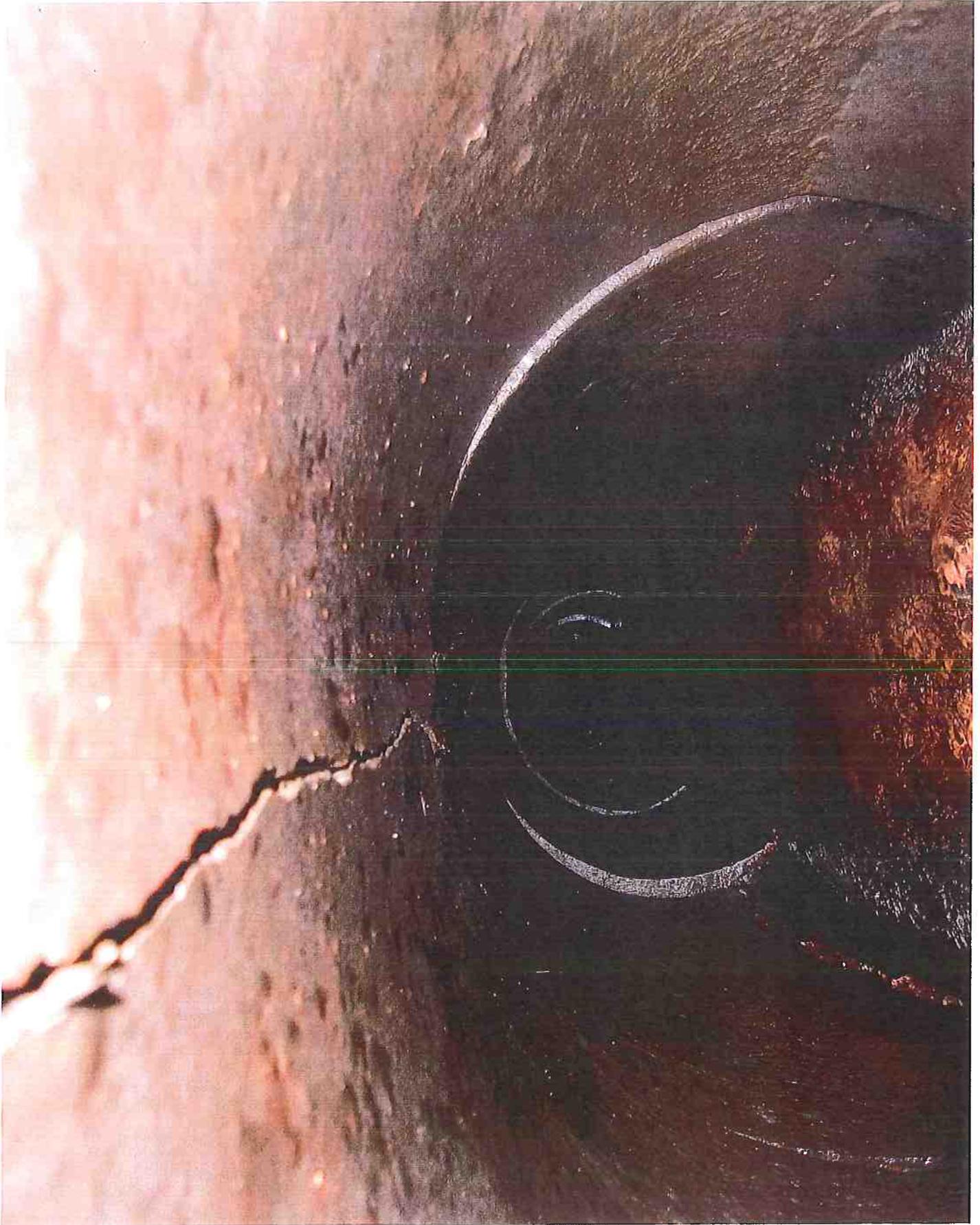
TUE @ 330



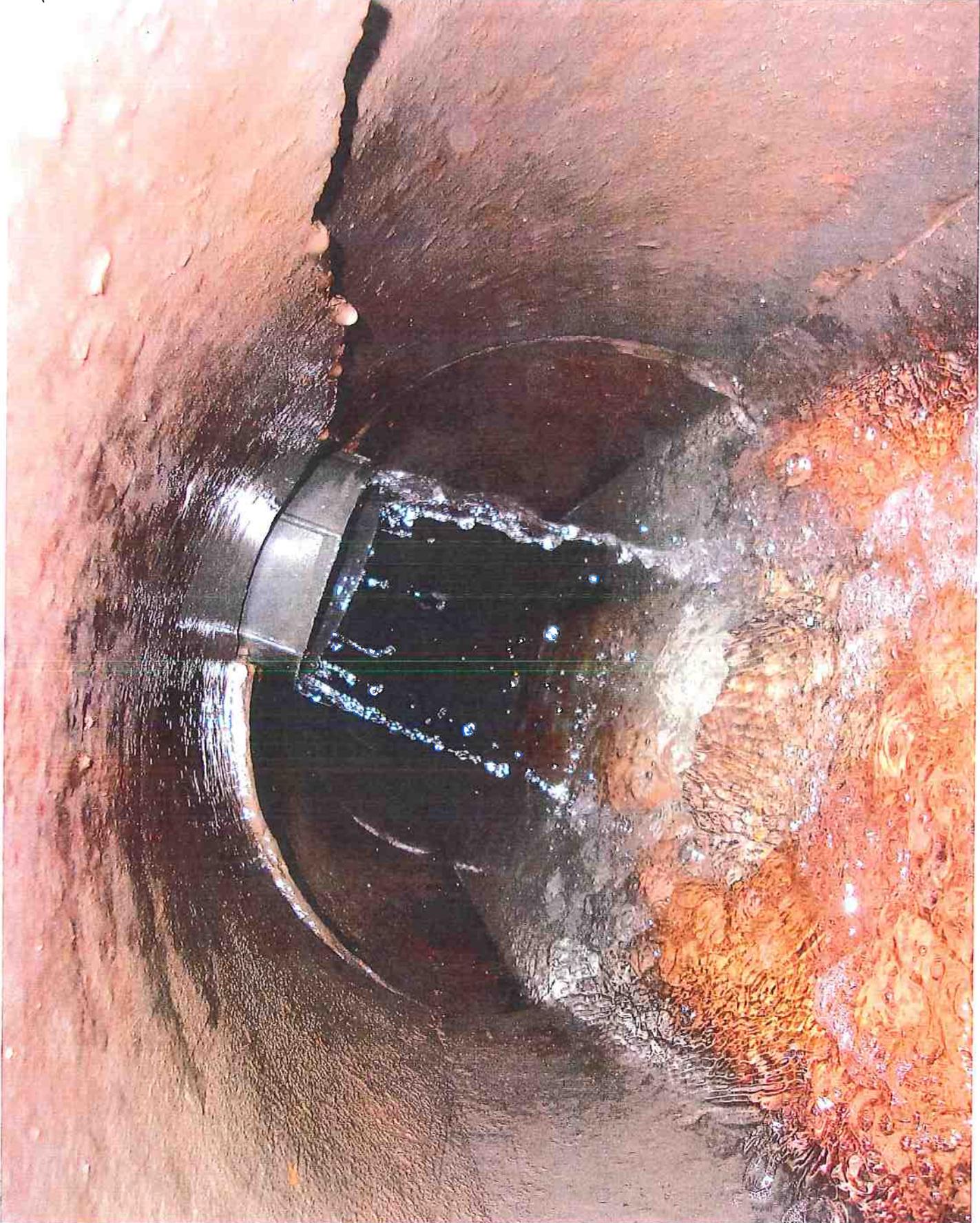
TUR @ 330



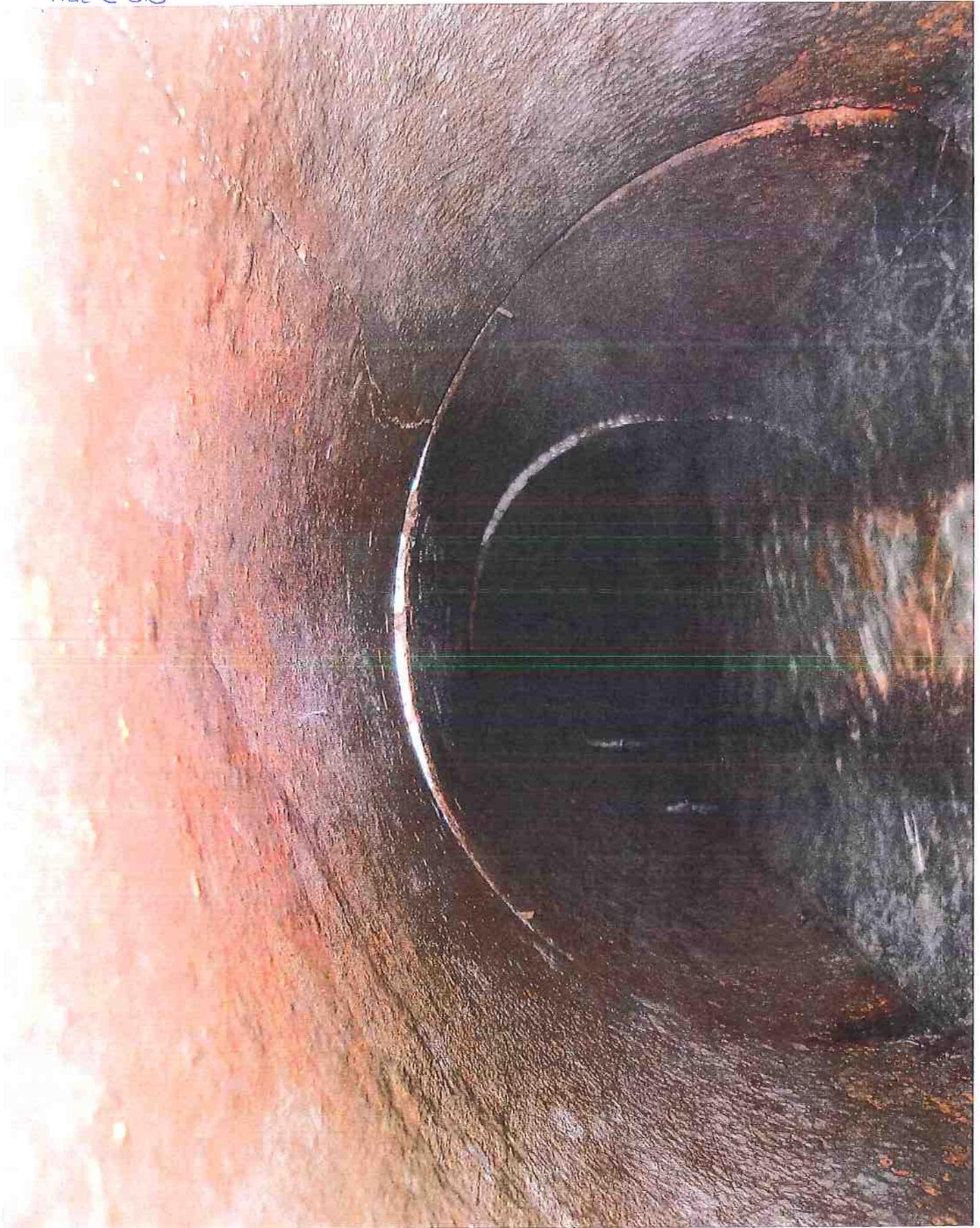
downstream From 321



UPSTREAM FROM #321, HOOKED 4" PE WITH BUCKET, REPAIR WITH SNAP COUPLER



Tue @ 313



Tile @ #313



TREES DOWNSTREAM FROM #313



009 HARDIN

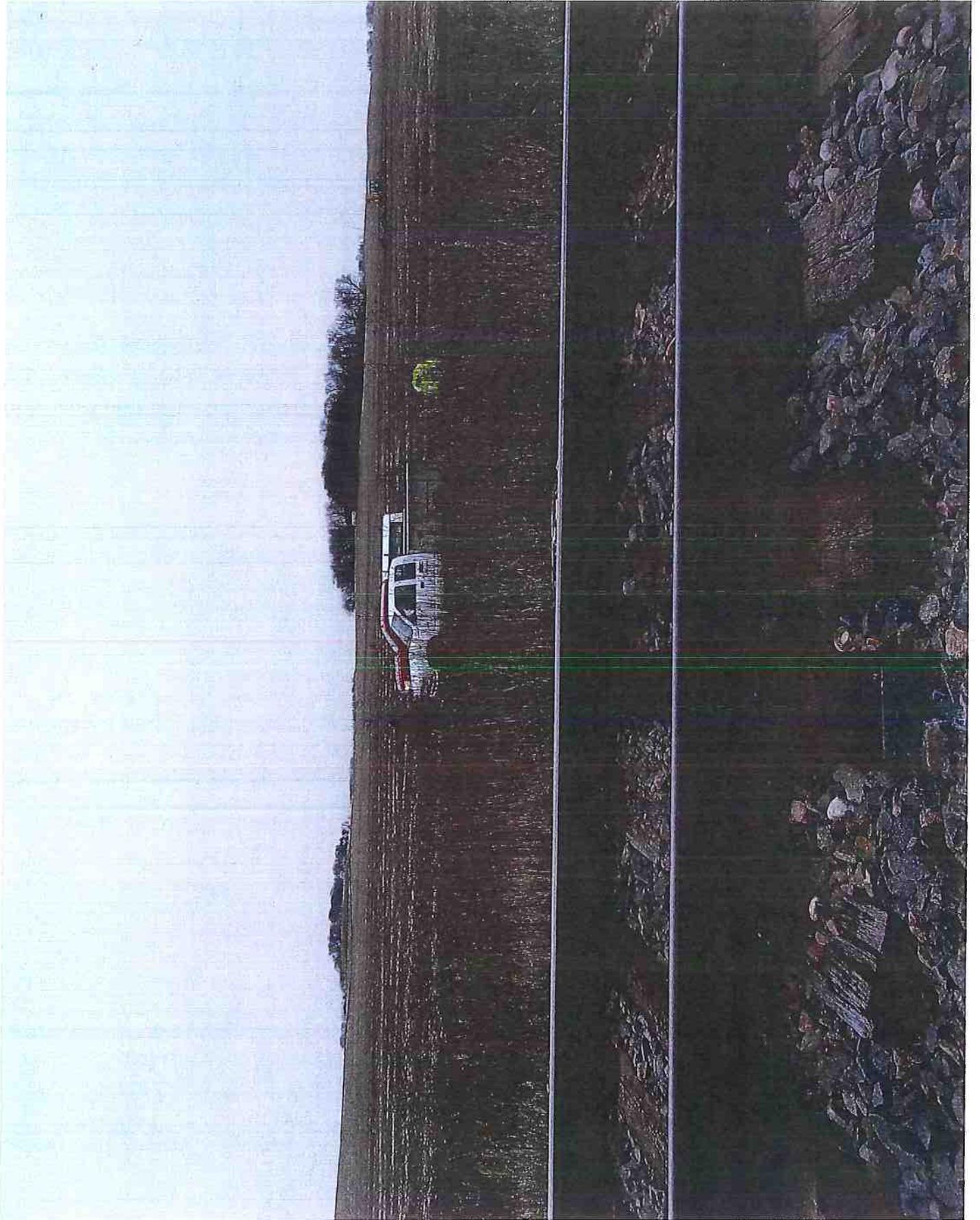






Blow-out Hole @ #340





CONSTRUCTION ENGINEERING
OBSERVATION REPORT

DATE:

11-21-18

DAYS OF WEEK:

S M T W T F S

SHEET NO.

1 OF 1

PROJECT NUMBER:

6735

COUNTY, ROUTE, ROAD:

DD9 CATS^{MAIN}

LOCATION:

SE 1/4 SEC 6 - 88 - 21

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

9:30 SET UP BASE AT 87 ✓ 1000

9:45 ARRIVED ON SITE 1 MAN IN BACKHOE

10:00 OPENED HOLE #350 3"-4" CLEAN WATER FLOWING THROUGH PIPE.

