WLMAC MEETING NOTES OF June 14, 2011

Present: John Cipar, Greta Eckhardt, Chuck Olmstead, Paul Malchodi (late), Barry Rosen

Note Taker(s): Greta Eckhardt, Barry Rosen

Chairperson: Barry Rosen

Called To Order: The chairperson called the meeting to order on June 14, 2011 at 8:14 PM ET.

New Business:

1. Approval of Minutes:
   1.1. Mr. Olmstead moved and Ms. Eckhardt seconded a motion to accept the minutes of the WLMAC meeting of March 8, 2011. The motion was approved by a vote of 3 yes and 1 abstention.
   1.2. Mr. Olmstead moved and Mr. Cipar seconded a motion to accept the minutes of the WLMAC meeting held on April 12, 2011. The motion was approved by a unanimous vote.
   1.3. Ms. Eckhardt moved and Mr. Rosen seconded a motion to accept the minutes of the WLMAC meeting held on June 5, 2011. The motion was approved by a vote of 3 yes and 2 abstentions.
2. WLMAC Meeting Dates from July 2011 Through December 2011:
   2.1. The Committee discussed proposed meeting dates for the remainder of the calendar year. Even though some members felt that they might not be able to attend all of the meeting dates, it was felt best to continue our policy of holding scheduled meetings on the second Tuesday of each month. Additional meetings would be scheduled as needed depending upon the current project being worked-on by the Committee.
   2.2. Mr. Olmstead moved and Mr. Malchodi seconded a motion to schedule the July through December 2011 meetings on the second Tuesday of each month. A copy of the meeting schedule is attached. The motion was approved unanimously.

Old Business:

3. Water Capacity Study Preparation: The WLMAC continued its discussion and refinement of the *proposed* water capacity study for presentation to the AWD Board of Water Commissioners at their June 20, 2011 meeting. A copy of the latest revisions to the "outline" is attached to the minutes.

3.1. Chuck and Greta felt that Acton's current water supply was vulnerable to what could be taking place "upstream" (generally west) of us.

3.2. Paul felt that development in the two basins do directly affect Acton.

3.3. Chuck believes that there are many things which could have an effect on the Acton water supply which are, for the most part, out of our immediate control.

3.4. John expressed what may become a major item for the committee to consider. Regional control and/or protection will very likely need to be strengthened in the future.

4. Some Perspective On The Study: The members discussed whether they felt any recommendations made would encroach on the District operations.

4.1. The sense of the committee is that the final document will be more strategic than operational but may have some operational recommendations to the Board of Water Commissioners. The members did not feel that this would be an issue.

4.2. The entire WLMAC membership believes that we are a group that should be providing the "AWD Board" with advice which may have a different perspective from that of AWD staff as we are five sets of voices from the community.

4.3. Any recommendations made should be based on our assessment which the Board may choose to take, defer or ignore.

4.4. Paul explained that people in the community are confused. They don't understand some of the behaviors of the District. The "why's" and the time scale of water usage are not well understood. Our document may help explain things better if we address capacity as a function of time. We need to explain the four time frames to examine capacity.

Adjournment:

On a motion made by Mr. Olmstead and seconded by Mr. Cipar, the meeting was adjourned by a unanimous vote at 9:55 PM ET on June14, 2011

PROPOSED WLMAC MEETING DATES

July – December 2011

Meetings will be held at the Acton Water District Headquarters building conference room on the second Tuesday of each month beginning at 8:30 PM ET. Additional meetings will be scheduled as necessary.

The proposed scheduled meeting dates are:

- July 12
- August 9
- September 13
- October 11
- November 8
- December 13

WATER SUPPLY CAPACITY

A Report to the Acton Water District Commissioners

Draft outline

Water Land Management Advisory Committee

John Cipar
Margaretha Eckhardt
Paul Malchodi
Charles Olmstead
Barry Rosen

TABLE OF CONTENTS

EXECUTIVE SUMMARY

(Write this after rest of report has been assembled.)

