MINUTES OF REGULAR MEETING OF BOARD OF DIRECTORS OF TRAVIS COUNTY WCID – POINT VENTURE

May 16, 2020

STATE OF TEXAS

COUNTY OF TRAVIS §

The Board of Directors of the District met by remote access in regular meeting, open to the public, at the WCID Office located at 18606 Venture Drive, Point Venture, Texas 78645, on the 16th day of May, 2020 at 9:00 a.m. The meeting was held only by remote access in accordance with the March 16, 2020 order by Governor Abbott temporarily suspending certain requirements of the Texas Open Meetings Act to advance the goal of limiting face-to-face meetings to slow the spread of COVID-19. No persons were at the meeting location; however members of the public had access to the meeting by calling one of the following toll-free numbers: (877) 853-5247 or (888) 788-0999 and entering the following information: Meeting ID: 891-8004-4872 and password: 082168. The public also had digital access to a meeting packet through both email and the District's website.

Others in attendance were Scott Swiderski of Trihydro Corporation, Hal Lanham and Jean Cecala of AWR Services, Inc., Matthew McPhail of Willatt & Flickinger, PLLC, Allen Douthitt of Bott & Douthitt PLLC, and nine guests.

1. CALL TO ORDER.

Board President Fred Marshall called the meeting to order.

§

2. ROLL CALL OF DIRECTORS.

Jean Cecala called roll of Directors. The Directors present were Fred Marshall, Chris Lippe, Annette Kikta, Brian Probst, and Barry Pasarew thus constituting a quorum.

3. PUBLIC COMMENTS.

Mrs. Kris Arrieta addressed the Board on a recent invoice she received from the District for grinder pump repairs. She wanted clarification of the charges for labor on her bill. She relayed to the Directors that she believes the technician who worked on her pump was at her home no more than three hours to complete the work yet she was charged for almost 8 hours. She wasn't certain if a second technician arrived during the time in question, but felt that she should not have been billed for more than five hours. Director Chris Lippe and Director Brian Probst both asked Mrs. Arrieta questions. Mr. Hal Lanham of AWR Services, Inc. the District's management company, asked Mrs. Arrieta to give him a chance to review the invoice and get back to her. Mrs. Arrieta asked that the Board create some kind of standard billable hours for services.

Next to address the Board was Susan Palmino, a real estate agent representing a potential buyer for a townhome on Lakepoint Cove. Ms. Palmino wanted clarification of having a boat dock installed for the home buyer she is representing. Ms. Rudi Chakrabarty, representative for the homeowner, also spoke during this time informing the Board that in 2005 the Architectural Control Committee for the Village of Point Venture authorized a boat dock at that location. Matthew McPhail, the District's attorney said that the Texas Commission on Environmental Quality ("TCEQ") would need to approve the exception since the proposed boat dock would be very close to the water intake barge. Board President Fred Marshall told the ladies that the District would communicate with TCEQ and would have to wait for their answer.

Ms. Carol Bubak then addressed the Board regarding Item 13 on the agenda, a permit application by Liquid Thrillz. She read her concerns about the large boat dock/marina that is proposed and stated her opposition to its location.

4. <u>APRIL 18, 2020 REGULAR MEETING MINUTES AND APRIL 30, 2020 SPECIAL MEETING MINUTES.</u>

The proposed minutes of the April 18, 2020 regular meeting and the April 30, 2020 special meeting minutes were presented for approval. Motion was made by Director Barry Pasarew to approve the minutes of the April 18, 2020 regular meeting and the April 30, 2020 special meeting as presented. Motion was seconded by Director Anne Kikta. Motion unanimously approved.

5. ENGINEER'S REPORT - TRIHYDRO CORPORATION.

Scott Swiderski, engineer for Trihydro Corporation, gave the engineer's report. The Directors were furnished a written copy before the meeting. Mr. Swiderski said that the backwash spillage is still an issue and Trihydro is looking into costs for building a 12" line about 6 to 8 feet from the ground to connect the two storage tanks at the Water Treatment Plant ("WTP"). This would potentially equalize the tanks and help alleviate the overflow problem. Trihydro had also looked into adding a temporary basin which would cost approximately \$20,000. Director Kikta asked if this added line would be a permanent fix. Mr. Swiderski said that it would not, but this problem is part of the bond issue and would be made after bond money is secured.

Mr. Swiderski said the Wastewater Treatment Plant ("WWTP") is operating normally. Two lift stations had operational issues recently and Trihydro is doing work to oversee the problems there.

Mr. Swiderski said that the TCEQ has not sent back its final decision on the bond application report. Although the 45 days has expired, operations at TCEQ have been slowed due to COVID-19. Director Probst asked if this would delay the whole project and Mr. Swiderski said it would not as Trihydro had allowed extra time to secure the approval from the TCEQ.

Director Kikta asked if any progress had been made to find out the reason for the significant water loss in the District. Mr. Lanham said that he believes this is a meter issue and has authorized five customer meters to be pulled for testing. He would like to get the results back from that testing first, and then have the master meters tested again and possibly recalibrated although those tests were recently completed. He said the report from testing the five meters should be available by the June board meeting. Director Lippe asked if five meters was sufficient to get a clear picture. He asked Mr. Swiderski what he believed would be an appropriate number of meters to test to get better data. Mr. Swiderski believes ten percent of the meters would be a better indicator. Mrs. Jean Cecala of AWR Services explained that the supplier has sent notification that replacement meters could be delayed due to COVID-19. She believes it would be difficult to get approximately 80 new meters to change out at this time. President Marshall said he would like to include this as a discussion on next month's agenda. Mr. Swiderski said there should be money in the budget to cover this cost due to savings in other areas for repairs. Director Probst reminded everyone that this is part of the bond package. There is also a reimbursement resolution approved that can be used to reimburse the District for upgrading projects from the operations fund. Mr. Marshall said he would also like to get a better estimate of the cost for pulling, replacing and testing meters.

