

SANFORD CITY COUNCIL  
INFORMATIONAL MEETING  
Monday, June 29, 2015 – 5:00 P.M.  
Sanford Municipal Building- West End Conference Room  
225 East Weatherspoon Street, Sanford, NC

The City Council held an informational meeting on Monday, June 29, 2015, at 5:00 P.M. in the West End Conference Room at City Hall in order to review information regarding the request from Charah, Inc., for a wastewater discharge permit to the Sanford Wastewater Treatment facility. The following people were present:

Mayor T. Chet Mann  
Council Member Byron Buckels  
Council Member Charles Taylor  
Council Member Rebecca Wyhof  
City Manager Hal Hegwer

Mayor Pro Tem James Williams  
Council Member Jimmy Haire  
Council Member Norman Charles Post, III  
City Attorney Susan Patterson  
City Clerk Bonnie Davis

Absent:

Council Member Sam Gaskins

Informational Meeting

Mayor Chet Mann called the meeting to order and welcomed the large number of guests and staff members from Hazen and Sawyer, an environmental engineering firm consulted by the City. He noted that the meeting was a public informational session designed for Council to obtain more information about leachate and what we need to know to consider treating it; is not a Public Hearing. He also requested that guests submit questions in writing and staff will respond.

Public Works Director Vic Czar explained that Charah has requested an industrial discharge permit to our wastewater treatment facility to discharge leachate from the coal ash deposits to be placed in Lee County and potentially from Chatham County. As part of the City's due diligence to obtain the best possible information to design a permit and avoid problems at the Wastewater Treatment Plant ("WWTP"), staff consulted Hazen and Sawyer and they in turn enlisted the help of Fiss Environmental Co. Those present tonight include Jim Cramer (a Vice-President of Hazen and Sawyer who has been with the company for 35 years), Mary Sadler (a Senior Associate with Hazen and Sawyer who has been in the field about 16 years) and Ned Fiss (of Fiss Environmental with 38 years' experience in the industry, primarily on the private side and mostly with industry). Mr. Czar noted this was an excellent team to evaluate information provided to us, how that may affect the plant and what we need to be aware of in issuing the permit. They went through a very detailed analysis, which was explained by Ms. Sadler.

Mr. Czar explained that the Public Works department is now ready to issue a discharge permit to Charah that will protect the plant and still allow room for other industries discharging at our plant to grow. This is the same criteria used to evaluate a request by any industry for a discharge permit. He explained that his department is confident that the City can treat the leachate with the permit Hazen and Sawyer has helped us write and the purpose of the meeting is to give citizens information to provide some level of comfort with issuance of the permit.

Mary Sadler, Senior Associate presented information in a report titled "Evaluation of Coal Ash Leachate- Big Buffalo WWTP, City of Sanford" (shown on attached Exhibit A). She

explained the industry request from Charah, summarized how wastewater is treated, federal regulations for the National Pretreatment Program and the evaluation of coal ash leachate. She explained that the EPA offers quite a bit of guidance on how to administer their Regulation 40 CFR Section 403, which applies to all industrial sources discharging into a wastewater treatment plant and gives legal authority to the City to control discharges to their wastewater treatment plant. This request by Charah and the evaluation of their proposed industrial discharge is a common occurrence and is the same process that all new industries must go through to obtain a permit.

She explained the analyses used in the evaluation, including the treatment plant's removal efficiency, process inhibition (preventing components coming in that would cause upset to the plant or preventing the biological system from doing its job), excess capacity and treatability studies. Standards for the two points of exit, sludge disposal (inhibition and thresholds for land application) and the receiving stream (NPDES limits, water quality standards that have to be met and toxicity that has to be dealt with), were also included in the analysis. They take the treatment plant evaluation, biosolids management evaluation and receiving stream evaluation to calculate a maximum allowable headworks load or "MAHL". This is the most stringent or limiting factor through treatment (biosolids or receiving stream) and there is a different MAHL for each pollutant coming into the WWTP. This means that if there is no violation, there is no harm to the WWTP. The goal is to maintain ready treatment to our clients and maintain the process at optimum efficiency without causing upset to the WWTP or causing the city to violate receiving stream or biosolids management standards. Once these limiting factors are established for each pollutant, the allowable discharge to the collection system can be determined. The MAHL then determines the amount discharged to the collection, less any domestic contribution (residential households and smaller commercial clients not requiring permits as "Special Industrial User", such as restaurants). Consideration is also given to existing industrial users and reservation for potential expansion by existing clients and for new industry.

