

is currently being done. He knew that “you were a bunch of smart people and if you can get together and think about how we can solve problems, instead of how we can impound all the water ... every drop of water in the reservoir ... you could come up with some innovative solutions.” Years ago he had inquired about siphoning some water over to the river because the pipe that released the water had been broken and frozen up for years. The response had been that this absolutely could not be done. When the dam was constructed and the water level in the reservoir was lowered in order put up the diaphragm, “millions and millions” gallons of water was siphoned into the river. He felt that there are several options available and asked that “you try and get your heads together and do that.”

Mr. Gilges next commented on the long-range Community Water Supply Plan, which he felt was a “wonderful” plan. “Again, you got to get your heads together ... How are you going to finance it? ... When are you going to do it?” He felt that millions and millions of dollars could be saved and this area’s water problems would be solved 8 to 10 years earlier by constructing the new dam and putting in the pipeline together. “You worry about it, but don’t act.” He suggested that a bond issue could be done to finance the project. The other parties that were not cooperating and were making decisions in “concert” with the Authority could be told to find a way to get the dam and pipeline built simultaneously in order to save our citizens millions of dollars.

Mr. Jim Colbaugh, who resided at 1240 Thistle Down in Keswick, Virginia, asked when the releases from the Beaver Creek Reservoir would start as part of RWSA’s water supply plan “that was supposed to eliminate droughts.” It seems like “everything was dying.” He did not know if the releases were not occurring because the water was not needed, but the area was still in the same stage of drought.

Mr. Gaffney thanked Mr. Gilges and Mr. Colbaugh for their comments and asked if there were any comments from the Board.

Mr. Tucker asked Mr. Frederick if he could respond to Mr. Colbaugh’s question. Mr. Frederick stated that one of the conditions for initiating a release from the Beaver Creek Reservoir entailed that the South Fork Reservoir not be spilling so that the water being released from the Beaver Creek Reservoir is actually captured in the South Fork Reservoir, which was not the case at this time. Mr. Colbaugh then asked why the area was still considered to be in a drought. Mr. Frederick explained that there was an item on today’s agenda that would address this issue during the Other Business portion of the meeting.

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) Security Improvement at RWSA Water Plants**
- 5e) Purchase of Digital Radio System**

5f) Personnel Rules & Regulations Changes
5g) Capital Funds for Acquisition of Property

In regards to **Item 5f), Personnel Rules & Regulations Changes**, Mr. Tucker inquired if there was any urgency to take action at today's meeting, as he would like to pull this item until next month so that Mr. Fern and Ms. Mueller would have further time to review the material. Mr. Frederick stated that this was not an urgent matter and was agreeable to table this item until next month's meeting.

As there were no further questions or discussion, Ms. Mueller moved that the Board of Directors vote to approve Items 5a), b), c), d), e), and g) of the Consent Agenda, seconded by Mr. O'Connell. The motion was approved by a 5 – 0 vote. Action on Item 5f) will be deferred until the October Board meeting.

6.0 Other Business

In regards to **Item 6a), Update on the Drought**, Mr. Frederick reported that the drought plan adopted last year was an attempt to ensure that no droughts were missed and also to the extent possible avoid unnecessary drought declarations. Due to the uncertainty of predicting future weather, situations could occur where drought declarations are called and then the area receives significant rainfall after the drought issuance. The provisions adopted in the plan are based on a review of historical records and risk assessments and not predicated on reservoir levels or whether or not a dam was spilling in order to start conservation efforts early in the event of a severe drought. The calls for a Drought Watch in July and a Drought Warning in August were based on an assessment of that data, which found that the "triggers" necessitating those drought issuances had been reached.

