The Board of Managers, Buffalo-Red River Watershed District (BRRWD), held a landowner informational meeting regarding Clay-Wilkin Judicial Ditch No. 1 (J.D. 1) on Thursday, September 4, 2014, at 8:00 AM in the BRRWD office, located at 1303 4th Avenue NE, Barnesville, MN. BRRWD Managers present were Gerald L. Van Amburg, Mark T. Anderson, John E. Hanson, Peter V. Fjestad, and Troy E. Larson. Houston Engineering, Inc. (HEI) Staff attending included: Bruce E. Albright, BRRWD Administrator, and Erik S. Jones, Engineer. Others attending included: Don Hoppe, Darin Brandt, John Ready, Hugh Trowbridge, Michael D. Peet, Eldon Hermunslie, Gary Israelson, Jon Evert, Jerry Briks, Jeff Nord, Paul Israelson, Tony Leedahl, Paul Rehder, Paul Anderson, Ron Hoeck, Bryan Kritzberger, and Blayne Tonsfeldt.

BRRWD Chairman Gerald L. Van Amburg called the meeting to order at 8:00 AM. He introduced the BRRWD Board and Staff. He stated that the reason for the meeting today was to continue discussions started at the February 27, 2014, meeting regarding drainage and crop loss concerns associated with J.D. 1. The outcome of the February meeting was that information would be gathered about the ditch system, some possible solutions could be generated, and then we would have another meeting to discuss those ideas.

BRRWD Administrator Bruce E. Albright stated that this meeting is strictly an informational meeting to follow-up on previous discussions pertaining to J.D. 1. He reiterated that we had an informational meeting back on February 27, 2014, at the BRRWD office in Barnesville. The outcome of that meeting was that we were going to do three things: 1). Investigate the history of the ditch; 2). Investigate possible repair work to improve performance; and 3). Investigate a possible diversion of water at the Clay/Wilkin county line. Albright noted that Ralph Rehder had looked into a possible diversion in the 1950s. Albright distributed an attendance sheet. He noted that the meeting would be informal, and encouraged audience members to ask questions anytime during the discussions.

Albright explained that even since the ditch system was improved back in 1979, the ditch has always had some problems. He stressed that we are currently in a wet hydrological cycle that started in approximately 1993. According to the National Weather Service, the Fargo-Moorhead area normally receives approximately 22”-25” of precipitation annually, but since 1999, our average has been about 29”-31”.

Albright stated that the most recent problems with J.D. 1 started last summer when Wolverton had a significant rain event on June 25, 2013, and got over 8” of rain in a couple of hours. The primary problem area was on the downstream end of the ditch system in Clay County. Most of the culverts in J.D. 1 are gated to allow the fields to drain to the ditch, and to keep water in the ditch from backing out into the fields. If water in the ditch is higher than the culvert, the flap gate closes and water can't drain off the field until the water recedes. According to the Clay County landowners, it took between six-nine days for the water in the ditch to go down, causing an estimated 4,000-6,000 acres of crop damage.
in 2013. Jones displayed a map on the overhead monitors with aerial imagery from the fall of 2013 showing the flooded areas. Albright explained that in April 2014 a similar flooding problem occurred. He documented the event with photographs, which show that the ditch centerline culverts could be contributing to the problem. During this event, Albright drove south to the Wilkin County line, where there was a significant amount of flooding. He explained that all of the upstream water from Wilkin County has to flow out of the ditch system at the County line before the flap gates on the ditch in Clay County will open and drain the water off the fields. Albright noted that since HEI designed this ditch in 1976 for a 15-year event, the hydrology has changed because of the current wet cycle. He explained that the focus of today's meeting will be to develop strategies to address these problems to minimize the chronic crop losses in this area.

Albright provided a timeline of the history of J.D. 1. The ditch was built in about 1905-1906. In the mid-1940s, Lateral Nos. 2 and 3 were constructed. After the historic 1975 summer flood, it became a Judicial Ditch and was managed jointly by Wilkin and Clay Counties. The ditch was improved in 1976 through 1979. In the early 1990s, when Clay County decided to replace the remaining bridges with culverts, there were some questions regarding the pipe sizing. The BRRWD worked with the County to ensure the last three structures in J.D. 1 at the outlet end into Wolverton Creek/Comstock Coulee were all the same size. In 1995, the ditch was transferred to the BRRWD. Albright noted that under "normal" hydrological conditions, J.D. 1 should work as designed, but the extra water coming into the system from the wet cycle, increased field drainage and tiling have all put constant pressure on the ditch. All of these factors have tipped the scale to the point where the ditch system is not working the way it should.

