

RWSA BOARD OF DIRECTORS
Minutes of Regular Meeting
January 28, 2008

A regular meeting of the Rivanna Water & Sewer Authority (RWSA) Board of Directors was held on Monday, January 28, 2008 at 2:00 p.m., in the Conference Room, Administration Building, 695 Moores Creek Lane, Charlottesville, Virginia.

Board Members Present: Mr. Gary Fern, Mr. Michael Gaffney – Presiding, Ms. Judith Mueller, Mr. Gary O’Connell, and Mr. Robert Tucker.

Authority Staff Present: Mr. David Atkins, Mr. Bruce Edmonds, Mr. Tom Frederick, Mr. Chuck Kent, Ms. Mary Knowles, Mr. Cary Lang, Ms. Michelle Simpson, Mr. Justin Weiler, Dr. Robert Wichser, and Mr. Lonnie Wood.

Also Present: Mr. Ronald Taylor – Vice President of Hazen and Sawyer, Mr. Kurt Krueger – RWSA Attorney, members of the public, and media representatives.

1.0 Call To Order

The regular meeting of the RWSA Board of Directors was called to order by Mr. Michael Gaffney on Monday, January 28, 2008 at 2:00 p.m., and he noted that a quorum was present.

2.0 Minutes of Previous Board Meeting

Mr. Fern moved that the Board of Directors vote to approve the minutes of the regular meeting of the Board held on December 17, 2007, seconded by Mr. Tucker. The motion was approved by a 5 – 0 vote.

3.0 Executive Director’s Report

Mr. Frederick stated that the first part of his report dealt with drought issues and the Authority’s decision on January 2, 2008 to call for the Drought Warning to be lifted back to a Drought Watch. Based on risk assessment modeling, the Authority was able to confidently predict that all of its reservoirs would be full by the end of April 2008. Although mandatory water restrictions are no longer in effect, the community is still under a voluntary call for water conservation since below normal rainfall and stream flows for this time of year are still being observed. RWSA did not see any immediate danger to the community’s water supply since stream flows tend to be higher during the winter due to the colder temperatures, lower evaporation rates, and the dormant condition of the trees. Without increasing rainfall amounts, reservoir levels could again begin falling about the May to June time frame. The Authority would continue to monitor this situation very closely.

Mr. Frederick next commented that today’s agenda included a report that will be presented by Mr. Ron Taylor regarding Hazen and Sawyer’s review of odor control for the Moores Creek

WWTP facilities. The Authority has tried to provide flexible odor control options, recognizing the costs associated with the complete implementation of all possible phases of this project are very high.

Mr. Frederick also reported that an introduction of the proposed update of RWSA's Five-Year Capital Improvement Plan (CIP) for 2008-13 is also included on today's agenda. Board action is not required at this time but will be requested at the February meeting.

4.0 Items from the Public

Ms. Carl Ackermann, who resides at 1611 East Market Street, Charlottesville, Virginia, stated that he had not read the full report on the odor issue but he did read the analysis attached to the report. He first commented that he was very glad to see the full acknowledgement of the odor problem. The Authority's previous approach of asking the neighbors to report odors so that RWSA staff could evaluate and collect data "frankly was infuriating because it really puts the burden on us." His second point concerned characterizing the issue as a Woolen Mills problem. He wanted to publicly state that although the Woolen Mills neighbors might be more vocal, they were speaking for their neighbors in Belmont as well. Odor is not a year-round problem, and today was the first time while at the plant that he was not able to smell an odor. The odor was most likely to be detected during the spring and the fall. April and October were particularly bad due to atmospheric conditions, as explained to him by an RWSA official, as well as situations of low flow. The combination of the latest drought restrictions and atmospheric conditions made this previous fall "almost unbearable most evenings." Mr. Ackermann then asked the Authority to do "whatever it takes to solve the problem," and if the solution was expensive, then "please be bold and creative." If the odor problem was not corrected, he felt it had the potential to become a "very divisive issue between the City and the County." Most of the sewage growth will be the result of growth in the County. If builders, new residents, and County officials expect to send all this new sewage to the Moores Creek plant, the neighbors who live beside the plant will only accept it "odor free." He added that "the cost of the retrofit decided upon should be calculated against the cost of building a new sewage facility somewhere else to accommodate the growth plans of Albemarle County."

Mr. Ackermann next commented on the three plans being presented today. Under Option 1, odors would be detected off-site one day per year, Option 2 would achieve detectable odor three days per year, and Option 3 is an 18-day detectable odor level. He felt it was very misleading to consider this problem in terms of days due to the atmospheric conditions. Hours would be a more accurate measure since the odor problem is typically experienced in two-hour increments and often in the evenings. "Thus, Option 1 is a 24-hour detectable odor, Option 2 is 72 hours of detectable odor, and Option 3 would be 432 hours of detectable odor." He proposed eliminating Option 3 without consideration because it would likely simply lessen the intensity of the odor without affecting the duration of the odor event. In terms of the daily affect of the 2-hour increments, Option 1 would impact 6 days in the spring and 6 days in the fall. Option 2 appears to affect 18 days in the spring and 18 days in the fall. He felt that Option 1 was "the right call." Concerning Hazen and Sawyer's comment that only a small percentage of wastewater treatment facilities have constructed odor control facilities to meet the options in the report, he suggested that if the consultants and RWSA staff "wished to raise this point and provide answers that are admittedly ballpark, then they should be asked to compare not all of the wastewater treatment

plants but only those like Moores Creek which are built within a stone throw of residential neighborhoods like ours.”

