

**Citizen's Advisory Panel Meeting Minutes
Lakeview Reservoir (Res 113) Two Zone System
Madison Water Utility
October 30, 2013, 6:00 PM**

Location: Dane County Department of Human Services Building

Purpose: Receive input from the Citizen's Advisory Panel (CAP) on water tower concept plans.

Attendees:	<u>Name/Title</u>	<u>Representing</u>
	Al Larson, PE	Madison Water
	Dennis Cawley, PM,	Madison Water
	Jon Strand, PE	SEH, Inc.
	Bob Mangas	Potter Lawson
	Keith Lippert	Communications Operations Supervisor, Madison
	Alder Anita Weier	District 18, City of Madison
	Laura Huttner	Dane County Facility Manager
	John Becker	CAP
	Nelson Eisman	CAP
	Mark Hottmann	CAP
	Jim Powell	CAP
	Dale Johanning	CAP

Distribution: Madison Water Utility Website

Display Items: Tower Concepts Handout

Discussion Items:

1. Introduction & Purpose – Dennis Cawley

Dennis provided an introduction and the purpose of the project, which is to improve system pressures, fire protection pressures, and replace aging infrastructure.

2. Discussion of 3 Alternatives for Design – Jon Strand

Jon provided an overview of the existing structures within the easement. Three of the structures are communications buildings that serve AT&T, Sprint, and Verizon. A pump building and the existing Lake View Reservoir tower are also located within the easement. The three design alternatives were discussed in detail.

Concept 1 outlines the two zone reservoir option with a single tower structure that serves both pressure zones.

- The upper tank would serve Zone 5 and have a capacity of 300,000 gallons, and the lower tank would supply an additional 1,000,000 gallons to Zone 6. The base of the reservoir would be 50 feet in diameter and would be wider at the top, with an approximate height of 140 feet.
- The two zone tower may not need a fence.
- Temporary telecom monopole would reach 150 feet in height, which would require FAA approval.
- An interior ladder to the reservoir would not be accessible to the public.
- CAP questions and concerns:
 - No co-location of antennas requested.
 - No exterior paint on the reservoir or use of Cor-Ten steel that will rust.
 - The DNR regulates the coatings on the exterior of the tank, and NSF certified paint is required for the interior.
 - The exterior may have algal growth due to condensation.
 - Trickle fed electric stream may mitigate issue.
 - Public access viewing point or observation platform.
 - Public art project for tank exterior.
 - Public Service Commission must review public art ideas for approval, and it is unknown if funding would be available.

Concept 2 outlines the construction of a single tower to serve Zone 6 and the use of an existing booster station to increase pressures in Zone 5.

- The tower would be shorter with this option.
- Communications would have issues due to the reduction in height of the tank.
- Booster station would require a full rebuild.
 - Emergency power would be required for booster station.
 - Larger booster pumps are needed with this option.
 - Energy use would be approximately the same.
 - DNR will review and permit this project, and their engineering preference is to provide storage rather than a booster station.
 - Building may be larger to accommodate new equipment.
- CAP questions and concerns:
 - Noise issue with emergency generator testing.
 - The use of hospital grade mufflers will be used to mitigate this issue.
 - Basis of 1,000,000 gallon storage requirement for Zone 6.
 - The current reservoir is undersized, and 12 hours of water supply during a power outage is required.
 - Fire protection requirements must be met.
 - Capacity will fulfill 100 year facility build out growth.
 - Consultants have agreed on 1,000,000 gallon capacity.
 - Efficient to locate on higher elevation, and the existing site has property easement in place.

- Concern about caves, fissures, and water transmission through fissures was raised.

Concept 3 involves the construction of two separate elevated tanks to serve Zones 5 and 6.

