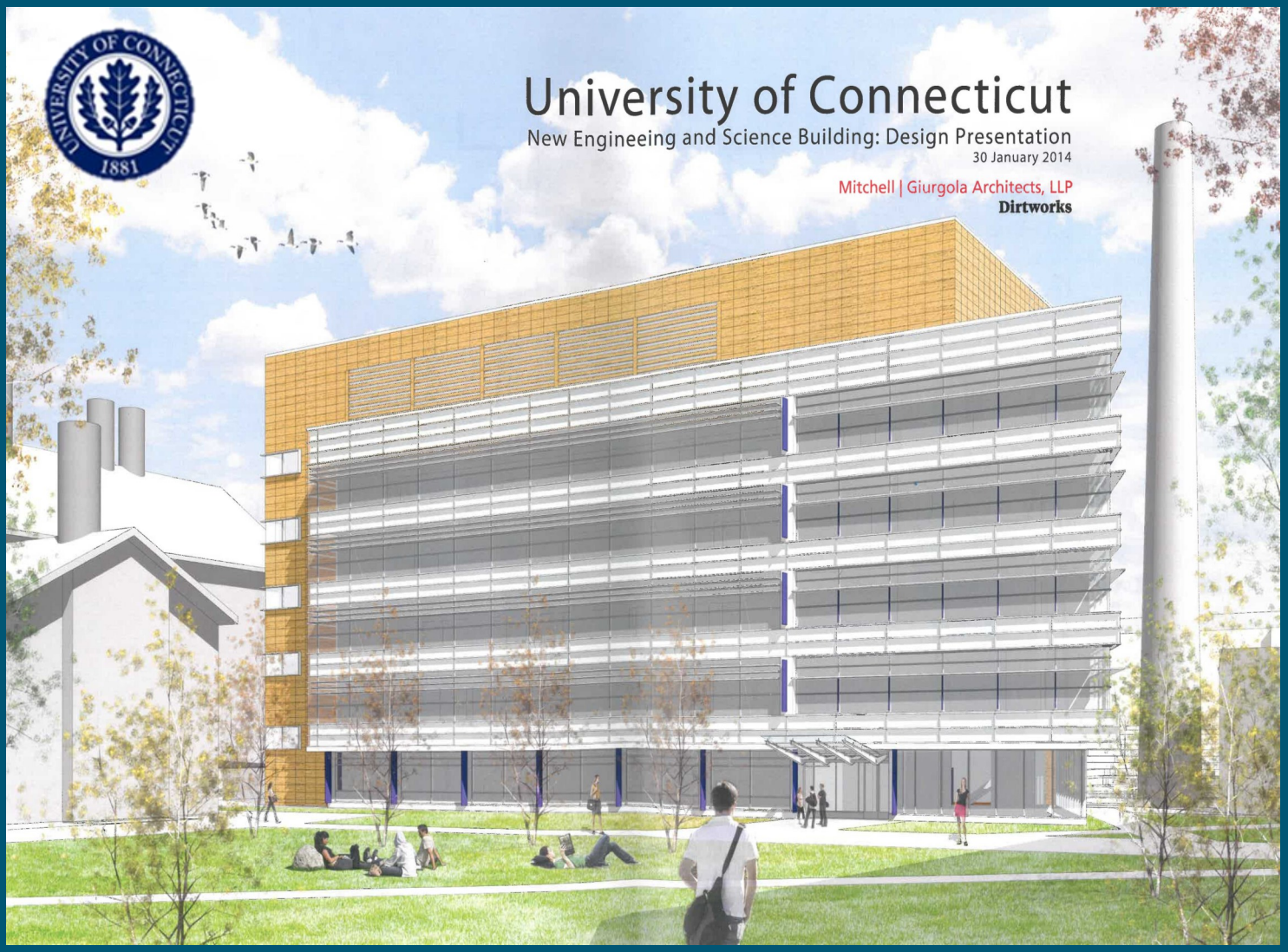
Environmental Impact Evaluation
New Engineering and Science Building
University of Connecticut - Storrs Campus

Prepared in Accordance with the Connecticut Environmental Policy Act



April 2014

Prepared by:
GZA GeoEnvironmental , Inc.
Springfield, MA/Glastonbury, CT

TABLE OF CONTENTS

Table of Figures

List of Tables

EXECUTIVE SUMMARY

Introduction

The Proposed Action is the construction of a New Engineering and Science Building (NESB) and associated perimeter site improvements at the University's Storrs Campus. The NESB would be a 5-story structure encompassing approximately 118,000 square feet (SF) of space. Because the Proposed Action may significantly affect the environment in an adverse manner, and in consideration of the fact that the project involves more than 100,000 SF of new construction in an area that would have been considered a "Neighborhood Growth Area" under the 2005-2010 State Plan of Conservation and Development's Locational Guide Map, this Environment Impact Evaluation (EIE) has been prepared pursuant to the requirements of the CEPA as promulgated under Section 22a-1 to 22a-1h of the Connecticut General Statutes (CGS) and as amended by Public Act 02-121.

Public Participation

A Public Scoping Notice was published on January 21, 2014 on the Council on Environmental Quality's (CEQ) Environmental Monitor web page as per CGS 22a-1b. A public hearing was scheduled for February 5, however it was cancelled due to inclement weather. A revised Scoping Notice was published in the March 3, 2014 Environmental Monitor indicating the new Public Hearing date of March 17, 2014 and an extended comment period termination date of March 22, 2014. Therefore, the public scoping comment period encompassed a total of 60 days, from January 21 to March 22.

Written scoping comments were received by the following agencies: Connecticut Department of Energy & Environmental Protection (DEEP), Connecticut Department of Public Health (DPH), State Historic Preservation Office (SHPO) and the Town of Mansfield. A public scoping meeting was held on Monday, March 17, 2014 at 7:00 PM at the Merlin Bishop Center at the Storrs Campus. One person, Meg Reich, representing the Willimantic River Alliance provided comments. Oral and written scoping comments appear in Appendix A.

After review of the scoping comments and a screening-level environmental analysis, it was determined that preparation of an EIE is warranted. The particular issues of concern that affected this decision were stormwater management and, to a lesser degree, water supply availability and traffic/transportation.

Purpose and Need

The purpose of the Proposed Action is to satisfy existing and future needs of students enrolled in the Science, Technology, Engineering and Math (STEM) program at the University. Construction of a building for this program was identified in the 2006 Campus Master Plan. The Proposed Action would also provide for much needed "swing space" for

professors and students that may be temporarily displaced as a result of future STEM construction and renovation projects.

Project Description

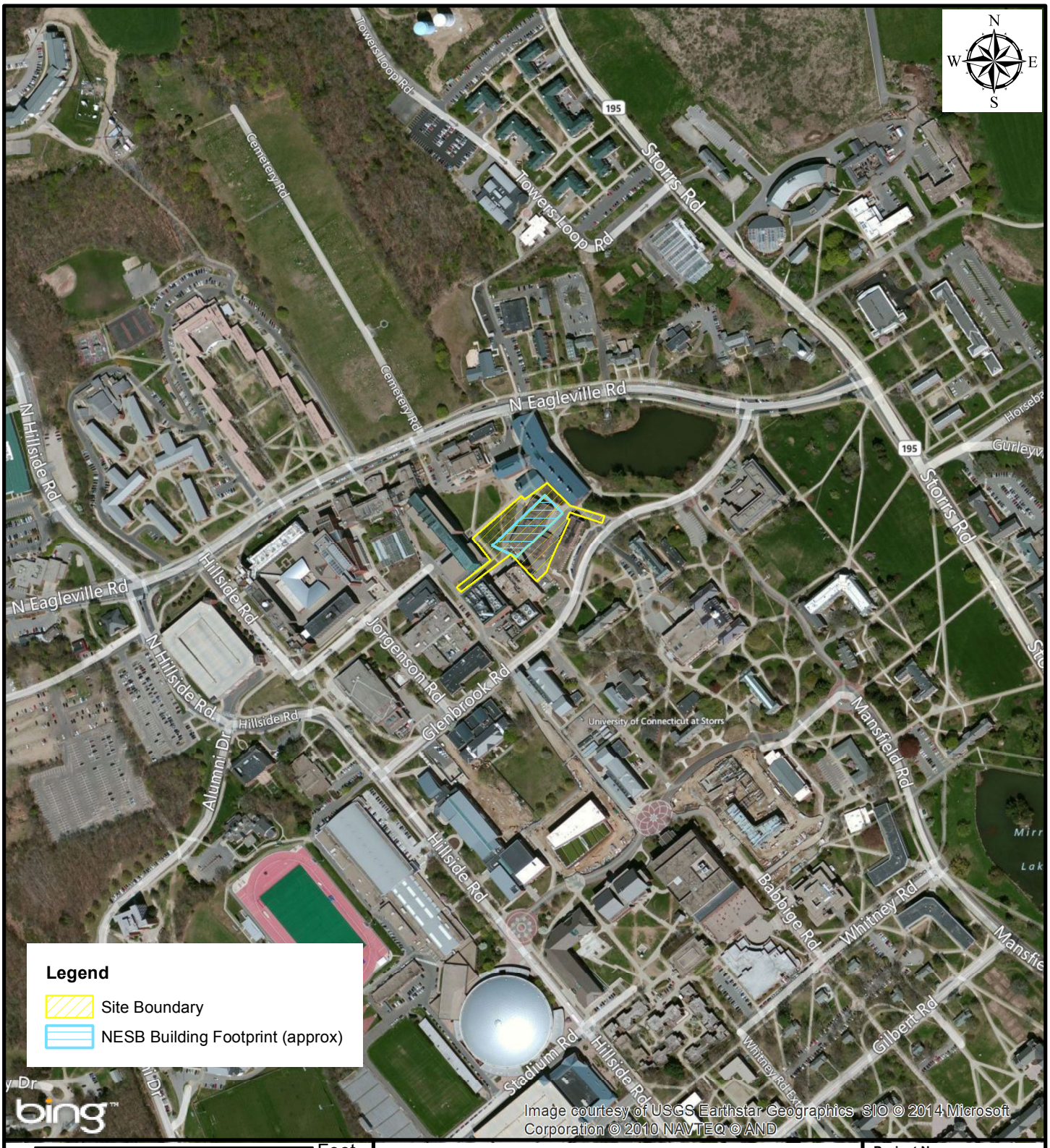
The Proposed Action is the construction and operation of a New Engineering & Science Building (NESB) at the University of Connecticut Storrs Campus in Mansfield, CT. The NESB would be an engineering and interdisciplinary science lab building for bioengineering, computer simulation, chemical engineering and other sciences, designed to foster collaboration between the fields of research. The NESB would be an 118,000± square foot (SF), 5-story structure, with the majority of the space devoted to laboratories. This project would achieve the Leadership in Energy and Environmental Design's (LEED®) Silver and High Performance Building Standards at a minimum.

The preferred Site for the NESB is the footprint of the existing Old Central Warehouse (OCW) located between Glenbrook Road and North Eagleville Road in the Research Neighborhood portion of the Storrs Campus (Figure ES-1).

The OCW has been slated for demolition in 2014 and is not an element of the Proposed Action. Regardless of whether or not the NESB is constructed at this site, the OCW will be demolished.

The University is proposing to complete construction of the NESB and associated perimeter site improvements in time for the Spring 2017 semester. The total project cost is a $91.3 million of which the estimated construction cost is $68 million. Funding for this project would come from UConn 2000, now known as Next Generation Connecticut (NextGenCT), pursuant to the provisions of CGS 10a-109 through 10a-109y most recently amended by Public Act 13-233.

The Proposed Action is expected to enable the University to hire more faculty within the STEM program. It is expected that an additional 182 students and 11 faculty/staff would be added to the University roster.



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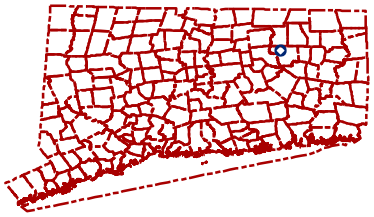

Locus Map

New Engineering & Science Building
University of Connecticut
Glenbrook Rd.
Storrs, Connecticut

BASE MAP: Bing Maps 2014

Project Location information obtained from Mitchell Giurgola Architects, LLP

GZA GeoEnvironmental, Inc.
Springfield, MA / Glastonbury, CT

Project No: 15.0166402.00
Drawn by: KDC
Checked by: PGD
Date: March 2014
Figure No: ES-1

Alternatives

As required by CEPA, alternatives to the Proposed Action were considered. They included:

- Construction of new building between the Arthur B. Bronwell Building (Bronwell) and Engineering II (E2) buildings; and
- No Action

The environmental impacts of the preferred alternative and the E2/Bronwell alternative are similar. Both alternatives would not significantly change the amount of Impervious Cover (IC) cover in the Eagleville Brook watershed and both would require approximately the same amount of water for operation. Similar positive socioeconomic impacts would be provided by both alternatives.

The primary difference between these two alternatives is that the E2/Bronwell expansion would require demolition of two wings of the E2 building that currently consist of existing usable academic and research space. Therefore, the net increase in STEM related space on campus would not be as great as that of the preferred alternative which is to supplant existing storage space (the OCW) which has already been provided elsewhere on campus.

The No Action alternative does not meet the project goal of improving and expanding the STEM program at the University, therefore it was dismissed.

Existing Conditions

The Site of the Proposed Action is the footprint of the existing OCW and its perimeter which consists of paved walkways, lawn and a small parking area. The Site contains no wetlands or state-protected species. There are no open waterbodies in or near the site, although a piped segment of Eagleville Brook traverses under the Quad that borders the Site. The 100-year floodplain for Eagleville Brook is mapped on the Site according to Federal Emergency Management Agency (FEMA) mapping. However, it is clear that FEMA has not updated the mapping for this area because Eagleville Brook was piped underground before 1951 and FEMA did not properly modify its 1981 mapping effort.

Sensitive receptors near the Site include several educational buildings and the adjacent Student Health Services Building. University housing is not present or adjacent to the Site and all land contiguous to the Site is University-owned.

There are utilities available at the site and they include: water supply, sanitary sewer, electricity, heat, cooling, telecommunications and stormwater. Heating, cooling and electricity will be provided by the Central Utility Plant (CUP) which is adjacent to the Site.

The Site is within a Priority Funding Area (PFA) according to the State Plan of Conservation and Development's Locational Guide Map (LGM).

Environmental Impacts and Mitigation

Public scoping comments were received from DEEP, DPH, the Town of Mansfield and the Willimantic River Alliance. The primary issues of concern raised by these entities were:

- Potential stormwater runoff impacts to Eagleville Brook, an impaired water with a Total Maximum Daily Loads (TMDLs) for Impervious Cover (IC) and bacteria; and,
- Capacity of the University's water supply system to meet the water demands of the NESB.

Stormwater Runoff

The Proposed Action would result in a net decrease in IC compared to existing conditions. Approximately 3,000 SF of additional pervious surface in the form of lawn, gardens and tree plantings would be constructed where there are currently hard (impervious) surfaces. The Proposed Action is consistent with the TMDL goals of reducing IC within the Eagleville Brook watershed. Shallow groundwater at the site relative to the proposed depth of the NESB's lowest level (which will be deeper than that of the OCW) necessitates that groundwater be diverted through a collection system. The intended discharge location for the collected groundwater is the storm sewer system that contributes to Eagleville Brook.

Before the Proposed Action is scheduled to be complete, the University will have also completed an updated Master Plan and a corresponding Environmental Impact Evaluation that will evaluate the broader changes to the campus environment, such as any significant stormwater mitigation. The area of the NESB will be reviewed for its cumulative impacts as well as for cumulative mitigation opportunities, including the conceptual stormwater management techniques such as bio-infiltration where possible, green roofs, permeable or porous pavements, cistern collection for landscape irrigation, and treatment.

Water Supply

The Site of the Proposed Action is currently serviced by the University's water supply. The University's 2011 Water Supply Plan (Milone & MacBroom, 2011a) indicated that new water supply sources would be required to maintain margins of safety and provide for supplemental supply to meet increased demands in conjunction with expected expansions. The University prepared an EIE and Record of Decision (ROD) (Milone and MacBroom, 2012 & 2013) for a more detailed study of alternatives to address future needs of the campus and surrounding areas of the Town of Mansfield. Interconnection with the Connecticut Water Company's (CWC) water supply system was selected as the preferred alternative in the EIE. CWC is in the process of preparing a Diversion Permit for CT DEEP with the University as a co-applicant.

The average daily demand associated with the NESB is estimated to be 4,800 GPD, of which 1,600 GPD would be for new hires and additional enrollment enabled by the

Proposed Action. The Proposed Action would create a demand for approximately 182 new students and 11 new faculty/staff. Cumulative impacts, including those on water supply, of the entire NextGenCT program will be evaluated in a Master Pan EIE. However for the purpose of this NESB EIE's evaluation of water supply impacts, consideration must be given to the two other projects that will be opening around the same time as NESB. The total average daily demand associated with NESB, the Innovation Partnership Building (expected to be complete by the end of 2016) and STEM Residence Hall (expected to be complete by August 2016) is 58,400 GPD.

The CWC interconnection is anticipated to come online by the end of the 2016 calendar year, in advance of the expected opening of the NESB in January 2017. The University's additional water supply needs will be met by augmenting its supply with water to be provided pursuant with its contract with the Connecticut Water Company (CWC).

In the case that the proposed NESB is completed prior to the additional water supply being available from CWC, mitigation would be required in order to meet the *peak* day demand, including a system-wide 15% margin of safety. Although the water demand for the NESB is small, it could marginally exacerbate the existing deficiency in the system relative to peak demand if water from the CWC interconnection was not available, as would demands for the STEM Residence Hall and Innovation Partnership Building.

Mitigation will consist of:

a) Connecting NESB will to the University's reclaimed water utility. Deducting toilet flushing from the average day demand reduces the buildings average daily demand for potable water from 4,800 GPD to 2800 GPD and the net new demand from 1,600 GPD to 920 GPD;

b) Continuing to promote water conservation throughout the system; and,

c) Taking steps including securing appropriate regulatory approvals to ensure that peak day margin of safety could be demonstrated by having Fenton Well D approved for use during the time that peak demand is expected.

Traffic/Transportation

There would be a slight increase in traffic and parking as a result of the Proposed Action. NESB will also include space that will enable new hires and some increased enrollment. Those new hires and additional enrollment would be considered as potential additional trips to campus.

The increase in the number of vehicles on the local roadway network is estimated to be approximately 332. During the peak traffic hours, vehicles entering and leaving the campus daily will increase by approximately 30 vehicles during the AM peak hour and 27 vehicles during the PM peak hour.

Relative to the conditions reviewed by in the most recent traffic analysis performed by the University as part of the Innovation Partnership Building, the percentage of potential trips associated with the Proposed Action increases the volume at key intersection by 1-3% or which can be considered minor, especially because the existing intersections operate *overall* at very good levels of service (i.e. very little congestion).

Nevertheless there will be a nominal increase in passenger vehicle traffic and in the demand for parking spaces on-campus associated with the Proposed Action. Impacts will have to be adequately quantified, especially to support the requisite approval from OSTA. Cumulative impacts, including those on traffic and parking, of the entire NextGenCT program will be evaluated in a Master Pan EIE.

The impacts of increased parking demand and traffic can be mitigated through various means. The preferred means of mitigation would be to: broadly promoting ride-share/carpooling programs community-wide to dampen demand; increase public transportation options locally through the on-campus bus and shuttle services and regionally through partnerships with other transit authorities; price residential parking permits to discourage demand; ensure that adhering to lawful parking on and off-campus can be properly enforced.

In the event that the preferred means of mitigation for the overall Master Plan do not adequately address the traffic and parking impacts, major roadway improvements and new structured/surface parking would potentially be needed. Before the Proposed Action is scheduled to be complete, the University will have also completed an updated Master Plan and a corresponding Environmental Impact Evaluation that will evaluate the broader changes to the campus environment, such as any significant parking or traffic mitigation.

As required by CEPA, other potential impacts to the physical, socioeconomic and natural environment were also evaluated, commensurate with the level of expected impact and the degree to which they were raised as potential issues during the scoping process. Table ES-1 summarizes the environmental impacts of the Proposed Action and any mitigation measures that may be needed to minimize or avoid such impacts.

As shown, none of the environmental impacts associated with the Proposed Action would be significant. The University recognizes that the impact of the Proposed Action, combined with other planned projects as part of the NextGenCT program, and the STEM-related projects in particular, need to be addressed in a more comprehensive manner. The University's Master Plan Update, which is on-going, will be the subject of an EIE that addresses these cumulative impacts.

TABLE ES-1. ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

Environmental Element	Impacts	Mitigation
Climate, Topography, Geology & Soils	Disturbance of fill soils, minor grading required	Installation of erosion control measures as required by Construction General Permit
Surface and Groundwater	Reduction of 3,000 SF of Impervious Cover	Not warranted. Net positive impact.
	Direct discharge of groundwater to Eagleville Brook	
Wetlands	No wetlands on or near Site.	Not warranted
Floodplains	Technically within 100-year floodplain but Eagleville Brook piped underground.	Not warranted but DEEP Flood Management Certification required.
Flora and Fauna	No significant impact. Area densely developed.	Not warranted.
State Protected Species	None at or near site per DEEP.	Not warranted.
Air Quality	No direct significant impact. Tie into existing CUP. Insignificant increase in emissions from new emergency generator for Student Health Services Building.	Not warranted.
	Student Health Services Building emergency generator to be replaced with a larger emission source.	Generator to be Tier 4 compliant
Noise & Vibration	Temporary increase in noise and vibration during construction.	Prohibit blasting.
Light/Shadow	Slight increase in shadow and lighting demand in Quad.	Not warranted.
Traffic and Transportation	Nominal increase in parking demand traffic generation.	Broadly promote ride-share/carpooling; Increase public transportation options; Price residential parking permits to discourage demand; Ensuring that adhering to lawful parking on and off-campus can be properly enforced.
Water Supply	Approximately 1,600 GPD in additional demand.	Reclaimed water will be used for NESB toilets to reduce the stated GPD. Reduction of 680± GPD expected for net demand increase of 920±. Continue to promote water conservation and obtain approvals to use Fenton Well D even during low stream flow as proposed in the 2011 Water Supply Plan in order to mitigate peak day demand conflicts in the event the CWC water not yet available at the time NESB is complete.

Environmental Element	Impacts	Mitigation
Stormwater	Approximately 3,000 SF less of impervious area compared to existing Direct discharge of groundwater to Eagleville Brook	Not warranted. Positive impact.
Utilities	Utilities present at or near site.	Not warranted.
Solid & Hazardous Waste	Additional solid waste and some hazardous waste generated.	Managed in accordance with current University practices.
Public Health & Safety	No significant change in emergency service needs.	Not warranted.
Aesthetics	Improved aesthetic of Quad area and removal of dated OCW.	Not warranted.
Cultural Resources	No cultural resources affected. Site is disturbed.	Not warranted.
Socioeconomics	Positive economic benefit.	Not warranted.
Consistency with Plans	Proposed land use is consistent with State Plan of Conservation & Development. Project identified in University 2006 Master Plan.	Not warranted.

1. Introduction

1.1 Background

The Proposed Action is the construction of a New Engineering and Science Building (NESB) and associated site improvements at the University's Storrs Campus. The NESB would be a 5-story structure encompassing approximately 118,000 square feet (SF) of space.

The Generic Environmental Classification Document (ECD) contains a list of State project types and thresholds that trigger the Connecticut Environmental Policy Act (CEPA) process. Construction of, addition to, or major alteration involving a change in use of a State leased, licensed, or owned facility involving 100,000 SF or greater of floor space if the facility is located in a Regional Center or Neighborhood Conservation Area is one of the thresholds that the Generic ECD identifies as a typical action whose degree of impact is indeterminate, but could have significant environmental impacts. "Regional Center" and "Neighborhood Conservation Areas" are terms that had been used in the State's Plan of Conservation and Development (PoC&D) for 2005-2010 and respective Locational Guide Map (LGM), but were not included in the more recent PoC&D and LGM for 2013-2018.

The Generic ECD has not yet been updated to reflect this change in the PoC&D and LGM. It is the University's understanding that the LGM is not intended to be utilized, by itself, as a basis for a state agency to approve or deny funding when rendering applicable funding decisions. However, in the absence of ECD thresholds updated to be consistent with the more recent PoC&D, one way in which the Proposed Action has been evaluated for consistency with CEPA was by using the thresholds in the Generic ECD with the mapping of the previous LGM.

According to the 2005-2010 LGM, the Site of the Proposed Action predominantly lies within an area mapped as Neighborhood Conservation. However, a swath of mapped "Conservation Area" coincides with the area within the Site known to be mapped as the 100-year flood plain. As explained in Section 3.1.4 of this document, the FEMA mapping for this area is erroneous because it was not updated to reflect the piping of Eagleville Brook that was done prior to 1951. If not but for the erroneous floodplain mapping, the site would have been, in effect, entirely within a Neighborhood Conservation Area only. The proposed building size, 118,000 SF, exceeds the 100,000 SF Neighborhood Conservation Area threshold indicative that degree of impact is indeterminate, but could have significant environmental impacts. As such, the University has proceeded with the applicable processes specified under CEPA.

