MINUTES

CAPITAL AREA GROUND WATER CONSERVATION COMMISSION

December 10, 2013

The Capital Area Ground Water Conservation Commission met at 9:30 a.m. on December 10, 2013 in the U.S. Geological Survey conference room at 3535 S. Sherwood Forest Blvd., Baton Rouge, Louisiana. The meeting was called to order by the Chairman, Mr. Joey Hebert.

The following members were present: John Adams, Trey Argrave, Dale Aucoin, Johan Forsman, Joey Hebert, Barry Hugghins, John Jennings, Amelia Kent, Dennis McGehee, and Mark Walton.

Others attending the meeting were: Tony Duplechin and Shawn Scallan, Capital Area Ground Water Conservation District; John Lovelace and Jason Griffith, U.S. Geological Survey; Henry Graham, Louisiana Chemical Association; Matthew Reonas, Louisiana Department of Natural Resources; Ryan Simpson, Baton Rouge Area Chamber; Sayi Malineni, Environmental & Energy Professional; Roy Waggenspack, Owen & White; Bruce Duhe and Rafael Villanueva, Layne Christensen; Luke LeBas, Brown & Caldwell; and Dan Tomaszewski, retired USGS.

Mr. Walton made a motion that the minutes of the September 17, 2013 meeting be approved. Mr. Jennings seconded the motion and it passed unanimously.

I. Report from the Administrative Committee

At the request of the Chairman, Joey Hebert, Mr. Dennis McGehee reported on the meeting that was held December 10, 2013 at 8:30 a.m. Following is a summary of items discussed at the meeting and further discussion and action at the regular Commission meeting at 9:30 a.m.

1. Copies of the Financial Conditions as of November 30, 2013 were distributed for review and comment. Mr. McGehee noted that the Commission has a certificate of deposit that will mature on January 21, 2014 in the amount of $42,886.

2. Mr. McGehee reported that Bill Gaines, CPA, gave a brief presentation to the Administrative Committee on the Commission's financial statements as of June 30, 2013. Mr. Gaines reported that the Commission had a net loss of $116,276. This was due to the funding of the USGS modeling. The Commissioners were given copies of the report for review.

3. Mr. McGehee reported that Mr. Robert Schmidt, Adams & Reese, gave a presentation to the Administrative Committee concerning setting up a trust fund for postemployment retiree health benefits. Mr. Schmidt presented an engagement letter to the Committee with the details and costs of the work. The Committee raised some questions about the rate for the attorney and whether or not the Commission would be allowed to pay a higher rate than what the State allows. The estimate of the fees and other costs were between $5,000 and $10,000 to prepare a plan and trust. Mr. McGehee stated that the Commission had budgeted $5,000 last fiscal year and another $5,000 this fiscal year for the setting up of the trust fund. No funds have been spent to date. Mr. Hebert made a motion to hire Mr. Schmidt to set up the trust fund pending the approval from the Louisiana Attorney General's Office. Ms. Kent seconded this motion and it passed unanimously.

4. Mr. McGehee reported that Joey Hebert presented a proposal from DNR to the Administrative Committee at the September 2013 meeting. This proposal would assist the Capital Area Ground Water Conservation Commission with their communications strategy. It would evaluate current and past communications, public relations and/or outreach efforts of the Commission. DNR would charge a fee of $4,400 for this service. Mr. McGehee reported that the proposal was tabled for further review at the September meeting stating that the fee would need to be evaluated along with whether or not this service is needed by the Commission. Mr. McGehee stated that the Committee made the recommendation that the staff do this work in house.