Jones gave a presentation regarding possible repair options. Using the overhead monitors, Jones discussed the results of HEI's 2014 survey, conducted this summer, of the channel centerline profile to determine the amount of sediment in the ditch. The survey was limited to that portion of J.D. 1 in Clay County. Jones reviewed the channel profiles starting at the downstream end at Wolverton Creek. The first half mile of the ditch has about 1.5' of sediment above the as built ditch grade from the 1970s. Portions of the ditch in this area are below the design grade. In the second mile of the ditch in Section 26, Holy Cross Township, there is also about 1.5’ of sediment between 40th and 50th ST. The next mile in Section 25, Holy Cross Township, has about the same amount of sediment. In Section 30, Alliance Township, Branch No. 1 enters from the south. The ditch grade varies here from a 0.04% to a 0.02% grade. There might be a few isolated spots that could be cleaned, but the current overall grade is close to the original elevation. In Sections 29 and 30, Alliance Township, the main ditch extends beyond Branch No. 1, and there are only a few spots that have between 0.5’ to 1.0’ of sediment. The most sediment found in the ditch is downstream of County Road (C.R.) No. 11 where there are a couple of stretches with up to 2’ feet of sediment. The area where most of the buildup is located is in the mile downstream from C.R. No. 11. There are probably only a few spots that should be repaired. Further downstream from there, the ditch gets deeper. Overall, sedimentation is not serious with only a few isolated locations where there is up to two feet of sediment and a lot of areas that are at or below the design grade line. Jones said that in terms of the current landowner drainage concerns, cleaning the ditch won't address the entire problem and is not the "smoking gun".

Albright noted that according to with Minnesota Drainage Law, Chapter 103E, a repair can only take the ditch back to the original "as built" condition, which is considered maintenance. To make changes to the ditch grade, ditch capacity/bottom width, increase culvert sizing, etc., would require an improvement project, which is a legal process involving a petition, hearings, redetermination of benefits, etc.
Jeff Nord commented that as a farmer, all the landowners know J.D. 1 used to work. In reference to Jones' comment about the 'smoking gun’, he felt the real cause of the drainage problems on J.D. 1 was Wolverton Creek. If J.D. 1 had a decent outlet, the whole system would work 100% better. Bryan Kritzberger and Blayne Tonsfeldt agreed.

Albright passed around photographs he took on April 29, 2014 when he toured the area with Blayne Tonsfeldt and Brian Kritzberger after the rainfall event. He explained that the culverts at 40th ST S, which is the first crossing upstream of the coulee, were running two-thirds full and the water was flowing at a high velocity. At 50th ST S, the water was not moving as fast, and the pipes were fuller. At 60th ST S, the culverts were full, and there was very little water movement. Upstream, at the county line in 180th AVE, water was ponding in the fields and the area looked like a lake. The water was moving through those pipes very slowly. Jones stated that part of the issue is that the slope of the east-west channel is very flat. In Section 27, Holy Cross Township, the slope is 0.04% (2'/mi.). Jones pointed out that an average slope for a channel should be about 0.05% (2.5'/mi.) to 0.08% (4'/mi.). This range provides a system that will drain without eroding or depositing sediment. The ditch bottom in Section 27, Holy Cross Township, is 20' wide. In Section 26, Holy Cross Township, the slope is 0.036%; in Section 25, Holy Cross Township, it is 0.025%. In Section 30, Alliance Township, the ditch slope is 0.02%; and in Section 29, Alliance Township, it is 0.07%. Along the south ditch alignment, the slope of the first half mile is 0.05%; the next mile to the south is 0.02%. Jones thought this data shows that part of the drainage issue is that the channel needs to be a little steeper.

Hugh Trowbridge asked what could be done to make the downstream culverts run full. He observed that there are restrictions someplace, and it's not in the ditch. It must be the culverts; they must’ve been sized wrong. Jones stated that the culvert sizing doesn’t seem out of line from a hydrologic standpoint. Jones pointed out that based on what Albright observed on April 29, 2014, the culverts were nearly running full, as well as the upstream end in Wilkin County. All of the water from Wilkin County goes through the county line structure and flows into Clay County. He noted that sometimes, it's what's going on in Wolverton Creek that makes a difference.

