

OFFICE OF ADJUDICATIONS

IN THE MATTER OF : ***APPLICATIONS NOs. DIV-201205385
IW-201205383***

***UNIVERSITY OF CONNECTICUT-
NORTH HILLSIDE RD. EXTENSION*** : ***NOVEMBER 22, 2013***

PROPOSED FINAL DECISION

I

SUMMARY

On October 29, 2013, the University of Connecticut (Applicant or UCONN) and staff of the Department of Energy and Environmental Protection (DEEP) jointly filed the attached Agreed Draft Decision for my review and consideration. ([Appendix 1.](#)) Regs., Conn. State Agencies § 22a-3a-6(1)(3)(A). I have reviewed this submission, the record and the relevant law in this matter. I find that the Applications filed by UCONN for inland wetlands and non-consumptive stormwater diversion permits associated with the construction of an extension of North Hillside Road and six conceptual development parcels for a research and technology park in Storrs (Applications) comply with the applicable statutes and relevant provisions of the implementing regulations. Furthermore, I find that the parties' Agreed Draft Decision, as supplemented herein, satisfactorily conveys the factual findings and legal conclusions necessary to support my recommendation. I adopt this Agreed Draft Decision as part of this Proposed Final Decision.

The DEEP has prepared a draft permit authorizing both the regulated inland wetlands activities and stormwater diversion. ([Appendix 2.](#)) The record and this draft permit, as modified by the Agreed Draft Decision, reflect staff's consideration of all the relevant criteria set forth in the applicable statutes and regulations governing the proposed activity.

If conducted as proposed and in accordance with the terms and conditions of the draft permits, the regulated activities will be consistent with all relevant statutes and regulations regarding activities within or near inland wetlands and watercourses pursuant to the Inland Wetlands and Watercourses Act, General Statutes §§ 22a-39 through 22a-45d, and the non-consumptive diversion of stormwater pursuant to the Connecticut Water Diversion Policy Act, §§ 22a-365 through 22a-378. I therefore recommend issuance of the draft permit for the reasons set forth in the Agreed Draft Decision and the supplemental findings and conclusions of law set out below.

II

DECISION

A

PUBLIC COMMENT

1. At the September 10, 2013 Public Hearing, several dozen members of the public offered comments. Roughly half of the speakers supported the project and roughly half were opposed. Those who spoke in opposition to the Applications raised three particularly relevant concerns: whether an alternate location for the research and technology park (such as UCONN's nearby "Depot Campus") would be a more appropriate; whether a "no-action" alternative had been adequately considered; and, whether vernal pools on the North Campus property would be adequately protected. Many written comments were also received, some supporting and others opposing the Applications. Those written comments opposing the Applications raised issues similar to those raised by speakers at the public hearing.¹

¹ The September 10, 2013 public hearing was transcribed and a copy of this transcript is available for inspection by contacting the Office of Adjudications. At the time of this decision, written public comment received is available online at http://www.ct.gov/deep/lib/deep/adjudications/public_comments/uconn_n_hillside_rd_ext_public_comment.pdf. Written public comment is also part of the administrative record and is available for inspection by contacting the Office of Adjudications.

2. Several speakers who discussed vernal pools suggested that the development did not meet the criteria for protection of vernal pools contained in a technical paper written by Dr. Aram Calhoun and Dr. Michael Klemens (Paper)². Dr. Klemens submitted written comment, dated September 11, 2013, stating that the Applications did not comply with the best development practices recommended by the Paper and attached a copy, which was also admitted to the record as exhibit APP-68A. In testimony, offered both in person on September 26, 2013 and in writing, experts testifying on behalf of UCONN responded to public comment, indicating that they had adopted the measures recommended by the Paper to the extent practicable given site constraints and existing development. (Exs. APP 68A, 74; test. 9/26/13 , E. Mas, pp. 125-131, J. Wilson, pp. 115-124; see Appendix 1 at pp. 41-43 for further detail regarding this testimony).

B

CONCLUSIONS OF LAW

I adopt the conclusions of law set forth by the Agreed Draft Decision, supplemented as follows.

I

STANDING TO APPLY

At the time of the Applications, UCONN did not have an ownership interest in all of the parcels on which the North Hillside Road extension will be constructed, giving rise to comments as to its standing to file these applications. UCONN has standing to apply for both the inland wetlands and the diversion permits.

The inland wetlands permit application concerns only proposed regulated activities, not the overall development of UCONN’s North Campus. The proposed regulated activities are the three wetlands

²Calhoun & Klemens, “Best Development Practices for Conserving Pool-breeding Amphibians in Residential and Commercial Developments. MCA Technical Paper Number 5, Metropolitan Conservation Alliance, Wildlife Conservation Society, Bronx NY” (2002).

crossings and other disturbances associated with the conceptual development parcels which require an inland wetlands permit. UCONN owns the property that is the subject of the proposed activities regulated by the Inland Wetlands and Watercourses Act, settling any argument as to its standing to file this application for an inland wetlands permit.³

While the implementing regulations for the Inland Wetlands and Watercourses Act contain specific language regarding the ownership of property, neither the Connecticut Water Diversion Policy Act nor its implementing regulations contain such language. A possible reason for this omission is that it would be impractical to require any applicant to own all of the property from which stormwater is collected in order to apply for a diversion permit.