5. Mr. Joey Hebert stated that the Commission's current budget is fairly tight with the expense of the ongoing USGS modeling project. He stated that the ad hoc group that has been monitoring the saltwater problem has been discussing field investigations for saltwater management in the "2,000-foot"sand that would cost between $100,000 and $200,000. Mr. Hebert stated that the Commission does not currently have the funding for this project. Mr. McGehee stated that the Commission may need to reach out to others from outside to help with the funding rather than increase pumpage rates again. He noted that rates were just increased in April 2013 mainly to help fund the USGS project which will be ongoing until September 2022. Mr. Walton stated that the Commission can accept grant money and should request it if needed. Mr. Walton added that historically the Commission's projects have been cooperatively funded with the USGS, Louisiana Department of Transportation and Development and the City of Baton Rouge. Mr. Hebert stated that the Commission will need to seek outside funding sources. Mr. Dale Aucoin stated that the initial cost of this project would be $100,000 to $200,000 as the first small part of the commitment. This cost would be to find a location and drill a test hole. The long term part of the project would be to install a scavenger well and a pipeline to discharge the saltwater to the river. Mr. Aucoin stated that based on Baton Rouge Water Company's installation of their scavenger well and pipeline that the Commission is looking at a substantial amount of money. Mr. Aucoin stated that he does not have a firm amount but that the cost would be millions of dollars. Therefore, Mr. Aucoin stated that when outside parties of interest are contacted that they need to be informed of the long term cost.

III. Report from the Technical Committee

At the request of Mr. Hebert, the report of the Technical Committee was made by Committee Chairman, John Jennings, and minutes of the meetings were distributed (attached). Following is a summary of topics discussed at meetings on December 3, 2013 further discussion and action at the regular Commission meeting on December 3, 2013.

1. Randy Hollis and Roy Waggenspack, both of Owen and White, made a presentation on the Baton Rouge Water Company's (BRWC)"1,500-foot" sand scavenger well. The well, which actually consists of two parallel shafts completed at different depths, is located on North Street, between 31st and 32nd Streets. Two wells were installed to prevent "coning" of freshwater

towards the scavenger well. There was a revelation as to where up-gradient was, taking into account that the wells were located in a cone of depression. The saltwater well had to be down–gradient of the freshwater well. Results from the Progress Park well verified that the saltwater is stratified in that area.

Many factors had to be taken into consideration, especially since the project was being conducted in a residential area. Baton Rouge Recreation Department refused BRWC permission to use the well at the nearby Progress Park as the scavenger well, stating that the saltwater produced would be a liability. In addition, subterranean pumps will be used to reduce noise. Disposal of the saltwater will be into the Mississippi River. A permit was not needed for this, only a letter of no objection.

Mr. Hebert questioned BRWC as to what lessons were learned through the process of installing the scavenger well. Mr. Waggenspack stated the acquisition of the property was a difficult one being that the target area was small about the area of two city blocks. He added that it was difficult to come up with a plan to discharge the saltwater. Mr. Waggenspack hopes to be able to test the system by March. Mr. McGehee said it would be April or May before they should see the first effects at the Progress Park well. Mr. Duplechin questioned BRWC about the operating expenses of the well. Mr. McGehee said approximately $3,500 per month.

2. Jason Griffith gave a brief update on the Baton Rouge model, stating that the "2,000-foot" and "1,500-foot" sands report had been approved for publication. The report should be available electronically in January and the written reports shortly after. Current work is focused on the geometry of the "1,000-foot" and "1,200-foot" sands, explaining that recent information gathered seems to contradict earlier information and the USGS had to determine actual conditions.

Mr. Aucoin asked about developing a few more scenarios with the model for the "2,000-foot" sand. Mr. Lovelace stated that the Commission will need to request these scenarios and that the project was developed to add more scenarios with no additional cost.

Mr. Hebert asked about the timing for the model of the "1,200-foot" sand completion. Mr. Lovelace could not commit to a date, but said that Chuck Heywood, USGS, would be coming to the Baton Rouge office to discuss the progress of the project.

Mr. Hebert stated that the ad hoc group is looking at the geography of the "2,000-foot" sand in the Baton Rouge area. The group is searching for a location for a scavenger well. Mr. Hebert stated that Jason Griffith volunteered to look at some of the structural issues of the "2,000-foot" sand in the downtown Baton Rouge area. Mr. Griffith stated that he has not had time to look into it. Mr. McGehee added that at BRWC's Lafayette Street pumping station on the riverfront has about 100 feet of sand. Then down towards the Channel 2 location a well

located there shows only about 20 feet of sand. Mr. McGehee stated that the Commission needs to determine where the sand begins so that it would be deep enough to be useful for a scavenger well.