INTAKE #341 CONC INTAKE IN GOOD CONDITION W/ 6" CLAY RUNNING NW DRY BEEHIVE ON TOP IS BROKEN

10:45 OPENED HOLE #354 CONTRACTOR BROKE 1 PIECE OF TILE W/ BACK HOE BOTH TILE UP & DOWN STREAM HAVE MULTIPLE LATERAL CRACKS TILE IS FLOWING 3"-4" CLEAN WATER LOCATED TO THE OPEN TILE @ #344

11:00 HOLE 344 DOWN STREAM IS HALF FULL OF DIRT UPSTREAM IS 3/4 FULL ROCK W/ A TRICKLE OF WATER, WATER AT THIS SPOT IS SLOW MOVING @ 7" DEEP

11:45 PICKED UP BASE + LEFT SITE

LEE SAID TO TEMPORARILY PATCH POTHOLES AND FILL THE HOLES IN. RANDY SAID HE WOULD DO IT FRIDAY

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

Observer's Signature:



Date Prepared:

11-21-18

Reviewed by:

Engineer

Date Reviewed

6735 HOLE 350 LOOKING N.

2018/11/21



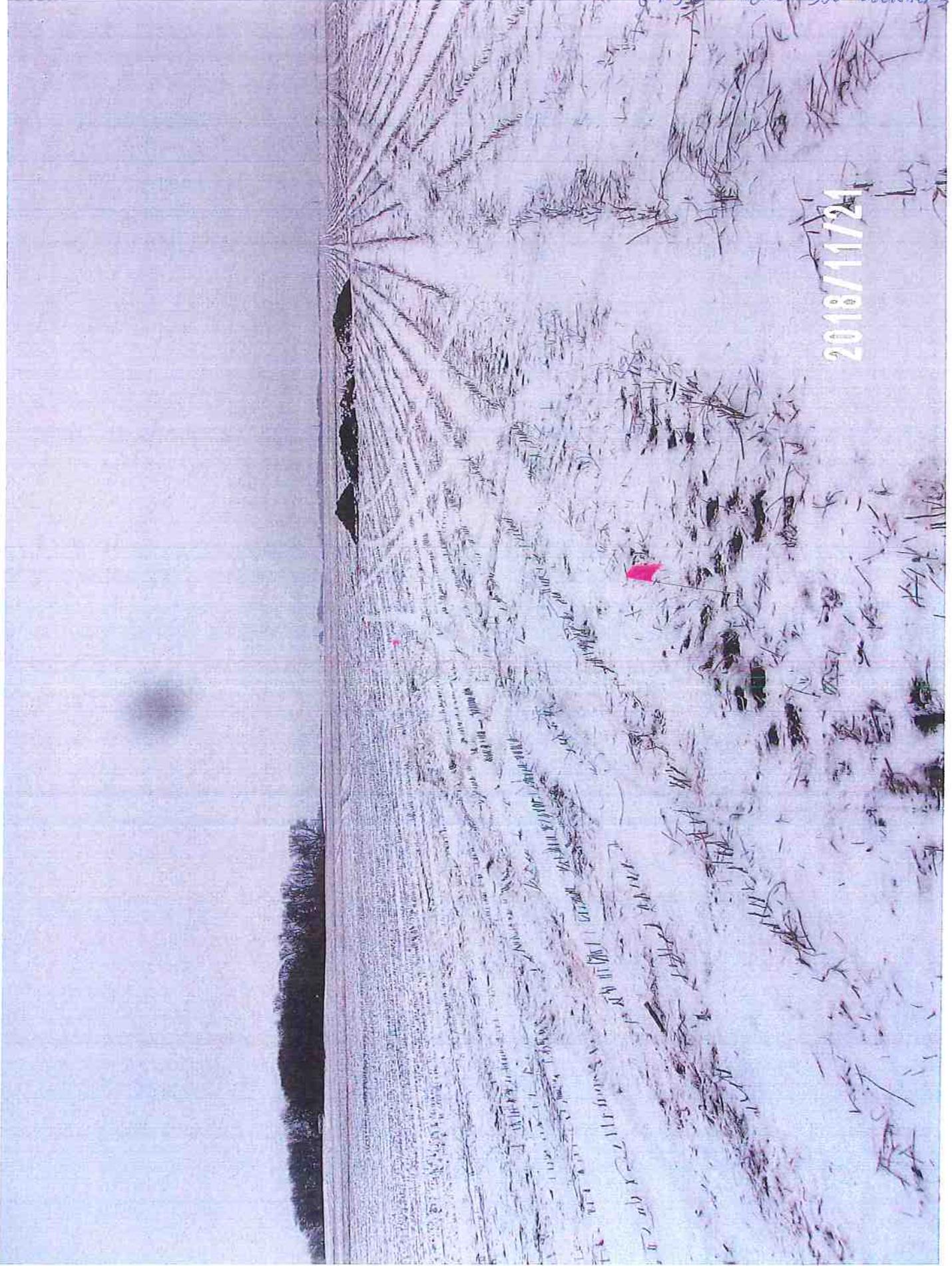
6735 Hole 350 Looking S.

