STATE OF CONNECTICUT

DEPARTMENT OF ENERGY & ENVIRONMENTAL PROTECTION

OFFICE OF ENVIRONMENTAL REVIEW

79 ELM STREET, HARTFORD, CT 06106-5127

To: Jason Coite - Environmental Compliance Analyst
UConn - Office of Environmental Policy, 31 LeDoyt Road, U-3055, Storrs, CT

From: David J. Fox - Senior Environmental Analyst **Telephone:** 860-424-4111

E-Mail: david.fox@ct.gov

Date: July 7, 2011

Subject: UConn Additional Water Supply Source

The Department of Energy & Environmental Protection has received the Notice of Scoping for the Environmental Impact Evaluation (EIE) to be prepared to analyze the feasibility and impacts of development of a long-term source of an additional 0.5 - 1.0 million gallons per day for the University's water supply system. A range of alternatives, including interconnection with two neighboring utilities or developing new groundwater sources along the Willimantic River or new Mansfield Hollow Reservoir, will be evaluated. The Department supports UConn's decision to utilize the CEPA process for this proposed upgrade of the system. The wide range of impacts covered and the public involvement that occurs during CEPA review make it an ideal forum to select a preferred alternative. The following comments are submitted for your consideration during preparation of the document.

The route of the water mains for potential interconnections to the northwest and southeast transverse extensive areas that are designated as Rural Lands, Conservation Area, Preservation Area or Existing Preserved Open Space in the *Conservation and Development Policies Plan for Connecticut 2005 - 2010*. The extension of water mains and the growth they could support would, in general, be inconsistent with policies in the Plan for these areas. The Department had prepared an EIE for a project which similarly extended a water main across Rural Land and Conservation Area to interconnect two utilities in Middlebury. That document proposed mitigation that included an agreement with the town to amend both its zoning regulations and municipal Plan of Conservation & Development to restrict more intensive induced growth along the route. The document is available on-line at: Middlebury EIE.

The interconnection or new wells will require a permit from the Inland Water Resources Division (IWRD) for the diversion of waters of the State pursuant to section 22a-368 of the Connecticut General Statutes (CGS). Permitability should be a key factor in selection of a preferred alternative. As part of analysis of alternatives, the EIE should begin to assess the information required to be submitted for applications for a diversion permit as outlined in section 22a-377(c)-2 of the Regulations of Connecticut State Agencies (RCSA). Several significant requirements are highlighted below.

- For any proposed diversion, long-range water conservation plans for the University and other users of its water supply system should be included.

- For groundwater withdrawals, the impact of the diversion on stream flows during the critical dry period should be evaluated.
- For interbasin transfers, the impact report required by section 22a-369(10) of the CGS includes evaluation of the potential impacts of the proposed diversion in the affected drainage basin for at least 25 years, including effects on water supply needs and demands, wastewater treatment, waste assimilation, power generation, flood management, navigation, water quality, recreation, wetland habitat, agriculture, fish and wildlife, and maintenance of adequate flows for the foregoing needs and resources. It should be noted that if the selected alternative involves an interbasin transfer, then options beyond those proposed in the EIE may need to be thoroughly investigated during the diversion permitting process.

The development of new wells would require the municipality to designate a new Aquifer Protection Area, inventory land uses within its boundaries, register existing regulated land uses and permit future regulated land uses.

The proposed actions would take place both on and off campus and will be implemented in partnership with the Town of Mansfield and, depending on the alternative selected, may also involve the Windham Water Works, Tolland Water Department or Connecticut Water Company. If the University is the applicant, any work or construction activity within inland wetland areas or watercourses will require a permit from IWRD, pursuant to section 22a-39(h) of the CGS. If a town or water company is the applicant, inland wetlands or watercourses are regulated by the local inland wetlands agency, pursuant to section 22a-42 of the CGS. Where a pipeline route along a roadway crosses a wetland or watercourse, it would be helpful for the EIE to quantify potential wetland impacts and, if it can be determined, whether the crossing can be achieved while avoiding direct impacts to regulated areas by utilizing the existing roadway and shoulder, existing crossing structures or horizontal directional drilling.

If any new pipelines installed or funded by the University cross the 100-year flood zone on the community's Flood Insurance Rate Map, the project must be certified by UConn as being in compliance with flood and stormwater management standards specified in section 25-68d of the CGS and section 25-68h-1 through 25-68h-3 of the RCSA and receive approval from the Department.

Each of the alternatives intersect shaded areas on the Natural Diversity Data Base maps maintained by DEP that represent approximate locations of extant populations of Federally listed endangered or threatened species or species listed by the State, pursuant to section 26-306 of the CGS, as endangered, threatened or special concern. In order to determine potential impacts to protected species, a *Natural Diversity Data Base (NDDB) State Listed Species Review Form* (DEP-APP-007) should be submitted that provides details on the existing habitat at areas to be impacted by development of new wells and appurtenances or installation of new pipelines. Detailed information regarding the proposed construction and existing habitat would enable more complete evaluation of potential impacts and mitigation measures. It is recommended that a separate form be prepared for each alternative and that they be submitted via email. Additional information and the forms are available on-line at: NDDB Requests.

If water lines are to be pressure tested and disinfected, the discharge would be covered by the *General Permit for the Discharge of Hydrostatic Pressure Testing Wastewater* (DEP-PERD-GP-011). This general permit applies to all discharges of waters used to test the structural integrity of new or used tanks and pipelines that hold or transfer drinking water, sewage, or natural gas. The general permit contains pH, chlorine, oil and grease, and suspended solids limits which will need to be complied with during the testing and verified through monitoring. Registration is required to be submitted to the Department in order for the discharges to be authorized by this general permit. A fact sheet, the general permit which includes the registration form, titled Notice of Coverage, and the Application Transmittal form may be downloaded at: Hydrostatic GP

Thank you for the opportunity to review this proposal. If there are any questions concerning these comments or additional assistance from the Department is desired, please contact me.

cc: Robert Hannon, DEP/OPPD
Corinne Fitting, DEP/WPSD
Rob Hust, DEP/WPSD
Dawn McKay, DEP/WD
Denise Ruzicka, DEP/IWRD
Eric Thomas, DEP/WPSD

cc: Rich

Memorandum

From: Lori Mathieu, Public Health Section Chief
Drinking Water Section

RE: Notice Of Scoping (NOS) – University of CT - additional water supply sources

DATE: June 30, 2011

The Drinking Water Section, of the Department of Public Health has reviewed the above mentioned NOS and we offer our general comments and attached detailed review. The NOS identifies a partnership between the Town of Mansfield and the University of CT in order to review, plan for and implement the development of a source of supply of 0.5 to 1.0 million gallons per day. The DPH agrees with the need for an additional source of public water to meet the water supply needs and welcomes the partnership that has formed in order to move this action forward.

The DPH review as attached provides a detailed evaluation of the three identified alternatives: interconnection with Connecticut Water Company system from north of campus, interconnection with the Windham Water Works from south of campus, and development of an additional ground water supply. Our detailed review relies upon data within the individual water supply plans prepared pursuant to Connecticut General Statute Section 25-32d for the University, the Town of Tolland, and the Windham Water Works, and a water supply plan prepared for the Town of Mansfield. This review evaluates the addition of demand under different scenarios with the addition of a margin of safety to assure meeting current and future water supply demand.

Recently DWS has requested water supply plan updates of the plans prepared per CGS Section 25-32d in order to assist in providing up to date water supply information. These updated plans have been requested to be prepared by the Fall of 2011. As noted in our detailed review, and according to present water system data, both interconnection alternatives have challenges in order to meet additional maximum month and peak day demand. The updated plans should address how these challenges will be met.

DPH foresees the development of a new ground water supply as a potential feasible alternative; however the challenge of operating a ground water supply in a basin that has experienced seasonal low flow must be addressed along with meeting the additional new source development requirements.

It is the DPH's recommendation that the EIE review and analyze the technical, managerial and financial capacity of each of the three alternatives and of the public water systems involved in securing the additional water supply for the University and the Town of Mansfield. Consideration of both short-term and long-term operational costs needs evaluation. The preferred alternative must have proven system sustainability in order to assure sustainable water supply to meet projected needs.

Please do not hesitate to contact me directly at 860-509-7333 if there are any questions.

MEMORANDUM

To: Lori Mathieu, DWS Public Health Section Chief

From: Steve Messer, Supervising Sanitary Engineer, DWS Planning Unit
Pat Bisacky, Environmental Analyst 2, DWS Source Water Protection Unit

Subject: Notice of Scoping for University of Connecticut Action for Additional Water Supply Source(s)

Town(s): Mansfield, Tolland, and Coventry

Date: June 23, 2011

The Department of Public Health, Drinking Water Section (DWS) Planning and Source Water Protection Units have reviewed the Notice of Scoping for University of Connecticut Action for Additional Water Supply Source(s) as listed in the June 7, 20011 Environmental Monitor of the State of Connecticut Council on Environmental Quality. The DWS strongly supports and concurs with the proposed action of acquiring additional water supply source(s) for the University of Connecticut public water system, particularly if the University is interested in expanding water service as indicated in the scoping notice below. The DWS further concurs with the specified need to improve the University water supply's margin of safety and supplement the available water during Maximum Month Average Day Demands (MMADD) and Peak Day Demands (PDD), particularly when the existing supply from the Fenton River well field is limited in response to aquatic and environmental concerns. Supply adequacy evaluations (more specific technical details are listed below) were conducted on both public water systems that would potentially serve the University via a water main extension. The evaluations indicate both systems would need to upgrade the design capacities of their existing water treatment plant facilities. Based on the currently available data, Windham appears in a more immediate position to effectively serve the University's primary water supply needs which occur during Maximum Month Average Day Demand (MMADD) and Peak Day Demand (PDD) conditions.

The scoping notice details a direct partnership between the University of Connecticut and the Town of Mansfield which proposes actions that will identify and implement a long-term source of at least 0.5 - 1 million gallons per day of water for the University of Connecticut's public water supply system. The project scope comprises the possible creation of new well fields or an interconnection with one of the two other large community public water systems in the region along with the possible installation of new water mains to provide additional water to the University's public water supply system in and around Storrs. The University of Connecticut public water system already provides service to several Town of Mansfield facilities. The proposed action is planned to enable growth of the University and surrounding area consistent with prior University Water Supply Plans, University Master Plans and associated Environmental Impact Evaluations, particularly for the proposed University Technology Park to be developed on the University's North Campus. The proposed action would also improve the University water supply's margin of safety and supplement the available water during times of drier years when the existing supply is limited in response to aquatic and environmental concerns. This additional source of water supply would also enable economic development as delineated in the Town of Mansfield Plan of Conservation and Development, particularly as envisioned for the Mansfield Four Corners and Storrs Center areas.

The DWS offers the following specific comments for each water supply source alternatives listed within the University of Connecticut's scoping notice:

Alternative 1: Connecting with a nearby reservoir-based water system, the Connecticut Water Company (CWC) - Northern Region, located to the northeast of the main campus by extending a transmission main south from Tolland along the Route 195 corridor or alternative local roads.

- Supply adequacy evaluations, using the University of Connecticut's requested supply commitments, were conducted by DWS staff using available relevant technical data including a 1/20/2011 *CWC Demand/Margin of Safety Projections* document, a 4/11/2011 "*Northern Western System Margin of Safety*" document, updated water supply

source and associated pumping rate information obtained during a very recent DWS sanitary survey, and historic CWC Northern/Western Region water supply plans dated October 1987, October 2001, September 2006 and June 2007. The technical evaluation results detailed below indicate that to effectively serve the area's long term water supply needs; CWC - Northern Region requires additional supply capacity. Readily available additional supply capacity for CWC could result from an expansion of the design treatment plant capacity of the CWC Rockville Water Treatment Plant (WTP) at Lake Shepensit. An expansion of the water treatment plant capacity would provide up to an additional 4.0 MGD for Average Day Demand (ADD) conditions and considerably more for both Maximum Month Average Day Demand (MMADD) and Peak Day Demand (PDD) conditions as water treatment plants can be designed for and operated above the DPH approved yield of the surface water source.

- A DPH Sale of Excess Water (SEW) permit would be required to be obtained by CWC for any water supply proposed to be sold to another public water system such as the University of Connecticut public water system. SEW permits are issued when the seller can verify the water quantities requested in the permit are readily available and can be supplied regularly under all system demand conditions without causing deleterious effects to either public water system over the course of the ten year permit period. Most likely, a DEP diversion permit would be required for this alternative.

- **CWC Additional Commitment of 0.5 MGD to the University of Connecticut:**

1. When utilizing a 1/4 % annual system growth rate, CWC can meet current, five, twenty, and fifty year planning period Average Day Demand (ADD) conditions while maintaining an adequate Margin of Safety (minimum recommended is 15% or 1.15) with no further system improvements required.
2. It appears under certain demand assumptions CWC can meet Maximum Month Average Day Demand (MMADD) conditions through the entire fifty year planning period while maintaining MOS above 1.0; though well below DPH's policy position of a recommended minimum 1.15 MOS for all system demand conditions. The demand assumptions for this specific evaluation were the above noted 1/4% annual system growth rate along with a CWC initial projected demand derived from a ten year average of historic data which results in considerably lower projected demands than actually observed 2010 MMADD/PDD data.
3. Utilizing the same demand assumptions noted above in (2); Peak Day Demand (PDD) conditions are even more marginal with a MOS well below DPH's policy position of a recommended minimum 1.15 MOS for all system demand conditions and even below a 1.0 MOS in the fifty year period.
4. Below is a chart showing the complete results of the informal adequacy evaluation summarized above. For this alternative two sets of system demand projections are provided due to the methods utilized in deriving demand projection stating points described further below.

CWC Regional Pipeline: UCONN Only – 0.5 MGD Added Demand / ¼ % Annual Growth Rate

Year	Average Day Demand (ADD)	ADD MOS	Maximum Month Average Day Demand (MMADD)	MMADD MOS	Peak Day Demand (PDD)	PDD MOS
2005 (CWC)	9.98 MGD	1.38	12.53 MGD	1.10	15.84 MGD	1.03
2010 (CWC)	10.01 MGD	1.38	13.20 MGD	1.05	16.65 MGD	0.98
2020 (CWC)*	10.24 MGD	1.35	12.57 MGD	1.10	15.65 MGD	1.05
2020 (DPH)**	**10.76 MGD**	**1.28**	**13.83 MGD**	**1.00**	**17.57 MGD**	**0.93**
2030 (CWC)*	10.49 MGD	1.32	12.89 MGD	1.07	16.05 MGD	1.02
2030 (DPH)**	**11.02 MGD**	**1.25**	**14.38 MGD**	**0.96**	**18.00 MGD**	**0.91**
2040 (CWC)*	10.76 MGD	1.28	13.21 MGD	1.05	16.45 MGD	1.00
2040 (DPH)**	**11.29 MGD**	**1.22**	**14.73 MGD**	**0.94**	**18.45 MGD**	**0.89**
2050 (CWC)*	11.03 MGD	1.25	13.55 MGD	1.02	16.87 MGD	0.97
2050 (DPH)**	**11.56 MGD**	**1.20**	**15.09 MGD**	**0.92**	**18.90 MGD**	**0.87**

ORANGE = BELOW DPH RECOMMENDED 15% MOS; RED = MARGIN OF SAFETY BELOW 1.0

*CWC projected demands, derived from a ten year average of system demand conditions (2001-2010) with a ¼ % annual growth rate and added 0.5 MGD demand for UCONN in 2014, are in normal print set.

****DPH projected demands, derived from actual system demands (2010) with a ¼ % annual growth rate and a 0.5 MGD added demand for UCONN in 2014, are indicated above in bold print set.**

- **CWC Additional Commitment of 1.0 MGD to the University of Connecticut:**

1. When utilizing a 1/4 % annual system growth rate, CWC can meet current, five, twenty, and fifty year planning period Average Day Demand (ADD) conditions while maintaining an adequate Margin of Safety (minimum recommended is 15% or 1.15) with no further system improvements required.
2. It further appears under certain demand assumptions CWC can meet Maximum Month Average Day Demand (MMADD) conditions for the twenty year planning period while maintaining MOS above 1.0, however, the MOS does dip well below DPH's policy position of a recommended minimum 1.15 MOS for all system demand conditions. The MOS is below 1.0 after the twenty year planning period. Demand assumptions for this specific evaluation were the same 1/4% annual system growth rate and a CWC initial projected demand derived from a ten year average of historic data which provides for considerably lower projected demands than actual observed 2010 MMADD/PDD demand data.
3. Using the same demand assumptions noted above in (2); Peak Day Demand (PDD) conditions are more marginal immediately and problematic until a water treatment plant design capacity expansion occurs or additional supply capacity is obtained. The resulting MOS is well below DPH's policy position of a recommended minimum 1.15 MOS for all system demand conditions over the entire planning horizon and below a 1.0 MOS in the twenty year period.
4. Below is a chart showing the complete results of the informal adequacy evaluation summarized above. For this alternative two sets of system demand projections are provided due to the methods utilized in deriving demand projection stating points described further below.

CWC Regional Pipeline: UCONN/Mansfield – 1.0 MGD Added Demand / ¼ % Growth Rate

Year	Average Day Demand (ADD)	ADD MOS	Maximum Month Average Day Demand (MMADD)	MMADD MOS	Peak Day Demand (PDD)	PDD MOS
2005 (CWC)	9.98 MGD	1.38	12.53 MGD	1.10	15.84 MGD	1.03
2010 (CWC)	10.01 MGD	1.38	13.20 MGD	1.05	16.65 MGD	0.98
2020 (CWC)*	10.74 MGD	1.29	13.07 MGD	1.06	16.15 MGD	1.01
2020 (DPH)**	**11.26 MGD**	**1.23**	**14.33 MGD**	**0.96**	**18.07 MGD**	**0.91**
2030 (CWC)*	10.99 MGD	1.26	13.39 MGD	1.03	16.55 MGD	0.99
2030 (DPH)**	**11.52 MGD**	**1.20**	**14.88 MGD**	**0.93**	**18.50 MGD**	**0.89**
2040 (CWC)*	11.26 MGD	1.23	13.71 MGD	1.01	16.95 MGD	0.97
2040 (DPH)**	**11.29 MGD**	**1.23**	**14.73 MGD**	**0.94**	**18.45 MGD**	**0.89**
2050 (CWC)*	11.53 MGD	1.20	14.05 MGD	0.98	17.27 MGD	0.95
2050 (DPH)**	**12.06 MGD**	**1.15**	**15.59 MGD**	**0.89**	**19.40 MGD**	**0.84**

ORANGE = BELOW DPH RECOMMENDED 15% MOS; RED = MARGIN OF SAFETY BELOW 1.0

*CWC projections derived from a ten year average of system demand conditions (2001-2010) with a ¼ % annual growth rate beginning in 2011 and a 1.0 MGD added demand for UCONN/Mansfield in 2014 are in normal print set.
****DPH projected demands derived from actual system demands (2010) with a ¼ % annual growth rate beginning in 2011 and a 1.0 MGD added demand for UCONN/Mansfield in 2014 are indicated in bold print.**

***Alternative 2:** Connecting with a nearby reservoir-based water system, Windham water Works, located to the southwest of the main campus by extending a transmission main north from southern Mansfield along the Route 195 corridor or alternative route(s) via local roads.*

- Supply adequacy evaluations, using the University of Connecticut's requested supply commitments, were conducted by DWS staff using data from the February 2009 Windham Water Works water supply plan. The evaluations indicate that Windham Water Works may be in a more immediate position to more effectively serve the University of Connecticut/Town of Mansfield water supply needs than the other specified water supply options in the scoping notice due to the University's primary water supply needs occurring in MMADD/PDD system demand conditions. Please note to effectively serve the long term water supply needs of the area, Windham Water Works would also require additional supply capacity and it also appears that the most effective method of acquiring additional supply capacity for Windham would be to upgrade their existing water treatment plant capacity.

- This proposed route for a water main extension lies within an area designated as a Conservation Area on the Locational Guide Map of the "Conservation and Development Policies Plan for the State of Connecticut 2005-2010" because it is within the public water supply watershed of Mansfield Hollow Reservoir, a source of public drinking water for Windham Water Works. The route is also in close proximity to other public drinking water wells serving small community and non-community systems. In addition to observing the construction best management practices previously mentioned under General Comments, the University of Connecticut should ensure this alternative is consistent with the state policies that protect public drinking water sources of supply.
- A DPH Sale of Excess Water (SEW) permit would be required by Windham for any water supply proposed to be sold to another public water system such as the University of Connecticut. SEW permits are issued when the seller can verify the water quantities requested in the permit are readily available and can be supplied regularly under all system demand conditions without causing deleterious effects to either public water system over the course of the ten year permit period. Most likely, a DEP diversion permit would also be required for this supply alternative.
- **Windham Additional Commitment of 0.5 MGD to the University of Connecticut:**

1. Windham can meet current, five, twenty, and fifty year planning period Average Day Demand (ADD) **and** Maximum Month Average Day Demand (MMADD) conditions while maintaining an adequate minimum Margin of Safety (minimum recommended is 15% or 1.15) with no further system improvements required immediately. Windham can also meet Peak Day Demand (PDD) conditions while maintaining a MOS of above 1.0 through the entire fifty year planning period; however, the MOS dips below DPH's policy position of a recommended minimum 1.15 MOS for all system demand conditions (PDD MOS dips to 1.13 for the five year period, 1.06 for the twenty year period, and 1.02 for the fifty year period). Peak Day Demands are only for one day per calendar year and both the University of Connecticut and Windham Water Works have abundant atmospheric storage facilities (considerably over minimum design criteria). Given the above conditions, a mutually beneficial agreement might be considered that allows for a phased-in approach in upgrading the existing WTP facility and increasing the Department of Environmental Protection diversion permit while still immediately assisting in the primary water supply needs of the University.
2. Below is a chart showing the complete results of the informal adequacy evaluation summarized above. *For this alternative only one set of system demand projections is provided because the actual most recent recorded system demand data available at DPH was utilized.*

Windham Water Works: UCONN Only – 0.5 MGD Added Demand

Year	Average Day Demand (ADD)	Max. Month ADD (MMADD)	Peak Day Demand (PDD)
2008	1.90	1.60	1.34
2013	1.54	1.39	1.13
2020	1.45	1.31	1.06
2050	1.40	1.26	1.02

ORANGE = BELOW DPH RECOMMENDED 15% MOS; RED = MARGIN OF SAFETY BELOW 1.0

- **Windham Additional Commitment of 1.00 MGD to the University of Connecticut:**

1. The evaluation for Windham Water Works indicates Windham can meet current, five, twenty, and fifty year planning period Average Day Demand (ADD) conditions while maintaining an adequate minimum Margin of Safety and providing a commitment of an additional 1.0 MGD with no further system improvements required. Windham can also meet Maximum Month Average Day Demand (MMADD) conditions through the entire fifty year planning period while serving an additional 1.0 MGD commitment to UCONN and still remain well above a 1.0 MOS; however, the MOS dips below DPH's policy position of a recommended minimum 1.15 MOS for all system demand conditions (MMADD MOS of 1.13 for the twenty year period and 1.09 for the fifty year period). Peak Day Demand (PDD) conditions would be problematic initially until a water treatment plant capacity upgrade occurred.
2. Windham does have the current ability by charter to serve in Mansfield, already serves limited areas in Mansfield, and makes several allusions in their water supply plan to a potential for eventually serving the University of Connecticut and additional portions of the Town of Mansfield. Windham also immediately has considerable amounts of available water, up to 1.0 MGD under peak demand conditions, and 6.5 MG of atmospheric storage facilities. The following approximate quantities of available water under certain demand conditions are currently available: ADD – 1.94 MGD, MMADD – 1.6 MGD, PDD – 1.0 MGD. The water supply plan does mention if Windham were to serve the University of Connecticut, Windham may seek financial assistance to upgrade treatment facilities.