Funding for this project comes from UConn 2000, now known as Next Generation Connecticut (NextGenCT), pursuant to the provisions of CGS 10a-109 through 10a-109y and most recently amended by Public Act 13-233.

This Environment Impact Evaluation (EIE) has been prepared pursuant to the requirements of the CEPA as promulgated under Section 22a-1 to 22a-1h of the Connecticut General Statutes (CGS) and as amended by Public Act 02-121. These statutes require that State-sponsored actions that have the potential for causing negative environmental impact be

evaluated and disclosed. This document is being made available to government agencies, the public and any other interested parties for review and comment. The sponsoring agency for this EIE is the University of Connecticut (The University).

1.2 Purpose and Need

The purpose of the Proposed Action is to satisfy existing and future needs of students enrolled in the Science, Technology, Engineering and Math (STEM) program at the University. Construction of a building for this program was identified in the 2006 Campus Master Plan. The Proposed Action also would provide for much needed "swing space" for professors and students that may be temporarily displaced as a result of future STEM construction and renovation projects.

Furthermore, the NESB would be an important part of the Universities Next Generation (NextGenCT) Initiative. NextGenCT is the State of Connecticut's financial commitment that involves enhancing the existing STEM Program through renovation and new construction designed to attract the brightest students and staff available. NextGenCT aims to expand critical STEM activities at UConn and drive innovation, enhance job creation and create economic growth. With these key, targeted strategic investments in facilities, faculty and students, it is envisioned that UConn will be an increasingly vital STEM institution, fueling Connecticut's economy with new technologies, highly skilled graduates, new companies, patents, licenses, and high-wage STEM jobs.

The NextGenCT Program, and the STEM Program in particular, is a major initiative involving many new building and infrastructure improvement projects at the Storrs and other UConn campuses. The construction of the NESB, as an independent action, will result in some increase in student enrollment or staffing. For the purposes of this EIE, it is assumed that one third of the building's occupants will consist of new faculty and students who would not have otherwise been hired or enrolled if not but for this Proposed Action (e.g. two thirds of the buildings occupants will be faculty and students relocated from other existing facilities.). The University recognizes that NextGenCT has the potential for cumulative environmental impacts and, therefore, is committed to evaluating and mitigating for any significant environmental impacts that would result from the cumulative actions. The University has just begun preparing an updated Campus Master Plan Update which will be the subject of its own EIE. The Master Plan's CEPA process is expected to be initiated with public scoping in 2014 and publication of the EIE in 2015. The cumulative impacts of this project and other projects envisioned as part of the Master Plan will be evaluated at that time.

1.3 Description of the Proposed Action

The Proposed Action is the construction and operation of a New Engineering & Science Building (NESB) at the University of Connecticut Storrs Campus in Mansfield, CT. The NESB would be an engineering and interdisciplinary science lab building for bioengineering,

computer simulation, chemical engineering and other sciences, designed to foster collaboration between the fields of research. The NESB would be an 118,000± square foot (SF), 5-story structure (Figure 1), with the majority of the space devoted to laboratories. Specific building elements are summarized below:

- Five (5) floors of laboratories, a basement and a mechanical penthouse consisting of;
    - One (1) floor of Computational Science, One (1) Floor for BioEngineering, One (1) Floor for Chemical Engineering and two (2) floors for Life Sciences all with open design;
- Areas for shared core support facilities, including imaging, glass wash, storage, fume hoods (except on chemistry floor), optical lab, tissue culture, water lab, virtual reality lab, cyber physics lab, and ITAR controlled lab; and,
- Meeting rooms, shared desk/workstation spaces, vending machine area, and building infrastructure support areas.

Occupancy of the NESB would consist of approximately 375 lab seats within 50 lab groups, and up to 175 dry desks.

The preferred Site for the NESB is the footprint of the existing Old Central Warehouse (OCW) located between Glenbrook Road and North Eagleville Road in the Research Neighborhood portion of the Storrs Campus (Figure 2). The Site is bounded to the south by the Hilda May Williams Student Health Services Building (WSH) and Central Utility Plant (CUP), to the west by the Pharmacy/Biology Building (PBB), to the north by the Pathobiology Building (PB), and to the east by the Chemistry Building (CHM). These structures form a quadrangle (referred to as the Quad) that will ***not*** be renovated as part of the Proposed Action. Future landscape improvements include tree plantings, pavement/walkway replacement, new lighting and seating (Figure 3) in the immediate vicinity of the proposed building.

The NESB would be served by the adjacent CUP for electrical, heating and cooling. Stormwater and sanitary sewage generated from the site will be directed to the existing utilities at or near the Site. There will be no direct vehicular access to the Site, except for delivery vehicles; therefore there would be no parking provided except for service vehicles. A concrete ramp and loading area would be constructed on the south side of the building for material deliveries. A retaining wall would be constructed along the south side to compensate for grade changes. The existing 30 kilowatt (kW) liquefied petroleum gas (LPG) generator used for the adjacent Student Health Services Building during emergencies will be replaced with a 150 kW mobile diesel generator.

The total estimated area of the project is 2.1 acres.

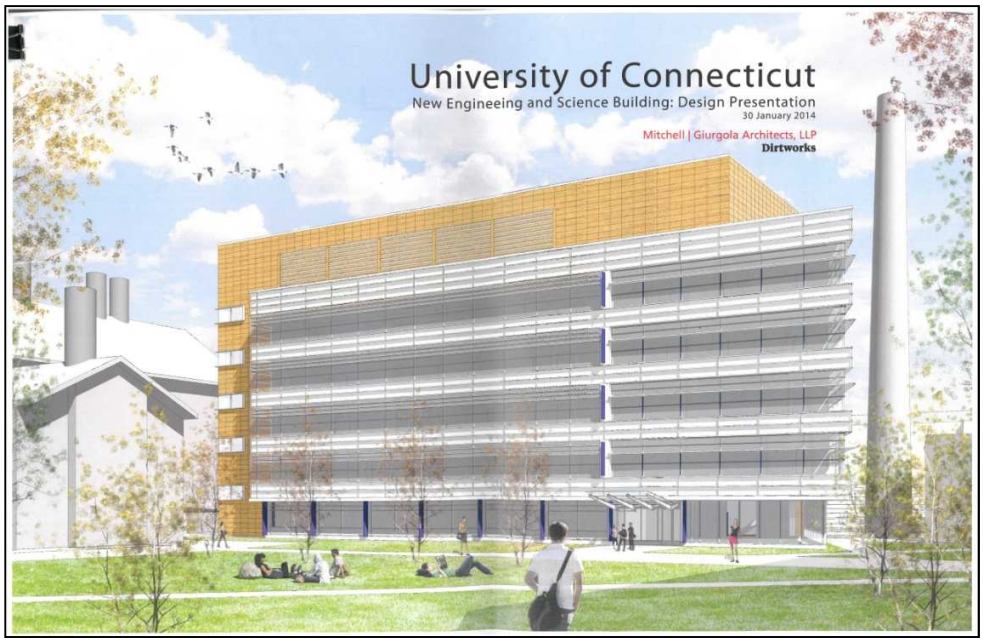

FIGURE 1. RENDERING OF PROPOSED NESB LOOKING SOUTHEAST

As required by Connecticut General Statute (CGS) Section 16a-38K, any new construction of a state facility that is projected to cost $5 million or more, or renovation of a state facility that is projected to cost $2 million or more, must comply with or exceed compliance with the silver building rating of the Leadership in Energy and Environmental Design's (LEED®) rating system for new commercial construction and major renovation projects, as established by the United States Green Building Council (USGBC), or an equivalent standard. This project would exceed the $5 million threshold and, therefore, will achieve the LEED® Silver standard at a minimum. High Performance Building standards will also be met.

The OCW is a 2-story brick/concrete structure that has historically been used for the storage of office and related materials. This building is slated for demolition regardless of whether the NESB is constructed at this location. The University replaced the function and use of the OCW in a newer Central Warehouse facility built in the 1990s. Since that time, there has been no material stored at the OCW. The OCW demolition is not part of the Proposed Action. The University is proposing to complete construction of the NESB and associated site improvements in time for the Spring 2017 semester. The estimated project cost at this time is $91.3 million. Approximately $62.5 million of funding for this project had been included in UConn2000 legislation prior to NextGenCT; approximately $30 million of the total funds authorized by the NextGenCT legislation has also been allocated to the NESB project's budget.

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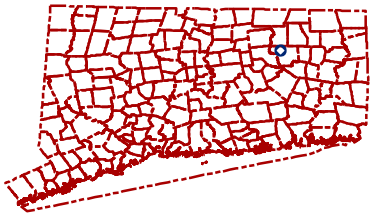


Locus Map

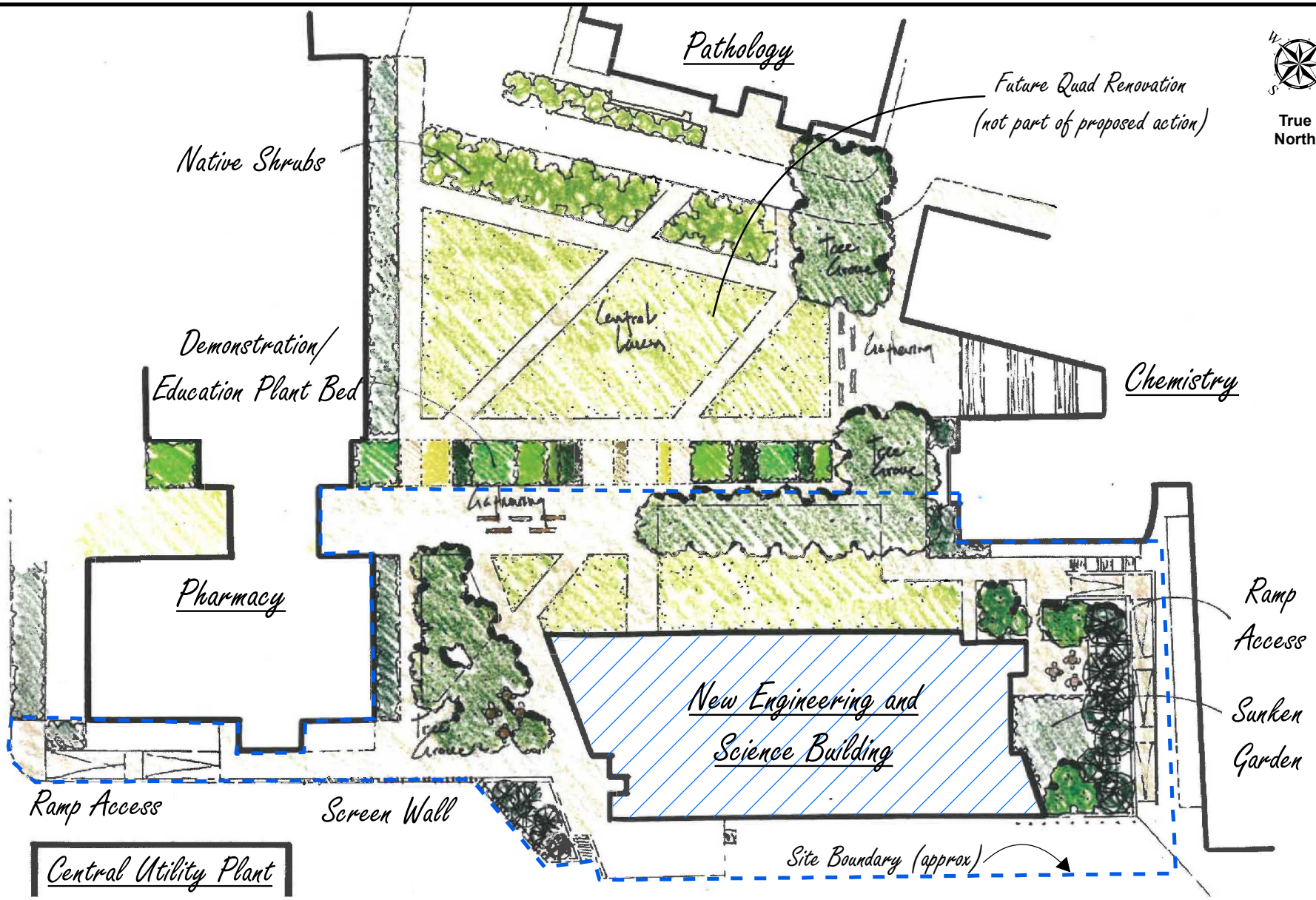
New Engineering & Science Building
University of Connecticut
Glenbrook Rd.
Storrs, Connecticut

BASE MAP: Bing Maps 2014

Project Location information obtained from Mitchell Giurgola Architects, LLP

GZA GeoEnvironmental, Inc.
Springfield, MA / Glastonbury, CT

Project No:	15.0166402.00
Drawn by:	KDC
Checked by:	PGD
Date:	March 2014
Figure No:	2



Plan by:	Concept Plan	Project No: 15.0166402.00
Dirtworks and Mitchell Giurgola Architects, LLP January 30, 2014	New Engineering and Science Building University of Connecticut Glenbrook Road Storrs, Connecticut	Drawn by: KDC Checked by: PGD Date: March 2014 Figure No: 3
GZA GeoEnvironmental, Inc. Springfield, MA / Hartford, CT		

2. ALTERNATIVES

CEPA requires that alternatives to the Proposed Action are considered by State agencies in their decision-making process. At a minimum, the No Action alternative and other sites that are controlled or available to the subject State agency need to be considered.

As stated in Section 1, the Proposed Action is the construction of a New Engineering and Science Building (NESB) and associated site improvements at the University's Storrs Campus. The NESB would be a 5-story structure encompassing approximately 118,000 gross square feet (GSF) of space. The University's preferred location is the footprint of the to-be-demolished Old Central Warehouse (OCW) in the Research Neighborhood portion of the campus.

Other alternatives are listed below and depicted in Figure 4:

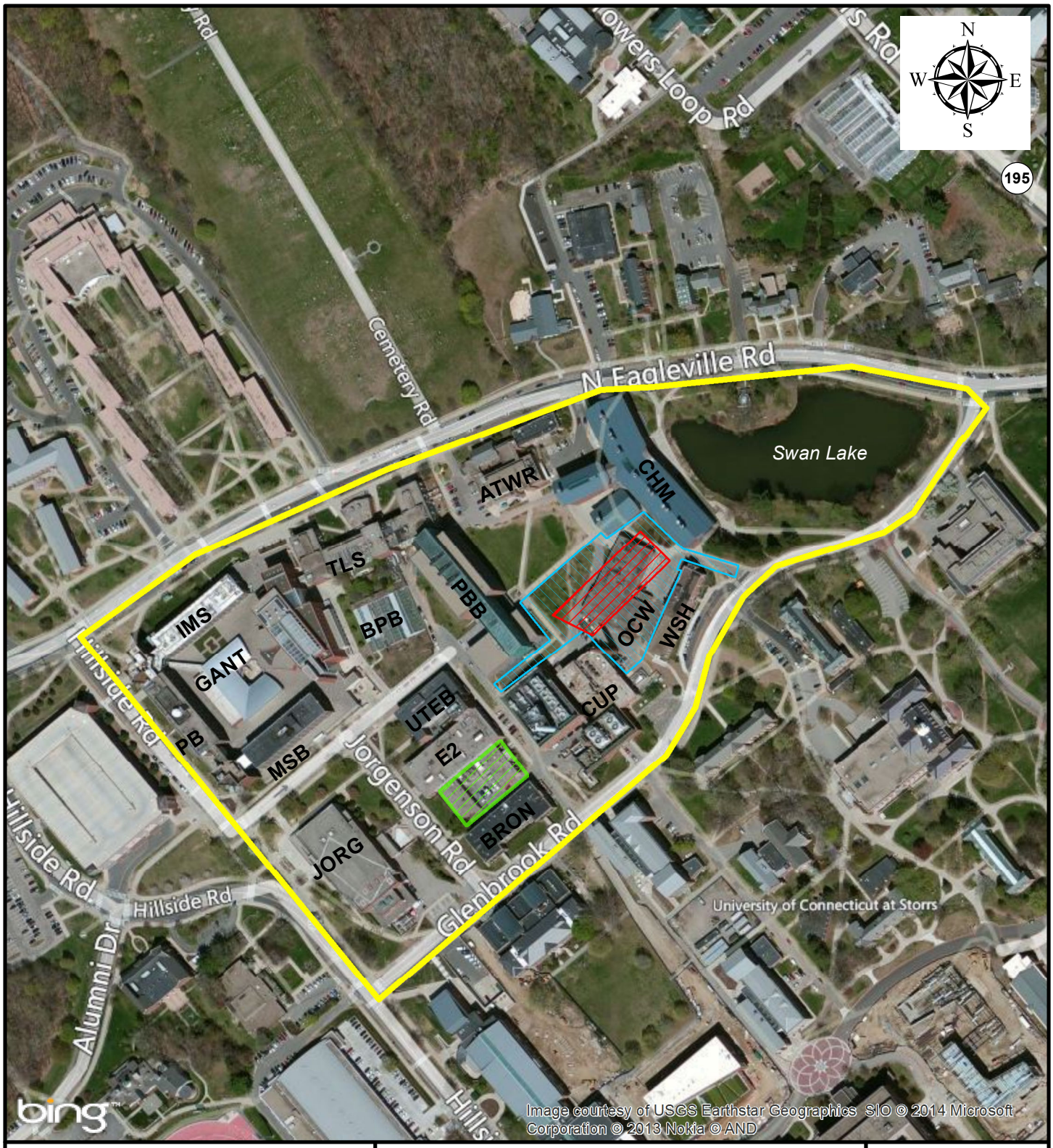
- Construction of new building between the Arthur B. Bronwell Building (Bronwell) and Engineering II (E2) buildings; and,
- No Action

<u>New Building Between Bronwell and E2</u>

In 2009, the University applied for, but did not receive, a C06 National Institute of Health (NIH) grant to construct a 4-story 55,000 SF building for STEM-related use adjacent to the Bronwell and E2 buildings. Figure 4 depicts this general location. Total project cost at that time was estimated to be $56 million, $15 million of which would have come from the NIH.

The southern legs of the E2 building (approximately 7,450 SF) and a paved loading/equipment area would need to be demolished and replaced with the new structure. At the time, this project was being targeted as an Interdisciplinary Center for Micro/Nano Engineering in Medicine with laboratories for: bio-imaging and biomaterials characterization; bioinformatics and bio-simulation; cellular and tissue engineering; and bio-mechatronic devices which are all STEM program uses.

To meet the current and future needs of the University's STEM initiative, a larger facility than what had been proposed in the NIH grant application would be needed. The NESB has a need for at least 100,000 GSF; the NIH grant application proposed 55,000 SF. Considering that approximately 7,450 SF of usable academic space would be lost with the demolition of a portion of the E2 building, than an additional 47,550 SF would be needed. If constructed within the footprint of the Bronwell/E2 alternative, the new building, would need to be an additional 4 stories (for a total of 8). This would be architecturally incongruous with this area of campus.



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Legend

- Preferred
- Site Boundary
- Bronwell/E2
- Research Neighborhood

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Alternatives

New Engineering & Science Building
University of Connecticut
Glenbrook Rd.
Storrs, Connecticut

BASE MAP: Bing Maps 2014

Building information obtained from 2012 UConn Campus Map

Project No: 15.0166402.00

Drawn by: KDC

Checked by: PGD

Date: March 2014

Figure No: 4

Comparison of Alternatives

Table 1 provides a general comparison of alternatives and their potential environmental impacts. The No Action alternative has been dismissed because it does not the project purpose which is to expand the capabilities of the University's STEM program.

The two remaining alternatives that are evaluated in this Alternatives section are the expansion of Bronwell/E2 Buildings and the Preferred Alternative, construction of a new building on the site of the OCW.

Figure 4 and Table 1 demonstrate that the Preferred Alternative would have less environmental impact than the expansion of the Bronwell/E2 buildings. The primary difference between the two alternatives is that the preferred alternative would not result in a significant change in impervious cover which has positive benefits to water quality within Eagleville Brook, which is listed as an impaired water by the State of Connecticut. Furthermore, the preferred alternative preserves and enhances open space in this area of the campus which is lacking in open space amenities (UConn, 2006).

TABLE 1. ENVIRONMENTAL IMPACT SUMMARY OF BUILDING ALTERNATIVES

Environmental Element	Bronwell/E2 Expansion	Preferred Alternative OCW Site
Climate, Topography, Geology & Soils	Disturbance of fill soils, grading dependent on site	Disturbance of fill soils, minor grading required
Surface and Groundwater	No significant change in impervious cover.	Reduction in impervious cover of 3,000 SF± (lawn/garden). Shallow groundwater to be collected and discharged to Eagleville Brook.
Wetlands	No wetland on or near Site.	No wetlands on or near Site.
Floodplains	Technically within 100-year floodplain but Eagleville Brook piped underground.	Technically within 100-year floodplain but Eagleville Brook piped underground.
Flora and Fauna	No significant impact. Area densely developed.	No significant impact. Area densely developed.
State Protected Species	None at or near site.	None at or near site
Air Quality	No significant impact. Tie into existing CUP. Would not necessitate replacement of Student Health Services Generator.	No significant impact. Tie into existing CUP. Student Health Services Generator to be replaced with a larger unit.
Noise & Vibration	Temporary increase during construction.	Temporary increase during construction.

Environmental Element	Bronwell/E2 Expansion	Preferred Alternative OCW Site
Light/Shadow	Undetermined, but to construct a facility consistent with the purpose and need within the available footprint would require and 8-story building, presumably with significant shadow impact.	Slight increase in shadow within Quad.
Traffic and Transportation	No significant traffic generation, Delivery vehicles only.	No significant traffic generation, Delivery vehicles only.
Water Supply	If constructed to be consistent with purpose and need, approximately 1,600 GPD in additional demand from new building, new faculty and increased enrollment.	Approximately 1,600 GPD in additional demand from NESB, new faculty and increased enrollment.
Stormwater	No significant change in impervious area	Approximately 3,000 SF less of impervious area compared to existing
Utilities	Utilities present at or near site.	Utilities present at or near site.
Solid & Hazardous Waste	No significant increase but some additional hazardous waste will be generated from labs.	No significant increase but some additional hazardous waste will be generated from labs.
Public Health & Safety	No significant change in emergency service needs.	No significant change in emergency service needs.
Aesthetics	Undetermined but to construct a facility consistent with the purpose and need within the available footprint would require and 8-story building, presumably with significant aesthetic impacts.	Improved aesthetic of Quad area and removal of dated OCW.
Cultural Resources	Archaeological or historical sites not likely impacted.	No cultural resources affected.
Socioeconomics	Positive economic benefit.	Positive economic benefit.
Consistency with Plans	Proposed land use is consistent with State Plan of Conservation & Development. 2006 Master Plan did not include this as a project location.	Proposed land use is consistent with 2006 Master Plan and State Plan of Conservation and Development.

3. EXISTING ENVIRONMENT, ANALYSIS OF IMPACTS AND MITIGATION

The following section describes the existing conditions and analyzes the potential environmental impacts to the natural, physical and socioeconomic environment that would occur as a result of the Proposed Action. Where impacts are deemed potentially significant, mitigation measures, including various Best Management Practices (BMPs) are described.

The preferred alternative for site development is a location within the Research Neighborhood of the Storrs Campus that is currently occupied by the Old Central Warehouse (OCW), but is slated for demolition.

3.1 Natural Environment

3.1.1 Climate, Topography, Geology & Soils

Existing Conditions

The Site lies within the northeast temperature climatic region. The Connecticut State Climate Center (CSCC) monitors and reports climate data at Storrs, CT as shown in Table 2. Storrs and the region experience a wide range of temperatures and moderate levels of precipitation. Heating demands are greater than cooling demands as evidenced by the difference in heating and cooling degree days.

Based on a review of the U.S. Geologic Survey Map for 2012 which includes coverage of the Site, topography is generally level across the Site at an elevation of approximately 590 NAVD 88. Topography in the site vicinity generally slopes moderately from northwest to southeast in the direction of Swan Lake.

According to data obtained from the DEEP Soil Survey Geographic (SSUR GO) database for the State of Connecticut (DEEP, NRCS, 2011), the bedrock in the Site area is comprised of Hebron Gneiss (SOh) (Figure 5), which is described as interlayered dark-gray schist and greenish gray, fine- to medium-grained calc-silicate gneiss. Surficial materials in the Site area are comprised of Till and Thick Till (glacial ice laid deposits, Late Wisconsinan, Illlinoian), as shown in Figure 6. Soil in the Site area is comprised of Udorthents – Urban land complex (Figure 7), which is described as “parent material – urban influenced”.