Director Pasarew asked how many gallons a month is calculated in this loss. Director Kikta said that the 28 percent recorded last month is a significant loss and asked if there is more than one meter at the water plant that measures the water going through the plant. Mr. Lanham said that the finished water meter is the meter used to calculate water loss. There are other meters on the filtering system. Director Kikta asked if AWR Services could also look at the pump curb? and determine how much the pump curb is pumping and compare it against the meter. This simple test would help the District not have to spend lots of extra

money to test this system.

6. <u>CONSIDERATION AND APPROVAL OF THE DESIGN FEE PROPOSAL REGARDING PROPOSED</u> WASTEWATER TREATMENT PLANT.

Mr. Scott Swiderski presented a written report regarding proposed design fees for the proposed new WWTP. After Mr. Swiderski completed an overview of the report, Director Probst asked if engineers would provide more formalized project management reports so the Board can know exactly where the design and building process is at all times. This report would help easily determine if the project is on schedule and on budget. Mr. Swiderski said that could be provided and Trihydro intends to provide a more accurate report on each pay application for this project.

Director Kikta asked when Trihydro would be making equipment selections. Mr. Swiderski is working with AWR Services personnel to specify the criteria for equipment selection and then contractors are responsible to work within these guidelines and specifications. Director Kikta wants more specificity so the Board can identify any potential risks. Mr. Swiderski addressed her concerns. Director Kikta also asked if the "as built" drawings will be provided by the construction contractor. Mr. Swiderski said the contractor will provide all redline comments of adjustments to the engineers. The engineers then take those comments and modify the original drawings to show how the project was built.

Director Lippe would like to have further discussion on the cost plus fixed fees. President Marshall asked if the Board would like to continue the discussion at the June meeting and make a decision then. That was agreeable to the Directors. The engineering proposal letter, fee proposal, design schedule, and work order authorization are included in these minutes as Exhibit "A".

7. <u>BOOKKEEPER'S REPORT ON THE FINANCIAL AFFAIRS OF THE DISTRICT, INCLUDING AUTHORIZATION OF PAYMENT OF BILLS – BOTT AND DOUTHITT, PLLC.</u>

Mr. Allen Douthitt of Bott and Douthitt, PLLC, gave the financial report for the District. Currently bills are all being paid through the bookkeeper's account due to COVID-19 virus shelter in place orders from the governor. Mr. Douthitt briefly went over invoices paid by the District in April and presented the March financials. Mr. Douthitt said when comparing the actual to budget the District came in \$25,000 over plan due to the repairs on the Elevated and Ground Storage tanks and radio communication equipment which were not in the budget.

Director Probst asked Mr. Douthitt when his firm would begin working on the 2020 budget. Mr. Douthitt said typically the budget process begins in June for presentation to the Board at the August meeting. Director Probst then made a motion to approve payment of bills and authorize fund transfers as recommended by Mr. Douthitt. It was seconded by Director Kikta. Motion unanimously approved.

8. <u>APPROVAL OF CONSTRUCTION PLANS AND PAY ESTIMATES, CHANGE ORDERS AND ACCEPTANCES OF COMPLETION WITH RESPECT TO CONSTRUCTION CONTRACTS.</u>

No action was taken on this item.

9. <u>ADVERTISEMENT FOR BIDS AND APPROVAL, AWARD, RECOMMENDATION AND ADMINISTRATION OF CONSTRUCTION CONTRACTS.</u>

No action was taken on this item.

10. ROAD REPAIRS WITHIN THE DISTRICT.

Mrs. Jean Cecala, said she had received three verbal quotes of \$5,300, \$7500, and \$15,000 for the road repairs earmarked in the District. Mr. Scott Swiderski believes the District should detail the degree of work it requires to repair the roads and then receive details from the vendors of exactly what they will provide. Mr. Swiderski will put together the criteria for standards for roadways from the Village of Point Venture after he talks to the Village's engineer and then contact the contractors.

11. MANAGER'S REPORT - AWR SERVICES.

A written manager's report was furnished to the Board before the meeting. Mr. Hal Lanham said the most significant issue the previous month was the Whispering Hollow lift station. The two failed pumps have been delivered to the supplier and are being tested and may be under warranty. Additionally, Mr. Lanham reported that the lift station near the Property Owners' Association ("POA") office also went down recently. Mr. Lanham hopes to have the pump rebuilt for the POA station for a cost savings. Mr. Lanham didn't have a clear answer as to why both pumps at the Whispering Hollow station failed. AWR is looking into the possible cause and will let the Board know at the next meeting whether the pumps are under warranty.

a. BARGE LIGHTING AND POSSIBLE REPAIRS.

Mr. Lanham said that the barge lighting has been temporarily shielded from the homes they were shining in to. He will have a price for a permanent fix by the next meeting.

b. SERVICE TAP AT 18810 LAKELAND DRIVE.

Mr. Lanham said that he recommends the proposed change for the water service taps at 18810 Lakeland Drive which are currently crossed. AWR Services contractor gave a bid of \$400 to uncross the water lines. Director Probst wished to know who originally caused this problem that the District now has to fix. No clear answer was available, but the service has been in place for years and was only discovered because a new home is being built. Mr. Lanham said that the District has no good set of plans available for where lines currently run. Mr. Lanham believes that the inspector should have caught this problem when the first service was installed. He also believes other kinds of problems will be uncovered as more homes are built. Mr. Lanham said the District is aging and recommends the Board anticipate these kinds of things in future budgets and plan for these contingencies. Another recommendation by Mr. Lanham was to increase tap fees for new builds.

c. <u>CUSTOMER REPORT OF OVERFLOW OF STORAGE TANKS AT WATER TREATMENT</u> PLANT.