3. Below is a chart showing the complete results of the informal adequacy evaluation summarized above. *For this alternative only one set of system demand projections is provided because the actual most recent recorded system demand data available at DPH was utilized.*

Windham Water Works Demands With UCONN – 1.0 MGD Additional Demand In 2013:

Year	Average Day Demand (ADD)	Max. Month ADD (MMADD)	Peak Day Demand (PDD)
2008	1.90	1.60	1.34
2013 (from WSP)*	1.30	1.19	0.99
2020(from WSP)*	1.23	1.13	0.94
2050(from WSP)*	1.20	1.09	0.91

ORANGE = BELOW DPH RECOMMENDED 15% MOS; **RED = MARGIN OF SAFETY BELOW 1.0**

Alternative 3: ***Installing and connecting to a new groundwater source or sources in the stratified drift aquifers along the Fenton River, Willimantic River, or Mansfield Hollow Reservoir. The new groundwater source(s) would preferably be installed on lands in Mansfield, CT currently owned by the University, Town of Mansfield, or the Army Corps of Engineers.***

This alternative will be subject to DPH review and approval for new public water supply wells and it will include a water main extension within the public water supply watershed of Mansfield Hollow Reservoir. UCONN should consider all applicable statutes and regulations pertaining to the development of new sources of supply when evaluating this alternative. Because some potential well locations may not be on land owned by the State of Connecticut, UCONN should ensure that the requirements of Connecticut General Statutes Section 25-33(b)(2) can be met. Consistency of the water main extension portion of this alternative with the state policies in place for the protection of public drinking water sources of supply should be explained in future documentation. Construction best management practices should also be employed for this alternative.

The DWS offers the following general comments regarding the proposed project:

- The University should ensure the water supply source(s) alternatives are consistent with state policies and best management practices are employed to ensure the purity and adequacy of any existing PWS sources as follows:

1. Construction Maintenance: No construction should occur prior to installing properly functioning sedimentation and erosion controls which must be inspected regularly throughout the project. All activities should be conducted during dry weather conditions. During construction and until a vegetative cover is reestablished, the project area should be inspected daily to verify erosion control measures are properly maintained.
2. Emergency Response Plan: Develop an Emergency Spill Response Plan before construction begins. Spill response equipment should be available on-site at all times along with personnel trained in the proper use of such equipment.
3. Hazardous Materials Storage: Hazardous materials should be removed from the site during non-work hours or otherwise stored in a secure area to prevent vandalism. Place covered trashcans and recycling receptacles around the site. Cover and maintain dumpsters. Check frequently for leaks. Place dumpsters under a roof or cover with tarps or plastic sheeting. Never clean a dumpster by hosing it down on site.
4. Vehicles and Machinery: A specific area of the project site outside of any PWS source water area should be designated for auto parking, vehicle refueling and routine equipment maintenance. Methods and locations of refueling, servicing, and storage of vehicles/machinery should be addressed and included on the final site plans. All equipment fueling or minor repairs should occur on a fueling pad. Any onsite fuel storage should be contained and located in a secure area where it will not be vandalized or struck by equipment.
5. Sanitation: Make sure portable toilets are in good working order. Check frequently for leaks.
6. Notification: Notification of the project start date should be sent to all affected PWS and representatives of directly impacted PWS should be granted site access to review compliance with construction site best management practices. The PWS, the Department of Environmental Protection's Oil and Chemical Spill Unit and Drinking Water Section must be notified immediately of any chemical/fuel spill at the construction site. Emergency telephone numbers and a statement identifying the construction site as a sensitive PWS area should be posted where they are readily visible to contractors and other on-site personnel. A note should be added to the site plans stating the sensitivity of the area.

TOWN OF MANSFIELD
FOUR CORNERS SEWER AND WATER ADVISORY COMMITTEE

Kenneth Rawn, Chairman

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July 5, 2011

Mr. Jason Coite
Environmental Compliance Analyst
University of Connecticut - Office of Environmental Policy
31 LeDoyt Road
U-Box 3055
Storrs, CT 06269-3055

Subject: Comments on Water Supply EIE Scope

Dear Mr. Coite:

On June 30, 2011, the Four Corners Sewer and Water Advisory Committee met to review the proposed scope of the Water Supply Environmental Impact Evaluation (EIE). After much discussion, the Committee voted unanimously to request that the following changes and clarifications be made to the EIE Scope:

- Piping alternatives north of UConn should consider routes that include North Hillside Road, which is likely to be built before or during the procurement of water to the campus and 4 corners.
- New well alternatives should include multiple wells and/or multiple well sites to produce enough water to reach the desired goals.
- The null or "no build" alternative should be fully analyzed in the EIE including the effects on the area and the campus if additional water is NOT supplied.
- Up to four potential well sites may be field tested by the Town to provide preliminary water quality and water yield data that can be analyzed and included in the EIE.

If you have any questions regarding these comments, please contact Linda Painter, Mansfield's Director of Planning and Development at 860.429.3330.

Sincerely,

Kenneth Rawn
Chairman

C: Committee Members (via email)
Committee Staff (via email)
Correspondence File

Connecticut Water Company
93 West Main Street
Clinton, CT 06413-1600

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July 7, 2011

Jason Coite
University of Connecticut - Office of Environmental Policy
31 LeDoyt Road, U-3055
Storrs, CT

Re: Notice of Scoping for University of Connecticut Action for Additional Water Supply Source(s)

Dear Mr. Coite:

The University of Connecticut (UConn) has historically played a key role in meeting the water supply needs of the campus and immediately surrounding region. The Connecticut Water Company, for its part, is proud to have partnered with the University as it successfully undertook efforts to address water system deficiencies, optimize existing sources, and conserve valuable resources. In spite of those successes, the need for additional water supply is well documented in numerous reports, studies and planning documents including, most recently, UConn's updated water supply plan and the Mansfield Four Corners study report.

As the leading provider of public water service in the region, Connecticut Water offers the following comments regarding UConn's proposed action to increase its available water supply in partnership with the Town of Mansfield.

1. *A regional pipeline from CWC would address numerous outstanding water supply issues at the most reasonable cost.*

   Connecticut Water has identified a regional water supply pipeline from our Western System as the most feasible and prudent long-term supply alternative for the region. We believe such a pipeline not only minimizes any environmental impact associated with developing an additional water supply source for the region, but represents the most fiscally sound means of addressing the water supply needs of the area, as well.

   The pipeline would utilize a portion of Tolland's existing main to move up to one million gallons per day (1.0 mgd) from our existing Western System. Water would be available to supplement the UConn system when available supply is curtailed due to diminished streamflow or other cause – thus restoring critical margin of safety in the UConn system. The pipeline would similarly provide a backup supply to ensure Tolland system customers' needs are met during emergency events. Because the pipeline would be partially funded by Connecticut Water, it represents the least-cost supply alternative for the University, Town of Mansfield residents, and state taxpayers.

The proposed pipeline route, as shown in the scoping notice, would facilitate bringing public water to the Route 195/Route 44 intersection and thus enable redevelopment to occur in the Four Corners area, consistent with the *State Conservation and Development Policies Plan.* Providing a long-term solution to current water supply problems in this area is essential to the Town's stated goal of eliminating blighted properties while providing needed economic development. By bringing in water in the immediate vicinity of the North Campus, the pipeline would also ensure sufficient water supplies were available to meet proposed University Technology Park demands.

As the preferred alternative, the regional pipeline would also allow for the consolidation of any small water systems that are proximate to the route. Consolidation, especially when such systems face viability issues, is a long-standing policy goal of the State Department of Public Health.

2. *A regional pipeline from CWC would minimize environmental impact.*

In addition to the clear public health and economic benefits, there are quantifiable environmental gains to be realized by a regional pipeline from the Western System. Such a pipeline would allow for the optimization of resources by integrating existing water systems. Since peak system demands are not coincident, integrating systems will provide the flexibility to meet multiple needs with fewer developed resources. As a result, no new supply development is projected to be necessary. This will avoid the environmental impacts associated with a newly created diversion, such as from additional groundwater development in the Willimantic River watershed. Finally, the ability to supplement supply during critical, low-flow periods will enhance UConn's ability to adhere to its Willimantic and Fenton River wellfield management plans – which will in turn reduce the risk overpumping poses to those aquatic habitats.

Connecticut Water's largest Western System source, Lake Shenipsit, will be the source of water for the regional pipeline. As a five billion gallon reservoir sited at the confluence of the Towns of Tolland, Ellington and Vernon, material impacts to the surface water body are not anticipated. Further, any environmental impacts to downstream watercourses will be mitigated by compliance with the release requirements under pending streamflow regulations. Because the transfer of water would be interbasin, a diversion permit will necessarily assess any potential impacts to the donor basin. However, because the out-of-basin transfer would be approximately four percent of the annual inflow to the reservoir, donor basin impacts are expected to be negligible, if any.

3. *A regional pipeline from CWC would ensure greater consistency with the State Conservation and Development Policies Plan.*

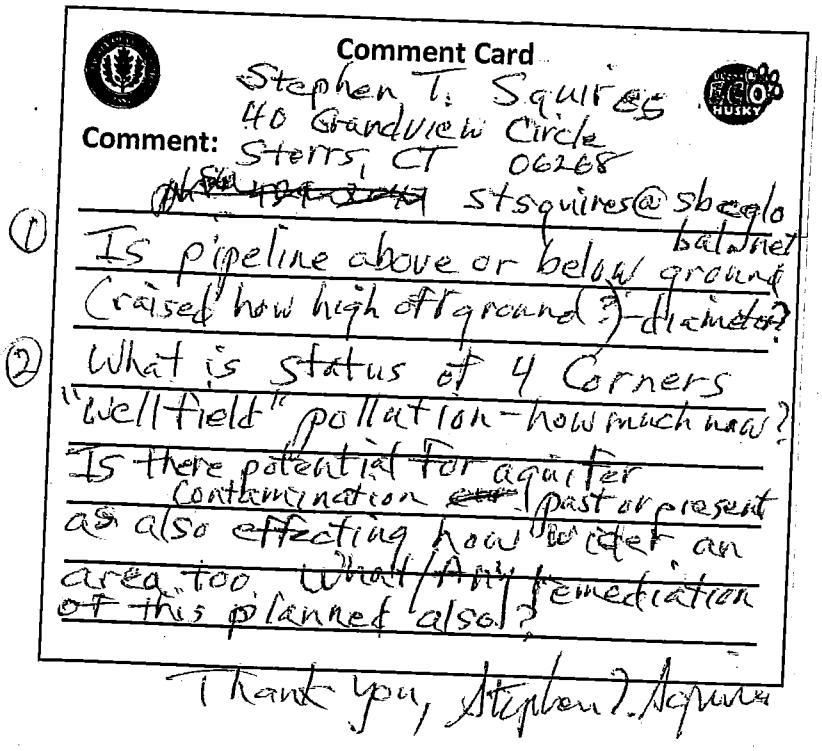
   By facilitating growth in an identified growth area (the North Campus and Mansfield Four Corners area), and by minimizing underground utility placement in mapped conservation and/or preservation areas, a regional pipeline from Connecticut Water would more closely conform to the *State Conservation and Development Policies Plan.* A review of other supply alternatives identified in the scoping notice indicates they would have a significantly greater impact on conservation, preservation, and existing preserved open space lands through the direct development of new groundwater supplies and/or installation of water mains in those areas. The potential for indirect impacts, such as unintended growth, would be mitigated through overlay zones, or similar measures, to ensure that any development that did occur along the regional pipeline was smart and wholly consistent with state and local development goals.

Connecticut Water has the demonstrated interest, expertise and financial resources to provide a permanent water supply solution for the region. A regional pipeline from Connecticut Water's Western System represents the most feasible and prudent long-term supply alternative by allowing the sharing of available resources for greater social and environmental gain.

We look forward to the University's finalization of the Environmental Impact Evaluation and would be pleased to address any questions that arise during the evaluation process.

Very truly yours,

David L. Radka
Director of Water Resources



Comment Card

Comment:

Stephen T. Squires
40 Grandview Circle
Storrs, CT 06268
stsquires@sbcglobal.net

1) Is pipeline above or below ground
Craised how high off ground?) diameter?
2) What is status of 4 Corners
"Wellfield" pollution - how much now?
Is there potential for aquifer
Contamination ~~or~~ past or present
as also effecting how wide an
area too. What/Any remediation
of this planned also?

Thank you, Stephen T. Squires

Stephen T. Squires
40 Grandview Circle
Storrs, CT 06268
stsquires@sbcglobal.net

1) Is [the] pipeline above or below ground? Raised how high off ground? Diameter?
2) What is the status of the 4 Corners "wellfield" pollution? How much now?
Is there potential for aquifer contamination, past or present, also effecting how wide an area too?What/any remediation of this planned, also?

Thank you, Stephen T. Squires

stsquires@sbcglobal.net

Comments for the EIE of a new water source for UCONN and Mansfield

I think that the concept of water conservation is more compelling when you interact with the water you drink in some way other than just at the tap. In this regard, it is easier to inspire participation in water conservation when the water you use comes from a place where you picnic, drive by, or fish. If the source of your drinking water is part of your local landscape, and it has a personal reference, I believe that one is likely to be more respectful of it.

In Mansfield the draining of the Fenton River by the UCONN wells had a tremendous and memorable impact on residents. The Fenton River is beloved by many. The dying fish, along with the shocking sight of the drying river, brought home the need for more careful water use. This incident made both the university and the town more responsive to the need to use water more judiciously.

If one or two new local water sources, such as wells in the Mansfield Hollow area, or new wells along the Willimantic River were developed, the recent history of the over-pumping of the Fenton wells could be used to inspire a university and town-wide era of mindful water use and serious conservation.

I am aware that there is concern regarding the possibility of local drought conditions that causes some people to embrace the concept of inter-basin transfers. In this regard, perhaps there would be some wisdom in developing both a Mansfield Hollow water source as well as new wells along the Willimantic River. While this would initially be more expensive than a single local source, it seems a wise investment since UCONN will be around for a long time and water use will be an enduring issue. Moreover, the state is currently ready to participate in developing a reliable water system.

I think it might make sense to build redundancy into local water availability. If, for instance, there were a problem with the water main that leads up from the Fenton, and if a Mansfield Hollow water source were connected to this pipeline, then the new wells along the Willimantic could be drawn from more heavily. Similarly, if the Willimantic were subjected to some temporary incident of pollution, then the Fenton and Mansfield Hollow wells could be used more significantly during that period.

If Mansfield and UCONN did not take their water from a local source but instead became dependent on water from an inter-basin transfer, such as the Shenipsit, while water from the Willimantic River or the Mansfield Hollow area were shipped across basin to a town such as Hebron or Columbia, our local water conservation efforts would have no impact on our local water resources. Perhaps those to whom our local water resources were being shipped might not practice thoughtful water conservation. As a result, despite our local water conservation measures, we might find our local rivers and groundwater unnecessarily depleted. I would rather our water source be local and our conservation efforts impact it directly. It is hard for me to imagine that someone in Hebron, who

might never have seen the Willimantic River, would be as committed to protecting it as a Mansfield resident who spends time kayaking on it.

With regard to the Shenipsit Reservoir choice, I am also concerned about the impact of increased withdrawals from the Shenipsit on the Hockanum River. Mansfield and UCONN water users will be removed from the consequence of their water use on the Hockanum River. I continue to believe that it is harder to bring home the concept of water conservation when the source, and your impact on it, is not in your frame of reference.

There are moments when I think, good, let UCONN and the town drain the Shenipsit Reservoir while we in Mansfield protect our own resources, but ultimately I feel this is irresponsible. I reflect on how I would feel if water obtained from Mansfield were shipped to other Connecticut towns and that water were used carelessly, thereby depleting our local rivers or groundwater and changing our landscape.

Concerning consequences of implementation, were the Shenipsit Reservoir to be chosen as the new water source, the pipeline would extend down Route 195 from Tolland to Storrs. I have significant reservations about the possibility of Route 195 becoming a string of strip malls with this new ready access to public water. Apart from the fact that it would be unsightly, I wonder how environmentally friendly the run-off from all the parking lots would be and what the impact of the increased traffic would be. I imagine that there might be unpleasant light pollution consequences also. I note that there are areas of wetlands along Route 195 that should be protected during, or perhaps from, new construction. When there is an event at UCONN, such as a basketball game, Route 195 has significantly increased traffic. In the context of road safety, I hope that you will consider the potential consequence of traffic turning in and out of strip malls on Route 195.

In discussion of the Shenipsit option, mention has been made of possibly laying pipes along Hunting Lodge Road, deviating from Route 195 as the pipeline approaches the university. Because of the history of pollution in the Hunting Lodge area from the UCONN landfill and chemical pits any construction in that neighborhood would need to be approached with careful and mindful planning to avoid any possible problem. Disruption of toxins in the greater area would seem unlikely, however a mindfulness to the sensitivity of this general area should be kept in mind. For this reason it seems simpler and safer to continue the Route 195 pipeline all the way in to campus.

I hope that as Mansfield and UCONN focus on finding a new water source that equal commitment and imagination will be employed in instituting water conservation measures on a town-wide basis to protect this new source. In this regard I encourage the university and the town to consult with other potential partners, such as Virginia DeLima of United States Geological Survey, to begin a town-wide water conservation program. Such a program could encompass both current and intended university water use, as well as private, commercial, and municipal consumption of public water, in addition to domestic and commercial private well users. While thoughtful conservation of a

domestic private drinking well may not directly or immediately impact the public water sources, increased consciousness of the interconnected nature of ground water, as well as the limited nature of clean water in our town and state is important to address now.

I continue to believe that it is easier to inspire more conscientious use of water when the source is local. UCONN could make an effort to familiarize its students with the source of their water and teach them about the need for water conservation overall. This would be a service to the state since clean water is limited throughout Connecticut and will probably become more limited in the future.

I applaud UCONN's water conservation efforts to date. I am sure they can be improved upon. UCONN may already have a comprehensive water conservation education program for all entering freshmen, if not I suggest they start one. I imagine that department by department, and student by student, water use could be re-examined and reduced across the UCONN campus.

Similarly, with regard to private well use and town water use, all new construction hopefully already requires water-saving plumbing fixtures. Existing and new home owners could be educated on how to reduce water use overall. It would be a shame to take the focus off reducing water use because new sources are brought on-line. The very fact that new sources are required should underscore the need to reduce water consumption currently as well as in the future.

It seems that with the current interest in "locally grown" one could capitalize on the concept and expand it to encompass the use, appreciation, and protection of local water resources. If a water source is part of one's visual, recreational, and environmental heritage I think there is greater opportunity to achieve participation in water conservation.

Alison Hilding

July 7, 2011

B.1 RESPONSE TO INITIAL SCOPING PERIOD COMMENTS

Responses to scoping comments are presented below. Verbal questions have been reworded in some cases to clarify the original intent of the question.

CONNECTICUT DEPARTMENT OF ENERGY AND ENVIRONMENTAL PROTECTION (DEEP)

In a letter dated July 7, 2011, CT DEEP noted that it supports the CEPA process and the forum that it provides for evaluating alternatives. DEEP further noted several points pertinent to this EIE as follows:

1. COMMENT: The route of the water mains for potential interconnections to the northwest and southeast transverse areas that are designated as Rural Lands, Conservation Area, Preservation Area, and Existing Preserved Open Space in the State's Conservation and Development Policies Plan; as such, DEEP supports amendments to municipal zoning regulations and plans of conservation and development to restrict potential intensive induced growth along the pipeline routes.

   RESPONSE: This important consideration has been evaluated in the EIE in Section 4 and Sections 7 through 12.

2. COMMENT: The permitability of each alternative per the water diversion policy act should be a key factor in selection of a preferred alternative, along with consideration of the delineation of new aquifer protection areas (APAs) that the municipalities will then need to regulate.

   RESPONSE: The need for diversion permits and consideration of APAs have been identified throughout the document.

3. COMMENT: Local and/or state wetland permitting may be required for the preferred alternative.

   RESPONSE: This issue is considered in the EIE.

4. COMMENT: It would be helpful for the EIE to quantify potential wetland impacts and, if it can be determined, whether any roadway crossings can be achieved while avoiding direct impacts.

   RESPONSE: While it was beyond the scope of this EIE to delineate and define wetland functions and values, qualitative estimates of potential wetland impacts due to construction activities or drawdown have been evaluated in the EIE based on reconnaissance of all potential areas of activity. In most cases, it is believed that pipeline routes within roadways can be achieved while avoiding direct impacts to adjacent wetlands; however, in some cases they may not be able to be avoided. Precise figures of direct wetland impacts would be determined during the design and permitting phases of the eventual project.

5. COMMENT: Potential issues include listed species habitat in the natural diversity database, the crossing of floodplains, and utilizing the *General Permit for the Discharge of Hydrostatic Pressure Testing Wastewater* if water mains are tested.

   RESPONSE: Listed species near each alternative are discussed in the EIE. Permitting concerns including floodplain crossing and the need for general permits are evaluated as well.

CONNECTICUT DEPARTMENT OF PUBLIC HEALTH (DPH)

In a letter dated June 30, 2011, DPH indicated that it concurs with the need for additional public water sources to supply Mansfield, and provides a detailed analysis of the two potential water utility interconnections with regard to margin of safety (MOS) and available water. DPH also offered the following comments pertinent to the EIE process:

1. COMMENT: The development of new groundwater supplies is regulated by DPH through a set of standards and regulations pertaining to sanitation of supplies and site suitability.

   RESPONSE: Sanitary conditions and site suitability for potential new water sources are evaluated in Sections 6, 10, and 11.

2. COMMENT: The EIE should review the technical, managerial, and financial capacities of the different alternatives to solve the stated objectives.

   RESPONSE: The technical capacity of the different alternatives to meet project goals is evaluated in Section 12 of the EIE.

TOWN OF MANSFIELD FOUR CORNERS SEWER AND WATER ADVISORY COMMITTEE

In a letter dated July 5, 2011 the committee requested that the project scope contain the following four items:

1. COMMENT: Pipe routes leading from the University north to the Four Corners Area should consider the use of the proposed extension of North Hillside Road.

   RESPONSE: The future extension of North Hillside Road is considered as a pipeline segment to provide water to the Mansfield Four Corners Area.

2. COMMENT: New groundwater wells should include multiple wells or well sites.

   RESPONSE: Multiple locations along the Willimantic River and in the vicinity of Mansfield Hollow Lake have been evaluated.

3. COMMENT: The No Action or No Build alternative should be fully analyzed to include effects on the University and surrounding areas.

   RESPONSE: The No Action or No-Build alternative is analyzed in Section 5 of the EIE.

4. COMMENT: Up to four potential well sites could be developed and tested by the Town such that field data could be made available in the EIE.

   RESPONSE: Independent of and prior to the initiation of the EIE, the Town of Mansfield retained consultant services to perform test borings at several of the potential well sites. Results are discussed in Sections 10 and 11 of the EIE.

THE CONNECTICUT WATER COMPANY (CWC)

In a letter dated July 7, 2011, CWC offered the following three points supporting a potential interconnection from its system:

1. COMMENT: The main extension along Route 195 would solve a number of water supply problems for the University and the Four Corners Area.

   RESPONSE: An evaluation of this alternative is made throughout Section 7 of the EIE.

2. COMMENT: The use of water from the interconnection would preclude further impacts along local rivers from new groundwater withdrawals while allowing lower reliance on existing wellfields.

   RESPONSE: An evaluation of impacts associated with this alternative is provided in Section 7 of the EIE.

3. COMMENT: CWC believes that the main extension and interconnection is more consistent with the State Conservation and Development Policies Plan, as the new groundwater supply options would necessitate development of wells and new water mains in conservation areas.

   RESPONSE: An evaluation of the impacts to land use and existing plans associated with all of the alternatives is presented in the EIE.

MS. MEG REICH, WILLIMANTIC RIVER ALLIANCE

COMMENT: Ms. Reich offered comments regarding strengthening the null alternative at the June 28, 2011 public information meeting.

RESPONSE: The No Action alternative is analyzed in Section 5.

MR. DAVID MORSE, NAUBESATUCK WATERSHED COUNCIL

COMMENT: Mr. Morse questioned whether recent University water supply planning takes into account extremes in rainfall patterns that Connecticut has been experiencing over the past several years.

RESPONSE: Seasonal lows and extreme droughts are addressed in the University's 2011 Water Supply Plan and Emergency Contingency Plan, respectively. Withdrawals and conservation efforts are currently tied to instream flows as noted in the Wellfield Management Plan. As the

University's water system relies on groundwater withdrawals, high water periods do not present a MOS issue (although flooding of wellfields is a concern as explained in the University's Water Supply Plan and the Emergency Contingency Plan). Identification of a potential additional water source may lessen the University's reliance on the Willimantic River Wellfield during low-flow periods.

MR. STEPHEN SQUIRES

COMMENT: Mr. Squires submitted two questions, relayed on a comment card at the June 28, 2011 public information meeting related to (1) the construction and diameter of the potential pipelines; and (2) the status of the Four Corners groundwater contamination and any ongoing or planned remediation.

RESPONSE: Construction and diameter of potential pipelines is presented along with each alternative in Section 3 of the EIE. The status of the Mansfield Four Corners groundwater contamination is discussed in Section 4.