As audience member asked if the elevation of the outlet into Wolverton Creek is as low as possible. Jones answered that the elevation is at 910, which is about as low as it can be. The first pipes in Section 27 are at about elevation 914. The historic grade line of the ditch is about 2 feet higher than the bottom of Wolverton Creek. With the proposed restoration work on Wolverton Creek, the channel bottom would be at elevation 909, about a foot deeper than it is now.

Using a culvert map, Jones went over the ditch system culvert sizing/elevations. Beginning with the culvert under C.R. No. 2 on Wolverton Creek, there are three lines of 154" wide x 97" wide concrete arch pipes (RCP-A) with about 250 square feet (sq. ft.) of waterway area. The first J.D. 1 crossing at 40th ST is two lines of 169" wide x 107" high RCP-A with about 200 sq. ft. waterway area. The same size structure is in 50th ST. At 60th ST, there are four different structures: two 138" wide x 88" high RCP-As and two 78" dia. RCPs with a total waterway area of 198 sq. ft. Upstream on Branch No. 2 in C.R. No. 11, there are two lines of 102" wide x 62" high RCP-As with a combined waterway area of 69 sq. ft. At C.R. No. 53 (east line of Section 29), there is one line of 71" wide x 47" high corrugated metal pipe (CMP).

Albright said that in the 90’s, Clay County replaced the three bridges in Holy Cross Township. In C.R. No. 11, the County only had one line of pipe, so the BRRWD added the second culvert. At the third crossing or 60th ST S, we added the two RCPs on the outside of the two existing RCP-As. That's why
we ended up with four culverts at this location. The theory was that the three downstream structures should all be the same size, or about 200 sq. ft. of waterway opening.

Jones continued with a summary of the culvert sizing. Going south on Branch No. 1, the first crossing in C.R. No. 51 has one line of 60" RCP and two 102" x 67" RCP-As with a total 108 sq. ft. waterway. At the county line, there are two RCP-As of different sizes: one is 102" x 62" and one is 115" x 72" with a combined waterway area of 79 sq. ft. The structure one mile south of the county line is a 102" x 62" RCP-A and 60" RCP with a 54 sq. ft. waterway area. Albright noted it would be difficult to point to any one culvert as causing the drainage problems. Jones agreed that the overall culvert sizes are reasonable.

An audience member asked if the culverts were the hydraulically equivalent to the bridges they replaced. Jones commented that he didn’t review that data, but he thought that the County attempted to match the historical structures flow capacities. Albright observed that bridges and culverts perform differently. Trowbridge noted that a bridge will convey more water than a culvert because there are no restrictions.

Albright gave a brief history of Wolverton Creek/Comstock Coulee. Back in the 1950s, landowners in Clay and Wilkin County were working with the Soil Conservation Service (SCS) to develop a Public Law (PL) 566 Project. At that time, people said that there were obvious problems with Wolverton Creek/Comstock Coulee. The SCS conducted a number of surveys on the Coulee, and the BRRWD has a lot of that information on file. In the early 1980s, the BRRWD held a meeting regarding a possible PL 566 project in Comstock. It became apparent that a PL566 Project for the Coulee was not going to happen. So, the landowners decided to develop a project on their own. The BRRWD got a grant through the Minnesota Board of Water and Soil Resources (BWSR) to survey the creek channel that provided information about culvert sizings/elevations, etc. The BRRWD also used some of that first grant funding to install rock drop structures on the outlet from Trunk Highway (T.H.) No. 75 down to the Red River because the channel was degrading.

We recently received another grant to continue our work on the waterway, and we also recently received a permit from the Minnesota Department of Natural Resources (DNR) to restore 26 miles of the Wolverton Creek/Comstock Coulee channel. One of the issues will be that the project is estimated to cost approximately $7-$8 million dollars. The BRRWD just submitted another grant application for $2 million to BWSR for a Targeted Watershed Demonstration Project. We’ll know in December if we are going to get that money. Albright noted that the BRRWD will continue to apply for state and federal grants. He pointed out that a project of this scope will take years to complete, but at least now, the roadmap is done. Albright mentioned that as previously noted by Jeff Nord, a project for Wolverton Creek would benefit all of the ditches that use that system as an outlet.