Mr. Frederick further stated that since August 15, 2007 RWSA has been very carefully monitoring weather, streams, and reservoir conditions. Although the abnormally dry weather pattern continues, this community's effort to conserve water has been very positive. Water demand has met the target that was set during the current Drought Warning. Since August 15, water demand has dropped about 5.3%, and water demand in recent days has been between 9.5 to 10 million gallons per day (mgd). Consistent with the water conservation efforts, RWSA has been managing its reservoirs in accordance with the plan developed by the Authority to minimize the drop in reservoir storage during a drought. Those efforts included running as much water as possible through the South Fork Water Treatment Plant in order to put less strain on the Observatory Water Treatment Plant, which helps diminish the reductions in volume in the Ragged Mountain Reservoir and the Sugar Hollow Reservoir. At this point with the current water demand on most days below 10 mgd, RWSA has been able to reduce the amount of water being processed at the Observatory Water Treatment Plant to around 1.0 mgd, which has been very effective at minimizing the reductions in storage in our reservoir system. If water consumption stays below 10 mgd and the Observatory plant continues to operate around 1.0 mgd, RWSA does not anticipate going to a Drought Emergency stage.

Mr. Frederick next stated that with the approach of the fall season RWSA has a significant concern with the ability of the reservoirs to refill before next spring. If the drought declarations were discontinued at this time, under normal water demand levels the reservoirs might not refill

under an abnormally dry winter scenario. For that reason, it was RWSA's recommendation to continue the Drought Warning at this time. If the area received rainfall during the next few weeks, RWSA would re-evaluate conditions after each event to determine whether the Drought Warning should continue. He offered the suggestion that the drought declaration be lifted once it is predicted that with normal water demand conditions for the fall, winter, and spring months, the area has a 95% or higher probability of refilling its reservoirs.

Mr. Frederick next noted a change to the graph attached to his Board report, which illustrates the 14-day running average stream flow for the Mechums River near White Hall, Virginia. The year 2001 was now being plotted on the graph instead of 2002 since it was the driest winter on record. In regards to **Item 6b), Design Services – Route 29 Pipeline and Pump Station**, Mr. Frederick recognized Ms. Jennifer Whitaker, RWSA Chief Engineer, who would present this report.

Ms. Whitaker referenced the multi-page report in the Board packet that discussed the Route 29 corridor, which is currently served by two separate pressure zones. The Main zone is supplied by the South Rivanna Water Treatment Plant, and the North Rivanna zone is supplied by the North Rivanna Water Treatment Plant and the Piney Mountain water storage tank. Both zones are connected by the same 12-inch diameter pipe. A review by RWSA technical staff was conducted related to the future water needs of these areas. The result of that evaluation and the design work conducted to date determined that the 12-inch pipeline along this route is severely hydraulically limited as to its ability to move water north or south, and a new 24-inch diameter pipeline was recommended to connect the two pressure zones. Due to the hydraulic grade differences RWSA was also recommending the inclusion of a pump station, and in the future, some additional storage facilities as needed to accommodate the increasing water demands in the North Rivanna zone area.

Ms. Whitaker next reported that Michael Baker, Jr. Inc. was commissioned to conduct a preliminary engineering study on the Route 29 corridor area, and the recommendations from that study were being presented to the Board today. RWSA is requesting that Michael Baker, Jr., Inc. be authorized to proceed into Phase I of the preliminary design work on the Route 29 pipeline and pump station project. The preliminary engineering report does provide a long-term planning horizon of 30, 40, and 50 years on how to continue to supply the finished water needs of the Route 29 corridor north of the South Fork Rivanna River bridge. The second phase of the project will be implemented in a phased approach and entails creating a new pressure zone in the area of the Airport and the placement of a water storage tank in the vicinity of the pump station as warranted.

Ms. Whitaker further stated that RWSA staff recommends that the Board of Directors authorize the Executive Director to execute an amendment to the April 24, 2006 Engineering Services Agreement with Michael Baker, Jr., Inc. for Design Services associated with the Route 29 Pipeline and Pump Station in the amount of \$631,530 with the discretion to execute amendments in an amount up to 10% of the contract amount.

Mr. Gaffney inquired if the pipeline ran entirely along Route 29 or branched off at different points. Ms. Whitaker stated that one of the issues with the existing pipeline is that it traverses old Route 29. With the expansion of Route 29, the pipeline is now either in the median or the

travel lanes, which has resulted in a recent history of significant and damaging breaks in this line. RWSA envisioned that the new pipeline would be routed outside the Route 29 corridor, but the geotechnical work will need to be completed as part of the design effort before the corridor can be finalized.

