

CYPRESS RANCH WATER CONTROL AND IMPROVEMENT DISTRICT NO. 1
Minutes of June 27, 2019

A regular meeting of the Board of Directors of Cypress Ranch Water Control and Improvement District No. 1, open to the public, was held outside the boundaries of the District, at the offices of Atwell, LLC, Barton Creek Plaza III, Suite 300, 3815 South Capital of Texas Highway, Austin, Texas 78704, at 12:00 noon on June 27, 2019.

The roll was called of the members of the Board of Directors, to-wit:

Ronald den Hoed
Rick Shute
Joanne Molinyawe
Tony Salinas
Greg Junghans

All of said Directors were present thus constituting a quorum. Others in attendance included Michele Louis Posey, of Montoya & Monzingo, LLP; Hank Smith and Xavier Garza of Atwell, LLC; Hal Lanham, Brett Lanham and Amanda Rodriguez of AWR Services, Inc.; Cody Greaney of Landscape and Business Services, LLC; Richard Hamala and Jonathan Cochran, of Tiemann, Shahady & Hamala, P.C.; Ashlee Martin, of McCall Gibson Swedlund Barfoot PLLC; John Endendyk, of End Land Properties Group; and Marcos De la Monja, of BioDAF Water Technologies USA.

1. Consider and take action regarding the minutes of the previous Board meeting.

Director Molinyawe made a motion to approve the minutes of the previous Board meeting as amended; the motion was seconded by Director den Hoed, and unanimously carried by the Board.

2. Public comments.

None.

13. Receive report regarding the use of diffused air flotation technology for the wastewater treatment plant.

Mr. John Endendyk of End Land Properties Group and Mr. Marcos De la Monja of BioDAF Water Technologies USA addressed the Board regarding the use of diffused air flotation technology in the proposed new 100,000 GPD wastewater treatment plant for the District. Other input was provided throughout the presentation by Mr. Smith and Mr. Lanham. The first dissolved air flotation (DAF) system was developed in 1951, so the technology has been around for some time. DAF technology became commonly used in the 1960's for processing industrial and food waste. Today, DAF technology is used to process industrial waste in the oil and gas industry, chemical plants, food plants, the mining industry, and others. Numerous companies provide DAF processing systems and equipment for these purposes. DAF technology has not been used for the processing

of domestic wastewater in the USA. However, DAF technology has been implemented by BioDAF Water Technologies for wastewater treatment in many other countries around the world.

BioDAF Water Technologies USA is a high technology water treatment company with over thirty years of water and wastewater treatment experience. BioDAF develops specific, custom solutions based on the feed water and endpoint water quality desired. BioDAF specializes in eliminating hazardous components in water. Mr. Endendyk said that there is the potential for cost savings over a traditional design technology as it moves the fluids faster and replaces a traditional sedimentation clarifier.

BioDAF's water solutions are designed to meet TCEQ standards for discharge to the environment. The BioDAF system is capable of treating municipal wastewater for re-use or safe discharge. The process leaves a small footprint and high treatment efficiency, specifically targeting municipal wastewater streams. The system's design includes all necessary steps to recover desired byproducts and deliver a treated water quality required to meet stringent TCEQ discharge parameter permits.

A sixty-day, five days a week test was conducted by BioDAF at the City of Kyle. The test results look promising. A longer test period and additional test results would be desirable to evaluate performance in a wide range of temperatures and variations in wastewater. The test results from the sixty-day testing were submitted to the City of Kyle. Ultimately, the City decided to use conventional technology, rather than BioDAF technology in their new wastewater treatment plant.

When asked about the US market for this technology in a wastewater capacity, Mr. Endendyk said that he believes this technology has not penetrated the US market in the way the District would utilize it because US homebuilding practices have not changed very much. Director Junghans asked if other countries that have utilized this technology for wastewater purposes have as stringent requirements as the USA. Mr. Endendyk said yes, in some countries, such as Germany, but not in others, such as India. Mr. Monja added that the technology has been utilized in the USA for primary clarification (sewage thickening).

Director Salinas asked why the City of Kyle didn't ultimately decide to use BioDAF. Mr. Endendyk said that he believed it was a matter of timing and the fact that BioDAF hasn't built a WWTP in the USA. Director Salinas then went on to discuss the risk associated with the proposed project in more detail. To move forward the District will have to have some level of guarantee.