Mr. Lanham reported that the overflow reported at last month's meeting did occur. The possible temporary fix for this problem was discussed during the engineer's report. Mr. Lanham reminded the Board that operators are not on site 24 hours a day so equalizing the water in the two storage basins is critical to try to stop this problem. Mr. Swiderski, the engineer, said the most pressing challenge is finding someone who can or will come out and do a quick fix.

d. METER TAMPERING AT OR NEAR 605 DECKHOUSE DRIVE.

Mr. Lanham started this discussion explaining to the Board that AWR Services had installed a meter at 605 Deckhouse Drive, but it was removed and a non-metered by-pass was installed to access the water. The District's policies, procedures, and rate order clearly outline fines and fees associated with this criminal act. After discussion by the Directors, the attorney, and Mr. Lanham, the Board was in agreement to follow the rate order. It was suggested that a letter be drafted and sent to all contractors of the District's policies, procedures, and related fines. Director Kikta moved to levy a first offense, \$1,000 fine and related fees; and after the fine and fees were paid, the water should be

reconnected. Director Chris Lippe seconded the motion. Motion unanimously approved. AWR Services personnel were instructed to contact the contractor and inform them of the Board's decision.

12. GRINDER SYSTEM SERVICE REPAIRS AND CUSTOMER INVOICES.

President Marshall recommended creating a subcommittee to work with AWR Services on invoicing customers for grinder pump work. Mr. Hal Lanham said he has discussed with the Board using a plumber to do these repair services for the District. President Marshall expressed his concern that several trips were made to the same address and that the final fix was drilling a hole but the customer was charged for nine hours of labor. Mr. Lanham said he would look at the hours in question and also provide more information to the billing clerk for future invoicing to customers.

Director Kikta wanted clarification on the District's use of plumbers for these services. Mr. McPhail said customers would not pick their own plumber but would use plumbers pre-approved by the District. Director Pasarew asked if repairs of these systems are the District's responsibility due to TCEQ regulations. Mr. McPhail said yes and that the Customer and District are required to have a contractual agreement in place before connecting wastewater services into the system. The Board discussed the matter and one customer said it would be nice to have an estimate before work is started.

Mr. McPhail then told the Board that all the customers who paid the \$4/month grinder service fee in March and April of 2020 would need to be issued a credit on next month's bill of \$8.00. This is due to the rate order change in early March. AWR Services personnel were directed to include a bill note about the credit to all bills in May. Additionally, each customer, who paid a grinder pump fee, will be given a credit for fees charged in March and April of 2020.

13. MARINA PERMIT APPLICATION FOR LIQUID THRILLZ.

Mr. McPhail said this item was included because of a courtesy letter received by the District from Liquid Thrillz about a new proposed location for its business in Point Venture. This new location does not affect the District's water intake barge so no action is necessary.

14. DISPOSAL OF EFFLUENT AND GOLF COURSE IRRIGATION.

President Marshall said that tank storage levels were just over three million but believed the flows were significant overnight due to heavy rainfall in the District. Even though the golf course has been closed, a significant amount of effluent was not disposed of on the course. Director Probst stated that course would be opening this coming week and that seasonal usage is right around the corner and tank levels should be going down.

15. <u>DISTRICT'S WATER INTAKE BARGE AND REQUESTS FOR WAIVER TO CONSTRUCT PRIVATE</u> BOAT DOCKS.

This item was discussed during the citizen's comment portion of the meeting.

16. RATE ORDER.

No action was taken on this item.

17. CONTRACT AMENDMENT WITH AWR SERVICES, INC.

Mr. McPhail said that both parties recently met and are working on amendments to the contract. Mr. Lanham said the discussions have gone well. He thanked Mr. McPhail for providing the initial draft. Mr. Lanham said a possible reduction in the base rate may occur if the District would review and change grinder pump services provided by AWR Services. He hoped to have a draft back to the Board by the end of this month.

18. HOUSE BILL 3834 RELATING TO CYBERSECURITY TRAINING.

Mr. McPhail reminded the Directors that June 14, 2020 deadline is approaching for each director to complete the cybersecurity training. He said that his office would send the Directors an email link to follow. This new training is required by all board members.

President Fred Marshall announced that the Board of Directors will now go into closed session for consultation with the District's attorney pursuant to Sections 551.071 of the Texas Government Code regarding matters related to Agenda Item No. 15 and 17. The Board entered into a closed session at 11:57 a.m.

At 1:00 p.m., President Marshall announced that the Board of Directors has concluded its closed session and is returning to open meeting, and that no action was taken during the closed session.

Director Lippe made a motion to authorize the attorney and engineer to review recommendations from TCEQ in relationship to a boat dock built near the District's water intake barge and to communicate with the owners of the impacted property. The motion was seconded by Director Kikta and was unanimously approved.

19. ADJOURN THE MEETING.

Motion was made by Director Kikta to adjourn the meeting. The motion was seconded by Director Probst. The motion carried unanimously. Meeting adjourned at 1:05 p.m.

Fred Marshall, President

Travis County WCID - Point Venture

ATTEST:

Brian Probst, Secretary

Travis County WCID - Point Venture

(SEAL)

EXHIBIT "A"



May 13, 2020

Mr. Fred Marshall Board President Travis County WCID Point Venture 18606 Venture Drive Point Venture, TX 78645



RE:

Proposal for Professional Engineering Services Agreement

Engineering Design for Wastewater Treatment Plant Improvements

Dear Mr. Marshall:

Trihydro Corporation (Trihydro) is pleased to provide professional design services for the Travis County Water Control & Improvement District - Point Venture (District) Wastewater Treatment Plant (WWTP) improvements. This letter presents our cost proposal to provide these services. As discussed in previous meetings with the District, Trihydro will complete the design and deliver bid documents to the District for constructing a new WWTP that is capable of handling an average capacity of 150,000 gallons per day (gpd). The new WWTP will consist of a new influent screening system, a new aeration basin, a new clarifier, a new chlorination/filtering basin, and other related improvements.