3. Mr. Aucoin presented a power point that the ad-hoc group prepared showing the Salt Water Remediation Alternatives and recommendations. It is anticipated that a scavenger well will need to be installed in the "2,000-foot" sand. As with the BRWC scavenger well mentioned above, numerous considerations must be taken into account. It is important to have the most accurate information available before drilling a test well, as that alone could cost in the neighborhood of $150,000. As this will be a costly endeavor, a funding plan must be developed. Mr. Aucoin presented a timeline showing anticipated activities for the next four years. The timeline states that in 2013 an ad hoc group would be established. The group established a reduction in pumping in the "1,500-foot" and "2,000-foot" sand and researched the installation of a scavenger well. The group will ask USGS to run a few additional scenarios for the "2,000-foot" sand. Mr. Aucoin added that Lion Copolymer will be shutting down its plant next year. He stated that with this shutdown this would be 2 million gallons per day decrease in pumpage in the industrial area. Mr. Aucoin stated that in 2014 the ad hoc group will continue to work with the industrial users to maintain the 2 million gallon reduction. In 2014, the group would like to install a test hole or holes to find a suitable location for a scavenger well. The group will need to project a cost analysis of the project and develop a funding plan. In 2017, they hope to put the plan into action by acquiring the land, installing the test hole and scavenger well. Mr. Hebert requested that Mr. Aucoin's power point presentation be emailed to all Board members.

Mr. McGehee added that the ad hoc group is looking at a well located at I-10/I-110 interchange, EB-434, that is owned by USGS. The well was drilled for an ice house back in the 1940s and is 600 feet deep. It was noted that the well was possibly being used as a chloride monitoring well. Mr. McGehee stated that this would be a potential site for a test hole in the "2,000-foot" sand.

4. Mark Walton presented a recap of pumping rates from the "2,000-foot" and "1,500-foot" sands to monitor compliance with agreed on reductions and/or commitments, stating that reported pumpage was within limits, at least on an annual basis.

5. Discussion followed on the Emergency Rules promulgated by DHH in light of the so-called "brain-eating" amoeba, *Naegleria fowleri*. The rule mandates that public water supply systems maintain a minimum of 0.5 mg/L Chlorine or Chloramine in their systems. This is causing some systems to use a lot more water in order to flush the water distribution system out because of Chlorine degradation. For instance, St. Charles has been using approximately 20% more water for this purpose. This is an issue that the District will monitor in the five-parish area.

III. Director's Report

Mr. Duplechin reported that he attended a meeting for the Louisiana Water Synergy Project at LSU. He gave them an update on the activities of the Commission. He also attended the Louisiana Water Environment Association. Mr. Lovelace made a presentation at this meeting on the model and report. Mr. Duplechin reported that he attended the Louisiana Water Resources Commission meeting last week. The Director also participated in the Bienville Parish Water Fest which focuses on educating fifth graders on ground water issues.

The Director reported that Lion Copolymer will be shutting down its plant temporarily. The plant pumped just over a billion gallons of water in 2012. Mr. Duplechin also reported that the Oaks at Sherwood golf course had closed. He stated that the golf course was recently bought to be used for tennis courts. The golf course used 2 ½ million gallons in 2012.

Mr. Duplechin reminded everyone that the GMDA conference will be held in Biloxi in January 8-10, 2014. Mr. Duplechin has contacted some speakers to give presentations at the conference. Mr. Duplechin thanked Roy Waggenspack and Randy Hollis, Owen & White; Matt Reonas, Terry Tharp & Patrick Courreges, LA DNR; and LA DEQ for offering to give presentations at the conference.

Mr. Duplechin reported that Lt. General Rusell Honore has formed a group called the Green Army. Mr. Honore's group is planning to introduce some bills to the legislature dealing with the environment. One of those issues is groundwater. Mr. Duplechin invited Mr. Honore by email to both the technical and regular board meetings.

Mr. Duplechin stated that he will be contacting Megan Terrell, LA Attorney General's Office, to assist him with updating the District's Enabling Act for this upcoming legislative session.

IV. Chairman's Report

Mr. Hebert reported that the new officers for the Capital Area Ground Water Conservation Commission for 2014 are: Dennis McGehee, Chairman; Dale Aucoin, Vice-Chairman; and Amelia Kent, Treasurer.