TABLE 2. CLIMATIC FEATURES OF STORRS, CT, 1981-2010

Parameter	Data
Mean annual temperature	48.9 ^{o} F
Warmest month average temperature (June)	70.8 ^{o} F
Coldest month average temperature (January)	17.6 ^{o} F
Annual heating degree days	6,282
Annual cooling degree days	529
Average annual precipitation	49.6”
Average seasonal snowfall	31.8 ^{o} F

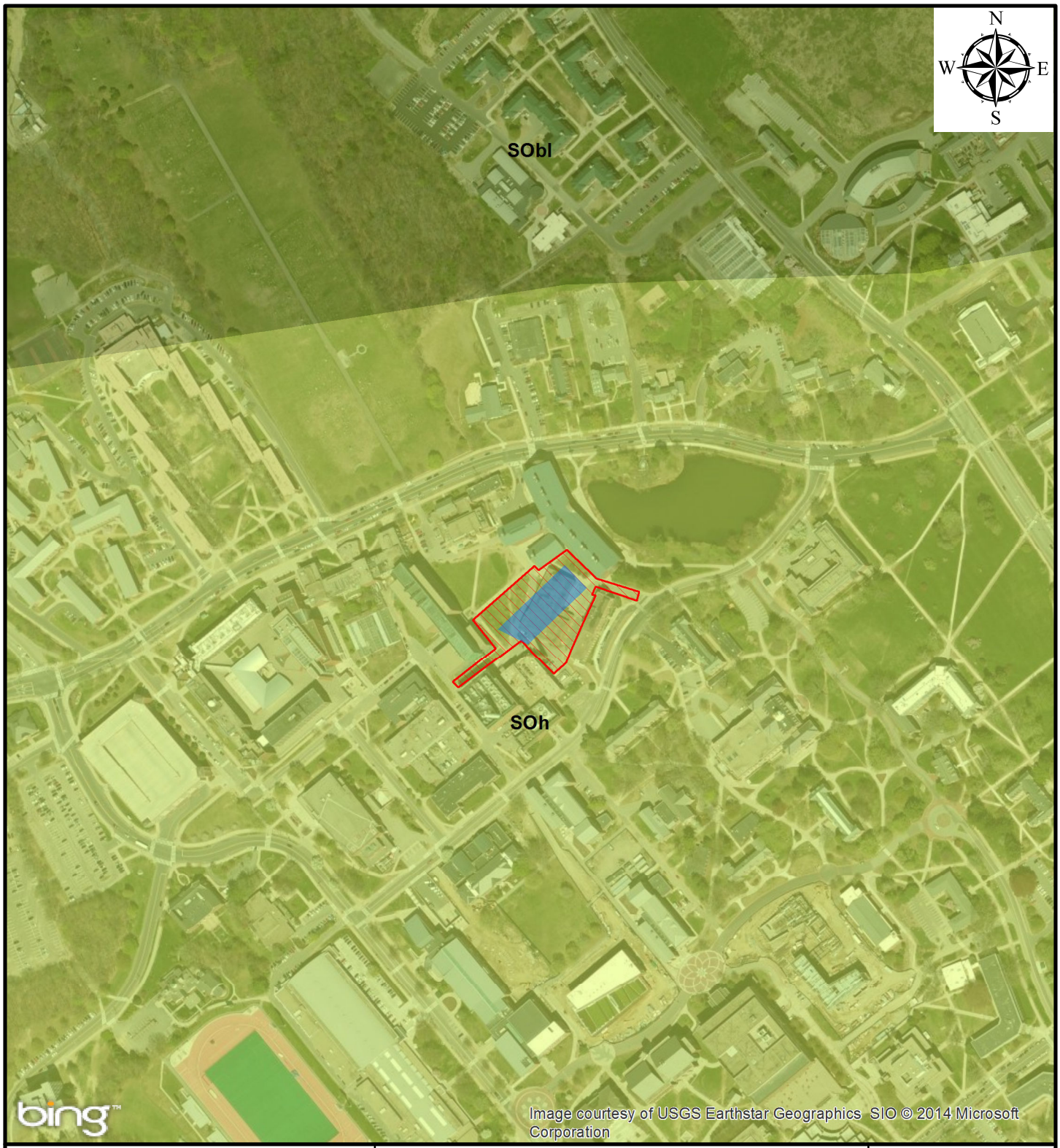
Source: Connecticut State Climate Center website (http://www.canr.uconn.edu/nrme/cscc/Storrs.htm) accessed on 3/21/14

A series of borings were conducted at the Site in order to characterize the subsurface conditions of the Site (Haley & Aldrich, 2014). A total of ten borings were driven within and near the footprint of the proposed building location; however, no borings were done inside the OCW. The general subsurface stratigraphy is as follows, from highest to lowest layers:

- Cultural fill
- alluvial deposits
- glaciofluvial deposits
- glacial till
- weathered bedrock
- sound bedrock

Impacts

Based upon a 2014 report by Haley & Aldrich, “construction of the new building will likely require significant cuts due to the existing topography” (Haley & Aldrich, 2014). This would occur in the south and southeastern portions of the Site, near the Student Health Services building. Total excavation depth is estimated to range from 18 to 26 feet. Blasting is not recommended due to the proximity of vibration-sensitive laboratory equipment in adjacent buildings.



400 200 0 400 Feet

Bedrock Geology

New Engineering & Science Building
University of Connecticut
Glenbrook Rd.
Storrs, Connecticut

BASE MAP: BING MAPS 2014

Data obtained from Connecticut Department of Energy and Environmental Protection.

Legend

- NESB Footprint (approx)
- Site Boundary
- SOh: Hebron Gneiss
- SObl: Lower Member of Bigelow Brook Formation

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Checked by:	PGD
Date:	March 2014
Figure No:	5

400 200 0 400 Feet

Legend

- NESB Footprint (approx)
- Site Boundary
- T: Till
- TT: Thick Till

Surficial Geology

New Engineering & Science Building
University of Connecticut
Glenbrook Rd.
Storrs, Connecticut

BASE MAP: BING MAPS 2014

Data obtained from Connecticut Department of Energy and Environmental Protection.

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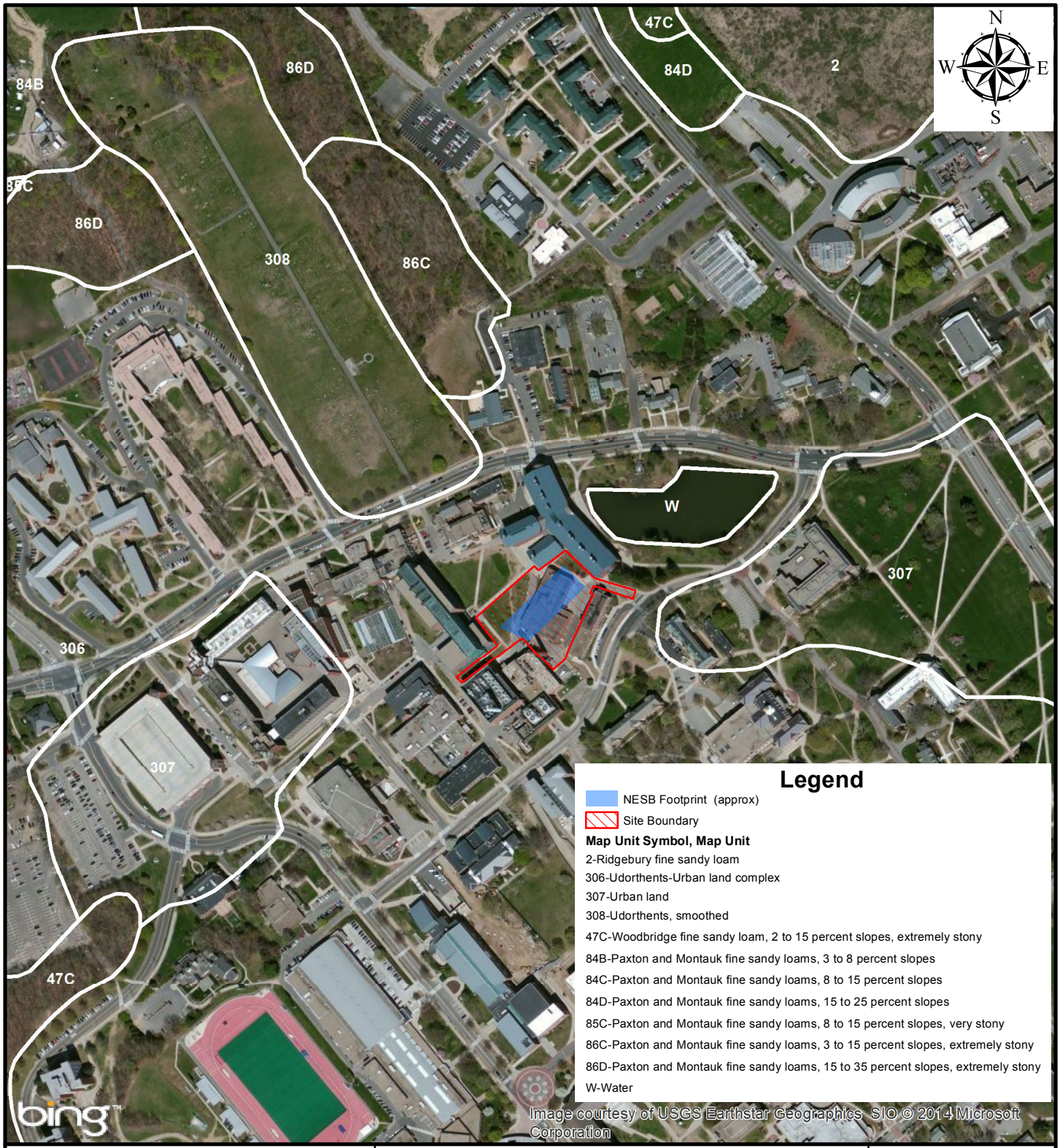
Project No: 15.0166402.00

Drawn by: KDC

Checked by: PGD

Date: March 2014

Figure No: 6



400 200 0 400 Feet

Soil Classification

New Engineering & Science Building
University of Connecticut
Glenbrook Rd.
Storrs, Connecticut

BASE MAP: BING MAPS 2014

Data obtained from Connecticut Department of Energy and Environmental Protection.

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Date: March 2014

Figure No: 7

Mitigation

In Haley & Aldrich (2014) recommendations are made for the management of soils based with additional characterization to follow. This includes the off-Site disposition of fill materials, because their physical properties are unsuitable for reuse on site.

Excavation and grading will be managed through proper erosion and sediment control as required by the DEEP Construction General Permit to minimize erosion and sedimentation. Excavated soils will be reused on site to the maximum extent practicable.

As recommended by Haley & Aldrich (2014), an engineer or technician qualified by training and experience will perform full-time field observations of the geotechnical aspects of construction.

3.1.2 Surface and Groundwater Resources

Existing Conditions

Surface Water

There are no surface water bodies present within Site boundaries. The surface water body closest to the Site is Swan Lake, located approximately 130 feet northeast of the Site. According to a CT DEEP Water Quality Classifications Map dated November 2013, Swan Lake is a Class A surface water body (DEEP, 2013). Class A designated uses are habitat for fish and other aquatic life and wildlife; potential drinking water supplies; recreation; navigation; and water supply for industry and agriculture.

An underground piped section of Eagleville Brook runs beneath the Quad and near the Site boundaries. The brook is located within the Willimantic sub-regional/regional basin, and within the Thames major basin.

Eagleville Brook originates approximately 3,000 feet northeast of the Site and flows as an open channel to a point approximately 500 feet North Eagleville Road (Figure 8). From there it is contained within an underground pipe that directs flow under the Pharmacy Building, along the utility tunnel, and then continues in a westerly direction under multiple science buildings. It is then redirected in a northerly direction, around the North Garage, where it transitions to a 60-inch diameter pipe, and then flows westerly along North Eagleville Road to its outfall at Eagleville Brook near the Dairy Mart according to the University's Storm System mapping. The brook was piped through the campus sometime before 1951 (see Section 3.1.4).

Feet
500 250 0 500 1,000

Legend

- Piped Brook Segment
- NESB Footprint (approx.)
- Site Boundary
- Perennial Watercourse
- Shore
- Intermittent Watercourse
- Dam
- Water
- Sewage Pond
- Water Tank

Surface Water Quality

- A
- AA
- A
- AA

Ground Water Quality

- GA
- GAA, GAAs
- GB
- GA, GAA May be impaired

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Water Resources

New Engineering and Science Building
University of Connecticut
Glenbrook Road
Storrs, Connecticut

BASE MAP: Bing Maps 2014

Data obtained from University of Connectiuct Map and Geographic Information Center; Department of Energy and Environmental Protection; Piped Brook Segment data digitized from "University of Connecticut Storm Plan" Jan 2010.

Project No: 15.0166402.00

Drawn by: KDC

Checked by: PGD

Date: March 2014

Figure No: 8

According to the DEEP's Willimantic River Watershed Summary, a 1.67-mile portion of Eagleville Brook is considered "impaired." This includes the portion on campus. The Water Quality Classification goal for Eagleville Brook is "A" meaning it would be "Designated Use Fully Supported" for Fish Consumption and "Designated Use Not Supported" for both Aquatic Life and Recreation (DEEP, 2012c).

According to the Willimantic River Watershed Summary (DEEP 2012c) the potential bacteria sources in the Willimantic watershed and specific to the Eagleville Brook include permit sources, illicit discharges, failing septic systems, agricultural activities, stormwater runoff, nuisance wildlife/pets, and other.

According to a study completed by the Connecticut DEEP entitled *A Total Maximum Daily Load Analysis for Eagleville Brook, Mansfield, CT* published February 8, 2007 (DEEP, 2007):

> "Eagleville Brook was included on the *2004 List of Connecticut Waterbodies Not Meeting Water Quality Standards* (2004 *List*) due to exceedences of the aquatic life criteria contained within Connecticut's *Water Quality Standards* (WQS). Under section 303(d) of the Federal Clean Water Act (CWA), states are required to develop TMDLs for waters impaired by pollutants for which technology-based controls are insufficient to achieve water quality standards."

According to this same report, the TMDL Target for Eagleville Brook is 12% Impervious Cover (11% + 1% margin of safety) with goal of >59% IC reduction (DEEP, 2007). The document states:

> "1) reducing IC where practical, 2) disconnecting IC from the surface waterbody, 3) minimizing additional disturbance to maintain existing natural buffering capacity, and 4) installing engineered BMPs to reduce the impact of IC on receiving water hydrology and water quality."

Eagleville Brook is also included on the Statewide TMDL for bacteria. A 1.67 mile segment of the brook has been declared impaired and does not meet aquatic life and recreation standards. This determination was based on sampling data within the brook near F-lot by DEEP. The goal of the TMDL is to reduce bacterial inputs from stormwater runoff, agriculture, wastewater treatment and illicit discharges.

Groundwater

Based on Site topography, groundwater in the Site area is generally level. However, localized flow direction in the area of the Site may vary as a result of underground utilities, septic systems, or heterogeneous subsurface conditions.

Haley & Aldrich provided a preliminary estimate of groundwater elevations at the Site ranging from 11.6 to 24 feet below ground level (Haley & Aldrich, 2014). The proposed depth of the NESB's lowest level (which will be deeper than that of the OCW) will be within the range of groundwater elevations, necessitating that groundwater be collected and discharged to

prevent infiltration through the basement walls and floor. The intended discharge location for the collected groundwater is the storm sewer system that contributes to Eagleville Brook.

According to the DEEP *Environmental GIS Data for Connecticut,* groundwater beneath the Site and in the vicinity is designated as Class GA, GAA May Be Impaired, which indicates that the groundwater may not be meeting current standards (DEEP, 2011b).

The Site is currently serviced by the University's water supply system for potable water and fire protection needs. The source of this water is the Fenton River Wellfield and the Willimantic Wellfield. The Site is not in the Fenton River watershed and is not in the public water supply watershed for Windham Waterworks.

Further information on the University's existing and planned water supply system upgrades is presented in Section 3.2.1.

Impacts

In general, the Project will have minimal impact to surface and groundwater resources at and near the Site. Sewage generated from the Site will be conveyed to the nearby WPCF where it will be treated and discharged to the Willimantic River immediately downstream of the Eagleville Pond impoundment. Stormwater will be used to recharge groundwater where practicable to avoid potential erosion and sedimentation and to achieve a water balance similar to what currently exists at the Site.

In the event that stormwater cannot be recharged to the ground, it will be directed to the piped storm sewer system that discharges to the culverted section of Eagleville Brook.

Groundwater that will be directed away from the building foundation and discharged to the storm system which feeds Eagleville Brook will not significantly affect the overall hydrology in the area and will provide a nominal increase in base flow to Eagleville Brook.

Mitigation

There will be no significant negative impact to surface and groundwater resources in the project area. There is expected to be a slight positive impact to water resources resulting from an decrease in impervious cover of approximately 3,000 SF; therefore no mitigation is warranted. The net reduction in impervious cover is expected to reduce the average annual runoff contribution to Eagleville which more than negates the potential impact of the groundwater contribution to the storm system.

3.1.3 Toxic and Hazardous Materials

Existing Conditions

There are currently no toxic or hazardous materials generated or handled at the Site; however, there are some unsuitable subsurface materials that would be encountered during construction.

Soil and groundwater testing at the Site was recently conducted for the purposes of preliminarily characterizing the geotechnical and chemical nature of subsurface materials (Haley & Aldrich, 2014). The report stated that there were several soil samples that contained detected levels of semi-volatile organic compounds (SVOC). Of the 10 samples taken, however, only two contained SVOC levels above the Remediation Standard Regulation (RSR) levels. The groundwater sampled as part of the study revealed no elevated levels of contaminants.

Impacts

Soils that may be unsuitable for reuse due to their physical or chemical nature will likely be encountered during construction. The operation of the NESB will result in generation of hazardous waste from laboratory equipment, supplies and materials. Such hazardous waste generation will be managed in accordance with current practices managed and carried out by the University's Department of Environmental Health and Safety (EH&S) department. Hazardous waste generated from the NESB will be transported to the new Main Accumulation Area (MAA) to be constructed on North Hillside Road. This facility will be in operation prior to the opening of the NESB. The current MAA is located off Horsebarn Hill Road.

Mitigation

Any impacts to soil and/or groundwater will be managed during the construction of the NESB. Additional soil testing will be done to more definitively characterize their suitability for reuse on Site. Soils that are determined to be unsuitable will be removed off-site to an appropriate location for disposal.

3.1.4 Wetlands and Floodplains

Existing Conditions

There are no wetlands on or adjacent to the Site. The nearest wetland is associated with Swan Lake, approximately 130 feet east of the Site.

The Site is not within an active floodplain, however; according to mapping from the Federal Emergency Management Agency (FEMA), much of the site is within the 1% annual chance floodplain, commonly referred to as the 100-year floodplain. FEMA has been updating its Flood Insurance Maps (FIRM) nationwide and most of Connecticut is complete; however, this area of the State has not yet been updated.

The latest FIRM map for the Storrs area was completed in 1981 (Figure 9). The mapping, however, is erroneous in the area of the preferred Site because it assumes that Eagleville Brook is an open watercourse when, in reality, it is contained in an underground 48” pipe as shown in Figure 8. A review of historical aerial photographs from 1934, 1941, 1951, 1960, 1970, 1974,

1980, 1986, 1991, 1995, 1997, 2005, 2006, 2008, 2010, and 2012 indicates that the brook was placed within an underground pipe sometime before 1951, prior to the enactment of laws and regulations governing floodplains. It is interesting to note that the USGS topographic maps post-1951 were not correctly updated to reflect this change. In all likelihood, FEMA used these maps for their FIRM updates, thus explaining the erroneous floodplain mapping on the Site.

Impacts

The Proposed Action will not significantly impact wetlands or watercourses on the Site or within the watershed. There will be a small decrease in IC of at least 3,000 SF within the Eagleville Brook watershed which is a positive contribution to the TMDLs' goals of decreasing IC and bacteria loadings within the watershed.

Mitigation

The Project will not adversely impact wetlands or watercourses on the Site or within the watershed, therefore mitigation is not warranted. Nevertheless, the University will apply to DEEP for Flood Management Certification because the project technically includes work within a mapped floodplain.

3.1.5 Flora and Fauna

Existing Conditions

Flora within the Site is limited to some planted deciduous trees and managed lawn. The Site is predominantly by a building, paved walkways and parking areas.

Wildlife habitat at and near the Site is limited as there are no significant food sources of habitats. Fauna at the Site is expected to be typical of an urban setting and will likely consist of small mammals and rodents such as raccoon (*Procyon lotor*), Virginia opossum (*Didelphis virginianus*), and striped skunk (*Mephitus mephitus*) during the night. Eastern grey squirrels (*Sciurus virginianus*) and the Eastern chipmunk (*Tamias striatus*) would be expected at the site as well.

Avifauna will likely be limited to typical urban generalists such as blue jays (*Cyanocitta cristata*), American crow (*Corvus brachyrhynchos*), sparrows (*Emberizidae* or *Passeridae*), Northern cardinal (*Cardinalis cardinalis*), and American robin (*Turdus migratorius*).

Impacts:

This project will result in a small net positive impact to flora and fauna in the project area. Current plans call for a higher density and diversity of vegetation around the perimeter than what currently exists. This increase in vegetation will not likely significantly improve the faunal richness or diversity in at the Site because the area will still retain its urban campus characteristics.

1,000 500 0 1,000 Feet

LEGEND

- Site Boundary
- NESB Building Footprint (approx)
- 100-Year Floodzone

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Flood Insurance Rate Map (FIRM)

New Engineering and Science Building
University of Connecticut
Glenbrook Road
Storrs, Connecticut

BASE MAP: Bing Maps 2014

Data obtained from University of Connectiuct Map and Geographic Information Center. FEMA Flood layer: created by FEMA by scanning current Flood Insurance Rate Maps. Community-Panel Number 090128 0005 C Effective Date: 01/02/1981

Project No: 15.0166402.00

Drawn by: KDC

Checked by: PGD

Date: March 2014

Figure No: 9

Mitigation

There would be no significant negative impact to flora and fauna, therefore mitigation is not warranted.

3.1.6 State Protected Species

Existing Conditions

Rare species are those species included on the DEEP list of "Connecticut's Endangered, Threatened and Special Concern Species" (DEEP, 2010), which are defined by Public Act 89-224 as follows:

"Endangered Species" (E) means any native species documented by biological research and inventory to be in danger of extirpation throughout all or a significant portion of its range within the state and to have no more than five occurrences in the state, and any species determined to be an 'endangered species' pursuant to the federal Endangered Species Act".

"Threatened Species" (T) means any native species documented by biological research and inventory to be likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range within the state and to have no more than nine occurrences in the state, and any species determined to be a "threatened species" pursuant to the federal Endangered Species Act, except for such species determined by the Commissioner to be endangered in accordance with Section 4 of the Act".

"Species of Special Concern" (SC) means any native plant species or any native non-harvested wildlife species documented by scientific research and inventory to have a naturally restricted range or habitat in the state, to be at a low population level, to be in such high demand by man that its unregulated taking would be detrimental to the conservation of its population or has been extirpated from the state".

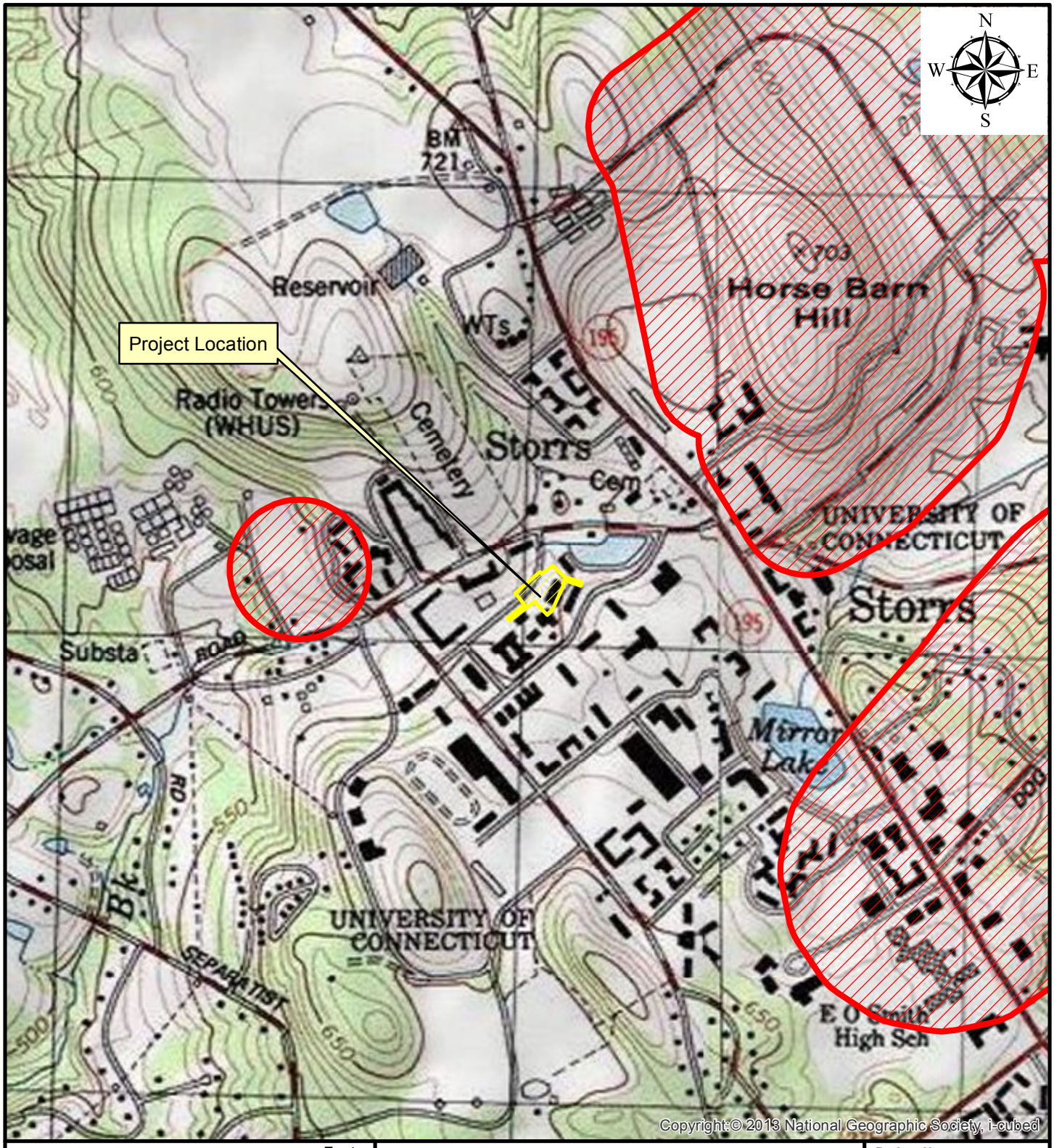
State and federally-protected species that have been sighted, reported and confirmed are reported to the DEEP Wildlife Division which manages the Natural Diversity Data Base (NDDB). According to the latest NDDB GIS information, there are no known rare species or their habitats located in or adjacent to the Site (Figure 10).