Based on our understanding and knowledge of your existing WWTP system and the desired improvements, we propose the project scope below. Services will include cost estimating, permitting and coordinating with the Texas Commission on Environmental Quality (TCEQ), preparing detailed design documents and technical specifications, and preparing bid packages for procurement. Our services will assist the District in procuring a qualified contractor capable of constructing the new WWTP.

SCOPE OF WORK

Trihydro's proposed scope of work is outlined below for your review and consideration.

1. Geotechnical Analysis - \$23,926

Trihydro will coordinate site survey and geotechnical borings to assess site foundation conditions and provide recommendations for new plant equipment and basins locations. Additionally, Trihydro's structural subconsultant will review the geotechnical findings and recommendations to develop foundation requirements. Information collected during the geotechnical analysis will be used in defining the new WWTP components layout.

Tasks:

- Conduct topographic survey covering proposed WWTP facilities footprints
- Coordinate with geotechnical and structural subconsultants
- Perform field geotechnical investigation and prepare geotechnical site summary and recommendations (geotechnical subconsultant)



- Evaluate site soil and foundation conditions and recommend foundation and structural design criteria for proposed WWTP structures (structural subconsultant)
- Review geotechnical and structural recommendations

Assumptions:

- Three borings will be drilled to an average depth of 15 feet
- Site survey will require 1 day for a 2-person survey crew

2. Preliminary Engineering - \$85,790

Trihydro will develop the layout for the new WWTP facilities and size structures to process influent based on the Travis County Water Control & Improvement District - Point Venture Wastewater Treatment Plant Preliminary Engineering Report (PER) dated April 17, 2020. Trihydro will generate schematics delineating placement of new basins and equipment with respect to existing plant. Trihydro will produce the schematic layouts, preliminary cost estimates, and preliminary design calculations. Progress updates will be provided at monthly District Board meetings.

Tasks:

- Confirm WWTP upgrade design criteria
- Create flow diagram and hydraulic profile
- Complete WWTP design calculations for new system
- Create piping and instrumentation diagrams (P&ID)
- Provide WWTP layout and diagrams for District review and approval

Assumptions:

- The basin sizing design will be based on the PER
- The WWTP will be designed to handle 300 mg/L biological oxygen demand (BOD) loading
- The basins will be sized to operate at a peak flow of 600,000 gpd
- The WWTP will be designed to meet TCEQ minimum wastewater processing requirements
- The Temporary Equalization Basin will remain in operation at the existing location until WWTP construction is complete
- A retaining wall will be required along the pond to maximize the WWTP footprint
- A Special Board meeting will be held to present schematic drawings and gain preliminary WWTP layout approval
- Eight weeks will be required to complete preliminary engineering task



3. 30% Drawing Package - \$123,450

Trihydro will begin development of the design documents and bid package for the new WWTP. We will create a draft plan set, initiate communications with equipment manufacturers, determine plant processing systems, and submit a 30% design and cost estimate to the District for review. Progress updates will be provided at monthly District Board meetings.

Tasks:

- Develop 30% designs
- Determine the layout for basins, equipment, and piping systems, accounting for the District's review of the Preliminary Design submittal
- Perform system design calculations
- Generate preliminary electrical drawings
- Perform internal QA/QC reviews
- Submit 30% drawings for District review and approval

Assumptions:

- The WWTP driveway will remain at its present location
- The new equipment pad will be enclosed to reduce noise
- Seven weeks will be required to generate 30% drawings

4. Permitting and TCEQ Applications - \$32,000

Trihydro will determine local and TCEQ permitting obligations and requirements necessary for the new WWTP. We will prepare the permitting documents and reports on behalf of the District and submit these to the appropriate agencies. Progress updates will be provided at monthly District Board meetings.

Tasks:

- Identify local permitting requirements
- Identify and summarize TCEQ requirements
- Assemble TCEQ and local permitting documents and notifications
- Prepare design report for review by the District
- Submit required TCEQ and permitting documents to respective agencies



Assumptions:

- The design report will be a letter-style report
- One TCEQ design report will be submitted
- New WWTP will operate under the existing TCEQ permit
- The Village of Point Venture will require a building permit
- The permitting task will be completed concurrent with WWTP design

5. 60% Drawing Package - \$183,683

Trihydro will expand on the plan set prepared and submitted under the 30% design plans task. We will advance design drawings, carry on communications with equipment manufacturers, detail plant processing systems, commence assembly of the project manual, and submit 60% drawings to the District for review. Progress updates will be provided at monthly District Board meetings.

Tasks:

- Incorporate the District's 30% drawing review comments
- Develop drawing plan set
- Complete foundation design
- Advance WWTP basins, equipment, and piping systems design
- Generate project manual draft
- Detail electrical and SCADA drawing designs
- Perform internal QA/QC reviews
- Submit 60% drawings, cost estimate, and project manual for District review and approval

Assumptions:

- The Engineers Joint Contract Document Committee (EJCDC) documents will be used for general provisions
- Trihydro will develop the technical specifications
- Six weeks will be required to generate 60% drawing plan set

6. 90% Drawing Package - \$106,789

Trihydro will prepare the 90% design submittal for review by the District. This package will be used for TCEQ permitting. We will complete design drawings, detail equipment manufacturers systems, finalize plant processing systems, continue with compiling project manual information, and submit



90% drawings to the District for review. Progress updates will be provided at monthly District Board meetings.