Mr. Ackermann then asked that RWSA consider the impact of spending too little and not solving the problem. RWSA staff work here during the day but go to their homes at night. For the Woolen Mill neighbors, “this is home ...we breathe the air fouled by the biological waste of the greater community.” The Woolen Mills neighbors are united in their expectation that this problem will be solved and feel that they have been extremely patient in following the RWSA reporting rules while awaiting this report. He assured the Board that the neighbors will become very impatient if the best course of action to solve this odor problem was not chosen, regardless of the cost. The numbers might appear big at first, but considering Albemarle County’s growth, “proper retrofitting seems fairly easily achievable, so long as those promoting and profiting from the growth are willing to build the cost of sewage treatment – that no longer fouls the air of our City’s neighborhoods – into the price of the homes and the businesses.” Considering the 4,800 homes approved last year for Biscuit Run, Hollymead, and Rivanna Village, the total 20-year life cost of Option 1 could be fully paid with a 2.3% surcharge on those 4,800 homes alone, assuming an average sales price of \$400,000. Mr. Ackerman added that the project would not be financed solely on those 4,800 homes; the cost would be spread among new businesses, shopping centers, and other new residences “not yet on the drawing board” that would require sewer services. He felt the financing seemed manageable if there was a will to do it. The odor from the Moores Creek plant is stressful and likely dangerous to their health and well being. The Woolen Mills neighbors needed and expected the problem to be solved soon.

Mr. Gaffney thanked Mr. Ackermann for his comments.

5.0 Consent Agenda

Mr. Gaffney asked if there were any items that the Board members would like to pull for questions or further discussion from the Consent Agenda.

- 5a) Staff Report on Finance**
- 5b) Staff Report on Operations**
- 5c) Staff Report on On-going Projects**
- 5d) Renewal of Biosolids Transport and Compost Agreement with Environmental Solutions**

Ms. Mueller moved that the Board of Directors vote to approve Items 5a), b), c), and d) of the Consent Agenda, seconded by Mr. Tucker. The motion was approved by a 5 – 0 vote.

6.0 Other Business

In regards to **Item 6a), Introduction of RWSA Staff**, Mr. Frederick recognized Dr. Wichser, who stated that it was a real pleasure to introduce these two employees.

Dr. Wichser first introduced and welcomed Mr. David Adkins, who is the new Environmental Health and Safety Manager for both RWSA and RSWA. Mr. Atkins worked previously for the Virginia Department of Environmental Quality’s Richmond Office, where he was the agency’s

Health and Safety Officer responsible for statewide health and safety training for over 840 employees.

Dr. Wichser next introduced Mr. Cary Lang, who has recently been promoted to fill the Wastewater Manger vacancy left by the retirement of Mr. Norman Wescoat. Mr. Lang has been an employee of the Authority for 32 years, and for the past 10 years he has served as the Assistant Wastewater Manager. Mr. Lang is a wastewater process control expert, and Dr. Wichser looked forward to working with Mr. Lang and utilizing his expertise as the Authority moves forward with the Moores Creek WWTP nutrient upgrade project. Mr. Gaffney congratulated both employees on behalf of the Board.

In regards to **Item 6b, Resolution Urging General Assembly and Governor to Maintain Adequate Support for Wastewater Treatment Nutrient Removal through WQIF,**

Mr. Frederick stated that at the December meeting he expressed concern that the legislators during the upcoming General Assembly session would attempt to balance the significant budget deficit forecast by taking monies from the Water Quality Improvement Fund (WQIF). The state funding currently available for nutrient removal upgrades will not meet the needs of all facilities that have applied for and are eligible for funding, and if the legislators take this action, RWSA's WQIF grant funding could be placed in jeopardy. As part of the December discussion, staff was to develop a resolution for the Board's consideration that would permit the Board to formally express its support for continued state funding for the WQIF. If the attached resolution is adopted by the Board, RWSA would propose that a copy of this resolution be sent to the Office of the Governor and all local delegates and senators whose districts cover any portion of this service area. Mr. Frederick then strongly recommended that the Board of Directors adopt the attached resolution.