MS. ALISON HILDING

COMMENT: At the June 28, 2011 scoping meeting, Ms. Hilding noted that an interconnection with CWC would constitute an interbasin transfer of water, while the remaining alternatives would not.

RESPONSE: Several alternatives involve interbasin transfers; this issue is addressed for each alternative.

In a letter dated July 7, 2011, Ms. Hilding offered the following additional points for consideration:

1. COMMENT: The development of additional groundwater supplies along both the Willimantic River and in the Mansfield Hollow area would increase redundancy and allow flexibility of existing supplies.

   RESPONSE: The effect on redundancy and flexibility of existing supplies is evaluated in several locations of the EIE.

2. COMMENT: Water conservation is challenging when the community that utilizes the water is not proximal to its water source. As such, Ms. Hilding believes that the proposed interconnections will not facilitate water conservation.

   RESPONSE: Water conservation has been a major focus of the University and will continue to be an important issue moving forward, regardless of the selected alternative.

3. COMMENT: The increase in withdrawals from the Shenipsit Reservoir may have adverse impacts to the Hockanum River.

RESPONSE: Refer to Section 7 of the EIE for a discussion relating to potential impacts to the Hockanum River.

4. COMMENT: Induced growth along the Route 195 corridor is a particular concern for either interconnection alternative.

   RESPONSE: Refer to Sections 7 through 11 for potential mitigation measures related to preventing induced growth.

5. COMMENT: There is concern relative to construction of a new water main in proximity to historical groundwater contamination along Hunting Lodge Road. It may be simpler and safer to extend a new water main along Route 195 all the way to campus.

   RESPONSE: Potential water main extensions are evaluated under each development alternative. The proximity of historical contamination to new water mains will not have impacts on water quality of the surrounding area. Alternately, surrounding degraded water quality will not affect the quality of potable water in a pressurized system. The extension of public water mains into contaminated areas is considered to be a potential benefit for homes and businesses that rely on individual wells for water supply.

6. COMMENT: Water conservation should be performed by all University students and Mansfield residents.

   RESPONSE: Water conservation is encouraged by both the University and the Town of Mansfield. As noted in the University's 2011 Water Supply Plan, continued water conservation efforts are important in the University water system for maintaining system MOS and protecting fisheries habitat during low streamflow periods.

STATE OF CONNECTICUT

DEPARTMENT OF ENERGY & ENVIRONMENTAL PROTECTION

OFFICE OF ENVIRONMENTAL REVIEW

79 ELM STREET, HARTFORD, CT 06106-5127

To: Jason Coite - Environmental Compliance Analyst
UConn - Office of Environmental Policy, 31 LeDoyt Road, U-3055, Storrs, CT

From: David J. Fox - Senior Environmental Analyst **Telephone:** 860-424-4111

Date: January 31, 2012 **E-Mail:** david.fox@ct.gov

Subject: UConn Additional Water Supply Source

The Department of Energy & Environmental Protection has received the amended Notice of Scoping for the Environmental Impact Evaluation (EIE) to be prepared to analyze the feasibility and impacts of development of a long-term source of an additional 0.5 - 1.0 million gallons per day for the University's water supply system. A new alternative, relocating an existing well in the Fenton River wellfield, will be evaluated in addition to those announced in the previous notice.

The new well, more than 250 feet from the existing well, would require a permit from the Inland Water Resources Division for the diversion of waters of the State pursuant to section 22a-368 of the Connecticut General Statutes. As noted in our earlier comments dated July 7, 2011, permitability should be a key factor in selection of a preferred alternative. As part of analysis of alternatives, the EIE should begin to assess the information required to be submitted for applications for a diversion permit as outlined in section 22a-377(c)-2 of the Regulations of Connecticut State Agencies.

Thank you for the opportunity to review this proposal. If there are any questions concerning these comments or additional assistance from the Department is desired, please contact me.

cc: Robert Hannon, DEEP/OPPD
Corinne Fitting, DEEP/WPSD
Doug Hoskins, DEEP/IWRD
Eric Thomas, DEEP/WPSD

STATE OF CONNECTICUT

DEPARTMENT OF PUBLIC HEALTH

January 19, 2012

Mr. Jason Coite
University of Connecticut
Office of Environmental Policy
31 LeDoyt Road, U-3055
Storrs, CT 06269-3055

RE: Notice of Scoping for: University of Connecticut Action for Additional Water Supply Source(s), Amended to Include Improvements to the Fenton River Wellfield

Dear Mr. Coite:

The Department of Public Health (DPH) Drinking Water Section has reviewed the above scoping notice and is providing the attached report with our comments. This report is supplemental to the comments in the DPH Memoranda dated June 23, 3011 and June 30, 2011 that were provided to you on July 5, 2011 (attached).

Please note that the DPH recommendation from the Memorandum dated June 30, 2011 regarding an analysis of the technical, managerial and financial capacity of each of the three alternatives and of the public water systems involved in securing the additional water supply for the University and the Town of Mansfield should be expanded to include the fourth alternative presented in this amended notice.

If you have any questions regarding the comments in the attached reports, please do not hesitate to contact me directly at (860) 509-7333.

Sincerely,

Lori Mathieu
Public Health Section Chief
Drinking Water Section

Phone: (860) 509-7333
Telephone Device for the Deaf (860) 509-7191
410 Capitol Avenue - MS # 51WAT
P.O. Box 340308 Hartford, CT 06134
Affirmative Action / An Equal Opportunity Employer

MEMORANDUM

TO: Lori Mathieu, Public Health Section Chief
Eric McPhee, Supervising Environmental Analyst
Steve Messer, Supervising Sanitary Engineer

FROM: Patricia Bisacky, Environmental Analyst 2

DATE: January 19, 2012

SUBJECT: Notice of Scoping for University of Connecticut Action for Additional Water Supply Source(s) Amended to Include Improvements to the Fenton River Wellfield

TOWN: Mansfield, Tolland and Coventry

The Source Water Protection Unit of the Department of Public Health (DPH) Drinking Water Section (DWS) has reviewed the Notice of Scoping for University of Connecticut (UCONN) Action for Additional Water Supply Source(s) Amended to Include Improvements to the Fenton River Wellfield. This review is supplemental to the Memoranda submitted by the DPH in response to the Notice of Scoping originally published in the Environmental Monitor on June 7, 2011 where three alternatives for additional water supply were presented for comment.

The amended Notice of Scoping presents a fourth alternative for additional water supply sources which is to replace the University's existing "Well A" in its Fenton River Wellfield with a new well installed in the stratified drift more than 250 feet westward from its current location. As with alternative three in this and the previous Notice, this alternative will be subject to DPH review and approval for new public water supply wells. UCONN should consider all applicable statutes and regulations pertaining to the development of new sources of supply when evaluating this alternative and include a narrative in the EIE on how compliance with these statutes and regulations will be achieved.

In addition, the proposed location for replacement Well A appears to be within the Level A Aquifer Protection Area of the Fenton River Wellfield, an active source of public drinking water for UCONN and the Town of Mansfield, and in the watershed of Mansfield Hollow Reservoir, an active source of public drinking water for the Town of Windham. Should alternative four be chosen to be implemented, UCONN must employ best management practices during the replacement well's development to ensure that the existing sources of public water supply are not negatively impacted.

It is also recommended that UCONN consult with the Department of Energy and Environmental Protection's (DEEP) Water Diversion Permitting and Aquifer Protection Area Programs regarding this alternative and provide a summary of these consultations within the EIE.

Memorandum

From: Lori Mathieu, Public Health Section Chief
Drinking Water Section

RE: Notice Of Scoping (NOS) – University of CT - additional water supply sources

DATE: June 30, 2011

The Drinking Water Section, of the Department of Public Health has reviewed the above mentioned NOS and we offer our general comments and attached detailed review. The NOS identifies a partnership between the Town of Mansfield and the University of CT in order to review, plan for and implement the development of a source of supply of 0.5 to 1.0 million gallons per day. The DPH agrees with the need for an additional source of public water to meet the water supply needs and welcomes the partnership that has formed in order to move this action forward.

The DPH review as attached provides a detailed evaluation of the three identified alternatives: interconnection with Connecticut Water Company system from north of campus, interconnection with the Windham Water Works from south of campus, and development of an additional ground water supply. Our detailed review relies upon data within the individual water supply plans prepared pursuant to Connecticut General Statute Section 25-32d for the University, the Town of Tolland, and the Windham Water Works, and a water supply plan prepared for the Town of Mansfield. This review evaluates the addition of demand under different scenarios with the addition of a margin of safety to assure meeting current and future water supply demand.

Recently DWS has requested water supply plan updates of the plans prepared per CGS Section 25-32d in order to assist in providing up to date water supply information. These updated plans have been requested to be prepared by the Fall of 2011. As noted in our detailed review, and according to present water system data, both interconnection alternatives have challenges in order to meet additional maximum month and peak day demand. The updated plans should address how these challenges will be met.

DPH foresees the development of a new ground water supply as a potential feasible alternative; however the challenge of operating a ground water supply in a basin that has experienced seasonal low flow must be addressed along with meeting the additional new source development requirements.

It is the DPH's recommendation that the EIE review and analyze the technical, managerial and financial capacity of each of the three alternatives and of the public water systems involved in securing the additional water supply for the University and the Town of Mansfield. Consideration of both short-term and long-term operational costs needs evaluation. The preferred alternative must have proven system sustainability in order to assure sustainable water supply to meet projected needs.

Please do not hesitate to contact me directly at 860-509-7333 if there are any questions.

MEMORANDUM

To: Lori Mathieu, DWS Public Health Section Chief

From: Steve Messer, Supervising Sanitary Engineer, DWS Planning Unit
Pat Bisacky, Environmental Analyst 2, DWS Source Water Protection Unit

Subject: Notice of Scoping for University of Connecticut Action for Additional Water Supply Source(s)

Town(s): Mansfield, Tolland, and Coventry

Date: June 23, 2011

The Department of Public Health, Drinking Water Section (DWS) Planning and Source Water Protection Units have reviewed the Notice of Scoping for University of Connecticut Action for Additional Water Supply Source(s) as listed in the June 7, 20011 Environmental Monitor of the State of Connecticut Council on Environmental Quality. The DWS strongly supports and concurs with the proposed action of acquiring additional water supply source(s) for the University of Connecticut public water system, particularly if the University is interested in expanding water service as indicated in the scoping notice below. The DWS further concurs with the specified need to improve the University water supply's margin of safety and supplement the available water during Maximum Month Average Day Demands (MMADD) and Peak Day Demands (PDD), particularly when the existing supply from the Fenton River well field is limited in response to aquatic and environmental concerns. Supply adequacy evaluations (more specific technical details are listed below) were conducted on both public water systems that would potentially serve the University via a water main extension. The evaluations indicate both systems would need to upgrade the design capacities of their existing water treatment plant facilities. Based on the currently available data, Windham appears in a more immediate position to effectively serve the University's primary water supply needs which occur during Maximum Month Average Day Demand (MMADD) and Peak Day Demand (PDD) conditions.

The scoping notice details a direct partnership between the University of Connecticut and the Town of Mansfield which proposes actions that will identify and implement a long-term source of at least 0.5 - 1 million gallons per day of water for the University of Connecticut's public water supply system. The project scope comprises the possible creation of new well fields or an interconnection with one of the two other large community public water systems in the region along with the possible installation of new water mains to provide additional water to the University's public water supply system in and around Storrs. The University of Connecticut public water system already provides service to several Town of Mansfield facilities. The proposed action is planned to enable growth of the University and surrounding area consistent with prior University Water Supply Plans, University Master Plans and associated Environmental Impact Evaluations, particularly for the proposed University Technology Park to be developed on the University's North Campus. The proposed action would also improve the University water supply's margin of safety and supplement the available water during times of drier years when the existing supply is limited in response to aquatic and environmental concerns. This additional source of water supply would also enable economic development as delineated in the Town of Mansfield Plan of Conservation and Development, particularly as envisioned for the Mansfield Four Corners and Storrs Center areas.

The DWS offers the following specific comments for each water supply source alternatives listed within the University of Connecticut's scoping notice:

Alternative 1: Connecting with a nearby reservoir-based water system, the Connecticut Water Company (CWC) - Northern Region, located to the northeast of the main campus by extending a transmission main south from Tolland along the Route 195 corridor or alternative local roads.

- Supply adequacy evaluations, using the University of Connecticut's requested supply commitments, were conducted by DWS staff using available relevant technical data including a 1/20/2011 *CWC Demand/Margin of Safety Projections* document, a 4/11/2011 *"Northern Western System Margin of Safety"* document, updated water supply

source and associated pumping rate information obtained during a very recent DWS sanitary survey, and historic CWC Northern/Western Region water supply plans dated October 1987, October 2001, September 2006 and June 2007. The technical evaluation results detailed below indicate that to effectively serve the area's long term water supply needs; CWC - Northern Region requires additional supply capacity. Readily available additional supply capacity for CWC could result from an expansion of the design treatment plant capacity of the CWC Rockville Water Treatment Plant (WTP) at Lake Shepensit. An expansion of the water treatment plant capacity would provide up to an additional 4.0 MGD for Average Day Demand (ADD) conditions and considerably more for both Maximum Month Average Day Demand (MMADD) and Peak Day Demand (PDD) conditions as water treatment plants can be designed for and operated above the DPH approved yield of the surface water source.

- A DPH Sale of Excess Water (SEW) permit would be required to be obtained by CWC for any water supply proposed to be sold to another public water system such as the University of Connecticut public water system. SEW permits are issued when the seller can verify the water quantities requested in the permit are readily available and can be supplied regularly under all system demand conditions without causing deleterious effects to either public water system over the course of the ten year permit period. Most likely, a DEP diversion permit would be required for this alternative.

- **CWC Additional Commitment of 0.5 MGD to the University of Connecticut:**

1. When utilizing a 1/4 % annual system growth rate, CWC can meet current, five, twenty, and fifty year planning period Average Day Demand (ADD) conditions while maintaining an adequate Margin of Safety (minimum recommended is 15% or 1.15) with no further system improvements required.
2. It appears under certain demand assumptions CWC can meet Maximum Month Average Day Demand (MMADD) conditions through the entire fifty year planning period while maintaining MOS above 1.0; though well below DPH's policy position of a recommended minimum 1.15 MOS for all system demand conditions. The demand assumptions for this specific evaluation were the above noted 1/4% annual system growth rate along with a CWC initial projected demand derived from a ten year average of historic data which results in considerably lower projected demands than actually observed 2010 MMADD/PDD data.
3. Utilizing the same demand assumptions noted above in (2); Peak Day Demand (PDD) conditions are even more marginal with a MOS well below DPH's policy position of a recommended minimum 1.15 MOS for all system demand conditions and even below a 1.0 MOS in the fifty year period.
4. Below is a chart showing the complete results of the informal adequacy evaluation summarized above. For this alternative two sets of system demand projections are provided due to the methods utilized in deriving demand projection stating points described further below.

CWC Regional Pipeline: UCONN Only – 0.5 MGD Added Demand / ¼ % Annual Growth Rate

Year	Average Day Demand (ADD)	ADD MOS	Maximum Month Average Day Demand (MMADD)	MMADD MOS	Peak Day Demand (PDD)	PDD MOS
2005 (CWC)	9.98 MGD	1.38	12.53 MGD	1.10	15.84 MGD	1.03
2010 (CWC)	10.01 MGD	1.38	13.20 MGD	1.05	16.65 MGD	0.98
2020 (CWC)*	10.24 MGD	1.35	12.57 MGD	1.10	15.65 MGD	1.05
2020 (DPH)**	**10.76 MGD**	**1.28**	**13.83 MGD**	**1.00**	**17.57 MGD**	**0.93**
2030 (CWC)*	10.49 MGD	1.32	12.89 MGD	1.07	16.05 MGD	1.02
2030 (DPH)**	**11.02 MGD**	**1.25**	**14.38 MGD**	**0.96**	**18.00 MGD**	**0.91**
2040 (CWC)*	10.76 MGD	1.28	13.21 MGD	1.05	16.45 MGD	1.00
2040 (DPH)**	**11.29 MGD**	**1.22**	**14.73 MGD**	**0.94**	**18.45 MGD**	**0.89**
2050 (CWC)*	11.03 MGD	1.25	13.55 MGD	1.02	16.87 MGD	0.97
2050 (DPH)**	**11.56 MGD**	**1.20**	**15.09 MGD**	**0.92**	**18.90 MGD**	**0.87**

ORANGE = BELOW DPH RECOMMENDED 15% MOS; RED = MARGIN OF SAFETY BELOW 1.0

*CWC projected demands, derived from a ten year average of system demand conditions (2001-2010) with a ¼ % annual growth rate and added 0.5 MGD demand for UCONN in 2014, are in normal print set.

****DPH projected demands, derived from actual system demands (2010) with a ¼ % annual growth rate and a 0.5 MGD added demand for UCONN in 2014, are indicated above in bold print set.**

- **CWC Additional Commitment of 1.0 MGD to the University of Connecticut:**

1. When utilizing a 1/4 % annual system growth rate, CWC can meet current, five, twenty, and fifty year planning period Average Day Demand (ADD) conditions while maintaining an adequate Margin of Safety (minimum recommended is 15% or 1.15) with no further system improvements required.
2. It further appears under certain demand assumptions CWC can meet Maximum Month Average Day Demand (MMADD) conditions for the twenty year planning period while maintaining MOS above 1.0, however, the MOS does dip well below DPH's policy position of a recommended minimum 1.15 MOS for all system demand conditions. The MOS is below 1.0 after the twenty year planning period. Demand assumptions for this specific evaluation were the same 1/4% annual system growth rate and a CWC initial projected demand derived from a ten year average of historic data which provides for considerably lower projected demands than actual observed 2010 MMADD/PDD demand data.
3. Using the same demand assumptions noted above in (2); Peak Day Demand (PDD) conditions are more marginal immediately and problematic until a water treatment plant design capacity expansion occurs or additional supply capacity is obtained. The resulting MOS is well below DPH's policy position of a recommended minimum 1.15 MOS for all system demand conditions over the entire planning horizon and below a 1.0 MOS in the twenty year period.
4. Below is a chart showing the complete results of the informal adequacy evaluation summarized above. For this alternative two sets of system demand projections are provided due to the methods utilized in deriving demand projection stating points described further below.

CWC Regional Pipeline: UCONN/Mansfield – 1.0 MGD Added Demand / ¼ % Growth Rate

Year	Average Day Demand (ADD)	ADD MOS	Maximum Month Average Day Demand (MMADD)	MMADD MOS	Peak Day Demand (PDD)	PDD MOS
2005 (CWC)	9.98 MGD	1.38	12.53 MGD	1.10	15.84 MGD	1.03
2010 (CWC)	10.01 MGD	1.38	13.20 MGD	1.05	16.65 MGD	0.98
2020 (CWC)*	10.74 MGD	1.29	13.07 MGD	1.06	16.15 MGD	1.01
2020 (DPH)**	**11.26 MGD**	**1.23**	**14.33 MGD**	**0.96**	**18.07 MGD**	**0.91**
2030 (CWC)*	10.99 MGD	1.26	13.39 MGD	1.03	16.55 MGD	0.99
2030 (DPH)**	**11.52 MGD**	**1.20**	**14.88 MGD**	**0.93**	**18.50 MGD**	**0.89**
2040 (CWC)*	11.26 MGD	1.23	13.71 MGD	1.01	16.95 MGD	0.97
2040 (DPH)**	**11.29 MGD**	**1.23**	**14.73 MGD**	**0.94**	**18.45 MGD**	**0.89**
2050 (CWC)*	11.53 MGD	1.20	14.05 MGD	0.98	17.27 MGD	0.95
2050 (DPH)**	**12.06 MGD**	**1.15**	**15.59 MGD**	**0.89**	**19.40 MGD**	**0.84**

ORANGE = BELOW DPH RECOMMENDED 15% MOS; RED = MARGIN OF SAFETY BELOW 1.0

*CWC projections derived from a ten year average of system demand conditions (2001-2010) with a ¼ % annual growth rate beginning in 2011 and a 1.0 MGD added demand for UCONN/Mansfield in 2014 are in normal print set.
****DPH projected demands derived from actual system demands (2010) with a ¼ % annual growth rate beginning in 2011 and a 1.0 MGD added demand for UCONN/Mansfield in 2014 are indicated in bold print.**

***Alternative 2:** Connecting with a nearby reservoir-based water system, Windham water Works, located to the southwest of the main campus by extending a transmission main north from southern Mansfield along the Route 195 corridor or alternative route(s) via local roads.*

- Supply adequacy evaluations, using the University of Connecticut's requested supply commitments, were conducted by DWS staff using data from the February 2009 Windham Water Works water supply plan. The evaluations indicate that Windham Water Works may be in a more immediate position to more effectively serve the University of Connecticut/Town of Mansfield water supply needs than the other specified water supply options in the scoping notice due to the University's primary water supply needs occurring in MMADD/PDD system demand conditions. Please note to effectively serve the long term water supply needs of the area, Windham Water Works would also require additional supply capacity and it also appears that the most effective method of acquiring additional supply capacity for Windham would be to upgrade their existing water treatment plant capacity.

- This proposed route for a water main extension lies within an area designated as a Conservation Area on the Locational Guide Map of the "Conservation and Development Policies Plan for the State of Connecticut 2005-2010" because it is within the public water supply watershed of Mansfield Hollow Reservoir, a source of public drinking water for Windham Water Works. The route is also in close proximity to other public drinking water wells serving small community and non-community systems. In addition to observing the construction best management practices previously mentioned under General Comments, the University of Connecticut should ensure this alternative is consistent with the state policies that protect public drinking water sources of supply.

- A DPH Sale of Excess Water (SEW) permit would be required by Windham for any water supply proposed to be sold to another public water system such as the University of Connecticut. SEW permits are issued when the seller can verify the water quantities requested in the permit are readily available and can be supplied regularly under all system demand conditions without causing deleterious effects to either public water system over the course of the ten year permit period. Most likely, a DEP diversion permit would also be required for this supply alternative.

- **Windham Additional Commitment of 0.5 MGD to the University of Connecticut:**

1. Windham can meet current, five, twenty, and fifty year planning period Average Day Demand (ADD) **and** Maximum Month Average Day Demand (MMADD) conditions while maintaining an adequate minimum Margin of Safety (minimum recommended is 15% or 1.15) with no further system improvements required immediately. Windham can also meet Peak Day Demand (PDD) conditions while maintaining a MOS of above 1.0 through the entire fifty year planning period; however, the MOS dips below DPH's policy position of a recommended minimum 1.15 MOS for all system demand conditions (PDD MOS dips to 1.13 for the five year period, 1.06 for the twenty year period, and 1.02 for the fifty year period). Peak Day Demands are only for one day per calendar year and both the University of Connecticut and Windham Water Works have abundant atmospheric storage facilities (considerably over minimum design criteria). Given the above conditions, a mutually beneficial agreement might be considered that allows for a phased-in approach in upgrading the existing WTP facility and increasing the Department of Environmental Protection diversion permit while still immediately assisting in the primary water supply needs of the University.
2. Below is a chart showing the complete results of the informal adequacy evaluation summarized above. *For this alternative only one set of system demand projections is provided because the actual most recent recorded system demand data available at DPH was utilized.*

Windham Water Works: UCONN Only – 0.5 MGD Added Demand

Year	Average Day Demand (ADD)	Max. Month ADD (MMADD)	Peak Day Demand (PDD)
2008	1.90	1.60	1.34
2013	1.54	1.39	1.13
2020	1.45	1.31	1.06
2050	1.40	1.26	1.02

ORANGE = BELOW DPH RECOMMENDED 15% MOS; RED = MARGIN OF SAFETY BELOW 1.0

- **Windham Additional Commitment of 1.00 MGD to the University of Connecticut:**

1. The evaluation for Windham Water Works indicates Windham can meet current, five, twenty, and fifty year planning period Average Day Demand (ADD) conditions while maintaining an adequate minimum Margin of Safety and providing a commitment of an additional 1.0 MGD with no further system improvements required. Windham can also meet Maximum Month Average Day Demand (MMADD) conditions through the entire fifty year planning period while serving an additional 1.0 MGD commitment to UCONN and still remain well above a 1.0 MOS; however, the MOS dips below DPH's policy position of a recommended minimum 1.15 MOS for all system demand conditions (MMADD MOS of 1.13 for the twenty year period and 1.09 for the fifty year period). Peak Day Demand (PDD) conditions would be problematic initially until a water treatment plant capacity upgrade occurred.
2. Windham does have the current ability by charter to serve in Mansfield, already serves limited areas in Mansfield, and makes several allusions in their water supply plan to a potential for eventually serving the University of Connecticut and additional portions of the Town of Mansfield. Windham also immediately has considerable amounts of available water, up to 1.0 MGD under peak demand conditions, and 6.5 MG of atmospheric storage facilities. The following approximate quantities of available water under certain demand conditions are currently available: ADD – 1.94 MGD, MMADD – 1.6 MGD, PDD – 1.0 MGD. The water supply plan does mention if Windham were to serve the University of Connecticut, Windham may seek financial assistance to upgrade treatment facilities.

