MEETING NOTICE AND AGENDA

TOWN OF MANSFIELD ▪ FOUR CORNERS WATER AND SEWER ADVISORY COMMITTEE

Regular Meeting

Tuesday, February 7, 2012 ▪ 7:00 PM

Audrey P. Beck Municipal Building ▪ 4 South Eagleville Road ▪ Council Chambers

1. Call to Order

2. Approval of Minutes: January 10, 2012

3. Public Comment

4. Old Business
   a. **UCONN/Town Joint EIE Status**
      Update on progress to-date (Jason Coite)

5. New Business
   a. **Pump Station Design**
      Status Update (Lon Hultgren)

   b. **Water Workshop**
      Overview of Proposed Workshop (Matt Hart)
      See attached memo to Town Council regarding format

   c. **Water and Sewer Governance Discussion***
      See attached copy of governance section from UCONN 2007 Water/Wastewater Plan

6. Correspondence and Meeting Reports

7. Future Meetings
   a. **Agenda items for next meeting (March 6, 2012-Conference Room B)**

8. Adjourn

*This will become a regular item under Old Business on future agendas

Draft

TOWN OF MANSFIELD ▪ FOUR CORNERS WATER AND SEWER ADVISORY COMMITTEE

Meeting Minutes ▪ January 10, 2012

Present: Rawn (chair), Paulus, Reich, Ferrigno, Lennon, Hart, Plante, Thompson
Hultgren (staff), Painter (staff)

Guests: van Zelm (MDP), Coite (UConn Office of Env Policy), Lindsey (Town Council), Wassmundt (Old Tpke Rd), Hossack (Middle Tpke), Suprenant (Gurleyville Rd), Okeson (Northwood Rd), Koehn (Separatist Rd)

The meeting was called to order at 7:03 p.m. by chair Rawn.

Minutes

Paulus MOVED, Reich SECONDED to approve the November 15, 2011 minutes as written. The motion passed unanimously; Thompson was not present.

Old Business

- **EIE Status/UConn Coordination Update.** Jason Coite gave a presentation of progress made to date by Milone and McBroom on the joint EIE with regard to the potential interconnections with CT Water and Windham Water Works, as well as the continuing evaluation of the groundwater sites. Hultgren updated the Committee on the results of the test wells at Eagleville Preserve and noted that the Town in the process of obtaining the necessary permissions to test two additional sites near Mansfield Hollow as part of the Town's contribution to the EIE.

  Coite also noted that UCONN is proposing to amend the scope of the EIE to evaluate the relocation of Well A in the Fenton River wellfield further from the river. The notice of scope change was published in the Environmental Monitor on December 20, 2011. Based on the number of requests received, a public scoping meeting has been tentatively scheduled for January 24th at 5:30 p.m. at the Bishop Center.

- **Bond Referendum.** Hart provided an overview of the existing procedures for non-resident property owners to vote on bond referendums and noted that five non-resident owners voted in the most recent referendum. Rawn concurred with the overview provided and added supplemental information regarding specific procedures used at polling places to direct non-resident property owners to the registrar's office to vote.

New Business

- **Committee Staff Assignments and Responsibilities.** Painter noted that the Planning Office was now responsible for preparing meeting agendas and minutes. Painter and Hultgren continue to coordinate on substantive issues related to Four Corners. Paulus requested that future agendas include a time devoted to public comment. Rawn requested that public comment be added to future agendas at the beginning of the meeting, after approval of minutes. Rawn then asked if any of the members of the public present would like to address the Committee; no comments were received.
- **Economic Development Commission.** Hart informed the Committee that he was in the process of reestablishing the Economic Development Commission, which has been dormant for several years. Commission will focus on business retention, recruitment and job creation. Members will represent a cross-section of the community, including key economic sectors such as small business, property owners, agriculture and a representative from the university's economic development office. Plante

requested that Hart consider adding a realtor to the list of representatives. Rawn suggested that a liaison/dual member of the Four Corners Committee and Economic Development Commission might be appropriate to ensure coordination between activities. Hart expressed support for that idea if any members would be interested in serving on the Commission. If no one is interested, staff will keep the Committee informed.

- **HUD Community Challenge Planning Grant.** Painter provided an overview of the three projects that will be undertaken through the recently awarded HUD grant:
    - Sustainable Design and Green Building Action Plan
    - Housing and Economic Development Strategy
    - Rewrite of Zoning and Subdivision Regulations

  Reich questioned how resulting sustainability regulations would apply to UConn and suggested that staff research the prior Attorney Generals ruling that allowed the town to regulate university land that was not used for educational purposes, possibly issued around the time of the old UCEPI project. It was noted that ability of town to regulate certain types of development on UConn property would be important to understand given the forthcoming technology park. Painter also noted that UConn's Director of Environmental Policy is a member of the Sustainability Committee that will be taking the lead on that particular project.
- **Cumberland Farms.** Painter advised the committee that the Planning and Zoning Commission has received a special permit request from Cumberland Farms to construct a convenience store and gas station at the northeast corner of Routes 195 and 44. Painter noted that the project is subject to the new design standards adopted by the PZC last summer. Hultgren noted that the proposed design does not appear to meet some of the design criteria. Painter concurred and stated that the applicant was planning on requesting waivers from criteria such as building location adjacent to the streetscape and location of parking to the side and rear of the building. Reich cited the recent Mark Westa design concept for the area which included a green and bus stop on this property. She requested that staff coordinate with the applicant, WRTD and Connecticut DOT to get approval for a bus pull-off and shelter in this location. She also inquired as to whether Cumberland Farms was proposing any type of energy efficiency such as solar panel installation. Reich also noted that the break between the Fenton and Willimantic Watersheds goes through this intersection and believed that the Plan of Conservation and Development may have a policy recommending the elimination of gas stations within the Fenton River watershed. Painter agreed to work on the recommended bus stop and research the watershed issue raised by Reich.
- **UCONN/Connecticut Water Company Provision of Water to the Town of Mansfield.** Hart provided an overview of the Town Council's discussion on the letters from Kurt Heidinger and David Morse regarding the regulatory framework for the UCONN water system. Hart will be preparing a proposal as to how to best educate the Council and the community at large on water regulation in Mansfield. Members discussed the need for additional knowledge on the existing regulatory framework as well as the need to start learning about different governance structures that might be possible if the Town becomes more involved in the provision of public water based on its partnership with UCONN in the water supply EIE. Hultgren noted that the 2007 Water/Wastewater Master Plan for UCONN had an extensive section on governance; staff would forward a link to the document on the UCONN website to the members.

  The Committee determined that there was a need for more information on the existing regulatory framework and expressed interest in participating in a workshop on the subject with the Town Council. It was noted that representation from the Department of Public Health and/or Eastern Highland Health District would be helpful at that meeting. Additionally, the Committee acknowledged that future governance is an important issue that needs to be addressed; however, such discussions would be timelier once a new water supply has been identified through the EIE. Reich also expressed concern regarding potential mixing of water supplies; Hultgren concurred that mixing of water systems should be addressed in the EIE.

Future Meetings
Paulus MOVED, Plante SECONDED to approve the CY2012 meeting schedule as proposed. The motion passed unanimously.

The following requests were made regarding future meeting agendas:

- Reich requested that water system governance be added as a standing item to the agenda
- Hart requested an update on the pump station design at the February meeting
- Pursuant to the earlier request from Paulus, public comment will be added to the beginning of future agendas

Adjournment
Paulus MOVED, Lennon SECONDED to adjourn the meeting at 8:25 p.m. The motion passed unanimously.