Jones has looked at what benefits there would be for J.D. 1 if Wolverton Creek/Comstock Coulee was restored in accordance with our DNR permit. Using the hydraulic model that was developed for the Fargo-Moorhead Diversion Project, which includes the Creek, Jones investigated alternatives for diverting J.D. 1 water on the county line to Wolverton Creek/Comstock Coulee. He looked at four different scenarios. The first alternative was the existing conditions with no diversion in place. The second alternative was with a diversion along the south side of the county line. The third alternative was to just clean Wolverton Creek without a diversion, and the fourth alternative would be the restoration of Wolverton Creek and the diversion along county line. The diversion would be created by installing a 70’ weir opening on Branch No. 1. Water would go over the weir, and the channel would be a little bit lower initially and then would carry a 0.05% slope downstream to
Wolverton Creek. The proposed crossing would be a 12' wide x 8' high reinforced concrete box (RCB) culvert with a total waterway area of approximately 100' sq. ft. The inlet weir for the diversion would have an elevation of 925 feet. In Section 1, Wolverton Township, the field level is at elevation 926 so water will flow west before flowing into Section 1. The bottom of the diversion channel would be 20 feet wide with 4:1 side slopes. The deepest cuts would be 10' to 12'. Jones developed various hydrographs for different rainfall events, showing the effect of the diversion in four different locations: Location 1 is on Branch No. 1, just upstream of the diversion; Location 2 is on J.D. 1 east of Branch No. 1 at the main channel confluence; Location 3 is on J.D. 1 west of Branch No. 1 and the main channel confluence; and, Location 4 is on Wolverton Creek just downstream of the J.D. 1 outlet. Jones explained that a hydrograph is a computer model that shows the effects of various rainfall events on a given upstream contributing area. The hydrographs show that a 2-year event (2.5" of rain in 24 hours) stays in the ditch on the Wilkin County side of the county line. Jones explained that a 5-year event equals 3" of rain in 24 hours; a 10-year event would be about 3.5"-3.7" in 24 hours; a 25-year event is about 4.25"-4.50" in 24 hours; a 50-year event is about 5.5" in 24 hours, and a 100-year rainfall event is just over 6" of rain in 24 hours. He pointed out that the hydrographs show that as it exists today, J.D. 1 was designed for a 15-year event, but we are not currently seeing that from a performance standpoint; we are seeing about a 5-year design at the county line.

Bryan Kritzberger commented that we should not kid ourselves with this 2-year, 5-year, etc. events, because they are not accurate anymore. In recent years, the 5-year event is a twice a year event in reality. Let’s not think that a 100-year rainfall event is a 1 in 100 shot. Jones agreed that you have to analyze the options with your eyes wide open. Statistically, that is what a 5-year event is according to the Weather Service’s Atlas 14. They do take in the full period of record, so if you’re in a wet cycle it will "skew" the data. Albright clarified that when we talk about a 100-year flood, that doesn’t mean that you should expect to see a flood of that magnitude once every 100 years. It means that on any given year, you have a 1% chance of receiving rainfall or a run-off event of that magnitude. So with a 10-year event, you have a 10% chance in any given year of seeing that event. It doesn’t mean once in ten years we will have a flood, and we’ll go another 10 years without another flood. It provides annual percentages. Of course, all this goes back to the wet hydrological cycle, and we have seen two 5-inch rains per year recently.

Van Amburg added that the current drainage problems speak to the fact that we are in a situation where we are having large unpredictable events that don’t fall into the ordinary statistical measurements. That makes things really difficult to manage.

Paul Anderson added that we can’t just write off our drainage problems to fact that we are in a wet cycle. We still have to deal with the flooding and the current problems on J.D. 1.