3. Below is a chart showing the complete results of the informal adequacy evaluation summarized above. *For this alternative only one set of system demand projections is provided because the actual most recent recorded system demand data available at DPH was utilized.*

Windham Water Works Demands With UCONN – 1.0 MGD Additional Demand In 2013:

Year	Average Day Demand (ADD)	Max. Month ADD (MMADD)	Peak Day Demand (PDD)
2008	1.90	1.60	1.34
2013 (from WSP)*	1.30	1.19	0.99
2020(from WSP)*	1.23	1.13	0.94
2050(from WSP)*	1.20	1.09	0.91

ORANGE = BELOW DPH RECOMMENDED 15% MOS; RED = MARGIN OF SAFETY BELOW 1.0

***Alternative 3:** Installing and connecting to a new groundwater source or sources in the stratified drift aquifers along the Fenton River, Willimantic River, or Mansfield Hollow Reservoir. The new groundwater source(s) would preferably be installed on lands in Mansfield, CT currently owned by the University, Town of Mansfield, or the Army Corps of Engineers.*

This alternative will be subject to DPH review and approval for new public water supply wells and it will include a water main extension within the public water supply watershed of Mansfield Hollow Reservoir. UCONN should consider all applicable statutes and regulations pertaining to the development of new sources of supply when evaluating this alternative. Because some potential well locations may not be on land owned by the State of Connecticut, UCONN should ensure that the requirements of Connecticut General Statutes Section 25-33(b)(2) can be met. Consistency of the water main extension portion of this alternative with the state policies in place for the protection of public drinking water sources of supply should be explained in future documentation. Construction best management practices should also be employed for this alternative.

The DWS offers the following general comments regarding the proposed project:

- The University should ensure the water supply source(s) alternatives are consistent with state policies and best management practices are employed to ensure the purity and adequacy of any existing PWS sources as follows:

1. Construction Maintenance: No construction should occur prior to installing properly functioning sedimentation and erosion controls which must be inspected regularly throughout the project. All activities should be conducted during dry weather conditions. During construction and until a vegetative cover is reestablished, the project area should be inspected daily to verify erosion control measures are properly maintained.
2. Emergency Response Plan: Develop an Emergency Spill Response Plan before construction begins. Spill response equipment should be available on-site at all times along with personnel trained in the proper use of such equipment.
3. Hazardous Materials Storage: Hazardous materials should be removed from the site during non-work hours or otherwise stored in a secure area to prevent vandalism. Place covered trashcans and recycling receptacles around the site. Cover and maintain dumpsters. Check frequently for leaks. Place dumpsters under a roof or cover with tarps or plastic sheeting. Never clean a dumpster by hosing it down on site.
4. Vehicles and Machinery: A specific area of the project site outside of any PWS source water area should be designated for auto parking, vehicle refueling and routine equipment maintenance. Methods and locations of refueling, servicing, and storage of vehicles/machinery should be addressed and included on the final site plans. All equipment fueling or minor repairs should occur on a fueling pad. Any onsite fuel storage should be contained and located in a secure area where it will not be vandalized or struck by equipment.
5. Sanitation: Make sure portable toilets are in good working order. Check frequently for leaks.
6. Notification: Notification of the project start date should be sent to all affected PWS and representatives of directly impacted PWS should be granted site access to review compliance with construction site best management practices. The PWS, the Department of Environmental Protection's Oil and Chemical Spill Unit and Drinking Water Section must be notified immediately of any chemical/fuel spill at the construction site. Emergency telephone numbers and a statement identifying the construction site as a sensitive PWS area should be posted where they are readily visible to contractors and other on-site personnel. A note should be added to the site plans stating the sensitivity of the area.

Scott Bighinatti

From: Eric Hammerling [EHammerling@ctwoodlands.org]
Sent: Friday, December 23, 2011 10:17 AM
To: Coite, Jason
Subject: Request for Public Scoping Meeting on UConn Action for Additional Water Supply Source(s)/Fenton River wellfield
Importance: High
Attachments: MansfieldTrails_ConservationRestrictions2011.pdf

Hi Jason,

On behalf of the Connecticut Forest & Park Association (a membership organization with over 2,000 members and supporters), I write to request a public scoping meeting on the following proposed action: "University of Connecticut Action for Additional Water Supply Source(s), Amended to Include Improvements to the Fenton River Wellfield." This action was posted in the December 20, 2011 edition of the Environmental Monitor.

As you may know, CFPA has worked with UConn and others to protect several sections the Nipmuck Blue-Blazed Hiking Trail which runs alongside the Fenton River in the general vicinity of where the new pipeline is being proposed. Since we were not informed of this action directly by the University (and actually were quite surprised by having this situation brought to our attention by one of our supporters), we are requesting the public hearing to hear more about your plans and have the opportunity to provide input.

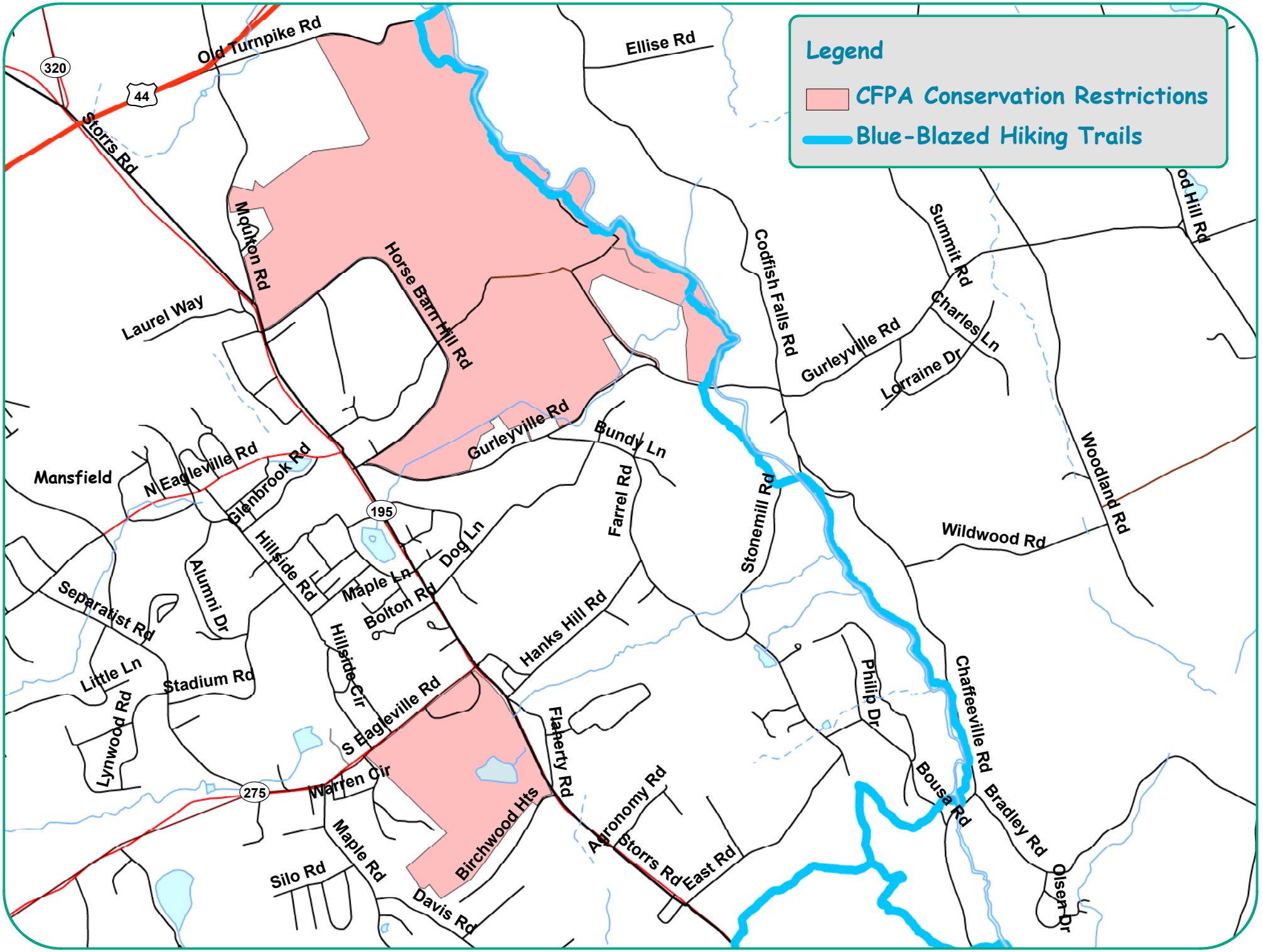
In situations like this where a proposal is being made by an applicant like UConn, which participates as a conservation partner with CFPA in many activities, I would normally call first before sending this request. However, since I was just informed of this situation and the timeline for making a request this morning (and I am about to go on vacation for the holidays starting this afternoon), I did not have the time to check in with you first.

I have attached a map that we have put together quickly to shows the location of the Nipmuck Trail and conservation restrictions held by CFPA, in case you were not already aware of them. I hope to hear from you about this request in the near future.

All the best,

Eric

Eric Hammerling, Executive Director
Connecticut Forest & Park Association
16 Meriden Road
Rockfall, Connecticut 06481
860.346.TREE (office)
860.347.7463 (fax)


Legend
CFPA Conservation Restrictions
Blue-Blazed Hiking Trails
Old Turnpike Rd
320
44
Storrs Rd
Ellise Rd
Mansfield
Maulkon Rd
Horse Barn Hill Rd
Laurel Way
Codfish Falls Rd
Summit Rd
Charles Ln
Gurleyville Rd
Lorraine Dr
Woodland Rd
Bundy Ln
Gurleyville Rd
N Eagleville Rd
Glenbrook Rd
195
Farrel Rd
Stonemill Rd
Wildwood Rd
Hillside Rd
Dog Ln
Maple Ln
Bolton Rd
Alumni Dr
Separatist Rd
Hanks Hill Rd
Hillside Cir
Little Ln
Stadium Rd
Lynwood Rd
S Eagleville Rd
Flaherty Rd
Philip Dr
Chaffeeville Rd
Bradley Rd
Warren Cir
275
Birchwood Hts
Agronomy Rd
Bousa Rd
Maple Rd
Silo Rd
Storrs Rd
East Rd
Davis Rd
Olsen Dr

Scott Bighinatti

From: Rick Lacafta [rlacafta@yahoo.com]

Sent: Friday, December 23, 2011 12:53 PM

To: Coite, Jason

Subject: Concerns about Uconn water pumping from the Fenton river and well field

Hello, my name is Rick Lacafta. I live at 225 Codfish Falls Rd, and my property abuts the Fenton river. I also have a private well supplying water for my family.

I've observed that Uconn has pumped water from the Fenton river during drought conditions, which in my opinion, caused extreme low water conditions and a large fish kill. The state of connecticut stocks the river with trout, so damaging the fish population seems contradictory to the goal of preserving a quality fish habitat.

I am not very pleased to hear tthat one on the options on the table is to increase pumping in the Fenton river area. I have the following questions :

Who will audit Uconn's compliance to preventing adverse conditions to the Fenton river habitat ? What penalties for non-compliance have been determined ?

What legal recourse do I as a private landowner, taxpayer and citizen have if Uconn adversely affects my private well, and subsequently my family's quality of life ?

My suggestion is not to continue abusing the Fenton river area. I suggest that use of reservoir based water be used, and hopefully Uconn will be subject to the same water restrictions in drought conditions as other users of those water supplies.

Rick Lacafta

Testimony for the public scoping meeting regarding the addition of relocating Fenton Well A to the UConn EIE for Additional Water Supply.

1/24/12, 5:30 PM, at the UConn Bishop Center.

My name is Quentin Kessel and I live at 97 Codfish Falls Road in Storrs. Together with my wife Margaret, we own the land across the Fenton River from the Fenton River Well A, including a portion of the aquifer the well pumps from.

I am also Chair of the Mansfield Conservation Commission and we discussed this proposal at our December meeting.
Unfortunately all that our December minutes has to say on this is:

"6. UConn Water Supply Source Study. UConn has added relocating Fenton Well A farther from the Fenton River to the list of alternative water sources being evaluated."

I led the discussion on this and what I said went as follows: Together with Greg, I had attended and participated in the major study of the Fenton River and the effects of over pumping. I related why moving Pumping Station A back from the river was a good thing, but apparently, we did not see the need to make a formal motion of support and to vote on it. What follows must be considered personal testimony:

I remain in favor of the proposed move of Well A, but since our December meeting, I have had additional thoughts, prompted by the statement I saw somewhere that there was the possibility of withdrawing more water from a relocated well A (even 0.5 Mgd?). This worries me, especially if UConn manages to stay grandfathered in to its 1 Mgd Fenton River diversion permit. I assume the CC would be against increased pumping without further study. My reasons are as follows:

1. Well A is currently located close to and near a bend in the river. During dry periods, the effect on the river is immediate and often obvious. Indirect infiltrations in the vicinity of 50% have been observed over the years. In other words, at 50%, half the water being pumped is ground water and the other half is being pumped from the Fenton River.

Moving Well A away from the river drastically changes the dynamics, first the effects of pumping will not be immediate, but there will be more of a time delay and the effects will be more difficult to observe and quantify. At the very minimum, the test wells between the river and the new site must be activated, or new test wells must be established and monitored.

2. What is the problem if immediate effects are not visible? The worry is that the pumping rate might be greater than the rate of ground water replenishment to the aquifer. I don't believe the groundwater replenishment rate is known, but if it is exceeded over the long term, we will be creating a worse situation than exists with Well A at present.

As the volume of water contained in the aquifer is many times UConn's daily withdrawal (X1000?), it will be tempting for UConn to exceed the replenishment rate. This may be fine during a short term emergency, but the use of withdrawals exceeding those of the present Well A

must be carefully monitored.

You only have to think of the water tables in places like Phoenix and Albuquerque: their water tables have dropped 10 to 25 feet in places, as they utilize water that had accumulated in their aquifers over the millennia. In the event UConn is planning a shallow well, such as the existing Well A, the pumping will be self limiting, but if they are considering a deeper well, great care must be taken not to exceed the ground water entering that portion of the aquifer. Again, a careful monitoring system must be established around the new well to establish its cone of depression at different rates and policies must be put in place to limit the pumping if it is necessary to do so.

Added comment: I assume a relocated Well A will be kept well away from UConn's firing range. The local lead content is quite high and with the assistance of acid rain it can migrate. Please comment.

Dustin Kessel

Patricia A. Suprenant

441 Gurleyville Road
Storrs, CT 06268

January 24, 2012

Mr. Jason Coite
University of Connecticut
31 LeDoyt Road, U3055
Storrs, CT 06269

Hand Delivered

Dear Mr. Coite:

In the *Revised* Scoping notice for the University of Connecticut action for additional water supply sources amended to include improvements to the Fenton River Wellfield, you state that you will be replacing "Well A" within the University's Fenton River Wellfield in a search to identify a long term source of at least .5 to 1 million gallons per day of water.

I would ask that you address the following:

1. Should the University be following all State of Connecticut water statutes?
2. In what form, forum, commission or committee is this "direct partnership" between the Town of Mansfield and the University of Connecticut?
3. Does the University of Connecticut meet the statutory definition of a water company as clarified in the Attorney General's Opinion dated November 29, 2000 with respect to this proposed action?
4. Is the University of Connecticut subject to source abandonment statute (CGS Section 25-33k) as it applies to water companies and other entities, which includes state entities that provide drinking water to the public?
5. Is the University of Connecticut regulated by the department as a public water system, per the definition of public water system found in the Regulations of Connecticut State Agencies Section 19-13-B102 (a)(65)?
6. Is the Town of Mansfield in receipt of an official notification of the University's intent to abandon this wellfield? And if the Town of Mansfield is in possession of such legal notice, is it also in possession of the application that the University of Connecticut would have sent to the Department of Public Health 30 days following this notification of abandonment to the Town of Mansfield?
7. What environmental impact both long term and short term will this have on the Fenton River Wateshed and the surrounding area?
8. Is the University of Connecticut required by state statute to obtain Department of Public Health approval to build or expand this water supply system?
9. What record keeping and reporting requirements is the University subject to in this action?
10. Will this new source of water be subject to the Department of Public Utilities Regulatory Authority rate regulations and pricing?
11. Will the source abandonment of Wellfield A affect the development and disposition of the lands in that area?

12. Is the University of Connecticut subject to the same laws that apply to water companies in the area of wellfield mapping, water supply emergencies, and water supply planning for the Fenton River Wellfield?
13. How will the proximity of the University of Connecticut's Hazardous Waste and Soil Facility above the Fenton River Watershed potentially impact this new well?
14. Will this water be allocated exclusively for the Technology Park?
15. What part of the new water source will be allocated for the Town of Mansfield? How will the pricing of that water be regulated?
16. How does this action ensure water adequacy down stream to the Mansfield Reservoir?
17. How will the this new well improve the University's water supply margin of safety and supplement of the available water during ties of drier years when the existing supply is limited in response to aquatic and environmental concerns?
18. What modeling and theory is the University proposing?
19. How would the *existing wells and water users* in the area of the following alternative water sources be impacted:
    a. Connecting with a nearby reservoir-based water system to the northwest of the main campus by extending a transmission main south from Tolland along the Route 195 corridor or alternative local roads?
    b. Connecting with a nearby reservoir-based water system to the southeast of the main campus by extending a transmission main north from southern Mansfield along the Route 195 corridor or alternative route(s) via local roads?
    c. Installing and connecting to a new groundwater source or sources in the stratified drift aquifers along the Fenton River, Willimantic River, or Mansfield Hollow Reservoir. The new groundwater source(s) would preferably be installed on lands in Mansfield, CT currently owned by the University, Town of Mansfield, or the Army Corps of Engineers?
    d. Replacing the University's existing "Well A" in its Fenton River Wellfield with a new well installed in the stratified drift more than 250 feet westward from its current location?

Sincerely,

Patricia A. Suprenant

EIE SCOPING

Comment Card 1/24/2012

Comment:

I oppose abandoning existing well "A" if an alternative well is drilled.

David Morse
Mansfield, Pres.
Citizens for Responsible Growth

EIE Scoping 1/24/2012

Comment Card

Comment:

Question:

Apropos CEPA consideration of socioeconomic impact of water sufficiency, does Uconn's water supply plan include provision of water for an assisted living complex for Mansfield? If not, why not?

– David Marse, Mansfield

EIE scoping 1/24/2012

Comment Card

Comment:

Apropos the transparency of CEPA and public oversight, is Uconn's water system subject to the oversight and legal constraints to which other water systems are subject? ~~If n~~ We need clarity on this matter.

Rind Morse
Mansfield

B.2 RESPONSE TO REVISED SCOPING PERIOD COMMENTS

Responses to scoping comments are presented below. Verbal questions have been reworded in some cases to clarify the original intent of the question.

CONNECTICUT DEPARTMENT OF ENERGY AND ENVIRONMENTAL PROTECTION

COMMENT: In a letter dated January 31, 2012, CT DEEP supplemented its previous review to include the potential replacement of Fenton River Wellfield Well A. The DEEP noted that a new well located more than 250 feet from the original well would require a diversion permit.

RESPONSE: This comment is taken into consideration in Section 6 of the EIE.

CONNECTICUT DEPARTMENT OF PUBLIC HEALTH

In a letter dated January 19, 2012, the DPH supplemented its previous review to include the potential replacement of Fenton River Wellfield Well A. Many of the comments are informational in nature. DPH also offered the following comment pertinent to the EIE process:

COMMENT: This alternative will be subject to DPH approval for new public water supply wells. UConn should consider all applicable statutes and regulations pertaining to the development of new sources of supply when evaluating this alternative and include a narrative in the EIE on how compliance with these statutes and regulations will be achieved.

RESPONSE: Sanitary conditions and site suitability for potential new water sources are evaluated in Section 6.

CONNECTICUT FOREST & PARK ASSOCIATION

In an email dated December 23, 2011, Mr. Eric Hammerling noted the following:

COMMENT: The Nipmuck blue-blazed hiking trail passes along several of the potential water routes, including through the Fenton River Wellfield. The Connecticut Forest and Park Association has conservation restrictions in the UConn Forest where the Fenton River Wellfield is located.

RESPONSE: These comments are addressed in Section 6 of the EIE.

At the January 24, 2012 scoping meeting, Ms. Claire Cain asked for additional specifics regarding the relocation of Well A:

1. COMMENT: Would a new access road need to be installed? Would there be clearing?

   RESPONSE: An access road to the relocated or replaced Well A (identified as Well E) would be needed to install and maintain the well. The new access would be connected to the existing access roads. Clearing would be required to facilitate drilling access and construction of the new pumphouse.

2. COMMENT: What is the footprint of an expanded wellfield if it is to be giving more water?

   RESPONSE: A new pumphouse and access road to Well E would be similar in size to those seen now at Well B, Well C, and Well D. While an exact design is beyond the scope of this EIE, estimated impacts are evaluated in the appropriate sections of the EIE.

MR. RICK LACAFTA

In verbal testimony submitted at the January 24, 2012 meeting, Mr. Lacafta asked several questions related to the EIE:

1. COMMENT: Is the University's wastewater treatment plant capable of handling an additional 0.5 to 1.0 mgd of demand?

   RESPONSE: The capacity of the University's Water Pollution Control Facility is evaluated in the EIE for each of the alternatives.

2. COMMENT: Would there be any potential impact to private wells located along the Fenton River?

   RESPONSE: This comment is addressed in Section 6 of this EIE.

3. COMMENT: Does the University have an idea about the capacity of the Fenton River aquifer?

   RESPONSE: Recent analyses have estimated of the amount of water that may be available from the overburden aquifer near the Fenton River Wellfield. Specifically, the safe yield of the wellfield is believed to be greater than the diversion registration rate. This information can be found in the University's 2011 Water Supply Plan.

In an email dated December 23, 2011, Mr. Lacafta noted that his property abuts the Fenton River and feels that since the State of Connecticut DEEP stocks the river with trout, damaging the fish population is contradictory to the goal of supporting a quality fish habitat. He is supportive of a reservoir-based solution and offered the following questions for consideration:

1. COMMENT: Who will audit UConn's compliance to preventing adverse conditions to the Fenton River Habitat?

   RESPONSE: The University's Office of Environmental Policy audits the compliance with the Fenton River Management Plan, with assistance from the Facilities Department and the University's contract operator. Such matters are reviewed by the Water and Wastewater Advisory Committee, which includes Town of Mansfield personnel. The CT DEEP also has the authority to review water withdrawals for compliance with the diversion registration.

2. COMMENT: What penalties for non-compliance have been determined?

RESPONSE: The University's Office of Environmental Policy does not maintain a penalty program. The Connecticut DEEP is authorized to issue a consent order for violations of the diversion registration.

3. COMMENT: What legal recourse do I as a private landowner, taxpayer, and citizen have if UConn adversely affects my private well and subsequently my family's quality of life?

   RESPONSE: This question would need to be asked of legal counsel and the CT DEEP Inland Water Resources Division.

MR. QUENTIN KESSEL

In written testimony submitted at the January 24, 2012 meeting, Mr. Kessel noted that he is in favor of moving Well A away from the Fenton River, but expressed several concerns and offered several comments for consideration:

1. COMMENT: Mr. Kessel heard that there was a possibility of withdrawing more water from a relocated Well A. He has concerns about the overall groundwater replenishment rate of the aquifer and ensuring that withdrawals do not exceed this rate over the long term.

   RESPONSE: This issue is addressed in Section 6 of the EIE.

2. COMMENT: Well A is currently located near a bend in the river and has a significant impact on streamflow in the river when pumping. Moving the well away from the river should increase the amount of time until streamflow impacts are noticeable. Test wells should be installed between the relocated well and the river.

   RESPONSE: Section 6 of the EIE discusses modeling performed to determine potential streamflow impacts associated with the proposed Well E.

3. COMMENT: Mr. Kessel noted that a firing range is located south of Fenton River Wellfield Well A near to the potential relocation areas. His concerns include that the local lead content in the soil is quite high and that acid rain can cause the lead to migrate.

   RESPONSE: This topic is addressed in Section 6 of the EIE.