Impacts

There are no expected impacts upon rare species.

Mitigation

This project will not negatively impact rare species or their habitats, therefore no mitigation is warranted.



1,000 500 0 1,000 Feet

LEGEND

- NDDB December 2013
- Site Boundary

GZA GeoEnvironmental, Inc.
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NDDB Map

New Engineering & Science Building
University of Connecticut
Glenbrook Rd.
Storrs, Connecticut

BASE MAP: USA Topo Maps, 2013 National Geographic Society, i-cubed
USGS Topo Quads: Coventry & Spring Hill 1999

Data obtained from Connecticut Department of Enervy and Environmental Protection. Natural Diversity Database layer published by Connecticut Geological and Natural History Survey; ESRI ArcGIS Web Service

Project No: 15.0166402.00

Drawn by: KDC

Checked by: PGD

Date: March 2014

Figure No: 10

3.1.7 Air Quality

Existing Conditions

Under the federal Clean Air Act (CAA) and its associated amendments (42 [United States Code] USC 7401 et seq.) the federal government regulates six "criteria" air pollutants through the EPA:

- nitrogen oxides (NO_x),
- sulfur dioxide (SO_2),
- lead (Pb),
- carbon monoxide (CO),
- particulate matter with a diameter of 10 microns or less (PM_{10}) and 2.5 microns or less ($PM_{2.5}$), and
- ozone (O_3).

According to the EPA *Green Book*, which utilizes the Air Monitoring Network Results, the entire State of Connecticut was in attainment for CO, Pb, nitrogen dioxide (NO_2), and SO_2 (EPA, 2012). The following counties were listed for nonattainment of the 8-hour ozone standard in 2008: Hartford, Litchfield, New London, Tolland, and Windham.

Under the Clean Air Act (CAA) Amendments of 1990, each state was required to develop a Title V operating permit program to permit major sources of air pollution and other sources subject to federal CAA requirements. The University currently holds an active Title V permit (DEEP, 2012b). This permit is currently in the process of being renewed which will be valid through 2019. The University also holds twelve current DEEP New Source Review Permits (Title 22a), and four DEEP Fuel Burning Equipment Registrations Certificates, the primary ones being associated with the Central Utility Plant (CUP), adjacent to the Site.

The NESB will have state of the art laboratory equipment. As an end-use function of various types of laboratory equipment, lab hoods will be necessary. These hoods are designed to vent indoor emissions through the roof of the building thereby dispersing air emissions as far away as practicable from areas of foot traffic. Under Title V, the EPA considers vent hood emissions to be an "Insignificant Activity" and therefore not subject to further review under the Title V permit program.

There will be no new regulated stationary sources installed for the use by the proposed NESB. Heat in the form of steam, electrical power, and emergency electrical power will be provided by the University's existing, permitted stationary sources at the CUP.

However, the Proposed Action will necessitate replacement of the existing emergency generator used by the adjacent Student Health Services Building. The location of the existing generator is within the limits of construction for NESB. The Student Health Services Building's existing generator is a 1960's–era 30 kW unit with an underground liquefied

petroleum gas (LPG) tank. The Proposed Action consists of outfitting the Student Health Services Building with electrical connections capable of connecting to a mobile generator. A mobile 150 kW, diesel generator equipped with its own aboveground belly tank will be stationed at the Student Health Services Building to provide emergency power to this building for the foreseeable future.

Impacts

Potential air quality impacts associated with the Proposed Action would occur as a result of construction activities. During construction, stationary source pollutants will be generated by the fuel burning equipment including generators and stationary construction equipment. Mobile sources of air pollution would be associated with construction vehicles such as graders, dump trucks, and cranes. Construction-related air quality impacts can be caused by exhaust emissions from construction equipment and fugitive dust (e.g., wind-blown dust from the construction area), but would be temporary. Due to the adjacent land uses at all three sites, air quality impacts from the construction phase would be mitigated as described below.

There will be no fuel burning emissions sources from the NESB building. Heating, cooling and electrical needs of the NESB will be provided by the CUP located proximal to the Site. Electricity and heat (in the form of steam) is provided by the CUP's heat recovery steam generator (HRSG) turbines (as a component of producing energy for the campus) and boilers. Chilled water is produced by the CUP's chillers that run on low pressure steam (from the HRSGs) and natural gas-fired chillers.

Since NESB is a larger building than the OCW it would be replacing, a slight increase in overall demand for heat (in the form of steam) and cooling (in the form of chilled water) compared to existing conditions may be expected, but relative to how the CUP currently operations, the emissions from the CUP will not significantly increase as a result of the Proposed Action.

Replacing the Student Health Services emergency generator with a unit that can produce more power and operates using diesel rather than natural gas is expected to result in a slight increase of air emissions.

Mitigation

Construction work at the Site will adhere to the following measures, which would mitigate temporary air quality impacts during the construction period.

- All diesel-powered non-road construction equipment with engine horsepower ratings of 60 and above that are on the project or are assigned to the contract for a period in excess of 30 consecutive calendar days shall be retrofitted with emission control devices (oxidation catalysts, or similar retrofit equipment control technology);
- All motor vehicles and/or construction equipment (both on-highway and non-road) shall comply with all pertinent state and federal regulations relative to exhaust emission controls and safety;

- Idling of delivery and/or dump trucks or other diesel powered equipment shall be limited to three (3) minutes during non-active use in accordance with RCSA (Regulations of Connecticut Agencies) Section 22a-174- 18(b)(3)(C); and,
- Control of fugitive dust through BMPs shall be required. In addition to using vegetative cover over large areas of disturbed earth, water can be effective as a control measure against fugitive dust on construction sites if applied often enough. In necessary, solid fencing tall enough to keep dust from migrating offsite could be applied.

Construction work will be conducted to ensure that no harmful effects are caused to adjacent sensitive receptor sites, i.e. education buildings and the Student Health Services Building Diesel-powered engines shall be located away from fresh air intakes, air conditioners, and windows.

The University has indicated that the NESB will be designed to achieve LEED Silver® certification, at a minimum, which will require that certain requirements are met relative to energy and atmosphere. The building will be designed to exceed ASHRAE/IESNA Standard 90.1-2007 by at least 16%. The OCW was not constructed to any such standard. Any net increase in air emissions from the CUP as a result of the heating, electricity, and cooling demands of NESB will be mitigated in part by the energy efficiencies incorporated into the design of the NESB.

The replacement generator for the Student Health Services Buildings will be compliant with federal Tier 4 emissions. Emissions of nitrogen oxides are of particular concern in Connecticut because such emissions are precursors of ozone formation and the State of Connecticut is designated as nonattainment for ozone. It is expected that the 150 kW replacement generator will operate in the same manner as the existing 30 kW generator (in terms of annual hours of operation) and based on this assumption, the increase in nitrogen oxide emissions will be approximately 0.17 tons per year. This very small increase in emissions is considered to be insignificant.

3.1.8 Noise & Vibration

Existing Conditions

Federal noise regulations include the Noise Pollution Act of 1972, which placed the primary responsibility for noise control with state and local governments (United States General Services Administration or US GSA; 2005). The State regulates noise under Section 22a-69-1 to 22a-69-7.4 of the RCSA. These regulations focus on permanent stationary sources of noise that can be measured, controlled, and reduced using modern acoustical engineering. Stationary noise sources are defined as any building, structure, facility or installation which emits or may emit noise beyond the property line on which such source is located. Construction noise is exempt from the State noise regulations.

The unit of measure for sound (noise) is the decibel (dB). Because any particular sound is composed of many frequencies (pitches), it is important to consider the sound frequencies

that are received by humans. A method for weighting the frequency spectrum to more closely represent how humans hear and perceive noise is called A-weighting. This method gives less weight or emphasis to both the high and low frequency ends of the spectra where human response is weakest. A-weighting is widely accepted as an appropriate measure to describe the effects of environmental noise on humans. When a noise level is weighted with this method, its level is written as dBA.

Noise levels at the Site are typical of a densely developed college campus. The primary noise source at and near the Site is the CUP. Other noise sources include various steam lines and equipment from the adjacent educational building and motor vehicles along Glenbrook and North Eagleville Roads. During a site visit in March, 2014, it was generally noted that noise levels at the Site and in the Quad area are higher than in other more quiescent portions of the campus because of the nearby CUP. The presence of buildings surrounding the site likely inhibits sound transmission.

The nearest non-University land from the Site is a small commercial plaza on North Eagleville Road, west of Hillside Road. This land is located 0.3 miles from the Site. The nearest campus residential structures are the North Campus Residence Halls approximately 700 feet northwest of the site across North Eagleville Road.

Impacts

The operation of the NESB will not result in a significant increase in noise in and around the Site because there will be no significant noise generating equipment. The only potential noise sources will be the vent hoods to be located on the roof, over 60 feet above ground level.

During construction there will be temporary increase in noise levels. Table 3 depicts typical noise emission levels for typical construction equipment. These levels are measured directly at the source and do not account for natural noise attenuation that occurs with distance from the source nor does it account for sound absorption from buildings and earth.

TABLE 3. TYPICAL NOISE EMISSIONS FROM CONSTRUCTION EQUIPMENT

Equipment Item	Noise Level (dBA)	Equipment Item	Noise Level (dBA)
Pneumatic chip hammer	103 - 113	Earth tamper	90 – 96
Jackhammer	102 - 111	Crane	90 – 96
Concrete joint cutter	99 - 102	Hammer	87 – 95
Portable saw	88 - 102	Earthmover	87 – 94
Stud welder	101	Front-end loader	86 – 94
Bulldozer	93 - 96	Backhoe	84 – 93

[1]Source: Center to Protect Worker's Rights (CPWR), 2003. Available at: http://www.cpwr.com/hazpdfs/kfnoise.PDF (Accessed September 20, 2012). Note: Noise levels at distances anywhere from 10 feet to up to 70 feet from source.

During the construction phase, grading, excavation and building construction will take place. Heavy equipment will be used throughout the work. As a result, the immediate area will be exposed to various noise levels as representatively listed in Table 3.

The nearest non-University land is located approximately 0.3 miles northwest of the Site and will not be negatively impacted by noise during construction. The nearest University residence structures are the North Campus Residence Halls located approximately 700 feet northwest of the Site. Noise from the construction site should not negatively impact this area because of the distance from the Site and the presence of several large buildings along the south side of North Eagleville Road that will abate the noise.

Subsurface construction work has the potential to cause vibrations. Haley & Aldrich has stated that the "use of controlled blasting for rock excavation is not recommended due to the proximity of the site to nearby structures, including buildings housing laboratories conducting experiments that are sensitive to vibration and/or noise" (Haley & Aldrich, 2014).

In lieu of blasting, traditional earth moving equipment will attempt to simply move the bedrock as it currently appears to be weathered and may be degraded currently. This will be the preferred method. If this proves to be inadequate, then the excavation of the bedrock will require the use of a hoe-ram or hydraulic rock splitter. These latter two pieces of equipment each have the potential to reach 90 dBA and to cause vibrations in the immediate surrounding area (USDOT, 2011).

Mitigation

Construction activities will adhere to Connecticut noise regulations. To minimize impacts to students and staff, the construction work will only occur during normal work hours (7AM to 7 PM).

Potential vibration impacts will be minimized by using rock excavation techniques rather than blasting. In the unlikely event that blasting is needed, a vibration monitoring system will be installed to ensure no significant negative impacts to surrounding structures.

3.1.9 Light / Shadow

Existing Conditions

The existing roadways around the Site and the Quad area adjacent to the Site are illuminated with architectural lamp posts which is typical of an urbanized campus setting.

The site is currently occupied by a 2-story warehouse building which creates a shadow within the Quad area and the adjacent buildings. The shadow effect is most pronounced on the walkway along the northern perimeter of the OCW.

Impacts

Shadows are produced when objects obstruct natural sunlight. The NESB will be situated in such a location within the Quad area so as to partially obstruct a portion of the natural sunlight which would otherwise shine on the Quad area and surrounding buildings at various times throughout the day.

A shadow analysis was conducted as part of the schematic design phase of the project. Four separate times of the year were selected for the evaluation, each at 12pm local time, during the vernal and autumnal equinoxes and the summer and winter solstices as shown in Figure 11. The amount of shadow within the Quad area will vary depending upon the aspect of the sun. There will be less shadow on June 21 of a given year than on December 21 of a given year. There will be about equal shadow on March 21 and September 21 of a given year.

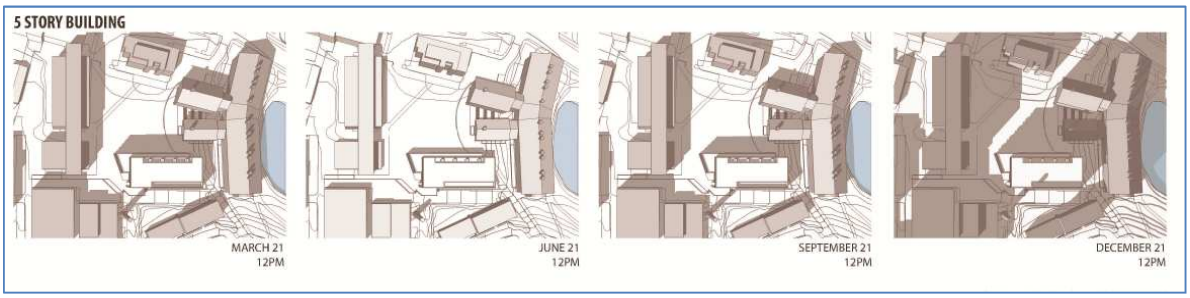


FIGURE 11. SHADOW ANALYSIS FOR PROPOSED NESB. SOURCE: MITCHELL GIURGOLA ARCHITECTS, LLP.

The analysis shows that the proposed NESB will cast a shadow into the Quad area. This is most pronounced during the winter because of the low sun angle. Although the shadow analysis above did not compare existing shadow to the proposed shadow condition, it is reasonable to conclude that the shadow cast by the new building will be greater than that of the existing conditions because it will be a 5-story structure as opposed to the 2-story OCW).

This is an unavoidable consequence of the project; therefore there will be a slight increase in light demand within the the Quad area, particularly during dawn and dusk hours

Mitigation

The impacts of shadow effects on the Site would not be significant, therefore no mitigation is warranted.

3.2 Physical Environment/Infrastructure

3.2.1 Traffic and Transportation

Existing Conditions

The roadway network near the Site includes State Route 195, U.S. Route 44, State Route 430 (North Eagleville Road), North Hillside Road and Glenbrook Road (Figure 13). The Site is located in an interior campus setting and can be accessed via designated paved pathways (not formal streets) from Glenbrook Road.

Route 195 is a minor arterial roadway with a posted speed limit of 30 miles per hour. This roadway consists of one travel lane in each direction with sidewalks on both sides. The average daily traffic (ADT) for Route 195 immediately north of North Eagleville Road is approximately 20,000 vehicles (CT DOT, 2009).

North Eagleville Road is an east-west oriented urban minor arterial that traverses the heart of the northern portion of the campus. The ADT for this roadway is approximately 10,000 vehicles (CT DOT, 2009).

Glenbrook Road is an internal campus roadway that connects North Eagleville Road and Hillside Road. It services passenger and delivery vehicles in the Research Neighborhood of the campus including the Site and surrounding buildings. It is a 2-way, 2 lane roadway with no on-street parking.

Impacts

There would be a slight increase in traffic and parking as a result of the Proposed Action. The NESB is anticipated to include space for some of the existing STEM students and faculty/staff who would otherwise occupy/use existing academic buildings. NESB will also include space for new hires and some increased enrollment. Those new hires and additional enrollment would be considered as potential additional trips to campus. A detailed traffic analysis for the NESB has not been prepared at the time of this EIE; however, a review of the NESB's traffic impact can be done relative to the most recent traffic analysis completed by the University in January 2013 for the Innovation Partnership Building (Fitzgerald & Halliday, 2014).

The number of new commuters can be estimated using the following assumptions:

- The number of students that will use the building is the equivalent of the total number of lab seats (375) and desks (175) proposed in the design.
- The number of new students (e.g., students who would not otherwise have been enrolled) is one third of total number of students.
- The number of non-residential students (commuter students) will be consistent with the proportion total students, i.e. 25% of students would be commuters)

- The number of faculty that will use this building will be consistent with the 16:1 faculty to student ratio envisioned by NextGen.
- The number of new faculty (e.g., faculty who would not otherwise have been hired) is one third of the total number of faculty.
- All new faculty will be commuters.
- Of the percentage of the new commuters entering the campus during the AM and PM peak hours was derived from the Institute of Transportation Engineers (ITE) Trip Generation Manual, 9th edition, 2012.

Based on these assumptions, there would be a small increase of approximately 332 vehicles per day throughout the local roadway network. The number of vehicles entering the campus during the AM peak hour is estimated at 30 and at 27 vehicles in the PM peak hour.

These vehicles were distributed to the roadway network in the same manner as what was done for Innovative Partnership Building Comparative Project Evaluation (FHI, 2014). That study assumed that the North Hillside Road Extension to Route 44 would ***not*** be completed prior to the opening of the IPB, therefore there were no trips assigned to that road. Even though the new roadway is expected to be completed prior to the NESB construction we have conservatively assumed that direct access to Route 44 would not be available.

The Overall Levels of Service (LOS) for intersections evaluated by FHI (2014) for the additional IPB traffic were no worse than level "C". Relative to the conditions reviewed by FHI, the percentage of potential trips associated with the Proposed Action increases the volume by 1-3% which can be considered minor, especially because the existing intersections operate *overall* at very good levels of service (i.e. very little congestion).

During construction, construction vehicles will need to access the site from Glenbrook Road or North Eagleville Road through the paved pathway system which could present a safety risk to pedestrians and passenger vehicles in the area.

Mitigation

There will be a nominal increase in passenger vehicle traffic and in the demand for parking spaces on-campus associated with the Proposed Action. While unlikely that the nominal increases will warrant long term traffic mitigation measures, impacts will have to be adequately quantified, especially to support the requisite approval from OSTA.

The impacts of increased parking demand and traffic can be mitigated through various means. The preferred means of mitigation would be to:

- Broadly promoting ride-share/carpooling programs (e.g., not just limited to STEM residents) to dampen demand.

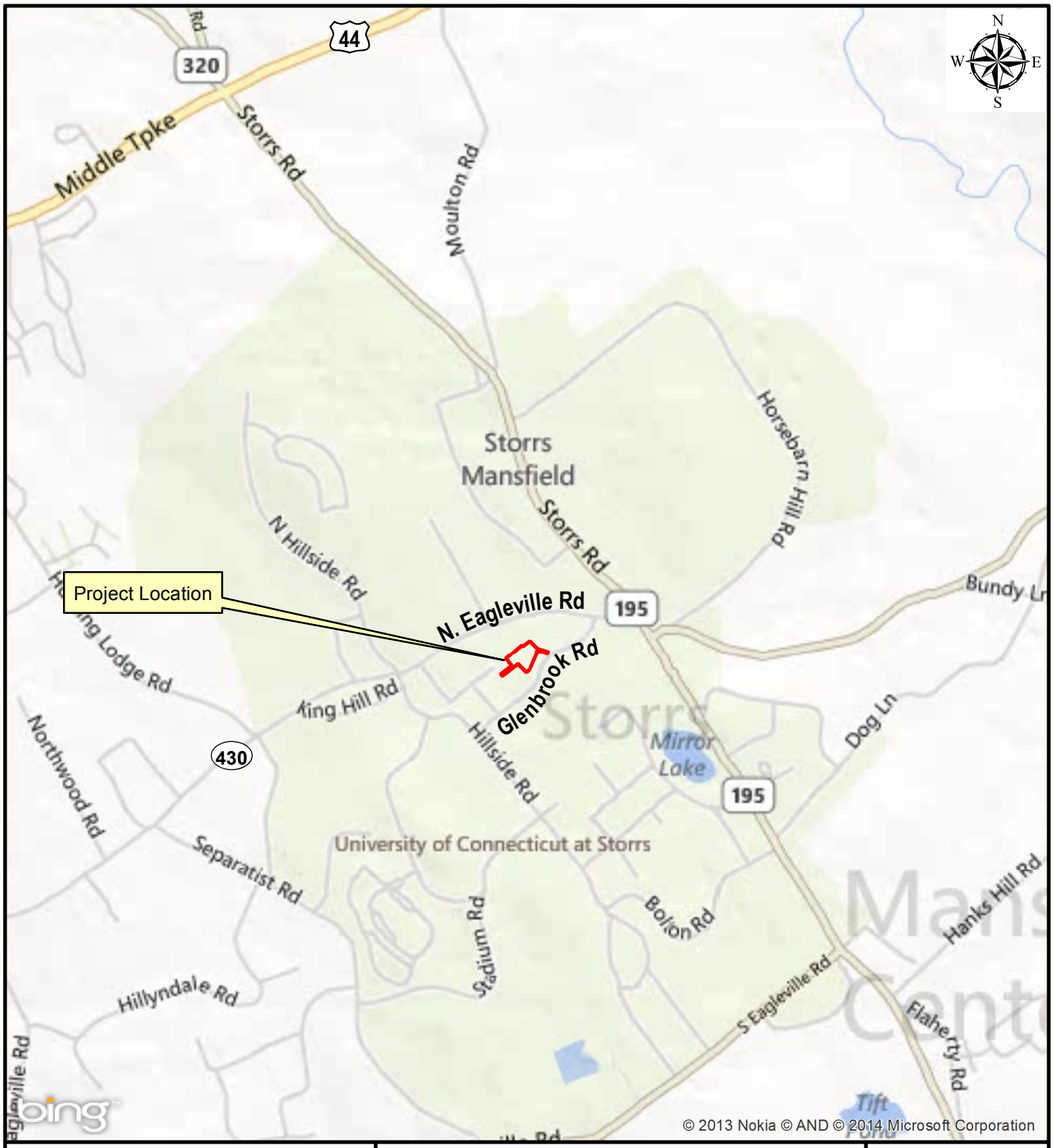
- Increasing public transportation options, locally through the on-campus bus and shuttle services and regionally through partnerships with other transit authorities

- Price residential parking permits to discourage demand

- Ensuring that adhering to lawful parking on and off-campus can be properly enforced.

In the event that the preferred means of mitigation do not adequately address the traffic and parking impacts, major roadway improvements and new structured/surface parking would potentially be needed. Before the Proposed Action is scheduled to be complete, the University will have also completed an updated Master Plan and a corresponding Environmental Impact Evaluation that will evaluate the broader changes to the campus environment, such as any significant parking or traffic mitigation.

During construction, proper safety measures will be in place to ensure safety to campus residents and staff during construction. This will include signage, illuminated markings and fencing.



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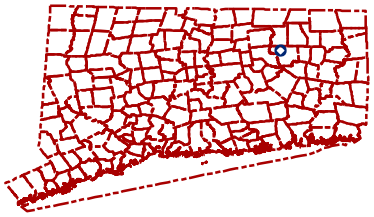

GZA GeoEnvironmental, Inc.
Springfield, MA / Glastonbury, CT

Local Roadway System

New Engineering & Science Building
University of Connecticut
Glenbrook Rd.
Storrs, Connecticut

BASE MAP: Bing Maps 2014

Project Location information obtained from
Mitchell Giurgola Architects, LLP

Project No: 15.0166402.00
Drawn by: KDC
Checked by: PGD
Date: March 2014
Figure No: 12

3.2.2 Water Supply

Existing Conditions

The Site is currently serviced by the University's water supply system with existing water service to the OCW. The University provides potable water to the Main Campus and Depot Campus systems, as well as portions of the Town of Mansfield, from two groundwater wellfields (known as the Fenton River and Willimantic River Wellfields). The University's water supply system includes eight production wells (four at each wellfield), a water treatment facility at each wellfield, three booster pumping stations, six water storage tanks, and 36 miles of water transmission and distribution mains (Milone & MacBroom, Inc., 2011a).