2018/11/21

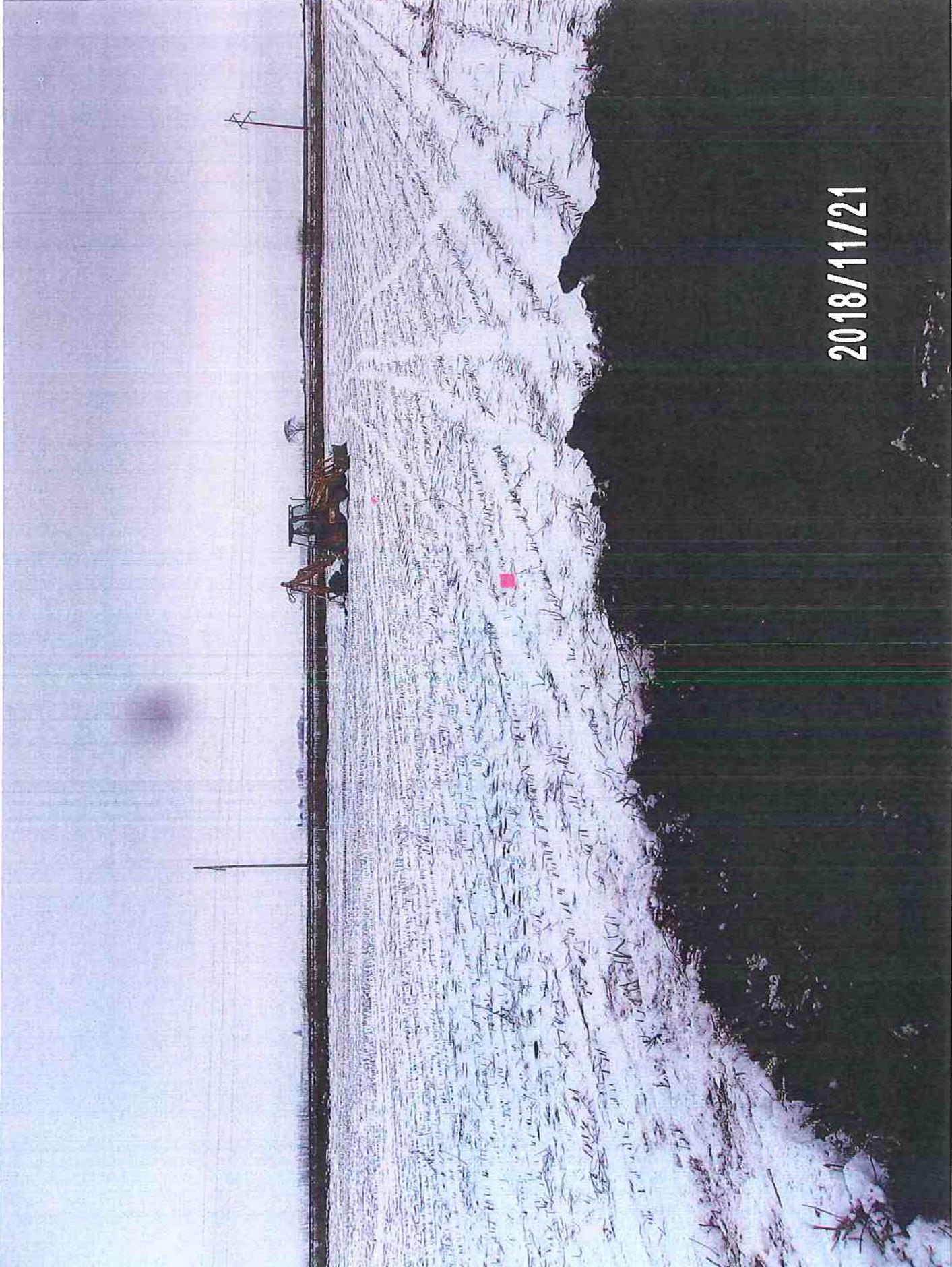


6735 HOUG 350 LOOKING S

2018/11/21



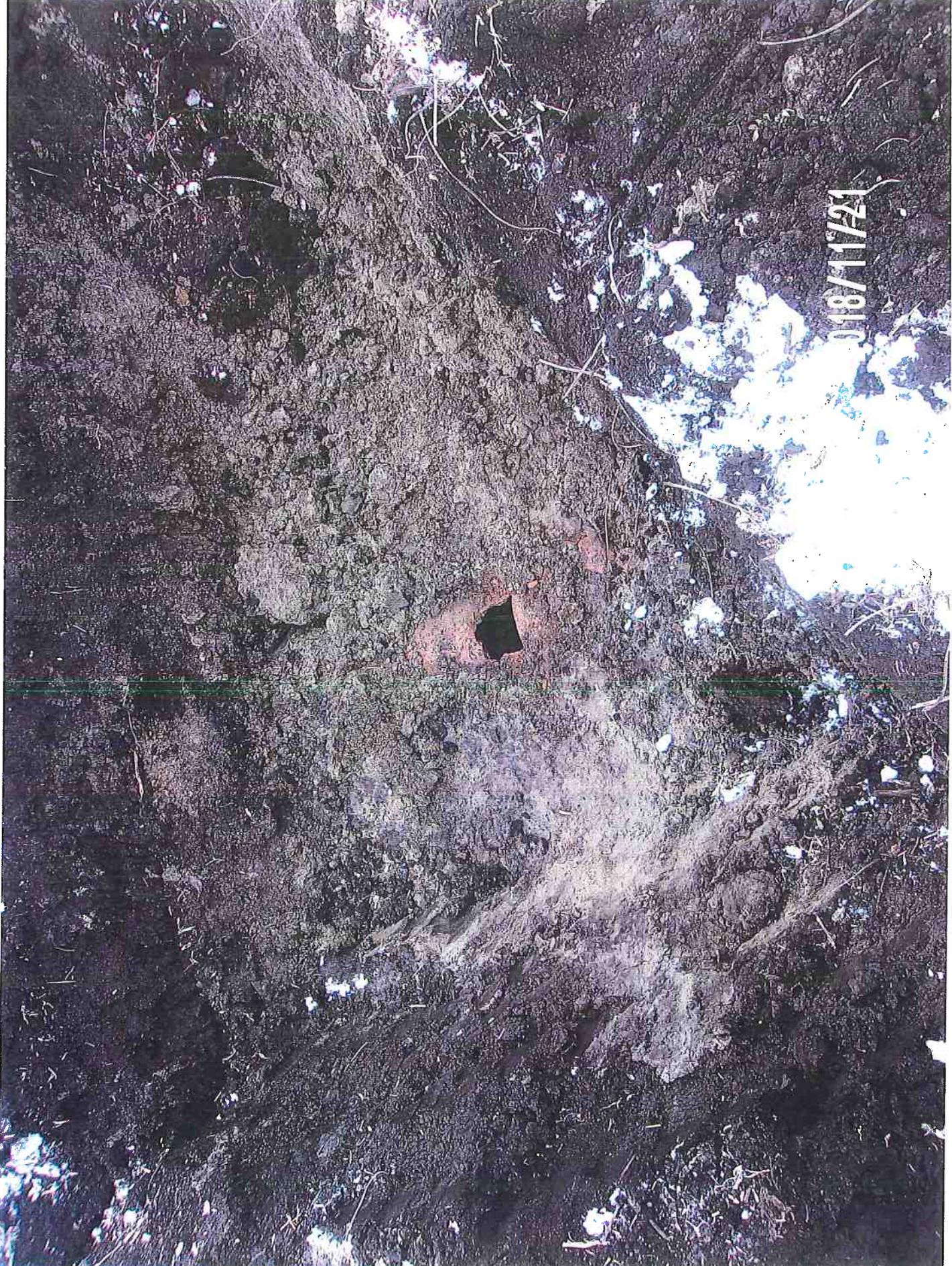
6735 HOLE 350 LOOKING N



2018/11/21

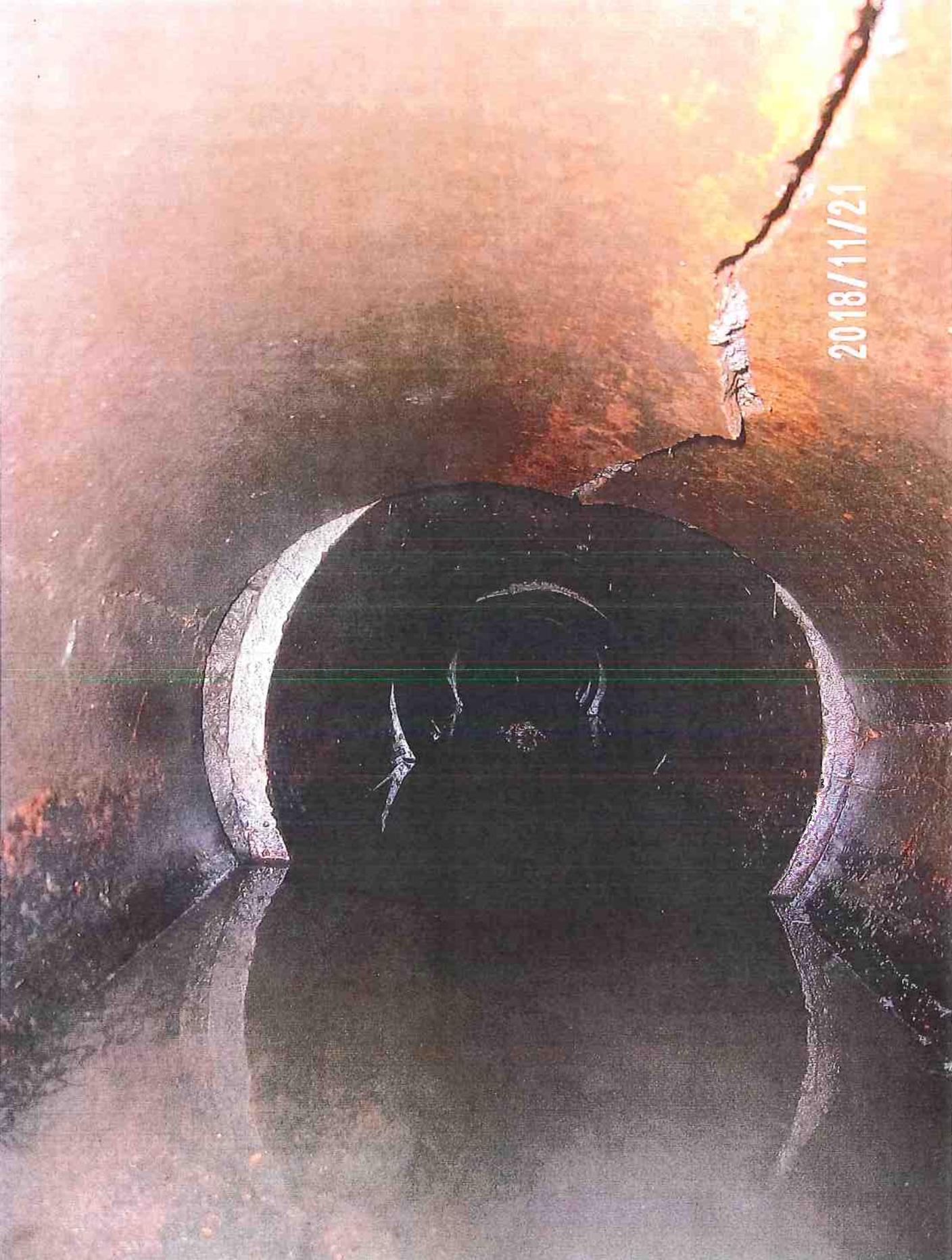
6735 HOLE 380

018/11/21



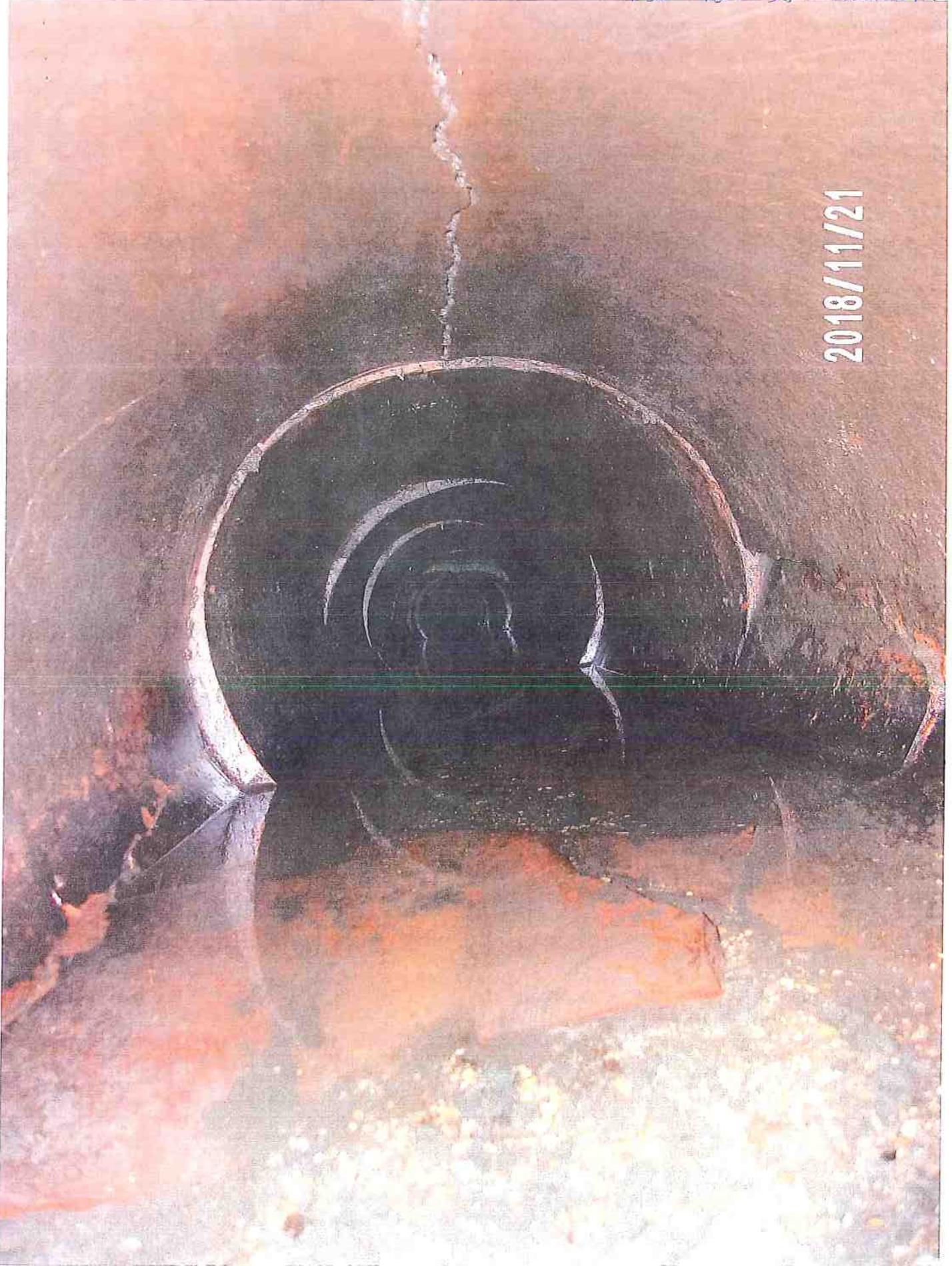
6735 HOLE 354 LOOKING S

2018/11/21



6735 HOLE 354 LOOKING N.

2018/11/21



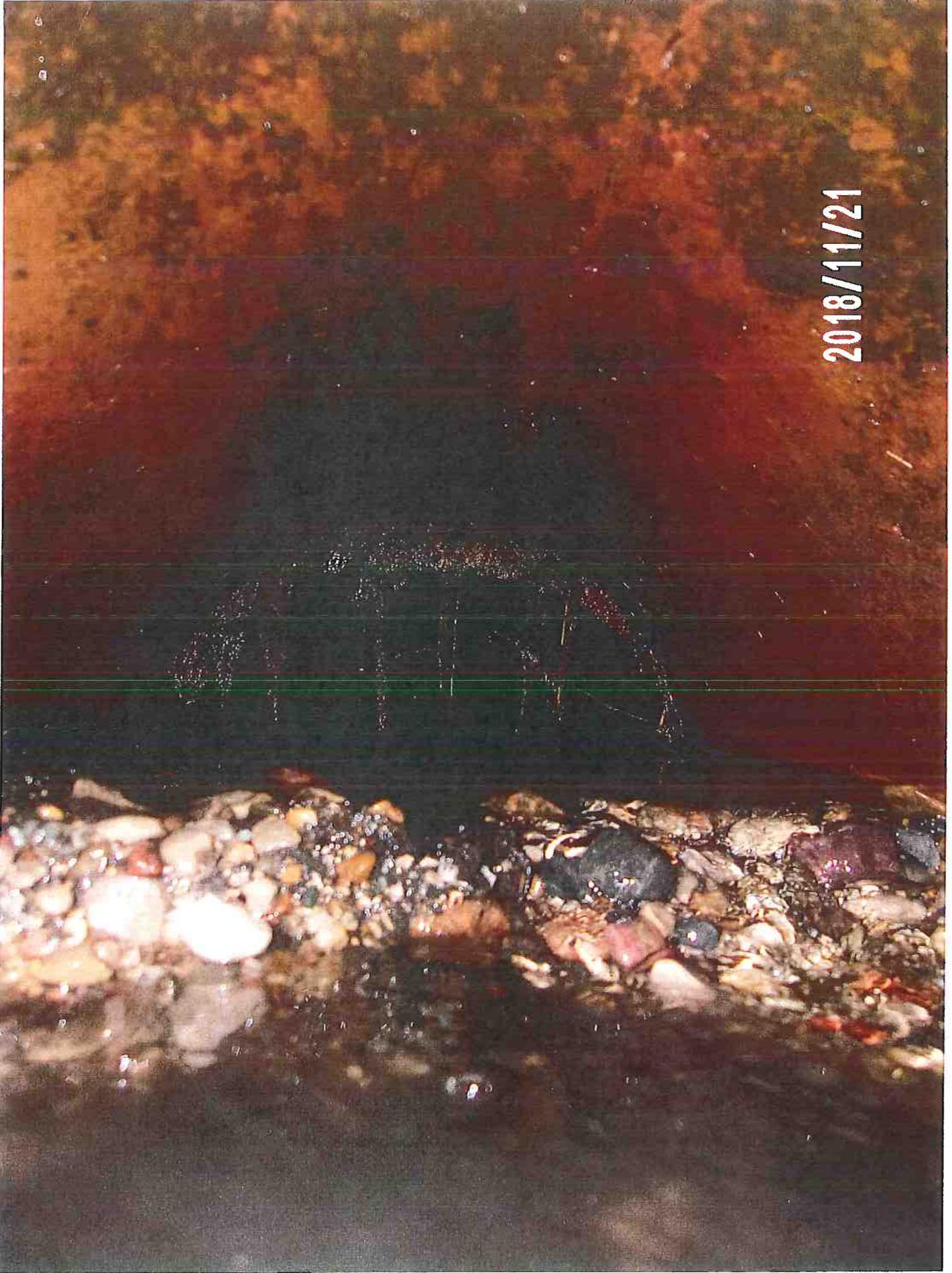
6735 HOLE 344 LOGGING

2018/11/21



6735 HOLE 344 LOOKING N.

2018/11/21



CONSTRUCTION ENGINEERING
OBSERVATION REPORT

DATE:

11/23/18

DAYS OF WEEK:

S | M | T | W | T | F | S

SHEET NO.