MS. PATRICIA SUPRENANT

In verbal testimony provided at the January 24, 2012 meeting, Ms. Suprenant asked the following questions related to this EIE:

1. COMMENT: Who is the first priority for the new source of water, the University or the Town of Mansfield? Who would be the recipient of a new well if one was installed?

   RESPONSE: The University and the Town are cooperating on this EIE and its implementation in order to meet the combined future demands of both the University and the Town. The goal is to have a water supply that provides sufficient supply to meet combined needs without water

prioritization. The eventual selected alternative may require legal agreements between multiple parties.

2. COMMENT: What will the impact be along the proposed pipeline along Chaffeeville Road?

   RESPONSE: Proposed pipeline routing is evaluated throughout the EIE as part of the alternatives.

In written testimony provided at the January 24, 2012 meeting, Ms. Suprenant submitted a series of questions for consideration:

1. COMMENT: Should the University be following all State of Connecticut water statutes?

   RESPONSE: The University follows applicable State of Connecticut water statutes in accordance with existing legal determinations.

2. COMMENT: In what form, forum, commission, or committee is this "direct partnership" between the Town of Mansfield and the University of Connecticut?

   RESPONSE: The University and the Town have formally collaborated on water supply related issues for several years, most notably through their shared participation on the Water and Wastewater Advisory Committee. The University and the Town have agreed to share staff time and budgetary resources to study and determine the best alternative for meeting future water supply needs at the University and in Mansfield. The Town has retained its own consultant to evaluate methods to bring water to the Mansfield Four Corners area who have performed field investigations at potential well sites. University staff, Town staff, and members of the Mansfield Four Corners Water and Wastewater Committee have formed a technical advisory group to provide guidance to the development of this EIE.

3. COMMENT: Does the University of Connecticut meet the statutory definition of a water company as clarified in the Attorney General's Opinion dated November 29, 2000 with respect to this proposed action?

   RESPONSE: As stated in the 2000 Attorney General's Opinion, "*According to the plain language of the law, the University is not a 'water company' within the narrow definition contained within the statue, that is, for purposes of the State's watershed land development restrictions*." The 2000 Attorney General's Opinion further states that "*the definition of 'water company' set forth in CGS 25-32a does not specifically refer to the State or its agencies and it is, therefore, inapplicable to them*."

4. COMMENT: Is the University of Connecticut subject to source abandonment statute (CGS Section 25-33k) as it applies to water companies and other public entities, which includes state entities that provide drinking water to the public?

   RESPONSE: As a public water system, the University is subject to the referenced source abandonment statute.

5. COMMENT: Is the University of Connecticut regulated by the department as a public water system, per the definition of public water system found in the Regulations of Connecticut State Agencies Section 19-13-B102(a)(65)?

   RESPONSE: The University is regulated as a public water system for adequacy and purity (CGS Section 25-32a) and per the definition of a public water system found in RCSA Section 19-13-B102(a)(65).

6. COMMENT: Is the Town of Mansfield in receipt of an official notification of the University's intent to abandon this wellfield? And if the Town of Mansfield is in possession of such legal notice, is it also in possession of the application that the University of Connecticut would have sent to the Department of Public Health 30 days following this notification of abandonment to the Town of Mansfield?

   RESPONSE: The University has no intention of abandoning the Fenton River Wellfield. The subject EIE evaluates the potential impacts of relocating or replacing a single well, Fenton River Wellfield Well A, as a potential alternative for supplying the additional water supply to meet future demands at the University and the Town of Mansfield. As noted in the EIE, if Well E were installed to replace Well A, the University would retain the existing Well A as an emergency backup well and not formally abandon it.

7. COMMENT: What environmental impact both long term and short term will this have on the Fenton River Watershed and the surrounding area?

   RESPONSE: This question is the impetus guiding the evaluation of this alternative as well as other alternatives in the EIE.

8. COMMENT: Is the University of Connecticut required by state statute to obtain Department of Public Health approval to build or expand this water supply system?

   RESPONSE: The University will need to secure a variety of permits through the Department of Public Health relative to the eventual selected alternative. These are described in detail in the EIE.

9. COMMENT: What record keeping and reporting requirements is the University subject to in this action?

   RESPONSE: The University is subject to the record keeping and reporting requirements of the CEPA process which are described Section 2 of the EIE.

10. COMMENT: Will this new source of water be subject to the Department of Public Utilities Regulatory Authority rate regulations and pricing?

    RESPONSE: Refer to Section 4.2 of the EIE for a discussion of the Public Utilities Regulatory Authority in relation to prospective suppliers.

11. COMMENT: Will the source abandonment of Well A affect the development and disposition of lands in that area?

RESPONSE: If Fenton Well A is relocated, the existing well would be retained as an emergency backup source. It would no longer be an active source of supply. Thus, Well A would not be formally abandoned. The UConn Forest will continue to be undeveloped conservation land except for the structures at the Fenton River Wellfield.

12. COMMENT: Is the University of Connecticut subject to the same laws that apply to water companies in the area of wellfield mapping, water supply emergencies, and water supply planning for the Fenton River Wellfield?

    RESPONSE: The University is not subject to laws specific to water companies. However, the University has voluntarily prepared Aquifer Protection Area mapping (and as such its lands in the APA are subject to the land use prohibitions and restrictions in the Connecticut DEEP's aquifer protection regulations), an Emergency Contingency Plan through the Water Supply Plan process, and has developed a Wellfield Management Plan to guide use of the Fenton River Wellfield.

13. COMMENT: How will the proximity of the University of Connecticut's Hazardous Waste and Soil Facility above the Fenton River Watershed potentially impact this new well? Are there plans to move this facility?

    RESPONSE: The University's Main Accumulation Area (MAA) is used to temporarily store hazardous waste. Its operations do not include soil management. The MAA is used for the temporary (less than 90-days) storage of chemical (RCRA hazardous waste), low-level radioactive, and biological/medical waste generated by the University's academic research and teaching laboratories and other operations. The MAA is beyond the Level A APA for the Fenton River Wellfield, which was approved by CT DEEP in 2003. Given the proximity of Well E to Well A, it is unlikely that the Level A APA would change to include this facility if Well E was constructed. The MAA has never experienced a release of any of its stored materials, is properly equipped with secondary containment, and is managed and regularly inspected in accordance with all applicable regulations. The University is preparing a separate EIE that will address the location of this facility.

14. COMMENT: Will this water be allocated exclusively for the Technology Park?

    RESPONSE: New sources of supply identified in this EIE will be allocated to meet the needs of both the Town and the University. This topic is discussed extensively under the purpose and need in the EIE.

15. COMMENT: What part of the new water source will be allocated for the Town of Mansfield? How will the pricing of that water be regulated?

    RESPONSE: New sources of supply identified in this EIE will be allocated to meet the needs of both the Town and the University. Pricing of water will be regulated based on existing regulations. Section 4 and numerous other sections of the EIE discuss water pricing for the various entities involved.

16. COMMENT: How does this action ensure water adequacy downstream to the Mansfield Reservoir?

    RESPONSE: The EIE evaluates impacts to instream flow in the Fenton River. Refer to Sections 6 and 11 for details.

17. COMMENT: How will this new well improve the University's water supply MOS and supplement the available water during times of drier years when the existing supply is limited in response to aquatic and environmental concerns?

    RESPONSE: Refer to Sections 5 through 11 for a discussion of how each alternative will affect MOS.

18. COMMENT: What modeling and theory is the University proposing?

    RESPONSE: University faculty has been revising the model originally used to develop the conclusions of the Fenton River Study as additional geologic data has become available. Dr. Glenn Warner of the College of Agriculture and Natural Resources and Dr. Amvrossios Bagtzoglou of the Department of Civil and Environmental Engineering have run several simulations with the ground water model to determine the least environmentally damaging location and scenario for utilizing a relocated Well A (i.e., Well E). Refer to Section 6 of the EIE for details.

19. COMMENT: How would the *existing wells* and *water users* in the vicinity of each alternative water sources be impacted by each development alternative?

    RESPONSE: Refer to Sections 5 through 11 for a discussion of the benefits and impact to other community water systems, private wells, and other water users in the vicinity of each alternative.

MR. DAVID MORSE

In written testimony submitted at the January 24, 2012 meeting, Mr. Morse noted that he opposes abandoning the existing Well A if an alternative well is drilled and offered two additional comments for consideration:

1. COMMENT: Regarding the socioeconomic impact of water sufficiency, does UConn's Water Supply Plan include provision of water for an assisted living complex in Mansfield?

   RESPONSE: It is assumed that the comment refers to a potential "Masonicare" development proposed on Maple Road in Mansfield. Future water needs are discussed in detail in Section 1 of the EIE under the heading of project purpose and need.

2. COMMENT: Is UConn's water system subject to the oversight and legal constraints to which other water systems are subject?

   RESPONSE: This question is addressed above in response to Ms. Patricia Suprenant's comments.

MR. BILL THOMPSON

At the January 24, 2012 meeting, Mr. Thompson asked a series of questions related to the existing wellfields.

1. COMMENT: Are the Depot Campus water system and the Main Campus water system interconnected?

   RESPONSE: Yes. The Depot Campus is supplied with water produced at the Willimantic River Wellfield, and water from that wellfield is also directed through a 16-inch diameter transmission line to the Main Campus.

2. COMMENT: Mr. Thompson noted that an additional well at the Willimantic River Wellfield, or someplace downstream could connect to the existing transmission line leading to the campus.

   RESPONSE: Expansion of the Willimantic River Wellfield was indirectly evaluated in the 2010 Willimantic River Study and it was found that the aquifer near the existing wellfield could not support a new well that would provide a significant amount of water. Other alternatives along the Willimantic River Wellfield consider connecting into the transmission main running to the Main Campus. Other wellfields proximal to the Willimantic River are analyzed in Section 10 of the EIE.

3. COMMENT: Mr. Thompson noted that a new well at the Fenton Wellfield, or a new well along the Willimantic River, would be easier to tie into the existing system than an interconnection with Windham Water Works.

   RESPONSE: Section 3.0 of this EIE outlines the length of pipeline necessary for each alternative and scenario. New groundwater supplies are evaluated in Sections 10 and 11 of the EIE.

4. COMMENT: Mr. Thompson inquired if soil conditions could be a restriction on installing piping.

   RESPONSE: Sections 6 through 11 discuss soil conditions as related to each alternative. Specifically, the presence of ledge can present challenges related to installation of water mains.

5. COMMENT: Mr. Thompson's final question related whether there was pumping test or slug test information available from existing monitor wells in areas of water quality concern, and if information from the pumping tests conducted by Environmental Partners Group for the Town of Mansfield would be in the EIE.

   RESPONSE: Available information regarding groundwater quality and water quantity is addressed in Sections 6, 10 and 11 of the EIE.

MS. HELEN KOEHN

At the January 24, 2012 meeting, Ms. Koehn asked a series of questions related to the EIE:

1. COMMENT: Is the potential connection with Connecticut Water Company still being evaluated now that the scoping has changed?

   RESPONSE: Yes. The potential interconnection with CWC is evaluated in this EIE in Section 7.

2. COMMENT: Is one of the criteria in the EIE the cost of the water to the individuals who would eventually be paying for the water?

   RESPONSE: Cost is analyzed for all alternatives considered in the EIE.

3. COMMENT: Will the EIE discuss the governance of the eventual water system that will serve areas of Mansfield?

   RESPONSE: Governance of the eventual water system is discussed in the EIE; however, the document does not offer a conclusion on governance, as there are numerous potential outcomes.

4. COMMENT: I received a letter from my State Representative who said he was seeking bonding to pay for the pipes that would connect with Tolland, and I'm wondering if there are similar initiatives for bonding for all of these alternatives. It's very confusing to me that our State Representative is seeking bonding for one of the alternatives. Will financing these projects be discussed in the EIE?

   RESPONSE: Funding mechanisms are not known at this time and will likely depend upon many factors, including the selected alternative. Costs are evaluated in the EIE; however, financing is not.

5. COMMENT: Has any consideration been given to the possible combining of alternatives?

   RESPONSE: This EIE has been conducted with the understanding that more than one alternative may be necessary to provide the additional water demand required to meet project goals.

6. COMMENT: I would like to see a review of the environmental history of the surface water alternatives included in the EIE because they will all have a test for algae and there may have been some governmental insight regarding water quality.

   RESPONSE: Water quality is addressed in the EIE. Specific algae testing of existing surface supply sources are not included. All of the existing supplies under consideration currently meet water quality standards.

7. COMMENT: I thought that UConn had purchased a new co-generation plant that used less water.

RESPONSE: The new co-generation plant was installed six years ago and the combined steam production and air conditioning load on the facility leads to a peak demand on a hot summer day of approximately 400,000 gallons of water. The facility does not need this amount of water every single day, but the peak day demand is necessary to calculate MOS and evaluate the need for water from a planning standpoint. In addition, as campus renovations move forward, more buildings are being connected to the central chillers and not utilizing independent air conditioning systems. This results in reduced electrical consumption. Thus, while the co-generation plant is more efficient than the previous plant, it has a greater air conditioning service area such that overall water demands at the facility have not decreased. Lastly, the University is completing a Reclaimed Water Facility that will direct treated wastewater from the University WPCF to the co-generation plant. This facility will replace the potable water that had been used for steam and chilled water production.

8. COMMENT: Have you considered Mansfield City Road as an alternative to connect with Windham Water Works?

   RESPONSE: This alternative was removed from consideration due to the longer length of pipeline required to connect to the University water system as opposed to the other WWW alternatives.

MS. ALISON HILDING

At the January 24, 2012 meeting, Ms. Hilding asked a series of questions related to the EIE:

1. COMMENT: The 2006 Fenton River Study stated that moving Well A 250 feet from its current location would result in a reduction of 25% of induced infiltration from the river for the pumping of that well. What was the variant factor between the 2006 Fenton River Study and the current modeling that has led the scientific team to determine that this potential reduction no longer applies?

   RESPONSE: Additional geophysical work and improvements to the original model over the past several years have led to discounting the original estimate. Updates to this estimate are presented in Section 6 of the EIE.

2. COMMENT: Is the same model as was used in the Fenton River Study?

   RESPONSE: This is the original model with improvements based on the recent geophysical work conducted by University faculty.

3. COMMENT: Is the USGS involved with the groundwater model?

   RESPONSE: Mr. Jeff Starn of the USGS East Hartford Office has been advising the University on updates to the model.

4. COMMENT: Would there be wisdom in keeping the existing Well A active after drilling the new well until years of actual data and climate experience can be acquired at the new well in

order to determine that the new well is going to be performing at the levels specified in the model?

RESPONSE: Activating Well E (the relocated Well A) as a replacement well would require disconnecting the existing Well A from the water system. The current proposal is to not utilize both wells concurrently. The University is proposing to keep Well A as an emergency backup well. Refer to Section 6 of the EIE for more details regarding this issue.

5. COMMENT: I'm inferring from the scoping notice that it is anticipated that you would pump an even greater volume of water from a relocated Well A (Well E).

   RESPONSE: The University has tested various scenarios for determining the theoretical amount of water that could be produced from Well E and the potential streamflow impact on the Fenton River, as well as potential wellfield management protocols to provide water during periods of low streamflow. Well E would be subject, at a maximum, to the daily withdrawal limit set by the diversion registration, but if a diversion permit was required (such as to relocate the well greater than 250 feet from the existing well) the eventual amount of allowed withdrawal would likely be much less than it is for the existing Well A. In either case, withdrawals from the wellfield during low streamflow periods would still be restricted by the protocols set by the 2006 Fenton River Study as amended to include provisions for using Well E. Refer to Section 6 of the EIE for additional details.

6. COMMENT: The existing well is 25 feet deep, and a proposed well would be on the order of 60 feet deep. Are there any issues with road salt or accidents or any kind of vehicular drippings that might affect a well that is only 60 feet deep?

   RESPONSE: Section 6 of the EIE discusses groundwater quality, stormwater management, and hazardous materials.

7. COMMENT: What is the potential impact of summer school and increasing the summer population? Has that been factored into the scenarios? Can this be addressed by looking into the long term plans for population in Mansfield over the summer?

   RESPONSE: The potential impact of summer school and increasing the summer population is a water supply planning issue and not one that is directly addressed in the EIE. Summertime MOS in the University water system is described in Section 4 of the EIE. Peak demands do not occur in the summer months prior to the fall semester.

8. COMMENT: Where does bottled water fit in and what are the long term plans for it on the campus?

   RESPONSE: The University purchases its bottled water from outside sources for campus resale. It has no plans to bottle its own water at this time.

9. COMMENT: In regards to relocating Well A, does this in any way affect the classification of land in that watershed area? Are you changing any of the DEP-type classifications?

RESPONSE: The watershed that drains to the Fenton River Wellfield will remain unchanged, since the defining point of that watershed is the area that drains to Well D (the furthest well downstream). The APA would need to be amended to include Well E in the modeling, although it is unlikely that there would be a significant change to the existing boundary given the proximity of potential Well E locations to Well A.

10. COMMENT: How can you address socioeconomic impacts such as the price of water when in one case the water rates are not regulated and in another they are regulated by the Public Utility Regulatory Authority? How does the University calculate its water rates?

    RESPONSE: The price of water from various sources is evaluated at current water rates in Section 4 of the EIE. Water rates are also addressed in other sections of the EIE.

11. COMMENT: What was the outcome from the exploration in Eagleville Preserve?

    RESPONSE: This information is included in Section 10 of the EIE.

MR. ERIC BEG

At the January 24, 2012 meeting, Mr. Beg asked a question regarding modeling:

COMMENT: As there is the potential for low water availability from the Fenton River aquifer due to induced infiltration during periods such as drought? Are there considerations for extended low water availability in the modeling to define the limit of use? Are there contingencies for extended loss of water?

RESPONSE: The 2011 Wellfield Management Plan utilizes the protocols set forth in the 2006 Fenton River Study to define the limit of use of the Fenton River Wellfield during periods of low streamflow. The University's Emergency Contingency Plan discusses the impact of extended low water availability. A portion of the recent groundwater modeling has been conducted to evaluate whether there are any scenarios under which some of the wells may be pumped while having minimal impacts to the river during low streamflow periods. This is discussed in Section 6 of the EIE.

MS. BETTY WASSMUNDT

At the January 24, 2012 meeting, Ms. Wassmundt asked a series of questions related to the EIE:

1. COMMENT: It appears to me that Well B and Well C are equally close to the river as Well A. What are the reasons for only relocating Well A?

   RESPONSE: The 2006 Fenton River Study recommended relocating Well A as it is the shallowest well and the relocation of that well might have the highest benefit to instream flow.

2. COMMENT: What is the recharge area of the Fenton River Wellfield?

   RESPONSE: As defined by the Level A Mapping Regulations, the area of contribution to the Fenton River Wellfield lies within stratified drift, while the area of recharge includes any area

in glacial till that does not drain to a perennial stream. The area of contribution and the area of recharge comprise the aquifer protection area (APA), which can be viewed online at: http://cteco.uconn.edu/map_catalog/maps/town/apasmall/Mansfield_apa.pdf

3. COMMENT: Is the stratified drift mapping current mapping or old mapping? If you're going to drill a new well and/or will be pumping additional water, do you need new mapping of the recharge area?

   RESPONSE: The Level A mapping of the Fenton River Wellfield was conducted in 2002. It will remain current until a significant change occurs at the Fenton River Wellfield. The drilling and use of Well E would constitute a significant change and would require a revision of the Level A modeling.

4. COMMENT: Is the University water system distinct from a water company?

   RESPONSE: The University is regulated as a public water system which considered different from a water company. See the above responses to Ms. Suprenant's comments.

5. COMMENT: There is a classification of land that surrounds public water supply wells – Class I, Class II, and Class III. What is the State Classification of land around the University's water supply wells?

   RESPONSE: The University of Connecticut is not subject to the Water Company Lands statute, as this statue is specific to water companies. However, note that lands surrounding the University's wellfields are protected by APA regulations and by the University's Outlying Parcels Master Plan. This plan recommends a prohibition of development in the Level A APA excepting maintenance of existing agricultural facilities and the continuation of forest management and environmental education activities.

6. COMMENT: Is there a concrete direct agreement between the University and the Town of Mansfield as to this current cooperative effort?

   RESPONSE: There is no written agreement in place at this time.

Coite, Jason

From: Wagener, Karl [Karl.Wagener@ct.gov]
Sent: Monday, July 02, 2012 12:13 PM
To: Coite, Jason
Subject: Scoping Comments, Additional Water Supply Sources

Dear Mr. Coite,

The Council on Environmental Quality offers the following comments regarding the analysis of water supply alternatives, including the recent addition of the MDC alternative.

Specifically, the Council wants to emphasize the importance of a thorough analysis of three categories of impacts that were mentioned in the presentation during the public scoping meeting on June 21, 2012:

1. Indirect impacts in eastern Connecticut and in the Farmington River watershed: Both were mentioned in the presentation. However, the indirect impacts could extend beyond the eastern Connecticut towns mentioned if the introduction of MDC supplies were to result in local water supplies becoming available to supply induced development east of Mansfield. In other words, with local demand in and around Mansfield satisfied by MDC sources, would the Connecticut Water Company or other sources have more water to supply new development in other areas? If so, that potential should be analyzed.

2. Energy consumption: The EIE should include a comparison of energy consumption, including the impact, if any, on peak electricity demand. The need to reduce peak demand statewide is an important consideration.

3. Source of capital: As the presentation noted, there will be a considerable capital cost. Will the source of the funds include any existing funding state or federal grant programs? If so, the potential to divert capital funds from other state objectives should be considered.

Thank you for your consideration of these comments. If you or your consultants have any questions, please do not hesitate to contact me.

Karl J. Wagener
Executive Director
Council on Environmental Quality
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STATE OF CONNECTICUT

DEPARTMENT OF ENERGY & ENVIRONMENTAL PROTECTION

OFFICE OF ENVIRONMENTAL REVIEW

79 ELM STREET, HARTFORD, CT 06106-5127

To: Jason Coite - Environmental Compliance Analyst
UConn - Office of Environmental Policy, 31 LeDoyt Road, U-3055, Storrs, CT

From: David J. Fox - Senior Environmental Analyst **Telephone:** 860-424-4111

E-Mail: david.fox@ct.gov

Date: July 6, 2012

Subject: UConn Additional Water Supply Source

The Department of Energy & Environmental Protection has received the amended Notice of Scoping for the Environmental Impact Evaluation (EIE) to be prepared to analyze the feasibility and impacts of development of a long-term source of an additional supply for the University's water supply system. A new alternative, interconnection with the Metropolitan District Commission (MDC), will be evaluated in addition to those announced in the previous notices. The commentary below repeats previous comments that are most applicable to the new alternative as well as provides additional information concerning the Farmington River watershed, the donor basin for the proposed interbasin transfer.

The project description for the new MDC alternative specifies an additional 0.5 - 5.0 million gallons per day (mgd) of transmission capacity, in contrast to the 0.5 - 1.0 mgd need previously identified for the University's water supply system. The basis for this difference should be discussed in the EIE and, if it is due to the provision of water supply along the pipeline route, the potential land use impacts should be evaluated.

The two long alternate routes of the water mains for potential interconnections transverse areas that are designated as Rural Lands, Conservation Area, Preservation Area or Existing Preserved Open Space in the *Conservation and Development Policies Plan for Connecticut 2005 - 2010*. The extension of water mains and the growth they could support would, in general, be inconsistent with policies in the Plan for these areas. The Department had prepared an EIE for a project which similarly extended a water main across Rural Land and Conservation Area to interconnect two utilities in Middlebury. That document proposed mitigation that included an agreement with the town to amend both its zoning regulations and municipal Plan of Conservation & Development to restrict more intensive induced growth along the route. The document is available on-line at: Middlebury EIE.

The interconnection will require a permit from the Inland Water Resources Division (IWRD) for the diversion of waters of the State pursuant to section 22a-368 of the Connecticut General Statutes (CGS). Permitability should be a key factor in selection of a preferred alternative. As part of analysis of alternatives, the EIE should begin to assess the information required to be submitted for applications for a diversion permit as outlined in section 22a-377(c)-2 of the Regulations of Connecticut State Agencies (RCSA).

For interbasin transfers, the impact report required by section 22a-369(10) of the CGS includes evaluation of the potential impacts of the proposed diversion in the affected drainage basin for at least 25 years, including effects on water supply needs and demands, wastewater treatment, waste assimilation, power generation, flood management, navigation, water quality, recreation, wetland habitat, agriculture, fish and wildlife, and maintenance of adequate flows for the foregoing needs and resources.