Several recent documents have assessed the current water system capabilities and the need for additional water to meet committed and expected demands in the long-term (50 year) planning period for the University. These documents provide detailed discussions of water supply sources, use projections, water demand reduction concepts, and system operations. Key points from these documents are summarized for this EIE as they relate to the Proposed Action, but more detail may be obtained by reviewing the source documents which are publicly available and cited in Section 9 of this EIE.

The University's most recent Water Supply Plan (Milone & MacBroom, Inc., 2011a) indicated that average daily demand was 1.29 million gallons per day (MGD) in 2010, the peak day demand was 2.23 MGD in March 2010, and that the use of water conservation efforts and capital improvement programs had allowed for a decrease in use as compared to the 1980s and early 1990s, despite increased development within the system. More recent water production data provided by the University indicated that average production rates in 2013 were 1.09 MGD and that 2012 and 2013 average production rates were lower than rates in previous years (UConn, 2014).

The 2011 Water Supply Plan identified four committed future service areas with total committed future demands of 106,555 GPD, 340,100 GPD, and 357,000 GPD in planning years 2015, 2030, and 2060, respectively.

The Water Supply Plan also discusses the future operation of a Reclaimed Water Facility (RWF) on campus, which was since constructed and brought online in 2013 as one water reuse strategy to reduce demand by reclaiming treated wastewater to provide non-potable water for reuse on campus. The RWF was brought online in May 2013 and has provided an average of approximately 270,500 gpd of non-potable reclaimed water for use on campus since it began operating in May 2013.

The Water Supply Plan indicated that new water supply sources would be required to maintain margins of safety and provide for supplemental supply to meet increased demands in conjunction with expected expansions.

The University prepared an EIE for a more detailed study of potential groundwater supply and interconnection alternatives to address future needs of the campus and surrounding areas

of the Town of Mansfield. This document, entitled *Connecticut Environmental Policy Act Environmental Impact Evaluation, Potential Sources of Water Supply, University of Connecticut, Storrs, Connecticut* (Milone & MacBroom, 2012) and the associated *Record of Decision (ROD)* (Milone & MacBroom, 2013) evaluated seven alternatives that included No Action, well replacement and new wells, and various proposed interconnections with the Connecticut Water Company (CWC), the Metropolitan District Commission (MDC), and Windham Water Works (WWW) for the purchase of additional supply.

The EIE included estimates of projected average daily demand for the planning period and the ROD provided updated values to reflect the NextGenCT program that was announced during the course of EIE review. The ROD cites the need for additional water supply for average and peak day demands of 1.39 and 2.20 MGD for the 50-year planning period (2060). Interconnection with the CWC was selected as the preferred alternative in the EIE.

Based on the findings and preferred alternative selection from the water supply EIE/CEPA process, CWC is in the process of preparing a Diversion Permit for CT DEEP with the University as a co-applicant. This diversion permit is seeking approval for CWC to provide the additional water to the University to augment existing supply. CWC will also need to file a Sale of Excess Water application with DPH. The CWC interconnection is anticipated to come online by the end of the 2016 calendar year, in advance of the expected opening of the NESB in January 2017.

Impacts

The Site is currently served by the University's water supply system; the Proposed Action would require minor relocation of the existing water supply lines and fire protection lines on the Site from the former OCW, resulting in temporary construction phase impacts.

The average daily demand associated with the NESB is estimated to be 4,800 GPD. Applying a typical peaking factor, the peak day demand is estimated to be 6,400 GPD. The NESB is anticipated to include space for some of the existing STEM students and faculty/staff who would otherwise consume water in other existing academic buildings. NESB will also include space for new hires and some increased enrollment. Those new hires and increased enrollment represent additional water demand that would not exist if not but for the Proposed Action.

The number of new consumers of water associated with the Proposed Action can be estimated using the following assumptions:

- The number of students that will use the building is the equivalent of the total number of lab seats (375) and desks (175) proposed in the design.
- The number of new students (e.g., students who would not otherwise have been enrolled) is one third of total number of students that will use the building.
- The number of faculty that will use this building will be consistent with the 16:1 faculty to student ratio envisioned by NextGenCT.
- The number of new faculty (e.g., faculty who would not otherwise have been hired) is one third of the total number of faculty that will use the building.

Based on these assumptions, the average daily demand of new hires and additional enrollment enabled by the Proposed Action will be 1,600 GPD, and peak day demand will be 2,200 GPD. These projected demands were included and evaluated in the *Potential Sources of Water Supply EIE* (2012) and the EIE Record of Decision (2013) as *NextGenCT*-related demands.

Cumulative impacts, including those on water supply, of the entire NextGenCT program will be evaluated in a Master Pan EIE. However for the purpose of this NESB EIE's evaluation of water supply impacts, consideration must be given to projects that will be opening around the same time as NESB. These include the Innovation Partnership Building and the STEM Residence Hall. Average daily demands for the Innovation Partnership Building and STEM Residence Hall are expected to be 28,000 GPD and 28,800 GPD, respectively. The total average daily demand associated with the three projects is 58,400 GPD.

Contractual agreements between the University and CWC and between the Town of Mansfield and CWC anticipate that the interconnection will be completed in the second half of 2016. The University will meet its water demands, including that of NESB, IPB, and the STEM Residence Hall, by augmenting its supply with the additional water to be provided pursuant to an executed agreement to interconnect with CWC.

However, the University's Water Supply EIE and ROD also indicates additional supply would be required in order to meet the *peak* day demand, including maintaining a system-wide 15% margin of safety, expected by the year 2015. It should be noted that the 2015 peak day deficit cited in the Water Supply EIE and ROD (464,116 GPD) is almost entirely attributable to maintaining peak day margin of safety and assumed that the Fenton Wellfield is unavailable due to low streamflow considerations incorporated into the University's wellfield management plan. Nevertheless, although the water demand for the Proposed Action is small, it could marginally exacerbate the existing deficiency in the system relative to peak day demand until the CWC interconnection is available, as would demands currently proposed STEM Residence Hall, anticipated to open by August 2016, and the Innovation Partnership Building (IPB), anticipated to open by the end of 2016.

Mitigation

The projected water use of NESB's new hires and increased enrollment was included in the estimates in the Water Supply ROD as part of the NextGenCT and has thus been considered in estimates of future demand for the University water supply system planning year 2015, even though the Proposed Action (NESB) is not expected to be brought online until 2017. Therefore, the water demand is expected to be met as a result of augmenting UConn's water supply through an interconnection with CWC.

Should the proposed STEM Residence Hall, and/or the NESB, and/or the IPB be completed prior to the additional water supply being available from the CWC interconnection, the University water supply will adequately meet *actual* water demands on a peak day by drawing modestly on its 6.5 million gallons of usable storage. However, without the CWC interconnection, the peak day demand's margin of safety cannot be demonstrated. Mitigation

would consist of a) connecting NESB (as well as the STEM Residence Hall and IPB) to the reclaimed water utility to reduce potable demand, b) continue to promote water conservation throughout the system and c) take steps to ensure that margin of safety could be demonstrated by having Fenton Well D approved for intermittent use during the time that peak demand was expected.

The nearest point of connection to the reclaimed water distribution pipe is in the utility tunnel to the CUP. Connecting the NESB will require an additional 300 feet of distribution pipe. Dedicated piping will supply reclaimed water to NESB's toilets. Deducting toilet flushing from the average day demand reduces the buildings total average daily demand for potable water from 4,800 GPD to 2,800 GPD. Consequently, the reduction of net new demand from the Proposed Action (1,600 GPD) would be approximately 680 GPD for a net new water demand of approximately 920 GPD using reclaimed water for toilets.

Water conservation and limiting unaccounted for water have been at the forefront of water supply management at the University for almost a decade. Unlike the vast majority of public water supply systems, UConn has direct operational influence of the demand of the majority of end-uses of its water as well as methods of regulating and enforcing conservation. Voluntary and mandatory conservation measures are implemented when instream flows in the Fenton River and Willimantic River call for such conservation. The University now operates a water reclamation facility that supplies up to 400,000 gpd to its Central Utility Plant, formerly the campus' largest domestic user. Before the reclaimed water facility began operation, from 2005 to 2012 UConn had reduced its potable water production from 1.49 MGD to 1.26 MGD (-15%) while servicing a population that had increased by 2,020 (+8%) and campus facilities that had increased by approximately 385,000 square feet. Additional ways to supplant potable with reclaimed water for other uses are being investigated and designed into new projects. For example, the STEM Residence Hall will be using reclaimed water for their toilet flushing (as will NESB), and the IPB and STEM Residence Hall will also be using reclaimed water for cooling.

Should NESB be completed prior to completion of the CWC interconnection, the University would also seek appropriate approvals to allow the intermittent use of Fenton Well D during low stream flow conditions as proposed in the its approved Water Supply Plan (Milone & MacBroom, 2011a) to demonstrate that the system has adequate peak day capacity including margin of safety. Pump tests indicate that Well D, being the furthest of the four wells from the Fenton River, has the least affect on streamflow. To ensure that operating Well D on a limited basis does not negatively impact on streamflow, the University would monitor streamflow within Well D's zone of influence while Well D was active. To potentially use Well D in this manner would need final regulatory approvals

3.2.3 Wastewater

Existing Conditions

The Site is currently serviced by University's sanitary sewer system which is connected to the OCW. The University operates its own wastewater collection and treatment system which includes a Water Pollution Control Facility (WPCF), collection system pump stations, and collection system piping which serves an area that includes the Main Campus, Depot Campus, a local Department of Corrections Facility, and some areas of non-University development that surround the campus (Milone & MacBroom, 2011c). The current average daily treatment capacity of the WPCF is 3.0 MGD and the peak flow capacity is 7.2 MGD (Milone & MacBroom, 2011c). The University's 2011 Permit Renewal application for the WPCF indicates that in 2010 the WPCF was operating at approximately half its capacity or less:

> *"the average daily discharge has been between 0.62 MGD and 1.53 MGD for the August 2010 and April 2010 quarters, respectively. The maximum flow for 2009 and 2010 has ranged from 1.11 MGD (for the quarter ending July 209) to 4.35 MGD (for the quarter ending April 2010). The high daily flows are the result of a precipitation event."*

In addition, the RWF (as discussed in the Water section of this EIE) provides tertiary treatment to a portion of the WPCF effluent, producing reclaimed water which can be used for non-potable applications, such as heating and cooling and offset the demand for potable water for certain uses.

Impacts

The Site is currently serviced by the campus sewer system; the Proposed Action would require minor relocation of the existing sewer lines on the Site from the former OCW, resulting in temporary construction phase impacts.

To be conservative, wastewater flow estimates were taken to be equal to the water demand estimates for the NESB, or 4,800 gpd, of which 1,600 GPD would be from new faculty and increased enrollment enabled by the Proposed Action.

While the NESB would present an increase over existing conditions, it would be well within the capacity of the WPCF.

The NESB would generate additional laboratory wastewater on campus. These wastewater streams will be managed in accordance with University protocols as described in the mitigation section below.

Mitigation

Sewage generation would directly relate to water usage, therefore all measures to minimize water demand on the Site would serve to reduce sewage discharge as well.

Additional laboratory wastewater generated from the NESB would be managed in accordance with current University protocols for disposal of laboratory wastewater (Milone & MacBroom, 2011d). The University of Connecticut's "Guidelines for Drain Disposal of Chemicals" was developed as a supporting document to the WPCF's latest NPDES permit renewal application in May 2011.

Within individual work areas and laboratories, authorization for specific operations, delineation of appropriate safety procedures and instruction is the responsibility of the Principal Investigators and/or supervisors. These guidelines are communicated to the PI's and supervisors by the University's Department of Environmental Health and Safety (EH&S) as part of requisite chemical safety training.

The following general rules apply to drain disposal of chemicals to sanitary sewers.

- Disposal of chemicals is limited to occasional disposal of small amounts of chemicals.No large scale or continuous disposal (>1 liter per day) of any chemical is permitted without previously demonstrating that the activity would be compliant with the conditions of the CT DEEP General Permit for Miscellaneous Discharges of Sewer Compatible Wastewater (Miscellaneous General Permit). The University Office of Environmental Policy can be contacted prior to initiating any large scale or continuous discharges for guidance on demonstrating compliance with the Miscellaneous General Permit.

- Only water-soluble substances may be disposed of in sinks, toilets, and floor drains. Solutions should be flushed down the drain with an appropriate amount of water. A compound is considered water-soluble if it dissolves to the extent of at least 3%. In general, a soluble substance that contains a substance that is not soluble should not be poured down the drain.

- Corrosive solutions with pH ranges ($2.0<pH<5.5$) and ($12.0<pH<12.5$) must be neutralized before sink/drain disposal. Corrosive solutions with pH ranges less than 2.0 or greater than 12.5 at the conclusion of the lab process must be managed as hazardous waste and cannot be discharged to the sanitary sewer.

- Highly toxic, malodorous, or lachrymatory (that is, those that cause strong eye irritation) chemicals shall not be disposed of down the drain.

- Solutions that are flammable (flash point less than 140^0F) or explosive at the time of disposal must not be disposed into a sink or drain. Examples of these substances include: acetone, gasoline, methyl ethyl ketone, ketones, aldehydes, peroxides, ethers, xylene, toluene, or alcohols.

- Solutions containing any amounts of Arsenic, Barium, Cadmium, Chromium, Lead, Mercury, Selenium, Silver, Copper, Nickel, Osmium and Zinc shall not be discarded into the sanitary sewer system without previously demonstrating that the activity would be compliant with the conditions of the CT DEP General Permit for Miscellaneous Discharges of Sewer Compatible Wastewater.

3.2.4 Stormwater

Existing Conditions

Stormwater on-site is currently managed by a series of catch basins and yard drains that collect runoff and direct it to a system of subsurface stormwater pipes which direct flow around the existing OCW building and into an existing 48-inch diameter stormwater line which runs southwest along the existing utility tunnel. This stormwater line (which is also a piped segment of Eagleville Brook as shown in Figure 8) flows under the Pharmacy Building, along the utility tunnel, then continues in a westerly direction under multiple science buildings and is redirected in a northerly direction, around the North Garage, where it transitions to a 60-inch diameter pipe, and then flows westerly along North Eagleville Road to its outfall at Eagleville Brook near the Dairy Mart according to the University's Storm System mapping. The drainage basin identifier is 3100-19 according to the Design Team for the Proposed Action.

As discussed above, the Site is within the drainage basin for Eagleville Brook, which has been identified as not meeting CT Water Quality Standards. The waterbody currently has a Total Maximum Daily Load (TMDL) for Impervious Cover (IC), where impervious cover within the watershed has been established as a surrogate parameter for various pollutants conveyed by stormwater. The TMDL establishes the percent reduction in IC necessary to meet the aquatic life criteria and attain designated aquatic life uses for the waterbody. The TMDL indicates that the target for the watershed is 12% IC (11% + 1% margin of safety). The CT DEEP TMDL report (2007) indicates that "in the absence of actual IC reduction, stormwater management techniques that offset the negative effect of IC should be implemented in the Eagleville Brook watershed".

A field survey and analysis was completed in 2010 (CWP & HW, 2010) for the Center for Land Use Education and Research (CLEAR), which is investigating ways for the University and Town to meet the TMDL. This report identified the potential for the use of bioretention and permeable pavement in the parking lot to the rear (south) of the OCW and identified site constraints as the presence of utilities, limited space, and slopes. The report also identified the potential for Low Impact Development (LID) retrofits to the existing "Chemistry Building Quad" located to the north of the OCW in the form of three bioretention areas with underdrains to capture and treat redirected roof and impervious area runoff. This concept was developed to the "25% design" level but also cited constraints as subsurface utilities and a subsurface building/tunnel below the Quad which could limit the size and extent of retrofits.

Impacts

As part of the construction of the NESB, a few catch basins and stormwater pipes would be removed or redirected, as they are in the footprint or immediate environs of the Site and may no longer be required for the NESB. The Proposed Action would be a redevelopment project and would result in a net reduction in the imperviousness of the NESB area of approximately 3,000 SF. As such, a reduction in the stormwater runoff (peak flow and runoff volume) would be anticipated as a result of the Proposed Action. Drainage calculations and formal quantification of runoff is underway by the Design Team for the Proposed Action, but available schematic design level plans show runoff being collected in the same manner as the existing condition, with yard drains and catch basins directing flow to stormwater piping around the NESB and to the existing 48-inch stormwater line along the utility tunnel.

According to the Design Team (Benesch, 2014), opportunities for infiltration could be limited in this area due to the extensive amount of underground utilities due to its location near the CUP, the underground utility tunnel, and the underground portion of the Pharmacy/Biology building that is beneath much of the Quad. These issues were also cited in the 2010 CWP & HW report as being potentially limiting. The NESB, as currently configured, would be situated on one of the locations identified as a potential bioretention location by the CWP & HW report, which may require future reconfiguration or relocation of this conceptual BMP elsewhere on the Quad or in the watershed, as part of the upcoming Master Plan EIE. The University is assessing the feasibility of bioretention in the Quad and on other areas of the Campus and will discuss the issue in the Master Plan EIE on a more campus-wide basis.

Shallow groundwater at the site relative to the proposed depth of the NESB's lowest level (which will be deeper than that of the OCW) necessitates that groundwater be diverted through a collection system. The intended discharge location for the collected groundwater is the storm sewer system that contributes to Eagleville Brook. This would result in a minor increase in base flow to Eagleville Brook but would not significantly affect stormwater runoff from the Site.

There would be an expected positive impact from the reduction in impervious area associated with the Proposed Action. Temporary impacts to stormwater could result during construction of the Proposed Action, but would be expected to be minimal with proper mitigation, as discussed in the next section.

Mitigation

Because the Proposed Action would result in a decrease in impervious area, there would be expected to be a positive impact on the peak flow rate and total volume of runoff, as compared to existing conditions. Temporary impacts related to construction would be mitigated by construction phase controls.

In order to protect Eagleville Brook, the receiving water for stormwater runoff at the Site, erosion and sediment controls would be employed during as part of the demolition and construction of the Proposed Action. The Proposed Action would need to comply with the State of Connecticut's General Permit for the Discharge of Stormwater and Dewatering

Wastewaters Associated with Construction Activities (Construction General Permit) because more than one acre of earth disturbance is being proposed. If applicable, the appropriate parties would need to seek coverage under Construction General Permit and to prepare and adhere to a Stormwater Pollution Control Plan (SWPCP) that would need to be developed for the Proposed Action. Appropriate control measures would be designed in accordance with the Construction General Permit and the *Connecticut Guidelines for Soil Erosion and Sediment Control* prepared by the Connecticut Council on Soil and Water Conservation in cooperation with CT DEEP.

The University has indicated that the NESB would be designed to achieve LEED Silver® certification, at a minimum, which would require that certain requirements are met relative to stormwater during construction and post-construction including the implementation of a sediment and erosion control plan in accordance with the CGP, regardless of project size. LEED certification would also require specific runoff management practices to be used onsite in order to achieve LEED credits. Stormwater design to meet LEED requirements could be coordinated with the potential LID opportunities, though not necessarily those options identified in the 2010 CWP & HW report.

While it does not indicate specific design parameters or methodology for analyzing stormwater impacts, the TMDL for Eagleville Brook (CT DEP, 2007) states that:

> *"Successful implementation will be best accomplished through incorporating an adaptive management strategy. The strategy will include 1) reducing IC where practical, 2) disconnecting IC from a surface waterbody, 3) minimizing additional disturbance to maintain existing natural buffering capacity, and 4) installing engineered BMPs to reduce the impact of IC on receiving water hydrology and water quality. The* University of Connecticut Campus Sustainable Design Guidelines *(e.g. see page 11, Goal 1),* 2004 Connecticut Stormwater Manual, *and* Stormwater TMDL Implementation Support Manual *provide good background information for new site design, as well as technical guidance for stormwater BMPs for existing sites. It will be necessary to choose the appropriate strategies to reduce stormwater runoff on a case by case basis…"*

Construction of the NESB would result in a decrease in impervious area of approximately 3,000 SF of new lawns and gardens. Stormwater would be managed through properly designed systems including the use of Stormwater best management practices (BMPs) as specified in the *Connecticut Stormwater Manual.* The Flood Management Certification (FMC) process with CT DEEP will verify that the design would not result in increased runoff for the 2-, 10- and 100-year storm events.

Before the Proposed Action is scheduled to be complete, the University will have also completed an updated Master Plan and a corresponding Environmental Impact Evaluation that will evaluate the broader changes to the campus environment, such as any significant stormwater mitigation. The area of the NESB will be reviewed for its cumulative impacts as well as for cumulative mitigation opportunities, including the conceptual stormwater management techniques, if not specific projects, identified in the 2010 CWP & HW report.

3.2.5 Heat

Existing Conditions

The OCW building is currently heated by steam provided by the CUP located directly adjacent to the Site, to the southwest.

Impacts

The Proposed Action will not negatively impact existing heat service at the Site. The NESB building will be heated primarily by steam provided by the CUP's heat recovery steam generating turbines or boilers. The CUP is located directly adjacent to the Site, to the southwest. Typically, the CUPs turbines and boilers operate using natural gas, but on occasion, the CUP must run on No. 2 fuel oil. The Haley & Aldrich (2014) report indicates "a utility tunnel will exit near the building's northwest corner and will connect to the existing utility tunnel in the Quad area north of the building."

Mitigation

No significant impacts to or from heat utilities are expected, therefore no mitigation is warranted.

3.2.6 Electricity & Telecommunications

Existing Conditions

Electricity at the OCW building is currently provided by the CUP which is located directly adjacent to the Site, to the southwest. Telecommunications currently exist at the Site.

Impacts

The Proposed Action will not negatively impact existing electricity or telecommunications facilities on site. Electricity will be re-routed from the OCW building to the NESB building. Electrical and telecommunications service are currently available at the Site. Electrical utilities would be located underground.

Mitigation

Because all the requisite utilities are currently available on site, no mitigation is warranted.

3.2.7 Solid Waste

Existing Conditions

Solid waste generated at the OCW building includes waste typical of a warehouse (e.g. paper goods, cardboard, and office supplies).

Impacts

The Proposed Action is expected to generate an increase in solid waste above what is currently generated by the OCW. Solid waste generated from the NESB would be handled by the University. Waste streams from the NESB will be typical of an academic facility. Recyclables will be managed in accordance with University policies.

Hazardous material generation impacts are presented in Section 3.1.3 and laboratory wastewater generated from the NESB is discussed in Section 3.2.3.

Mitigation

The Proposed Action will generate solid waste typical of an academic facility; therefore, no mitigation is warranted.

3.2.8 Public Health & Safety

Existing Conditions

UConn emergency services jurisdiction is limited to UConn property while the Town of Mansfield provides services to all other areas in Mansfield. The University of Connecticut Police Department facilities are located at the UConn Public Safety Complex on North Eagleville Road. The Public Safety Complex is approximately 0.4 miles from the Site. Pursuant to CGS Section 1-a-142, the UConn Police Department was established and is responsible for the safety and security of students, employees and visitors on the UConn campus, and has the same statutory authority as a Connecticut municipal police force.

The UConn Police Department is on duty 24 hours per day, 7 days per week. Highly visible foot and vehicle patrols are conducted by UConn police officers. The UConn Police and Fire Department can be accessed via approximately 175 on-campus emergency phones or via cellular phone. The University has a 9-1-1 emergency telephone system that is answered at the UConn Police Department dispatch center. If necessary, back-up for the UConn Police Department is available from the Town of Mansfield's officers and Resident State Troopers.

The University of Connecticut Fire Department is also located at the Public Safety Complex on North Eagleville Road. The UConn Fire Department operates two fire trucks (a 1,250-gallon per minute Class A pumper and a 1000-gallon per minute Class A pumper), a 100-foot aerial platform truck, two mobile intensive care ambulances and a special hazards vehicle for

any hazardous materials (HAZMAT) incidents and confined space rescue. As part of the Windham County Mutual Aid System, there are three volunteer companies available for back-up assistance on the UConn campus, including the Mansfield Volunteer Fire Department, the Eagleville Volunteer Fire Department, and the Willimantic Fire Department. The Town of Mansfield also includes an Office of Emergency Management for emergency and disaster preparedness.

The University of Connecticut Student Health Services is located on Glen Brook Road. It is an accredited ambulatory health care facility. The UConn Student Health Service provides students with acute care, in-patient care, laboratory services, mental health counseling, pharmaceutical services, physical therapy, and radiology. The Windham Community Memorial Hospital is located in Willimantic, CT and provides back-up services to the UConn Student Health Services.

Impacts

The Proposed Action would not increase nor decrease the need for emergency services nor would it require the addition of emergency equipment need or staffing. There would be no long term impact to the adjacent Student Health Services Building. There would be a temporary increase in noise and air emissions to this building and its occupants during construction.

Mitigation

There would be no significant impact to public safety therefore no mitigations are warranted. Temporary air quality and noise impacts to the Student Health Services would be mitigated as prescribed in the Air Quality and Noise & Vibration sections of this report.

3.2.9 Aesthetics & Viewsheds

Existing Conditions

The OCW and the Site itself is not highly from any outside vantage point. Several buildings adjacent to the Site obscure it from view, including:

- the Pharmacy/Biology Building to the west,
- the Hilda May Williams Student Health Services Building to the southeast,
- the Chemistry Building to the east,
- the Central Utility Plant to the south,
- and the Wilbur O. Atwater Laboratory to the north.