1 OF 1

PROJECT NUMBER:

6735

COUNTY, ROUTE, ROAD:

DD9

LOCATION:

Repairs From, N. of D25

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

Cloudy, SCATTERED SHOWERS, 35°, BREEZY FROM S.E.

ARRIVED @ JOB @ 9:30, NO CREW ON SITE.

2 MAN CREW ARRIVED @ 10:00 A.M. STARTED TEMP. REPAIRS ON ACCESS INSPECTION

6" x 6" HOLES IN TILE BY LAYING A 12" x 12" PIECE OF DUM WALL AND FABRIC
OVER HOLE AND BACKFILLING WITH NO COMPACTION, MINIMAL BUCKET COMPACTION

TRAVY BREWEN SAID HE WOULD NOT DO THE LONGER 20' REPAIR WHERE
TILE IS FULL OF DIRT, HE COULDN'T GET ANY PIPE TODAY.

LEFT JOB @ 10:30 FOR DD125W

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

Observer's Signature:

Date Prepared:

11/23/18

Reviewed by:

Engineer

Date Reviewed

RANDY BROWN AND BACKHOE TO DO TEMP FIXS ON DD 9

11/23/18



REPAIRING Temp Fix's



CONSTRUCTION ENGINEERING
OBSERVATION REPORT

DATE:

11/26/2018

DAYS OF WEEK:

S M T W T F S

PROJECT NUMBER:

6735 HARDIN COUNTY
DRAINAGE
WO# 229

COUNTY, ROUTE, ROAD:

DD#9

SHEET NO.

1 OF 1

LOCATION: NORTH OF HWY DD25 & HAVE INTERSECTION
"RACINE" SE OF UPRR

MID TEENS TO LOW 20'S OVERCAST
& WINDY WITH LIGHT FLURRIES.

JOB# 6735 DD9 H. SURVEY

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

8:50 A.M. RANDY FROM OUR OFFICE INFORMED ME THAT LEE RECEIVED
AN EMAIL FROM RANDY BROWN THAT THEY WILL BE MAKING
TEMPORARY TILE REPAIRS FOR 6735/DD#9 TODAY AND WILL
BE ON SITE AROUND 10:00 A.M.

8:55 A.M. RANDY GAVE ME THE WORK FILE FOR 6735/DD#9
AND ALSO GAVE ME THE WORK FILE FOR 6952, DD#148
IF THEY DID GET TO THAT REPAIR TOO

9:00 A.M. OBSERVER TRIED CELL PHONE NUMBER FOR RANDY BROWN
TO VERIFY IF HE WAS STILL PLANNING ON BEING @ JOB SITE
AROUND 10:00 A.M. BUT MESSAGE CAME UP THAT THIS
NUMBER WAS NO LONGER IN SERVICE. TRIED PHONE NUMBER
THAT RANDY RECEIVED A CALL FROM RANDY BROWN ON 11/23/2018
BUT WENT TO VOICEMAIL. LEFT MESSAGE ON THAT CELL PHONE
TO VERIFY IF RANDY WOULD BE ON SITE AROUND 10 A.M.

9:20 A.M. OBSERVER LEFT OFFICE ENROUTE TO SITE.

9:50 A.M. OBSERVER ARRIVED ON SITE WITH NO ACTIVITY ON SITE.

10:25 A.M. RANDY AND NICK ARRIVED ON SITE WITH CASE
580 SURBERM BACK HOE ALREADY IN FIELD. CREW SAID
THEY WERE RUNNING LATE SINCE PICKUP WOULD NOT START
THIS MORNING AND HAD TO JUMP START IT. CREW PLUGGED
ENGINE BLOCK HEATER INTO GENERATOR.

10:44 A.M. CREW HAD BACK HOE RUNNING

11:00 A.M. CREW FOUND FROZEN SOIL AROUND CLAY TILE REPAIR. CREW THOUGHT
THEY WOULD DO MORE DAMAGE THEN GOOD WHILE TRYING TO REMOVE
FROZEN SOIL SO THEY WILL WAIT TILL ABOUT WEDNESDAY TO FINISH
REPAIRS WHEN TEMPERATURES ARE WARMER.

11:00 A.M. OBSERVER LEFT SITE. CREW WAS MEASURING UP PIPE NEEDED FOR TEMPORARY
REPAIRS

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

Observer's Signature:

Dean Penning

Date Prepared:

11/26/2018

Reviewed by:

Engineer

Date Reviewed

CONSTRUCTION ENGINEERING
OBSERVATION REPORT

DATE:

11/29/18

DAYS OF WEEK:

S M T W T F S

SHEET NO.

1 OF 1

PROJECT NUMBER:

6735

COUNTY, ROUTE, ROAD:

DD9 HARDIN

LOCATION:

D25 and H. Ave. North, upRR

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

Partly Sunny, 30°, CALM,

ARRIVED @ JOB SITE @ 10:00 AM, RANDY BROWN CALLED SAID HE WON'T BE THERE TIL 12:00 NOON. LEFT FOR DDGR H. @ DAGO LAKE.

ARRIVED BACK @ JOB DD9 @ 11:45, NO CREW YET.

12:15 P.M., RANDY AND NICK SHOWS UP WITH PARTS TO REPAIR 4" PLASTIC TILE ACCIDENTALLY HOOKED DURING EXPLORATION DIG @ #321. BUT IT'S A 5", RANDY WENT BACK TO GET PARTS FOR A 5", CAN'T FIND ANY. USED A 2" PIECE OF 6" DUAL WALL SLIP OVER THE 5" SINGLE WALL TIGHT FIT WITH FABRIC OVER. THEY ALSO PUT A CHUNK OF DUAL WALL AND FABRIC OVER INSPECTION HOLE AND BACKFILLED. PILES OF DIRT ARE FROZEN, 1' THICK. HARD TO BACKFILL.

1:30 P.M. WENT TO HOLE #354 WITH BROKEN CLAY TILE. TOOK OUT 75" OF BROKEN CLAY TILE AND REPAIRED IT WITH 15" DUAL WALL HDPE AND FABRIC JOINTS (6'3")

3:00, CREW IS DOWN WITH REPAIRS FOR TODAY. RANDY BROWN SAID HOPEFULLY THEY WILL ROCK AND PIPE TOMORROW.

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

Observer's Signature:

Date Prepared:

11/29/18

Reviewed by:

Engineer

Date Reviewed

6' 3" REPAIR TEMP



6'3" Repair Temp.



PRIVATE TIE REPAIR ● 5" IPE WITH 6" HOPE OVER TOP



009, 6'3" REPAIR



CONSTRUCTION ENGINEERING
OBSERVATION REPORT

DATE:

3/8/19

PROJECT NUMBER:

6735

DAYS OF WEEK:

S M T W T F S

COUNTY, ROUTE, ROAD:

DD 9 HARDIN

SHEET NO.

OF

LOCATION:

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

Cloudy, Foggy, 25°, Wind From S.E., RAIN PREDICTED FOR TOMORROW. 1/2' OF SNOW ON GROUND, LOTS OF ICE. 2' OF FROZEN EARTH IN FIELDS

8:30 ARRIVED @ JOB SITE @ "RACINE" GHOST TOWN. CONTRACTOR "McDOWELL'S" ARE ON SITE 3 MEN + RUBBER TIRE BACKHOE. PLAN IS TO REMOVE BROKEN 14" CLAY TILE (ALREADY EXPOSED BY RANDY BROWN), AND REPAIR PERMANENTLY WITH 15" HOPE OVAL WALL / ROCK / CONC. COLLARS. BARE MINIMUM IS TO GET HOPE IN PLACE WITH ROCK AND FABRIC OVER CONNECTIONS. BACK FILL MATERIAL ON SITE MAY BE TO FROZEN. WOULD HAVE TO POUR COLLARS @ A LATER DATE. 1" OF RAIN IS PREDICTED TOMORROW AND THIS COULD WASH MORE DIRT IN TILE.

EXISTING HOLE FROM RANDY BROWN #340 IS FULL OF SNOW, LEVEL FULL!

11:30 A.M., BEDDING ROCK @ F IS IN PLACE. 18'4" BETWEEN ENDS ON CLAY TILE.

TIM IS BRINGING 20' STICK OF 15", 5 TON ROCK, FABRIC, 12 BAGS CONC., WIRE MESH.

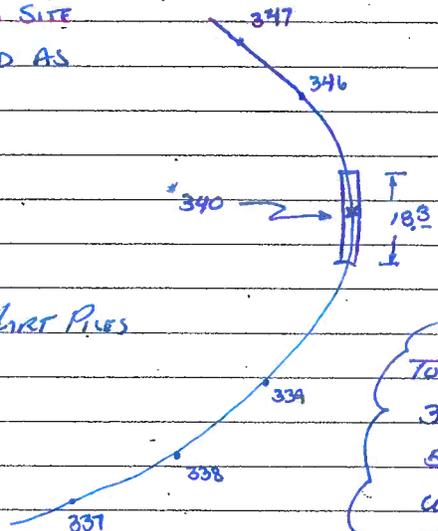
1 TON ± OF ROCK WAS EXISTING ON SITE

FROM RANDY BROWN. IT WAS USED AS BASE ROCK IN F.

1:30, TILE IN PLACE, BACK FILLED WITH ROCK.

WILL NEED TO PUSH FROZEN DIRT PILES IN WHEN THAWED OUT.

FURTHER ACTION NEEDED



TOTAL FOR TODAY 3/8/19
3 MEN + BACKHOE = 5 HRS.
5 TON 1" CLEAN ROCK
WIRE MESH
FABRIC
18.3' OF OVAL WALL 15" HOPE
12 BAGS CONC.