The EIE should consider if this alternative has the potential to impact the federally designated Upper Farmington Wild & Scenic River area. In 1994, a 14-mile segment of the West Branch and mainstem of the Farmington River, extending from the base of the Goodwin/Hogback Dam in Hartland to the downstream border of the towns of New Hartford and Canton, was designated as a federal Wild & Scenic River. The current downstream terminus is in the vicinity of Cherry Brook in Canton. If/when the Lower Farmington River is designated as Wild & Scenic, the proposed legislation also provides for extension of the Upper Farmington Wild & Scenic area to the confluence of the Nepaug River in Canton. The "Outstanding Resource Values" (ORVs) upon which the Upper Farmington Wild & Scenic designation is based include: recreation; fisheries and wildlife; and historic resources. As described in the "Upper Farmington River Management Plan" (April 1993), protection of these ORVs are dependent upon appropriate land and water resource management. Components of the latter include: water quality; water quantity; and channel, bank and wetland protection. For further information, see the management plan at: Upper Farmington Plan

The EIE should also consider if this alternative has the potential to impact the proposed Wild & Scenic designation of the Lower Farmington River. This past Spring, a federal bill to designate the Lower Farmington River and Salmon Brook as Wild & Scenic was submitted by the Connecticut Congressional delegation representing this region. The area proposed for designation includes approximately 40 miles of Lower Farmington River mainstem (and approximately 26 miles of tributary Salmon Brook). On the Farmington River, the proposed Wild & Scenic designation would begin in Avon/Burlington, below the proposed Canton Hydroelectric Project area, and stretch to the mouth of the Farmington River. However, the designated area would exclude the existing Rainbow Dam and impoundment in Bloomfield/East Granby/Windsor. The ORVs upon which the proposed Lower Farmington Wild & Scenic designation is based include: geology, water quality, biodiversity, cultural landscape and recreation. The "Lower Farmington River and Salmon Brook Wild and Scenic Management Plan" (June 2011) developed by the Study Committee provides a vision and action strategy for the cooperative management and protection of the river and its ORVs. For further information, see the management plan at: Lower Farmington Plan.

In addition, according to MDC's water supply plan, the West Branch Reservoir is identified as a potential future water supply. The potential impact of the additional 5 mgd demand from the East Branch on planning for future sources for MDC, such as accelerating the need for additional supply, should also be evaluated.

The proposed actions would take place both on and off campus and will be implemented in partnership with the Town of Mansfield and, depending on the alternative selected, may also involve the MDC. If the University is the applicant, any work or construction activity within inland wetland areas or watercourses will require a permit from IWRD, pursuant to section 22a-39(h) of the CGS. If a town or water company is the applicant, inland wetlands or watercourses

are regulated by the local inland wetlands agency, pursuant to section 22a-42 of the CGS. Where a pipeline route along a roadway crosses a wetland or watercourse, it would be helpful for the EIE to quantify potential wetland impacts and, if it can be determined, whether the crossing can be achieved while avoiding direct impacts to regulated areas by utilizing the existing roadway and shoulder, existing crossing structures or horizontal directional drilling.

If any new pipelines installed or funded by the University cross the 100-year flood zone on the community's Flood Insurance Rate Map, the project must be certified by UConn as being in compliance with flood and stormwater management standards specified in section 25-68d of the CGS and section 25-68h-1 through 25-68h-3 of the RCSA and receive approval from the Department.

Both of the alternative routes intersect shaded areas on the Natural Diversity Data Base maps maintained by DEP that represent approximate locations of extant populations of Federally listed endangered or threatened species or species listed by the State, pursuant to section 26-306 of the CGS, as endangered, threatened or special concern. In order to determine potential impacts to protected species, a *Natural Diversity Data Base (NDDB) State Listed Species Review Form* (DEP-APP-007) should be submitted that provides details on the existing habitat at areas to be impacted by development of new wells and appurtenances or installation of new pipelines. Detailed information regarding the proposed construction and existing habitat would enable more complete evaluation of potential impacts and mitigation measures. It is recommended that a separate form be prepared for each alternative and that they be submitted via email. Additional information and the forms are available on-line at: NDDB Requests.

If water lines are to be pressure tested and disinfected, the discharge would be covered by the *General Permit for the Discharge of Hydrostatic Pressure Testing Wastewater* (DEP-PERD-GP-011). This general permit applies to all discharges of waters used to test the structural integrity of new or used tanks and pipelines that hold or transfer drinking water, sewage, or natural gas. The general permit contains pH, chlorine, oil and grease, and suspended solids limits which will need to be complied with during the testing and verified through monitoring. Registration is required to be submitted to the Department in order for the discharges to be authorized by this general permit. A fact sheet, the general permit which includes the registration form, titled Notice of Coverage, and the Application Transmittal form may be downloaded at: Hydrostatic GP

Thank you for the opportunity to review this proposal. If there are any questions concerning these comments or additional assistance from the Department is desired, please contact me.

cc: Robert Hannon, DEEP/OPPD
Susan Peterson, DEEP/WPSD
Denise Ruzicka, DEEP/IWRD
Eric Thomas, DEEP/WPSD
Betsey Wingfield, DEEP/WPLR

STATE OF CONNECTICUT
DEPARTMENT OF PUBLIC HEALTH

Jewel Mullen, M.D., M.P.H., M.P.A.
Commissioner

Dannel P. Malloy
Governor
Nancy Wyman
Lt. Governor

Drinking Water Section

June 29, 2012

Mr. Jason Coite
University of Connecticut
Office of Environmental Policy
31 LeDoyt Road, U-3055
Storrs, CT 06269-3055

Re: Notice of Scoping the University of Connecticut Action for Additional Water Supply Source(s), Amended to Include an Interconnection with MDC's Drinking Water Supply

Dear Mr. Coite:

The Department of Public Health (DPH) Drinking Water Section has reviewed the above scoping notice and is providing the attached report with our comments. This report is supplemental to the comments in the DPH Memoranda dated June 23, 3011, June 30, 2011 and January 19, 2012 that were provided to you on July 5, 2011 and January 19, 2012 (attached).

If you have any questions regarding the comments in the attached reports, please do not hesitate to contact me directly at (860) 509-7333.

Sincerely,

Lori Mathieu
Public Health Section Chief
Drinking Water Section

Cc: Robert Miller, Eastern Highlands Health District
Ed Soper, Manchester Water Department
Eric W. Thornburg, Connecticut Water Company
James Hooper, Windham Water Works
Susan Negrelli, Metropolitan District Commission
Ellen Blaschinski, DPH, Regulatory Services Branch

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STATE OF CONNECTICUT
DEPARTMENT OF PUBLIC HEALTH

Jewel Mullen, M.D., M.P.H., M.P.A.
Commissioner

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Nancy Wyman
Lt. Governor

Drinking Water Section

MEMORANDUM

TO:	Lori Mathieu, Public Health Section Chief Eric McPhee, Supervising Environmental Analyst Steve Messer, Supervising Sanitary Engineer
FROM:	Patricia Bisacky, Environmental Analyst 2 PPB
DATE:	June 29, 2012
SUBJECT:	Notice of Scoping the University of Connecticut Action for Additional Water Supply Source(s), Amended to Include an Interconnection with MDC's Drinking Water Supply
DPH PROJECT #:	2011-0086
TOWNS:	East Hartford, Manchester, Bolton, Coventry, Vernon, South Windsor, Tolland, Mansfield, Windham

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The Source Water Protection Unit of the Department of Public Health (DPH) Drinking Water Section (DWS) has reviewed the Notice of Scoping for University of Connecticut (UCONN) Action for Additional Water Supply Source(s) Amended to Include an Interconnection with MDC's Drinking Water Supply. This review is specific to Alternative 5—*Connecting with the Metropolitan District Commission's reservoir-based water system to the west of the main campus by extending a transmission main via one of two alternative routes along state highway corridors. For the purpose of the EIE, the MDC interconnection shall be evaluated for transmission capacities of 0.5 to 5 million gallons per day.* This review is supplemental to the Memoranda submitted by the DPH in response to the Notices of Scoping originally published in the Environmental Monitor on June 7, 2011 and December 20, 2011 where four alternatives for additional water supply were presented for comment. The previous Memoranda have been attached.

Steve Messer, of the DWS Statewide Planning Unit has evaluated the water available from the MDC's system under average day, maximum month average day and maximum day demand scenarios and these values were converted to the margin of safety (MOS) for the MDC system. As in the reviews of the other interconnection options, the MOS for the MDC system has been calculated for each of the proposed scenarios including a 0.5 MGD allocation and a 5 MGD allocation. These values are summarized in the tables on the following page. It is noted that for water supply planning purposes, the DWS recommends a minimum MOS of 1.15.

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Margin of Safety MDC Regional Pipeline providing 0.5 MGD to UCONN/Mansfield

Year	Average Day Demand (MGD)	ADD MOS	Maximum Month Average Day Demand	MMADD MOS	Maximum Day Demand	MDD MOS
2012	54.11	1.91	69.65	1.41	83.95	1.29
2020	55.89	1.85	71.81	1.36	86.56	1.25
2050	58.23	1.78	74.68	1.31	90.01	1.21

Margin of Safety MDC Regional Pipeline providing 5 MGD to UCONN/Mansfield

Year	Average Day Demand (MGD)	ADD MOS	Maximum Month Average Day Demand	MMADD MOS	Maximum Day Demand	MDD MOS
2012	58.61	1.77	74.15	1.32	88.45	1.23
2020	60.39	1.72	76.31	1.28	91.06	1.19
2050	62.73	1.65	79.18	1.24	94.51	1.15

The MOS analysis indicates that the MDC will have sufficient capacity to supply UCONN/Mansfield with up to 5 MGD of water through the 2050 planning period. The following items must be addressed in the Environmental Impact Evaluation (EIE) regardless of the route selected:

- Consistency of this proposal with the special act incorporating the MDC and the MDC's Charter
- DPH Sale of Excess Water Permitting requirements
- Consistency of this proposal with existing applicable Water Utility Coordinating Committee Plans
- Department of Energy and Environmental Protection Water Diversion Permitting requirements
- Both proposed routes pass through areas with varied designations on the Locational Guide Map of the Conservation and Development Policies Plan for Connecticut 2005-2010. An evaluation of the consistency of this proposal with the applicable State policies should be provided.

The following route-specific issues should be addressed in the EIE:

Alternative Route 1: I-384 and Route 44

- This proposed route passes through the following public water supply source water areas:
  - Manchester Water Department's Howard, Porter and Lydall Reservoir No. 2 public drinking water supply watersheds
  - Manchester Water Department's Charter Oak Street and New Bolton Road Level A Aquifer Protection Areas
  - Windham Water Works' Mansfield Hollow Reservoir public drinking water supply watershed
- The general comments regarding best management practices to ensure the purity and adequacy of drinking water supplies that were offered in the previous DWS Memorandum dated June 23, 2011 are also applicable to these source water areas.

Alternative Route 2: I-84 and Route 195:

- This proposed route passes through the following public water supply source water areas:
  - Manchester Water Department's New State Road Level A Aquifer Protection Area
  - Connecticut Water Company's Vernon Wells 1 and 2 and Vernon Wells 3, 4 and 6 Level B Aquifer Protection Areas
  - Windham Water Works Mansfield Hollow Reservoir public water supply watershed.
- The general comments regarding best management practices to ensure the purity and adequacy of drinking water supplies that were offered in the previous DWS Memorandum dated June 23, 2011 are also applicable to these source water areas.

STATE OF CONNECTICUT

DEPARTMENT OF PUBLIC HEALTH

January 19, 2012

Mr. Jason Coite
University of Connecticut
Office of Environmental Policy
31 LeDoyt Road, U-3055
Storrs, CT 06269-3055

RE: Notice of Scoping for: University of Connecticut Action for Additional Water Supply Source(s), Amended to Include Improvements to the Fenton River Wellfield

Dear Mr. Coite:

The Department of Public Health (DPH) Drinking Water Section has reviewed the above scoping notice and is providing the attached report with our comments. This report is supplemental to the comments in the DPH Memoranda dated June 23, 3011 and June 30, 2011 that were provided to you on July 5, 2011 (attached).

Please note that the DPH recommendation from the Memorandum dated June 30, 2011 regarding an analysis of the technical, managerial and financial capacity of each of the three alternatives and of the public water systems involved in securing the additional water supply for the University and the Town of Mansfield should be expanded to include the fourth alternative presented in this amended notice.

If you have any questions regarding the comments in the attached reports, please do not hesitate to contact me directly at (860) 509-7333.

Sincerely,

Lori Mathieu
Public Health Section Chief
Drinking Water Section

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MEMORANDUM

TO: Lori Mathieu, Public Health Section Chief
Eric McPhee, Supervising Environmental Analyst
Steve Messer, Supervising Sanitary Engineer

FROM: Patricia Bisacky, Environmental Analyst 2

DATE: January 19, 2012

SUBJECT: Notice of Scoping for University of Connecticut Action for Additional Water Supply Source(s) Amended to Include Improvements to the Fenton River Wellfield

TOWN: Mansfield, Tolland and Coventry

The Source Water Protection Unit of the Department of Public Health (DPH) Drinking Water Section (DWS) has reviewed the Notice of Scoping for University of Connecticut (UCONN) Action for Additional Water Supply Source(s) Amended to Include Improvements to the Fenton River Wellfield. This review is supplemental to the Memoranda submitted by the DPH in response to the Notice of Scoping originally published in the Environmental Monitor on June 7, 2011 where three alternatives for additional water supply were presented for comment.

The amended Notice of Scoping presents a fourth alternative for additional water supply sources which is to replace the University's existing "Well A" in its Fenton River Wellfield with a new well installed in the stratified drift more than 250 feet westward from its current location. As with alternative three in this and the previous Notice, this alternative will be subject to DPH review and approval for new public water supply wells. UCONN should consider all applicable statutes and regulations pertaining to the development of new sources of supply when evaluating this alternative and include a narrative in the EIE on how compliance with these statutes and regulations will be achieved.

In addition, the proposed location for replacement Well A appears to be within the Level A Aquifer Protection Area of the Fenton River Wellfield, an active source of public drinking water for UCONN and the Town of Mansfield, and in the watershed of Mansfield Hollow Reservoir, an active source of public drinking water for the Town of Windham. Should alternative four be chosen to be implemented, UCONN must employ best management practices during the replacement well's development to ensure that the existing sources of public water supply are not negatively impacted.

It is also recommended that UCONN consult with the Department of Energy and Environmental Protection's (DEEP) Water Diversion Permitting and Aquifer Protection Area Programs regarding this alternative and provide a summary of these consultations within the EIE.

Memorandum

From: Lori Mathieu, Public Health Section Chief
Drinking Water Section

RE: Notice Of Scoping (NOS) – University of CT - additional water supply sources

DATE: June 30, 2011

The Drinking Water Section, of the Department of Public Health has reviewed the above mentioned NOS and we offer our general comments and attached detailed review. The NOS identifies a partnership between the Town of Mansfield and the University of CT in order to review, plan for and implement the development of a source of supply of 0.5 to 1.0 million gallons per day. The DPH agrees with the need for an additional source of public water to meet the water supply needs and welcomes the partnership that has formed in order to move this action forward.

The DPH review as attached provides a detailed evaluation of the three identified alternatives: interconnection with Connecticut Water Company system from north of campus, interconnection with the Windham Water Works from south of campus, and development of an additional ground water supply. Our detailed review relies upon data within the individual water supply plans prepared pursuant to Connecticut General Statute Section 25-32d for the University, the Town of Tolland, and the Windham Water Works, and a water supply plan prepared for the Town of Mansfield. This review evaluates the addition of demand under different scenarios with the addition of a margin of safety to assure meeting current and future water supply demand.

Recently DWS has requested water supply plan updates of the plans prepared per CGS Section 25-32d in order to assist in providing up to date water supply information. These updated plans have been requested to be prepared by the Fall of 2011. As noted in our detailed review, and according to present water system data, both interconnection alternatives have challenges in order to meet additional maximum month and peak day demand. The updated plans should address how these challenges will be met.

DPH foresees the development of a new ground water supply as a potential feasible alternative; however the challenge of operating a ground water supply in a basin that has experienced seasonal low flow must be addressed along with meeting the additional new source development requirements.

It is the DPH's recommendation that the EIE review and analyze the technical, managerial and financial capacity of each of the three alternatives and of the public water systems involved in securing the additional water supply for the University and the Town of Mansfield. Consideration of both short-term and long-term operational costs needs evaluation. The preferred alternative must have proven system sustainability in order to assure sustainable water supply to meet projected needs.

Please do not hesitate to contact me directly at 860-509-7333 if there are any questions.

MEMORANDUM

To: Lori Mathieu, DWS Public Health Section Chief

From: Steve Messer, Supervising Sanitary Engineer, DWS Planning Unit
Pat Bisacky, Environmental Analyst 2, DWS Source Water Protection Unit

Subject: Notice of Scoping for University of Connecticut Action for Additional Water Supply Source(s)

Town(s): Mansfield, Tolland, and Coventry

Date: June 23, 2011

The Department of Public Health, Drinking Water Section (DWS) Planning and Source Water Protection Units have reviewed the Notice of Scoping for University of Connecticut Action for Additional Water Supply Source(s) as listed in the June 7, 20011 Environmental Monitor of the State of Connecticut Council on Environmental Quality. The DWS strongly supports and concurs with the proposed action of acquiring additional water supply source(s) for the University of Connecticut public water system, particularly if the University is interested in expanding water service as indicated in the scoping notice below. The DWS further concurs with the specified need to improve the University water supply's margin of safety and supplement the available water during Maximum Month Average Day Demands (MMADD) and Peak Day Demands (PDD), particularly when the existing supply from the Fenton River well field is limited in response to aquatic and environmental concerns. Supply adequacy evaluations (more specific technical details are listed below) were conducted on both public water systems that would potentially serve the University via a water main extension. The evaluations indicate both systems would need to upgrade the design capacities of their existing water treatment plant facilities. Based on the currently available data, Windham appears in a more immediate position to effectively serve the University's primary water supply needs which occur during Maximum Month Average Day Demand (MMADD) and Peak Day Demand (PDD) conditions.

The scoping notice details a direct partnership between the University of Connecticut and the Town of Mansfield which proposes actions that will identify and implement a long-term source of at least 0.5 - 1 million gallons per day of water for the University of Connecticut's public water supply system. The project scope comprises the possible creation of new well fields or an interconnection with one of the two other large community public water systems in the region along with the possible installation of new water mains to provide additional water to the University's public water supply system in and around Storrs. The University of Connecticut public water system already provides service to several Town of Mansfield facilities. The proposed action is planned to enable growth of the University and surrounding area consistent with prior University Water Supply Plans, University Master Plans and associated Environmental Impact Evaluations, particularly for the proposed University Technology Park to be developed on the University's North Campus. The proposed action would also improve the University water supply's margin of safety and supplement the available water during times of drier years when the existing supply is limited in response to aquatic and environmental concerns. This additional source of water supply would also enable economic development as delineated in the Town of Mansfield Plan of Conservation and Development, particularly as envisioned for the Mansfield Four Corners and Storrs Center areas.

The DWS offers the following specific comments for each water supply source alternatives listed within the University of Connecticut's scoping notice:

***Alternative 1:** Connecting with a nearby reservoir-based water system, the Connecticut Water Company (CWC) - Northern Region, located to the northeast of the main campus by extending a transmission main south from Tolland along the Route 195 corridor or alternative local roads.*

- Supply adequacy evaluations, using the University of Connecticut's requested supply commitments, were conducted by DWS staff using available relevant technical data including a 1/20/2011 *CWC Demand/Margin of Safety Projections* document, a 4/11/2011 *"Northern Western System Margin of Safety"* document, updated water supply

source and associated pumping rate information obtained during a very recent DWS sanitary survey, and historic CWC Northern/Western Region water supply plans dated October 1987, October 2001, September 2006 and June 2007. The technical evaluation results detailed below indicate that to effectively serve the area's long term water supply needs; CWC - Northern Region requires additional supply capacity. Readily available additional supply capacity for CWC could result from an expansion of the design treatment plant capacity of the CWC Rockville Water Treatment Plant (WTP) at Lake Shepensit. An expansion of the water treatment plant capacity would provide up to an additional 4.0 MGD for Average Day Demand (ADD) conditions and considerably more for both Maximum Month Average Day Demand (MMADD) and Peak Day Demand (PDD) conditions as water treatment plants can be designed for and operated above the DPH approved yield of the surface water source.

- A DPH Sale of Excess Water (SEW) permit would be required to be obtained by CWC for any water supply proposed to be sold to another public water system such as the University of Connecticut public water system. SEW permits are issued when the seller can verify the water quantities requested in the permit are readily available and can be supplied regularly under all system demand conditions without causing deleterious effects to either public water system over the course of the ten year permit period. Most likely, a DEP diversion permit would be required for this alternative.

- **CWC Additional Commitment of 0.5 MGD to the University of Connecticut:**

1. When utilizing a 1/4 % annual system growth rate, CWC can meet current, five, twenty, and fifty year planning period Average Day Demand (ADD) conditions while maintaining an adequate Margin of Safety (minimum recommended is 15% or 1.15) with no further system improvements required.
2. It appears under certain demand assumptions CWC can meet Maximum Month Average Day Demand (MMADD) conditions through the entire fifty year planning period while maintaining MOS above 1.0; though well below DPH's policy position of a recommended minimum 1.15 MOS for all system demand conditions. The demand assumptions for this specific evaluation were the above noted 1/4% annual system growth rate along with a CWC initial projected demand derived from a ten year average of historic data which results in considerably lower projected demands than actually observed 2010 MMADD/PDD data.
3. Utilizing the same demand assumptions noted above in (2); Peak Day Demand (PDD) conditions are even more marginal with a MOS well below DPH's policy position of a recommended minimum 1.15 MOS for all system demand conditions and even below a 1.0 MOS in the fifty year period.
4. Below is a chart showing the complete results of the informal adequacy evaluation summarized above. For this alternative two sets of system demand projections are provided due to the methods utilized in deriving demand projection stating points described further below.

CWC Regional Pipeline: UCONN Only – 0.5 MGD Added Demand / ¼ % Annual Growth Rate

Year	Average Day Demand (ADD)	ADD MOS	Maximum Month Average Day Demand (MMADD)	MMADD MOS	Peak Day Demand (PDD)	PDD MOS
2005 (CWC)	9.98 MGD	1.38	12.53 MGD	1.10	15.84 MGD	1.03
2010 (CWC)	10.01 MGD	1.38	13.20 MGD	1.05	16.65 MGD	0.98
2020 (CWC)*	10.24 MGD	1.35	12.57 MGD	1.10	15.65 MGD	1.05
2020 (DPH)**	**10.76 MGD**	**1.28**	**13.83 MGD**	**1.00**	**17.57 MGD**	**0.93**
2030 (CWC)*	10.49 MGD	1.32	12.89 MGD	1.07	16.05 MGD	1.02
2030 (DPH)**	**11.02 MGD**	**1.25**	**14.38 MGD**	**0.96**	**18.00 MGD**	**0.91**
2040 (CWC)*	10.76 MGD	1.28	13.21 MGD	1.05	16.45 MGD	1.00
2040 (DPH)**	**11.29 MGD**	**1.22**	**14.73 MGD**	**0.94**	**18.45 MGD**	**0.89**
2050 (CWC)*	11.03 MGD	1.25	13.55 MGD	1.02	16.87 MGD	0.97
2050 (DPH)**	**11.56 MGD**	**1.20**	**15.09 MGD**	**0.92**	**18.90 MGD**	**0.87**

ORANGE = BELOW DPH RECOMMENDED 15% MOS; RED = MARGIN OF SAFETY BELOW 1.0

*CWC projected demands, derived from a ten year average of system demand conditions (2001-2010) with a ¼ % annual growth rate and added 0.5 MGD demand for UCONN in 2014, are in normal print set.