Mr. O'Connell next asked Ms. Whitaker to further explain the statement in the Board report that reads ... "increase the hydraulic capacity such that water can be moved from zone to zone." Ms. Whitaker stated that currently the primary urban area is served at one pressure. Further north of this area the topography is at a higher level, and more energy will need to be placed into the water in order to maintain the same pressure. Currently, there is excess capacity at the North Rivanna Water Treatment Plant. In a future emergency situation within the distribution system south of the South Fork Rivanna River bridge, water could be moved to that area by opening the pipeline through a pressure reducing valve. Conversely, if the emergency occurred in the North Rivanna area, the pump station would be used to move water in an opposite direction through the same pipeline. The small diameter of the existing pipeline will not allow significant water to move from a high pressure zone to a lower pressure zone. The new pipe diameter will allow water to be pumped and moved more effectively and efficiently between zones. RWSA felt that technically the North Rivanna zone was of sufficient size to require a redundant feed into that service area. With the existing infrastructure there is no quick way to reinstate water supply should the pipeline experience any breakages or problems develop at the North Rivanna plant. The recommended plan would allow for repairs to be made without losing service to customers in those service areas.

Mr. Tucker asked if it were correct that RWSA did not currently own the property where the proposed pump station and storage tank will be located. Ms. Whitaker replied that his statement was correct and added that pipeline routing negotiations have begun with various developers within the general vicinity of the Hollymead Town Center. The preliminary design work will assist RWSA in focusing on specific sites for further negotiations. Part of the recommendations being presented today involve a series of ground storage tanks, which are aesthetically favorable and operationally can be built over time thereby reducing the immediate capital needs and improve water quality.

Mr. Fern moved that the Board of Directors authorize the Executive Director to execute an amendment to the April 24, 2006 Engineering Services Agreement with Michael Baker, Jr., Inc. for Design Services associated with the Route 29 Pipeline and Pump Station in the amount of \$631,530, with the discretion to execute amendments in an amount up to 10% of the contract amount, seconded by Ms. Mueller.

Prior to the vote, Mr. Fern commented that he had the opportunity to read the project reports and attend the meetings with RWSA's Engineering staff and felt that staff has done an excellent job.

As there were no further questions or discussion, the motion was approved by 5 – 0 vote.

Prior to a discussion on the next agenda item, Mr. Krueger questioned whether Board action was taken on **Item 6a), Drought Update**, as requested by RWSA staff to extend the authority of the RWSA Chairman to make further declarations regarding the current drought as warranted by

RWSA's Drought Monitoring and Response Plan. Mr. Frederick stated that Board action was not taken on this item and explained that for the past two months the Board had authorized the Chairman to lift the warning if conditions warranted such action. Mr. Frederick did not believe that in the next 30 days that there would be the need to declare a Drought Emergency. If the area received some good rainfall, there could then be the opportunity to lift the Drought Warning. RWSA was requesting that the Board consider extending that authority to the Chairman to make that declaration should the action become appropriate.

Mr. O'Connell moved that the Board of Directors vote to extend the authority of the Chairman for 30 days to cancel a drought stage if future wet weather sufficiently mitigates the risk, seconded by Mr. Fern. The motion was approved by 5 – 0 vote.

In regards to **Item 6c), Review of Stream Flow Policy for Water Protection Permit**, Mr. Frederick stated that it was his decision to place this item on today's agenda for further discussion in response to a question raised during the "Items from the Public" discussion at the August RWSA Board meeting. RWSA staff has spent a considerable amount of time and effort on the issue of what is the right stream flow policy for the Community Water Supply Plan. In that effort, RWSA engaged The Nature Conservancy (TNC) in some discussions and negotiations that entailed that organization's expertise, as well as the expertise from two computer-modeling firms. As soon as the process had been completed, the procedures were introduced in May 2007. There have been some comments that this information was withheld, which was not entirely correct since the procedures could not be made public until the negotiations had been completed and the process finalized. There has also been an opportunity since May for public discussion, and he felt those discussions should continue if there was interest for further dialog.