Mr. Tucker moved that the Board of Directors vote to adopt the following resolution and that a copy of the adopted resolution be sent to the Office of the Governor and to all delegates and senators whose districts cover any portion of Albemarle County or the City of Charlottesville, seconded by Mr. Fern:

RIVANNA WATER & SEWER AUTHORITY

BOARD OF DIRECTORS

RESOLUTION URGING THE GENERAL ASSEMBLY AND THE GOVERNOR TO MAINTAIN ADEQUATE SUPPORT FOR WASTEWATER TREATMENT NUTRIENT REMOVAL THROUGH POINT SOURCE WATER QUALITY IMPROVEMENT FUND

WHEREAS, federal and state agencies have been aware of the declining health of the Chesapeake Bay since the 1970s; and

WHEREAS, numerous studies regarding excessive nitrogen and phosphorus nutrients as a cause of Bay degradation by federal and state agencies have revealed that the sources of these nutrients are very diverse and include responsibilities among all citizens, for numerous non-point sources, atmospheric deposition, and discharges from industrial and municipal wastewater treatment facilities; and

WHEREAS, current state policy prioritizes the reduction of nutrients from wastewater treatment facilities, which are required to meet the point source nutrient load cap by a deadline currently set at December 31, 2010, in part because wastewater treatment facility performance is easier to control and measure and because today's wastewater industry has available technology to achieve significant and reliable results; and

WHEREAS, numerous organizations, including the Chesapeake Bay Commission (made up of delegations from Virginia, Pennsylvania and Maryland) have long recognized that states should address ways to broadly distribute the funding burden of expensive improvements to wastewater treatment facilities, in part because every citizen contributes nutrients from one or more sources to the Bay; and

WHEREAS, Virginia has a long-standing, successful program under which the state shares the cost of nutrient removal upgrades with local wastewater agencies through grants from the Water Quality Improvement Fund (WQIF); and

WHEREAS, the General Assembly, Governor Kaine and former Governor Warner are to be commended for state appropriations since 2005 that have totaled approximately \$300 million plus approval of state authorization to sell bonds up to \$250 million, which combined provide for approximately \$550 million in point source WQIF funding to further advance wastewater treatment; and

WHEREAS, the executed WQIF grant agreement and pending WQIF grant applications to reduce nutrients at these facilities require a total of approximately \$750 million in state funding under the cost-sharing program, or a remaining need of approximately \$200 million, and there are expected to be further grant applications for additional eligible projects received later this year; and

WHEREAS, by state regulation, these wastewater treatment improvements have an unprecedentedly aggressive deadline of December 31, 2010; and

WHEREAS, the Commonwealth of Virginia faces a projected revenue shortfall ("gap") in the next biennium, and according to reports of the Virginia Municipal League, legislative committee staff have identified stripping out general funding for water quality projects among options for closing the Commonwealth's projected revenue "gap"; and

WHEREAS, sustaining funding of the point source portion of the WQIF, or providing an alternative sustainable state funding source for wastewater plant upgrades, is important for avoiding inequities and disproportionality in the funding of Chesapeake Bay clean-up programs by urban citizens especially considering census statistics showing statewide that urban citizens have an average household income well below the citizens of rural areas; and

WHEREAS, the County of Albemarle and the City of Charlottesville have taken significant responsible measures in an effort to make its urban areas small in footprint, dense, livable, sustainable, and affordable in an attempt to preserve the natural resources of the greater rural areas, and the elected officials of these local governments are greatly concerned that

inequitable pressures on urban affordability will encourage more citizens to live in rural areas, adverse to the goals of sustainable living, natural resource protection, and efforts to limit the consumption of fuel and other resources that challenge environmental protection. Now therefore be it

RESOLVED, that the Board of Directors of the Rivanna Water & Sewer Authority advocate the continued support and funding of the Water Quality Improvement Fund by the General Assembly and the Governor for improvements to wastewater treatment facilities for nutrient reduction to the Chesapeake Bay and its tributaries, with the minimum support sufficient to sustain funding of all eligible facilities under the WQIF program; and be it further

RESOLVED, that in the event such support cannot be achieved from the Commonwealth's projected revenues, the Virginia legislature commit to finding new sources of revenue to sustain the Commonwealth's commitment; and be it further

RESOLVED, that priority funding for point source WQIF agreements be included in any new major nutrient control funding measures under consideration by the General Assembly in the 2008 session or thereafter, to the extent necessary to meet the December 31, 2010 point source deadline and subsequently maintain the point source nutrient load cap.

The Board of Directors approved the motion by a 5 – 0 vote.

In regards to **Item 6c), Odor Control Evaluation Report for Moores Creek WWTP**, Mr. Frederick recognized Mr. Ron Taylor of Hazen and Sawyer, who would provide a summary of this report through a PowerPoint® presentation. Copies of the presentation were then distributed to the members of the Board and the public in attendance at the meeting.

Mr. Taylor stated that the Odor Control Evaluation that Hazen and Sawyer conducted for RWSA regarding the Moores Creek WWTP was initiated in June 2007. Similar to the compost facility odor control studies performed by Hazen and Sawyer for RWSA, on-site sampling of critical areas around the plant were conducted and an air dispersion model was developed to help determine how odors might propagate off-site. This data was also used to prioritize the odor control improvements at the plant. The draft report was submitted in November 2007, staff comments were received in December 2007, and the final report was just issued.