Impacts

As the NESB is proposed to reach 5 stories in height, 3 stories higher than the current building (OCW), the upper floors of the NESB will likely be visible from North Eagleville Road and Glenbrook Road.

The Site is located within the university campus proper and will be visible regularly by staff, students, and visitors alike. The NESB has been designed to be consistent with the look of a modern university research building (Figure 13)

Mitigation

There would be no significant impact to aesthetics, therefore no mitigations are warranted.

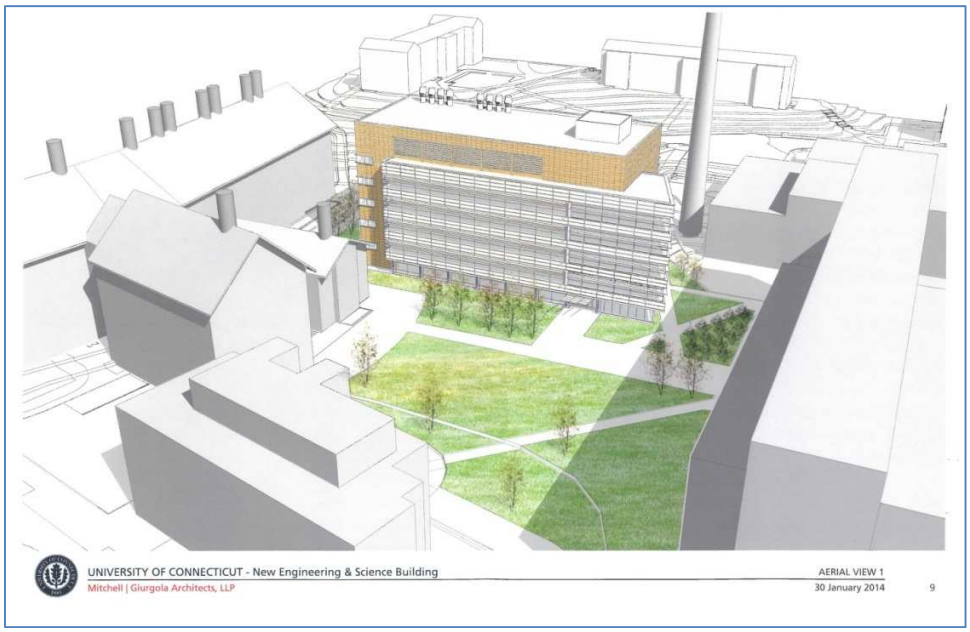

FIGURE 13. OBLIQUE RENDERING OF PROPOSED NESB LOOKING SOUTHEAST

3.2.10 Cultural Resources

Existing Conditions

CEPA requires that State actions that have the potential for affecting cultural resources (archaeological or historical) be evaluated and mitigated for if significant impacts would occur.

The OCW is a 2-story brick and concrete warehouse building built circa 1958. This building is not on the State or Federal Register of Historic Places.

The site beneath the OCW and its immediate surroundings have been heavily disturbed due to building development in this area of campus over the past several decades. In addition, there are numerous subsurface utilities in and near the Site, therefore it is unlikely that there are any intact archaeological resources on the Site.

Impacts

The Proposed Action would have no effect on historic or archaeological resources. See the SHPO review response in Appendix A.

Mitigation

The Proposed Action would have no effect on historic or archaeological resources, therefore mitigation is not warranted.

3.3 Socioeconomic Resources

3.3.1 Population, Employment, Housing and Income

Existing Conditions

The University is located within the limits of the Town of Mansfield, Tolland County, Connecticut. According to the 2010 U.S. Census, there were a total of 5,586 households and a total Town population of 26,543. The median age of the population of Mansfield was 21.5 years, and the "non-institutionalized population" within the limits of Mansfield was 9,801. Non-institutionalized population is defined by the US Census Bureau as:

> "The noninstitutionalized population lives in noninstitutional group quarters such as college/university student housing, military quarters, and other noninstitutional group quarters such as emergency and transitional shelters for people experiencing homelessness and group homes."

According to the 2010 US Census, the total population of the Tolland County was 152,691. The town of Mansfield represents 17% of the population of this county. According to the Connecticut Department of Labor, Office of Research, the unemployment rate for the county as of January 2014 was 6.7%, or 5,643 (labor force total and employed were 84,076 and 78,433, respectively), (CTDOL, 2014a). Further, according to this same office, within the Town of Mansfield, the unemployment rate as of January 2014 for the town itself is 6.7% or 891 (labor force total and employed were 13,267 and 12,376, respectively), (CTDOL, 2014b).

The Connecticut Environmental Justice Program, which addresses concerns equal treatment under the law in actions regarding environmental laws. Section 22a-20a of the Connecticut General Statutes and DEEP's Environmental Justice Policy detail requirements which outline that Environmental Justice Communities are provided enhanced notice and opportunities for public participation in discrete permitting processes.

According to a memo published by DEEP, with a policy effective date of December 17, 1993, entitled "Environmental Equity Policy," the agency defined Environmental Justice Communities: "…[these] are neighborhoods in which residents are subjected to unusually high levels of pollution from factories, power plants, highways or other sources. Residents of such communities receive special protection because they often lack the economic means to decrease their exposure to pollution" (DEEP, 1993). This policy states that,

> "...no segment of the population should, because of its racial or economic makeup, bear a disproportionate share of the risks and consequences of environmental pollution or be denied equal access to environmental benefits." In Connecticut, environmental justice communities include the Connecticut Department of Economic and Community Development (DECD) list of distressed municipalities, as well as defined census block groups with 30% of their population living below 200% of the federal poverty level. The Environmental Justice Policy states that no segment of the population should, because of its racial or economic makeup, bear a disproportionate share of the risks and consequences of environmental pollution or be denied equal access to environmental benefits."

The Town of Mansfield is not identified on the current (rev. 8/12) Distressed Municipalities List maintained by DEEP (DEEP, 2008).

Impacts

There is expected to be a small increase in student enrollment and staffing levels as a result of the Proposed Action. An additional 182 students and 11 faculty/staff are expected on campus which will result in a positive contribution to the local economy. A temporary increase in economic impacts locally and regionally is expected because of construction. There would be positive direct and secondary economic benefits to local businesses as a result of the Proposed Action.

The Site is not located within an Environmental Justice Community; therefore there would not be negative impacts to minority or low income populations.

The increase in the number of students housed on campus is expected to be approximately 182 as a result of the Proposed Action. There is sufficient housing available at the University to accommodate this increase. In addition, freshmen would likely be housed at the proposed STEM Residence Hall which is expected to be constructed prior to the NESB.

Mitigation

There would be no significant negative impact to the socioeconomic environment; therefore mitigation measures are not warranted.

3.3.2 Consistency with Plans, Policies and Regulations

State Plan of Conservation & Development

In accordance with Sections 16a-24 through 16a-33 of the Connecticut General Statutes (CGS), the Office of Policy and Management (OPM) is required to prepare a State Plan of Conservation and Development (C&D Plan) on a recurring five-year cycle. The C&D Plan is a statement of the State's growth, resource management, and public investment policies and is designed to guide the planning and decision-making processes of the state using a balanced response to human, environmental and economic needs in a manner which best suits the future of Connecticut. State agencies are required by Public Act 91-395 to be consistent with the C&D Plan when they undertake various actions including the acquisition, development or improvement of real estate property when the costs are in excess of $100,000.

The current C&D Plan was adopted in on June 5, 2013. The C&D Plan consists of text and an associated Locational Guide Map (LGM). The textural component of the Plan provides guidance on growth management principles for state agencies to employ when developing projects or programs. The LGM is a component of the State C&D Plan that sets forth three general land categories: Priority Funding Areas (PFA), Balanced PFA and Conservation Areas (CA).

A PFA is an area where funding by the state has been given priority due to one or more of the following factors: presence within an urban area; availability of public water and sewer; proximity to mass transit; and proximity to bus service.

Conservation Areas are those containing environmental or natural resource values and include: public water supply watersheds, Aquifer Protection Areas, wetland soils > 25 acres, undeveloped farmland soils, 100-year floodplains, Critical Habitat, Core Forest Areas > 250 acres, and Category 1, 2, or 3 Hurricane Inundation Zones.

Balanced Priority Funding Areas meet the criteria of both Priority Funding Areas and Conservation Areas. State agencies that propose certain actions in these areas must provide balanced consideration of all factors in determining the extent to which it is consistent with the policies of the State C&D Plan.

The LGM is not intended to be utilized, by itself, as a basis for a state agency to approve or deny funding when rendering applicable funding decisions. The LGM classifications are intended to help state agencies comply with the administrative requirements associated with CGS Section 16a-35d.

The Proposed Action is classified as a "Growth-Related" project according to Section 16a-35c of the Connecticut General Statutes (CGS) because it involves "the development or improvement of real property when the development costs are in excess of one hundred thousand dollars". Growth related projects are required to undergo review with respect to the LGM.

According to the LGM, the existing OCW and much of the NESB building footprint lies within all three of the land category designations; however, the Balanced PFA and CA designations were given under the presumption that a 100-year floodplain traverses the site. As explained in Section 3.1.4 of this document, the FEMA mapping for this area is erroneous because it was not updated to reflect the piping of Eagleville Brook prior to 1951; therefore, the site is, in effect, within a PFA only. The University will coordinate with the Office of Policy and Management (OPM) to resolve this discrepancy.

The Site's PFA factors include urban area, public water and sewer and local bus service.

Table 4 summarizes the Proposed Action relative to the six growth management principles set forth in the C&D Plan. In all cases, except where the growth management principle is not applicable, the Proposed Action is consistent with the State C&D Plan.

TABLE 4. SUMMARY OF THE PROPOSED ACTION'S CONSISTENCY WITH STATE PLAN OF CONSERVATION AND DEVELOPMENT

Growth Management Principle	Proposed Action Consistency
#1 - Redevelop and Revitalize Regional Centers Currently Planned Physical Infrastructure	Consistent. Site is within an area of existing and planned physical infrastructure.
#2 - Expand Housing Opportunities and Design Choices to Accommodate a Variety of Household Types and Needs	Not Applicable. Proposed Action does not involve housing.
#3 - Concentrate Development Around Transportation Nodes and Along Major Transportation Corridors to Support the Viability of Transportation Options	Not Applicable. Site is not along a major transportation corridor or a transportation node.
#4 - Conserve and Restore the Natural Environment, Cultural and Historical Resources, and Traditional Rural Lands	Consistent. Proposed Action is an infill project and does not affect cultural, historic or traditional rural lands.
#5 - Protect and Ensure the Integrity of Environmental Assets Critical to Public Health and Safety	Consistent. Proposed Action will result in nominal increase in water demand and air emissions. Site is not within a public water supply watershed.
#6 - Promote Integrated Planning across all Levels of Government to Address Issues on a Statewide, Regional, and Local Basis	Consistent. By virtue of the CEPA process, the Proposed Action is being coordinated with various state agencies including: DEEP, DPH, and OPM. Regional and local agencies have also had opportunity to review the project through the CEPA process.

Mansfield Plan of Conservation and Development (2006)

The *Mansfield Plan of Conservation and Development* (Mansfield POCD) documents the community's land use characteristics and establishes a consistent and coordinated land use philosophy and regulatory framework for managing the Town's future physical, economic and social environment. The Mansfield POCD specifies policy goals, objectives and land use recommendations designed to protect and promote the overall health, welfare and safety of existing and future residents. The overall policy goals include:

- To strengthen and encourage an orderly and energy-efficient pattern of development with sustainable balance of housing, business, industry, agriculture, government and open space and a supportive infrastructure of utilities, roadways, walkways and bikeways and public transportation services.
- To conserve and preserve Mansfield's natural, historic, agricultural and scenic resources with emphasis on protecting surface and groundwater quality, important greenways, agricultural and interior forest areas, undeveloped hilltops and ridges, scenic roadways and historic village areas.
- To strengthen and encourage a mix of housing opportunities for all income levels.
- To strengthen and encourage a sense of neighborhood and community throughout Mansfield.

The Mansfield POCD includes recommendations designed to protect the Willimantic Reservoir drainage basin and the State-designated aquifer protection areas for University of Connecticut wellfields in the Willimantic and Fenton Rivers. The Proposed Action is located outside of the University's wellfields associated Aquifer Protection Area and the Willimantic Reservoir drainage basin. Also, the Proposed Action would not negatively affect environmental or cultural resources described in the Mansfield POCD; therefore the Proposed Action is consistent with the Mansfield POCD (Mansfield, 2006).

Windham Region Land Use Plan (2010)

The Town of Mansfield is located within the planning region of the Windham Region Council of Governments (WINCOG). The *Windham Region Land Use Plan 2010* (Windham Regional Plan) identifies nine general regional goals:

1. Development, especially intensive development, should be concentrated in areas where there is public water and sewer, public transportation service and facilities, sidewalks, schools, and other community infrastructure.
2. Safe, comfortable, high-quality housing should be available to all residents of the region at a cost they can afford.
3. Public transportation should be promoted and expanded
4. Energy-efficient development should be encouraged within the region
5. Economic growth should be focused in areas with existing public infrastructure.
6. The heritage of the Region should be preserved.
7. Development in the Windham Region should not degrade water quality.

8. Wildlife habitats should be preserved because they are critical to the health of our natural environment and are the foundation of ecological communities.

9. Municipal land use controls should foster and create strong, cohesive community centers and discourage expansion into valuable farmland and woodland.

According to the Windham Regional Plan, the Site is located in a Regional Center. According to the plan, Regional Centers are the highest priority for all forms of redevelopment and development including commercial, urban-density residential, and industrial.

The Proposed Action is consistent with all the applicable general regional goals listed above and is within a Regional Center; therefore, the Proposed Action is consistent with the Windham Regional Plan (Windham, 2010).

Storrs Campus Master Plan Update (2006)

The *University of Connecticut Storrs Campus Master Plan Update* (Campus Master Plan) was developed as a result of substantial changes to the physical campus setting since the 1998 University of Connecticut Campus Master Plan. The focus of the Master Plan Update was on the Central Campus, South Campus, West Campus, Research, East Campus, and North Campus neighborhoods. The Proposed Action is within the Research Neighborhood portion of the campus. The Research Neighborhood is the area of campus where most of the STEM and related classrooms and research buildings are located. The 2006 Campus Master Plan (UConn, 2006) stresses the need to collocate facilities associated with specific programs in order to maximize synergies among facilities, students and instructors and to minimize the use of motor vehicles and buses for intra-campus travel.

The Research Neighborhood is very densely developed and is lacking (as in the entire campus) in open space that is needed to provide tie together disparate architectural styles in a cohesive fashion. One of the goals of the Campus Master Plan and the specific planning in the Research Neighborhood is to provide and preserve open space.

The Proposed Action is consistent with the goals and objectives of the Campus Master Plan in that it is collocated with other STEM and related facilities and enhances open space within the Research Neighborhood portion of the campus.

The University has recently begun preparation of an updated Storrs Campus Master Plan that is expected to be completed near the end of 2013. This Plan will incorporate residual projects from the UConn 2000 Program and the Next Generation Program.

4. UNAVOIDABLE ADVERSE IMPACTS

Unavoidable adverse impacts are defined as those that meet the following two criteria:

1. There are no reasonably practicable mitigation measures to eliminate the impacts; and
2. There are no reasonable alternatives to the proposed project that would meet the purpose and need of the action, eliminate the impact, and not cause other or similar significant adverse impacts.

As described in the subchapter headings addressing "Mitigation," a number of the potential impacts identified for the proposed project could be mitigated. However, in some cases, project impacts would not be immediately or fully mitigated. As described below, unmitigated adverse impacts to a number of resources have been identified.

4.1 Construction Phase Impacts

Air Quality. Temporary, insignificant impacts to air quality from vehicular emissions, construction equipment, and dust would likely result from construction related activities.

Noise. During construction of the NESB, there would be short-term increases in noise levels in and around the construction site.

Transportation. During construction, there would be a temporary increase in truck traffic near the site and at streets and intersections surrounding the University, namely Glenbrook Road and North Eagleville Road.

Solid Wastes and Recycling. Construction activities would result in the temporary generation of additional solid waste due to site preparation (including the removal of soil), utility relocation, and construction material packaging and waste.

Toxic & Hazardous Materials. Construction would involve the removal of unsuitable soils from the Site.

Stormwater. Excavation of the site for construction and utility relocation would increase the potential for erosion and sediment transport during wet weather periods while bare earth is exposed on the site.

Energy. Construction-related energy usage would produce a one-time energy demand including the energy utilized in the production and installation of construction materials.

4.2 Operational Phase Impacts

Transportation. The NESB would result in a nomimal increase in the number of vehicle trips on roadways to and from campus. This in turn would results in a nominal increase in noise and air pollutant emissions.

Water Supply. The NESB would result in a net increase in water demand of approximately 1,600 GPD.

Solid Waste and Recycling. The addition the NESB would generate additional solid waste and recyclable goods in the form of trash from garage users and maintenance personnel. This volume of material is expected to be relatively minor over existing operations.

Stormwater. Because of the proposed decrease in impervious surface at the Site, there is expected to be a net decrease in stormwater runoff from the Site which is positive impact relative to the TMDL goals of Eagleville Brook.

Wastewater. There will be an increase in laboratory wastewater from NESB operations which are inherent in laboratory operations for life science and chemistry applications. This waste stream will be managed in accordance with existing University protocols.

Light. There will be a minor increase in the amount of night time lighting in the Research Neighborhood portion of the campus in association with the new building. However, there are no nearby sensitive receptors (residences) that would be affected.

Energy. The NESB would consume additional energy for electricity, heat and cooling. However, this would be a LEED® Silver certified, at a minimum, development and, therefore, their energy usage would be less than that of a traditional structure or development of its size.

Air Quality. The Proposed Action would result in a small increase in air emissions at the campus due to additional demand from the CUP and the replacement of the existing 30 kW LPG emergency generator for the Student Health Services Building with a mobile 150 kW diesel generator.

5. IRREVERSIBLE AND IRRETRIEVABLE COMMITMENTS OF RESOURCES

There will be an irreversible and irretrievable loss of vegetation, wildlife habitat, fossil fuels, labor and construction materials. These commitments of resources are discussed below. For detailed information, see the appropriate subsections of Section 3 in this EIE.

There will be expenditures of fuels, labor, and utility appurtenance construction materials such as cement pipe, concrete block, aggregate, steel beam, and bituminous material would be expended to construct the necessary infrastructure elements of the Proposed Action. Additionally, large amounts of labor, energy, and natural resources would be used in the fabrication and preparation of construction materials. These materials are generally not retrievable. However, they are not in short supply; therefore their use will not have an adverse effect upon continued availability of these products/materials.

The commitment of these resources is based on the concept that local, regional, and state residents will benefit by the proposed Project's significant socioeconomic benefits, i.e. job creation and associated economic output from construction and operations.

6. SUMMARY OF MITIGATION MEASURES

Table 5 summarizes the mitigation measures that will be employed as part of the Proposed Action. These mitigation measures offer means of avoiding or minimizing temporary (construction phase) and permanent (operation phase) impacts to the natural, physical and socioeconomic features of the project area.

TABLE 5. SUMMARY OF MITIGATION MEASURES

Environmental Element	Mitigation	Project Phase	Responsibility
Climate, Geology, Soils & Topography	Installation of erosion and sedimentation controls during and shortly after construction in accordance with CT General Permit for ischarge of Stormwater and Dewatering Wastewater Associated with Construction Activities	Construction	Contractor
Water Resources	Use reclaimed water for toilet flushing.	Design & Construction	Contractor/Owner
	Promote water conservation and obtain approvals to use Fenton Well D even during low stream flow as proposed in the 2011 Water Supply Plan in order to mitigate peak day demand conflicts in the event the CWC water not yet available at the time NESB is complete.	Design	Owner
Toxic and Hazardous Materials	Removal and/or on-site management of polluted and contaminated soils.	Construction	Contractor/Owner
Air Quality	Minimize construction vehicle idling to 3 minutes or less.	Construction	Contractor
Noise & Vibration	Limit construction to daytime hours when possible. Prohibit blasting.	Construction	Contractor
Utilities	Contact Call Before You Dig prior to construction. Contact utilities in areas in or near construction.	Construction	Contractor

7. CERTIFICATES, PERMITS AND APPROVALS

The following is a list and brief description of the environmental certificates, permits or approvals that would be required prior to construction of the New Engineering and Science Building. This is a state project; therefore local approvals are not required.

TABLE 6. SUMMARY OF ENVIRONMENTAL PERMITS LIKELY REQUIRED

Certificate, Permit, or Approval	Reviewing Agency	Comments
General Permit for Discharge of Stormwater and Dewatering Wastewater Associated with Construction Activities	DEEP	For ≥ 1 acres of disturbance. Registration and plan required prior to initiating activities.
Flood Management Certification Section 25-68 CGS	DEEP	New or modification to stormwater drainage requires certification of compliance with Section 25-68 CGS and 225-68h-3 of RCSA by state agency.
Office of State Traffic Administration (OSTA) Certificate	OSTA	Update of existing campus-wide OSTA Certificate required even though Proposed Action would not generate new traffic or involve new curb cuts along State roads.

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APPENDIX A

SCOPING NOTICE, PRESENTATION AND COMMENTS

3. Notice of Scoping for New Engineering and Science Building at the University of Connecticut

Municipality where project is proposed: Mansfield

Address of Possible Project Location: Glenbrook Rd. at University of Connecticut, Storrs Campus

Project Description: The University of Connecticut is seeking to build a New Engineering & Science Building off Glenbrook Road at the Storrs Campus. This five-story, 108,000 GSF building is proposed to be located between the Chemistry Building and the Psychology/Biology Building, partially within the footprint of the old Central Warehouse, which will be demolished. The new building will be a 5-story, 108,000 gross square foot (GSF) structure with a full basement and penthouse. The New Engineering & Science Building will serve the university staff and students, offering new laboratories and offices, classrooms, and meeting rooms. The site is located within the Eagleville Brook watershed and consideration will be given to the TMDL and watershed management plan for Eagleville Brook. The New Engineering & Science Building is anticipated to tie into central utilities for all electrical, heating, and cooling needs. New construction associated with this project will incorporate best practices of sustainability with a minimum goal of LEED Silver.

Project Map: Click here to view a map of the project area.

Written comments: from the public are welcomed and will be accepted until the end of: ***NEW DATE* March 22, 2014**

There will be a Public Scoping Meeting for this project at:

Date: ***NEW DATE* March 17, 2014**
Time: 7:30 PM, or immediately upon the close of the STEM Residence Hall scoping meeting, whichever is later.
Place: Room 146, UConn Bishop Center; One Bishop Circle; Storrs, CT 06269

Written comments should be sent to:
Name: Jason Coite
Agency: UConn - Office of Environmental Policy
Address: 31 LeDoyt Road, U-3055; Storrs, CT 06269
Fax: 860-486-5477
E-Mail: jason.coite@uconn.edu

If you have questions about the Public Scoping Meeting, or other questions about the scoping for this project, please contact Mr. Coite as directed above.

Public Scoping Meeting
New Engineering & Science Building
University of Connecticut

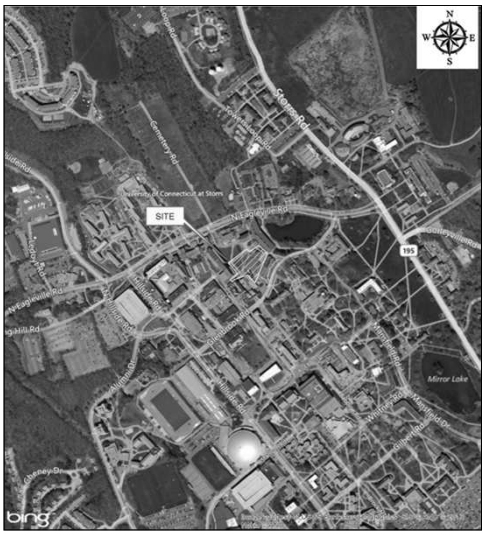
- Introduction – *Jason Coite, UConn*
- Presentation – *Stephen Lecco, A.I.C.P., C.E.P. - GZA*
  - *Project Purpose*
  - *CEPA Process*
  - *Project Description*
  - *Impact Evaluation Elements*
  - *Alternatives*
- Comments - *Public*

GZA

March 17, 2014

UCONN
UNIVERSITY OF CONNECTICUT

Proposed Location



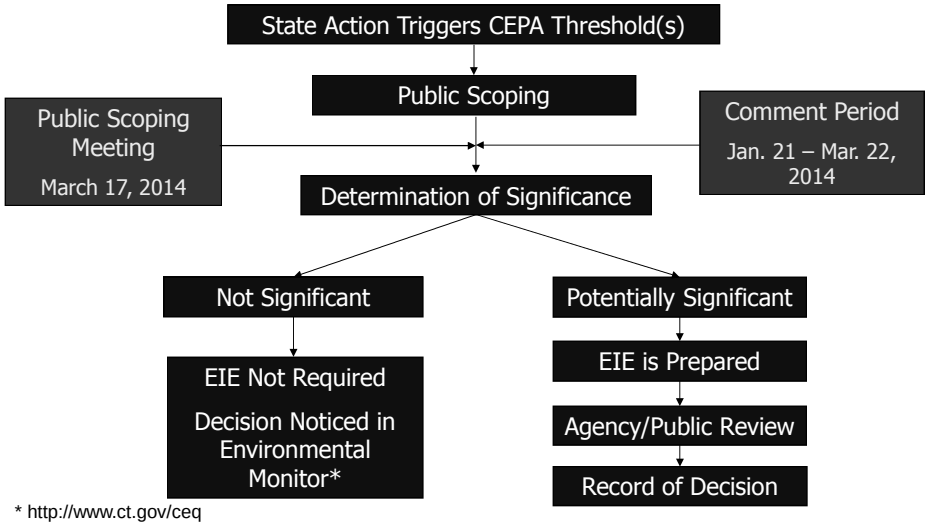
Project Purpose and Need

- To initiate the Next Generation Program which will guide the University over the next decade
- To expand UConn's Science Technology, Engineering and Mathematics (STEM) Program
  - *Drive innovation*
  - *Create jobs*
  - *Spark economic growth*
- To attract new faculty and students
- To provide for much needed laboratory space

What is CEPA?