Mr. Frederick further reported that since there have been some issues raised, RWSA wanted to provide additional information to further clarify for both the Board and the members of the public the basis for the recommendations made in May. The discussion in the Board report was broken down into two parts. Part 1 was basically a discussion about why "natural inflow" is used in all of the targets listed as part of the recommendation. On a philosophical level, the perceived purpose of a stream flow policy is to have the stream mimic as closely as possible natural flow conditions. The stream flow plan that has been submitted to the Virginia Department of Environmental Quality (VA DEQ) and incorporated into VA DEQ's draft permit provides very substantial improvements to stream flow quality with the construction of infrastructure that will enable RWSA to have more flexibility in the operation of its system than under the very tight constraints and limitations that currently exist. Two options were presented for public discussion, and at the time the options were published it was mentioned that this was a "straw" position and allowed for public feedback and debate as appropriate. The first phase involves building the Ragged Mountain Reservoir to the full height, which in itself creates substantial benefits to stream flow protection, at a cost of \$37 million. Building the South Fork pipeline as a further step would achieve some additional stream flow benefits, but most of the gains to stream flow quality are achieved by providing a larger reservoir with a higher amount of storage.

Mr. Frederick next stated that RWSA had been asked during a recent discussion on this issue to re-evaluate the actions to be taken between now and the time that the new infrastructure is built.

The Authority welcomes the opportunity to consider any ideas about addressing this issue, but to be meaningful the discussion must be in the context of the limitations of the Authority's current infrastructure as well as its contractual obligations to continuously maintain water service to this community. Current infrastructure is extremely limited during drought periods. Short of infrastructure improvements, the only way that the Authority could commit to achieving higher stream flows without breaching its commitment to provide adequate water supply for the public would be through demand reduction. In order to foster some communication on what type of demand reduction might be required, RWSA asked its consultant who helped prepare a drought management plan for the Authority to look at how the targets for mandatory conservation might need to be changed if RWSA went from a 400,000 gallons per day release or "natural inflow" from Sugar Hollow to a 1.0 mgd release or "natural inflow." Those numbers are listed in the Board report. Although currently there is no water conservation entered into RWSA's computer modeling during a Drought Watch, the Authority does advocate that the public conserve as much water as possible during that drought stage. A 5% minimum water conservation figure is entered into the computer modeling for the Drought Warning and 20% for the Drought Emergency. Increasing stream flows as just mentioned at an equal risk scenario would require that the drought management plan be amended to require 5% minimum conservation during a Drought Watch, 18% minimum conservation during a Drought Warning, and 38% minimum conservation during a Drought Emergency.

Mr. Frederick then commented that any attempt to address stream flow through demand management would require a significant amount of public support at the local level, and therefore would be better addressed through local discussion as opposed to being addressed through a VA DEQ permit. The memorandum also reinforces the clear need to move forward as quickly as possible with the permitting of the Ragged Mountain project. Delaying the construction of the Ragged Mountain Reservoir will not achieve the "win-win" solution stated in the Community Water Supply Plan. The proposal that VA DEQ has presented to RWSA in draft form are minimum requirements and do not in any way prohibit the local community from going beyond the minimums set forth in the permit. He would recommend that RWSA be allowed to proceed with the VA DEQ permitting process at the level that has previously been presented and adopted by the Board in May 2007. Local discussions could still continue to determine if there was a better way to address this issue without putting the community's water supply at risk, and any local decisions from such discussions could be implemented at any time during this process.

Mr. Frederick next inquired of the Board if there was any interest in changing the decision that was made in May or if the Board desired that RWSA continue to proceed as previously directed.

Mr. Gaffney asked what would be required of this community if the conservation figure during a Drought Emergency was changed to 38% and what was the highest water conservation rate achieved during the 2002 drought. As Mr. Frederick and the other Board members did not have access to the 2002 water conservation statistics at this time, the information would be provided to Mr. Gaffney after the meeting. Mr. Gaffney next stated that he thought water demand dropped from about 12 mgd to 7 mgd in 2002, which was about a 40% water conservation rate at a time when conservation measures included restaurants serving food on paper plates and utensils. He was not certain if this was being responsible to the community to impose such rates in a drought management plan at this time.