****DPH projected demands, derived from actual system demands (2010) with a ¼ % annual growth rate and a 0.5 MGD added demand for UCONN in 2014, are indicated above in bold print set.**

- **CWC Additional Commitment of 1.0 MGD to the University of Connecticut:**

1. When utilizing a 1/4 % annual system growth rate, CWC can meet current, five, twenty, and fifty year planning period Average Day Demand (ADD) conditions while maintaining an adequate Margin of Safety (minimum recommended is 15% or 1.15) with no further system improvements required.
2. It further appears under certain demand assumptions CWC can meet Maximum Month Average Day Demand (MMADD) conditions for the twenty year planning period while maintaining MOS above 1.0, however, the MOS does dip well below DPH's policy position of a recommended minimum 1.15 MOS for all system demand conditions. The MOS is below 1.0 after the twenty year planning period. Demand assumptions for this specific evaluation were the same 1/4% annual system growth rate and a CWC initial projected demand derived from a ten year average of historic data which provides for considerably lower projected demands than actual observed 2010 MMADD/PDD demand data.
3. Using the same demand assumptions noted above in (2); Peak Day Demand (PDD) conditions are more marginal immediately and problematic until a water treatment plant design capacity expansion occurs or additional supply capacity is obtained. The resulting MOS is well below DPH's policy position of a recommended minimum 1.15 MOS for all system demand conditions over the entire planning horizon and below a 1.0 MOS in the twenty year period.
4. Below is a chart showing the complete results of the informal adequacy evaluation summarized above. For this alternative two sets of system demand projections are provided due to the methods utilized in deriving demand projection stating points described further below.

CWC Regional Pipeline: UCONN/Mansfield – 1.0 MGD Added Demand / ¼ % Growth Rate

Year	Average Day Demand (ADD)	ADD MOS	Maximum Month Average Day Demand (MMADD)	MMADD MOS	Peak Day Demand (PDD)	PDD MOS
2005 (CWC)	9.98 MGD	1.38	12.53 MGD	1.10	15.84 MGD	1.03
2010 (CWC)	10.01 MGD	1.38	13.20 MGD	1.05	16.65 MGD	0.98
2020 (CWC)*	10.74 MGD	1.29	13.07 MGD	1.06	16.15 MGD	1.01
2020 (DPH)**	**11.26 MGD**	**1.23**	**14.33 MGD**	**0.96**	**18.07 MGD**	**0.91**
2030 (CWC)*	10.99 MGD	1.26	13.39 MGD	1.03	16.55 MGD	0.99
2030 (DPH)**	**11.52 MGD**	**1.20**	**14.88 MGD**	**0.93**	**18.50 MGD**	**0.89**
2040 (CWC)*	11.26 MGD	1.23	13.71 MGD	1.01	16.95 MGD	0.97
2040 (DPH)**	**11.29 MGD**	**1.23**	**14.73 MGD**	**0.94**	**18.45 MGD**	**0.89**
2050 (CWC)*	11.53 MGD	1.20	14.05 MGD	0.98	17.27 MGD	0.95
2050 (DPH)**	**12.06 MGD**	**1.15**	**15.59 MGD**	**0.89**	**19.40 MGD**	**0.84**

ORANGE = BELOW DPH RECOMMENDED 15% MOS; RED = MARGIN OF SAFETY BELOW 1.0

*CWC projections derived from a ten year average of system demand conditions (2001-2010) with a ¼ % annual growth rate beginning in 2011 and a 1.0 MGD added demand for UCONN/Mansfield in 2014 are in normal print set.
****DPH projected demands derived from actual system demands (2010) with a ¼ % annual growth rate beginning in 2011 and a 1.0 MGD added demand for UCONN/Mansfield in 2014 are indicated in bold print.**

***Alternative 2:** Connecting with a nearby reservoir-based water system, Windham water Works, located to the southwest of the main campus by extending a transmission main north from southern Mansfield along the Route 195 corridor or alternative route(s) via local roads.*

- Supply adequacy evaluations, using the University of Connecticut's requested supply commitments, were conducted by DWS staff using data from the February 2009 Windham Water Works water supply plan. The evaluations indicate that Windham Water Works may be in a more immediate position to more effectively serve the University of Connecticut/Town of Mansfield water supply needs than the other specified water supply options in the scoping notice due to the University's primary water supply needs occurring in MMADD/PDD system demand conditions. Please note to effectively serve the long term water supply needs of the area, Windham Water Works would also require additional supply capacity and it also appears that the most effective method of acquiring additional supply capacity for Windham would be to upgrade their existing water treatment plant capacity.

- This proposed route for a water main extension lies within an area designated as a Conservation Area on the Locational Guide Map of the "Conservation and Development Policies Plan for the State of Connecticut 2005-2010" because it is within the public water supply watershed of Mansfield Hollow Reservoir, a source of public drinking water for Windham Water Works. The route is also in close proximity to other public drinking water wells serving small community and non-community systems. In addition to observing the construction best management practices previously mentioned under General Comments, the University of Connecticut should ensure this alternative is consistent with the state policies that protect public drinking water sources of supply.
- A DPH Sale of Excess Water (SEW) permit would be required by Windham for any water supply proposed to be sold to another public water system such as the University of Connecticut. SEW permits are issued when the seller can verify the water quantities requested in the permit are readily available and can be supplied regularly under all system demand conditions without causing deleterious effects to either public water system over the course of the ten year permit period. Most likely, a DEP diversion permit would also be required for this supply alternative.
- **Windham Additional Commitment of 0.5 MGD to the University of Connecticut:**

1. Windham can meet current, five, twenty, and fifty year planning period Average Day Demand (ADD) **and** Maximum Month Average Day Demand (MMADD) conditions while maintaining an adequate minimum Margin of Safety (minimum recommended is 15% or 1.15) with no further system improvements required immediately. Windham can also meet Peak Day Demand (PDD) conditions while maintaining a MOS of above 1.0 through the entire fifty year planning period; however, the MOS dips below DPH's policy position of a recommended minimum 1.15 MOS for all system demand conditions (PDD MOS dips to 1.13 for the five year period, 1.06 for the twenty year period, and 1.02 for the fifty year period). Peak Day Demands are only for one day per calendar year and both the University of Connecticut and Windham Water Works have abundant atmospheric storage facilities (considerably over minimum design criteria). Given the above conditions, a mutually beneficial agreement might be considered that allows for a phased-in approach in upgrading the existing WTP facility and increasing the Department of Environmental Protection diversion permit while still immediately assisting in the primary water supply needs of the University.
2. Below is a chart showing the complete results of the informal adequacy evaluation summarized above. *For this alternative only one set of system demand projections is provided because the actual most recent recorded system demand data available at DPH was utilized.*

Windham Water Works: UCONN Only – 0.5 MGD Added Demand

Year	Average Day Demand (ADD)	Max. Month ADD (MMADD)	Peak Day Demand (PDD)
2008	1.90	1.60	1.34
2013	1.54	1.39	1.13
2020	1.45	1.31	1.06
2050	1.40	1.26	1.02

ORANGE = BELOW DPH RECOMMENDED 15% MOS; RED = MARGIN OF SAFETY BELOW 1.0

- **Windham Additional Commitment of 1.00 MGD to the University of Connecticut:**

1. The evaluation for Windham Water Works indicates Windham can meet current, five, twenty, and fifty year planning period Average Day Demand (ADD) conditions while maintaining an adequate minimum Margin of Safety and providing a commitment of an additional 1.0 MGD with no further system improvements required. Windham can also meet Maximum Month Average Day Demand (MMADD) conditions through the entire fifty year planning period while serving an additional 1.0 MGD commitment to UCONN and still remain well above a 1.0 MOS; however, the MOS dips below DPH's policy position of a recommended minimum 1.15 MOS for all system demand conditions (MMADD MOS of 1.13 for the twenty year period and 1.09 for the fifty year period). Peak Day Demand (PDD) conditions would be problematic initially until a water treatment plant capacity upgrade occurred.
2. Windham does have the current ability by charter to serve in Mansfield, already serves limited areas in Mansfield, and makes several allusions in their water supply plan to a potential for eventually serving the University of Connecticut and additional portions of the Town of Mansfield. Windham also immediately has considerable amounts of available water, up to 1.0 MGD under peak demand conditions, and 6.5 MG of atmospheric storage facilities. The following approximate quantities of available water under certain demand conditions are currently available: ADD – 1.94 MGD, MMADD – 1.6 MGD, PDD – 1.0 MGD. The water supply plan does mention if Windham were to serve the University of Connecticut, Windham may seek financial assistance to upgrade treatment facilities.

3. Below is a chart showing the complete results of the informal adequacy evaluation summarized above. *For this alternative only one set of system demand projections is provided because the actual most recent recorded system demand data available at DPH was utilized.*

Windham Water Works Demands With UCONN – 1.0 MGD Additional Demand In 2013:

Year	Average Day Demand (ADD)	Max. Month ADD (MMADD)	Peak Day Demand (PDD)
2008	1.90	1.60	1.34
2013 (from WSP)*	1.30	1.19	0.99
2020(from WSP)*	1.23	1.13	0.94
2050(from WSP)*	1.20	1.09	0.91

ORANGE = BELOW DPH RECOMMENDED 15% MOS; RED = MARGIN OF SAFETY BELOW 1.0

Alternative 3: Installing and connecting to a new groundwater source or sources in the stratified drift aquifers along the Fenton River, Willimantic River, or Mansfield Hollow Reservoir. The new groundwater source(s) would preferably be installed on lands in Mansfield, CT currently owned by the University, Town of Mansfield, or the Army Corps of Engineers.

This alternative will be subject to DPH review and approval for new public water supply wells and it will include a water main extension within the public water supply watershed of Mansfield Hollow Reservoir. UCONN should consider all applicable statutes and regulations pertaining to the development of new sources of supply when evaluating this alternative. Because some potential well locations may not be on land owned by the State of Connecticut, UCONN should ensure that the requirements of Connecticut General Statutes Section 25-33(b)(2) can be met. Consistency of the water main extension portion of this alternative with the state policies in place for the protection of public drinking water sources of supply should be explained in future documentation. Construction best management practices should also be employed for this alternative.

The DWS offers the following general comments regarding the proposed project:

- The University should ensure the water supply source(s) alternatives are consistent with state policies and best management practices are employed to ensure the purity and adequacy of any existing PWS sources as follows:

1. Construction Maintenance: No construction should occur prior to installing properly functioning sedimentation and erosion controls which must be inspected regularly throughout the project. All activities should be conducted during dry weather conditions. During construction and until a vegetative cover is reestablished, the project area should be inspected daily to verify erosion control measures are properly maintained.
2. Emergency Response Plan: Develop an Emergency Spill Response Plan before construction begins. Spill response equipment should be available on-site at all times along with personnel trained in the proper use of such equipment.
3. Hazardous Materials Storage: Hazardous materials should be removed from the site during non-work hours or otherwise stored in a secure area to prevent vandalism. Place covered trashcans and recycling receptacles around the site. Cover and maintain dumpsters. Check frequently for leaks. Place dumpsters under a roof or cover with tarps or plastic sheeting. Never clean a dumpster by hosing it down on site.
4. Vehicles and Machinery: A specific area of the project site outside of any PWS source water area should be designated for auto parking, vehicle refueling and routine equipment maintenance. Methods and locations of refueling, servicing, and storage of vehicles/machinery should be addressed and included on the final site plans. All equipment fueling or minor repairs should occur on a fueling pad. Any onsite fuel storage should be contained and located in a secure area where it will not be vandalized or struck by equipment.
5. Sanitation: Make sure portable toilets are in good working order. Check frequently for leaks.
6. Notification: Notification of the project start date should be sent to all affected PWS and representatives of directly impacted PWS should be granted site access to review compliance with construction site best management practices. The PWS, the Department of Environmental Protection's Oil and Chemical Spill Unit and Drinking Water Section must be notified immediately of any chemical/fuel spill at the construction site. Emergency telephone numbers and a statement identifying the construction site as a sensitive PWS area should be posted where they are readily visible to contractors and other on-site personnel. A note should be added to the site plans stating the sensitivity of the area.

Connecticut Water Company
93 West Main Street
Clinton, CT 06413-1600

Office: 860.669.8636
Fax: 860.669.9326
Customer Service: 800.286.5700

July 6, 2012

Jason Coite
University of Connecticut – Office of Environmental Policy
31 LeDoyt Road, U-3055
Storrs, CT

Re: Notice of Scoping for University of Connecticut Action for Additional Water Supply Source(s)

Dear Mr. Coite:

A little over a year ago, the University of Connecticut issued a Notice of Scoping for an additional water supply source. The University, in direct partnership with the Town of Mansfield, proposed actions to identify and implement a long-term water supply source of 0.5 to 1.0 million gallons of water per day (mgd). One of the identified alternatives was connecting with the Connecticut Water Company's Western System via a pipeline along the Route 195 corridor. The other alternatives included a water main extension from Windham Water and the development of local groundwater supplies.

Connecticut Water submitted written comments on the original scoping notice by letter dated July 7, 2011. Our comments in support of the Western System main extension were based on our alternative's ability to address numerous outstanding water supply issues at the most reasonable cost, with minimal environmental impact, and greater consistency with the State Conservation and Development Policies Plan. We continue to believe the EIE process will confirm that such a measured main extension is the preferred alternative when all relevant factors are considered.

By notice in the June 5, 2012 Environmental Monitor, the University amended its Notice of Scoping to include a connection with the Metropolitan District Commission (MDC). This new alternative would entail a roughly twenty mile transmission main via one of two alternative routes along state highway corridors. Improbable in scope, the MDC alternative is clearly defective when its total cost, environmental and energy impact, and overall lack of consistency with established planning documents and policies are considered.

Cost

While the total anticipated cost of the eighteen and twenty mile transmission main alternatives have not been disclosed at this time, it is certain the expense of installing such a pipeline and associated pumping facilities along Interstate 384 and Route 44 (18 miles) or Interstate 84 and Route 195 (20 miles) will easily dwarf all other alternatives. It is not clear how such a substantial capital investment would be funded. Yet regardless of whether funding comes from the rates of existing MDC customers, the University and/or its customers, or state or federal taxpayers, such an expenditure does not appear to reflect a prudent or appropriate use of those monies.

Further, due to the need for multiple pumping stations, either MDC pipeline alternative will result in increased energy demands and significant long-term operating and maintenance expense. This massive up-front capital and long-term operating expense makes such a transmission main materially prohibitive when weighed against the stated 0.5 to 1.0 mgd supply need identified by the University and Town of Mansfield in the Notice of Scoping and various water supply planning documents.

The University's May 2011 Water Supply Plan indicates fifty-year (2060) demands of 2.12 mgd and 2.78 mgd for maximum month and peak day purposes, respectively. These demand projections take into account all on and off-campus water needs, including those areas identified by the Town of Mansfield as reasonably requiring water service. If the University's intent is now to explore an option that could meet the system's entire demand for the maximum planning period, any such supplemental or replacement source would need to provide, at most, 3.0 mgd over the full fifty-year planning horizon. While neither the University nor Town have heretofore indicated a desire for water supplies in excess of 1.0 mgd, Connecticut Water maintains sufficient safe yield in reserve and could readily accommodate such a request at the appropriate juncture – and at a far more reasonable cost than the current MDC proposal.

Environmental and Energy Impact

In addition to the direct environmental impacts associated with such extensive construction activities over the roughly 20 mile pipeline(s), the proposed transfer of water from the Farmington River watershed to Mansfield would involve numerous regional interbasin transfers, beginning with the Farmington and crossing into the Connecticut Main Stem, Hockanum, Willimantic, and Natchaug basins. The impact associated with such a wholesale and wide-ranging transfer of water resources appears disproportionately adverse when weighed against the other alternatives.

Moreover, numerous and varied indirect environmental effects will result from changes in the pattern of land use and population density occasioned by bisecting entire communities such as Bolton and Coventry with a major water transmission and distribution main. Connecticut Water, by contrast, has sought to minimize the scope and scale of its alternative to ensure the stated needs of the University and surrounding community are adequately met while respecting local land use concerns

Finally, CEPA regulations require an analysis of the proposed activity's effects on energy consumption. MDC's proposal would need to match the hydraulic gradeline of the University's 5 million gallon storage facility. At a little over 700 feet USGS, this would involve a lift of several hundreds of feet from the MDC system in East Hartford, requiring the operation of multiple, energy intensive pumping stations along the twenty mile route. Such profligate energy consumption is unnecessary, given the alternatives, and stands in direct conflict with the state's energy policy goals.

Planning and Policy Inconsistency

The proposed MDC alternative fails to follow sound water supply and water resources planning principals. Not only is the proposal inconsistent with current planning documents – including, but not limited to, all relevant individual water supply plans, the Capital Region Council of Governments (COG) Regional Plan of Conservation and Development, the Windham Region COG

Land Use Plan, and the State Conservation and Development Policies Plan – it directly conflicts with the Upper Connecticut River WUCC plan, disregards established Exclusive Service Area boundaries in the Towns of Manchester and Vernon, and proposes the installation of duplicative water system infrastructure.

Conclusion

A twenty mile MDC pipeline from East Hartford to Mansfield, while technically possible, would be environmentally and fiscally irresponsible, given the other alternatives and the stated need at hand. Specifically, the MDC proposal to provide 0.5 to 1.0 mgd is easily discounted because the same quantity is available through a water main extension from Connecticut Water at a fraction of the cost and with far less environmental impact. Similarly, any option to provide up to 5.0 mgd is neither reasonable nor necessary, considering the degree to which the rate exceeds any demand previously identified by the University. If the University has determined that additional quantities of water are needed to meet its maximum projected demand of 2.78 mgd, Connecticut Water is willing and able provide those quantities at a far lower cost, with less environmental impact, and greater consistency with sound water supply planning and land use principals.

Arguably, the era of the traditional "big pipe" solution has passed and water suppliers have an obligation to provide targeted water resource solutions that are environmentally and fiscally prudent and that are sympathetic to local community needs. When the criteria established in the EIE evaluation process are considered, the MDC alternative cannot possibly be found to be the preferred alternative. Rather, and as noted in our July 7, 2011 comments, a water main extension from Connecticut Water's Western System represents the most feasible and prudent long-term supply alternative for the University and adjacent community. The amended Notice of Scoping and the proposed MDC option does nothing to alter that conclusion.

We appreciate the opportunity to provide comment and look forward to the University's finalization of the Environmental Impact Evaluation.

Very truly yours,

David L. Radka

Director of Water Resources

Farmington River Watershed Association, Inc.
749 Hopmeadow Street, Simsbury, Connecticut 06070
(860) 658–4442 Fax (860) 651–7519 www.frwa.org

July 6, 2012

Jason Coite
University of Connecticut - Office of Environmental Policy
31 LeDoyt Road, U-3055
Storrs, CT 06269-3055
jason.coite@uconn.edu

Dear Mr. Coite,

On behalf of the Farmington River Watershed Association, I am submitting comments in response to the Council on Environmental Quality Notice of Scoping for the University of Connecticut action for additional water supply source(s), amended to include an interconnection with MDC's drinking water supply.

We object to the proposal that the Metropolitan District Commission supply additional water to the UConn / Mansfield area via new water mains from its reservoirs to the west, and especially to the proposal that the MDC build a transmission infrastructure that can supply up to 5 million gallons per day (mgd). We have a number of concerns:

Transferring water from the Farmington Basin postpones the fundamental challenge of finding local and sustainable solutions to water supply throughout Connecticut. The proposed main will itself require a huge infrastructure investment. In addition, water is an extremely expensive material to move, and the proposed project will impose an ongoing cost of pumping water uphill into the eastern highlands. If over $100 million is to be spent on solving UConn's water shortage, there should be serious investigation of how else this public money could be invested in water reclamation and conservation to augment the effort that UConn is already making along these lines.

Water is already being transferred out of the Farmington River Basin at approximately 50 mgd in order to supply greater Hartford. This interbasin transfer is of long standing but should not be a precedent for additional transfers to such distant customers. Agreements, and now streamflow regulations, are in place to provide reasonable safeguards against excessive de-watering of the Farmington River. But the protections are not ideal, and creating additional markets for Farmington River water at ever-greater distances from the source are cause for concern. Residents of the Farmington Valley and of greater Hartford towns now served by the MDC may prefer to have a larger margin of available drinking water, especially if disrupted weather patterns make water supplies less predictable than in the past.

A water main of the capacity proposed will create development pressures that are not necessarily compatible with the state or the towns' plans of conservation and development, and again will enable postponement of meaningful efforts to develop sustainable water use in the towns reached by the main.

The Connecticut Water Company has already proposed a workable solution to the problem posed by UConn and the Town of Mansfield, one that is capable of supplying the 1.0 mgd need that was specified. The MDC proposal's chief selling point, that it can supply 5.0 mgd, is only relevant if development in eastern Connecticut that would consume this amount is desirable and sustainable in other ways—a highly debatable point. But even if more than 1.0 mgd is needed and wanted, the CT Water Company has made clear that it made a proposal in response to the stated need, and if the stated need had been for 2 or 3 mgd, they could produce a proposal that meets that requirement.

In conclusion, FRWA maintains that the export of more drinking water from the Farmington River Basin should be guided by protecting the present and future water supplies of those communities within and closest to the basin, by the most cost-effective use of public and private funds, by energy-efficient strategies, and long-term maintenance of our waters in the Farmington Valley as a multi-use natural resource. By these criteria, the MDC proposal falls short of being the best alternative.

Sincerely,

Eileen Fielding
Executive Director

Via e-mail as pdf attachment

To: Jason Coite,
Office of Environmental Policy, University of Connecticut, Storrs, CT
From: Alison Hilding
Date: July 5, 2012
RE: Comments for the revised EIE for a new water source for Mansfield and UCONN

The possibility of water from the MDC, to the tune of up to 5 million gallons a day, changes the possibility of development in Mansfield and the towns along the entire route of delivery in an unprecedented and undesirable way. I dread the thought of our lovely "quiet corner" looking like ugly, over-developed, northern New Jersey. There is currently no plan of development for the region, or the individual towns, which addresses in a comprehensive way the possibility of development on the scale that the introduction of 5 million gallons of water would enable. Where is the market-driven need for commercialization on this scale? I think to promote development on this level would be wasteful of water because there is currently no demand at this magnitude. This is looking for a customer and an outlet for MDC to sell water. It is wasteful of a precious resource. Meeting UCONN's and Mansfield's current and identifiable future needs is one thing, but making this volume of water available to fuel unnecessary growth and consumption is an environmental outrage. Moreover one can imagine all kinds of graft with a pipe line so long and that much construction.

A price tag of $125 million? I imagine that with cost overruns it would quickly rise to $200 million. I agree with those who see this as Mansfield's "Big Dig" and anticipate all the problems here that Boston experienced, only worse because the local town government representatives are too naïve to deal with the high rollers and out-of-district politicians who would become involved. Mansfield would be eaten alive.

As for who would pay for this, I get no relief from the notion that state or federal dollars would pay for some of this. I pay state and federal taxes. The money would still come out of the pockets of local citizens, whether it is through town, state, or federal taxes. Moreover, all of these sources are finite. I don't know of any of town, state, or federal source of tax revenue that currently is experiencing an excess. Money spent on a lavish pipeline to Mansfield is money that won't be spent on some other project, perhaps one more worthy such as clean water initiatives.

What happened to local control? Who asked the citizens of Mansfield, Tolland, or Coventry if we wanted so much water, and so much potential development, or the bill for it? What about the people from the western part of the state who live along the sources that would contribute to the water delivered to Mansfield? Where was the long-term planning process for such a diversion of water? Where is the <u>long-term</u> plan for water allocation throughout this state that takes into account such phenomenon as global warming? There is a great deal of uncertainty concerning how climate change will affect water supply. We may experience longer periods of drought, increased evaporation caused by higher temperatures, or periods of severe flooding. What plan takes these

issues into account and addresses state-wide water distribution with this in mind? Where is the plan to **reduce water consumption** across the state, looking well into the future, recognizing that water is a limited resource and one of our most precious? Who in this state is really promoting a comprehensive, serious, plan looking decades into the future, to see that Connecticut has a continued adequate water supply? An isolated, independent, project such as MDC's to shunt a high volume of water across watersheds to eastern CT flies in the face of good water planning. There is currently no established or anticipated need for water consumption on the level of 5 million gallons per day. This is a state that does not even have decent groundwater withdrawal regulations. Who is thinking it all through? Surely not MDC. They are just looking for a water outlet and someone to pay the bill. Why not the state, and federal government, along with the town of Mansfield?

This is about making money, not about good water-use planning. I imagine that contractors all over the state are salivating, along with MDC at the very idea. It seems like this plan came straight out of Hartford, from powers who have nothing to do with Mansfield. This is politics, not water planning.

I continue to believe, as I stated in the last EIE comment opportunity, that conservative and responsible use of water is best inspired by a water supply that comes from a local source. When one consumes water from a source so far away that the user has never seen or heard of it, it is easier to waste it. In NYC the consumers have no idea where their water comes from. It is just a commodity that happens to come out the tap. They use it with abandon.