Tasks:

- Incorporate District's 60% plan set review comments
- Complete drawing plan set
- Complete WWTP basins, equipment, and piping systems design
- Finalize project manual
- Complete electrical and SCADA drawing designs
- Perform internal QA/QC reviews
- Notify TCEQ of project intent
- Submit 90% drawings, cost estimate, and project manual for District review and approval

Assumptions:

- Equipment manufacturers technical specifications will be used in project manual
- Minimal District comments are expected due to their review of the 30% and 60% submittals
- Five weeks will be required to generate 90% drawings for review

7. Project Document Package - \$48,324

Trihydro will a finalize the project document package, including the final plant set and project manual, for use during bidding and construction. Tasks completed during this phase include finalizing language for use in bid advertisement, structuring the project manual for use in bid and construction phases, detailing design drawings, and finalizing other project documents. Progress updates will be provided at monthly District Board meetings.

Tasks:

- Incorporate District's 90% plan set review comments
- Prepare final plan set for bidding
- Complete project manual for bidding
- Perform final internal QA/QC review
- Submit design drawings and bid package to the District



Assumptions:

- SCADA construction costs will be included as an allowance
- Four weeks to generate project documents for procurement phase

8. Procurement Phase - \$27,591

Trihydro will coordinate project bid advertisement with the local newspapers and industry plan rooms and maintain a plan holders list. Trihydro will conduct an on-site pre-bid conference (assuming conditions allow) to explain the project components and intent. Addenda will be issued when necessary. Trihydro will coordinate bid dates with the District and conduct the bid opening on a to be determined date. Additionally, we will assess bidders and determine the most qualified, low bidder for recommendation of award. Trihydro will assist the District in completing authorization of contact documents.

Tasks:

- Manage bid advertisement
- Conduct pre-bid meeting
- Prepare addenda as necessary
- Administer bid opening and provide recommendations of successful bidder
- Assist the District in preparing contract document requirements for construction phase

Assumptions:

- No more than two addenda will be issued
- Trihydro to be the issuer and controller of bid documents
- The Pre-bid meeting will be held on site

FEE ESTIMATE

Our fee estimate is based on the tasks outlined above, hourly rates, out-of-pocket expenses, and subconsultant quotes. Additionally, presumed personnel hours are broken down for each task to indicate detail time and cost of each design activity. Our estimate to perform the services described in this letter is \$631,553.00. Construction administration and project close-out services are not included with this fee estimate and will be provided at a later date for the District's consideration. Invoices will be prepared on a percentage fee basis with a cost **not to exceed** the estimated amount without written authorization. The



tasks outlined above are for your consideration and may be modified through discussions to accommodate the District's project needs, budget considerations, and schedule requirements.

SCEHDULE

Work will begin immediately upon an approved work order authorization and notice to proceed. Trihydro understands the District would like to begin construction of the new WWTP upgrades as soon as possible. Included as part of this fee proposal is the proposed design schedule for the District's review and information.

Should this proposal be acceptable, please sign the attached Trihydro contract agreement and return as an acknowledgement to proceed with the proposed scope of work and fee. If you have questions, please do not hesitate to contact us at (512) 442-3008.