Respectfully submitted,

Linda M. Painter, AICP
Director of Planning and Development

Town of Mansfield
Agenda Item Summary

To: Town Council
From: Matt Hart, Town Manager MWH
CC: Maria Capriola, Assistant to Town Manager; Lon Hultgren, Director of Public Works; Linda Painter, Director of Planning and Development; Robert Miller, Director of Public Health
Date: January 23, 2012
Re: Community Water/Wastewater Issues – Town Council Work Session

Subject Matter/Background

At the last meeting, the Town Council discussed a number of issues regarding the UConn water and wastewater system and the regulation of public water supply in Mansfield. As part of this discussion, the Town Council authorized me to respond to a communication from a concerned citizen (K. Heidinger) and to propose a format to provide for additional Council discussion on the topics and to solicit input from the public and interested stakeholders.

With that charge in mind, staff proposes that the Town Council conduct a work session that focuses on the regulation of public water and wastewater systems in Mansfield. In order to provide a more complete discussion of this topic, we suggest the Council extend the scope of the conversation to include both the UConn and Willimantic systems, as well as the regulation of community well systems. Specific topics that we would cover as part of the discussion would include the regulation of water quality, rate setting, aquifer protection, governance and land use issues, as well as service connections and other related topics. Staff suggests that we invite representatives from the Connecticut Departments of Public Health (DPH) and Energy and Environmental Protection (DEEP), and the Eastern Highlands Health District to present information on these topics. Our water consultant, Environmental Partners, could also be helpful. We also recommend that the work session include a question and answer period for both the Council and the members of the public. Staff would plan to advertise the work session to the general public via our usual communication means (e.g. QNotify, Channel 13, website) and suggests that we issue an invitation to various municipal commissions and committees, and agencies such as the Willimantic Water Commission, the University of Connecticut and the Connecticut Water Company, that either have a regulatory role or a specific interest in the topics to be discussed.

Staff believes the work session would serve to inform our work on current projects and initiatives, such as the Four Corners water and sewer project, the UConn/Town water supply initiative and the independent/assisted living project, as well as future Council policy regarding water and wastewater issues. We will be prepared to discuss the suggested work session format at Monday's meeting in order to determine whether the format would satisfy the Council's needs.

I have also attached, at the request of the Conservation Commission, a copy of the draft minutes from its January 18, 2012 meeting. The meeting included a discussion of the Mr. Heidinger's correspondence.

Attachments

1) M. Hart response to K. Heidinger 10/31/11 correspondence
2) Conservation Commission Draft Minutes, 01/18/2012

5.0 OWNERSHIP AND MANAGEMENT OPTIONS

5.1 Introduction

In this section, various forms of ownership and management of the University's water and wastewater systems are evaluated with regard to framework of operations, potential service area, regulatory implications and requirements, and advantages and disadvantages of each.

5.2 Review of Other University Utility Systems

As part of the master plan study, Milone & MacBroom, Inc. conducted a review of other university water systems and university-municipal water system partnerships in an attempt to identify similar arrangements that could offer examples to the University of Connecticut and the Town of Mansfield.

5.2.1 University-Owned Systems

To compile an initial screening list of potentially similar scenarios, the Environmental Protection Agency's (EPA's) Safe Drinking Water Information System (SDWIS) was reviewed for community and nontransient noncommunity university and college water systems in each of the 50 states. Only systems serving more than 1,000 people were compiled, as these were considered more likely to support off-campus customers. A total of 198 water systems in 36 states were found to be owned by academic institutions, with each serving more than 1,000 people.

Next, additional information was gathered and reviewed for each of the 21 systems that serve more than 10,000 people, not including the University of Connecticut. At a minimum, this included a review of each Consumer Confidence Report, the internet web site of each university's facilities or physical plant department, a review of any available campus master plans posted to the university's internet web site, and a review of the department of public works or water department web site for each university's host city or community. Appendix D contains a summary data spreadsheet of the university systems serving more than 1,000 people and a narrative that describes pertinent information compiled from the study of the systems serving more than 10,000 people.

The vast majority of the systems evaluated have one significant difference as compared to the University of Connecticut. Specifically, they are located adjacent to or wholly surrounded by municipal water systems. Therefore, off-campus customers near each institution can be served by the municipal systems. While it could not be readily determined if off-campus customers are served by university water systems in many of

these university towns, the fact remains that the availability of municipal water systems will circumvent many of the issues faced by the Town of Mansfield and the University of Connecticut.

Wright State University in Dayton, Ohio and Eastern Washington University in Cheney, Washington have situations that are similar (in part) to the University of Connecticut. At Wright State University, some university facilities are served by the municipal system, and some off-campus university-owned buildings are served by the university. A slightly different situation exists at Eastern Washington University, where some university facilities are served by the municipal system, while some off-campus private homes are served by the university. This is similar to the University of Connecticut serving private homes in Mansfield. In the case of Eastern Washington University, the provision for serving off-campus homes was arranged as a trade for the municipal system serving some university facilities. Based on discussions with university representatives, the university does not plan to serve additional off-campus buildings and in fact is reducing the number of private homes being served by purchasing them as they enter the market.

Washington State University in Pullman, Washington may be the closest example to the University of Connecticut. The university serves one off-campus water user (the regional airport). Additionally, a satellite campus serves one off-campus water user (an adjacent county facility) from its water system. Although the process for providing service to off-campus users is documented in written guidelines, the university does not intend to serve additional off-campus customers in the future. The reason for this decision is that the university's goal is to serve customers within its mission for providing higher education. It does not wish to take on any additional burden of dealing with off-campus non-university customers. As the airport undergoes planned redevelopment in the future, it is not anticipated that the university will serve the new commercial and industrial water users at the airport.

In short, there are very few model example systems wherein an educational institution is acting as a municipal water provider.

5.2.2 ***Systems Not Owned by Universities***

A review of other university water system arrangements was conducted to gain more information that could benefit the analysis herein. These arrangements are not university-owned public water systems and therefore were not uncovered in the review of the EPA SDWIS. Instead, a list of private and public universities in rural settings was compiled, and these were reviewed based on the probability that unique water service arrangements may be possible due to geographic constraints. Two notable examples are described below.

State College Borough Water Authority in central Pennsylvania maintains approximately 13,300 metered services and 220 miles of water mains in State College Borough and parts of Benner, College, Harris, Halfmoon, Patton and Ferguson Townships. In addition, the Authority maintains seven wellfields, the Shingletown Reservoir and a 6.0-million gallon per day water treatment plant. Average daily use by over 65,000 people is 5.5 million gallons per day (mgd), with a peak day demand of 7.7 mgd. Thirteen water storage tanks have 15.75 million gallons of storage capacity. The largest water user of the Authority is Pennsylvania State University, located in State College. The budget of the Authority is $6 million, with over $2 million scheduled for capital improvements each year. The board of directors consists of seven members representing the borough and townships listed above, and the Authority has 34 employees.