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

Observer's Signature:

[Handwritten Signature]

Date Prepared:

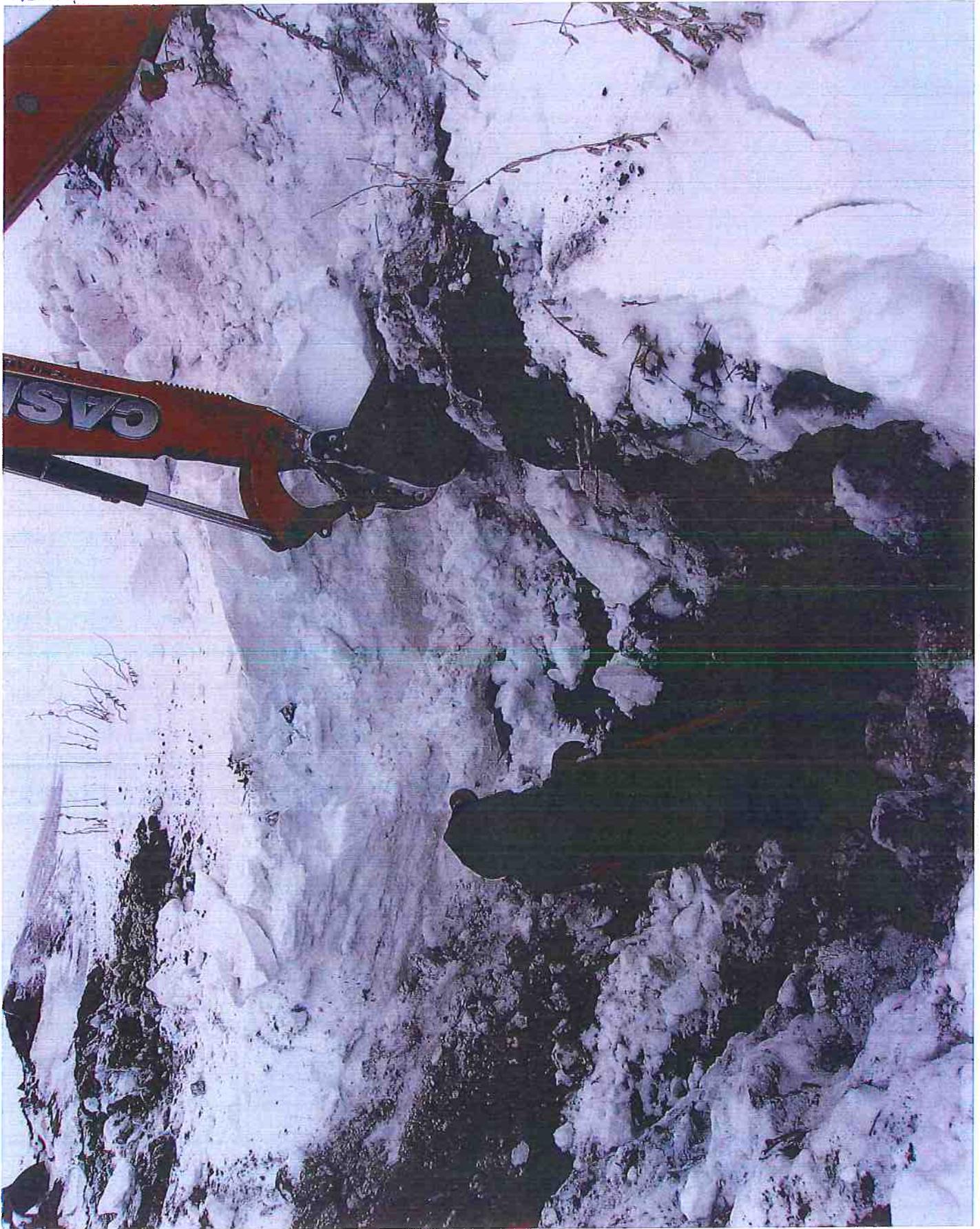
3/8/19

Reviewed by:

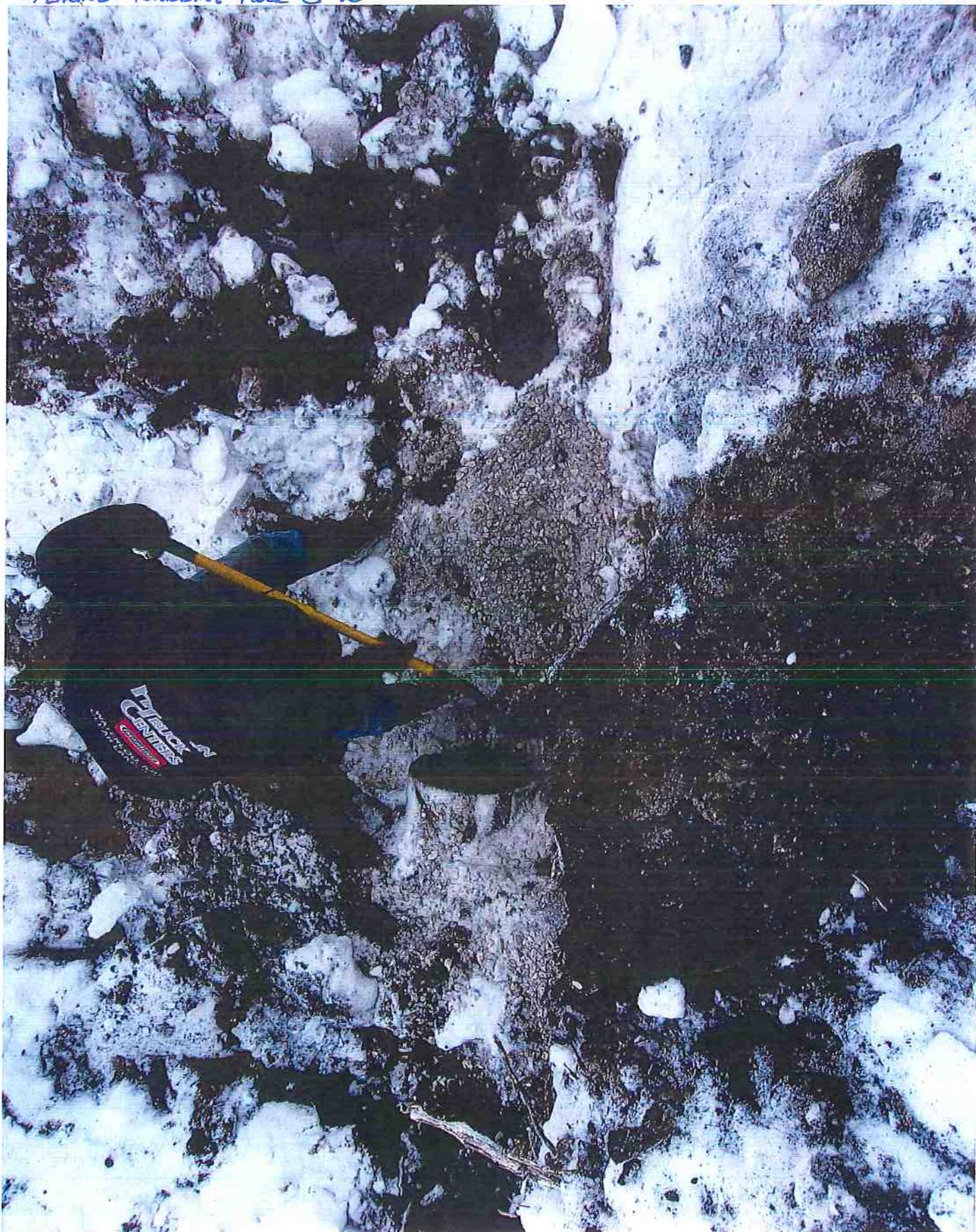
Engineer

Date Reviewed

REMOVING SNOW FROM EXISTING HOLE @ #340



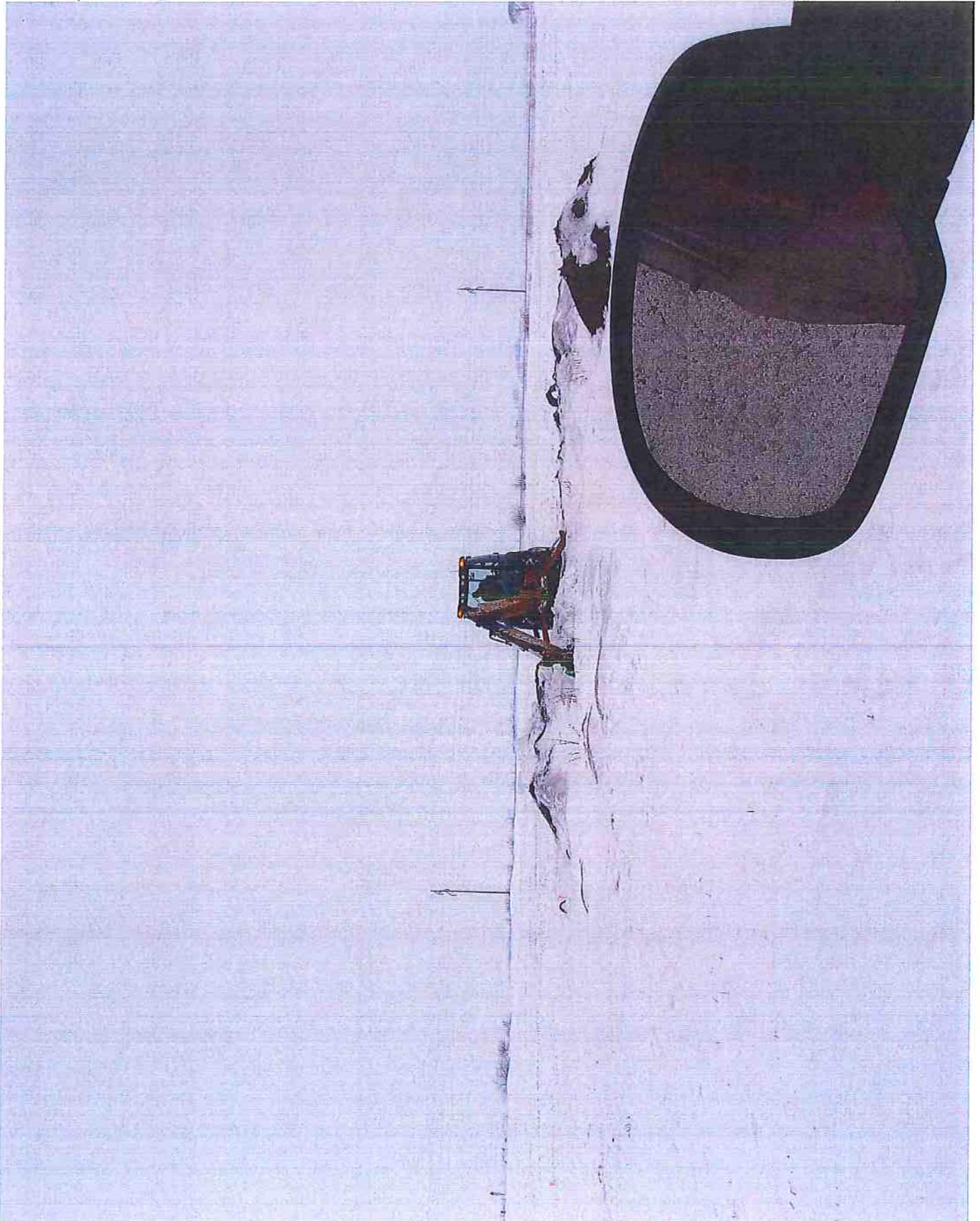
PEAKING BROODING ROCK @ FK



CONDITIONS @ JOB SITE



CONDITIONS @ JOB SITE #340



LOADING UP 12 BAGS CONC. FOR 3/4 CURBS



6 TON BREDDING ROCK USED



PLACING ROCK AROUND 15" HDPE



18.3' OF 15" HDPE DUAL WALL



CONSTRUCTION ENGINEERING
OBSERVATION REPORT

DATE:

4/3/19

PROJECT NUMBER: _____
COUNTY, ROUTE, ROAD: 6735
LOCATION: DD9 H.

DAYS OF WEEK:

| | | | | | | |
|---|---|---|---|---|---|---|
| S | M | T | W | T | F | S |
|---|---|---|---|---|---|---|

SHEET NO.

1 OF 1

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

Cloudy, LIGHT RAIN

DROVE IN OFF Co. Hwy @ DD9, TO muddy To drive To Hole,
Pile OF dirt IS GONE, Hole must BE Filled, Hopefully THEY HAD ENOUGH dirt.
Jim McDougal Sawed Russ AND CONFIRMED THAT Hole WAS Filled AND No
imported dirt NEEDED.