Jeff Nord asked about the effect of the proposed F-M Diversion levee on this area. Jones noted that the proposed alignment crosses near the bottom of the Coulee. Nord said that would create more water backing into the Coulee. Jones agreed and noted that it would probably create more flooding due to a backwater effect that carries a certain distance upstream. The staging area effects shouldn’t go much further upstream than J.D. 1. Nord observed that if the FM Diversion will back up water and not get rid of it, and upstream water is flowing into the area, he feels that water will spread out on his property because it’s already full below him. Jones said that there is a transition from that pool further up into the landscape where there would not be an impact any more. The one thing is that those impacts only go so far up into the drainage systems. He agreed that those are issues need to be modeled and dealt with.
Jones stated the main thing to understand is that basically we have a 5-year ditch design at the County line. Any event over 3” of rain will break out of the channel at that location. The existing condition and the third scenario, which was just the Wolverton Creek Restoration, wouldn't address all of the flooding problems. There would be about a 0.5’ reduction at Location 1 as a result of the J.D. 1 diversion for the 5-year event. The J.D. 1 diversion would start at elevation 925. Most of the water at Location 1 for a 5-year event would continue north, like it does today, but some of it would split off and go directly west. With the bigger events, like a 25-year event, there would be more significant reductions. Existing conditions on J.D. 1 are at elevation 927.4 and the diversion would bring the water elevation down to 927. With the Wolverton Creek Restoration and the diversion, the benefits increase. At the outlet into Wolverton Creek, the hydraulics going west improve with the diversion channel. We see similar results for a 50 and 100-year events at that location. It seems to make sense to have the biggest impacts or reductions at the location where the flow is reduced on the system. At Location No. 2, east of the junction between Branch 1 and Main, in Section 30, Alliance Township, there is not much difference for the smaller events. But with the 10-year event, you start to have a reduction in the amount and duration of local flooding. It doesn’t affect the height of the flood that much, but it does reduce the amount of flooding because there is less upstream inflow feeding the system for as long because some water is going west. This is also true for the 25-year event. It’s not necessarily a huge reduction in duration, only about six hours. For the 100-year event, it’s about 12 hours less. Jones noted that comparing the existing conditions to Scenario 4, Wolverton Creek Restoration plus the diversion, there is really not much change, just some reduction in the duration for the 5-year event because water is sent west at the diversion point. There is more change at the 10-year event where there is some reduction at the ending stage elevation, but only about 0.04 foot. Again, we would get about 6-12 hours of flood duration reduction with the diversion the way it is currently sized. The last location is on Wolverton Creek. The reason that Jones included this area was in relation to the J.D. 1 diversion is because people wonder if it is going to make things worse on Wolverton Creek. For the 25-year event for the J.D. 1 diversion only, you’re getting the water ahead of the peak on Wolverton Creek. And then if you do the Restoration only, you have a 0.04 foot reduction in the elevation on Wolverton Creek.

An audience member questioned where Location No. 4 could be found. Jones said it is between the outlet of J.D. 1 and C.R. No. 2 on Wolverton Creek. He stated that he did look at another location, where the J.D. 1 diversion would actually come into Wolverton Creek, and the modeling results are very similar.

Paul Israelson asked what the advantage was to placing the diversion channel on the south side versus the north side of the County road. Jones answered that the road can act as a restriction to help push the water west.

Albright added that the total drainage area for Wolverton Creek is approximately 104 square miles. At this point, at the county line, you have about two-thirds of that drainage area. Water could get backed up on the Coulee at the County line no matter what happens on the J.D. 1 system. We could get no rain on the J.D. 1 drainage area and we could still have flooding in the Coulee. Albright noted that that has been part of the problem. The BRRWD identified this issue a long time ago, as we have Wilkin C.D. No. 26, Wilkin C.D. No. 22, Wilkin C.D. 5A, J.D. 1, and Clay C.D. No. 36, all using Wolverton Creek/Comstock Coulee as an outlet for nearly 100 years. As far as the County ditches are concerned, the BRRWD has the right to maintain them, but we haven’t been able to touch the Coulee, because it is DNR protected waters. This impediment has been removed now that we have the DNR permit to restore the waterway. Jones added this was the reason he showed us Location No. 4, because he wants us to be cognizant of the Wolverton Creek/Comstock Coulee Restoration Project. He wanted to
demonstrate that there is one scenario that evaluated a 5" rain into the drainage area at one time, and what those effects might be.

