From: Emil Beshara
To: lee; cemail horton; jemail luke; John Hatcher
Cc: Chuck Horton; Jim Luke; Margaret S. Hale; joe.block; Janie D. Price; Karen Kimbaris; Eleanor Cotton; Melvin Davis; Alan Theriault; MargaretHale; Don Norris; JimmyParker [jparker@precisionplanning.com]
Date: 2/29/2008 4:18:12 PM
Subject: RE: Request regarding bid

Mr. Becker,

I am aware that you have raised the issue of hold during flooding in the past. Had you asked me about this, I would have brought up the same issues. Now that you and I are discussing this, I'm asking you what science you have to support your position. It is my opinion that the design and operational specification of wastewater treatment plants need to be based on science, not on vague concerns over flooding without identifying to what extent continued discharge would exacerbate flood impact. Again, I respect the concerns held by residents in the community regarding flooding, but concern alone does not justify expenditure of tax monies unless it can be justified with actual calculated impact.

The one restriction that was placed on this project by the BOC was that the design would incorporate the use of membranes. I was not around here when this decision was made, but if I was, I would have cautioned them against specifying treatment methodology in their RFQ/RFP. When you go to experts seeking design services you really need to be relying on their expertise. In other words, don't tell them what you want, let them tell you what you need in order to reach your goals. If the goal in this case was to meet or exceed Calls Creek production that should be as far as it went, without process specification. All of the responding firms were possibly prohibited from offering the design they really felt is best for Oconee County because we said we would accept membranes and nothing else. Here again, I think it is better to make such decisions based on technical merit and not for any other reasons.

Please understand that I am not saying that the plant operational plan will not be as you desire. I'm really just trying to get you to explain why you want it the way you want it. You and the members of Friends of Barber Creek know why you want it like that, but there are many, many more people in Oconee County that will be paying for this plant. They deserve to know why their tax money is being spent the way it is.

The decision to specify membranes was a decision that will ultimately cost the taxpayers a couple million dollars in capital expenses above and beyond what the majority of consultants felt was needed. It may be that unrestricted consultants would have proposed tertiary membrane treatment, but I guarantee you that far more would not since the discharge limitations could easily be met without them. I'm confident that the plant will produce high quality effluent as a result of their decision.

I think that most objective taxpayers would rather the operational plan be developed by the design professionals and EPD rather than by you or I or the BOC. You will have ample opportunity to provide public input as this process progresses to air your concerns.

Understand that I am not speaking for Chris Thomas, Mr. Davis, the BOC, or anyone else but me. You copied me on your e-mail, you expressed confusion on the technical aspects of the issue, and I felt obligated to attempt to provide clarification since I have some expertise in this area.

By the way, I added back on the folks that were apparently left off your reply to make sure everyone stays in the loop.

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706-769-2937

From: lee [mailto:lbbecker@mindspring.com]
Sent: Friday, February 29, 2008 2:11 PM
To: Emil Beshara
Cc: Chuck Horton; Jim Luke; Margaret S. Hale; John Hatcher; joe.block; Janie D. Price; Karen Kimbaris; Eleanor Cotton
Subject: RE: Request regarding bid

Emil,

Thank you very much for the clarification of the design. This really is helpful.

I find your statement about the flooding less helpful. I do understand the issue of taking up capacity of the existing storage facilities. That is your proposed solution to our request, not mine.

We have raised this issue with the county consistently since the permitting process, and we were told repeatedly it was not a problem, since the county had storage capability to make it possible to hold water in the case of flooding.

Now your answer suggests that this is not the case.

You asked if other plants have such a facility. I don't know the answer. And, as you said, this is not required for the EPD permit. That is quite clear.

You are telling me I have to think like an engineer because that is the way you are wired. I am trying.

I am asking you to understand the concern of citizens on this creek. Flooding, in our view, is a major concern. I can assure you of that.

I thought, based on past comments of Chris Thomas and Mr. Davis that we had an understanding on this issue. I am optimistic yet that we can get back to that point.

