

Minutes of the Bonne Femme Watershed Project, Technical Advisory Team Meeting,  
August 25, 2017

Team members in attendance: Nicki Fuemmeler, Bob Lerch, Tom Ratermann, Tom Wellman, Lynne Hooper, Amy Meier, Bill Florea, Mike Powell, Roxie Campbell, Cathy Richter

The meeting opened with updates from team members. Tom Wellman said that the airport had received a letter of warning from the Department of Natural Resources over their stormwater management plan and construction activities.

Amy said that there were no updates on Stream Team activities in the watershed.

Roxie opened with a comment about the rezoning request over on Bennett Lane next to the park. The property is located a little more than ¼ mile south of Highway 163 and the request was to change the zoning from A-1 to A-2 to make a family transfer to split the property. The Planning and Zoning Commission denied the request this month and an appeal was not made. While the property lies outside of the designated environmentally sensitive sinkhole area, it is likely that water draining from this property makes its way into the Devil's Icebox Cave system. Policies set out in the Bonne Femme Watershed Management Plan were used to support denial of the rezoning request. Roxie expressed concern that once staff that worked with the management plan are no longer with the County that the protections might not continue. Nicki commented that stormwater review of building concepts and plans often included recommendations to protect resources close to sensitive areas even when not directly within them. Nicki also said that cave recharge areas are an option available on the zoning viewer. Tom Wellman asked whether the county planners use a checklist on rezoning requests – the answer was no although checklists are used for a variety of other reviews by Resource Management staff. Requests for zoning changes trigger a review of any applicable master plans which in this case included the Bonne Femme Watershed Management Plan. Tom Wellman was interested in making sure that the City has a copy of the recharge area layer. Tom added that he did not get the sinkhole regulations implemented this year but that Kori Thompson is very interested in making that happen soon.

Cathy said that the data from the POCIS monitoring by USGS had been submitted.

Mike was up next and mentioned that Greenbelt is continuing to work on the Three Creeks land swap with Missouri Department of Conservation. This arrangement will help to keep some sediment out of Bonne Femme Creek.

Bob said that the water quality monitoring continues in the watershed.

Tom Ratermann asked whether Bill wanted to talk about the proposed subdivision of the McTurnin property which is located across from Rock Bridge Memorial State Park on Highway 163. Bill said that he had not yet had much of an opportunity to review the plan. The zoning is A-2 so the lot size will be 2.5 acres and greater. The plan calls for public streets and public sewer. Tom said that if Boone County Regional Sewer District controls the sewer, it would need to be a public drip irrigation system built by the developer and then assigned to them. Another

option would be for the developer to connect to the City sewer. It is not clear now what the developer's plan is. A brief discussion followed about the implications of the sewer plan. The City is holding an annexation agreement for part of the park near the McTurnin property. Once property is annexed, the City must provide services including trash collection, water, police and fire. These liabilities would not be offset by any tax revenue from the park. Bill does not think that the McTurnin property is contiguous to existing City of Columbia lands. Roxie expressed concern for protection of water quality in Clear Creek. Mike asked whether part of the property could be reserved as green space protected with a conservation easement to prevent future development. Bill noted that this was a proposed subdivision plat and that there would not be the opportunity for public hearing – if the plat meets the subdivision regulation requirements it will be approved. The process would only become public (in the County) if the developer seeks rezoning to increase lot density. Roxie hopes that the stream buffer ordinance will protect the woodlands along Clear Creek and the tributaries that run through the property. Nicki mentioned that the stream buffer would be widened if there are steep slopes down to the stream and that there would likely be a common area for stormwater treatment for the neighborhood.

Nicki has noticed that the Baptist Home development in Ashland has started the grading process. This project may impact Bass Creek. Roxie reminded us that the City of Ashland may consider expanding their sewer north to the Channel 8 TV station area to increase their customer base.

Tom Wellman mentioned that the utility folks have been working with City public works and right of way managers to convert right of way areas to prairie-type plantings. One of these projects has been ongoing on South Providence near the Jimmy John's. This may reduce mowing maintenance on right of way areas. Amy wondered whether these areas could be adopted and maintained by volunteers – Tom was not sure at this point. He also mentioned that the Rock Bridge High School rain garden looks amazing. The rain garden was originally created from the Chapter 319 grant for the Bonne Femme Watershed Project.

Lynne provided the science update. As Cathy mentioned, the POCIS results came in with analysis for a long list of wastewater indicators. Fragrance, detergent and tobacco were found in almost all the streams. Triethylphosphate was found in a higher concentration Turkey Creek – this chemical can be used as a flame retardant or as a component of agricultural organophosphate pesticides. Other chemicals found included camphor, sunscreen, plasticizers and DEET. These results were sufficient to obtain additional funding from the Boone County Commission for microbial source tracking for next year, on top of the funding that we have in contingency this year. This will allow for a two-phase microbial source tracking project. Phase I this fall will sample at six sites, including five on 303(d) listed streams plus the Devil's Icebox Spring Branch, during 3 flow conditions for a total of 18 samples. The samples will be tested for human and ruminant (deer and cow) DNA in the *E. coli* bacteria. Phase II in the spring will also run 18 samples, and provided that the ruminant numbers are as high as we expect due to the presence of cattle in the watershed, the samples will be tested for human and cow DNA. If we do not have human hits in Phase I at any given location, another animal source may be substituted for testing in Phase II. Bob Lerch's staff will filter the samples before they are sent out for analysis which will save a lot of money on shipping.