Sincerely,

Trihydro Corporation

Scott A. Swiderski, P.E., CCM

Senior Engineer/Project Manager

999-702-004

Attachments

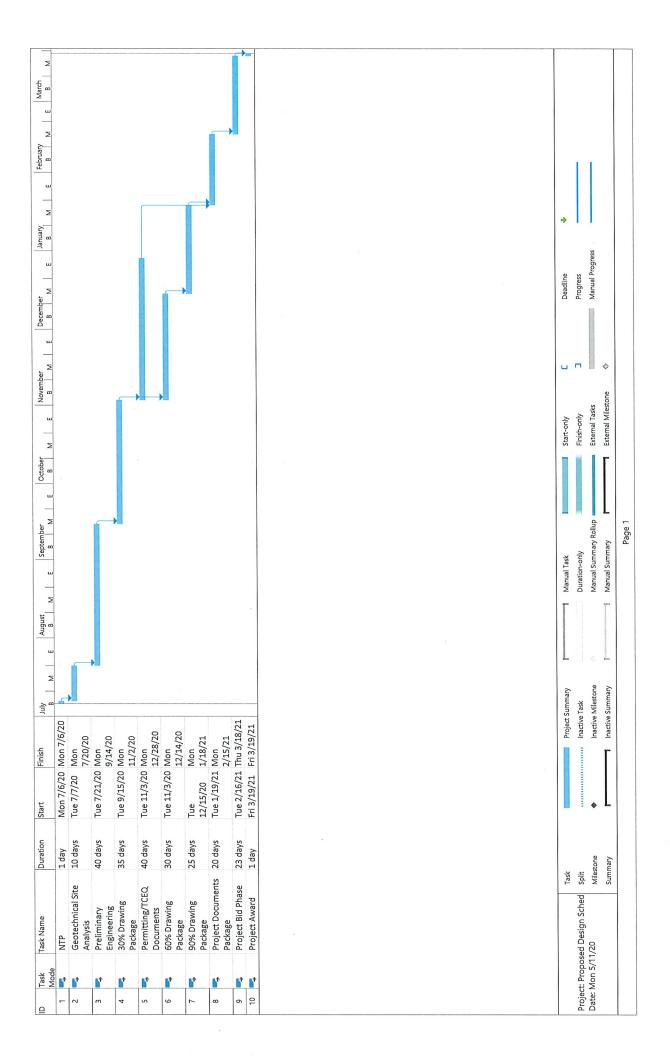
ATTACHMENT A
FEE PROPOSAL

ATTACHMENT A. FEE PROPOSAL PROFESSIONAL ENGINEERING SERVICES - NEW 150K GPD WMTP WCID POINT VENTURE

	lsloT AzeT		\$23,926	\$85,790	\$123,450	\$32,000	\$183,683	\$106,789	\$48,324	\$27,591	+	\$631,553	-	\$631,553
ABLES	Expenses Subtotal		906'6\$	\$3,450	\$9,200	\$0	\$45,425	\$11,500	\$9,200	\$1,725	\$90,406	\$90,406	\$90,406	\$90,406
EXPENSES DIRECT REIMBURSABLES	Mileage Rate, per mile	\$0.580	225								225	\$131	225	\$131
DIRECT	Subconfracts (Labor, Equipment and Services)	Cost + 15%	\$9,775	\$3,450	\$9,200	\$0	\$45,425	\$11,500	\$9,200	\$1,725	\$90,275	\$90,275	\$90,275	\$90,275
											Cost	Subtotal	Total	Cost
			020	340	250	000	258	589	124	398	15	147	2	147
	Labor Subfotal		\$14,020	\$82,340	\$114,250	\$32,000	\$138,258	\$95,289	\$39,124	\$25,866	4,015	\$541,147	4015	\$541,147
	E ləvə Leva Leva B	\$75	0	24	24	24	32	16	8	26	184	\$13,800	184	\$13,800
	E level Level 3	587	80	0	0	0	0	0	0	0	æ	\$698	8	969\$
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	Professional Level 2	5115	24	232	320	108	292	229	88	98	1379	\$158,585	1379	\$158,585
	Professional Level 3	\$125	0	100	06	0	110	50	24	0	374	\$46,750	374	\$46,750
FEE PROPOSAL	Professional Level 4	\$130	24	92	160	91	264	176	72	48	852	\$112,464	852	\$112,464
13	7 leveJ lsnoizzeĵo19	160	80	0	0	80	0	0	0	0	16	\$2,560	16	\$2,560
	8 leveJ lenoizzelo19	2165	0	16	72	0	64	28	12	0	192	\$31,680	192	\$31,680
	Professional Level 9	8470	22	95	128	28	192	158	99	32	746	\$126,820	746	\$126,820
	Of level Level 10	6470	0	52	40	16	40	24	10	٥	182	\$32,396	182	\$32,396
	Isqioning Joalong	0,00	4	80	12	æ	16	12	9	0	99	\$13,860	99	\$13,860
	Trihydro	мотааская	Site Geotechnical Analysis	Preliminary Engineering	30% Drawing Package	Permitting - Local & TCEQ	60% Drawing Package	90% Drawing Package	Project Documents Package	Procurement Phase	Subtotal (hours)	Subtotal (\$)	(hours)	Total (\$)
		2	1	2	8	4	5	9	7	80				

ATTACHMENT B

DESIGN SCHEDULE



ATTACHMENT C WORK ORDER AUTHORIZATION



TRIHYDRO CORPORATION – TRAVIS COUNTY WCID POINT VENTURE ENGINEERING AND CONSULTING SERVICES AGREEMENT WORK ORDER

Work Order No.: <u>20-20</u>	<u>1WO-E</u>	Date: <u>May 13, 2020</u>
Job No.: <u>701-</u>		
Owner of Contract:	Engineering and Consulting Secondarion and Travis County	ervices Agreement 19-014BA-E between Trihydro WCID Point Venture dated October 29, 2019.
Control & Improvement	District - Point Venture Waster	sional design services for the Travis County Water water Treatment Plant Improvements. Work to be onal Engineering Services dated May 13, 2020.
Schedule - Commencer Completion		• •
Trihydro's Project Mana Client's Project Manage		
Other Information: Cost in writing authorization	s shall be a lump sum of \$631,42 from Travis County WCID Point	2.00. Any additions or changes shall be authorized Venture.
Agreement 19-014BA-E	, by and between Trihydro Corpo	that certain Engineering and Consulting Services ration and Travis County WCID Point Venture, dated whereof are hereby incorporated herein and made a
Electronic signatures w	ill be accepted to execute this W	ork Order.
TRAVIS COUNTY WC	D POINT VENTURE	TRIHYDRO CORPORATION
BY:		BY: Jack Bedessem, P.E.
TITLE:		TITLE: President/CEO

ATTACHMENT D

TRAVIS COUNTY WATER CONTROL AND IMPROVEMENT DISTRICT POINT VENTURE

WASTEWATER TREATMENT PLANT PRELIMINARY ENGINEERING REPORT





TRAVIS COUNTY WATER CONTROL AND IMPROVEMENT DISTRICT **POINT VENTURE WASTEWATER TREATMENT PLANT** PRELIMINARY ENGINEERING REPORT



April 17, 2020

Project #: 701-023-200

SUBMITTED BY: Trihydro Corporation

1005 East St. Elmo Road, Building #7, Austin, TX 78745

PREPARED FOR: Travis County Water Control and Improvement District - Point Venture

18606 Venture Drive, Point Venture, TX 78645

1.0 INTRODUCTION

Travis County Water Control & Improvement District (W.C.&I.D.) Point Venture (District) is located on the north shore of Lake Travis in northwestern Travis County, approximately 17 miles northwest of Austin, Texas and approximately 7 miles south of the intersection of Farm-to-Market (FM) Road 1431 and Lohman Ford Road. The District is bounded on the north by Travis County Municipal Utility District (MUD) No. 10 and on the south, east, and west sides by Lake Travis. The entire District lies within the jurisdictional boundaries of the Village of Point Venture (Village).

The District provides water and wastewater services to Village customers, within an area of approximately 1,002 acres. Relating to the wastewater system, there are nearly 880 existing connections contributing to the daily flow at an average of 80,000 gallons per day. At full build out, the District anticipates serving roughly 1,100 wastewater connections. If trends project as anticipated, daily wastewater treatment of approximately 0.25 million gallons per day (MGD) will be required.