The State College Borough Water Authority has an interesting history. In 1896, the State College Water Company, a privately owned firm, went into production. It continued until 1936, when the Borough of State College purchased the entire operation. The State College Borough Water Authority was incorporated by the Borough of State College in 1940 under the Pennsylvania Municipality Authorities Act. The Authority has the ability to construct, acquire, own, operate, improve and maintain water works, water supply works and water distribution systems. In 1941, the State College Borough Water Authority purchased the water system from the Borough of State College. Improvements to the water system began immediately after the Authority assumed operations. Over the years, bonds have been issued at various times to supplement Authority earnings for many capital improvements, including well exploration, replacement of smaller pipes with larger mains and construction of water storage tanks.

Dartmouth College obtains its water through a joint system with the Town of Hanover, New Hampshire. The system is jointly owned by Dartmouth (52.8%) and the Town of Hanover (47.2%) and is regulated through a Public Utility Commission. A board of directors comprised of five representatives of the college and four from the town manages the utility, with all decisions made by consensus. Town of Hanover staff operate the utility and its infrastructure.

At the present time, efforts are underway to convert this system to a municipal utility. Conversion to a municipal utility is expected to streamline reporting requirements and offer alternative methods for financing capital improvements. As a private utility, system upgrades and expansions can only be made through private investment. Conversion to a public utility operated by the municipality will allow for the use of municipal revenue bonding and other types of public funding to be used for system improvements. At the present time, there is a conflict between the college and the Town of Hanover with respect to the disposition of watershed lands. The utility owns watershed lands that the college would like the ability to develop in the future, while the Town of Hanover would like to preserve these lands as open space. Until this conflict is resolved, the utility will continue to operate in its current form.

State College Borough Water Authority and Hanover Water Company provide examples of regional and nonregional water utilities that serve universities as their major customers. In the case of State College Borough Water Authority, Pennsylvania State University does not have direct representation on the board. Dartmouth College does have direct representation on the board that oversees Hanover Water Company.

5.3 Background and Setting

5.3.1 Water Supply

Connecticut residents and businesses obtain their drinking water either from private individual wells or through a public water supply system wherein water is delivered through a supply pipeline with service connections to individual buildings. Public water systems can be owned and/or operated by municipal water departments, regional water suppliers, or private water companies.

The pattern of water usage in the town of Mansfield is the result of institutional, residential, and commercial growth within its municipal borders and in the adjacent neighboring towns. The majority of residents and many of the businesses in Mansfield are served by individual private water supply wells. Other areas in town are served by public water systems, and still others are served by small community water systems that serve individual developments. The University of Connecticut system serves on-campus uses as well as private properties off campus.

The town of Mansfield has a unique composition of public water supply systems, although the presence of many small disconnected water utilities is not entirely uncommon in rural communities throughout Connecticut. The connectivity of the on-campus and off-campus connection extends well beyond the normal single interconnection point shared by many water utilities.

5.3.2 Wastewater Collection and Treatment

Connecticut residents and businesses typically rely on privately owned on-site disposal (septic) systems, community sewerage systems, or municipal sewerage systems for the treatment and disposal of domestic wastewater or sewage. It is the responsibility of a municipality, through its water pollution control authority, to plan for areas that will be served by its own municipal sewerage system, to plan for areas where sewers will be avoided, and to plan for areas where community sewerage systems or other decentralized wastewater management districts would be appropriate. It is also the responsibility of the municipality to ensure that community sewerage systems are effectively managed.

Connecticut law allows any two or more municipalities to jointly acquire, construct, and operate all or any part of a sewerage system. In addition, the municipality (or special district of the town) may enter into contracts with an adjoining municipality (or special district of the town) for connection and use of their sewerage system. These arrangements are often referred to as intermunicipal agreements. Special state acts have in the past created regional sewerage districts for the purpose of collecting and treating wastewater. In 1995, legislation made it possible for two or more municipalities to create a regional water pollution control authority by adopting the provisions of Connecticut General Statutes 22a-501 through 22a-519. These statutes define the means by which the municipalities can create a regional authority and the powers of that authority.

Unlike utilities such as water or electricity, which have been provided by both the private and public sector, the demand for water pollution control has historically been provided by local governmental to ensure the health and welfare of its citizens with regard to municipal and industrial pollution. These publicly owned treatment works (POTWs) receive special treatment under the Clean Water Act, while privately owned systems may be subject to additional requirements under the Resource Conservation and Recovery Act (RCRA).

While there are no known instances where a public wastewater utility has been sold to a private entity in Connecticut, there is one example of a privately operated wastewater utility in Connecticut. Heritage Village in Southbury is the only privately owned and operated water and wastewater utility that is regulated by the Department of Public Utility Control (DPUC).

There are some national examples of contracts between municipalities and privatized entities to construct, own and operate water pollution control facilities. In 1984, the City of Auburn, Alabama, a university town of 34,000 people, was unable to secure federal funding for the badly needed upgrades of its two aging water pollution control plants; therefore, it competitively bid a contract to build and own two new treatment facilities. The City retained the rights to review rates, and the contract defined the terms under which cost increases could be reflected in the rate and the City's right to purchase the plants. The City eventually purchased the plants in 2001 because it needed to further expand the treatment capacity.

Other examples of private ownership or leasing of wastewater infrastructure can be found in Franklin, Ohio and Cranston, Rhode Island; however, neither municipality fully relinquished control over the long-term management responsibilities of the wastewater system such as the contract management of the private owner/operator, permit responsibility, setting of rates, paying for long-term improvements or expansions, and defining service areas.

The University of Connecticut's sewerage system is a state-owned facility and meets the definition of a POTW. The system is also operated in a manner similar to a municipally

owned system. The discharge permit for the water pollution control facility is a municipal type discharge permit. The University has its own rules and regulations governing the operation of the sewerage system, similar to how a municipality would establish its own sewer ordinances. The University's utilities management staff, acting ultimately through the Board of Trustees, essentially act as the University's water pollution control authority, determining the rates for services and which projects within the campus or outside of the campus will be served by the University's sewerage system.

As a state-owned system, user rates are not regulated by the DPUC. Over the many years of its existence, the University's sewerage system has extended service to many non-university properties. These include Town of Mansfield properties, residential properties in the vicinity of the Main Campus and Depot Campus, apartment complexes, and commercial and retail properties.

The Town of Mansfield has its own Water Pollution Control Authority (WPCA) made up of members of its Town Council. Mansfield's WPCA owns and operates the following separate sewerage systems:

→ One sewerage system serves municipal properties along South Eagleville Road and is connected to the University's sewerage system through a town-owned pump station and force main. The Town of Mansfield and the University have a written agreement establishing the terms by which the University will convey and treat sewage from this service area in the town of Mansfield. This agreement is the equivalent of an intermunicipal agreement between Mansfield and the University.

→ Mansfield's second sewerage system is located in the southern portion of town. Mansfield's WPCA operates its own collection system in this part of town, and treatment is provided by the Town of Windham's water pollution control facility (WPCF). The Town of Mansfield and the Town of Windham have a written (intermunicipal) agreement establishing the terms by which Mansfield shares in the ownership and operation costs of the Windham WPCF. Currently, Mansfield owns 9% of the flow capacity of the Windham WPCF and is responsible for contributing towards capital projects based on its 9% ownership of the plant. Within the agreement, Mansfield is responsible for payment of operating costs based on its actual percentage of flow sent to the plant.

5.4 Overview of Options for Future Utility Services in Northern Mansfield

Several options exist for water service ownership and operation in northern Mansfield as described in the following sections. Since management and ownership schemes are often similar for both water and sewer systems, this section addresses both utilities. However, there are alternatives that are applicable to only one utility. The following is a summary of alternatives evaluated:

1. Continued operation by the University;
2. Town of Mansfield ownership and operation;
3. Privatized service;
4. Establishment of a regional utility;
5. Establishment of a special public utility authority; and
6. Private – public lease arrangement.