Mr. Taylor then discussed the slide that identified the three levels of odor control. During initial discussions the Authority's goal was to completely eliminate odors beyond the property boundary, which Hazen and Sawyer communicated was not economically feasible. Odor control removal was then categorized in terms of three options. Option 1 has a 99.7% removal rate, which would equate to the detection of odor off-site to approximately 1 day per year; Option 2 has a 99% removal rate equating to the detection of odor approximately 3 days per year; and Option 3 has a 95% removal rate equating to the detection of odor approximately 18 days per year. He noted that only a small percentage of municipal WWTPs in the United States provide any type of active odor control. The vast majority of the plants that provide active odor control in urban settings achieve no higher than a 95% removal rate. Mr. Taylor then pointed out that

with all three active odor control options the intensity of the odors that would propagate off-site would be much diminished from the levels that are currently being experienced.

Mr. Taylor next stated that during the study, Hazen and Sawyer reviewed major odor control technologies to determine which method would best apply for the Moores Creek WWTP, which included packed tower wet scrubbers, carbon absorption units, biofiltration, and thermal oxidizers. Hazen and Sawyer determined that packed tower wet scrubbers would be the most appropriate technology due to its reliability and lowest operating and construction costs.

Mr. Taylor then referred to the slide that illustrated odor control improvements to the Moores Creek WWTP for Option 1 with a 99.7% removal rate. He pointed out the location of the Influent Pump Station and stated that Hazen and Sawyer is recommending a complete enclosure for that facility. It is also being recommended that a new dedicated Septage Receiving Station be installed, and the flow from that facility be directed to the anaerobic digester facilities instead of the current process of being pumped through the plant. Also, the flow equalization basins would be replaced with a covered equalization tank that would be scrubbed. The primary clarifiers and all the new aeration tanks would also be covered and scrubbed. The existing holding ponds used for wet weather flow equalization would be replaced with concrete storage tanks that would be covered and scrubbed. On the north side of the river, the in-plant clarifiers and conditioning tank would be covered and scrubbed as well as the solids handling de-watering building. This drawing has been color-coded to show the breakdown of the odor control improvements into three systems.

Mr. Taylor then referred to the drawing that illustrates the odor control improvements under Option 2, which is very similar to Option 1 except the holding ponds would be modified instead of replaced under this option. The holding ponds are normally empty whenever there was no wet weather being experienced. Best management practices would be used to wash down these holding ponds after a wet weather event. The only areas of the aeration tanks that would be covered are those where odors would most likely be generated.

Mr. Taylor next discussed the slide that illustrated Option 3 and noted the differences from Options 1 and 2. The flow equalization basins would be provided with bypass pipes so their use would not be required except during wet weather events. Those basins would also be provided with washdown facilities so they could be cleaned when empty. The only area of the primary clarifiers and the gravity thickeners that would be covered and scrubbed would be the effluent launder area.

Mr. Taylor then referred to the slide that included a cost comparison table for the three options. He noted the column that showed the significant diminishing of returns when attempting to attain higher percents of odor removal. The total capital costs for Option 3 (95% removal) are about \$11 million with annual operation and maintenance (O&M) costs of about \$257,000. For Option 2 (99% removal), capital costs increase to about \$19 million, and for Option 1 (99.7% removal) capital costs rise to about \$32 million. There was also a similar increase in O&M costs for Options 1 and 2.

Mr. Taylor then stated that Hazen and Sawyer is recommending a phased implementation approach, which would allow RWSA to review the performance of improvements prior to implementing additional phases. He referred to the slide that prioritized Phase 1 improvements so that the Authority could get the most odor reduction per dollar spent in the early phases. The implementation of modified best management practices concerning the holding ponds and equalization basins is being recommended during this phased approach. He noted that RWSA plant staff currently implements best management practices with the existing facilities, but the first bulleted item would require capital improvements to achieve an improved practice. Also recommended is a separate septage receiving station. Hazen and Sawyer learned from the on-site sampling that each of the septage receiving processes has an odor-producing effect as the septage moves through the plant. Separating the septage from the liquid treatment stream and directing the material into the solids treatment stream is felt to be very important in terms of odor reduction. Hazen and Sawyer also felt that enclosing the open areas of the influent pump station is a very important component as it was a major source of odor on the site. The conditioning tank and in-plant clarifiers that are used for processing biological solids generated in the plant would be covered and scrubbed. Hazen and Sawyer is also recommending that a Plant Drain Pump Station be constructed on the south side of the plant, which would receive the flow that currently goes to the holding ponds from a number of areas within the treatment plant. This operation is located on a four-acre surface area, and under current operations, the holding tanks need to remain in operation at all times to receive that flow. Modifications to the process would reduce the amount of time that the holding tanks actively generate odors. An odor control facility would be constructed on the north side of the river. As discussed previously, Hazen and Sawyer recommends that RWSA review the performance of these improvements before implementing additional phases.