Ms. Sadler noted that because the two coal ash storage sites are not yet operational, no actual leachate samples were available for analysis; therefore, in their industrial application, Charah provided data from similar leachate facilities across North Carolina. Once operational, Charah must submit discharge monitoring data monthly as part of their permit requirements. Data from five to six facilities spanning a ten year period was provided by Charah, including data for 21 different pollutants. This data was evaluated to understand the variability in that leachate quality and the presence, absence and frequency of various metals that would be coming to our WWTP. She explained that a leachate discharge system is different from a classic industrial discharge process since leachate is a natural system affected by variables (including rainfall and moisture content), while industrial discharge is fairly consistent.

Hazen and Sawyer ran some statistics on the data set and for each pollutant looked at the samples, including the number of "non-detects" (those not found by Charah or were below analytical detection). Of the 21 pollutants reviewed, 13 had more than 50 samples, indicating a good sample set: seven of the pollutants were not present in the leachate and ten of them indicated fairly consistent variability, without any wide swings in the concentrations. Ms. Sadler explained various headwork scenarios evaluated. Public Works Director Czar noted that since our WWTP has just been completed, this information is quite timely and will help evaluate

current and potential needs. They also looked at future water quality requirements in order to anticipate higher standards from the State.

Council Member Wyhof asked if any verifiable data from a third party was available. Ms. Sandler stated that the City of Asheville provided data taken independently and it was fairly consistent. There are two ways to do headwork efficiency analysis: by using EPA default analysis and by detailed testing at the plant, which was done by WWPT Superintendent Scott Christiansen. At the recommendation of Ned Fiss, samples were sent to a lab in Florida where high level analytical technical analysis was done to avoid any interference since we want to know what was coming into the plant. More metal is removed in the sludge with a higher removal efficiency, enabling the city to accept more wastewater.

Council Member Haire asked if actual samples of leachate from Buncombe County were sent to Florida. Ms. Sadler said that samples were taken at our WWTP and data received from Charah was taken from analyzed samples, including some by the City of Asheville. There was never any analysis on the leachate itself. Council Member Taylor asked how confident she was that Charah is sharing adequate information. She stated that that they provided substantial data and with the exception of a couple of items, it was fairly consistent compared to some EPA published data. She explained that the coal ash we will be receiving has been sitting for quite some: it is not new. When it is trucked to the sites, much of the metal will have already leached, and the concentration of these metals is expected to be lower than new coal ash. Asheville did some independent testing of Charah and the variability was similar. There will always be variability in metals data, particularly from a natural system like a leachate system, where you are dependent on rainwater and moisture. There will be water flowing through coal ash and the discharge will not be as consistent as that of a typical industrial user. They attempted to take the maximum and reallocate it. The permit will be issued based on a mass base, so Charah will attempt to equalize it before it is sent to our WWTP. They will be using a low level analytical technique and will know exactly what is being sent before they discharge it.

Mr. Czar noted that it is to Charah's benefit to supply us with the best data possible since they are aware of the permit requirements. We will be testing twice a week (19 metals in the permit, approximately eight of them with limits) to confirm the accuracy of data provided. We also have the ability to revise the requirements.

Council Member Taylor questioned whether testing for 21 pollutants was a relatively small subset. Ms. Sadler explained that these metals are those typically found in leachate. They included all the data to determine what coal ash looks like, its variability and what metals are found. Once this coal ash leachate water quality was characterized, it was compared to the city's industrial allocation using those headwork analysis scenarios previously discussed. The goal was to ensure that a minimum of 20 percent of the industrial allocation was reserved to accommodate expansion by existing industry and to also allow for new industry. When the wastewater characterization for Charah was established, a range from the 15th percentile to the maximum of the data set was used. It was very pollutant specific: each pollutant was analyzed to establish the allocation. In one case, published EPA data for one particular pollutant was used, simply to ensure that it is monitored and limited since it is important to sludge ceiling thresholds and land application systems. This pollutant has not been allocated to any other industry and is somewhat rare but since it is so important on the sludge side, it was accounted for in the analysis.

Ms. Sadler reminded everyone that the allocation available to industry is dependent upon the threshold established in the headwork analysis, which is the limiting factor for our plant. There will be a different limiting threshold for copper than for zinc or for selenium. In some cases, there will be a large allocation remaining which can be allocated to industry for a particular pollutant and in other cases there may be a very small allocation. It all goes into the mass balance.