In summary, I think the idea of bringing water to Mansfield from western CT is a bad idea. I believe this involves far too distant and unnecessary a diversion of water across watersheds. I think the price tag is ridiculously high, and I don't care who is paying for it. It is still too expensive and comes out of the citizens' pockets. This option is wasteful of money and water. Both are finite. Delivery of water on this scale has the potential to change the face of northeastern CT forever. When did the residents of northeastern CT vote for this? I missed the referendum. Beyond local issues, the MDC plan to deliver water to Mansfield ignores the need to first address a coordinated state-wide water allocation plan for the near and distant future.

Coite, Jason

From: Alison Hilding [aahilding@gmail.com]
Sent: Friday, July 06, 2012 3:38 PM
To: Coite, Jason
Subject: For EIE, CT General Assembly 2003 Stream Flow Investigation

Follow Up Flag: Follow up
Flag Status: Completed

To Jason Coite
From: Alison Hilding
Date: July 6, 2012
RE: EIE for new water source for UCONN and Mansfield

I am attaching two links to the Connecticut General Assembly 2003 Program Review and Investigation on Stream Flows to be included in the current EIE for anew water source for UCONN and Mansfield. This report underscores the fact that water planning includes a need for local people to have a say in how water is used in their area -- both the volume and manner of use. The CT legislature endorsed the view that local citizens need to have a voice in how water is used in their area. While the EIE allows for citizen opinions to be aired, it does not give them any authority in the decision making process. This CGA report also emphasizes the need for a state-wide comprehensive, integrated, water plan. It is my understanding that no such plan currently exists. MDC's recent application as a potential provider of water to Mansfield and UCONN is a demonstration of what can happen when there is no comprehensive integrated plan.

Thank you for your inclusion of this material in the EIE process. If you have problems opening the two links below, please contact me.

CGA Office of Program Review and Investigations, 2003 reports:

http://www.cga.ct.gov/2003/pridata/Studies/PDF/Stream_Flow_Final_Report.PDF

Start on page 41, see figure on page 47. Describes a public input process, but this report emphasized other aspects.

Original committee report has more details, see section 5.0. Local input was very important.

http://www.dpuc.state.ct.us/DPUCINFO.nsf/4d7534dff7a2413c85256b7500697b32/9ebe3c383688adb885256c3300478062/$FILE/09-09-02%20Wtr%20Resource%20Sub-CmtA%20FINAL%20REPORT.doc

Coite, Jason

From: rhoss1@juno.com
Sent: Thursday, July 05, 2012 7:51 PM
To: Coite, Jason
Subject: EIE comments

Jason,

Certainly I appreciate the opportunity to comment.

In reviewing the alternates, as listed on your June 5th notice, I would choose #1. From a cost/benefit basis this is the only alternative.

The costs of #2 have been estimated at ~$25M. This is too much.
The #3 alternative has been shown to produce far less quantity than expected or needed.
The #4 alternative has been shown to provide no beneficial increase in quantity.

And alternative #5 is the most ridiculous of them all. With an "estimated" cost of $120M [probably much more] and the approvals needed from so many towns along the way, I ask why even consider this source?

So please consider #1, get it approved and let's get on with it !

Ric Hossack
Storrs, CT

Coite, Jason

From: Gene Salorio [gsalorio@mindspring.com]
Sent: Friday, July 06, 2012 3:24 PM
To: Coite, Jason
Subject: comments on water

Hello

I am a resident of Mansfield, CT. I am opposed having the MDC bring water to Mansfield.

First, the quantity proposed is enormous for Mansfield and other towns along the right of way. The number and size of facilities that would use that much water would utterly change the character of this part of the state. I'm not opposed to industrial/commercial development but it makes more sense to put it where the people are and where the water is. Bringing water from the western to the northeast part of the state is senseless. Indeed, water in many locations is becoming an increasingly scarce resource, it would be gross environmental irresponsibility to bring water this distance in order to create a need to use it.

Second, the $125 million cost is an insane burden for a town the size of Mansfield with its limited tax base. The town has already committed substantial funds to the Mansfield downtown project -- only time will tell if that turns out to be a financial/tax bonanza or a deadweight on town finances (c.f. Windham Mills project). Accordingly, it would be grotesque financial irresponsibility for the town to take on a financial commitment of anything near this scope.

Third, proponents bandy the notion of partial funding from the state and federal governments. That also is grotesque, frankly disgusting, reasoning - let's do a bad project because someone else will pay for it. And given the state's parlous finances, the enormous Federal deficit, and the financial meltdowns of several European governments, I wouldn't be counting on much manna from above.

Fourth, how about if the residents of this town get to vote on any proposals in this vein! Not the town council, but the residents of the town. Frankly, I see every reason to doubt that any member of the Mansfield town council has sufficient financial expertise and acumen to evaluate the financial consequences of such a proposal. It was very disconcerting when the Council Finance chair couldn't explain the ramifications of the proposals he was so enthusiastically supporting at the annual town budget vote meeting. No other member of the council could give a coherent answer to simple financial questions.

But frankly it is not just their lack of expertise, it is the fundamentally anti-democratic nature of having state sponsored development -- including private businesses located within the state development -- exempt from local supervision and regulation. The MDC water proposal will just be more feed to the trough at which special intersts gogre themselves.

Sincerely
Eugene Salorio
17 Southwood Road
Storrs, CT 06268

Gene Salorio
gsalorio@mindspring.com

Coite, Jason

From: Patricia Suprenant [patsuprenant@earthlink.net]
Sent: Thursday, July 05, 2012 7:49 AM
To: Coite, Jason
Subject: EIE MDC Water

Dear Jason,

I strongly urge that the State of CT seek a public referendum with regard to the transfer of water from either the MDC water source in East Hartford, the Shenipsit through Tolland CT or the Willimantic Reservoir system in Mansfield CT. Given the cost associated with such a massive transfer of water through any of those options the residents of the state of CT have the right to determine how their tax dollars will be spent.

Furthermore, from an environmental standpoint it is unconscionable to transfer water to an undeveloped area when other communities (like Willimantic) are more suitable to the tech park purposes and could be accessed through public transportation and already have the infrastructure to support such a project. Where is the sustainability in the tech park.

Patricia Suprenant

B.3 RESPONSE TO SECOND REVISED SCOPING PERIOD COMMENTS

CONNECTICUT COUNCIL ON ENVIRONMENTAL QUALITY (CEQ)

In an email dated July 2, 2012, CEQ stressed the importance of a thorough analysis of impacts and offered several comments regarding the analysis of water supply alternatives.

1. COMMENT: Indirect impacts in eastern Connecticut could extend beyond the project towns if MDC were the eventual alternative, as other water utilities in the area (such as CWC) would be able to reallocate water to other undeveloped areas. This potential should be analyzed.

   RESPONSE: The regional implications of supply sources and demand distribution are discussed in the EIE.

2. COMMENT: The EIE should include a comparison of energy consumption, including the impact, if any, on peak electricity demand as this is an important statewide consideration.

   RESPONSE: Electrical demands are evaluated in Sections 6 through 11 of the EIE.

3. COMMENT: Several of the alternatives will have a considerable capital cost. Will the source of funds include any existing funding or State or Federal grant programs? If so, the impact of diverting capital funds from other State objectives should be considered.

   RESPONSE: The source of funding for each of the alternatives has not yet been determined. As such, any potential impacts of diverting capital funds from other State objectives cannot be considered at this time.

CONNECTICUT DEPARTMENT OF ENERGY AND ENVIRONMENTAL PROTECTION

In a letter dated July 6, 2012, the CT DEEP reiterated several comments from its previous reviews that are not reprinted below. DEEP offered the following comments specific to the MDC alternative:

1. COMMENT: The EIE should explain why the project description for MDC specifies up to 5.0 mgd of transmission capacity in contrast to the 0.5 – 1.0 mgd need previously identified. If this is due to the provision of water supply along the pipeline route, the potential land use impacts should be evaluated.

   RESPONSE: The project need (i.e. water demand) has been refined through the EIE analysis. The final document reflects that analysis relative to demand projections, which is more than the 0.5 to 1.0 mgd initially identified but less than 5.0 mgd. Potential demands and land use impacts along each pipeline route are enumerated for each alternative.

2. COMMENT: The proposed interconnection routes with MDC traverse areas of Rural Lands, Conservation Area, Preservation Area, and Existing Proposed Open Space based on the State

Plan of Conservation and Development. The extension of water mains would be inconsistent with policies in the plan for these areas.

RESPONSE: Inconsistencies with the State Plan have been evaluated for each of the interconnection alternatives.

3. COMMENT: The interconnection will require a water diversion permit from Connecticut DEEP. Permitability should be a key factor in selection of a preferred alternative. The EIE should begin to assess the information required to be submitted for applications for a water diversion permit. As the MDC interconnection will constitute an interbasin transfer, the potential impacts of the proposed diversion to water supply needs and demands, wastewater treatment, waste assimilation, power generation, flood management, navigation, water quality, recreation, wetland habitat, agriculture, fish and wildlife, and maintenance of adequate flows over the next 25 years should be evaluated.

   RESPONSE: As required for all EIEs, potential impacts have been evaluated for a wide range of environmental receptors for each alternative.

4. COMMENT: The EIE should consider if this alternative has the potential to impact the federally designated Upper Farmington Wild & Scenic River Area. As described in the "Upper Farmington River Management Plan" (April 1993), protection of outstanding resource values of the area are dependent upon appropriate land and water resource management including water quality, water quantity, and channel, bank, and wetland protection.

   RESPONSE: Section 8 of the EIE presents an analysis of the MDC interconnection alternative. MDC's supply draws from the Farmington River Basin. The volume of water contemplated for transfer to serve the University and Mansfield will not cause the MDC to draw more water from the Farmington basin than its current safe yield or permitted withdrawals through the 50-year planning period. As such, no impacts to the federally designated Upper Farmington Wild & Scenic River Area are projected to occur.

5. COMMENT: According to MDC's water supply plan, the West Branch Reservoir is identified as a potential future supply. The potential impact of the additional 5.0 mgd withdrawal from the East Branch on planning for future sources for MDC, such as accelerating the need for additional supply, should also be evaluated.

   RESPONSE: A discussion of system margin of safety of the MDC system and the need for additional supplies is discussed in Sections 4 and 8 of the EIE. A rigorous analysis of demand at the University, Mansfield, and along various pipeline routing alternatives justifies a much lower demand than the initially contemplated 5.0 mgd. As a result, no acceleration of the need for additional supply is expected within the 50-year planning horizon.

CONNECTICUT DEPARTMENT OF PUBLIC HEALTH

In a letter dated June 29, 2012, the DPH supplemented its previous review to include the potential interconnection with MDC. In particular, DPH performed an analysis of margin of safety,

indicating that MDC could provide up to 5.0 mgd through a potential interconnection while maintaining a long term MOS of 1.15 or greater under average day, maximum month average day, and peak day demand conditions. In addition, DPH offered the following comments for consideration:

1. COMMENT: The following items must be addressed in the EIE :

    a. Consistency of this proposal with the special act incorporating the MDC and MDC's Charter;
    b. DPH Sale of Excess Water permitting requirements;
    c. Consistency of this proposal with existing applicable Water Utility Coordinating Committee (WUCC) Plans;
    d. DEEP Water Diversion permitting requirements; and
    e. Consistency with the State *Plan of Conservation and Development*

    RESPONSE: The noted items are addressed in Sections 3, 4, 8, and 12 of the EIE.

2. COMMENT: The potential MDC Interconnection routes pass through Manchester Water Department's public drinking water supply watersheds and Level APAs as well as APAs of Connecticut Water Company in Vernon. Best management practices to protect these areas should apply.

    RESPONSE: Best management practices are proposed for all pipeline routes, consistent with the APAs in Manchester and Vernon.

THE CONNECTICUT WATER COMPANY

Mr. Terry O'Neill of CWC offered the following comments at the public scoping meeting on June 21, 2012:

1. COMMENT: The initial scoping was for a new water supply of 0.5 mgd to 1.0 mgd. The scoping appears to have changed to evaluate up to 5.0 mgd. The remaining alternatives should also be evaluated against this new maximum threshold.

    RESPONSE: All of the alternatives have been evaluated based on the same demand criteria.

2. COMMENT: Mr. O'Neill's involvement with water utility coordinating committees (WUCCs) has shown that maintaining and replacing infrastructure is expensive and that cooperative arrangement between utilities has been more cost-effective than installing new infrastructure in many cases. If water is to come from MDC, there is already infrastructure in place to bring MDC water to Tolland. Installing an expensive 20-mile bypass does not make a lot of sense.

    RESPONSE: An evaluation of routing MDC water through existing systems was not conducted, nor was the feasibility of hydraulics or contractual agreements assessed. A conservative analysis of new pipeline routes was assessed based upon the MDC's proposal to construct a new pipeline.

In a letter dated July 6, 2012, CWC reaffirmed its position that its alternative would be able to address numerous water supply issues in Mansfield at the most reasonable cost, with minimal environmental impact, and greater consistency with the State planning guidelines. CWC offered the following comments for consideration:

1. COMMENT: CWC noted its concerns with how an interconnection with MDC would be funded and stated its position that the MDC alternative would require significant expenditures in energy demands (in direct conflict with the State's energy policy goals) and for operation and maintenance.

   RESPONSE: An evaluation of potential expenditures is evaluated under each alternative.

2. COMMENT: If the University's intent is now to explore an option that could meet the system's entire demand for the long-term planning period, CWC maintains sufficient safe yield in reserve and could readily accommodate such a request in the future at a far more reasonable coast than the current MDC proposal. CWC further believes that a rate of 5.0 mgd is neither reasonable nor necessary to supply the stated goals of the University and the Town, and that a rate of 3.0 mgd would be more reasonable to meet the maximum projected demand of the University and the Town at the end of the 50-year planning period.

   RESPONSE: An evaluation of water need is presented in the EIE and, in fact, future projected demands are significantly lower than the rate of 5.0 mgd. It is not the University's intent to replace the yield of its existing supplies.

3. COMMENT: The transfer of water from the Farmington River watershed to Mansfield would be environmentally and fiscally irresponsible involving numerous interbasin transfers that CWC believes would have a significantly higher impact than the remaining alternatives.

   RESPONSE: An evaluation of potential impacts is evaluated in the EIE for the MDC interconnection alternative and is compared against the remaining alternatives relative to both cost and environmental impact.

4. COMMENT: CWC has sought to minimize the scope and scale of its alternative to ensure that the stated needs of the University and the surrounding community are adequately met while respecting local land use concerns. In contrast, numerous and varied indirect environmental effects could result from bisecting entire communities with a major water transmission and distribution main.

   RESPONSE: The impact evaluation considers the impact of pipeline routing through the potentially affected communities for each alternative.

5. COMMENT: The MDC proposal is inconsistent with all relevant individual water supply plans, the State, CRCOG, and WinCOG Conservation and Development plans, and the Upper Connecticut River WUCC plan. It further disregards the Exclusive Service Area (ESA) boundaries in Manchester and Vernon and proposes the installation of duplicate water system infrastructure.

RESPONSE: An evaluation of consistency with established planning documents is evaluated in the EIE, including local, regional, and state plans.

FARMINGTON RIVER WATERSHED ASSOCIATION

In a letter dated July 6, 2012, the Farmington River Watershed Association (FRWA) stated its support of a CWC alternative and its objection to the proposal that MDC supply additional water to the Mansfield area and especially any proposal that would involve the creation of infrastructure capable of transferring 5.0 mgd. The FRWA issued the following concerns:

1. COMMENT: Transfer of water from the Farmington River basin to Mansfield will require an enormous infrastructure investment with ongoing costs to transfer water. There should be a serious investigation of how else this public money could be invested in water reclamation and conservation to supplement UConn's current efforts in this area.

   RESPONSE: An evaluation of potential expenditures is evaluated for each alternative. A discussion of water reclamation and conservation efforts previously or currently underway is included in the EIE. A detailed analysis of the expenditure of public dollars cannot be made at this time, as funding sources and cost sharing information is not defined for any of the alternatives under consideration.

2. COMMENT: Water is already being transferred out of the Farmington River basin at approximately 50 mgd to supply greater Hartford. While long-standing, this transfer should not be considered a precedent for additional transfers to distant customers. Consideration should be given to the agreements and the streamflow regulations that are in place to provide reasonable safeguards against excessive dewatering of the Farmington River, and to existing MDC customers who may prefer a larger MOS in their drinking water supply given that disrupted weather patterns are making water supplies less predictable than in the past.

   RESPONSE: An evaluation of current agreements, interbasin transfers, and system MOS is included in the EIE.

3. COMMENT: A water main of the proposed capacity will create development pressures incompatible with State and local Conservation and Development plans and postpone meaningful efforts to develop sustainable water use in the affected towns.

   RESPONSE: The EIE includes an extensive evaluation of potential land use impacts and consistency (or lack thereof) for each alternative.

4. COMMENT: CWC has already proposed a workable solution capable of providing 1.0 mgd to Mansfield. It is highly debatable that future development in eastern Connecticut that would require 5.0 mgd is sustainable. Regardless, CWC has made clear that if the stated need was for 2.0 mgd or 3.0 mgd they could produce a proposal that meets that requirement.

   RESPONSE: All of the contemplated alternatives have been evaluated against the same demand metrics and project need.

MS. KATHERINE CARLSON

COMMENT: At the June 21, 2012 public scoping meeting, Ms. Carlson noted that sustainability is a key concern and that the University and the Town should augment existing conservation measures and develop local water sources to meet the needed demands.

RESPONSE: Sustainability of each alternative is an important consideration evaluated for each alternative. The feasibility of local supply sources is explored as well.

MS. ALISON HILDING

In an email dated July 5, 2012, Ms. Hilding provided an electronic copy of a letter objecting to the MDC proposal with the following concerns:

1. COMMENT: Transfer of 5.0 mgd of water would have a major undesirable impact on development in the region. There is no market-driven need for this level of demand.

   RESPONSE: The EIE does not contemplate the transfer of 5.0 mgd. An analysis of long-term demand indicates a significantly lower need.

2. COMMENT: A price tag of $125 million would eventually come out of local, State and Federal taxes and such money would be better spent on more worthy projects such as clean water initiatives.

   RESPONSE: An evaluation of potential expenditures is evaluated under each alternative.

3. COMMENT: A project of this scope would place water supply allocation and development planning outside of local entities. There has been no referendum or survey asking if residents in Mansfield, Tolland, or Coventry have a need for this water, for increased development, or even want the bill for the infrastructure. Furthermore, there is a great deal of uncertainty concerning how climate change will affect the availability of water supply in the future.

   RESPONSE: An evaluation of water need and development impacts is evaluated under each alternative.

Ms. Hilding opined that this alternative appears to be politically motivated to create construction jobs and would benefit MDC far more than the residents of Mansfield. Ms. Hilding further reiterated that conservative and responsible use of water is best inspired by water supply from local sources. She further noted the lack of a long-term plan for water allocation throughout the State and on July 6, 2012 submitted an electronic copy of the 2003-2004 Connecticut General Assembly Legislative Program Review and Investigation Committee's report on Stream Flow. This report recommends the long-range water resource management plan required by statute since 1967 to finally be developed in order analyze water resource issues on a comprehensive, statewide basis. A link to this report is provided in her comment letter.

MR. RICK HOSSACK

COMMENT: In an email dated July 5, 2012, Mr. Hossack noted the interconnection with CWC appeared to be the best alternative from a cost/benefit perspective. Mr. Hossack further opined that the WWW alternative is too much money; construction of new wellfields will likely produce insufficient quantity; installation of Well E will not provide additional quantity to be beneficial over the long term; and that the MDC alternative is so costly that it should not even be considered.

RESPONSE: Project costs and the ability of each alternative to meet the stated demands are evaluated for each alternative.

MS. HELEN KOEHN

COMMENT: Ms. Koehn offered the following comment at the public scoping meeting on June 21, 2012: Could a combination of potential sources be the eventual alternative and if so, could the combination of sources lead to an exclusive service area being formed in the town?

RESPONSE: The potential combination of sources, particularly wellfields, to meet the stated goals of the project is considered as a potential outcome. ESA boundaries can only be instituted by a WUCC. The Northeast WUCC can only be convened by the Connecticut Department of Public Health.

MS. MEG REICH

Ms. Reich offered several comments and questions at the public scoping meeting on June 21, 2012:

1. COMMENT: A DevCo proposal in the 1970s proposed a new community in Coventry that would have required water and sewer service. The old evaluations should be researched to see who the utility providers would have been as well as the documented induced development pressures and environmental impacts.

   RESPONSE: These files were not immediately available. Current planning documents are believed sufficient to provide the level of review necessary for this EIE.

2. COMMENT: The Northeast WUCC should be convened to define ESAs and regional water planning issues.

   RESPONSE: Noted.

3. COMMENT: Has MDC had long-term plans to provide water service to Coventry and Mansfield?

   RESPONSE: MDC's most recent water supply plan does not reflect a plan to provide water service in Coventry or Mansfield.

4. COMMENT: While source redundancy would be one method of managing water shortages associated with seasonal droughts, current water planning trends do not emphasize multi-system redundancy.

   RESPONSE: While system redundancy is not a stated goal or purpose of the University, it is identified a potential benefit evaluated under several alternatives.

5. COMMENT: How much money will it cost to add this new alternative to the EIE, and who will be responsible for paying for it?

   RESPOND: The University has paid for the entirety of the EIE through State funding for the proposed Technology Park.

MR. EUGENE SALORIO

In an email dated July 6, 2012, Mr. Salorio stated his opposition to the MDC proposal and offered the following comments for consideration:

1. COMMENT: The quantity of water proposed would have a dramatic effect on the characterization of this region of the State. Industrial and commercial development should be placed in existing water service areas.

   RESPONSE: As noted in previous responses, the quantity of water is significantly lower than what was initially scoped. The evaluation of potential land use impacts speaks to the characterization of the region and the vision of the State Plan.

2. COMMENT: The potential $125 million cost would be an enormous burden for a town the size of Mansfield particularly since the town already committed substantial funds to the Mansfield downtown project.

   RESPONSE: Potential project costs are evaluated in the EIE. The $125million cost is associated with the MDC interconnection alternative at a rate of 5.0 mgd. The source of funding and cost sharing is beyond the scope of this EIE.

3. COMMENT: Mr. Salorio opined that the potential of partial funding from the State and Federal governments is poor reasoning to perform a bad project, particularly in light of current State, Federal, and global financial woes.

   RESPONSE: As stated above, identification of the source of funding and the apportionment of costs is beyond the scope of this EIE. However, such analysis will be critical prior to execution of a given alternative.

4. COMMENT: Town residents are not being given an opportunity to vote on any of these proposals. State-sponsored development – including private businesses located with State development – should not be exempt from local supervision and regulation.

RESPONSE: The preparation of this EIE is being performed within the requirements of the CEPA process. Public comment is an important component of the CEPA process; however, it does not allow for a local referendum vote.

MS PATRICIA SUPRENANT

Ms. Suprenant offered the following comments at the June 21, 2012 scoping meeting:

1. COMMENT: Adding an alternative to provide 5.0 mgd of water when the need was only 0.5 mgd to 1.0 mgd sets the bar very high and implies that there is more development intended than stated at the outset.

   RESPONSE: The EIE evaluates potential needs related to intended development. It is greater than 0.5 to 1.0 mgd but significantly less than 5.0 mgd.

2. COMMENT: The EIE should include a cost-benefit analysis of the MDC alternative. How will the residents of Mansfield really benefit from this alternative?

   RESPONSE: Benefits and project costs are evaluated in the EIE.

3. COMMENT: There should be a public forum for the affected communities to state whether or not they want the eventual project and some sort of referendum that concludes that the residents want to pay for it.

   RESPONSE: See response to comment Mr. Salorio's comments 3 and 5 above.

4. COMMENT: The EIE should analyze job creation and impacts of the Technology Park on the surrounding community.

   RESPONSE: Job creation due to the Technology Park has been evaluated in the FEIS for the Technology Park.

In an email dated July 5, 2012, Ms. Suprenant offered the following comments for consideration:

1. COMMENT: The State is urged to seek a public referendum with regard to the transfer of water from either the MDC water source in East Hartford, the Shenipsit Reservoir via Tolland, or the Willimantic Reservoir system in Mansfield. Given the costs associated with either of these transfers of water the residents of the State have the right to determine how their tax dollars will be spent.

   RESPONSE: Refer to responses above to Mr. Salorio's similar comments.

2. COMMENT: Other communities (such as Willimantic) are more suitable to the technology park purposes than North Campus as they already have infrastructure installed to support such a project. Further, such sites could be accessed through public transportation.

RESPONSE: The potential relocation of the Technology Park is beyond the scope of this EIE. This EIE must evaluate the transfer of water to the University inclusive of the proposed water demands in the Technology Park.