An audience member observed that the proposed J.D. 1 diversion doesn’t affect the depth of the water much on J.D. 1, but it does affect the duration time, probably by 24 hours or so. He questioned if that is accurate. Between the two scenarios, the depth doesn’t change much, maybe by a half a foot. Jones responded that by doing the Restoration of Wolverton Creek it allows the water from a J.D. 1 diversion to be released sooner. So the peak on Wolverton Creek is 4 to 12 hours sooner, and then it drops off a little. The design of the Wolverton Creek restoration would be a two-stage channel, which would include a smaller channel on the bottom and then a constructed flood plain above that to allow for additional storage in the bottom of the Creek. Albright added that it’s the narrow, deeper walled channel in the bottom that gives you the grade line with meanders. Then water would flow out of the deeper channel at about three feet, into the broader flood plain channel where the water would flow once it exceeds the capacity of the smaller narrower channel. Kritzberger commented that in every scenario, the crest on the Creek would be less than it is now. Jones said yes it would be less on Wolverton Creek because of the timing of the crest. The volume of water would be the same, but the water would enter slower. Israelson noted that he was concerned that the proposed diversion ditch could increase flooding on Wolverton Creek. Jones agreed with Israelson’s concerns, but pointed out that the modeling shows that it would have no effect. Trowbridge asked if the diversion ditch would be the same size as J.D. 1. Jones said it would be about as wide, but not as deep. He pointed out that the options he has presented represent only one scenario. Recently, he has been exploring another scenario that could add more restriction at the County line and do something different with the diversion ditch that would not affect people in Wilkin County, but still make it an improvement for them. Maybe we could send more water west in the diversion channel. There is some optimization there that could happen with the diversion ditch design.

Albright stated that the Board is here to present options for the landowners who are the actual owners of the ditch. Drainage law says benefitted landowners tell the Watershed District what they want to do, and then the Board (drainage authority) will work with the petitioners to help them achieve their objectives. The BRRWD is not here to tell the J.D. 1 landowners what to do. We are the ditch authority, and our role is to administer the system in accordance with Minnesota Drainage Law.

Mark Anderson asked if any homes would be affected by the proposed J.D. 1 diversion. Jones replied that there are a couple of residences along the south side of the County line: one is in Section 2, and one in Section 9, Wolverton Township, Wilkin County. Anderson said that the Board has been dealing a lot with landowner concerns regarding the F-M Diversion, and he wanted to make sure that the BRRWD keeps area landowners informed about potential area projects. Albright added that was why all the area landowners were invited to today’s meeting. Most of the landowners are already on J.D. 1, but there were one or two landowners that are not, so we made sure they got notice of today’s meeting.

Albright noted that water issues are complex, and there is not just one "fix" for all problems. There are pluses and minuses to everything that you do. He pointed out that it would take about 50 acres of right-of-way (R/W) to install the diversion channel. Albright noted that there is some land along the County line that could possibly have some better drainage benefits if they use the diversion ditch as an outlet. He added that to improve the ditch, or install a diversion, someone would need to file a petition with the Board to get the process started. A bond would also be required to show that the petitioners are going to stand behind their petition and are serious about the need for the project. Jones would work on a more detailed design. His current report was just a quick overview to see what may happen if we did one or more of these options. The Board would schedule a preliminary hearing where the
design would be looked at. Another step would for the Board to appoint Viewers to determine who benefits from this project and who would pay for it. If the project cost is estimated at approximately $1.4 million, the benefits would have to be greater than that amount for the project to move forward. After those steps were completed, then the BRRWD would hold a final hearing. Albright explained that the BRRWD’s job is to receive the petition and develop it through Minnesota Drainage Law. Any decision made by the Board is subject to appeal. There are steps and processes that need to take place. He noted that the purpose of today’s meeting was to give the landowners some options. There are probably other options that haven’t even been discussed. He discussed past flooding problems on J.D. 1, especially in the spring. As a result, the BRRWD has built a number of farmstead ringdikes to protect building sites in this area with funding from the Natural Resources Conservation Service (NRCS) and DNR. Albright noted that just yesterday we learned that there are a couple more building sites in that area that could use ring dikes. For the most part, in April, this area holds a lot of water. Albright noted we have received fewer complaints about flooding now that we have the buildings protected.

Van Amburg asked if there was any chance of retention site in this area. Jones noted that this area is really flat, and it’s hard to get water into a site without affecting a lot of people. The group discussed this concept and other options in detail.