5.5 Continued Ownership and Management by the University

5.5.1 Framework of Operations

The University may continue to provide public water and sewer service with no need for legislative intervention and no change in ownership. At the present time, Connecticut Water Company (CWC) provides contract operation services for the water system at the University. Through its contract, CWC has completed numerous infrastructure improvements such as well pump replacements. The wastewater collection and treatment system is largely owned and operated by the University with the exception of portions of the off-campus collection system that are owned and maintained by the Town of Mansfield. There are also privately owned pump stations and force mains serving Holinko Estates and Celeron Apartments that tie into the collection system.

If the University were to retain ownership and operation of its water and wastewater systems, it could contract out all or a portion of operations of the water and/or wastewater system. Alternately, the University could maintain staff that is dedicated to operation and management of these utilities.

In order to effectively manage the water and wastewater operations, staffing commensurate with that of traditional water and wastewater utilities would be needed. This would include certified system operators; administrative staff to complete reporting, record keeping and billing operations; and engineering and management staff to develop capital improvement programs for both water and sewer systems. These functions have historically been performed through the University's Facilities Operations. At least one additional certified operator would be needed on the water system side.

5.5.2 Potential Service Area

The University's existing water and sewer service areas are depicted on Figure 2-1 and appended mapping. Figure 2-2 reflects the preferred water and sewer service area of the Town of Mansfield per its 2006 Plan of Conservation and Development. Future water and/or sewer service is not anticipated to be required or desired beyond these identified areas.

5.5.3 *Regulatory Implications and Requirements*

Under this ownership scenario, the University's water and wastewater systems would continue to be regulated through the Connecticut Department of Public Heath (DPH) and the Connecticut Department of Environmental Protection (DEP). The following programs and operational responsibilities apply:

Water Supply Operations

→ Raw water, treated water, and distribution water monitoring and reporting – DPH
→ Required cross connection surveys – DPH
→ Compliance with the recently executed consent order – DPH
→ Compliance with and periodic renewal of the Water Diversion Permit – DEP
→ Periodic water supply plan updates (voluntary) – DPH

Wastewater Collection and Treatment Operations

→ National Pollutant Discharge Elimination System (NPDES) Discharge Permit monitoring requirements – DEP
→ Compliance with and periodic renewal of the NPDES Permit – DEP
→ Facilities planning when plant flows and loads reach 90% of design capacity – DEP

5.5.4 *Advantages*

Advantages to the University's continued operation of these systems are as follows:

1. Staff familiarity with system.

2. Potential economy of scale may be realized through the operation of the water and wastewater utilities.

3. Required legislative and regulatory permits and authorizations are currently in place.

4. Potential cost savings that may be passed on to the end users due to use of Facilities Operations staff for multiple systems (i.e., water, sewer, heating and cooling, stormwater, gas, etc.).

5. The University, as a state entity, would continue to be eligible for funding wastewater infrastructure improvements through a state grant program and would not have to compete with other municipalities for available funding from the Clean Water Fund.

6. Operation of a state-owned system is likely to have financial benefits. An attempt to quantify the cost of operation and maintenance along with the benefits of off-campus user revenues is underway and will be compared against potential future water purchase.

5.5.5 Disadvantages

Disadvantages to the University's continued operation of these systems are as follows:

1. Operation of public utilities is not central to the University's core mission.

2. System operation represents a potential liability to the University in the event of a failed system component or operational malfunction.

3. Lack of off-campus expansion would effectively limit the town of Mansfield's development potential.

4. The DPH's consent order raises some concern relative to the past management and operation of this system. The potential impact of this recent action on water rates to off-campus customers is unclear.

5.6 Ownership and Management by the Town of Mansfield

5.6.1 Framework of Operations

Ownership and operation of a municipal water and/or wastewater utility by the Town of Mansfield is a potentially viable alternative to continued ownership and operation by the University. While it does not appear that the purchase by the Town of this infrastructure would require legislative action, the Town would need to develop an ordinance establishing a water and sewer commission and establishing the framework for its operation. Development and implementation of such an ordinance will require a Town vote.

Assuming Mansfield was to adopt local legislation to implement this option, the financial details of a transfer of assets would likely require detailed valuation of the University's resources associated with these systems. Such a valuation is typically performed by an accounting or asset management firm specializing in utility transactions. In addition, the Town would need to develop a rate structure to support the ongoing operation and maintenance of the utilities, including future capital improvements.

Since many of the University buildings are unmetered, transfer of water system ownership would require development of a metering system to be implemented by the Town. The University would be the largest customer in this system, making the accurate measurement of the utility usage critical to its successful operation. Water metering is typically used as the basis for the assessment of wastewater discharges; therefore, metering would serve both utilities.

It is anticipated that the University would need to maintain its own water distribution and wastewater collection systems to serve on-campus buildings. Typically, water distribution and wastewater collection piping within public rights-of-way are owned and maintained by the utility, with lateral connections and internal building piping owned and maintained by the customer (in this case, the University). All infrastructure that is located outside of the public right-of-way would be the responsibility of the University, including its separate fire lines.

Similar to operation by the University, in order to effectively manage the water and wastewater operations, the Town of Mansfield would need to employ staffing commensurate with that of traditional water and wastewater utilities. This would include certified system operators; administrative staff to complete reporting, record keeping and billing operations; and engineering and management staff to develop capital improvement programs for both water and sewer systems. Alternately, Mansfield could contract out all or a portion of operations of the water and/or wastewater system.

One of the complexities with a transfer of ownership and operation is the difficulty in determining the point of separation of the "public" and "private" water distribution mains and wastewater collection system piping since the piping for both systems often strays off the main roadways through quadrangles and between buildings. Unless an intricate system of easements and metering were to be implemented, this separation would be extremely difficult. Further complicating the process is the fact that the water distribution system comes into and out of the campus in multiple locations, therefore necessitating multiple in-line metering. In the long term, this could be corrected by rerouting the distribution main so that it occurred completely within public roadways and rights-of-way. However, this would be a costly endeavor.

The wastewater collection system is similarly complicated with main collection sewers serving off-campus properties running through the campus grounds and/or quadrangles. It is likely that an intricate system of easements would be required to allow the owner of the wastewater system to own, operate, maintain, and if necessary expand the wastewater system to serve off-campus properties.

5.6.2 ***Potential Service Area***

The potential service area for both water and wastewater utilities would likely be determined by need, available water supply and wastewater treatment capacity, and by available funding. The on-campus service area would be straightforward and would include all University-owned land. The Town of Mansfield's 2002 Water Supply Plan coupled with its 2006 Plan of Conservation and Development would form the basis for short-term and long-term water service area determination off campus. The initial service area for both utilities would be exactly as it is under the University's current ownership. Over time, it is expected that the Town would expand the water service area

to promote economic development consistent with its 2006 Plan of Conservation and Development. Sewer service area expansion would follow a similar course.