Lee

-----Original Message-----
From: Emil Beshara
Sent: Feb 29, 2008 11:29 AM
To: lee , cemail horton , jemail luke , John Hatcher
Cc: Melvin Davis , Alan Theriault , Chuck Horton , Margaret Hale , "Margaret S. Hale" , Jim Luke , "joe.block" , Karen Kimbaris , "Janie D. Price" , Eleanor Cotton , Don Norris , "Jimmy Parker [jparker@precisionplanning.com]"
Subject: RE: Request regarding bid

Mr. Becker,

To my knowledge, nobody ever said that we were eliminating the VLR component. The main difference between the base and alternate design can be summarized as follows: the base design utilizes a membrane bioreactor to do the heavy lifting with regard to clarification of the effluent while the alternate utilizes more conventional clarification methodologies (in the case of HSF it was VLR- some other firms offered different methods) followed by tertiary membranes as a final “polishing” stage. In either case, the effluent will pass through a membrane prior to discharge. The base utilizes wastewater membranes, the alternate utilizes membranes more similar to water treatment -drinking water- plant membranes because the effluent has already undergone clarification). Herb apparently has a preference for the VLR over other processes due to its relatively small footprint (all of the Qualifluent plants are housed inside a building, and floor space is a major consideration). I understand that VLR is his preferred methodology.

One thing that I considered significant when evaluating the various treatment processes is the fact that while MBR equipment is relatively new on the scene, water treatment membranes have been in widespread use for some time. I personally consider the latter a proven equipment line and MBR technology as an emerging technology that, while it does show great promise, has not been perfected.

The Calls Creek plant incorporates the membrane bioreactor process. Thus, all effluent must pass through the membranes prior to discharge. The effluent from a system design per the alternate bid will also pass through membranes prior to discharge, but it will be a different type of membrane, one similar in design to those commonly used to provide drinking water filtration. In my opinion, it would certainly be safe to say that the effluent from a plant designed per the alternate bid would be at least equal in quality to the Calls Creek plant. Again in my opinion, it will have an advantage over Calls Creek in that it would utilize a membrane process that is well-established, proven technology with a long track record, and will hopefully reduce long term operation and maintenance costs.

I see no other way to evaluate your request to hold effluent during times of flooding in any other way than an engineering evaluation. The storage capacity that is designed into every WWTP is there for a purpose- to provide a means to avoid discharge to the receiving water body in the event of a plant malfunction. If that storage capacity were to be intentionally reduced because the BOC simply wanted to placate your concerns that are not (at least so far) based on sound science, we would be losing available storage capacity that could be desperately needed in the event of a plant malfunction. I asked you specifically about other permitted WWTPs that employ this practice because I am interested in whether EPD would even allow such action as it would consume design storage capacity for reasons other than storage of off-specification effluent.

EPD evaluates stream flow capacity, and sizes wasteload allocations based on such, so they would appear to disagree with your assertion that discharge would have any significant impact during times of flood. I'm not implying that you (or they) are wrong, but since we are dealing with science here, you'll have to produce some real numbers in order to make your point. My evaluation of your concerns in this regard to date is that it would be inappropriate to direct on-spec effluent to the storage facilities due solely to flood conditions. Not only does it appear (by my initial impression and your own admission) that the result would be a small, incremental impact, but the result of mixing specification effluent with off-spec would require re-treatment of the stored product.

Were Barber Creek a much smaller water body I might share your concerns in this regard. But I am also confident, were that the case, that EPD would never have issued a 1 MGD allocation for this facility. Basically, if you want to convince me (or any other engineer for that matter) that your position is the correct one, you'll have to produce the data which justifies this practice. Sorry, it's the way we're wired….

Emil D. Beshara, PE
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From: lee [mailto:lbbecker@mindspring.com]
Sent: Friday, February 29, 2008 10:04 AM
To: Emil Beshara; cemail horton; jemail luke; John Hatcher
Cc: Melvin Davis; Alan Theriault; Chuck Horton; Margaret Hale; Margaret S. Hale; Jim Luke; joe.block; Karen Kimbaris; Janie D. Price; Eleanor Cotton; Don Norris; Jimmy Parker [jparker@precisionplanning.com]
Subject: RE: Request regarding bid

Emil,

Thanks. I generally do not check this mail during the day, but I wanted to see if there was a response to the questions posed.

1. I understand that the plant will meet the EPD standards for reuse. That is requried by the permit, and I know Oconee has a very good record in this regard. I expect the County would want to maintain that.