The District is approaching the final permit phase where 0.15 MGD of effluent can be disposed. To treat this amount, a new 0.15 MGD wastewater treatment plant (WWTP) needs to be constructed since the existing plant cannot sustain treating wastewater flows greater than 0.1 MGD. The existing plant's design was based on a lower Biological Oxygen Demand (BOD) load, but concentration levels have increase throughout the years, causing plant inefficiencies. The new plant will handle both the increased flow rates and BOD loadings, which will allow the existing plant to go off-line until future capacity is needed. When future wastewater flows exceed the current permitted amount, a new permit will be submitted to the Texas Commission on Environmental Quality (TCEQ), requesting a treatment capacity of 0.25 MGD by incorporating the existing WWTP's processing capability.

Proposed WWTP improvements are based on details in the District's Wastewater Master Plan Report, dated April 30, 2018. These details were discussed on several occasions during regular and special Board meetings, resulting in the Board's approval to proceed with a WWTP expansion.

1.1 Purpose

The District proposes to construct a new WWTP to expand its treatment capacity and meet future demands. The proposed 0.15 MGD WWTP and associated improvements will be located at the District's existing WWTP site and will operate alongside the current plant. These proposed improvements are designed to allow for future permit expansion, while minimizing future improvement costs.

1.2 Location

The WWTP facility and disposal site are located approximately 17 miles northwest of Austin, Texas at Point Venture Golf Club, 422 Venture Boulevard S, Point Venture, Texas. The WWTP is situated between the first and second holes of the golf course. The golf course site is the District's lone permitted location for dispensing treated effluent water.

1.3 Site Description, Drainage and Environmental Impacts

The existing WWTP site is in the central portion of Point Venture, within the golf course property. This treatment plant, constructed in 1999, has a design capacity of 0.15 MGD and a loading rate capacity of 0.1 MGD. This complete-mix activated sludge (CMAS) plant consists of an aeration basin, a secondary clarifier, a chlorine contact basin, an aerobic digestor, and an effluent basin. The site has a slight slope, roughly between 2% to 5% grade. The subsurface conditions are comprised of Glen Rose Group limestone overlain by a layer of clayey soils from 0 to 3 feet.

This WWTP and disposal site are within the drainage basin of Lake Travis in Segment No. 1404 of the Colorado Basin. No discharge of pollutants into the water is authorized by the permit. Additionally, no critical environmental features have been identified on the site or within the immediate vicinity. No adverse environmental effects are anticipated with this project.

2.0 PERMIT

The District is authorized by TCEQ Texas Land Application Permit (TLAP) No. WQ0011385001 to treat and dispose domestic wastewater on the golf course, owned and operated by the Point Venture Property Owners Association (POA). Discharge of pollutants into waters of the state is not authorized in this permit. The District is authorized by TCEQ to use Type I and Type II reclaimed water for irrigating the POA golf course. Requirements on reclaimed water is detailed in the District's TCEQ Authorization for Reclaimed Water No. R11385-001.

The proposed WWTP and associated improvements will require the District to amend the existing TLAP and transition to the Final Phase of the permit. This Final Phase includes upgrading and expanding the golf course irrigation system to include subsurface drip irrigation. Use of a drip irrigation will require the proposed WWTP to treat the wastewater to Type I reclaimed water quality rather than Type II, which the existing WWTP is currently performing. The Type I requirement will be incorporated into the WWTP design meeting the following criteria per TCEQ §210.33(1):

CONSTITUENT	UNIT	CONCENTRATION ¹
BOD ₅	mg/L	5
Turbidity	NTU	3



CONSTITUENT	UNIT	CONCENTRATION ¹
TSS	mg/L	5
E. Coli	CFU/100 mL	20
Enterococci	CFU/100 mL	4

Notes:

¹Concentration values are based on a 30-day average.

²Acronyms:

BOD₅ - 5 Day Biological Oxygen Demand

mg/L - milligram per liter

NTU - Nephelometric Turbidity Unit

TSS - Total Suspended Solids

CFU - Colony Forming Unit

mL - milliliter

3.0 PROJECT DESCRIPTION AND TREATMENT PROCESS

The District proposes to maintain its permitted capacity by constructing a new 0.15 MGD WWTP that mimics the existing WWTP. The new plant will be designed and operated as a CMAS suspended-growth biological process without nitrification. Per the District's existing TCEQ TLAP No. WQ0011385001, the effluent land application requirements are BOD₅, TSS, and Turbidity removal, which provide the justification for not including nitrification in the CMAS treatment process.

Typically, in a CMAS process, influent from the primary treatment component and return activated sludge from the secondary clarifier are conveyed into the aeration basin where the wastewater constituents are mixed thoroughly. This produces uniform oxygen demand, organic loading, and mixed liquor suspended solids (MLSS) concentration throughout the entire aeration reactor (Metcalf & Eddy, 2014). Additionally, the CMAS process yields a large dilution capacity for shock and toxic loads and a relatively simple process to operate and maintain.

The proposed WWTP components will include a fine screen headworks, a complete-mix aeration basin, a secondary clarifier, a chlorine contact basin, and a disk filtration basin. These treatment components are described in detail in the following sections.

3.1 Fine Screen Headworks

The current wastewater influent configuration does not have any pre-treatment/headworks systems in place. The residential household effluents flow through grinder pumps prior to entering the combined wastewater collection



system. Grinder pumps tend to reduce the organics to small diameter particles that cannot be captured by traditional coarse bar screens. The proposed fine screen was chosen to capture a large percentage of the smaller fine particles that are in the current influent stream.

As part of the primary treatment process, wastewater influent flow will be pumped from the existing on-site lift station and conveyed into the proposed fine screen headworks system. The WWTP will incorporate a single fine screen unit which will include an emergency overflow to accept flow when the fine screen is out of service, adhering to TCEQ §217.122(f).