5.6.3 Regulatory Implications and Requirements

The transfer of regulatory permits and authorizations would require significant coordination. This would include the current water diversion registration and the NPDES wastewater discharge permit held by the University. While there is a mechanism for transfer of a diversion permit upon transfer of ownership, the DEP has some discretion as to the manner in which that occurs. The Town could potentially be required to submit a new application for review and approval by the DEP. Given the recent issues surrounding the Fenton River, there is a possibility that the current diversion rates would not be permitted. The same could be true for the Willimantic Wellfield. The current standards of review for diversion permitting are far more stringent than the previous registrations and diversion permit renewals.

DPH approval would be necessary for the transfer of water company lands, including land surrounding the two wellfields. The land associated with much of the infrastructure is currently owned by the University. It is unclear whether or not the University would elect to transfer the land associated with the storage tanks and the High Head Chemical Feed facility and possibly other water and wastewater infrastructure since these facilities are in the middle of the Main Campus and surrounded by University-owned property. If the University were to transfer this land, a subdivision approval would likely be needed from the Town of Mansfield's Planning Commission. An alternative to the transfer of such land would be the granting of easements adequate to facilitate maintenance access. This issue would need to be evaluated further before a DPH permit could be filed.

All other regulatory responsibilities identified in Section 5.6.3 would also apply to the Town of Mansfield under this ownership scenario.

5.6.4 Advantages

Advantages to Mansfield's operation of the water and wastewater systems are as follows:

1. The University would be relieved of the burden of operating the water and sewer utility, affording it the opportunity to focus on the core missions of education and research.

2. The Town, through its existing Department of Public Works, may be in a position to merge some of its administrative functions within the framework of a new municipal utility.

3. Mansfield would acquire additional flexibility in determining and setting the limits of water and wastewater service areas within its town boundaries, within the constraints of water supply availability, sewage system capacity, and funding. Any water-saving measures at the University would be purely voluntary on the part of the University.

5.6.5 Disadvantages

Disadvantages to Mansfield's operation of the water and wastewater systems are as follows:

1. The Town would incur administrative, technical and legal responsibilities as a water and wastewater provider, including financial responsibility for future capital improvements.

2. Mansfield would inherit existing infrastructure and environmental issues associated with the University systems, including uncertainties regarding the location, age and condition of the majority of the water service piping, wastewater collection system piping, and the environmental issues associated with the Fenton River.

3. Additional costs incurred by the Town could potentially have a negative impact on water and sewer rates within the existing and future service areas, although that may be the case under any of the scenarios evaluated.

4. In the process of transferring ownership of the utility infrastructure and associated land, the University will also give up its autonomy as a utility provider.

5. Metering of the University water service will be difficult given the complexity of the distribution system and the fact that it is commingled with the distribution system needed to serve the town.

6. Although the Town would continue to be eligible for funding of wastewater infrastructure improvements through the Connecticut Clean Water Fund, it would have to compete with other municipalities for the available funding.

7. Transfer of the diversion registration could jeopardize the authorized diversion rate allowed by the DEP.

5.7 Privatization

5.7.1 Framework of Operations

Privatization is an alternative that would generally be suitable only for water service. Under this alternative, the wastewater system would either need to be retained by the

University, transferred to the Town, or transferred to a separate authority. The EPA's guidance on the Privatization of Federally Funded Wastewater Treatment Works indicates that although the sale of publicly funded wastewater facilities to private entities is allowed under Executive Order 12803 issued in 1992, this option has rarely been used because of discharge permit and tax-related issues.

Nearly all of the privatization of publicly owned wastewater facilities has been in the form of contract operations in which ownership and control of the system remains with the public entity. The contract operations form of privatization is an option regardless of what entity owns the wastewater system. As indicated previously, the few examples of privatization involving ownership of a portion of the wastewater infrastructure involve long-term contracts that must be managed and in which the municipality does not relinquish long-term control over the management of the system. Since this is a much different concept than a privatized water utility, a privatized wastewater utility will not be considered within the framework of this discussion.

Under a privatized water utility structure, water system assets (with the exception of distribution mains and piping located on University property) would need to be valued and then sold to an established nonmunicipal public water company in Connecticut. The sale and water usage rates would be the subject of a DPUC rate case. Implications for the transfer of land associated with the water assets would be similar to those described under the discussion of transfer to the Town of Mansfield.

As with transfer to the Town of Mansfield, it is anticipated that the University would need to maintain its own distribution system to serve campus buildings. Typically for other institutional users such as the University, distribution piping within the public rights-of-way would be transferred to the utility, with meters installed at or near the right-of-way line. All infrastructure not within the public right-of-way would still be the responsibility of the University, including the need to run separate fire lines.

5.7.2 Potential Service Area

Most privately owned water utilities seek to grow their customer base. This would bode well for those areas of Mansfield in current or future need of public water. However, the goals and objectives of a private water company relative to the extent and location of its service area may or may not be compatible with those of the municipality, its residents, or the utility's customers. Development pressures tend to increase as a result of having available public water service, a pressure that can sometimes influence development patterns and density. A private entity would be subject to the same funding and available water constraints as the University and/or the Town of Mansfield. The difference, however, would lie in the financial resources of the private water utility that acquired the system.

It is unlikely, although not impossible, that a single private entity would have both the technical ability and the interest in purchasing both the water and the wastewater utilities.

5.7.3 Regulatory Implications and Requirements

Under this scenario, the transfer of DPH and DEP permits would be necessary in addition to DPUC involvement, both initially and on an ongoing basis. As previously described, Sale of Water Company Lands permitting required through the DPH would be required as well as a determination on the disposition or easement access to University lands where water storage and treatment facilities are located. All other regulatory responsibilities identified in Section 5.6.3 would also apply to a private water utility under this ownership scenario.

5.7.4 Advantages

Advantages to privatization of the water system are as follows:

1. The University would be relieved of the burden of operating the water and sewer utility, affording it the opportunity to focus on the core missions of education and research.

2. Water service to existing areas would continue under this scenario. In addition, the utility would likely support future development within the town, as such development would increase its revenue base.

3. A qualified water utility is supported by professionals who have received training and education in the water industry, many of whom are certified and affiliated with professional and trade organizations.

4. A profit-based entity will be incentivized to run its system efficiently, as may be evidenced by the utility's track record.

5. An existing, established utility may offer resources and an economy of scale of staff, expertise, and administrative functions.

5.7.5 Disadvantages

Disadvantages to privatization of the water system are as follows:

1. Private water utility ownership would reduce the amount of control held by both the University and the Town of Mansfield in determining the limit of service areas as well as water rates. Additionally, the University would give up its autonomy as a utility provider.

2. The implications of such a transfer on water use rates are unclear. While the DPUC would control the rate structure employed, private water utilities are profit based.

3. Metering of the University water service will be difficult given the complexity of the distribution system and the fact that it is commingled with the distribution system needed to serve the town.

4. Transfer of the diversion registration could jeopardize the authorized diversion rate allowed by the DEP.

5.8 Regional Water and Wastewater Authority Structure

5.8.1 Framework of Operations

There are a few regional water and/or wastewater providers in Connecticut. The Metropolitan District Commission (MDC) serving the greater Hartford area, the South Central Connecticut Regional Water Authority (SCCRWA) serving the greater New Haven area (water only), the Southeastern Connecticut Water Authority (SCWA) serving southeastern Connecticut (water only), the Greater New Haven Water Pollution Control Authority (sewer), the Bolton Lakes Regional Water Pollution Control Authority serving Bolton and Vernon (sewer), and the Mattabassett District (sewer) are the primary regional water and wastewater providers in Connecticut that serve multiple towns.