Albright briefly talked about the historic drainage patterns in this area, including J.D. 1, Wilkin C.D. No. 5A, Wilkin C.D. No. Ditch 22, and the Sabin Coulee. He pointed out that if you go back 100 years, before man started changing things, water used to flow out of Turner’s Gravel Pit to Wilkin C.D. No. 5A, and then into J.D. 1. Then it broke out of J.D. 1 on the west side of C.R. No. 11 and flowed up to Clay C.D. No. 53, which couldn’t handle the flows, so the water went north to the Sabin Coulee. Since Clay C.D. No. 11 North was installed to pick up some of the Sabin Coulee water, C.D. No. 40 is now the end of the line for the Sabin Coulee water. Eventually, all of this water used to end up in Moorhead at Concordia College. As these drainage systems were improved or repaired, Wilkin C.D. No. 22 took a lot of the pressure off the Sabin Coulee. Wilkin C.D. No. 5A still overtops in the spring of the year, and sometimes in the summer.

Albright then referred to a meeting that was held last spring where the question was asked if we could hold water in the Sabin Coulee. One scenario was suggested that we could take some of the water off J.D. 1 and hold it in the Sabin Coulee. The Sabin Coulee project is on hold, because if approved, the F-M Diversion project’s upstream staging area would cut right through the middle of that area. From a Watershed perspective, it doesn’t make sense for us to develop a retention project and then, afterwards, have the Diversion Authority cut the project in half.

Albright concluded by summarizing the purpose of today's meeting. He said we know there are problems, and that there may be a way to address some of the problems. Finally we need to know what it is going to take to make that happen. Some of it could happen yet this fall. Jones has said that we are not seeing a lot of material in the ditch, but there are some spots where there is 1.5’-2’ of sediment. A cleanout of those areas won't hurt anything. It does cost some money to do that, but those areas could be repaired. Albright suggested that one option would be to clean those spots so that the ditch could drain properly.

Paul Israelson questioned if the second issue would be to figure out why the culverts aren’t running full. Jones noted that from what he has seen, it is probably because the ditch is so flat. Albright said this April, the crossing in 40th ST S was running two-thirds to three-fourths full. It won't help to put in bigger pipes at this location. There was a brief discussion about culvert capacities.
Someone questioned about how to move forward with a project. Albright explained that the Board could approve a ditch repair. The J.D. 1 financial account only has a balance of $2,450, so the BRRWD would have to finance the repairs in house and then assess the ditch system next year for the work.

Kritzberger observed that a cleanout is not going to do anything for the high water flows. Jones noted in a couple of spots near C.R. No. 11, in the E½ of Section 30, Alliance Township, the ditch is starting to get a little shallower, and a cleanout would be beneficial. Albright said that in the past when a ditch got dry in the fall, we could go in with scrapers and clean out the bottom. In recent years, the weather hasn’t been dry enough to do any work down in the bottom of the ditch. Kritzberger commented that we could hire an excavator to clean the high spots. He said depending on contractor availability, we could start the repair tomorrow if we wanted.

Albright noted that we could probably get this work done yet this fall. It will have a minimal effect but that dirt is going to have to be removed at some point. There is a Ditch Committee comprised of three local landowners (Lynn Brakke, Carl Nord and Paul Anderson), who work with Wade Opsahl, HEI, to conduct an annual ditch inspection. Last fall, it got too late to do the review. He advised the landowners to contact the Ditch Committee if they see a broken flap gate, or anything else. Part of the inspection includes driving the ditch alignment to make sure that the buffer strips are in place and that everything is working properly.

Kritzberger questioned what needs to be done to move the diversion process forward. Albright stated that the process is explained in Minnesota Statutes Annotated (M.S.A.) 103E.227, Impounding, Rerouting and Diverting Drainage System Water. The process starts with a petition. A person, a public or municipal corporation, a governmental subdivision, or the State DNR or federal government, can petition to divert drainage system waters. The Statues require that petitioners must file a minimum of a $10,000 bond, which is just an insurance policy to cover the cost of the project development costs. He noted that Comstock Insurance sells ditch bonds. The cost is about $100 per year for a $10,000 bond. He explained that if costs exceed $9,999, the Board will contact the petitioners to request an increase of the bond by another $10,000. The bond is there to cover the Board’s cost in case the petition is dismissed and the project is not built. The signers of the petition are the ones who get that bill. We could go to an attorney and have them draft a petition, or we can draft the petition (we have done many), and include signature sheets to circulate and see if J.D. 1 landowners want a project.

A landowner asked if the petitioners would be responsible for the payment of the engineering costs should the project be dropped. Albright said that if project moves forward, then those costs become a project expense. Albright said that we could draft a petition for the landowners, but the BRRWD is not driving the bus. The Statue does talk about percentages, such as you need 26% of the landowners to improve a ditch. Someone noted that we don't even know what it would take to stop the project. Albright said that we have to walk step by step through the process. The Board’s job is to answer questions. Jones noted that this is a new Statute that needs to be reviewed that also deals with project development.