To trigger the requirement for a diversion permit that involves the collection of stormwater, the area from which stormwater being collected must be greater than one hundred acres. General Statutes § 22a-377. This requirement leads to a reasonable inference that an applicant may apply for a diversion that will involve the collection of stormwater from properties other than those it owns. In this instance, as indicated in the Agreed Draft Decision, no stormwater management facilities associated with this project are proposed on parcels not owned by UCONN at the time of the applications, only the passive collection of stormwater runoff is proposed on those parcels. There is no onerous requirement in statute or regulation that an applicant must own the land upon which each drop of rain that is eventually collected by a stormwater management system falls in order to seek the required diversion permit.

³ The application form completed by UCONN provides that “[i]f [the owner of the subject property is different than the applicant], the owner must give written consent to the proposed activity in accordance with [Regs., Conn. State Agencies § 22a-39-5.2].” In this instance, the subject property is the property on which the regulated activities are located, which is owned by UCONN.

FEASIBLE AND PRUDENT ALTERNATIVES

The parties dedicate a significant portion of their Agreed Draft Decision to discussing various alternatives to the proposed activities which were evaluated and rejected (see [Appendix 1 at p. 21](#)) and propose conclusions of law on this issue which I adopt. (See [Appendix 1 at p. 65](#)). However, because much of the public comment that was critical of the Applications focused on the evaluation of alternatives, certain additional conclusions concerning the law of feasible and prudent alternatives are necessary.

Public comment focused on two distinct alternatives to the Applications: a “no action” alternative under which the proposed roadway and conceptual development parcels are not constructed; and, alternative locations for the research and technology park including, but not limited to, UCONN’s nearby Depot Campus.

Neither of these alternatives is both feasible and prudent. “Feasible” and “prudent” are legal terms of art. Feasible alternatives are those that are sound from an engineering standpoint. Prudent alternatives are economically reasonable in light of the social benefits derived from the act. An alternative will be deemed to be a feasible and prudent alternative *only* if it meets both criteria. See General Statutes §22a-38 (17) & (18); *Manchester Environmental Coalition v. Stockton*, 184 Conn. 51, 62-63 (1981); *Samperi v. Inland Wetlands Agency*, 226 Conn. 579, 595 (1993); *Tarullo v. Inland Wetlands and Watercourses Commission of Wolcott*, *supra* 263 Conn. at 582. While it may be feasible to take no action or to locate the research and technology park elsewhere⁴, it is not prudent. The project has two primary social benefits. It will provide an alternative access to UCONN’s main campus, alleviating traffic on existing roads and satisfying conditions of approvals granted by the State Traffic Commission and allow for the construction of a

⁴ The parties indicate that, due to “regulatory barriers and physical site constraints,” locating the research and technology park at the Depot Campus is not feasible. For the purposes of this analysis, it is not necessary to decide whether construction of the research and technology park on the Depot Campus is truly feasible.

research and technology park, intended to serve as an incubator for new technology jobs. Neither the “no-action” alternative nor an alternate site location provides necessary alternative access to UCONN’s main campus. The only prudent alternatives that preserve the social benefit of an alternative access involve rerouting the proposed extension of North Hillside Road. UCONN, the Department and other State and Federal regulatory agencies examined and rejected many alternative roadway alignments in favor of the proposed alignment, which was deemed the most environmentally sensitive by experts hired by UCONN and DEEP staff. This is significant because most of the impacts to wetlands soils and watercourses that will occur as a result of the proposed regulated activities are associated with the construction of the roadway. The substantial evidence in this record demonstrates that no alternative to the proposed alignment of the North Hillside Road extension exists which is both feasible and prudent and offers reduced environmental impact. For this reason, there is no feasible and prudent alternative to the proposed North Hillside Road extension.

The impacts to wetlands soils and watercourses caused by the creation of the conceptual development parcels are relatively insignificant and somewhat speculative.⁵ Assuming, *arguendo*, that development on the conceptual development parcels requires the maximum disturbance proposed by the Applications, the environmental impact will still be less significant than the impacts of building a research and technology park on another site requiring the construction of access roads, utilities and site preparation. In other words, once North Hillside Road is extended, there is no alternate location for the research and technology park which will result in less environmental impacts at a reasonable cost.

⁵ A condition of the draft permit requires site plans for the individual development parcels to be reviewed by DEEP staff after individual site plans are developed.