Mr. Hebert reported that the Commission has not heard from the Governor's office in regards to the new appointments to the Board.

Mr. Hebert thanked the board members and staff for their efforts the past year. Mr. Hebert said that the Commission has more public interest than ever which is both a blessing and a challenge. On the technical side, Mr. Hebert said that it's been a very fruitful year.

V. Other Business

Mr. Hebert reported that Dennis McGehee and Anthony Duplechin received a letter from the Louisiana Office of Conservation noting the Commission's past and current efforts in dealing with saltwater encroachment. Mr. Hebert called upon Mr. Matt Reonas, Louisiana Department of Natural Resources, to elaborate on the letter. Mr. Reonas stated that the goal of Commissioner James Welsh was to provide his opinions about long term management sustainability. Mr. Reonas stated that the Commissioner's concerns are still about a long term solution, finding a plan that sticks to an aggressive time table that holds the Commission accountable to the time table. Mr. Reonas stated that La. DNR wants a clear vision and definite time table. Mr. Reonas stated that there are concerns about the scavenger wells in the"1,500-foot" and "2,000-foot" sands. He stated that La. DNR has concerns if the scavenger wells are the long term solution that's necessary to retard saltwater encroachment. Mr. Reonas stated that the Commission may need to do some additional planning to explore other alternatives. Mr. Reonas agreed with Commissioner Welsh in that 2013 has been a very productive year for the Ground Water Commission.

Mr. Hebert stated that a point made in the letter is the issue of the scavenger well. Mr. Hebert stated that the idea of a scavenger well is to manage saltwater movement. It is not to stop the saltwater from moving across the fault. He stated that a scavenger well may increase saltwater movement. In order to stop saltwater from moving across the fault, Mr. Hebert stated that we would have to go back to conditions before the water levels to the north were lower than the water levels to the south. This would mean that the users to the north would need to find another source of water. Mr. Hebert questioned the Commissioners as to whether or not this is an appropriate strategy? Mr. Walton stated that technically he doesn't know how to reverse the water levels. He stated that there is no reasonable way to do it. Mr. Walton stated that you could install barrier wells but then you would have to find water to put into the barrier wells. Mr. Walton stated that if you removed all water users to the north from the "2,000-foot" sand, saltwater moving across the fault would still not stop. Mr. Walton added that the aquifers talk to one another. Mr. Griffith stated that the only way to know for sure to what degree all these variables would play a role would be to cease the pumpage in the model and use the model as a tool. Mr. Tomaszewski questioned whether or not to stop all pumpage north of the fault was a proposal that the Commission was considering. Mr. Walton stated no, that this option is not being considered. Mr. Hebert stated that the ad hoc group has a list of options and ceasing all pumping north of the fault was one; however, it was not considered feasible.

Mr. Forsman commented on the barrier well option that Mr. Walton mentioned earlier. Mr. Forsman stated that the water would have to come from the river. The water would need to be treated to drinking water standards. He stated that this is common practice in many parts of the world; however, the expense of installing enough wells to handle the volume of water needed out of the "2,000-foot" sand and securing the property needed would be extremely costly. Mr. Forsman also stated that there is saltwater migration across the fault in several locations. He

stated that there may possibly be vertical migration as well. Therefore, the aquifers would be communicating at the fault so this would result in 100% saline water coming across the fault at an upper potential migrating down to where the saltwater is not wanted. Mr. Forsman stated that the USGS does not have enough data points to know how wide the saltwater migration zone is. He added that the zone is probably not the same in each sand. Mr. Walton stated that for the Commission's purpose they have to assume that saltwater cannot be stopped from coming across the fault; therefore, the saltwater coming across will have to be managed as opposed to stopping it. Mr. Lovelace stated that if the saltwater is coming across in a relatively small zone, then the saltwater may be able to be controlled by pumping south of the fault. Mr. Walton stated that there are too few monitoring wells in the area to aid in the management of saltwater.