She reviewed various scenarios and explained that an industrial use permit for Charah has been drafted with mass allocations for eight of the metals, with monitoring and reporting for the remaining metals and a few other pollutants. As Mr. Czar alluded to, very specific conditions have been written into this draft permit so that if the monitoring data collected by Charah is different than what was submitted in the application, the permit can be revised. It may be determined that some metals may not need to be monitored and reported, but they should have a limit associated with them or vice versa. She repeated that the site specific data really does not affect the Charah discharge, it is only for the City's information: to record and to accommodate new industry or expansion of existing industries. Some ethynol toxicity scans will be done with actual leachate but she was not overly concerned with effluent toxicity.

For future consideration, Ms. Sadler stated that coal ash leachate does have quite a bit of Bromide associated with it. Bromide is not a regulated pollutant, is not regulated under the Clean Water or Safe Drinking Water Acts and does not have a groundwater standard. It will go through the WWTP and there will be some removal but there is very little data on it because it is a non-regulated pollutant. It does, however, react with natural organic matter and can form brominated trimethane acids and bromanic helocenis acids, which should be monitored at the raw water intake since it may contribute to other standards which are manageable. She noted the importance of using proper techniques and analytical methods, as well as confirming there is no analytical interference from iron or other substances when reviewing metals from Charah. Appropriate sampling methods are critical because everyone, including Charah, wants to know exactly what is coming into the plant and exactly what is leaving the plant.

Council Member Taylor questioned the impact of the leachate on sludge leaving the WWTP. Mr. Czar explained that sludge is the result of wastewater treatment and if it was sold to the public, additional treatment would be required to take it to a different level; however, no additional treatment will be required for using it in the same way as it is currently.

Council Member Haire questioned whether leachate has been known to kill off good bacteria at WWTPs. Hazen and Sawyer staff explained that a mass balance was done on the dissolved solids and they will simply blend in with domestic background concentrate (typically around 300 parts per million in her experience). With her extensive experience with total dissolved solids in site specific studies and plant upset with characterizations of total dissolved solids, she saw nothing in the Charah leachate data that would indicate that the dissolved solids were huge. She noted one of the components of the pretreatment regulations is the City's legal authority to stop Charah at any time if there is some kind of upset to the plant.

Mr. Haire questioned whether the chemical balance could change as new stocks of coal ash arrive. Hazen and Sawyer staff confirmed this could occur but since the permit is written with a mass allocation of what can be accepted, Charah would be required to reduce flow in

order to maintain that mass balance if there is a higher concentration of a particular metal. A one million gallon equalization tank has been installed and leachate will be analyzed before it is sent and must be within that threshold limit that has been established. Mr. Haire also questioned whether lack of proper maintenance at coal ash plants could change the chemical balance of the ash we receive. Hazen and Sawyer Staff explained this is possible but again, limits have been established on the amounts that are safe for the City's WWTP. Regardless of the chemical balance, if there is a higher concentration of a pollutant, they must decrease flow to maintain the same mass because the permit was written based on mass. How Charah varies that is up to them, as long as they are not sending anything not accounted for in the data they submitted.

Mr. Haire stressed the importance of the nearby Haw and Deep Rivers, which join to form the Cape Fear. Mr. Taylor noted that about 25 percent of North Carolinians receive their water supply from the Cape Fear River. Hazen and Sawyer staff confirmed that the WWTP meets all water quality standards and criteria, which the headwork analysis is designed to do. Water quality criteria set by the State (with EPA guidance) is designed to protect downstream water quality.

Mr. Taylor stated that a pharmaceutical company located in Sanford (which pays \$1.483 million annually in county taxes) consumes a huge amount of water. He questioned whether they would be impaired by changes in discharge processed at our WWTP. Mr. Czar explained that the water treatment plant takes water from the Cape Fear River, which is downstream, treats it and discharges compliant with all required drinking water standards: that is our role and responsibility. The discharge to the river meets all required water quality standards. The business referred to is not unique; they take the water and treat it to a higher level for their own processes. Adding the Charah permit will still allow that loop to take place.