Mr. Taylor next referred to the slide that illustrated the information he just presented concerning the phased implementation plan. All the Phase 1 improvements would be implemented on the north side of Moores Creek. Best management practices in terms of the flow equalization basins as well as the holding ponds would be carried out on the south side of Moores Creek. Items shown in red would be undertaken during Phase 2 and involve the screens facility and the existing grit removal facility. Although there were odors generated in these areas, Hazen and Sawyer found during their study through air dispersion modeling that those operations were not as likely to propagate off-site as facilities located on the north side of the creek. Improvements undertaken during subsequent phases 3, 4, and 5 are also color coded on the drawing.

Mr. Taylor then reviewed the slide that listed the capital costs for each of the phased approaches. The improvements recommended during Phase 1 will cost just under \$6 million and will have the most significant impact in reducing odors off-site. The total capital cost for all 5 phases is estimated at \$33.7 million. In response to RWSA staff 's question as to why this figure is higher than the capital cost for Option 1, Mr. Taylor explained that best management practices related to the holding ponds and equalization basins would be implemented during the first phased approach. If RWSA chose to implement Option 1 initially, the holding ponds and equalization basins would be replaced.

Mr. Taylor next stated that this concluded his presentation, and he would entertain any questions that the Board had on the information he just presented.

Mr. Tucker then asked if Hazen and Sawyer had developed any figures for implementing Option 2 in a phased approach. Mr. Taylor stated that the facilities that would be impacted included the grit removal facility, which would be completely replaced during the 20 mgd expansion project. The amount invested now to install odor scrubbing equipment for the grit removal facility would not be recovered when the facility is replaced during the expansion project.

Mr. Fern inquired if he heard correctly that the odors generated from the grit removal facility are not likely to go off-site. Mr. Taylor replied that the odors generated from that facility are less likely to go off-site. He further stated that it was important to note that the septage received passes through the plant as a slug and generates odor at each unit process as it moves through the plant. The odors generated by the grit removal facility today would be greatly diminished if septage receiving is removed from the liquid treatment stream at the plant.

Mr. O'Connell next commented that the composting operation at the Moores Creek plant was initially identified as the origin of the odor detected off-site. Since the compost issue has been resolved and the focus of odors is now directed at the plant itself, he inquired how the Authority could attain a baseline for odor reduction. He further questioned if there was a way to measure the success of a phased odor reduction approach other than whether or not the odor was being smelled in the neighborhoods. Mr. Taylor responded that as RWSA continues to improve odor control at the plant, the olfactory senses become more sensitive to the remaining odors. It would be difficult to achieve the goal of no odor detection beyond the property line, which was the reason for communicating this information in terms of different percent removals. Implementing Option 1 would address the odor problem as well as technology will allow at this time, but in terms of the benefits gained, this option is not the most cost efficient approach.

Mr. O'Connell then questioned if there was a scientific method for determining the percentage of odor reduction after the phased approach is implemented. Mr. Taylor replied in the affirmative and then went on to explain the process. Hazen and Sawyer will collect samples in air bags, and the samples are sent off to a laboratory for chemical analysis to understand the compounds contained in the samples. The samples are also analyzed by a panel who smell the material and make a "judgment call" according to their noses as to what concentration constitutes a detection threshold. Hazen and Sawyer incorporates the chemical data as well as the olfactory sensory analysis into an air dispersion model, which takes into account the surface area of the tanks as well as the mass transport of air out of the tanks. Some of the tanks at the treatment plant are actually pumping air through the wastewater, so it would have a higher mass transfer rate than other tanks. A calculation is then made to determine the concentration of odor at the property border. Based on that information, Hazen and Sawyer would recommend improvements that reduce the intensity at the property boundary to levels that could not be detected by noses 95% of the time. There would always be the 5% with especially sensitive noses that would detect the odor.

Mr. O'Connell then inquired if he understood correctly that the first phase would reduce the most significant odors by enclosing the facilities in the open areas situated closest to the neighbors. Mr. Taylor stated that the recommended improvements would take into account the intensity of the odors generated at those facilities, the mass transport of air from those facilities, and the proximity of those facilities to the property boundary. Mr. Taylor then confirmed

Mr. O'Connell's statement that the first phase would address those areas most likely to propagate odors off-site.