A basic explanation of the primary process is that very small bubbles of air are pumped into wastewater under pressure and when released at atmospheric pressure, they adhere to the suspended solids, causing the solids to float to the surface where they are removed by mechanical skimming. Treated liquid effluent would be disposed of as it is currently. Sludge handling is possible by a de-watering and thickening unit resulting in sludge "cakes" that must be hauled off to a landfill or to a TCEQ approved site.

A more detailed explanation of the process is that during pretreatment, the peak flow regulation tank regulates incoming sewage streams and acts as a contaminant buffer for the biological process. In secondary treatment, in the biological reactor, also known as the aeration basin, aeration

is achieved by submersible aerators which create a homogenized, well-oxygenated environment, ideal for biological digestion. The clarification process is achieved in under three minutes. The solids capture rate is 99% and the sludge consistency is as high as 7%. This eliminates the need for sludge digesters and thickeners. Ten times more GPM of clarified water are produced with BioDAF's clarifiers. In tertiary treatment, after the BioDAF process, filtration is used as a polishing step. There is virtually no organic waste discharge.

BioDAF representatives indicated that more operations are required in a DAF plant. SCADA computer controls can likely be used to reduce some of those operator requirements, but not all. SCADA computer controls, remote monitoring, auto alarms, automated chemical injection, mechanical bar screen and grit removal system are essential to keep labor costs down.

A letter from TCEQ states that "it appears that the DAF technology can be approved. This technology will be reviewed and on a project by project basis." According to Mr. Lanham, this response is a step in the right direction, however, TCEQ does not typically move quickly, and in the case of new technology, the TCEQ will require significant submittals and an extended time frame for review and approval.

Other considerations: several equipment components would need to be added. Just how many is unknown. The proposal does not include a SCADA computer control system with remote access to control the plant. The TCEQ will not approve the design without a SCADA system. Effluent water filters will be needed to produce 210 effluent with a turbidity of 3.0 NTU or less. We will also need a mechanical bar screen, grit removal system, and an automatic chemical feed system which can be SCADA controlled. BioDAF has indicated that they can provide all of this equipment. Estimates are around \$400,000 to \$500,000. The filters alone for the rehab project of the old WW plant were estimated to be \$300,000.

Potential risk: AWR was unable to locate a US municipal wastewater plant currently using the proposed BioDAF system. In addition, AWR could not locate any independent US lab data, other than the City of Kyle's sixty-day pilot study. It appears to AWR that to be the first adapter of this technology creates significant risk for the District.

Mr. Smith said the only thing that is different technology-wise from a traditional plant is the clarifier. The clarifier turns water into 210 effluent that goes out. With a new WWTP, in addition to the old one once rehabbed, we could treat all of our flow through. We will have two plants that are each capable of 100% of the flow, Mr. Smith said. With a second plant, when we rehab the first, there is also the cost savings to consider for hauling water. During rehab, we wouldn't have to haul water.

Mr. Lanham mentioned the landfill costs to dispose the waste. We'll reduce sludge with a sludge press and get the excess water out. Director Junghans asked if it's a solid cake or a liquid. Mr. Monja said a cake and it can be hauled in an open container. This is a different method of disposal. Mr. Smith said in the final design we'll determine whether to put in a sludge press and haul it off as cake. Mr. Lanham added that how we handle the sludge would occur no matter who puts in the new WWTP; it is not a part of the technology.

Director Salinas said he would like a side-by-side comparison of a traditional plant and the BioDAF plant to better assess cost and risk. We need to know the operating costs 10-20 years out. On the comparison documents we need the costs of operation and maintenance of the current plant, too. Director Salinas said the number one thing of importance is assurances it will work. Director Molinyawe asked where BioDAF is headquartered. Mr. Endendyk said in Denver because that's where its sources of money are, but everyone is trying to build plants in and around Austin.

Mr. Hamala said that in regard to design specs for bidding, the specs could allow for the BioDAF clarifier as one of the alternatives, the other being the traditional sedimentation clarifier. Mr. Lanham then said we should proceed with a traditional design and direct the Engineer to have an alternate design for a BioDAF clarifier. Mr. Smith can put together a complete design package for the bidding, with a traditional clarifier and a BioDAF clarifier. Mr. Hamala said the District should develop a contract directly with the BioDAF engineer, James Merchant, for designs of the plant.