The fine screen has clear openings less than 0.25 inch, conforming to TCEQ §217.122(b), that will enable the equipment to remove the finer particles and debris. The captured constituents will then be compacted, dewatered, and washed free of most organics via a washer and compactor. The solids will be collected in appropriate containers and managed and disposed of in accordance with TCEQ §217.123. Due to the small openings, mechanical cleaning of the screens is essential to prevent clogging. The fine screen system is equipped with a spray wash system to clean and maintain operations of the screens, conforming to TCEQ §217.122(h).

To maintain plant hydraulics, the fine screen will be positioned at an elevation above the complete-mix aeration basin.

3.2 Complete Mix Aeration Basin

After leaving the fine screen headworks system, the influent will enter the secondary treatment process in the completemix aeration basin. The aeration basin is where the activated sludge biological suspended growth process occurs in which microorganisms responsible for treatment are kept in suspension and aerated.

The aeration basin is designed and sized to accommodate constituent oxygen demand in the influent wastewater. This will provide adequate mixing within the basin while maintaining a minimum 2 mg/L dissolved oxygen throughout to meet TCEQ §217.151(a). Foaming may develop during plant start-up or seasonal load changes and therefore, the aeration basin will be equipped with foam control systems such as spray nozzles to break up the foaming.

The organic loading rate was used for aeration basin analysis and design. Listed below are the design parameters used in sizing the aeration basin, conforming to TCEQ §217.154(b):

PARAMETER	UNIT	VALUE
Peak Flow	gpd	600,000
Influent BOD ₅	mg/L	300
Organic Loading Rate	lbs/day/1,000 cf	45
BOD₅ Loading	lbs/day	1,501
Freeboard	ft	2
Side Water Depth	ft	20

The design parameters yielded the following basin dimensions for the aeration basin:

DESCRIPTION	UNIT	VALUE
Inside Height	ft	22
Inside Length	ft	55
Inside Width	ft	30.50

3.3 Secondary Clarifier

As part of the secondary treatment process, influent from the complete-mix aeration basin will enter the secondary clarifier where liquid solids separation occurs. The liquid solids separation serves two functions which are gravity settling the biological floc and thickening the settled activated sludge particles, resulting in return activated sludge (RAS), before returning it to the complete-mix aeration basin for mixing and treatment with the influent wastewater.

A circular, center-feed secondary clarifier with a scraper sludge removal system was selected to allow the influent to equally flow radially from the center to the periphery of the basin and for the settled sludge to be scraped towards the centered sludge hopper for removal. Additionally, since the WWTP will not have primary settling basins, skimming of the secondary clarifier is essential for removal of scum and floating particles. The secondary clarifier will include a mechanical skimmer and scum baffles, in conformance with TCEQ §217.152(c)(1)(A).

The surface overflow rate was used for the analysis and design of the secondary clarifier. Listed below are the design parameters used in sizing the secondary clarifier, conforming to TCEQ §217.152(g)(2), §217.153(b)(2) and §217.154(c)(1):

PARAMETER	UNIT	VALUE
Peak Flow	gpd	600,000
Surface Overflow Rate	gpd/sf	1,117
Detention Time	hrs	2
Freeboard	ft	2
Side Water Depth	ft	12
Baffle Inward Projection Length	ft	1.5

The design parameters yielded the following basin dimensions for the secondary clarifier:

DESCRIPTION	UNIT	VALUE
Inside Diameter	ft	30
Inside Height	ft	14

3.4 Chlorine Contact Basin

The current permit requires disinfection by a chlorine contact basin. The existing WWTP originally used chlorine gas for disinfection, but now operates a liquid bleach system (sodium hypochlorite) for dosing. The proposed WWTP will also use liquid bleach for the disinfecting operation and will include clarified water from the existing plant as the current chlorination system is inefficient.

The new system was designed to meet the TCEQ requirement, TCEQ §217.281(b)(1), for a detention time of 20 minutes based on peak flow. A conventional plug-flow configuration was selected with submerged baffles to improve the efficiency and hydraulic performance of the basin. The footprint was designed to accommodate the available space at the current WWTP and to fit with the other proposed equipment. The chlorine contact basin will have rounded corners as required by TCEQ §217.281(b)(3).

The design parameters yielded the following basin dimensions for the chlorine contact basin:

DESCRIPTION	UNIT	VALUE
Inside Height	ft	5
Inside Length	ft	20
Inside Width	ft	13



3.5 Disk Filtration Basin

To meet the Type I Effluent requirements mentioned in Section 2, additional filtration is required following the chlorination basin. Because of space limitations at the WWTP, a disk filter design was selected. The design considered the TCEQ §217.190 and §217.193 requirements and effluent limits.

The disk filtration also has a low hydraulic profile so that the waste stream can flow through the system without the need for an additional pumping system. The system's footprint is also much smaller than a traditional sand filter and can be placed in a traditional concrete basin.

The disk filter is comprised with multiple rotating filter disks that use a fine-woven filter media to capture particulate material suspended in the stream. The filters will be submerged within the basin and will operate in an outside-in pattern. The filters have an average pore size of less than 30 microns and have a filtration rate of 5.4 gpm/sf at peak flow, conforming to TCEQ §217.193(b)(1) and §217.193(c)(2), respectively. The backwash cycle for the disk filter can be operated simultaneously with normal operation and will automatically occur based on head loss through the filter. The filter can be operated by gravity flow and along the proposed hydraulic profile of the WWTP.

The design parameters yielded the following basin dimensions for the disk filter basin:

DESCRIPTION	UNIT	VALUE
Inside Height	ft	5
Inside Length	ft	11.5
Inside Width	ft	13

3.6 Concrete Basins

Each of the basins described in Sections 3.2 through 3.5 will be constructed out of reinforced concrete with the following dimensions:

DESCRIPTION	UNIT	VALUE
Footing Depth	in	18
Wall Thickness	in	14
Length from Exterior Wall to	in	24
Footing Edge		