- Connecticut Environmental Policy Act
- Section 22a-1 through 22a-1h of CGS
- State Agency Actions of Certain Size/Potential Impact Require Compliance with CEPA
- State and Federal Agency Involvement
- Public Involvement Process

CEPA Process



* http://www.ct.gov/ceq

UCONN
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Environmental Elements of CEPA

Physical

- Noise, Light & Shadow
- Traffic, Parking & Circulation
- Public Utilities
- Potable Water Supply
- Stormwater Drainage
- Electricity, Heat, Telecommunications
- Aesthetics
- Cultural Resources

Natural

- Air Quality
- Geology, Topography & Soils
- Surface Water
- Groundwater
- Floodplains
- Wetlands
- Fisheries
- Protected Species

Socioeconomic

- Land Use & Zoning
- State, Local & Campus Master Planning
- Public Health & Safety
- Economy, Employment & Income
- Housing
- Consistency with State C&D Plan
- Environmental Justice

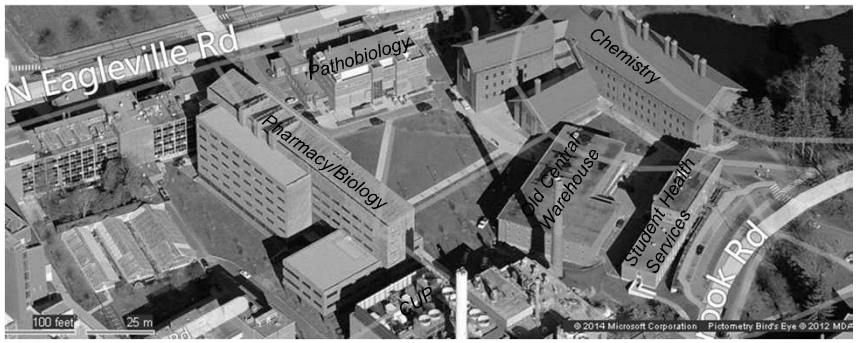
New Engineering & Science Building – CEPA Scoping Presentation

UCONN
UNIVERSITY OF CONNECTICUT

Project Summary

- 5-Story Structure
- 115,000 GSF
- LEED Silver Design
- Laboratories
- Classrooms
- Offices
- New Quadrangle (potential)
- Demolition of Old Central Warehouse (spring 2014)

Existing Conditions

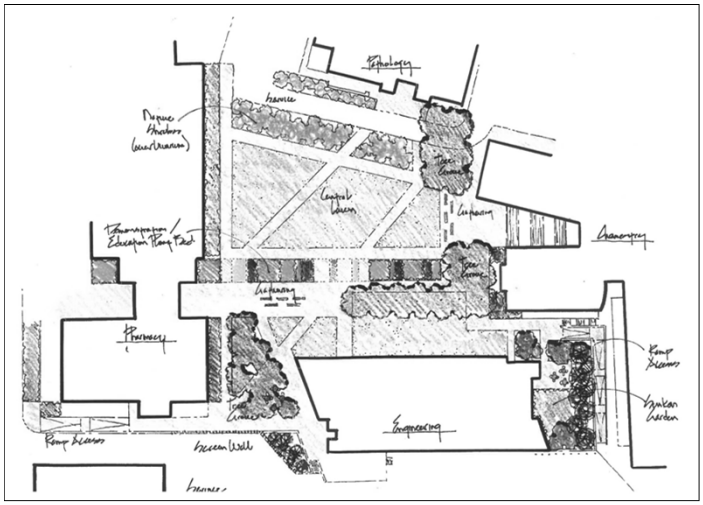


Existing Conditions

Looking west toward Pharmacy/Biology Building and Central Utility Plant

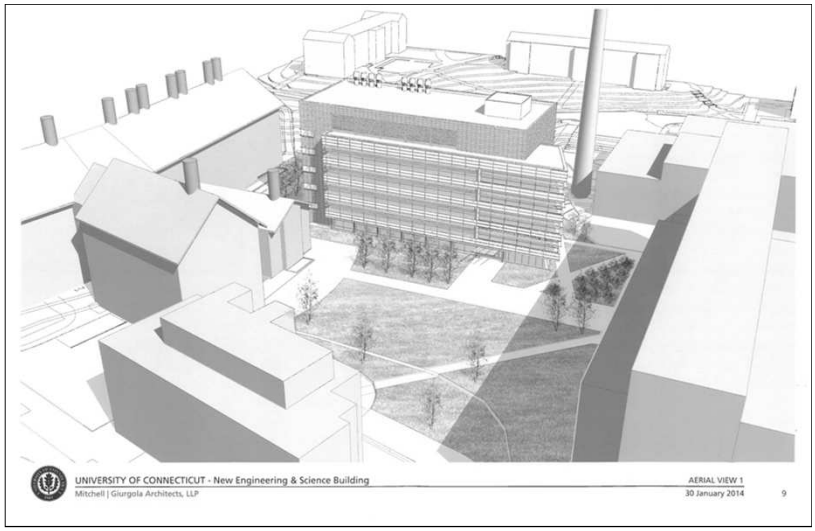
Looking east at Chemistry Building and Old Central Warehouse

Concept Plan



Source: Dirtworks and Mitchell Giurgola

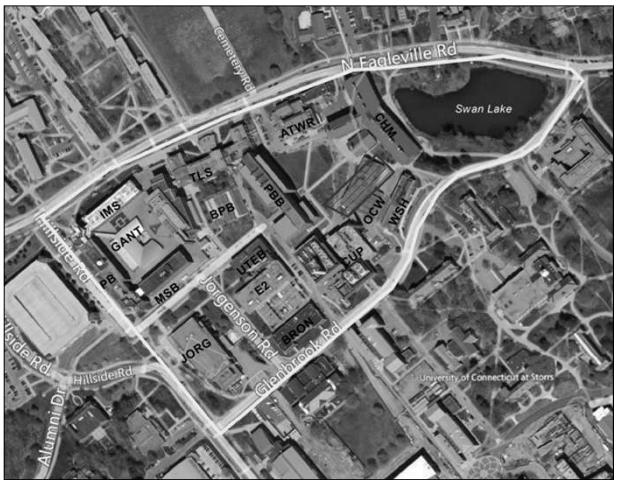
Oblique Rendering



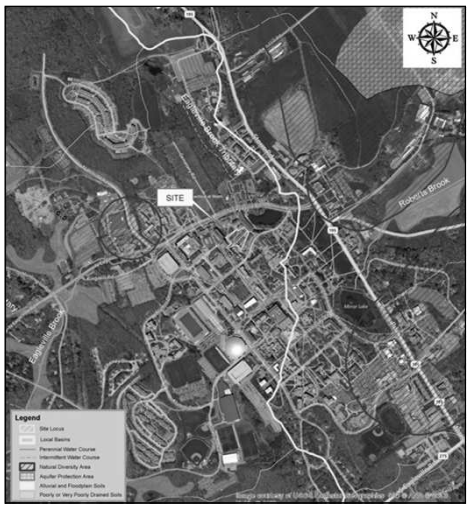
Alternatives

- New Building Between Bronwell and E2
- No Build

Alternatives



Environmental Resources



Preliminary Impact Summary

Element	Negative Impact?	Comment
Traffic	Not Anticipated	No significant increase in enrollment and staffing expected
Air Quality	Not Anticipated	Tie in to existing CUP
Water Quality	Not Anticipated	No major pollutant sources
Water Supply	Not Anticipated	CT Water Company Connection likely before building operational. Minimal water demand.
Protected Species	Not Anticipated	None known to exist/use site
Wetlands	Not Anticipated	None on site
Floodplains	Not Anticipated	No active floodplain on site

Preliminary Impact Summary

Element	Negative Impact?	Comment
Shadow	Not Anticipated	Shadow analysis shows minimal impact
Visual/Aesthetics	Not Anticipated	Consistent with current setting
Utilities	Not Anticipated	Utilities present on site
Noise	Not Anticipated	Consistent with educational setting
Socioeconomics	Not Anticipated	Positive economic benefits
Cultural Resources	Not Anticipated	Not within a Historic District Construction within disturbed area Confirmation needed by SHPO
Cumulative Impacts	Potentially	Will be addressed in Master Plan EIE

Eagleville Brook Considerations

- Preferred site within Eagleville Brook Watershed
- Not meeting water quality standards
- Wide array of pollutants causing impairment
- A Total Maximum Daily Load (TMDL) has been established
- Goal of TMDL to improve water quality and habitat
  - *Reduction/Minimization of Impervious Cover Where Feasible*
  - *Stormwater BMPs*

Comments

- Comments received until March 22, 2014
- Send comments to:

Jason Coite, Environmental Compliance Analyst
University of Connecticut
Office of Environmental Policy
31 LeDoyt Road, Unit 3055
Storrs, CT 06269-3055
phone: 860-486-9305
fax: 860-486-5477
email: jason.coite@uconn.edu

UNIVERSITY OF CONNECTICUT

One Bishop Circle

Storrs, Connecticut

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Public Scoping Meeting * March 17, 2014

New Engineering & Science Building *

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Presented By: Steve Lecco, GZA

- and-

Jason Coite, Environmental Compliance Manager, UConn

. . . . . Verbatim transcript of a hearing before the State of Connecticut, University of Connecticut, held March 17, 2014, at One Bishop Circle, Storrs, Connecticut at 7:43 o'clock p.m., at which time the parties were represented as hereinbefore set forth . . . . .

MR. COITE: Good evening, everyone.

For the record, it is March 17, 2014, and we are starting our New Science and Engineering Scoping meeting at 7:43 p.m. Thank you for coming.

My name is Jason Coite. I am an Environmental Compliance Manager with the UConn office of Environmental Policy.

And I'm going to apologize in advance. We're going to go over some of the same material that we went through for the first presentation. As I mentioned, we're doing two separate scoping meetings and I want to make sure we get all the same material -- all the relevant information on the record.

By way of background, last year the Connecticut Legislature passed Next Gen Connecticut, an act which basically extended UConn 2000's Capitol Project Building Program.

This next phase, again, is Next

Generation Connecticut.

What we have here tonight are the first two proposals associated, at least in whole or in part, with Next Gen Connecticut.

I mention in whole or in part because the science building presentation you'll hear in a minute here was actually the latter -- one of the later projects associated with the UConn 2000 Program. And what it is .... it took the funding available through the 21st Century UConn, could not meet the programming needs, and so has absorbed a little Next Gen money, and now we'll have the full scope presented tonight.

As mentioned before, the Next Gen -- our program of the Next Gen Program will be guided by a master plan. That master plan is underway. We expect to do impact -- environmental impact evaluation on that master plan. We will start that process later this year. But these two projects, including the science building, needed to start in advance of the master plan, and as such, we are having it's own independent CEPA process.

This project was announced in the January 21st CEQ Environmental Monitor, and having to have had to reschedule this a couple of times tonight is the

official scoping meeting for that project.

Tonight we will have Steve Lecco from GZA present the -- what is know to date of the project.

We will collect -- in kind of a similar fashion, after the presentation, we'll collect any public comments that you may have, and then close the official meeting.

And as a reminder, if you have questions that we can easily answer tonight on the proposal we will certainly try our best to do so. If there are questions that we to respond to at a later date, I just want to thank you in advance for your patience.

With that, I will hand this off to Steve Lecco from GZA.

Thank you.

MR. LECCO: Thank you, Jason.

The first thing I'm going to do is I'm going to go through the purpose of the project and then we're going to go through the CEPA process again, as with the previous presentation.

I'm going to describe the project, go through some of the impact evaluation elements that are included in the CEPA process, discuss the alternatives and then we'll turn it over to public comments.

The proposed location for the new engineering and science building, preferred location, is this area in the research neighborhood portion of the campus, located along Glenbrook Road, near the chemistry building, the pharmacy biology building, the infirmary, and it would be -- this location would be located where the old central warehouse currently exists. That building will be demolished. It's slated for demolition this spring.

The purpose of the project is to, as Jason mentioned, initiate the Next Generation Program, which will guide the University over the next decade. And specifically to expand UConn's Science, Technology, Engineering and Mathematics Program, otherwise known as STEM.

Studies have shown that the largest growth area for jobs in the U.S., and in the Northeast for that matter, would be in STEM related disciplines.

This project is envisioned to be part of the Next Gen program, which would drive innovation, create jobs and spark economic growth. It's hope that Next Gen and this project as well, would attract new faculty and students, and provide for much needed laboratory space, which was identified in the 2006

Master Plan as a need for the university.

What is CEPA? CEPA stands for the Connecticut Environmental Policy Act. Sections 22a-1 through 22a-1h of the Connecticut General Statutes is the enabling Act. It requires state agencies with projects of certain size or type to comply with the CEPA statute and regulations.

It involves state and federal agency involvement, as well as local involvement for public input, and input from citizens not associated with the agencies as well.

Here is a flow chart of the CEPA process. We have a state action, which is the university's action for this new engineering and science building.

It triggers a CEPA threshold, and that particular threshold is 100,000 square feet of space. So, it's over the threshold, therefore, CEPA applies to the project.

We are now in the public scoping phase. Meeting tonight for the -- and the public comment period for scoping would end on March 22nd. After that, the university taking comments from you folks, as well as state agencies, will look at those comments and determine if the project has potential for significant

impact. If it does not, then an EIE would not be required, and that decision would be noticed in the Environmental Monitor on the CEQ's Website.

If it's determined by the university or state agencies involved in reviewing the CEPA process that the project has potentially significant impact, then the University will prepare an EIE, and that EIE will undergo agency and public review, as well as potentially a public hearing on the EIE. And then a record of decision will be issued by the University on the project.

Typical elements of the CEPA process .... CEPA is unique in that it looks at basically everything; physical, natural and socioeconomical elements of the environment. Not just things like wetlands and foot plains and rare species, but it looks at all of these things as required by statute.

The physical environment typically consists of the infrastructure associated with the project, the infrastructure needs as well as the impacts of the project on the existing infrastructure.

The natural environment, of course, looks at things like air quality, soils, farmland, wetlands, protected species.

And the socioeconomic environment looks at consistency with state plans and consistency with local plans, income, housing, economic impacts, and those sorts of things.

Now a little bit about the project.

In summary, the project would be a five story structure about 115,000 gross square feet in area. Currently the project is being envisioned as a LEED Silver design. It would consists of laboratories, classrooms, offices, and potentially a new quadrangle area as well.

And as I mentioned previously, the demolition of the old central warehouse is really not part of this project. That's slated for demolition in the spring of this year. But it is important to mention, because it is the footprint of where this new building would be constructed.

Now, in terms of the five stories. It's envisioned that one story would be for computational science laboratory, one for bioengineering, one for chemical engineering and two for life sciences. In total there would be about 375 lab seats within 50 lab groups and 175 desks. So, this project is really here to meet existing laboratory space and to also increase

laboratory space that would be needed as part of the STEM program.

Here's an oblique aerial photo showing the old central warehouse, pharmacy biology building, the patho biology building and the chemistry building, and here's the quadrangle.

This building will be demolished. The new building will be constructed roughly within the same footprint as that old central warehouse, which is used for dry storage.

There are some photographs. The first one here looking west toward the pharmacy biology building and the central utility plant. The central utility plant is in the background here. This is the old central warehouse. And another view looking east at the chemistry building and the old central warehouse. So, there's the old central warehouse, and there's the back of the chemistry building. That's what it looks like today.

This is a concept plan. It's also the same plan that's on the board back there. And it shows roughly what's being envisioned for the project. This would be the new engineering building here, the infirmary is right there and Glenbrook Road is down

here.

The project would involve, this spot, construction of a five story structure, as well as a new driveway in here to get into the loading area behind the building. And also associated with the project would be landscaping around the immediate perimeter of the building. The other landscaping may or may not be part of this particular project. It may be done at another time, depending on funding.

This is the architect's oblique rendering looking south. There's the back of the chemistry building. Here's the quad area. And this is approximately what that structure would look like, looking south from an oblique aerial view.

Now, CEPA requires that we look at alternative. And one of those, of course, being the no build, which would not meet the purpose and need of this project or the University's program for Next Generation or for increasing and enhancing the STEM Program.

We looked at an alternative site, which would be a new building between the Bronwell and the E2 buildings. And I'll show you a picture of that.

This outlines basically the research neighborhood portion of the campus, and it's the desire

of the University, in good planning practice, to locate this new building within that research neighborhood because these are like facilities. They share a lot of resources, human resources, and other resources. So, this is the area that we looked at.

Bronwell is here and E2 is here. There was a proposal several years ago by the University to demolish a portion of E2 -- these two wing portions of E2 -- and construct a 55,000 square foot science building in that location. The University applied for a grant through the natural institute of health. The grant was denied at that time. Time had passed. Next Generation came along with the goal of increasing and enhancing the STEM program, so it was thought that, you know, it would try and get a larger structure to meet the laboratory needs of the University. So, that was the other site that was considered. The preferred site, as I mentioned, is right here where the old central warehouse currently resides. And as you can see, it's a very densely developed area of campus. Not a lot of open space, not a lot of area to work with.

Now, we looked at -- we're looking at environmental resources as required by CEPA. This is the watershed divide, right here, between the

Willimantic River watershed and the Fenton River watershed.

State protected species, they are not on the site. The nearest -- what's known as a natural diversity database bubble, which is an area that has potential, either known or historic sighting of a rare species -- the nearest one is over here. We're well outside of that.

There are not wetlands on site either.

Now, we did a preliminary impact analysis just based on existing information that's publicly available to get a sense of whether we have some potential impact in these CEPA environmental element categories.

Now, for traffic. We're not anticipating any impact because there's not going to be a significant increase in enrollment, specifically as a result of this project. Traffic impacts, of course, will be addressed in the master plan and the EIE in that master plan, as Jason had mentioned previously.

The only real traffic associated with this project is some delivery trucks going into the loading area behind the building.

In terms of air quality. The facility

would tie into the existing central utility plant, which is right next door, conveniently located. So, chilling, electricity and heat would be serviced by that CUP, and that minimizes the amount of emissions associated. So, there would be no new admission source as a result of this project.

In terms of water quality. We don't anticipate any major pollutant sources. Here it's a building with a roof, some walkways. It's not a surface parking lot. There's no vehicle traffic. So, the -- we don't see any water quality issues associated with the project at this time.

In terms of water supply. By the time this project is built it's envisioned that the Connecticut Water Company will likely be servicing the University. That's been a subject of another environmental impact evaluation. We're currently reviewing that right now.

The project in and of itself, even though it's a laboratory, does not really have a high demand for water. We're currently estimating about 4,700 gallons per day of water from this facility. That's our preliminary estimate, which is not a lot of water. It's probably about 30 to 40 dorm rooms equivalent.

As I said, there are no protected species on site, no state or federally endangered species. There are no wetlands on or near the site, and there are no active floodplains on the site.

One of the things to look at when you've got a large, you know, tall building in an urban poor setting is shadow, because large, tall buildings can cast shadow that can affect heating and cooling requirements of adjacent buildings.

And analysis was done, a shadow analysis, to show that this project would really have minimal impact. It would have minimal impact on the adjacent buildings.

In terms of visual and aesthetics we don't anticipate any negative impacts. It's consistent with the current educational and research and science setting of the area.

Utilities are present on site. It's a very dense area. Utility tie-ins are very easy to do. Nothing needs to come from a long ways away.

In terms of noise. This will not be a major generator of noise. During construction there will be some noise, but .... that will be mitigated by best management practices.

In terms of socioeconomical we're anticipating some positive environmental benefits. Certain for construction, for students, for staff and for the University.

Cultural resources, which is archaeological and historic resources. The site is not within a historic district. Construction will occur within a disturbed area, but we will coordinate with the State Historical Preservation Office to get that confirmed.

And in terms of -- CEPA requires cumulative impacts be addressed, those will be addressed in the master plan EIE, which is most appropriate because you would take this project, you would take the STEM residence hall, any other projects associated with the master plan as a whole and then evaluate those impacts.

As was mentioned in the previous presentation, we are within the Eagleville Brook watershed, so, there are -- you know, some items that need to be addressed associated with that, as Eagleville Brook is not currently meeting water quality standards. It has been studied and is subject to a TMDL, which is a total maximum daily load. The goal of the state in

implementing the TMDL is to improve water quality and habitat of Eagleville Brook, and that can be done through the reduction and minimization of impervious cover where it's feasible. And where it's not feasible other methods, stormwater best management practices, would need to be implemented in order to negate the effects of impervious cover.

And that basically concludes my presentation.

Comments will be received on this project until the close of business, March 22nd. Send your comments to Jason. Remember, don't call him. Alright. Jason has a fax and an email here that you can send your comments to so we get them on record.

MS. REICH: March 22nd is a Saturday. Are you going to be in the office on Saturday.

MR. COITE: I will not be in the office on Saturday. We will accept comments until 11:59 on Saturday night.

MR. LECCO: And now is the opportunity for anybody to speak regarding this project. Provide their comments. Speak clearly, state your name, your address and your affiliation, if possible.

MR. COITE: Thank you, Steve.

Are there any comments on the science and engineering building?

Yes.

MS. REICH: Meg Reich, President of the Willimantic River Alliance out of Mansfield.

I went to school here. I walked the site today.

I attended a conference today. The 2014 Connecticut Conference on Natural Resources. And interestingly enough, the featured speaker didn't show up. It was -- the conference was in the student union. The featured speaker, I don't know, broke her shoulder or something.

So, the substitute speaker was Chet Arnold from Connecticut Corporate Extensive Service, who has been very instrumental in working with Mike Dietz on the TMDL project here at UConn. And while his presentation and a later presentation by Mike Dietz in the afternoon showed the projects that the University has been doing to minimize impervious cover and to treat, especially with bioretention and rain gardens, stormwater runoff and erosion and sedimentation to attempt to minimize pollution to the Eagleville Brook.

The reality is that there have been a

number of projects over the years. Mostly parking lots and rain gardens, snowshelves, but the top 10 TMDL projects that were recommended have not been carried out. And indeed he mentioned at this presentation, and I mention now, that the number one project, which is the diversion of the chemistry building roof top stormwater runoff and to disconnect the runoff from that rooftop into some sort of holding device, whether it's natural bioretention or an engineered system, has not been built. And the site plan in the CEQ notice and on your illustrations here show that the site plan takes up the land on which that project is proposed to be built. A bioretention rain garden project is on the website of the TMDL site. It is the number one project. It hasn't been built.

Your further explanation and the site plan indicate, however, that the building will be built more or less within the footprint of the current old central warehouse. And so -- because it's a tall building and if it's really built within, more or less the footprint of an existing building, it won't have too much of an additional impact on the Eagleville Brook.

But nonetheless, I haven't seen any discussion of or plans for how you tend to reduce the

impervious cover. When you build a new building you're increasing the impervious cover. This one happens to be a tradeoff. You're replacing the old warehouse with a new building. It's a tall building, so hopefully there's going to be zero or minimal increase in pervious cover from the construction of this project.

Nonetheless -- and I'm glad to see that there's a potential new green or quadrangle proposed here and that building won't take up the entire site, as is shown on the site maps for the scoping notice.

And so there is some potential to be able to still fit in the chem building rooftop draining into a bioretention area in this quadrangle, as well divert the rooftop drainage of this building into such a bioretention area. Although, then it won't be a quadrangle for people to walk on and to play Frisbee in or picnic on or whatever. I'm not sure in the limited space that's left, in what is now about to be the most densely filled part of the campus. I'm not sure you can fit all of this stuff in. So, you may have to have some underground storage detention for the stormwater so it can be metered into the brook after the storm has taken place.

But this low impact development green

infrastructure, or whatever you want to call the language that's popular this week, or next week, you need to plan for stormwater runoff and erosion sedimentation improvements.

And temperature is also an issue. Something that's not been addressed in any of the other issues and projects. And that is how do you reduce the temperature of the water that you're retaining.

The conference showed today that the water -- that the temperature of the water in Eagleville Brook itself has never gone below 50 degrees this entire winter, and this has been an extremely cold winter. And even when I walked on the site today, there was no water flowing out of swan lake whatsoever, either drainage ports. Not over the little damn in front of the chemistry building, and not out of the where that drains it is a unique pond in that it drains in two directions; both to the Willimantic River and to the Fenton River.