The question was then presented to Mr. Endendyk, would you be willing for the District to have a contract with James Merchant, and BioDAF pay the cost of all the design work? Mr. Endendyk said that if the BioDAF attorney was ok with it. Most likely BioDAF will be willing to pay for all the design work if BioDAF wins the bid. If BioDAF pays for all the design work and another bidder is awarded the project, then BioDAF should be reimbursed by the District for the design costs.

Director Salinas then asked, if it doesn't work, how bad a spot would the District be in? Mr. Endendyk said that if it doesn't work then BioDAF will put in a traditional clarifier for free. Director Molinyawe asked, if it breaks are there people on hand to fix it? Mr. Endendyk said yes, because the technology isn't new; just the way it's being used in the US is new; the parts are pretty simple to order.

Mr. Hamala asked the Board if it would like counsel to pursue an Engineering contract for a conventional plant design with the option for a BioDAF clarifier and a traditional clarifier, with BioDAF covering the costs of the design plus the TCEQ side of things. The Board was in agreement. Mr. Lanham reiterated that it would be a traditional plant with the exception of the clarifier. If the Board decides later that it wants to go the traditional route, then we would write it into the contract that BioDAF would be out the money for work up to this point.

Mr. Smith added that we can't bid without full plans and specs. Mr. Endendyk is fearful that BioDAF will risk hundreds of thousands of dollars for designs and get outbid and lose the job with the District. Plant design is 8%-10% of the full cost. Mr. Endendyk said BioDAF will be willing to pay for the design cost if they win the bid. If not they want to be reimbursed for that. Mr. Hamala added that we should do it the other way around: the District will pay for the design costs up front; if BioDAF wins the bid, then BioDAF can reimburse the District for the full plans and specs of the design. Mr. Hamala then reiterated that the District should focus on an agreement between the District and BioDAF's engineer, James Merchant. The District will only need a contract directly with BioDAF once the bids are in and BioDAF wins the bid, should they win.

5. Consider, discuss, and take action as necessary to hire an auditor for preparation of the District's audit report for the fiscal year ending September 30, 2019.

Ms. Martin, of McCall Gibson Swedlund Barfoot, PLLC, addressed the Board. Mr. Hamala said that the District has a mandatory yearly audit Ms. Martin's firm has performed the last several District audits and we have a good repour with them. Ms. Martin added that the District is also required to hire an independent auditor at least 135 days before the year end. The fees charged by McCall to perform the audit shall not exceed \$11,500. Director den Hoed made a motion to approve hiring McCall Gibson Swedlund Barfoot PLLC as the auditor for preparation of the District's audit report for the fiscal year ending September 30, 2019; the motion was seconded by Director Shute, and unanimously carried by the Board.

4. Receive report and take action as necessary regarding District mowing and greenbelt and landscape maintenance.

Mr. Greaney addressed the Board. Central Texas has experienced heavier rainfall than usual, which has had some effect on the mowing and landscaping. For example, LBS has been unable to access the main pond and "hidden pond" lately. However, we're at a point now where LBS has to get in there near the ponds to mow because the grass is getting too high: the sun cannot get in and dry out the ground. We may see some tractor ruts after mowing due to the wet ground.

Director Shute said that the end of Wild Foxglove is getting out of hand with overgrowth and needs attention. Mr. Greaney said that is in HOA mowing area; not on the District mowing map. Mr. Cochran will email Mr. Moore at the HOA regarding the issue. Director Junghans added that at the pond near his house there is a lot of grass clippings in the pond, which could become an issue. Mr. Greaney said he would take a look at it and cut that grass more often and blow out the clippings that are currently there.

In regard to the Cypress Ranch Boulevard irrigation median, parents are parking on the median when they go up to the school and their cars are destroying many of the sprinklers. This has been brought up numerous times by Director Junghans at previous Board meetings. Mr. Greaney reports that he has replaced the broken ones. Mr. Hamala said that the median belongs to Travis County, but the District has a licensing agreement with the County, for which the District maintains and operates it. Director Junghans suggested having the County put No Parking signs up. Mr. Lanham said that could take a while. Mr. Cochran will reach out to the school and ask them to include a message in its bi-weekly letter to parents not to park in the median.

