

Technical Memorandum

To: City of Mitchell
From: FYRA Engineering
Re: Lake Mitchell Update
Date: 15 November 2016

1 COMMUNITY BASED PLANNING COMMITTEES

We are ready to establish the two committees that will guide the community through the planning process.

- (1) The first committee is called the Watershed Advisory Committee (WAC). The WAC will consist local members that provide a good representation of the community and watershed. Members may include key landowners in the watershed, business leaders, local government, special interest groups, etc. We have had interest from Jessica Burns, whom Mike said was at the last public meeting and did a good job of speaking at the meetings. The WAC will be an important driver of the Community Based Planning process and will have the following roles:
 - a. Help determine and prioritize issues and concerns
 - b. Help identify the benefits of water quality improvements
 - c. Help evaluate potential solutions
 - d. Help set project goals and objectives
 - e. Help build local consensus and project support
 - f. Help educate and update the community about the project

- (2) The second committee is called the Technical Advisory Team (TAT). The TAT will consist of members that have a technical lake and watershed management background. Members may include representatives from the DENR, SD Game and Fish, James River Water Development District, City of Mitchell, etc. Having some strategic members with a relationship with funding programs will be important. The roles of the TAT include the following:
 - a. Provide technical input and recommendation on potential approaches to improve water quality
 - b. Help identify project funding programs and opportunities

- c. Serve as a technical resource to the WAC by providing guidance on the efficiency and feasibility of potential project ideas

At this point, we would like your input and recommendations on good people to put on these committees. With regards to the TAT, you might consider the following agency people as I know that they are familiar with the project:

- (1) Pete Jahraus (DENR)
- (2) Kelli Buschar (DENR)
- (3) Todd St. Sauver (SD Game & Fish)
- (4) Dave Lucchesi (SD Game & Fish)
- (5) Dan Koupal (James River Water Development District)

I'm sure there are others that the City has worked with in the past. We want to make sure that you are comfortable with them in a working group environment. Please consider the member make-up of both the WAC and TAT and let me know if you have any questions regarding these committees. We would be happy to set up a call to discuss in more detail if needed.

2 REQUEST FOR ADDITIONAL DATA

we have compiled a list of additional information that would be useful for a number of current and upcoming tasks. While some of this information is available from State and Federal sources, we wanted to check with you first to see what you already have on file. Jeff Bathke did send us some GIS files on land use, etc. and we have those on file.

Water Budget Analysis

- Precipitation records
- Evaporation estimates
- Lake water elevation or stage history
- High water mark stages/dates measured for lake on canal bridge and old measurements from west end bridge and any from the old water treatment plant
- An electronic version of the 2012 SD Game & Fish sonar survey lake bathymetry
- A copy of the 2014 lake bathymetry study that was mentioned during our recent meeting.
- Pumping inflow and outflow history (St. James River, drinking water, others?)
- Firesteel Creek discharge history (USGS 06477500 history appears to be complete, any additional information?)

- Lake Mitchell operation and management
 - o What are the operational guidelines for maintaining lake levels? For instance, under what circumstances will pumping begin from the St. James River? Does pumping from the St. James still occur?
 - o How do you prefer to see lake levels throughout the year?
 - o What is the frequency that supplemental drinking water is taken from the lake? Is any drinking water taken from the lake?
- Topography of the region surrounding Lake Mitchell
- All water quality data for Lake Mitchell and Firesteel Creek. This should be available from DENR. USGS may also have some, especially for Firesteel. We recommend you submit requests to both agencies.
- Any water quality testing results from the water treatment plants
- Any groundwater data/studies that give information on groundwater levels and/or groundwater chemistry
- Dam As Built Plans

Please feel free to contact me or have any of your staff contact me with questions about this list. Please let us know how we can help you track down this information.

3 UPDATE ON PROJECT TASKS

We have started to analyze the existing watershed and lake data and we will continue to work on that over the next month, along with beginning the basin inventory task. This entails analyzing and inventorying watershed characteristics such as land use, slope, soils, CAFO's locations, etc. We have also started constructing the framework of the water budget and nutrient mass balance models. That work will also continue over the next month as well.