The Greater New Haven Water Pollution Control Authority was created in 2005 to purchase, own, and operate the wastewater assets (and operate as the water pollution control authority) in New Haven, East Haven, Hamden and Woodbridge. The Bolton Lakes Regional Water Pollution Control Authority was created in 2005, is governed by representatives from both towns (Bolton and Vernon), and is financially backed by both towns. The Mattabassett District is an example of a regional authority created to operate a trunk sewer system and water pollution control facility that serves the WPCAs of New Britain, Berlin, and Cromwell.

The municipalities surrounding Mansfield include the rural communities of Coventry, Ashford, Chaplin, and Columbia, areas where public water service is not likely to be needed in the foreseeable future. The more populated communities of Tolland and Windham are currently served by public water providers, and Willington is served by a number of small water providers.

Given the limited need for public water and sewer service in and around Mansfield, development of a regional water and wastewater authority is not considered a practical or appropriate alternative at this time. Therefore, it was not evaluated further.

5.9 Special Public Water and Wastewater Utility Authority Structure

5.9.1 Framework of Operations

The development of a joint Mansfield/University authority is possible. Such an authority could have representation by both the University and the Town of Mansfield but be operated independently of both the University and the municipal government. This would be similar to the scenario under which Dartmouth College is operating. Hanover Water Company is a private utility regulated by the New Hampshire Public Utility Commission. The water utility is jointly owned by Dartmouth College (52.8%) and the Town of Hanover (47.2%). The board of directors is composed of five Dartmouth College appointees and four Town appointees. The utility is operated by town staff. There are no such known entities operating in Connecticut. Accordingly, further research would be necessary relative to the legal framework and feasibility of such an entity.

In theory, a special public water and sewer authority could operate independently, with no legal authority to levy taxes or develop and enforce zoning regulations but with the power to levy fees for water and wastewater services. It would probably be considered a not-for-profit "water company" under state statute but could also potentially be regulated by the Connecticut Department of Public Utility Control (DPUC). Creation of a special public water and sewer authority within the Town of Mansfield will likely require a legislative act and would certainly require modifications to the Town ordinances.

Under this scenario, the utility would need to be established as an independent entity with an organizational structure capable of supporting the necessary administrative, operational and technical functions. Such an entity would need to have a board of directors or other governing body. In addition, office space and staff would be needed. It is unclear how such an authority would finance major capital improvements unless it was given, through state legislation, powers similar to that of a regional water and sewer authority. The ability of the authority to qualify for Clean Water Fund grants and loans would be a major factor in its economical viability as a sewer authority.

Similar to operation by the University or the Town of Mansfield, in order to effectively manage the water and wastewater operations, the authority would need to employ staffing commensurate with that of traditional water and wastewater utilities. This would include certified system operators; administrative staff to complete reporting, record keeping and billing operations; and engineering and management staff to develop capital improvement programs for both water and sewer systems. Alternately, the authority could contract out all or a portion of operations of the water and/or wastewater systems.

5.9.2 *Potential Service Area*

The service area of a special public water and sewer authority could include the existing University service area as well as discrete areas within Mansfield. Again, if the authority had representation from both the University and the Town of Mansfield, the service area needs of both could be accommodated. As with other alternatives, a special public water and wastewater authority would be subject to the same funding and available water constraints as the University and/or the Town of Mansfield.

5.9.3 *Regulatory Implications and Requirements*

Creation of this form of utility would likely require legislative action and would require modification of Mansfield's ordinances. DEP permits (both diversion and NPDES discharge permits) would need to be transferred, and the DPH would need to approve any transfer of water assets from the University to the utility if that were to occur. As previously discussed, this transfer of assets has numerous implications and considerations. All other regulatory responsibilities identified in Section 5.6.3 would also apply to a regional water and sewer authority under this scenario.

5.9.4 *Advantages*

Advantages to a special public water and wastewater authority are as follows:

1. Under this scenario, the University and the Town of Mansfield would both have input but without the burden of running their own independent system.

2. University staff with familiarity with the system could serve on or be advisory to the Board.

3. Potential economy of scale may be realized through the operation of the water and wastewater utility.

4. The authority would continue to be eligible for funding wastewater infrastructure improvements through a state grant program.

5. Operation of a public system is likely to have financial benefits. An attempt to quantify the cost of operation and maintenance along with the benefits of off-campus user revenues is underway and will be compared against potential future water purchase and wastewater disposal.

6. Mansfield would acquire additional flexibility in determining and setting the limits of water and wastewater service areas within its town boundaries within the constraints of water supply availability, sewage system capacity, and funding.

5.9.5 Disadvantages

Disadvantages to a special public water and wastewater authority are as follows:

1. There is no model in Connecticut for a nonregional water and wastewater authority. Accordingly, there are many uncertainties relative to the legal and practical aspects of establishing and operating such an entity.

2. This will require establishment of an independent new utility, requiring cooperation and coordination between the University and Town, adding a level of complexity to the development of the utility that does not exist with some of the other alternatives.

3. The ability of the new authority to raise funds for the purchase of the system assets or for future expansions may be more difficult due to a lack of credit history.

4. If the authority is treated as a municipality for the purposes of obtaining grants and loans from the Clean Water Fund, it will still have to compete against other municipalities for available funding.

5. Transfer of the diversion registration could jeopardize the authorized diversion rate allowed by the DEP.

5.10 Public-Private Lease Structure

5.10.1 Framework of Operations

In a public-private lease structure, the ownership of the utility and all infrastructure would remain with the University. However, the operation and maintenance of the system would be transferred to a private contractor for an up-front payment and an annual lease fee. Revenues associated with the provision of services would be collected by the private contractor. Lease agreements are long term, typically ranging from 15 to 25 years. This is not entirely dissimilar to the current relationship between the University and CWC for the water system; however, the arrangement as conceived here would be long term and include a negotiated lease agreement.

A web search identified only two lease agreements in the United States: Cranston, Rhode Island and Hawthorne, California. The Hawthorne agreement was the first in the nation and involves a 15-year contract with Cal Water. An up-front payment was made for $6.5 million with an additional annual lease payment of $100,000. Cal Water is responsible for operation, maintenance and all capital improvement projects relating to the City's water system. They can raise rates accordingly, but the City Council has final approval on any proposed rate hikes.

The definition of a "water company" as defined in Section 25-32a of the Connecticut General Statutes implies that a lease operation is allowable. The definition is as follows (underline emphasis added):

Water company means any individual, partnership, association, corporation, municipality or other entity, <u>or the lessee thereof</u>, who or which owns, maintains, operates, manages, controls or employs any pond, lake, reservoir, well, stream or distribution plant or system that supplies water to two or more consumers or to twenty-five or more persons on a regular basis provided if any individual, partnership, association, corporation, municipality or other entity <u>or lessee</u> owns or controls eighty per cent of the equity value of more than one such system or company, the number of consumers or persons supplied by all such systems so controlled shall be considered as owned by one company for the purposes of this definition.

The Connecticut Water Company has entered into public-private lease arrangements for several systems within the state of Connecticut, each with its own unique terms and conditions. Further research would be necessary relative to the legal framework and feasibility of a public-private lease structure for the University system. Development of a lease structure would require both financial and legal review. The value of the lease would need to be established based on the potential revenues associated with operating the system and the value of the infrastructure in question. Since a lease arrangement is by nature based on the costs associated with the use of the infrastructure, the current value of the infrastructure would need to be better understood, as well as its value at the end of the lease period. In its most simplistic form, the difference between these two values would represent the base lease price. After that, infrastructure upgrades and potential revenues would need to be factored in.