But it's not draining at all. It hasn't rained in a while. It's completely frozen over. And so, if you go on line and look at the water that goes through that, all of the water that's going into Eagleville brook right now has got to be out of their ground water drainage from up in the towers area, or

what's being pumped into the brook from the drainage from melting snow, or from buildings. Whatever is going into it from heating, condensing. There are unknown things that go into that brook.

I think they noted again at today's conference that it's known by everybody who works on the TMDL project, there are daily spikes and up to 20,000 a day of a release of an unknown fluid, mostly water, that goes into Eagleville Brook, which is piped from the chemistry building to where it daylights, just down from the Subway shopping plaza.

This river is pitiful and it's dead. And I don't know that it will ever be brought back. A segment of the river was delisted from the list of dead rivers last year. And perhaps that's because of some of the measures that he university has taken to improve the situation, remove impervious cover and do remedial actions. But this project potentially interferes with other projects that have been proposed to mitigate the problems that the university's development has caused for this brook.

The TMDL plan calls for a 59 percent reduction in impervious cover on campus. How can you possibly do that when you're building new buildings and

and new pavement in various parking lots, sidewalks. It's perhaps an impossible job, just each building has to be looked at for its impact and how you can not only prevent expansion of the problem, but perhaps mitigate some of the problem that already exists in this, the most densely developed section of the campus.

So, I would suggest that you also look at a green roof for this building and bioretention areas in the landscaping around the building. You said that you weren't sure budget-wise that money might not be available to do the new quadrangle with this building. I would say if there's not money with this building, you shouldn't do this building. The rest of the buildings are built. This will be the last building of the quadrangle. If you can't fix this project now with this building, you don't do the building.

While the Willimantic River Alliance supports the University's expansions, this one's lying in the sand. This one's going too far. You have to fix the problem with that section of campus with this building, and you have to build that new quadrangle. And under the quadrangle you're going to have a concrete retention basin or the stormwater runoff, which will be able to be cleaned up from the erosion and sedimentation

of the salt and the sand and the salt that will collect in it, and/or you're going to build on top of it a bioretention rain garden or something like that. Or the project, it will be opposed by the Willimantic River Alliance and many of the people in the region.

MR. COITE: Thank you, Meg.

Are there any other comments on the proposed science and engineering building?

(No response.)

With that, we will close the scoping meeting at 8:14.

I appreciate everyone coming tonight. Thank you very much.

That concludes our meeting.

(Whereupon the proceedings concluded for the day.)

C E R T I F I C A T I O N

STATE OF CONNECTICUT)
)
COUNTY OF HARTFORD)

I, Nancy E. Paretti, a Notary Public in and for the State of Connecticut, do hereby certify that the forgoing record is a correct and verbatim computer-aided transcription of the proceeding herein set forth.

I further certify that I am neither counsel for, nor related to, nor employed by any of the parties to the action in which this proceeding is taken, and further certify that I am not related to, nor an employee of any attorney or representative employed by the parties thereto, nor am I financially interested in this action.

In witness whereof I have hereunto set my hand and affixed my notarial seal this date April 11, 2014.

_____

Nancy E. Paretti

Notary Public

My commission expires February 28, 2017

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: March 21, 2014

Subject: Engineering & Science Building

The Department of Energy & Environmental Protection has received the Notice of Scoping for the proposed construction of an engineering and science building on Glenbrook Road on the Storrs campus. The following commentary is submitted for your consideration.

Given the water quality impairment in Eagleville Brook that led to adoption of a Total Maximum Daily Load (TMDL) for the watercourse, the potential impact from stormwater runoff is a concern for any project that introduces additional impervious surface within the Eagleville Brook watershed. The Notice of Scoping does indicate that consideration will be give to the TMDL and the *Eagleville Brook Watershed Management Plan*. The Department urges that Low Impact Development techniques be utilized to reduce and disconnect the impervious cover to be added to the site, which presently includes a mixture of impervious surfaces (building and walkways) as well as a lawn area.

It should be noted the lawn area had been identified in the *Eagleville Brook Watershed Management Plan* as the site of a high priority project (C-17) to disconnect rooftop impervious surface through the installation of bioretention basins. The degree to which the building project would obstruct the disconnection project should be evaluated. Conversely, the potential that mobilization of construction equipment would lessen construction costs and could trigger completion of a relocated basin should be considered.

Although Eagleville Brook is within a culvert at the site, the proposed project is within the 100-year flood zone on the community's Flood Insurance Rate Map and must be certified by the University as being in compliance with flood and stormwater management standards specified in section 25-68d of the Connecticut General Statutes (CGS) and section 25-68h-1 through 25-68h-3 of the Regulations of Connecticut State Agencies (RCSA) and receive approval from the Department. The stormwater collection for the project should be designed so that there will be no increased runoff for the 2-, 10- and 100-year storm events.

The ability to reliably provide water supply to meet the increased demand of this project, in conjunction with the new STEM residence hall and the Innovative Partnership Building, should be confirmed. The Record of Decision for the *Potential Sources of Water Supply Environmental Impact Evaluation* projected average day demand for 2015 to include 24,125 gallons per day (gpd) for NextGenCT (presumably including this project) and no demand for the

Tech Park. Although it was concluded that no additional supply would be required to meet average day demand, projected peak day demand for 2015 would require additional supply.

In evaluating the adequacy of water supply, the timing of construction of the various projects and the completion of the proposed interconnection with the Connecticut Water Company should be considered. The capability to supply all three projects from existing sources may need to be evaluated, depending on the schedule to complete the projects.

For large construction projects, the Department typically encourages the use of newer off-road construction equipment that meets the latest EPA or California Air Resources Board (CARB) standards. If that newer equipment cannot be used, equipment with the best available controls on diesel emissions including retrofitting with diesel oxidation catalysts or particulate filters in addition to the use of ultra-low sulfur fuel would be the second choice that can be effective in reducing exhaust emissions. The use of newer equipment that meets EPA standards would obviate the need for retrofits.

The Department also encourages the use of newer on-road vehicles that meet either the latest EPA or California Air Resources Board (CARB) standards for construction projects. These on-road vehicles include dump trucks, fuel delivery trucks and other vehicles typically found at construction sites. On-road vehicles older than the 2007-model year typically should be retrofitted with diesel oxidation catalysts or diesel particulate filters for projects. Again, the use of newer vehicles that meet EPA standards would eliminate the need for retrofits.

Additionally, Section 22a-174-18(b)(3)(C) of the Regulations of Connecticut State Agencies (RCSA) limits the idling of mobile sources to 3 minutes. This regulation applies to most vehicles such as trucks and other diesel engine-powered vehicles commonly used on construction sites. Adhering to the regulation will reduce unnecessary idling at truck staging zones, delivery or truck dumping areas and further reduce on-road and construction equipment emissions. Use of posted signs indicating the three-minute idling limit is recommended. It should be noted that only DEEP can enforce Section 22a-174-18(b)(3)(C) of the RCSA. Therefore, it is recommended that the project sponsor include language similar to the anti-idling regulations in the contract specifications for construction in order to allow them to enforce idling restrictions at the project site without the involvement of the Department.

The Natural Diversity Data Base, maintained by DEEP, contains no records of extant populations of Federally listed endangered or threatened species or species listed by the State, pursuant to section 26-306 of the Connecticut General Statutes, as endangered, threatened or special concern in the project area. This information is not the result of comprehensive or site-specific field investigations. Also, be advised that this is a preliminary review. A more detailed review may be conducted as part of any subsequent environmental permit applications submitted to DEEP for the proposed site. Consultation with the Natural Diversity Data Base should not be substituted for on-site surveys required for environmental assessments. The extent of investigation by competent biologist(s) of the flora and fauna found at the site would depend on the nature of the existing habitat(s).

Thank you for the opportunity to review this proposal. If there are any questions concerning these comments, please contact me.

cc: Robert Hannon, DEEP/OPPD
Chris Bellucci, DEEP/WPSD
Jeff Caiola, DEEP/IWRD
Ellen Pierce, DEEP/APSD
Eric Thomas, DEEP/WPSD

STATE OF CONNECTICUT

DEPARTMENT OF PUBLIC HEALTH

cc: Rich

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

Dannel P. Malloy
Governor
Nancy Wyman
Lt. Governor

March 21, 2014

Jason Coite
UCONN—Office of Environmental Policy
31 LeDoyt Road, U-3055
Storrs, CT 06269

Re: Notice of Scoping for the New Engineering and Science Building at the University of Connecticut

Dear Mr. Coite:

The Department of Public Health (DPH) Drinking Water Section (DWS) has reviewed the above Notice for the New Engineering and Science Building at the University of Connecticut, proposed to be located off of Glenbrook Road at the Storrs Campus and attended the Public Scoping meeting on March 17, 2014. The new building will be a five-story, 108,000 gross square foot structure with a full basement and penthouse. The New Engineering and Science Building will serve the university staff and students, offering new laboratories and offices, classrooms, and meeting rooms. The New Engineering and Science Building is anticipated to tie into central utilities for all electrical, heating, and cooling needs. The DWS understands that the New Engineering and Science Building was originally planned to be built as a part of the UCONN 2000 initiative and it will also be receiving partial funding through Next Generation Connecticut (NextGenCT).

Based upon the information provided at the Public Scoping meeting, UCONN is currently developing a Master Plan for NextGenCT that will be publicly vetted through the Connecticut Environmental Policy Act process of Scoping and Environmental Impact Evaluation development. However, UCONN anticipates the need for this building prior to completion of the Master Plan; therefore it is being noticed separately from the Master Plan. It was indicated at the Scoping meeting that the cumulative impacts of this building will be addressed in the Master Planning process for NextGenCT.

Keeping Connecticut Healthy
DPH
Connecticut Department of Public Health

Phone: (860) 509-7333 • Fax: (860) 509-7359 • VP: (860) 899-1611
410 Capitol Avenue, MS#51WAT, P.O. Box 340308
Hartford, Connecticut 06134-0308
www.ct.gov/dph
Affirmative Action/Equal Opportunity Employer

The DWS offers the following comments for your consideration. These comments supersede the comments dated February 20, 2014:

- The New Engineering and Science Building will not be located within a public water supply source water area; therefore the DWS has no source protection related comments to offer.
- It is not clear whether the estimated potable water demand for this unbuilt UCONN 2000 building has been quantified in UCONN's Individual Water Supply Plan or the Final Record of Decision, Environmental Impact Evaluation, Potential Sources of Water Supply, University of Connecticut, Storrs, Dated July 30, 2013 (ROD). Based upon the information provided at the Scoping Meeting, potable water demands for this facility are estimated to be approximately 4,700 gallons per day. This demand should be included in the NextGenCT Master Plan estimates and evaluated at that time for consistency with the estimates provided in the ROD.
- The DWS believes that this development should strive to conserve as much potable water as feasible. During the review process for UCONN's supply augmentation evaluation, the DWS requested that details for implementation of current, ongoing, and future water conservation practices be provided. The ROD outlines numerous opportunities for strategic long term water conservation in response to the DWS request. These opportunities should be evaluated for feasibility of implementation for the New Engineering and Science Building.
- The DWS recommends that UCONN investigate and report on the feasibility of meeting the non-potable water needs of the New Engineering and Science Building through use of the water produced by UCONN's Reclaimed Water Facility.

If you have any questions regarding these comments, you may contact me at (860)509-7333.

Sincerely,

L. Mathieu

Lori Mathieu
Public Health Section Chief
Drinking Water Section

Cc: Robert Miller, Eastern Highlands Health District
David Radka, Connecticut Water Company

TOWN OF MANSFIELD

Elizabeth C. Paterson, Mayor

AUDREY P. BECK BUILDING
FOUR SOUTH EAGLEVILLE ROAD
MANSFIELD, CT 06268-2599
(860) 429-3330
Fax: (860) 429-6863

March 19, 2014

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

Subject: Proposed Engineering and Science Building

Dear Mr. Coite:

The Mansfield Town Council and Planning and Zoning Commission (PZC) offer the following comments and recommendations with regard to the proposed Engineering and Science Building:

- *Master Plan and Impact Study.* A campus master plan and Next Generation Connecticut impact study should be completed prior to construction of any buildings related to the NextGen initiative other than the currently proposed engineering/science building and STEM residence hall. This study should include a comprehensive, multi-modal transportation plan for the build-out of the campus that considers impacts to the local transportation network, including off-campus improvements for vehicular, pedestrian, bike and transit circulation.

- *Traffic Analysis.* A traffic study that evaluates the potential impacts of the proposed buildings on the local road network, in addition to the state road network, should be done to confirm the conclusion that no significant impacts on the local road network are anticipated. This analysis should identify any necessary mitigation measures and be made available to the Town for review and comment prior to submission to OSTA.

- *Stormwater/Eagleville Brook.* The University should identify specific measures to employ for each project to reduce impacts on the Eagleville Brook watershed.

If you have any questions regarding these comments, please contact Linda Painter, Director of Planning and Development.

Sincerely,

Elizabeth C. Paterson
Elizabeth C. Paterson
Mayor

JoAnn Goodwin
Chair, Mansfield PZC

Cc: Town Council
Planning and Zoning Commission

Department of Economic and Community Development

Connecticut still revolutionary

State Historic Preservation Office

One Constitution Plaza | Hartford, CT 06103 | 860.256.2800 | Cultureandtourism.org

PROJECT REVIEW COVER FORM

1. **This information relates to a previously submitted project.** ☐ You do not need to complete the rest of the form if you have been previously issued a SHPO Project Number. Please attach information to this form and submit

SHPO Project Number _____
(Not all previously submitted projects will have project numbers)

Project Address Glenbrook Road, University of Connecticut Storrs Campus
(Street Address and City or Town)

2. **This is a new Project.** [X] If you have checked this box, it is necessary to complete ALL entries on this form.

Project Name New Engineering and Science Building (NESB)

Project Location Glenbrook Road
Include street number, street name, and or Route Number. If no street address exists give closest intersection.

City or Town Storrs
In addition to the village or hamlet name (if appropriate), the municipality must be included here.

County Tolland
If the undertaking includes multiple addresses, please attach a list to this form.

Date of Construction (for existing structures) circa 1958

PROJECT DESCRIPTION SUMMARY (include full description in attachment):

Construction of a New Engineering and Science Building (NESB) and associated site and landscape improvements in the adjacent quadrangle area. The site of the NESB would be primarily within the footprint of the Old Central Warehouse (OCW) which is slated for demolition this summer; however, this is indepedent of the proposed project, i.e. it is not part of the proposed action. See attached letter for more details.

TYPE OF REVIEW REQUESTED

a. Does this undertaking involve funding or permit approval from a State or Federal Agency?

[X] Yes [ ] No

Agency Name/Contact	Type of Permit/Approval	State	Federal
DEEP	Flood Management Certification (possibly)	[X]	[ ]
DEEP	Construction Stormwater Permit	[X]	[ ]
		[ ]	[ ]

	Yes	No
b. Have you consulted the SHPO and UCONN Dodd Center files to determine the presence or absence of previously identified cultural resources within or adjacent to the project area?	[ ]	[X]
If yes: Was the project site wholly or partially located within an identified archeologically sensitive area?	[ ]	[ ]
Does the project site involve or is it substantially contiguous to a property listed or recommended for listing in the CT State or National Registers of Historic Places?	[ ]	[ ]
Does the project involve the rehabilitation, renovation, relocation, demolition or addition to any building or structure that is 50 years old or older?	[ ]	[ ]

Department of Economic and Community Development

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State Historic Preservation Office

One Constitution Plaza | Hartford, CT 06103 | 860.256.2800 | Cultureandtourism.org

PROJECT REVIEW COVER FORM

The Historic Preservation Review Process in Connecticut Cultural Resource Review under the National Historic Preservation Act – Section 106 http://www.achp.gov/106summary.html involves providing technical guidance and professional advice on the potential impact of publicly funded, assisted, licensed or permitted projects on the state's historic, architectural and archaeological resources. This responsibility of the State Historic Preservation Office (SHPO) is discharged in two steps: (1) identification of significant historic, architectural and archaeological resources; and (2) advisory assistance to promote compatibility between new development and preservation of the state's cultural heritage.

Project review is conducted in two stages. First, the SHPO assesses affected properties to determine whether or not they are listed or eligible for listing in the Connecticut State or National Registers of Historic Places. If so, it is deemed "historic" and worthy of protection and the second stage of review is undertaken. The project is reviewed to evaluate its impact on the properties significant materials and character. Where adverse effects are identified, alternatives are explored to avoid, or reduce project impacts; where this is unsuccessful, mitigation measures are developed and formal agreement documents are prepared stipulating these measures. For more information and guidance, please see our website at: http://www.cultureandtourism.org/cct/cwp/view.asp?a=3933&q=293820

ALL PROJECTS SUBMITTED FOR REVIEW MUST INCLUDE THE FOLLOWING MATERIALS*:

[X] **PROJECT DESCRIPTION** Please attach a full description of the work that will be undertaken as a result of this project. Portions of environmental statements or project applications may be included. The project boundary of the project should be clearly defined**

[X] **PROJECT MAP** This should include the precise location of the project – preferably a clear color image showing the nearest streets or roadways as well as all portions of the project. Tax maps, Sanborn maps and USGS quadrangle maps are all acceptable, but Bing and Google Earth are also accepted if the information provided is clear and well labeled. The project boundary should be clearly defined on the map and affected legal parcels should be identified.

[X] **PHOTOGRAPHS** Clear, current images of the property should be submitted. Black and white photocopies will not be accepted. Include images of the areas where the proposed work will take place. May require: exterior elevations, detailed photos of elements to be repaired/replaced (windows, doors, porches, etc.) All photos should be clearly labeled.

For Existing Structures	Yes	N/A	Comments
Property Card	☐	☒	
For New Construction	**Yes**	**N/A**	**Comments**
Project plans or limits of construction (if available)	☒	☐	Locus plan attached
If project is located in a Historic District include renderings or elevation drawings of the proposed structure	☐	☐	
Soils Maps http://websoilsurvey.nrcs.usda.gov/app/HomePage.htm	☒	☐	
Historic Maps http://magic.lib.uconn.edu/	☒	☐	1934, 1951 and 1960
For non-building-related projects (dams, culverts, bridge repair, etc)	**Yes**	**N/S**	**Comments**
Property Card	☐	☐	
Soils Map (see above)	☐	☐	
Historic Maps (see above)	☐	☐	

STAFF REVIEW AREA	Above	Date	Below	Date
Indicate date of Review and Initials of Reviewer				

PROJECT CONTACT

Name Stephen Lecco, AICP, CEP Title Project Manager

Firm/Agency GZA GeoEnvironmental (on behalf of the University of Connecticut)

Address 1350 Main Street, Suite 1400

City Springfield State MA Zip 01103

Phone 413-726-2114 Cell 860-227-4212 Fax 413-732-1249

Email stephen.lecco@gza.com

*Note that he SHPO's ability to complete a timely project review depends largely on the quality of the materials submitted.

** Please be sure to include the project name and location on *each page* of your submission.

Department of Economic and Community Development

Connecticut
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State Historic Preservation Office

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PROJECT REVIEW COVER FORM

SHPO USE ONLY

Based on our review of the information provided to the State Historic Preservation Office, it is our opinion that:

☐ No historic properties will be affected by this project. No further review is requested.

☒ This project will cause no adverse effects to the following historic properties. No further review is requested: University of Connecticut Historic District / Connecticut Agricultural School

☐ This project will cause no adverse effects to the following historic properties, conditional upon the stipulations included in the attached letter:

☐ Additional information is required to complete our review of this project. Please see the attached letter with our requests and recommendations.

☐ This project will adversely affect historic properties as it is currently designed or proposed. Please see the attached letter for further details and guidance.

Daniel T. Forrest — 4/7/14

Daniel T. Forrest
Deputy State Historic Preservation Officer

Date

Willimantic River Alliance, Inc.
info@WillimanticRiver.org www.WillimanticRiver.org
P.O. Box 9193, Bolton, CT 06043

March 22, 2014

To: Jason Coite, UCONN Office of Environmental Policy

From: Meg Reich, President, Willimantic River Alliance

Subject: **Comments on proposed new Engineering and Science Building, Glenbrook Rd, UCONN, Storrs, CT**

The Willimantic River Alliance is concerned about any new construction on the UCONN Storrs campus that is within the Eagleville Brook watershed, not only because it drains to the Willimantic River, but because the brook has severely impaired water quality due to urban runoff from the campus. Segments of this brook have no aquatic life what so ever. The Eagleville Brook watershed drains a large portion of the University of Connecticut campus in Storrs, and for long stretches in the upper part of the watershed, the brook is piped underground beneath the campus.

Under section 303(d) of the Clean Water Act the Connecticut Department of Environmental Protection developed a list of impaired waters in the state. These are waters that are too polluted or otherwise degraded to meet the water quality standards set by the state. The law requires the establishment of priority rankings for waters on the list and the development of TMDLs for these waters. A Total Maximum Daily Load, or TMDL, is a calculation of the maximum amount of a pollutant that a waterbody can receive and still safely meet water quality standards. Eagleville Brook was listed based on very low aquatic life use support scores, due to urban stream syndrome. In 2007, the Connecticut Department of Environmental Protection issued the first TMDL in the country based on impervious cover (IC) for Eagleville Brook.

Since then, the University, CTDEP and other partner organizations have spent a great deal of time and effort in addressing the water quality impairments of Eagleville Brook. A large number of potential projects were assessed for their ability to minimize stormwater runoff and to retrofit existing IC. A watershed plan was prepared and a list of "Top Ten" projects was developed. The number one project in this list is the Site C17/C16 project on the chemistry building quadrangle, which would install three bioretention areas in the quadrangle in order to capture rooftop runoff from the chemistry building and to divert runoff from adjacent impervious areas from being conveyed directly into Eagleville Brook, which is in a pipe deep below this area of campus.

The proposed new engineering and science building is located adjacent to this existing quadrangle, and the site map in the scoping notice indicates that this project includes about half of the quadrangle. This new five story building will replace the old central warehouse, which is to be demolished this summer, and the consultant at the scoping meeting on 3/17/14 who described the project, stated that the new structure will be constructed on the footprint of the former structure. This measure will minimize the construction of new impervious cover. He also stated, however, that the creation of a new open green quadrangle is planned for much of the area which is

already an open grass area, but that there is no funding available within the budget for this new science and engineering building to construct the new quadrangle. No mention was made of what stormwater runoff or impervious cover measures are planned for this or adjacent areas. Perhaps it is too early in the process for such improvements to be considered, but there was a draft landscape plan presented which did not have any such features highlighted.

The Willimantic River Alliance members consider it imperative to include the planned new pedestrian quadrangle and the chemistry building quadrangle TMDL retrofit project in the planning and design for this proposed new science and engineering building. The stormwater runoff from this new building and surrounding site cannot just be piped directly into Eagleville Brook. It is also no longer acceptable to allow the stormwater drainage from the chemistry building and adjacent areas to be piped directly into the brook. These plans need to be integrated at this point in time, and there is an opportunity to do this with the planning and design of this new science and engineering building. Indeed, consideration for future building projects also need to be taken into account at this point in time; in particular, the eventual replacement of the infirmary building, which is directly adjacent to the old central warehouse, and whose stormwater runoff also is piped into Eagleville Brook.

As you know, and as is stated in the scoping notice for this project, "consideration will be given to the TMDL and watershed management plan for Eagleville Brook". It further states that," new construction associated with this project will incorporate best practices of sustainability with a minimum goal of LEED Silver". The Willimantic River Alliance can only support the construction of this new building if the comprehensive stormwater runoff and impervious cover issues of the adjacent buildings and areas are also addressed in the planning, design and construction of this new building.

We recognize that construction project budgets are usually exclusive to the building and site, and cannot be expanded to include other projects in adjacent areas. The site of this new building, however, overlaps with and includes the area planned for the chemistry quadrangle stormwater retrofit project and the new pedestrian quadrangle. They should all be planned, designed and constructed at the same time, or in a planned and phased manner. The Alliance would be glad to support the University's need for additional funds to carry out these important and environmentally necessary improvements.

The new science/engineering building should not go forward, unless the retrofit stormwater runoff project is also planned to be put into place and the new pedestrian quadrangle is also designed and scheduled for construction. The University plans to teach new scientists and engineers in this building, and this new structure and its site should be a model of the sustainability and best practices they will be learning, just as the scoping notice states.

xxx

APPENDIX B

EIE DISTRIBUTION LIST

New Engineering and Science Building
Environmental Impact Evaluation
Distribution List

State of Connecticut
Department of Energy & Environmental Protection
79 Elm Street
Hartford, CT 06106-5127
Attention: David J. Fox

State of Connecticut
Department of Public Health
410 Capitol Avenue, MS#51WAT
P.O. Box 340308
Hartford, CT 06134-0308
Attention: Eric McPhee

State of Connecticut
Office of Policy and Management
450 Capitol Avenue
Hartford, CT 06106
Attention: Daniel Morley

Connecticut Council on Environmental Quality
79 Elm Street
Hartford, CT 06106
Attention: Karl Wagener

State of Connecticut
Connecticut Commission on Culture and Tourism
One Constitution Plaza
Hartford, CT 06103
Attention: Dan Forrest

Town of Mansfield
Office of Town Clerk
Audrey P. Beck Building
Four South Eagleville Road
Mansfield, CT 06268-3330

Town of Mansfield
Public Library
54 Warrenville Rd
Mansfield Center, CT
06250