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

Observer's Signature: [Signature]
Reviewed by: _____

Date Prepared: 4/3/19

Engineer

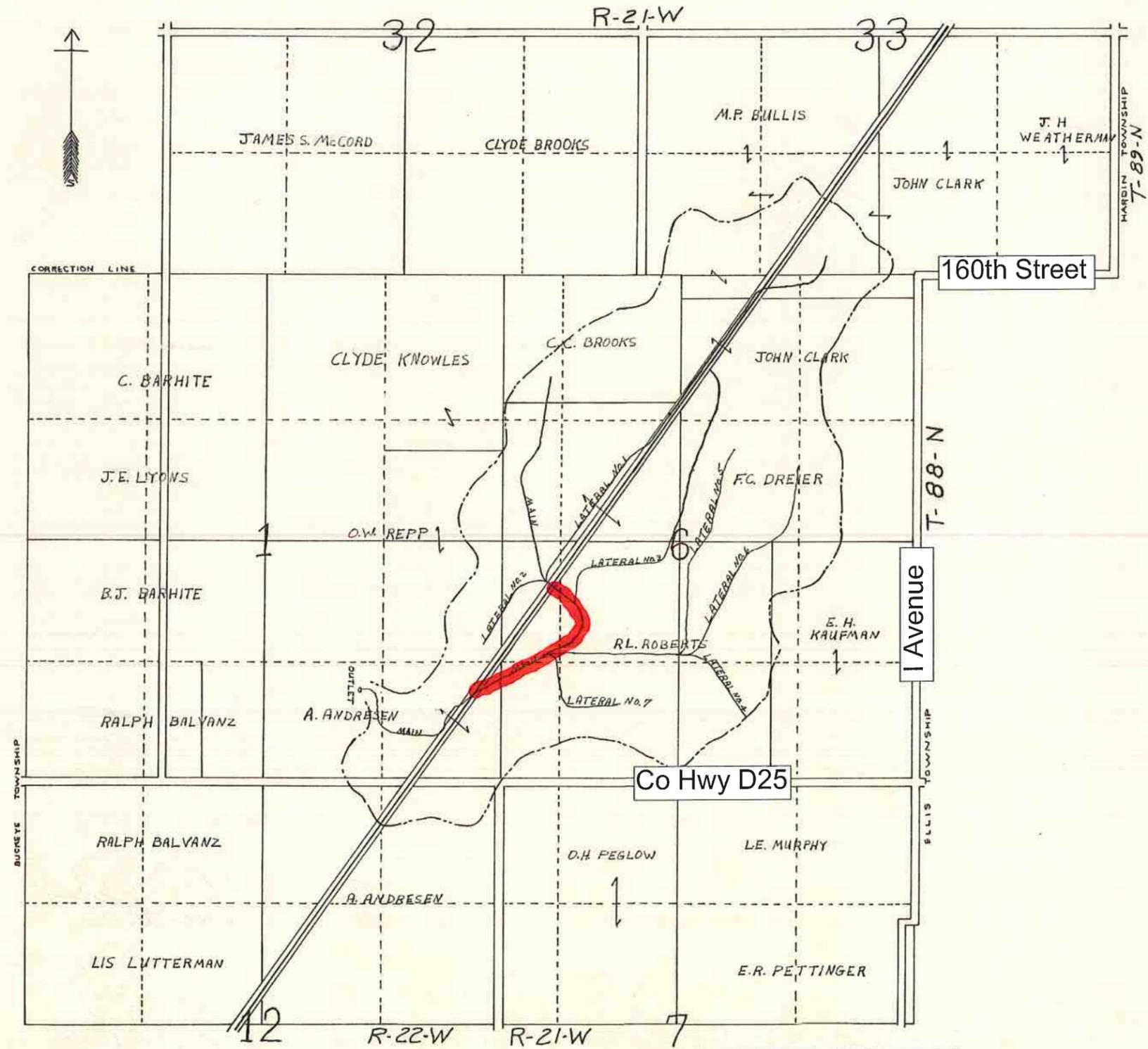
Date Reviewed _____

3,3618723.499,4931323.978,1161.577,COMMON 8005
4,3624567.908,4967262.956,1167.807,CP 3/4 .5DOWN
300,3629737.028,4962244.618,1146.788,GS FO
301,3629822.903,4962308.404,1146.891,FNL RR
302,3629791.707,4962284.913,1147.160,FNL RR
303,3629758.052,4962260.329,1146.995,FNL RR
304,3629753.034,4962225.981,1147.279,GS TILELOCATE
305,3629774.811,4962248.609,1146.216,GS TILELOCATE
306,3629802.148,4962282.548,1146.295,GS TILELOCATE
307,3629810.400,4962298.964,1147.030,GS TILELOCATE
308,3629822.735,4962312.159,1147.277,GS TILELOCATE
309,3629859.081,4962343.846,1146.943,GS TILELOCATE
310,3629870.624,4962355.908,1146.838,GS TILELOCATE
311,3629891.427,4962375.437,1146.813,GS TILELOCATE
312,3629925.863,4962404.629,1146.573,GS TILELOCATE
313,3629938.454,4962416.585,1137.943,FL 18"CLAYTILE
314,3629966.977,4962450.914,1146.365,GS TILELOCATE
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316,3630032.434,4962523.364,1146.174,GS TILELOCATE
317,3630060.547,4962561.809,1146.201,GS TILELOCATE
318,3630086.093,4962598.790,1146.213,GS TILELOCATE
319,3630110.060,4962639.449,1146.103,GS TILELOCATE
320,3630134.112,4962679.895,1146.022,GS TILELOCATE
321,3630145.419,4962699.671,1138.867,FL 15"CLAYTILE
322,3630165.561,4962736.783,1146.293,GS TILELOCATE
323,3630184.950,4962772.002,1146.211,GS TILELOCATE
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328,3630309.102,4962994.641,1147.441,GS TILELOCATE
329,3630329.428,4963029.441,1147.266,GS TILELOCATE
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331,3630387.704,4963129.871,1140.181,FL 15"CLAYTILE
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336,3630485.395,4963300.163,1146.670,GS TILELOCATE
337,3630507.477,4963337.687,1146.238,GS TILELOCATE
338,3630526.017,4963368.056,1146.568,GS TILELOCATE
339,3630540.580,4963386.775,1146.581,GS TILELOCATE
340,3630555.208,4963401.223,1140.781,FL 15"CLAY@BLOWOUT
341,3630929.429,4963280.734,1143.344,FL INTAKE BEEHIVE
342,3630928.602,4963282.665,1145.920,GS
343,3631016.362,4963171.872,1146.759,FNL RR
344,3631020.255,4963167.827,1142.396,FL 15"CLAYTILE
345,3630999.195,4963158.235,1146.570,GS FO
346,3630614.913,4963420.609,1145.835,GS TILE LOCATE
347,3630650.646,4963417.231,1146.017,GS TILE LOCATE
348,3630708.938,4963395.887,1146.757,GS TILE LOCATE
349,3630756.966,4963375.972,1147.574,GS TILE LOCATE
350,3630790.418,4963361.690,1141.512,fl clay 15"
351,3630800.420,4963356.626,1146.844,GS TILE LOCATE
352,3630850.131,4963334.822,1146.385,GS TILE LOCATE
353,3630901.850,4963302.566,1146.282,GS TILE LOCATE
354,3630917.044,4963287.278,1141.856,fl clay 15"
355,3630925.850,4963277.378,1145.963,GS TILE LOCATE
356,3630967.858,4963229.027,1146.672,GS TILE LOCATE
357,3631010.898,4963176.712,1146.134,GS TILE LOCATE
358,3631028.257,4963156.684,1146.702,GS TILE LOCATE
359,3631042.449,4963139.401,1150.590,GS TILE LOCATE
8016,3618659.060,4946889.650,1169.720,GPS MON
8016_GNSS,3618659.060,4946889.650,1169.720,Autonomous Setup

Traced by: Reigles Eng'g. Co.
Feb. 1956

PLAT
of
D.D. No. 9
Total Acs. 550
Scale
1" = 600 ft.

Ellis



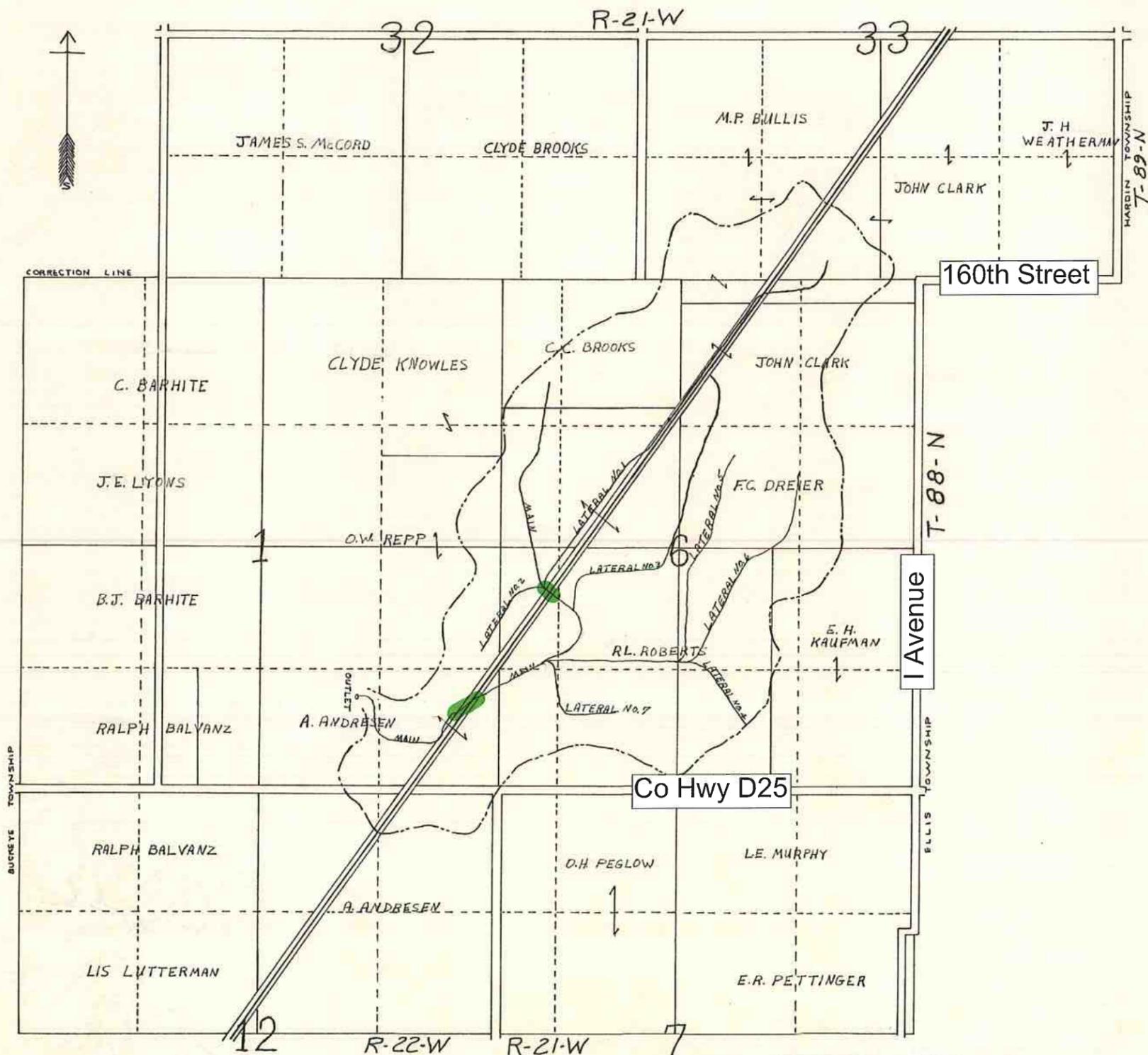
Investigation Limits

No. 9

Traced by: Reigles Eng'g. Co.
Feb. 1956

PLAT
of
D.D. No. 9
Total Acs. 550
Scale
1" = 600 ft.