What I want to know is if this new design will produce water of the same or higher quality as that being produced by Calls Creek, since the design for Calls Creek was the standard with which the County began the permitting process many years ago. John has given me data from

Calls Creek, and the data show the plant produces water of a very high quality--equal to or exceeding that of F. Wayne Hill. So those are the kinds of data I am seeking, i.e., data that show that the proposed design can produce effluent of the same quality as what we know Calls Creek can produce.

I confess I am now confused by the discussion of the design, and I hope I will undestand better when I have a copy of the proposal. John said it was the alternate design, but now you are saying it does use the vertical loop reactor. I now gather the difference is in where the membranes are placed. What I am trying to understand is the difference between the original design and the alternate.

2. I am not asking about volume of discharge during flooding from an engineering point of view. Flooding of Barber Creek--prior to the drought--was a huge concern to everyone along the creek. We have seen it get out of its banks more quickly and more frequently as development has progressed through the County. From out point of view, it only makes sense to hold water when the creek is flooding. The incremental change is small, but it is not zero.

As to the definition of a flood, I am sure we can work out something. I know there are some baseline data on flow at present, and it should not be hard over the next few years to gather more. I really believe if we all sit down together and review all of these kinds of things in an open, bidirectional discussion, we can find solutions that have a high probability of satisfying everyone.

Thanks for weighing in.

Lee

-----Original Message-----
From: Emil Beshara
Sent: Feb 29, 2008 9:06 AM
To: "lbbecker@mindspring.com" , cemail horton , jemail luke , John Hatcher
Cc: Melvin Davis , Alan Theriault , Chuck Horton , Margaret Hale , "Margaret S. Hale" , Jim Luke , "joe.block" , Karen Kimbaris , "Janie D. Price" , Eleanor Cotton , Don Norris , "Jimmy Parker [jparker@precisionplanning.com]"
Subject: RE: Request regarding bid

All,

I'm going to take a stab at clarification on the various issues raised by Mr. Becker.

One of the attractive features of the HSF plant is that Herb has a "standard" design for a wastewater treatment plant, and thus he has far less design engineering to do than other firms who start from scratch every time. The alternate system he proposed utilizes a vertical loop reactor and clarification followed by the tertiary membranes. This varies from his standard design in that the membranes are an additional safeguard requested specifically by the BOC. The plant could meet discharge limitations without the tertiary membranes. It is my recollection that Herb has not incorporated membranes in one of his Qualifluent plants. This is due to the fact that the membranes are not necessary and are quite expensive to incorporate as an additional safeguard.

So, you could review the discharge data from most any other HSF plant and get an idea of the treatment efficiency of his base design. The Rocky Branch facility would further reduce pollutants in the discharge due to the incorporation of the tertiary membranes. I believe one of the comments made by Herb was that there have been no permit violations in any of his Qualifluent plants since they began operations. The HSF proposal identifies several of their plants in the area you could review. Since the exact make and model of the membranes has yet to be determined, it would be difficult to point you toward a similar plant. You could go to F. Wayne Hill I guess, since it has tertiary membranes for a (somewhat) representative plant process

In answer to the issue of storage capacity, I think John answered it as clearly as possible. The design is for 28 million gallons of storage capacity for off-specification effluent or other storage needs. With the plant operating at full capacity after the upgrade, the storage capacity would theoretically hold 28 days of total effluent storage with NO discharge into Barber Creek.

With regard to Mr. Becker's apparent position that there be no discharge into Barber Creek during flood

conditions, I have a couple of questions/comments. First, I'd like to know how "flood conditions" is defined. Exactly how many CFS flowing in that segment of Barber Creek are you defining as "flood"? What are your specific concerns regarding discharge during flood conditions? Can you provide any examples of similar operating practices at any WWTP permitted by GAEPD in this region? I ask these questions because I am not familiar with any other plants that have such a policy in effect. In fact, this proposed operating methodology does not make sense to me from an engineering perspective.

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From: lbbecker@mindspring.com [mailto:lbbecker@mindspring.com]
Sent: Thursday, February 28, 2008 8:51 PM
To: cemail horton; jemail luke; John Hatcher
Cc: Melvin Davis; Alan Theriault; Chuck Horton; Margaret Hale; Margaret S. Hale; Jim Luke; jemail luke; joe.block; Karen Kimbaris; Janie D. Price; Eleanor Cotton; Don Norris; Emil Beshara; Jimmy Parker [jparker@precisionplanning.com]
Subject: RE: Request regarding bid

Sorry to be repeated myself. But this is the question. Thanks to everyone for helping make this clear.

