

Beaver Lake Association Dam

October 2024

–Infrastructure Committee

Overview



We signed a contract with Houston Engineering, Inc. (HEI) to assist us in working with the state of Nebraska to obtain a federal infrastructure grant. Although progress at this time looks positive, we cannot predict ultimate success nor what the dollar figure might be.

A FEMA grant amount would constitute a percentage of projected costs for this first project phase. We are also investigating other potential sources of financial assistance.

In conjunction with the grant progress, Beaver Lake is keeping our insurance envoi in the loop. We anticipate that doing so may allow expeditious reinstatement of our policy when the insurer deems it appropriate.

We should remind ourselves that this whole process from inception to final work completion is expected to take years. We are now in the first phase of the project, determining specific dam concerns and how to address them.

We are working with multiple entities, who in turn may work with multiple entities, all of whom have their own priorities and timetables. When the next step is up to us, we will continue to move as expeditiously as possible given due diligence. Sometimes we will have to wait for others to act.

It's quite likely we won't have any further information about capital support or anything else on a regular basis. We will update the community when we have facts.

When we apprise the membership, we will do so at Board meetings and in these written reports. We publish our written reports in newsletters and they are also housed on our [website](#) under Document Library → Reports and Studies → [Beaver Lake Dam](#). (Note that Board meeting minutes, also found in the Document Library, are necessarily brief and do not typically include detailed information. Hence these more comprehensive reports to keep you informed.)

Progress

Our first priority is funding; we've been coordinating with governmental officials and engineers, and will continue to work the process.

A group of dam engineers affiliated with HEI and the state performed an extensive visual inspection of our dam in July, joined by Dam Task Force members. The engineers will determine the best places to put our efforts next.

Once we know which tests to perform, follow-on steps will include contracting; scheduling; performing the tests; and finally, analyzing the results. Each of these stages takes time.

Meanwhile, HEI initially recommended, and we ordered, additional piezometer equipment. By the time you read this report, that equipment should have been installed.

Piezometers are needed for dam safety and performance monitoring. These instruments measure pore water pressure within the dam and its foundation, providing data on water levels and pressure changes. Piezometers are integral to dam safety and performance monitoring.

This information helps engineers detect unusual water flow patterns and assess the structural integrity of the dam, which helps the engineers make informed decisions in the evaluation of the current dam status and to prevent future potential failures.

What exactly is a piezometer? A piezometer is an inch and three-quarter pipe extending from the top of the dam down to the foundation. There are 22 of them in the Beaver Lake dam and they were installed by a geologist and a drill rig.

Each summer the piezometers are read by technicians from the Nebraska Department of Natural Resources (NDNR). They hang a tape inside each pipe and measure the depth to water. They record each measurement and then give all the information to a geotechnical engineer on the NDNR staff in Lincoln who analyzes the collective information.

If the dam were a person this would be equivalent to an EKG. The technicians' job is similar to a nurse who attaches the anodes to your body and turns on the machine which produces a tape with a graph showing your heartbeat. Then the tape is given to a cardiologist who looks for any sign of heart problems. In a general way, the cardiologist's job is similar to that of the geotechnical engineer.