Ellis



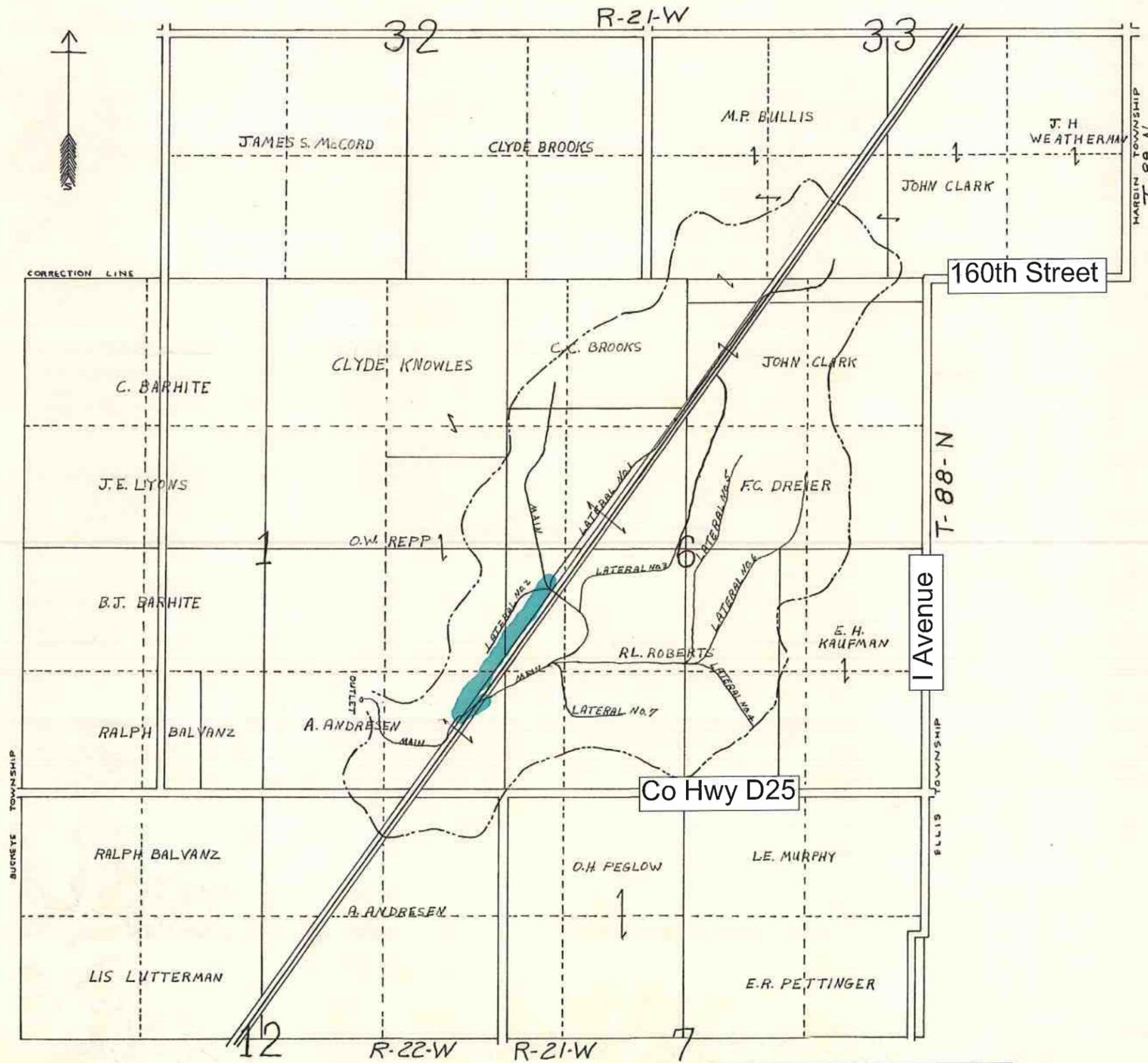
Repair Locations

No. 9

Traced by:- Reigles Eng'g. Co.
Feb. 1956

PLAT
of
D.D. No. 9
Total Acs. 550

Scale
1" = 600 ft. F/115



Improvement Locations

No. 9



By: L.O.G.
 Date: 4/30/2019
 Checked By: L.O.G.
 Date: 4/30/2019

Engineer's Opinion of Probable Construction Cost

Project: Main tile **Repair** for D.D. #9

Location: Section 6, T88N, R21W and Section 1, T88N, R22W Hardin County, Iowa

| TILE REPLACEMENT | ITEM # | DESCRIPTION | Unit Cost | Units | Quantity | Units | Total Cost |
|------------------|--------------|--|----------------------------------|-------|----------|--------------|---------------|
| | | CONSTRUCTION COSTS | | | | | |
| | 1 | 15" DIP TILE | \$ 80.00 | LF | 120 | LF | \$ 9,600.00 |
| | 2 | 30" JACK AND BORE TILE (RAILROAD CROSSING) | \$ 600.00 | LF | 110 | LF | \$ 66,000.00 |
| | 3 | INTAKE JUNCTION STRUCTURE | \$ 4,000.00 | EA | 2 | EA | \$ 8,000.00 |
| | 4 | CONCRETE COLLARS | \$ 300.00 | EA | 2 | EA | \$ 600.00 |
| | 5 | TILE REMOVAL | \$ 10.00 | LF | 10 | LF | \$ 100.00 |
| | 6 | ABANDON EXISTING TILE (RAILROAD CROSSING) | \$ 30.00 | LF | 110 | LF | \$ 3,300.00 |
| | 7 | RAILROAD REQUIREMENTS | \$ 20,000.00 | LS | 1 | LS | \$ 20,000.00 |
| | 8 | LOCATE EXISTING DISTRICT TILE | \$ 1,000.00 | LOC | 2 | LOC | \$ 2,000.00 |
| | 9 | TILE JET CLEANING | \$ 50.00 | LF | 200 | LF | \$ 10,000.00 |
| | 10 | TILE CCTV | \$ 4.00 | LF | 200 | LF | \$ 800.00 |
| 11 | TREE REMOVAL | \$ 10,000.00 | LS | 1 | LS | \$ 10,000.00 | |
| | | | CONSTRUCTION SUBTOTAL | | | | \$ 130,400.00 |
| | | | Contingency (20%) | | | | \$ 26,080.00 |
| | | | CONSTRUCTION TOTAL | | | | \$ 156,480.00 |
| | | | Engr. & Const. Observation (25%) | | | | \$ 39,120.00 |
| | | | TOTAL COST | | | | \$ 195,600.00 |



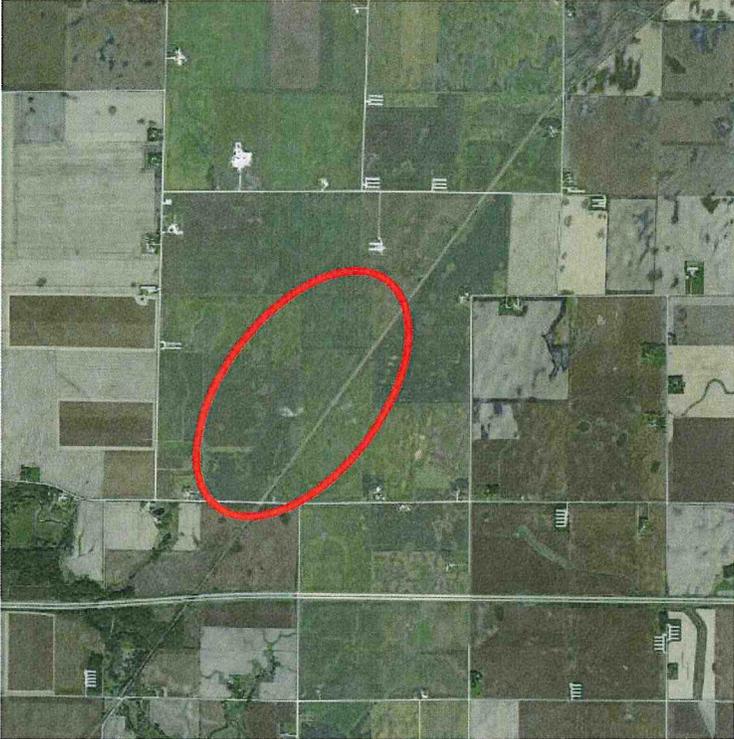
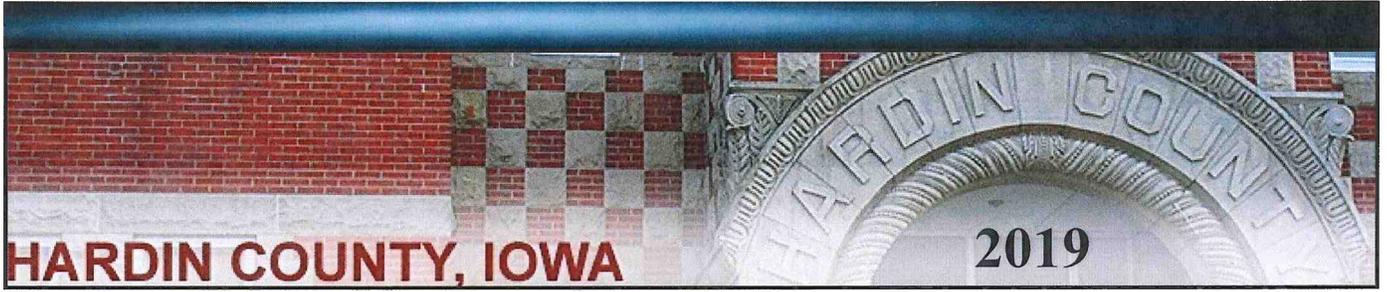
By: L.O.G.
 Date: 4/30/2019
 Checked By: L.O.G.
 Date: 4/30/2019

Engineer's Opinion of Probable Construction Cost

Project: Main tile **Improvement** for D.D. #9

Location: Section 6, T88N, R21W and Section 1, T88N, R22W Hardin County, Iowa

| TILE REROUTE | ITEM # | DESCRIPTION | Unit Cost | Units | Quantity | Units | Total Cost | |
|--------------|---------------------------|---|--------------|-------|----------|---------------|--------------|--|
| | CONSTRUCTION COSTS | | | | | | | |
| | 101 | 15" RCP OR DUAL WALL TILE | \$ 30.00 | LF | 1900 | LF | \$ 57,000.00 | |
| | 102 | INTAKE JUNCTION STRUCTURE | \$ 4,000.00 | EA | 2 | EA | \$ 8,000.00 | |
| | 103 | CONCRETE COLLARS | \$ 300.00 | EA | 2 | EA | \$ 600.00 | |
| | 104 | TILE REMOVAL | \$ 10.00 | LF | 10 | LF | \$ 100.00 | |
| | 105 | ABANDON EXISTING TILE (RAILROAD CROSSING) | \$ 30.00 | LF | 110 | LF | \$ 3,300.00 | |
| | 106 | RAILROAD REQUIREMENTS | \$ 10,000.00 | LS | 1 | LS | \$ 10,000.00 | |
| | 107 | LOCATE EXISTING DISTRICT TILE | \$ 1,000.00 | LOC | 3 | LOC | \$ 3,000.00 | |
| | 108 | TILE JET CLEANING | \$ 50.00 | LF | 200 | LF | \$ 10,000.00 | |
| | 109 | TILE CCTV | \$ 4.00 | LF | 200 | LF | \$ 800.00 | |
| 110 | TREE REMOVAL | \$ 10,000.00 | LS | 1 | LS | \$ 10,000.00 | | |
| | | CONSTRUCTION SUBTOTAL | | | | \$ 102,800.00 | | |
| | | Contingency (20%) | | | | \$ 20,560.00 | | |
| | | CONSTRUCTION TOTAL | | | | \$ 123,360.00 | | |
| | | Engr. & Const. Observation (25%) | | | | \$ 30,840.00 | | |
| | | TOTAL COST | | | | \$ 154,200.00 | | |



**SUPPLEMENT TO
ENGINEER'S REPORT
ON REPAIRS OR
IMPROVEMENTS TO
MAIN TILE
DRAINAGE DISTRICT
NO. 9
HARDIN COUNTY,**

| | |
|--|--|
| | <p>I HEREBY CERTIFY THAT THIS ENGINEERING DOCUMENT WAS PREPARED BY ME OR UNDER MY DIRECT PERSONAL SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF IOWA</p> <p><i>Lee O. Gallentine</i>, P.E. June 3, 2019 LEE O. GALLENTINE, P.E. DATE</p> <p>LICENSE NUMBER: 15745 MY LICENSE RENEWAL DATE IS DECEMBER 31, 2020 PAGES OR SHEETS COVERED BY THIS SEAL: SHOWN ON TABLE OF CONTENTS</p> |
|--|--|

| | | |
|--|---|--|
| | <p>CLAPSADDLE-GARBER ASSOCIATES OFFICE LOCATIONS 16 East Main Street, PO Box 754 Marshalltown, IA 50158 1523 S. Bell Avenue, Suite 101 Ames, IA 50010 5106 Nordic Drive Cedar Falls, IA 50613 739 Park Avenue Ackley, IA 50601 511 Bank Street Webster City, IA 50595</p> | <p>Project Office 739 Park Avenue Ackley, IA. 50601 Phone: 641-847-3273 Fax: 641-847-2303</p> |
|--|---|--|

**Supplement to Engineer's Report
on Repairs or Improvements
to Main Tile, Drainage District No. 9
Hardin County, Iowa**

| | |
|---|----------|
| Table of Contents | Pg. 1 |
| Report | |
| Introduction | Pg. 2 |
| Tile Sever Method | Pgs. 2-3 |
| Opinion of Probable Construction Costs | Pg. 3 |
| Recommendations | Pg. 3 |
| Appendices | |
| Map – Tile Sever – Improvement | App. H |
| Opinion of Probable Construction Costs – Tile Sever – Improvement | App. I |

Supplement to Engineer's Report on Repairs or Improvements to Main Tile, Drainage District No. 9 Hardin County, Iowa

1.0 INTRODUCTION

- SCOPE OF WORK – The Hardin County Board of Supervisors, acting as District Trustees, requested Clapsaddle-Garber Associates to investigate and report concerning repair or improvements to the Main tile of Drainage District No. 9. At the regular drainage meeting held on May 22, 2019, the original Engineer's Report along with the options that it contains were discussed by the District Trustees. As a result, the District Trustees requested Clapsaddle-Garber Associates to move ahead with this supplement to explore an additional option requested by one of the landowners.

2.0 IMPROVEMENT METHOD – To improve the drainage capacity for the existing Main tile, the following option is an additional option available:

Tile Sever

- Sever the existing Main tile upstream of the upstream railroad crossing and plug the downstream end on northwest side of the railroad right of way.
- Abandon existing Main tile at said upstream railroad crossing under the railroad tracks.
- Install a new separate Main tile from the location of severing west and southwest to a new separate outlet in the existing water course (approximately 1/8 mile downstream of the outlet of the existing main tile).
- For the portion of the Main tile in the railroad right of way at the downstream limits of investigation, jet clean the existing Main tile, CCTV inspect the existing Main tile to verify its condition and remove the trees inside the railroad right of way.
- For reference, the locations of proposed work are shown on the map included in Appendix H.

With the above-mentioned improvement method, the following should be noted:

- The condition of the Main tile at the downstream railroad crossing is unknown.
- For the above option, the current railroad crossing would not be removed, but would be abandoned as dictated by railroad standards.
- For the above option, trees within 50' of the locations of the existing Main tile inside railroad right of way would be removed to stop infiltration of tree roots.
- The pipe sizes used are those that are currently manufactured that most closely meet the current Main tile size.
- The above option would only remove soil and debris in the existing Main tile at the areas of work.
- The above work is for the identified portions of the Main tile only. No work is proposed for the remainder of the existing Main tile.