Lee

> ----- Original Message -----
> **From:**
> **To:** jim luke;John Hatcher;lbbecker@mindspring.com
> **Cc:** Melvin Davis; Alan Theriault; Chuck Horton; Margaret Hale; Margaret S. Hale; Jim Luke; jemail luke; joe.block; Karen Kimbaris; Janie D. Price; Eleanor Cotton; Don Norris; Emil Beshara; Jimmy Parker [jparker@precisionplanning.com]
> **Sent:** 2/28/2008 7:59:19 PM
> **Subject:** RE: Request regarding bid
>
> To all,
>
> I agree. Is there a plant that has the proposed equipment for Rocky Branch that can be compared to the discharge water at Calls Creek.
>
> Thanks
>
> CH
>
> > ---------- Original message from jim luke <jluke13@yahoo.com>: ----------
> >
> > John
> >
> > Surely there must be technical information from the manufacturer, of the filter component of the proposed plant design, that would offer an apples to apples comparison of the water being discharged. If not, has anyone else ever designed, and built a plant like the one proposed here? If so maybe we could obtain their test results so that we may compare their discharge with Calls Creek's.

Jim

John Hatcher <jhatcher@oconee.ga.us> wrote:

Lee,

I hope that Friends of Barber Creek will be able to endorse the design that is proposed by HSF Engineering. I believe it will be a cost effective and well designed facility that will produce effluent that exceeds the requirements for reuse water.

I do not have any operating data from the plants that HSF has constructed because these plants do not use membrane filtration and would not be a good comparison to the effluent of Calls Creek. While his plants have met reuse requirements, the effluent is not filtered to the same quality that the membranes achieve at Calls Creek. Please keep in mind that many types of plants are able to produce water that meets re-use standards but the Rocky Branch design as proposed would treat to a much higher quality than is required. Any comparison between the HSF plants and Calls Creek would be apples and oranges.

The storage c omponent for this design will only include storage of the reuse water before being sent to the reuse distribution system. The existing ponds at Rocky Branch will be used for off spec storage to be land applied or to be re-processed back through the plant. The existing storage is 28 million gallons or 28 days at full design. Currently the average daily flow is approximately 200,000 gpd or 140 days of storage.

If you have further questions, please let me know.

John

_____
From: lbbecker@mindspring.com [lbbecker@mindspring.com]
Sent: Wednesday, February 27, 2008 8:39 AM
To: John Hatcher; John Hatcher
Cc: Melvin Davis; Alan Theriault; Chuck Horton; Margaret Hale; Margaret S. Hale; Jim Luke; jemail luke; joe.block; Karen Kimbaris; Janie D. Price; Eleanor Cotton; Don Norris; Emil Beshara
Subject: Request regarding bid

John,

I would like to be able to ask--and expect to be able to ask--the Board of Directors o f Friends of Barber Creek to endorse the recommendation of the Selection Committee to award the bid for the Rocky Branch upgrade to HSF Engineering, based on your presentation last night and the answers you gave to Commissioner Luke's questions.

As you know, our focus has been on effluent quality and volume.

Can you help us by providing data on the effluent from the plants that HSF is operating or has built using the same technology as will be used at Rocky Branch? The same type of data you provided me on Calls Creek is what I'm seeking. I believe you told me you were simply giving me the data you filed with the EPD, and that would be sufficient here as well. Data for a year would be ideal, but we could manage with data for six or seven months, as you provided for Calls Creek.

In addition, could you at tell me how many days of storage capacity will be included in the design? What I want to know is how many days the County will be able to hold the water from Roc ky Branch in cases of flooding of Barber Creek.

I had hoped to be able to download the bids tonight. I cannot get free from my work obligations until Friday afternoon at the earliest, so I will not be able to view any of the bids until that time. If you could ask HSF to send me an electronic copy of its submission in the meantime, that would be helpful as well.

thank you in advance for your help.

Lee

Lee Becker
lbbecker@mindspring.com