Council Member Wyhof asked what effect an increased level of Bromide would have and why we should be concerned. Ned Fiss explained that Bromide is not toxic and not really a concern, for purposes of the Deep River stream and downstream. When drinking water is disinfected, the chlorine used changes some bromide to bromine, which is much like chlorine since it is a disinfectant. Both chlorine and bromine react with organic compounds and form compounds in drinking water. This is not a hazard but it is monitored. Ms. Wyhof asked whether there was a process for removal or balancing. Mr. Fiss stated that there are processes to remove it, but if it isn't detrimental to the environment, WWTP or drinking water, there is no good reason to remove it. Ms. Wyhof asked what the ceiling was for this to become a problem. Mr. Czar explained that there are standards for compounds found in drinking water and testing for compliance is done throughout the process. It is not known whether the potential discharge of bromine from coal ash leachate travelling through the WWTP will increase levels of other compounds, so it may or may not be a problem; however, since it is a potential concern, it will be monitored at the WWTP since it is included in the permit. The leachate is tested and a correlation can be made. Ms. Wyhof requested confirmation that it can be remedied if it does become a problem. Mr. Czar stated that it can be remedied at the leachate, which is better than allowing it into the stream and having it treated at the WWTP. He reiterated that the permit could be revised if their discharge indicates anything not indicated by their data.

Ms. Wyhof requested confirmation that all of the metals discussed, with the exception of arsenic and selenium, are already being discharged by industries in our system and that we have

the ability to treat those as well. Hazen and Sawyer staff confirmed this was true. She also questioned whether there had been any effect downstream outside any other WWTP, including Asheville. Ms. Sadler stated that she was not aware of any downstream effect from the few facilities treating it, including Asheville. WWTPs treating leachate meet all of their water quality standards because they had allocated metal appropriately to the industry. Headwater analysis is a mass balance between treatment plant and receiving stream and includes water quality standards. The goal is to protect water quality, one of the primary goals of headwork analysis. The state sets water quality standards for the protection of water quality and that is one limiting parameter in this mass balance. The most conservative of the limiting parameters through the entire mass balance cocktail of headwork analysis is the limiting parameter for the plan and in a few cases, water quality is the limiting parameter. Those water quality standards are designed to protect the receiving stream from the discharge. In essence, when those water quality standards set by the State and EPA are met, the receiving stream and downstream discharge is protected.

Mayor Mann asked Plant Superintendent Scott Christensen whether the presence of selenium will affect microorganisms used to help treat the water (and noted this is the question he receives most often from constituents.) Mr. Fiss explained that selenium is relatively non-toxic to bacteria in the WWTP, although everything is toxic at some level. It is removed through the treatment process to a high extent. Evaluation was done for inhibition (killing of bacteria) but the most stringent limiting factor is the amount escaping from the WWTP untreated, to ensure that no more than what can be removed adequately to protect the stream is allowed into the plant. Protective standards have been set in the draft permit and as long as those standards are not exceeded, Mr. Fiss was fairly confident that the environment, City, and drinking water will be protected. Enforcement of the permit is highly regulated. Charah has many requirements for monitoring and sample analysis. The City will also do analyses and if any unforeseen criteria become a problem, the permit can be modified to more restrictive requirements if needed.

Council Member Taylor questioned why "TI", which had been on Charah's presentations in the past was not included in the current metal analysis. Ms. Sadler stated that it is not a regulated pollutant in North Carolina but she would check the EPA criteria list to determine whether they have national criteria for it. It was not included in the City's headwork analysis at this time based on the receiving stream class.

He also questioned the potential effect of sludge reentering the stream and requested information on how it is distributed. Hazen and Sawyer staff explained that regulations limit the amounts of chemicals entering the land and affecting runoff. Mr. Taylor noted that some areas, including the Rocky River in Chatham County, are susceptible to sludge and some sludge from our WWTP goes to Chatham County. Public Director Vic Czar explained that the City contracts with and pays Synagro to find sites where sludge is applied. There are standards such as buffering, prohibiting runoff to the stream and limitations on amounts of pollutants over the lifetime of the site; detailed records are maintained on this information. If there are problems with water runoff to a receiving stream from a site where sludge is applied, that would be a permit violation by Synagro or other service provider.

Council Member Haire asked Attorney Patterson whether the City would be liable if our WWTP were to discharge water into the Cape Fear River which negatively affected quality downstream. Ms. Patterson explained that we have always had an incentive to clean our waste

very well because it goes back into the stream from which we drink. She also stated that whether downstream communities can hold an upstream community responsible is an open ended question but if we meet our permit requirements, we will be in compliance with the law, which is the same requirement for everything coming down river. Mr. Czar explained that pretreatment is a component at the WWTP and Charah is requesting to be part of the pretreatment program. We have another permit that dictates what leaves the WWTP. He also noted that there is room in the permit for some variation but unless it is exceeded by a tremendous amount, there should not be a problem with discharge.