INTRODUCTION

The water supply capacity of the Acton Water District is the result of a complex set of interrelationships between two systems: naturally occurring water resources and human-engineered infrastructure. An understanding of this capacity is critical to effective planning for District operations and improvements. Information on water supply capacity can also offer important input for planning by other municipal entities at town and regional levels.

In this report, water supply capacity of the District will be considered at four time scales, by looking at the amount of water available on a single day, over a short period of days, over a longer period of weeks or months, and on an annual basis.

Starting from an assessment of the District within its current limits coincident with the boundaries of the Town of Acton, we will also consider the effects of possible regionalization. Financial considerations will also be discussed.

(In this report we will also need to address the question of what is the desired end state toward which our recommendations would lead.)

COMPONENTS OF WATER SUPPLY CAPACITY

Key to both the natural and engineered systems are concepts of input, storage, flow and output.

Naturally Occurring Water Resource

Input

- Rain
- Melted snow
- Flow from neighboring districts

Storage

- Surface water
- Groundwater in unconsolidated soil and sediments
- Groundwater in bedrock fractures

Flow Paths

- Subsurface groundwater flow
- Surface runoff
- Streams and rivers

Loads

- Evaporation
- Evapotranspiration through plants
- Flow out of district.
- Withdrawal by humans via engineered infrastructure.

Human-Engineered Infrastructure

Input

- Groundwater
- Surface water
- Rain barrels
- Septic systems
- Water supply systems outside the District

Storage

- Reservoirs
- Storage tanks
- Residence within distribution system

Flow Paths

- Pumped distribution system
- Leaks

Loads

- Base level use by existing residences, institutions and commercial entities within District
- Estimated use by anticipated or planned new development.
- Fire protection
- Seasonal demands for landscape maintenance and pools
- Leakage and loss
- Water provided to entities outside District

Also need to consider:

- Water quality requirements
- Government (MA DEP) limits on withdrawal
- Methods of measurement

WATER SUPPLY CAPACITY TIME SCALES

Introduction: Understanding water supply capacity as a time scale issue

Daily Capacity at Peak Demand

How much water can be made available to ratepayers from system on a single day?

-

Effect on natural resource:

- No measureable direct impact:

Impact on infrastructure:

- Primary relationship to storage and flow capacity of system.
- Immediate practical impact of exceeding daily capacit: reduction of ability to fight fires

Regional considerations:

Financial considerations

Short-Term Capacity

How does continuous withdrawal for a period of days impact the water supply capacity of the system?

-

Effect on natural resource:

-

Impact on infrastructure:

-

Regional considerations:

Financial considerations

Quarterly Capacity

Under conditions of drought for 3 months during the summer, how much water can be withdrawn??

-

Effect on natural resource:

-

Impact on infrastructure:

-

Regional considerations:

Financial considerations

Annual Capacity

Over the period of a year, how much water can be withdrawn?

-

Effect on natural resource:

-

Impact on infrastructure:

-

Regional considerations:

Financial considerations

RECOMMENDATIONS

Planning periods

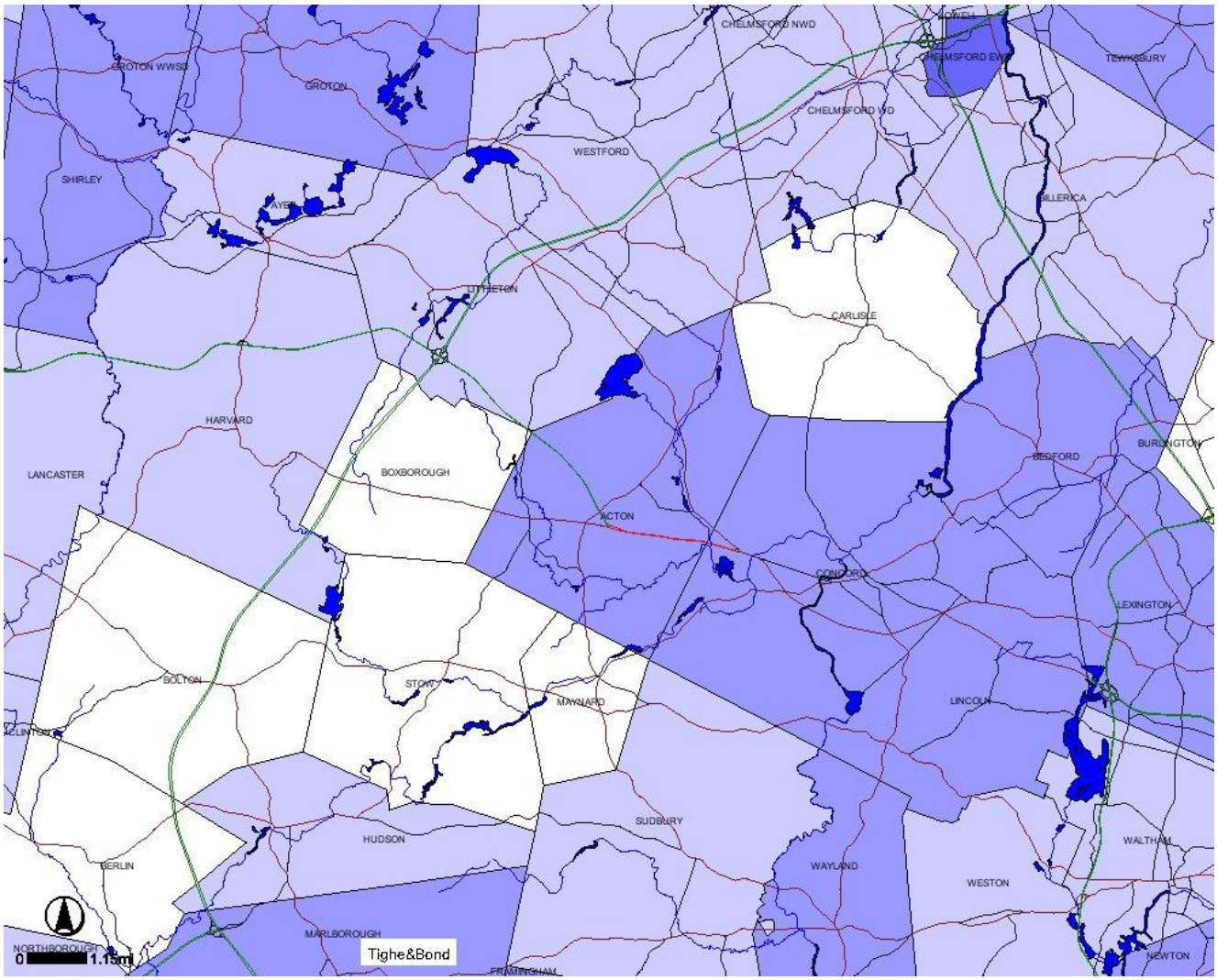
- Long-term: over the next 25 years
- Short-term: within the near future

Questions to address

- Need for additional storage capacity
- Potential for increasing number of wells and pumping capacity within District
- Opportunities for obtaining water from resources outside District
- Appropriateness of taking steps to limit water use within District.
- **Financial considerations**
- **Political considerations**

RESOURCES

Map 1. Public water supplies near Acton



The map of the Commonwealth which follows provides a state-wide perspective of the number of towns that have public water supplies (or did not participate) and the relative water costs. The darker the shade, the greater the cost to supply an "average" amount of water to a residence in that town. Remember that a town in white either did not participate in the survey or does not have a public water supply. Acton (appearing as a town in medium blue color) appears as a district that is providing water to its consumers at a cost that is about average within the state.

ACKNOWLEDGMENTS

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