- The above work would turn the drainage area upstream of the upstream railroad crossing into a separate Drainage District.
- The proposed tile on the above work would be installed at some depths slightly larger than the Tile Reroute Method from the original report.
- The above work may require annexation to extend the district boundary to the West and Southwest to allow for installation of the proposed tile.
- Improvements have historically been viewed as having an impact on jurisdictional wetlands. As such, individual landowners should consult with applicable staff at the Hardin County NRCS office to determine the existence of said jurisdictional wetlands and what said impact may be on them.

Per Iowa Code Chapter 468.126, the above actions would be considered an improvement. As such, Subsection 4, paragraph c of Chapter 468.126 states “If the estimated cost of the improvement does not exceed fifty thousand dollars, the board may order the work done without conducting a hearing on the matter. Otherwise, the board shall set a date for a hearing on whether to construct the proposed improvement and whether there shall be a reclassification of benefits for the cost of the proposed improvement.” The opinion of probable construction cost contained in the next section of this report exceeds said \$50,000 limit. Therefore, a hearing will be required. Per Iowa Code Chapter 468.126.4.e, the right of remonstrance may apply to the proposed improvements.

3.0 **OPINION OF PROBABLE CONSTRUCTION COSTS** – Using the above method of improvement, an itemized list of project quantities and associated opinion of probable construction costs was compiled and is included in Appendix I of this report. A summary of said costs are as follows:

| METHOD | TOTAL COST |
|--------------------------|------------|
| Tile Sever - Improvement | \$187,800 |

It should be noted that said costs include materials, labor, and equipment supplied by the contractor to complete the necessary repair and includes applicable engineering, construction observation, and project administration fees by Clapsaddle-Garber Associates. However, said costs do not include any interest, legal fees, county administrative fees, crop damages, other damages, previous repairs, engineering fees to date, or reclassification fees (if applicable). As always, all costs shown are opinions of Clapsaddle-Garber Associates based on previous lettings on other projects. Said costs are just a guideline and are not a guarantee of actual costs.

4.0 **RECOMMENDATIONS** – There is a definite need to perform the above-mentioned action or one of those mentioned in the original Engineer’s report. The actions would remove the current restrictions in the Main tile and extend the lifespan of the same. Therefore, it is recommended that the District Trustees should take the actions stated in the original report.

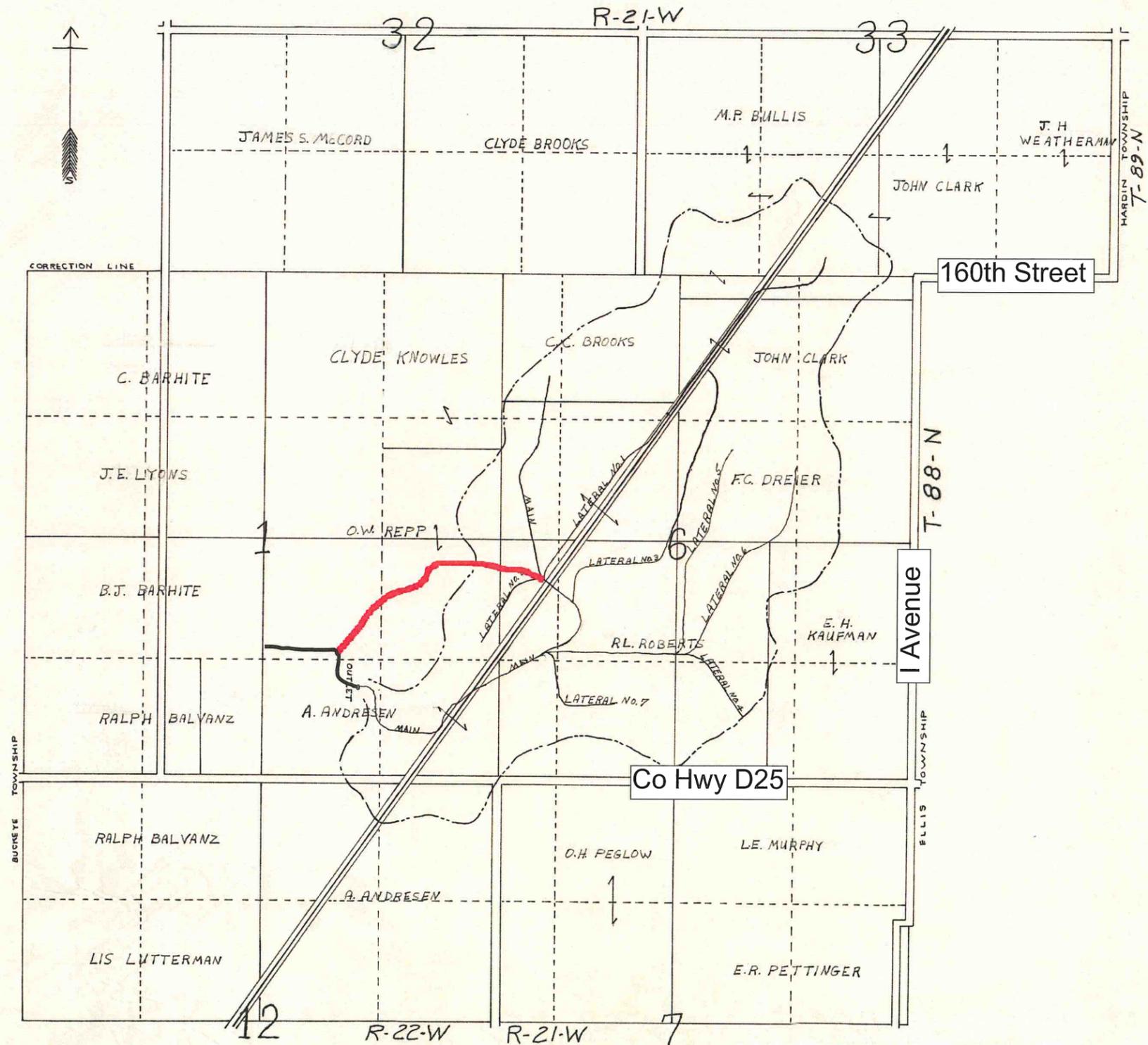
It should be noted that if the Tile Sever option from this supplement is selected, the following additional recommendations apply:

- Confirm that Drainage District 9 should be split into two separate districts.
- Confirm if annexation is necessary to the West and Southwest.

Traced by:- Reigles Eng'g Co.
Feb. 1956

PLAT
D.D. No. 9
Total Acs. 550
Scale
1" = 600 ft.

Ellis



— Severed Main Tile Route
— Existing Water Course



By: Z.J.S.
 Date: 5/30/2019
 Checked By: L.O.G.
 Date: 6/3/2019

Engineer's Opinion of Probable Construction Cost

Project: Main tile Improvement for D.D. #9

Location: Section 6, T88N, R21W and Section 1, T88N, R22W Hardin County, Iowa

| ITEM # | DESCRIPTION | Unit Cost | Units | Quantity | Units | Total Cost |
|----------------------------------|---|--------------|-------|----------|-------|----------------------|
| | | | | | | |
| CONSTRUCTION COSTS | | | | | | |
| 201 | 15" RCP OR DUAL WALL TILE | \$ 30.00 | LF | 2640 | LF | \$ 79,200.00 |
| 202 | 18" CMP OUTLET | \$ 30.00 | LF | 40 | LF | \$ 1,200.00 |
| 203 | REVTMENT | \$ 40.00 | TN | 50 | TN | \$ 2,000.00 |
| 204 | INTAKE JUNCTION STRUCTURE | \$ 4,000.00 | EA | 1 | EA | \$ 4,000.00 |
| 205 | CONCRETE COLLARS | \$ 300.00 | EA | 2 | EA | \$ 600.00 |
| 206 | TILE REMOVAL | \$ 10.00 | LF | 10 | LF | \$ 100.00 |
| 207 | SEEDING | \$ 1,000.00 | LS | 1 | LS | \$ 1,000.00 |
| 208 | ABANDON EXISTING TILE (RAILROAD CROSSING) | \$ 30.00 | LF | 110 | LF | \$ 3,300.00 |
| 209 | RAILROAD REQUIREMENTS | \$ 10,000.00 | LS | 1 | LS | \$ 10,000.00 |
| 210 | LOCATE EXISTING DISTRICT TILE | \$ 1,000.00 | LOC | 3 | LOC | \$ 3,000.00 |
| 211 | TILE JET CLEANING | \$ 50.00 | LF | 200 | LF | \$ 10,000.00 |
| 212 | TILE CCTV | \$ 4.00 | LF | 200 | LF | \$ 800.00 |
| 213 | TREE REMOVAL | \$ 10,000.00 | LS | 1 | LS | \$ 10,000.00 |
| CONSTRUCTION SUBTOTAL | | | | | | \$ 125,200.00 |
| Contingency (20%) | | | | | | \$ 25,040.00 |
| CONSTRUCTION TOTAL | | | | | | \$ 150,240.00 |
| Engr. & Const. Observation (25%) | | | | | | \$ 37,560.00 |
| TOTAL COST | | | | | | \$ 187,800.00 |

TILE SEVER



HARDIN COUNTY

Board of Supervisors

1215 EDGINGTON AVE., SUITE 1
ELDORA, IA 50627
(641) 939-8219
SUPERVISORS@HARDINCOUNTYIA.GOV

RE: Consent Letter Dated June 10, 2019, Folder 03141-19

February 24, 2020

Real Estate - Utilities
% Union Pacific Railroad
1400 Douglas St, Stop 1690
Omaha, NE 68179
Attn: Norma J. Reynolds

To Whom It May Concern:

Please reference the Hardin County Board of Supervisors, application for a maintenance on a drainage tile at Mile Post 128.84, on the Mason City Subdivision near Radcliffe, Hardin County, Iowa, requesting approval from the Union Pacific Railroad Company to inspect, root clean, and jet the existing lateral tile.

In our Drainage Engineer's Investigation Summary done in order to determine the cause of our plugged drainage tile, the Engineer's investigator noted existing damage to a box culvert that belongs to the Railroad for surface water drainage. There is a significant failure in the roof of the cement box culvert. The damage can barely be seen from the surface of the tracks, however when viewed from the inside of the box culvert, a large 4' to 6' section of concrete has fallen out of the roof of the box culvert. The investigator was concerned as this may pose a significant safety risk for the tracks above. I have referenced the Consent letter provided to Hardin County from the Railroad, so that you may note the location of this box culvert, as it was found nearby the tile location for this project.

It was reported to our Board of Supervisors, acting as Drainage Trustees, by Clapsaddle-Garber Associates, our drainage engineering firm. It was our Trustees wishes to bring to your attention the damaged box culvert, as it was unknown to them if the Railroad was already aware of the damage. Our Trustees, and Clapsaddle-Garber Associates, feel it is their duty to share this information with you to protect both the Railroad and the general public.

Enclosed you will find copies of the Investigation Summary, which includes photos of the damaged box culvert, please reference pages 19 and 20 for those photos. I have included additional copies of those images at the front of the report.

[HTTP://WWW.HARDINCOUNTYIA.GOV](http://www.hardincountyia.gov)

LANCE A. GRANZOW, SUPERVISOR CHAIR
RRICKELS@HARDINCOUNTYIA.GOV
641-939-8221

RENEE MCCLELLAN, SUPERVISOR
RMCCLELLAN@HARDINCOUNTYIA.GOV
641-939-8222

BJ HOFFMAN, SUPERVISOR
BHOFFMAN@HARDINCOUNTYIA.GOV
641-939-8220



HARDIN COUNTY

Board of Supervisors

1215 EDGINGTON AVE., SUITE 1
ELDORA, IA 50627
(641) 939-8219
SUPERVISORS@HARDINCOUNTYIA.GOV

If you have any questions or concerns, please feel free to contact the Hardin County Drainage Clerk at (641) 939-8111 or by email at drainage@hardincountyia.gov. You may also contact the Drainage Engineer, Lee Gallentine, with Clapsaddle-Garber Associates at (641) 847-3273 or by email at lgallentine@cgaconsultants.com.

Sincerely,

Lance Granzow
Chairman, Board of Trustees

Enclosure

CC: Lee Gallentine

[HTTP://WWW.HARDINCOUNTYIA.GOV](http://www.hardincountyia.gov)

LANCE A. GRANZOW, SUPERVISOR CHAIR
RRICKELS@HARDINCOUNTYIA.GOV
641-939-8221

RENEE McCLELLAN, SUPERVISOR
RMCCLELLAN@HARDINCOUNTYIA.GOV
641-939-8222

BJ HOFFMAN, SUPERVISOR
BHOFFMAN@HARDINCOUNTYIA.GOV
641-939-8220



Drainage Work Order Request For Repair

Hardin County

Date: 2/24/2020

Work Order #: WO00000285

Drainage District: DDs\DD 158 (51175)

Sec-Twp-Rge: _____ **Qtr Sec:** _____

Location/GIS: _____

Requested By: _____

Contact Phone: _____

Contact Email: _____

Landowner (if different): _____

Description: DD 158 - Ground intake on W side of road has silted in w debris, and intake is boiling out & water is flowing overland to culvert and continues to overland once it is on the E side of road. May need intake cleaned out and standpipe installed.

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:** _____