The Boone County Stormwater team had some funds available for metals testing in the watershed in 2017. Three samples were collected and run, one from each of the gauging station sites: Turkey Creek at Tom Bass Road, Little Bonne Femme Creek at Woodie Proctor Road, and Bonne Femme Creek at Nashville Church Road. There were hits for zinc in the samples which is a bit unusual out in the country – normally zinc in streams would come from old pipes which does not make sense at these sites. Lynne just collected another round of stormwater samples at higher flow conditions at 9 of the Bob Lerch sites (Hunter’s Cave Stream was not accessible on the sampling day) and has submitted them for analysis.

The proposed 2018 303(d) list included Little Bonne Femme Creek for low dissolved oxygen. Lynne had discussions with Robert Voss at the Department of Natural Resources and after bringing in the 2017 sampling results, the stream should not be listed. Robert has continued to mention the bacteria issues in Little Bonne Femme Creek throughout these discussions. Lynne and Nicki plan to meet with Robert in Jefferson City on September 20<sup>th</sup> to discuss all the sampling that has been happening in the watershed and the upcoming microbial source tracking project. It may be possible to delay TMDL implementation if we continue to move forward with the watershed management plan and water quality research. We are hoping for this outcome for the listed streams in the watershed. Provided that no TMDLs are issued, it may be possible to pursue Chapter 319 funding for projects in the watershed. The 9-element plan would be a prerequisite for Chapter 319 funds eligibility.

Bob mentioned possible reactions from landowners and park personnel to results from the microbial source tracking.

Lynne plans to collect water samples from various locations in the cave on a trip September 30<sup>th</sup>. She is hoping to find differences between various locations in the cave that are tied to different surface sources (potentially human v. grazing animal). Bob may join the expedition. Bob has done this type of analysis before, comparing other fecal bacteria levels from various cave locations.

Lynne also mentioned that she is going to add a section to the [cavewatershed.org](http://cavewatershed.org) website to focus on the positive. The section will include interviews with people who are stewards of the Bonne Femme Watershed. There will also be a quarterly feature highlighting an endangered species living in the watershed, either wildlife or plants. Lynne also hopes that we can revive the stewardship efforts at Three Creeks in the spring, possibly with help from John Wallace from Quail Forever / Pheasants Forever.

Fall events are planned for outreach and education. Another stream monitoring blitz will be held in and around Rock Bridge Memorial State Park on October 14<sup>th</sup>. The fall Rock Bridge Renew will be held on October 28<sup>th</sup>, including a litter pick-up and invasive species control. Lynne said that the Spring Brook Trail hikes probably will not be offered by the County anymore as they have not been very popular. Another water quality related event may be offered instead – perhaps a water quality monitoring demonstration / activity for adults. Mike mentioned that Alpine Shop is very interested in promoting hikes and similar local activities. He would be happy to serve as a point of contact to help publicize future events. Amy mentioned that she has been promoting the monitoring blitz through Missouri Stream Teams.

Roxie mentioned upcoming cave rescue training on September 9<sup>th</sup> and 10<sup>th</sup> at Rock Bridge Memorial State Park. Wild cave tours in Devil's Icebox Cave may start up again soon. The gray bats have not been dying from white-nose syndrome. Populations of the other species, however, have dropped precipitously. The tours may start up again during the month of September, maybe starting in 2018. Public tours were closed starting in 2010.

Bill announced that the strategic plan subcommittee met. They looked over the criteria for a 9-element plan. It was decided to start with the sensitivity analysis that was developed for the 2007 watershed plan and see if any information could be pulled out that would be relevant for the current efforts. A brief discussion followed with a focus on balancing infrastructure needs and stream processes.

Lynne mentioned that she will be meeting with Randy Sarver on September 5<sup>h</sup> to discuss possibilities for a Cooperative Stream Investigation project in the watershed. Lynne and Nicki will be meeting with Ethan from the Boone County Soil and Water Conservation District in September to talk about popular cost-share projects and the forecast for cost-share availability in 2018.

The group liked the promotional reusable shopping bags created for the watershed. The t-shirt design for team members will be similar. The consensus was to have the logo on the front of the shirt and the words on the back. We will be looking at t-shirts in a cotton blend. Roxie mentioned that it might be nice to have t-shirts available for sale in the future. The Bonne Femme Watershed Project brochures have been made available at the park office. Tom Ratermann said that we could put some of the project brochures and karst brochures on the front desk at the Boone County Regional Sewer District.

The next meeting will be on October 6, 2017.