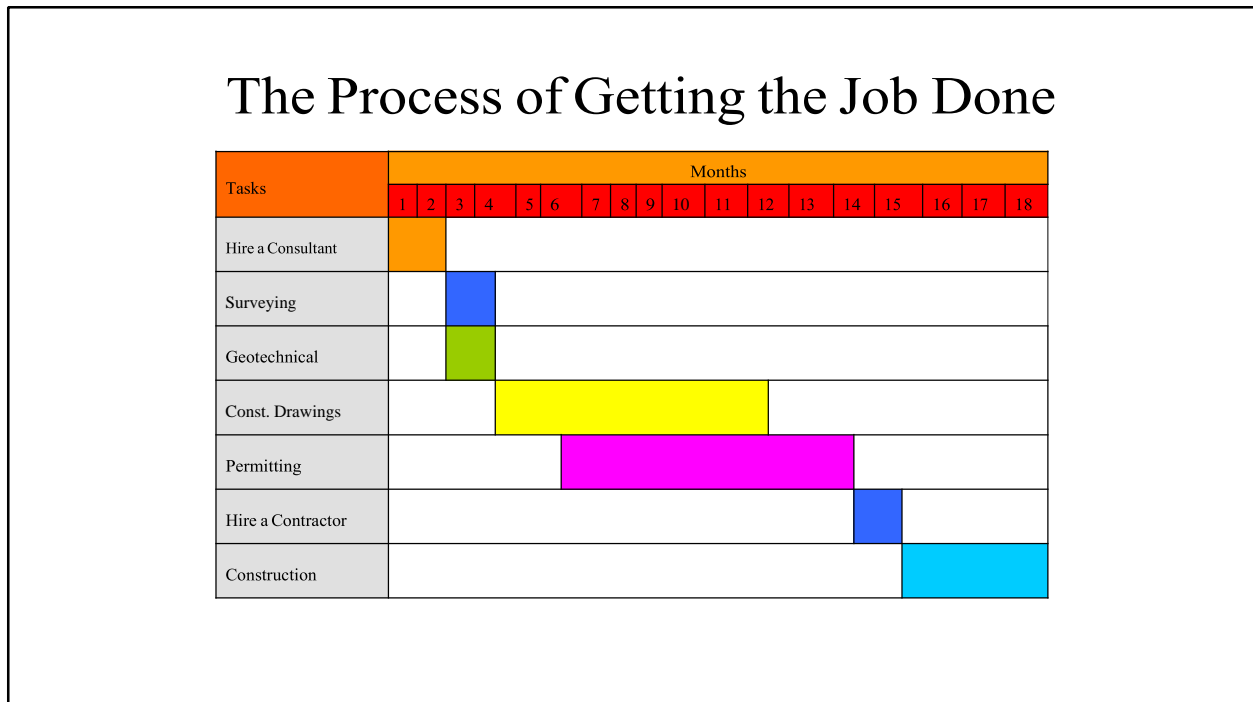
By adding the automated readouts to the existing piezometers, we are actually updating the "EKG" machine. The bottom line will be a quicker return of information and the ability to do it more often than once a year.

Piezometers play a vital role in ensuring the long-term stability and safety of dams, protecting both the infrastructure and the communities downstream.

It may take significant time to collect sufficient data for meaningful analysis. We should not expect useful updated information on a predictable timetable.

On October 22, Board member Cathy Brink attended a Dam Owners Workshop in Lincoln with our managing director Troy. In her own words: I attended the workshop as a learning tool for myself to help me understand some of the complexities we face as an association in owning and maintaining our dam. The workshop provided a lot of valuable information and one of the things that was helpful to me was the following chart that shows the timeline of a dam repair project like the one we are currently dealing with. In our current society, we tend to all have an instant reward mentality and are used to things being done

quickly. Many people ask questions from the board as to why things are not progressing faster than they are. This timeline portrays the average lifecycle of this type of project.



I found it helpful to know that we are not progressing much slower than expected but are pretty much progressing at a similar pace. I have confidence that we have qualified experts hired and working for us on this project and that a favorable outcome can be expected. We just need to have patience and trust the people with the knowledge and expertise to get us through this.

Staying Current

We are all understandably interested in this critical piece of our infrastructure.

Beaver Lake Association wants all our members to understand what is going on with our dam, and indeed, with all our infrastructure. The Association will continue to report at Board meetings when there is new information, and explain how that new information might affect our progress.

Members can learn the latest information by reading our newsletters or attending a Board meeting. Those always occur on the third Thursday of the month at 7:30 pm in the clubhouse. Meeting minutes briefly encapsulate reports, motions and their discussions but do not delve deeply into details. Minutes can be found in our [website's document library](#).

The Dam Task Force, through the Infrastructure Committee, will continue to publish reports on our website and in our newsletters when useful information is available.

We encourage members to attend Board meetings and read our newsletters and website news posts to keep current.

Questions should be directed to the office (402-235-2241) and/or Board of Directors.