Council Member Haire asked how the leachate will be transferred. Mr. Czar stated that it may be hauled or there is the possibility of constructing a lift station and discharging it to a pipe, located roughly at Colon Road and US Highway #1, using the lift station built by the County.

Council Member Wyhof asked if treating the Charah leachate would affect overall capacity at the WWTP for other industries coming in and whether it will be a significant amount of additional intake. Mr. Czar stated that 300,000 gallons a day is substantial but that is an instantaneous maximum. If there is a period of drought, it would be much lower; if there is substantial rainfall, they would likely discharge that amount for some time since there will be a considerable amount stored. Capacity is 12 million gallons daily and we are currently at about 4 million gallons daily. He also noted this is only a "snapshot" and it is estimated to be five to seven years before the site is filled. Once closed, we would continue to receive leachate but it will diminish. Capacity has recently increased and we are currently at a fairly low flow.

City Attorney Susan Patterson requested confirmation that should the permit be exceeded (based on what we receive from an industry), and the City fined, that fine could be recouped from the industry. Hazen and Sawyer staff confirmed that the fine would have to be paid by the City and then the City could fine the industry. Ms. Patterson also requested confirmation that this was included in our pretreatment ordinance, which Hazen and Sawyer staff confirmed was correct. Mr. Czar explained that the City would be aware of any permit violation before regulators and there is a process detailed in the ordinance to enforce fines and potentially refusing to receive discharge from a violating industry. He noted that scenarios not unlike this request are evaluated daily by staff at Hazen and Sawyer and at Fiss Environmental and that they analyze and evaluate data to find the proper balance. He also noted that our WWTP staff is not new to pretreatment programs.

City Manager Hegwer stated that this is not a unique situation since ten industries located here already discharge to the WWPT, including some heavy industries and textiles, which all have a different variety of contaminants associated with them. What makes this situation unusual and why this informational session is being held is due to the information circulating about coal ash and its leachate. Ordinarily, we would not have these kinds of conversations because we would rely on technical expertise from our staff and other outside consultants. When dealing with heavy industry, there are pollutants associated with each of them and each is different.

Council Member Taylor asked about challenges with coal ash and how Hazen and Sawyer acquired expertise in dealing with it. Ms. Sadler explained that most WWTPs deal with metals in domestic waste as a background concentration. She has dealt with very few "POTWs" (publicly owned treatment works) without industrial contributions. In addition to organic waste,

there are several metals in wastewater; therefore, most WWTPs are acclimated to metals concentration. Staff of Hazen and Sawyer has worked with many municipal clients across the state and Ned Fiss has quite a bit of experience with private industry. Ms. Sadler has quite a bit of experience helping utilities and municipalities with industrial treatment. In the last three years, she has assisted three municipalities with different types of industries: a fiberboard manufacturer in South Carolina, another in Virginia, and a pharmaceutical company with very clean wastewater categorical waste in North Carolina. They have a long and recent history of assisting clients complete pretreatment programs with sensitive industrial waste streams. They have also done many site specific studies, although this was not necessary in our situation. Hazen and Sawyer has operated in the state since the mid-1950s, assisting a variety of municipal clients. Mr. Taylor questioned how long they have worked with City staff on this particular issue of coal ash. Mr. Czar explained that staff was approached about the issue sometime around early March and they sought assistance soon afterward. Mr. Taylor stated that the City received a Public Records request in April and questioned whether those meetings were included. Mr. Czar stated that there was a specific date shown on the Public Records Request and while he wasn't sure whether staff had entered into conversation at that time, whatever was pertinent to the request was provided.

Although Mayor Mann had previously requested that questions be submitted in writing, he recognized members of the audience and allowed them to ask questions. Those questions and answers are shown on the attached Exhibit B.

**ALL EXHIBITS CONTAINED HEREIN ARE HEREBY INCORPORATED  
BY REFERENCE AND MADE A PART OF THESE MINUTES.**

Adjournment

Council Member Wyhof made the motion to adjourn the meeting. Seconded by Council Member Post, the motion carried unanimously.

Respectfully Submitted,

  
T. Chet Mann, Mayor

ATTEST:

  
Bonnie Davis, City Clerk