Mr. Fern next asked how the water that drains into the holding ponds gets to the head of the plant now. Mr. Taylor stated that there was an existing pump station in that area to provide for pumping the flow from the holding ponds back to the plant. The pump station is located on the I-64 side of the holding ponds, and the drain lines need to be intercepted further up the hill in order to keep the flow from going into the holding ponds. Mr. Fern then inquired if that was the sole purpose for proposing the construction of a Plant Drain Pump Station. Mr. Taylor replied that his statement was correct and added that currently raw influent flow goes to the holding ponds. As part of the piping modifications, Hazen and Sawyer would propose that primary effluent be directed to the holding ponds, which has fewer solids and would be less likely to generate odors. From Mr. Taylor's experience, where plants have equalized primary effluent rather than raw influent, the odors are greatly diminished just by that one change. Mr. Fern further asked if this modification was implemented just for wet weather events. Mr. Taylor stated that he was correct, but as currently configured, the holding ponds remain in service all the time and flow remains in the ponds all the time because of the drains throughout plant that direct flow to that area. Mr. Fern next questioned how often the holding ponds were utilized. Dr. Wichser responded that if the ground is already saturated and there is a significant rain event, there is a good likelihood that the ponds would be used, which might not be the case if the ground is not saturated. Mr. Taylor added that this plant at 15 mgd currently can only take a peak flow of about 18 mgd. As part of the enhanced nutrient removal (ENR) project, the Moores Creek plant is being modified to increase the peak capacity through the plant at 37.5 mgd. Once the ENR project is completed, the number of events requiring the use of the holding ponds will also be greatly diminished.

Mr. O'Connell then inquired if the improvements being recommended today would move forward with the ENR project. Mr. Taylor stated that Hazen and Sawyer is recommending that this would be the best approach because there would already be an ongoing major construction project and it would be more cost effective to incorporate the two projects.

Mr. Tucker next questioned if the O&M costs for the phased approach would basically be the same as Option 1. Mr. Taylor stated that if all five phases were completed, than that statement would be correct.

Mr. Gaffney then inquired if there would be less redundancy if the improvements were implemented in a phased approach. Mr. Taylor commented that the only redundancy or possibly the money not best spent related to the construction of washdown facilities for the holding ponds and the flow equalization basins. If those improvements were not sufficient, then in a later phase those facilities would be replaced with coated concrete tanks. Mr. O'Connell next asked if those coated concrete tanks were the most expensive component of the phased approach. Mr. Taylor stated that he was correct and added that since this was a wet weather issue, this was probably the least frequent time when there would be problems with odors propagating off-site. There might not be the need to implement the last phase due to the best management practices that Hazen and Sawyer was recommending.

Mr. O'Connell then asked about the amount of odor that was coming from the septage receiving station. Mr. Taylor replied that according to their model as well as engineering judgment that area is the most significant odor control priority on the site.

Ms. Mueller next inquired if RWSA staff has looked at the impact odor control for the septage receiving station would have on septage rates in terms of the \$1.7 million capital cost for that improvement. Mr. Frederick stated that if the entire recommended amount related to septage receiving is funded solely through the septage rate, it would almost double the septage receiving rate. Mr. O'Connell then asked if the septage haulers had other options other than at the Moores Creek plant. Mr. Frederick commented that he was not aware of any other alternative, and he felt there were other citizens in this community having difficulty identifying other options because of the concern expressed at community meetings when the issue of RWSA no longer accepting septage is discussed. Mr. O'Connell next stated that it was the urban water and wastewater rate payer and not the group of people that utilize the septage receiving station that would be contributing toward the capital improvements at the plant. Mr. Wood then commented that RWSA has been increasing the septage rates along with the rest of the rates. Mr. Frederick also commented that RWSA staff has discussed with Albemarle County staff the possibility of the County funding the septage facility improvements to avoid such a significant increase to the septage receiving rate. At this time, the possibility was being considered but no final decision has been communicated to him by Albemarle County staff. Mr. Tucker then added that the County was looking into whether additional funding could be provided. Mr. O'Connell next asked if the Authority would spread the costs of the entire project through bond issuances in order to reduce the annual costs.

Mr. Frederick responded that he has not had detailed discussions with Mr. Wood related to funding this project, but the statement he offered about doubling the septage rate assumes that the capital costs would be amortized over a long period of time.

Mr. Fern next commented that he felt that the septage receiving station would need to be addressed as the first step. Based on the information presented by Mr. Taylor, if odor control improvements are implemented at that facility then there was the good possibility that odors would be minimized throughout the process. Mr. Fern then inquired about the extent of Board direction the Authority was requesting related to the various components of the phased approach. Mr. O'Connell next stated that since Phase 1 of this project was built into the proposed CIP, which was the next agenda item, it made sense to discuss this project from the perspective of all the capital expenditures. Mr. Frederick then commented that a decision was made last year to insert \$6 million as a "placeholder" in the CIP to facilitate financial planning. The estimates now being provided in Hazen and Sawyer's recommendation for Phase 1 are by coincidence very close to that \$6 million figure.