On the surface, development of a lease agreement is a straightforward business arrangement; however, the regulatory mandates associated with water distribution systems will lend a complexity to this alternative that is difficult to evaluate without more detailed discussions with the DPH.

5.10.2 <u>Potential Service Area</u>

Decision-making authority relating to the extension of the water system and service area coverage would be retained by the University under this scenario. As noted previously, representatives of the University have indicated that extension of its system is likely to be limited in the future as the University's primary missions are education and research. This limits a potential future service area in the town of Mansfield.

5.10.3 Regulatory Implications and Requirements

As the system owner, the University would have to comply with regulatory mandates set forth by the DPH and the DEP although regulatory compliance could probably be assigned to the lessee through agreement language. While this would not negate the University's responsibilities, it would give the University recourse in the unlikely event of system mismanagement by the lessee.

5.10.4 Advantages

Advantages to a lease arrangement are as follows:

1. The University would retain ownership of the infrastructure and thus would provide institutional knowledge associated with the system operation.

2. The financial burden associated with the operation and maintenance of the system in addition to capital investment needs would be transferred to a private entity, relieving the University of both the operational and financial responsibilities related to running its water system.

5.10.5 Disadvantages

Disadvantages to a lease arrangement are as follows:

1. While the financial and operational responsibilities would be transferred to a private entity, the University would be responsible for ensuring that the contractor's management of the system complies with DPH and DEP regulations. Although it may be possible to manage this somewhat through lease language, the University will inevitably be the entity legally responsible for permit compliance.

2. The Town of Mansfield would remain at a disadvantage relative to expansion of future water and wastewater service within the town.

3. The University would not be relieved of the burden of operating the water and sewer utility, which will continue to detract from the University's primary focus of education and research.

4. The University's liability associated with providing potable water service to some 26,700 student and faculty would not be eliminated.

5.11 Summary and Recommendations

5.11.1 Overview of Feasible Alternatives

Certain issues are common in all of the ownership options evaluated. For instance, economic development opportunities within the town of Mansfield will be enhanced by any future arrangement whereby off-campus service is extended to areas that have been identified as being in need of public water and sewer service. However, this benefit could be realized under any number of future ownership and management structures, whether through continued service by the University, ownership by the Town of Mansfield, or through a special public utility authority. The benefit or lack thereof lies with the commitment to ensure a reliable source of supply and expansion of the existing service area. This is not an ownership-specific issue but one that would need to be evaluated under any of the ownership options.

Other common elements of the identified alternatives include the following:

→ Under any of the ownership options, permitting and regulatory requirements will be imposed through programs administered by the Connecticut Department of Public Health and the Connecticut Department of Environmental Protection. Neither state-owned nor municipally owned systems are regulated by the DPUC, a distinct advantage of these two options.

→ Under any of the ownership structures evaluated, operations could be conducted "in house," assuming adequate staffing provisions were made, or the system could be operated through a contract operations agreement, as is currently the case with New England Water Utility Services, Inc.

→ Linking the ownership, operation, and decision making relative to the water and wastewater utilities is an essential aspect of future operation and management. While possible, purchase of a public wastewater utility by a private entity has never occurred in Connecticut and may not be a viable option for the University system. Additionally, private ownership has a number of distinct disadvantages as compared to other alternatives. Accordingly, this option was not explored in great detail in the subsequent comparison of alternatives.

→ A public-private lease agreement could be undertaken through ownership by the University, ownership by the Town of Mansfield, or through a special public water and sewer authority and should be evaluated separately once future ownership is determined.

Remaining options include continued ownership by the University, ownership by the Town of Mansfield, or creation of a special public water and sewer authority utility

board. The critical differences in these alternatives come down to the following: (1) position of authority in planning and decision making; (2) willingness to take on the financial, administrative, and legal responsibilities and burden of operating a water and/or sewer utility; (3) position relative to state and federal funding; (4) cost of service; and (5) ability to effectively own, manage, and operate the systems. Each of these is explored in greater detail in the following sections.

5.11.2 Authority in Planning and Decision Making

Having authority in planning and decision making, whether on behalf of the University or the Town of Mansfield, is a particularly important issue. For an educational entity, the availability of adequate water and wastewater facilities and services will in large part decide the viability of growth and expansion as well as continued operation of a successful institution.

For a municipality, availability of such utilities is an issue of general public health and safety, economic development, and socioeconomic sustainability. In Mansfield, certain areas have been identified as being suitable for planned growth via the Town's zoning and newly adopted Plan of Conservation and Development. It is in these areas where the Town would be supportive of service by public water and wastewater utilities.

On the opposite end of the spectrum, availability of utilities can be a catalyst for unwanted growth and development, potentially threatening areas of planned and/or desired low density development. Environmental impacts can occur coincident with dense or large-scale development. Much of Mansfield is rural, with no desire by the municipality or its residents for high density development. Therefore, authority in planning and decision making can take a protective stance as well.

5.11.3 Responsibility and Burden of Utility Operation

An offset to the decision-making authority that comes with utility ownership is the financial, administrative, technical, and legal liability. This is true for the University and is also relevant to the Town of Mansfield under the municipal ownership option. It is also a significant consideration for a special public water and wastewater authority.

Providing utility services is not part of the University's core mission. As such, the responsibility of owning and operating these utilities, particularly with respect to off-campus customers, may take away from the collective attention to its core mission. This is also true to a certain extent under municipal ownership whereby utility operation must compete with a variety of other municipal functions and needs.

Under any ownership scenario, the water and wastewater utility must plan for, prioritize, and implement capital investment to maintain and refurbish the infrastructure. This is not

simply a function of securing the necessary funding but also one of recognition and commitment to properly financing capital improvements and operational functions.

5.11.4 Ability to Secure Funding

As a state entity, the University is in an excellent position to obtain both state and federal funding without having to compete amidst 169 Connecticut municipalities for allocation of fixed funding. This is true for both the water and wastewater utilities. Since these utility functions support existing University development as well as any future expansions, funding may be available as a subset of University-specific funding programs such as *UConn 2000* and *21st Century UConn.*

As a Connecticut municipality, the Town of Mansfield is eligible for state and federal funding for capital improvements associated with utility services. Unfortunately, these funding pools are limited, and the Town must compete with other Connecticut municipalities, including stressed urban cities and rural towns, many of which have serious and high priority financial issues and infrastructure needs. As a municipality, Mansfield can levy taxes and bond projects. Although less common, special funding is also potentially available through legislative action.

A special public water and water authority would be a new type of entity in Connecticut and therefore funding ability is not well understood. Presumably, this type of entity would be treated much the same as a municipal entity except without the ability to levy taxes. The ability to secure funding could be more difficult as compared to a system that is owned by a state or municipal entity.

In all of the aforementioned cases, operation of the utilities under an enterprise fund structure (meaning the utility customers alone fund all capital and operational needs) could be prohibitively high given the limited customer base.

Private utilities may serve multiple systems in multiple geographic locations and often enjoy an economy of scale and greater efficiency in their operations. Additionally, private utilities are in a single business and do not need to balance utility service with construction of a local elementary school, for instance, or relief efforts from flood damages to local roads or public properties. Private utilities must operate on an enterprise accounting system whereby operation must be fully funded by user rates. Private utilities in Connecticut are regulated by the Department of Public Utility Control, wherein user rates must be approved by the DPUC. These private utilities are "for profit" and generally report to an internal board of directors. Their ability to secure funding outside of user fees is limited.