Anderson asked if the costs of a diversion would go on the whole ditch system. Albright said that would be up to the Viewers. Anderson thought there would be added drainage and protection benefits in the whole area.

Albright wanted to assure the J.D. 1 landowners that the Board is cognizant of the drainage problems in the J.D. 1 area. The Board did just deny a request for a larger culvert along County State Aid
Highway (CSAH) No. 2 east of C.R. No. 11. The landowner wanted a bigger pipe and the BRRWD said that politically, it was not a good idea right now. The Board feels we should get this system fixed and now is not the time to put in more tiling in the upper watershed, or allow bigger culverts to drain more water into Clay County. The BRRWD will handle any permits that come in from the upper area accordingly. Maintenance is one thing, but we will look hard at increasing flows.

Kritzberger observed that the entire system would benefit from just being able to stop some of these projects on the upper end. Albright noted that they are small changes, but when you have 10 changes, they add up. When you have a system that is only working minimally at best, and then throw in the wet hydrological cycle, and we’ve tipped the scale to where we have a ditch that does not work.

Albright thought the Viewers recognized this factor back in 1976 because the lowest benefits were put on the landowners in Clay County right next to the ditch, and that’s where the damages are currently happening. The highest benefits were put on the lands on the upper part of the watershed in Wilkin County where it is 25’ higher in elevation than the J.D. 1 Clay County lands. The reetermined benefits in 1976 were $20, $16, and $12/acre. The $12/acre rate was on the land in Clay County right next to the ditch system. In the 1990s, we were just doing maintenance, and everything seemed to be working well. At that time, the Board felt we didn't need all of those various benefit rates, and they changed all the rates to $20 per acre. The way it is working today, the benefit rates were probably fairer 30 years ago. If we constructed the County line diversion, we would go through another redetermination of benefits. By Law, Viewers would have to be appointed to determine who would benefit.

Nord asked if we could appoint Viewers to provide a preliminary, broad benefit estimate, not using dollar figures but percentages without breaking the law. He felt that if we get too many steps ahead, then when the costs are known, the naysayers will complain and try to stop the project. But, if you have a little more information up front before you get too far into things, it might work better. He thought a lot of these things would go more smoothly, if we knew ahead of time how a project is going to be paid for, not in actual dollars, but just a general overview.

Albright said that the Viewers won’t only come up with benefits, they will also look at damages. If a diversion were put in, the necessary R/W along the diversion would have to be acquired. The Viewers would determine the value of the land that is needed. They can also allow for damages, if there are any landowners downstream who would be impacted by the proposed project.

Nord wanted to know the benefit differences for Clay County vs. Wilkin County. The elevations are not the same. He has a personal problem with trying to drain the Wilkin County water through the downstream structures because there’s a 90 degree angle where the water meets the Wolverton Creek. We all know what happens when there is a 90 degree angle. It pushes the water the wrong way, and it splits. Another thing about the Wilkin County side for a diversion is that there are a couple of driveways that will have to be dealt with. There was another brief discussion about impacts at the county line.

Van Amburg observed that there are several steps to go through yet before a J.D. 1 diversion could become a reality.

Albright thought that we could deal with the sites where some cleanout work could help, especially on the east end where the work wouldn't impact drainage negatively, and it could be done fairly quickly. We could get that work done, and then the office could draft a diversion petition for the any interested
landowners. This way, the Board is not initiating the proposed work, and we could give the petition out to the landowners to see who signs. We can also give them a copy of the Statute. If the petition and bond come back to Board, we would proceed accordingly. This is something that would play out over the course of the next several months with the referenced hearings and all the steps mentioned earlier.

Kritzberger asked if the petition language would be vague in terms of where the diversion would be located, design, etc. Albright said that it could. Kritzberger also asked if we could use some of the flood crest information that we currently have. Albright responded yes. Kritzberger thought it would be helpful to have that information. Albright concluded by stating that the Board will get some information put together in that regard and work with the BRRWD Attorney to develop a petition. Van Amburg asked if there were any other questions. None were noted.

At 9:50 AM, Van Amburg adjourned the meeting.

Respectfully submitted and prepared by

John E. Hanson, BRRWD Secretary