Ms. Mueller next stated that she would recommend postponing a decision on the options and phasing for the Moores Creek WWTP Odor Control until the next meeting so that the engineering staffs of the City, Albemarle County Service Authority, and RWSA can review in further detail Hazen and Sawyer's recommendations for this project. Mr. O'Connell inquired if the discussions concerning the septage fee will have progressed by the February Board meeting. Mr. Tucker stated that the discussions would parallel the budget process, which would take it to

the mid-April time frame. Mr. Gaffney then asked if the County funding option was in addition to RWSA's septage fee. Mr. Frederick replied in the affirmative and added that to the extent RWSA's capital costs can be reduced by outside contributions, the additional fee that Rivanna will need to pass on can be reduced. Mr. Frederick further stated that it was his assumption that this Board did not want the urban rate to subsidize the septage receiving. The Board members were in agreement with Mr. Frederick's statement and with the recommendation that a decision on this agenda item be postponed until the February meeting.

Mr. O'Connell then asked if there were any plan to hold a discussion with the neighborhoods so they could have a better understanding about Hazen and Sawyer's recommendations.

Mr. Frederick stated that RWSA staff could arrange for those discussions to take place.

In regards to **Item 6d, Introduce FY 2008-13 Capital Improvement Plan**, Mr. Frederick stated that as the Board and the public are probably aware, RWSA amends the Five-Year Capital Improvement Plan (CIP) on an annual basis. RWSA plans to adhere to the schedule followed in previous years of introducing the proposed plan at today's meeting and seeking approval in February. RWSA staff has already met with the staffs of the Albemarle County Service Authority and the City of Charlottesville where some review of this document has already taken place.

Mr. Frederick then briefly discussed the Urban Water component of the plan. He was pleased to report that there were no significant additions or revisions in this component of the Five-Year CIP this year. There is a 9% increase in total capital costs due to the projects that have been added to the fifth year of the proposed plan exceeding the value of the projects that have been completed and are being removed from the new plan. The largest capital project remains the construction of the new Ragged Mountain Dam. He added that all of the Community Water Supply projects that are planned for the next five years are included in this capital budget. RWSA still plans for the South Fork pipeline to be phased in by 2021 as presented in this CIP. A change in this timeline would have a significant impact on the CIP. The biggest change in Urban Water is the acceleration of the Route 29 Pipeline and Pump Station project to reflect the results of a Preliminary Engineering Report completed last year. The replacement of the Canterbury Pump Station is also being accelerated due to a critical need for redundancy to the Stillhouse Mountain service area in the northwestern part of Rivanna's system. With these most critical needs to be addressed first, the timeline for the Southern Loop project is being pushed back. Although the project is not in this plan, it will be included in future CIPs.

Mr. Frederick next stated that the most significant increase is in the five-year plan for Urban Wastewater, which reflects the critical deficiencies of the wastewater interceptor system. There is no significant change in the proposed Moores Creek WWTP upgrade that was identified last year. The interceptor rehabilitation plan has increased as a result of findings from the Comprehensive Sanitary Sewer Study conducted by Greeley and Hansen. There are several interceptors identified in this CIP that need rehabilitation and repairs and require significant funding, which include the Schenks Branch Interceptor, the Albemarle-Berkley Interceptor, some sections of the Rivanna Interceptor, some areas of the Crozet Interceptor, and the two pump stations that provide flow directly to the Moores Creek facility.

Mr. Frederick then commented that an updated CIP rate impact analysis has been attached to this report. The analysis does not include operating costs that will be presented in the operations budget in the coming months. The impact on potential future debt service from this proposed capital budget on wholesale rates is in the 1% to 3% range for water and in the 5% to 7% range for wastewater.

Mr. Frederick next expressed his thanks to all staff who assisted with the CIP for their significant efforts in preparing this document.

Mr. Gaffney then asked Mr. Wood to further explain the "Debt Relief" item listed on the rate impact sheet. Mr. Wood stated that it reflected older bonds being paid off. Mr. Gaffney next inquired about the current assumption of the bond rate. Mr. Wood replied that the assumption he used was 30-year bonds at 6% for new bonds issued for wastewater projects. The last bond issue for new projects was roughly 5.3%.

Mr. O'Connell next asked if rate impact figures reflected the assumption of receiving about \$16 million from the state's WQIF grant funding for the Moores Creek WWTP nutrient upgrade project. Mr. Wood replied in the affirmative. Mr. O'Connell next asked if the Authority had been given any indication that the funds will be available when needed for this project. Mr. Frederick stated that the state will reimburse expenses to all eligible grantees until the funding is depleted; if depletion of the fund occurred, we and other grantees would suddenly have to come up with a new funding source to complete projects in progress. Mr. Wood added that in total the CIP will require \$100 million in new bonds, assuming that RWSA would receive the state funding in full and use \$12 million in cash reserves that were anticipated to be generated. If the two big projects continue on their current timelines, the Authority will issue \$60 to \$70 million in new debt within a year and a half. RWSA was currently servicing \$50 million in debt. The Authority was beginning to see the benefit of their decision three to four years ago to start spreading out the huge rate impacts over five years. This has also allowed RWSA to use more cash upfront for Urban Water due to flows for the past two years being over budget estimates.