Mr. Hebert mentioned the development of a long term plan for saltwater management. He stated that he realizes that the Commission would like to see the effects of the BRWC scavenger well before making any firm decisions. He urged the Board to move ahead on a management plan. Mr. Reonas stated that a plan would help with not only public and media interest but would put the Commission in a better light. Mr. McGehee stated that the Commission's plan titled, Summary Plan for the Management of Salt Water Migration in the"1,500-Foot" and "2,000-Foot" Sands of the Baton Rouge Aquifer System, that was approved at the October 2013 meeting states for the "1,500-foot" sand that additional actions to control saltwater migration will be implemented as computer modeling results are known, if needed. And the plan for the "2,000-foot" sand states, CAGWCC will consider additional management requirements for the "2,000-foot" sand after these simulations are known in 2013, and it will modify the management plan as the "2,000-foot" sand model is refined in later years. Mr. McGehee stated that in a very broad sense the Commission is addressing forward progress. He stated that the Commission will continue with the plan and be more detailed as more data is known. He also added that flexibility will be needed in the plan.

Mr. Hebert suggested that a response to DNR's letter should be written. Mr. Walton added that there were some technical inadequacies in the letter. He stated that the letter indicates that the scavenger well cannot manage the problem and may make it worse. Mr. Walton stated that is totally incorrect. Both the USGS and Dr. Frank Tsai's models prove this to be incorrect. Mr. Walton stated that the scavenger well that is in the Commission's report shows that the well improves everything throughout the plume. The scavenger well is taking out more salt and chloride than is coming across the fault. DNR's letter (page 2, 2nd paragraph) implies that this is not the case. Mr. Walton stated that in DNR's letter (page 2, 3rd paragraph) implies that if you just do the scavenger well by itself or reduce pumpage in the industrial area by itself that this could potentially make matters worse. Mr. Walton stated that this is not the case. In the "1,500-foot" sand, BRWCC is installing a scavenger well and also cutting back on pumpage at the Lula Street pumping station. The same plans are being made for the "2,000-foot" sand, reduction in pumpage along with the installation of a scavenger well.

VI. Public Comment

Mr. Henry Graham stated that it appears that DNR's letter is asking for very specific steps and goals from the Capital Area Ground Water Conservation Commission (CAGWCC) in how the Commission plans to deal with saltwater encroachment. Mr. Graham stated that he was under the impression that the State Water Resources Commission is getting ready to embark on a comprehensive water management plan that covers both surface and ground water. Mr. Graham asked if this plan is going to have a scope of services for specific objectives and goals. Mr. Graham stated that he was asking this question because it seems that DNR is asking for more from the CAGWCC than what they are asking from themselves. Mr. Graham stated that if the CAGWCC responds with their plans, does that go beyond what DNR plans to do? Mr. Graham stated that the CAGWCC plans should fit with the State Water Resources Commission's plans. He stated for example if the State's plan is for less or more water use then the CAGWCC's plan should take this into consideration. Mr. Graham stated that CAGWCC's response letter should fit with the State's overall plan.

Mr. Hebert stated that DNR realizes CAGWCC's authority over the five parish area. The two agencies are to work in cooperation with one another. Mr. Adams added that the DNR letter is coming from the Commissioner of Conservation. The Commissioner is operating here under the Louisiana Constitution's authority that he ultimately has the responsibility for ensuring that the resources of the State of Louisiana are protected and conserved. Up to this point, this has entailed reporting to DNR on the plans of the CAGWCC to deal with saltwater encroachment. Mr. Adams stated that the Commissioner wants to know that his concerns are being addressed by CAGWCC which has more specific authority to deal with these specific problems than the Commissioner's general authority under the Louisiana Constitution.

VII. Next Meeting

The Chairman reported that the next regular Commission meeting of the Capital Area Ground Water Conservation Commission will be scheduled on Tuesday, March 18, 2014 at 9:30 a.m. in the U.S. Geological Survey conference room. The next Technical Committee meeting will be Tuesday, March 11, 2014 at 1:30 p.m. in the U.S. Geological Survey conference room.

VIII. Adjournment

There being no further business before the Commission, Ms. Kent made a motion that the meeting be adjourned. Mr. Jennings seconded this motion and it passed unanimously.

Dennis McGehee, Chairman

Amelia Kent, Treasurer