In regard to the tree branches in the right-of-way to access District Well No. 20, Director Molinyawe said the resident is fine with the tree being cut down. Mr. Greaney will get an estimate for removal. It should be a few hundred dollars.

*Executive Session

The Board convened in executive session to obtain legal advice on June 27, 2019, at 2:09 p.m.

The Board adjourned from executive session on June 27, 2019, at 2:49 p.m.

3. Consider and take action regarding a request for a service commitment letter for West Cypress Hills, Phase 2, Sections 4,5, and 6.

Mr. Smith addressed the Board. He said that the estimated construction schedule is the first quarter of 2020 for WCH Phase 2, Section 4; 2021 for WCH Phase 2, Section 5; and 2022 for WCH Phase 2, Section 6. Right now, we're digging five new wells, one of which will become operational as soon as possible. Director Junghans asked if the Board can get a report on the historical data of what the wells are producing monthly. Mr. Lanham said yes. Director Junghans said we need to get our capacity up before we allocate water to anyone else (by building out the rest of the District). Director Molinyawe asked where the new wells are located. Mr. Lanham said they are across Lick Creek on developer property. There's a lot of work involved to bring these wells online.

Director Molinyawe asked how we will prevent polluting the creek with the construction and connection of the new wells. Mr. Lanham said one measure is to bore under the creek. In regard to the service commitment letter, Director Junghans said it needs clarification; more details. The letter does not specify anything about capacity for water. We don't know how much water the District will have with the new wells, plus the school and future schools will want water from our wells. The elementary school alone is using a hundred thousand gallons of water a month.

In regard to the service commitment letter, Mr. Smith said that the letter says you're agreeing to provide water and wastewater services to the new homes in the development. The deal was to get all of the development built out. Director Junghans asked if the engineers can find out how much water a Lake Travis high school and a junior high use each month. We can use other schools as a go-by. Mr. Smith said the school district will pay for two wells and a prorated share of wastewater improvements.

Director Salinas said that adjustments to the letter are needed. Mr. Smith said the District has an obligation to provide water and wastewater to the full build-out within the development. A CNN (certificate of convenience and necessity) is an obligation. The Board inquired as to if the developer will pay for new wells to support the build-out. Mr. Smith will find this information out. The Board as a whole expressed nervousness about the District's water capacity and having the money to support new wells for the 179 new homes. Mr. Hamala suggested one Board member should work with him and Mr. Smith on revising the letter. The Board preferred it be a group effort.

Mr. Smith said that with more houses, there's more assessed value, and more tax revenue. Director Molinyawe requested a cost estimate to connect the new wells, including the bore under the creek. An estimate will be provided at the next meeting. This agenda item will be tabled until more information becomes available and once Mr. Smith has a chance to speak to the developer about contributing to the cost of the new wells.

11. Receive update regarding the drilling of new wells within the District.

Mr. Smith addressed the Board. Two wells have been drilled, which are capable of producing 33 GPM and 45 GPM, respectively. They have each been dropped to 25GPM. Mr. Smith said the

quality and quantity is good. By July we should have interim approval from TCEQ for these two wells. Then we'll drill the remaining three wells. By August or September, we'll have interim approval from TCEQ for the final three wells. In January of 2020 we'll finish construction of all wells and tie into the system. Director Junghans asked when we'll get the easements for the new wells. Mr. Smith said before we drill. Mr. Hamala said we'll need \$1,000,000 to construct the wells by the end of the year. Director Junghans expressed concern about polluting the creek and Mr. Lanham's employees having to drive over the creek in heavy rain. Mr. Lanham said we'll have to construct a good road. He added that if there's any jeopardy he will instruct employees or contractors not to cross, but if there's a SCADA issue we may be in a real bind.

6. General Manager's Report.

Mr. Lanham addressed the Board. In regard to water treatment plant CL2 injection port, AWR noted the chlorine residual was lower than normal. After inspection, it was determined that on the chlorine injection system, the injection port was clogged with residual chlorine and needed additional cleaning. Operators removed the connection, cleaned it, tested operations, and placed it back in service. In regard to water wells road repair and construction, Central Texas rainfall has eroded multiple areas of well roadway to the rear well section GST as well as the road to wells 13-15. Repairs are needed. Additionally, roadway will need to be constructed to service the new well under construction, which will require a crossing over Lick Creek.