Mr. O'Connell then requested for the benefit of the ratepayers an explanation as to why RWSA was under regulatory obligation to make both the interceptor and Moores Creek WWTP improvements, which will have a significant impact on rates.

Mr. Frederick first commented on the Moores Creek WWTP improvements. The key issue is the rule adopted by the Virginia State Water Control Board in 2005 that requires all wastewater plants throughout the Chesapeake Bay area of Virginia to reduce nitrogen and phosphorus discharges from their waste in order to promote less algal growth in the Chesapeake Bay, and in RWSA's case, less algal growth in the Tidal regions of the James River. This will require a significant cost and a significant modification of current treatment plant operating practices to be able to accomplish that next step of treatment. About 80% of the cost of this project is dedicated to compliance of that one action by the State Water Control Board. When RWSA received these new regulatory requirements, the Authority had already simultaneously recognized areas of its facility where equipment was reaching the end of its service life and would need to be replaced, piping that would need to be replaced due to corrosion, and other updates needed to ensure the

reliability of continuing to be able to operate in the existing permitting requirements. RWSA did not see the need to implement two separate projects, so the projects related to updating the plant were combined with the upgrades required by the new state mandate into one design and construction project.

Mr. Frederick next addressed the wastewater interceptor system. He stated that many parts of the wastewater collection system are wearing out. This organization for whatever reason has not dedicated funding for rehabilitation and repair of piping and keeping the system current, such as repairing manholes, repairing corroded and worn pipes, and inspecting the pipes. Federal and state regulations require sewer utilities to maintain their piping systems and avoid instances where material inside the pipes can be released into the environment due to holes in the pipes or wear and tear. In the past two to three years, RWSA has increased the number of staff inspections to locate areas that need repair. There have been a few occasions where system issues were brought to the Board that resulted in significant repair costs. Fortunately, those issues were identified before they became environmental problems. There is an overall need with respect to the wastewater interceptor to increase the amount of energy and effort that RWSA puts into maintaining and keeping its system current.

7.0 Other Items from Board/Staff not on the Agenda

There were no other items from the Board or staff not on the Agenda.

8.0 Meeting Recess

Ms. Mueller moved that the Rivanna Water & Sewer Authority Board of Directors Meeting be recessed at this time and be reconvened at the conclusion of the Rivanna Solid Waste Authority Board of Directors Meeting in order to enter into a closed meeting. The motion was approved by a 5 – 0 vote, and the meeting was recessed at 3:07 p.m.

9.0 Resumption of Open Meeting

The RWSA Board of Director Meeting reconvened at 3:20 p.m.

10.0 Closed Meeting

Mr. Tucker made the following motion, which was seconded by Mr. Gary Fern:

RESOLVED that the Board of Directors of the Rivanna Water & Sewer Authority enter into a closed meeting for discussion or consideration of the sale, acquisition and/or leasing of real property as permitted by Section 2.2-3711.A.3 of the Code of Virginia, and for consultation with legal counsel regarding potential conflict matters as permitted by Section 2.1-3711.A.7 of the Code of Virginia.

The motion was approved by a 5 – 0 vote, and the Board of Directors of the Rivanna Water & Sewer Authority went into a closed meeting at 3:26 p.m.

ATTENDEES: Mr. Fern, Mr. Gaffney, Ms. Mueller, Mr. O'Connell, Mr. Tucker, Mr. Krueger, Mr. Frederick, Ms. Terry, and Mr. Wood.

11.0 Resumption of Open Meeting

The RWSA Board of Director Meeting was reconvened at 4:25 p.m.

Mr. Fern made the following motion, which was seconded by Mr. Tucker:

WHEREAS, the Rivanna Water and Sewer Authority has convened a closed meeting on this date pursuant to an affirmative recorded vote and in accordance with the provisions of the Virginia Freedom of Information Act; and

WHEREAS, Section 2.2-3712.D of the Code of Virginia requires a certification by the Rivanna Water & Sewer Authority that such closed meeting was conducted in conformity with Virginia law;

NOW, THEREFORE, BE IT RESOLVED that the Rivanna Water & Sewer Authority hereby certifies that, to the best of each member's knowledge, (i) only public business matters lawfully exempted from open meeting requirements by Virginia law were discussed in the executive meeting to which this certification resolution applies, (ii) only such public business matters as were identified in the motion convening the closed meeting were heard, discussed or considered by the Rivanna Water & Sewer Authority.

There being no further discussion, Mr. Gaffney called for a roll call vote: Ms. Mueller – Aye, Mr. O'Connell – Aye, Mr. Gaffney – Aye, Mr. Tucker – Aye, and Mr. Fern – Aye.

12.0 Adjournment

There being no further business, Mr. Fern moved that the meeting be adjourned, seconded by Mr. Tucker. All members voted aye, and the meeting was adjourned at 4:26 p.m.

Respectfully submitted,

Mr. Robert W. Tucker, Jr.
Secretary-Treasurer