- This alternative will have a larger construction footprint, and more trees may have to be cut to accommodate the towers and construction efforts.
- CAP questions and concerns:
 - Advantages, if any, to this concept.
 - Initial cost may be lower due to standard designs of towers.
 - Taller spheroid may maintain an acceptable communication height.
 - Shorter tank (70 feet water depth plus 15 feet above overflow elevation) may provide option for a view tower.
 - Reuse of existing tower for viewing tower.
 - Outside entity would be required to determine if feasible.
 - Repainting would be required.
 - ADA compliance may or may not be required.
 - Elevators do not exist on WDNR towers.
 - In general, neighborhood has mixed opinions on idea for viewing platform.
 - Neighborhood does not want crowds due to increased levels of noise and traffic.
 - Dane County Parks is in favor of the least impact to the park.
 - Liability issues may prohibit viewing tower.
 - Eco zip line suggested.
 - Dog walking park functions suggested.
 - Bird populations may be impacted.
 - Surrounding trees are approximately 40 feet in height.

3. Schedule

- The Madison Water Utility Board will meet in January.
- Design and permitting will occur in early 2014.
- Temporary communications tower installation will occur in April 2014.
- Construction will last approximately 12 months.
 - Weather may impact construction schedule.
 - Concrete vs. steel construction may alter schedule.
- Booster station will have modifications made to maintain water service.
 - Temporary emergency generator and variable speed drive pumps will replace the existing tower water storage.
- Soil borings results will be available within the next few months, and a decision on the concept will be made.
- CAP questions and comments:
 - Soils boring reports asked to be made available for public viewing.

- Improvements to visual screening and landscaping are requested.
 - Layout of cell carrier towers.
 - Master plan of park.
 - Dormitory Demolition.
 - Dane County Parks will handle storm water management issues.
 - Suggestion that Dane County Parks is “hub” of master plan for all issues related to project.
 - Ideas for public viewing of project details solicited.
4. Security of Stored Water Structures
- Homeland Security rules adopted in 2001 applies for public water systems and storage tanks.
 - Secure perimeter required for public safety.
 - Concrete or plate steel construction required.
 - All access doors must be locked.
 - Public viewing platform may not be allowed, as public access is restricted for security.
5. CAP Feedback
- Concept 1 (Two Zone Tower)
 - 5 votes in favor.
 - Smaller footprint of two zone tank was most popular, and the two reservoir concept was the least liked.
 - Issue of aesthetics of structure raised.
 - Historical character of old tank liked.
 - CAP will have the ability to give input on color, exterior treatment, and logo design.
 - Bottom of steel tower needs to be smooth since water is being stored within.
 - Alder Anita Weier supports two zone tower concept.
 - Increased cell use of tower inquiry made.
 - Almost fully maxed out.
 - City radio will also be on top of upper tank.
 - 1 additional carrier could be added (max of 4).
 - 3 existing carriers include AT&T, Sprint, Verizon.
 - AT&T would like to add 3 additional antennas, for a total of 9.
 - Sprint has 9 existing.
 - Verizon has 9 existing.
 - Two carriers are located on Health Building.
 - Not present: US Cellular, T-Mobile, Cricket, Nextel.
 - State has usurped City control of cell tower issues.
 - Cell use of tower requires additional efforts before they can be approved.
 - Structural analysis.
 - Safety plan.

- Interference study.
 - Wisconsin engineer license required.
 - 2 working day notice for planned maintenance.
 - Equipment on ground must be enclosed in a building.
 - Cell companies review FCC standards.
 - Human, birds, bees, bats, etc.
 - New equipment would require new RF study.
 - Smart meter collectors need to be located away from cell antennas.
 - Cell COs have 3 sectors with 120 degree angle path on a tower.
- Additional Comments:
 - Nelson Eisman would like white building to be used as a storage building.
 - Dennis is open to the idea of providing some type of small storage building.
 - John Becker would like existing tower to be re-located.
 - City zoning does not want additional towers.

6. Next Meeting

Engineers' recommendations will be discussed during a CAP meeting the week of December 9th, 2013.