In regard to lift station control repair at the WWTP, AWR noted a high level of influent pumping into the WWTP causing a disturbance with the plant. Both lift station pumps appeared to be operating at the same time, rather than lead/lag, and AWR determined the lead float appeared not to be operating properly, causing the other pump to engage. AWR coordinated with controls technicians who determined that the PLC control connection to the lead float was not functioning properly, replaced the connection, and also replaced a phase monitor alarm start component in the control panel for the station. The pump rotation operations were tested successfully, flows to the WWTP normalized, and the station was placed back in service. The rest of the General Manager report was discussed in other agenda items at the meeting.

7. Receive update regarding replacement of the aeration system for the wastewater treatment plant.

Mr. Lanham addressed the Board. The contractor has prepared all of the temporary air system distribution lines and is waiting for the final manufacture of the custom air diffusers to install into the basins of the WWTP. The contractor is anticipated to install the new air diffusers soon.

8. Receive update regarding no trespassing signs within the District.

No Trespassing/No Dumping signs were installed at the following locations: the far end of Verbena Parkway; the end of Cypress Ranch Blvd. at the gate, near the intersection with Verbena Parkway; on Coral Bean near the lift station site; on Cassena Cove near the lift station site; at the far end of Rosegrass Lane leading into the WWTP site; and at the end of Horsemint Trail leading to the WTP.

9. Consider and take action regarding facility operation and maintenance, utility service, billing, and collections.

Mr. Lanham addressed the Board. He said that repairs are needed on the roads that access the wells because of all the rain. Director Junghans said that there's piles of galvanized pipe sitting in piles and rubble at Well 15 and Well 5. Mr. Smith will have a member of Atwell take a look.

10. Engineer's report.

Mr. Smith addressed the Board. In regard to Lake Travis ISD, a meeting was held on June 26, 2019. LTISD is ready to finalize the agreement with the District for water and wastewater service. They will pay for their pro-rated share of the construction cost for the connection of two wells and the expansion of the WWTP.

In regard to well drilling, Wells Nos 16 and 19 have been drilled and completed. Well 19 was tested at 33 GPM and Well 16 was tested at 28 GPM. Mr. Vickers suggests setting the pump at 25 GPM for both wells to minimize the impact on surrounding wells. The Centex drilling rig is currently out of service. Therefore, the drilling schedule for the remaining wells is to be determined, but we are high on Centex's schedule once the drilling rig is functioning again.

In regard to the pending lot conveyance for the conveyance of lots to the District, Lot 17 WCH Phase One, Section 6: the ponding issue has not been resolved yet and therefore this lot is not ready to be conveyed.

12. Consider and discuss improvements for water and wastewater facilities.

This item was covered under other agenda items at the meeting.

14. Consider and take action to authorize preparation of drawings, specifications, and bidding documents for an additional wastewater treatment plant for the District.

After discussion by the Board, the preparation of drawings, specifications, and bidding documents for an additional wastewater treatment plant for the District will be prepared by the District's consultants, in conjunction with Mr. James Merchant, the engineer for BioDAF.

15. Consider and take action to accept tracts and facilities for operation and maintenance.

This item will be tabled; the tracts are not yet ready for conveyance.

16. Consider and take action as necessary to authorize permit applications, and trail, drainage, and facility maintenance and construction projects as recommended by the District's Engineer.

No action.

17. Receive a report from the District's accountant and consider and act on approval of bills and invoices, ratification of payments, and funding of manager's account.

Ms. Louis addressed the Board and discussed the District's accounts and finances. Director den Hoed made a motion to approve the bills and invoices, ratification of payments, and funding of manager's account; the motion was seconded by Director Shute, and unanimously carried by the Board.

18. Consider and take action to release and convey a portion of Lot 74A, Block B, West Cypress Hills Phase One, Section 3B.

Director Junghans made a motion to release and convey a portion of Lot 74A, Block B, West Cypress Hills Phase One, Section 3B; the motion was seconded by Director den Hoed, and unanimously carried by the Board.

19. Discuss and take action regarding future meeting dates, and such other matters as may come before the Board.

The next Board of Directors meeting will be on Thursday, July 18, 2019.

20. Adjourn.

The meeting was adjourned at 4:45 p.m.

APPROVED July 18, 2019



Joanne Molinyawe, Secretary