Mr. O'Connell next inquired about the amount of the release from the Sugar Hollow Reservoir during current drought conditions. Mr. Frederick stated that about 400,000 gallons per day was being maintained as a release at present. Mr. Gaffney then asked about the amount of water going into the reservoir at this time. Mr. Frederick replied that the "natural inflow" at Sugar Hollow this morning, extracted from the Mechums River USGS gage, was 1.4 mgd. The "natural inflow" for this time of year under normal conditions would average 8.7 mgd. RWSA is proposing that after the Ragged Mountain Dam is built, the amount of the release would increase up to 10 mgd or "natural inflow," whichever is less. If the Authority were currently operating under the procedures that are proposed to come into effect after the new Ragged Mountain Dam is operating, 1.4 mgd would be released from the dam under current conditions, and 8.7 mgd would be released under September average flow conditions. The numbers would be the same under the proposed plan after the South Fork pipeline were built. Mr. Tucker asked Mr. Frederick to repeat those numbers for clarification purposes. Mr. Frederick stated that once the new Ragged Mountain Dam was built and operated to full height, RWSA could operate under the policy that would allow "natural inflow" up to 10 mgd to be released into the Moormans River when the Ragged Mountain Reservoir was more than 70% full. Mr. O'Connell then questioned if those were the numbers included in the VA DEQ permit. Mr. Frederick replied in the affirmative and added that those were the required minimums once the new Ragged Mountain Dam is built and filled.

Mr. Gaffney next inquired if there would be any differences when the pipeline is built. Mr. Frederick stated that when the natural inflow is 1.4 mgd or even 8.7 mgd, the releases would remain the same before and after the pipeline. Mr. O'Connell asked if it were based on the new Ragged Mountain Dam being completed. Mr. Frederick replied affirmatively and added that the difference between the before and after pipeline phase after the new dam is built, is that when "natural inflows" to the Sugar Hollow Reservoir are higher than 10 mgd, RWSA would be allowed to capture the amount greater than 10 mgd to refill the Sugar Hollow Reservoir during the time before the South Fork pipeline is built.

Mr. O'Connell next inquired about the next steps in the permitting process. Mr. Frederick stated that the instream flow policy was the last issue requiring the Board's guidance prior to submitting the Authority's comments and completing negotiations with VA DEQ, which would then proceed to public comment on the draft permit.

As there were no further questions or discussion, Mr. Gaffney asked the Board members if there were any reason to reconsider the recommendation made at the May Board meeting. All Board members were in agreement for RWSA to proceed with the recommended stream flow procedure presented to the Board and public in May 2007 for the purposes of the conditions of state and federal permitting for the Community Water Supply Plan to construct a new Ragged Mountain Dam.

7.0 Other Items from Board/Staff not on Agenda

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

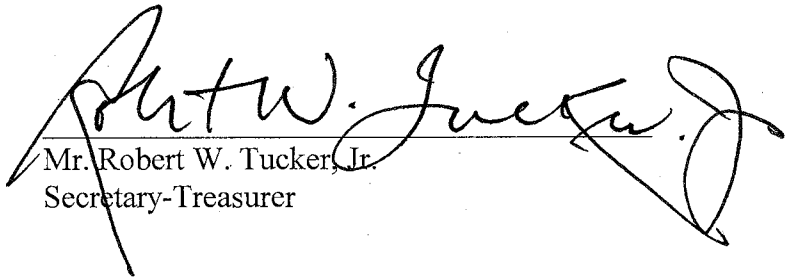
8.0 Closed Meeting

There was no need for a closed meeting.

9.0 Adjournment

There being no further business, Ms. Mueller moved that the meeting be adjourned, seconded by Mr. Tucker. All members voted aye, and the meeting was adjourned at 2:30 p.m.

Respectfully submitted,



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