5.11.5 Cost of Service

Cost of service is dependent upon many factors, including the ability to secure funding for capital improvements, the size and diversity of the user base, the efficiency with which the utility is operated, regulatory requirements and mandates, the complexity of the system, and the financial, administrative, and technical abilities of the entity that owns the system.

Under the existing ownership and operation of the water and wastewater utilities, cost of service is not well defined, as much of the "cost" is folded into other University functions and operations. This likely places a greater burden on the overall University operations cost and masks the true cost of water and wastewater services. In all probability, this lessens the financial burden on non-university customers. With any of the other ownership options, water rates for non-university customers are likely to increase. Similarly, the University has been able to utilize its administrative and organizational structure to accommodate an array of functions with staff and resources that are needed for multiple functions. This in itself represents an economy of scale and may represent a significant advantage with regard to efficiency of operations.

Under the scenarios where the University does not own the water and/or wastewater systems, the "cost of service" translated to user rates could potentially increase by a substantial margin even though the true cost of service may remain unchanged or be reduced. This is because "hidden" costs associated with the operation of the system (i.e., those elements that are currently combined with other University functions and costs) would be extracted.

On the cost side, the University would still need to continue to employ its Facilities Operations staff to handle the remaining on-campus water and wastewater infrastructure needs along with other utilities including heating and cooling, stormwater management, and the like. Therefore, the University may not realize a significant savings in staffing resources while at the same time it would need to pay others for water delivery and use, a cost that is currently absorbed into its overall operations. Savings would be realized in the shift of burden for source operation, regulatory reporting, planning and assessment, and invoicing for water and wastewater services. Again, however, some of these functions are being performed by existing University staff, with a resultant scale of economy.

5.11.6 Ability to Effectively Own, Manage, and Operate

University Ownership

Given the analysis contained in the foregoing sections of this master plan, it is clear that the University has resources in place and is capable of properly managing and operating

its utility systems. Recent improvements in its operations and attention to system management are notable, as is the commitment to work with state regulatory agencies, the Town of Mansfield, and environmental groups.

Ownership and operation of the water and wastewater systems are not without burden, however. The foregoing analysis identifies many needed improvements in the University's water and wastewater systems indicative of an aging infrastructure. This will continue to draw upon the financial, technical, and administrative resources of the University unless it divests itself of ownership.

From the University's perspective, the decision of continued ownership may well rest on the importance of the tangible and intangible benefits of having control of the utilities that serve its institution offset by the responsibilities of continuing to operate them.

Municipal Ownership

The Town of Mansfield would clearly benefit from having the areas identified in its Plan of Conservation and Development served by public water and wastewater service. Under municipal ownership, Mansfield would need to either contract out operations or hire the necessary staff to support operation of a water and wastewater utility. Sale of water to the University would be complicated by the layout of water and sewer piping on campus, giving rise to issues involving land rights, easements, and separation of public versus private system components. The municipality has little hands-on experience in running large-scale water or wastewater utilities. As such, even if operations were contracted out, the Town would likely need to expand its administrative and technical capabilities.

Similar to University ownership, the responsibilities of owning and operating water and wastewater utilities would need to be evaluated against the benefits of decision-making flexibility for future service off campus within the town of Mansfield. Cost to users and funding potential would likely weigh into this decision as well.

Special Public Water and Wastewater Authority

Under ownership and operation through a water and wastewater board with University and municipal representation, future growth and development within the University and the town of Mansfield could be coordinated in a manner that is consistent with local planning documents, zoning ordinances, and institutional needs. The University, while maintaining an active role in the operation of its on-campus facilities, would be relieved of its functional, financial, and regulatory burden as a water and sewer utility.

Such an authority would be eligible for funding for water and wastewater infrastructure improvements and would be a nonprofit entity with the shared goal of providing service in a manner that is both efficient and economical. The operation of the water and wastewater

systems could be accomplished directly by Water and Wastewater Pollution Control Authority (WWPCA) staff. Alternately, all or a portion of the water and wastewater system operations could be contracted out, with the WWPCA as the contracting authority.

Similar to several other alternatives, an intricate system of easements and metering would be required to separate out system components that are located on University-owned land. This would include the storage tanks, pump stations, water and sewer distribution and collection piping, and various treatment components.

Aside from system separation, the primary disadvantage of this ownership arrangement would be the funding ability of such an entity. With such a small customer base, funding of capital improvements and system operations could be difficult. The funding role, if any, on the part of the Town of Mansfield and the University of Connecticut is unclear.

Hybrid Ownership

It may be possible to have a split in system ownership, with an attempt to garner the benefits of ownership along with a distribution of responsibility, by splitting ownership between on-campus and off-campus service areas. However, one single entity would need to own and operate the water supply sources and wastewater treatment facilities. Separating out these basic functions would simply be too difficult. With a split in ownership, there would be a certain redundancy and loss in efficiency by virtue of operating two completely autonomous utilities.

A hybrid system has the potential to introduce many complexities, including system metering and accounting, sale of water (constituting a new diversion), difficulty in reconciling user rates, dual reporting requirements, as well as permitting and regulatory complexities. This alternative does not offer any distinct advantage over the other alternatives evaluated and, in fact, may introduce more disadvantages in total.

Finally, this option does not alleviate the need to address instream flow issues, wellfield yield, or the potential need to develop new supply sources. Nor does it alleviate the financial burden of maintaining and upgrading aging infrastructure.

5.11.7 ***Recommendations***

Tables 5-1 and 5-2 attempt to summarize advantages and disadvantages of the primary ownership options from the vantage point of the University (Table 5-1) and the Town of Mansfield (Table 5-2). Given the many intricacies and implications of ownership of the water and wastewater systems at the University and in surrounding areas within the town of Mansfield, a definitive recommendation on future ownership would be premature at this time. The subject master plan provides a framework from which discussions and further analysis may ensue regarding this issue. The financial and logistical ramifications

need to be further defined and evaluated by all parties involved. Similarly, the merit of a potential public-private lease arrangement should be further explored, both for the University and the Town of Mansfield.

TABLE 5-1
Summary of Ownership Advantages and Disadvantages to the University

Advantages/Disadvantages	*UConn Ownership*	*Town of Mansfield Ownership*	*Special Public Utility Ownership*
Advantages			
Staff experience with the system	✓		
Multiple utility operation benefit	✓		
Favorable decision-making position	✓		✓
Control of rates charged	✓		
Disadvantages			
Distraction from core mission	✓		
Liability of system failure	✓		
Potential conflict with Town mission	✓		
Segregation of the on-campus system		✓	✓
Potential increase in rates		✓	✓

TABLE 5-2
Summary of Ownership Advantages and Disadvantages to the Town of Mansfield

Advantages/Disadvantages	*UConn Ownership*	*Town of Mansfield Ownership*	*Special Public Utility Ownership*
Advantages			
Staff experience with the system	✓		
Multiple systems operation benefit	✓		
Favorable decision-making position		✓	✓
Control of rates charged		✓	
Disadvantages			
Local legislation required		✓	✓
New regulatory permit requirements		✓	
Liability of system failure		✓	
Potential increase in rates	?	✓	✓

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