POTENTIAL VERNAL POOL IMPACTS

Much of the public comment regarding potential impacts to vernal pools focused on recommendations made in the Calhoun and Klemens Paper. The Agreed Draft Decision adequately summarizes the significant measures taken to minimize impacts to vernal pools, including adopting recommendations made in the Paper to the extent practicable.

While the Calhoun and Klemens paper is a valuable tool in evaluating potential vernal pool impacts, it does not carry the force of law or regulation. That UCONN has not adopted all of the recommendations in that Paper is not, in and of itself, grounds for denial of the Applications. Instead, the decision to issue an Inland Wetlands and Watercourses permit must be based on whether the substantial evidence in the record demonstrates that the statutory and regulatory criteria have been satisfied. “Substantial evidence exists if the administrative record affords a substantial basis of fact from which the facts in issue can reasonably be inferred.... the possibility of drawing two inconsistent conclusions from the evidence does not prevent an administrative agency’s finding from being supported by substantial evidence....” *Sams v. Dept. of Environmental Protection*, 308 Conn. 359, 374 (2013), quoting *Shanahan v. Dept. of Environmental Protection*, 305 Conn. 681, 700 (2012). Beginning at page forty-one of the Agreed Draft Decision, the parties set out findings of fact with regard to potential vernal pool impacts. These findings are supported by the expert testimony of Eric Mas, Joshua Wilson and Douglas Hoskins and documentary evidence contained in the record and referenced in the Agreed Draft Decision. The evidence in this record affords a substantial basis in fact from which it can reasonably be inferred that there will be no adverse impacts to vernal pools as a result of the proposed activities.

Although Mr. Klemens’ letter took issue with some of the conclusions reached by other experts, Mr. Klemens’ letter does not constitute substantial evidence. “If the hearing officer is going to consider a

speaker's statement as evidence or if the speaker wants his statement to be considered as evidence, the hearing officer shall require that the statement be made under oath or affirmation and shall permit the parties and intervenors to cross-examine the speaker and to challenge or rebut the statement." Regs., Conn. State Agencies § 22a-3a-6(t). Mr. Klemens did not appear at the public hearing, his written comments were not sworn and he was not available for cross examination.⁶ Therefore, while his comments were useful in evaluating the Applications, Mr. Klemens comments are not evidence and therefore cannot be considered substantial evidence which rebutted the testimony of Mr. Mas, Mr. Wilson or Mr. Hoskins.

The expert testimony of Mr. Mas, Mr. Wilson and Mr. Hoskins was not rebutted. "An administrative agency is not required to believe any of the witnesses, including expert witnesses... but it must not disregard the only expert evidence available on the issue" *Bain v. Inland Wetlands Commission*, 78 Conn. App. 808, 817 (2003). "The trier of fact is not required to believe unrebutted expert testimony, but may believe all, part or none of such unrebutted expert evidence." *Bancroft v. Commissioner of Motor Vehicles*, 48 Conn. App. 391, 405 (1998). In this instance, I find the uncontradicted expert testimony of Mr. Mas, Mr. Wilson and Mr. Hoskins to be credible and reliable.

The substantial evidence in the record indicates that there will be no adverse impacts to vernal pools as a result of the proposed regulated activities. The Conclusions of Law on this point which are set forth in the Agreed Draft Decision are supported by substantial evidence in the record.

⁶ Elizabeth Wassmundt, whose requests for intervening party status were denied, did indicate that she intended to call Mr. Klemens as a witness had she been granted intervening party status. However, Ms. Wassmundt's petitions were denied as insufficient. Ms. Wassmundt's status in no way impacted Mr. Klemens' right to appear at the public hearing to offer his comments under oath and be subject to subsequent cross-examination at the evidentiary hearing.

IV

CONCLUSION

The Applications meet the relevant statutory and regulatory criteria that guide the Commissioner's decision to grant such Applications. This conclusion is supported by substantial evidence in the record, set out here and in the Agreed Draft Decision.

V

RECOMMENDATION

I recommend that the Commissioner issue the requested permits incorporating the terms and conditions set forth in the draft permit (Appendix 2).



Brendan Schain, Hearing Officer

S E R V I C E L I S T

Proposed Final Decision concerning the University of Connecticut – North Hillside Rd.
Extension. Application Numbers DIV-201205385 and IW-201205383

PARTY

REPRESENTED BY

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STATE OF CONNECTICUT
DEPARTMENT OF ENERGY & ENVIRONMENTAL PROTECTION
OFFICE OF ADJUDICATIONS

IN THE MATTER OF	:	APPLICATION NOS. DIV-201205385
	:	IW-201205383
	:	
	:	
UNIVERSITY OF CONNECTICUT -	:	
NORTH HILLSIDE RD. EXTENSION	:	OCTOBER 29, 2013

AGREED DRAFT DECISION

Introduction

Pursuant to § 22a-3a-6(l)(3)(A)(ii) of the Rules of Practice of the Connecticut Department of Energy & Environmental Protection ("DEEP" or the "Department"), the University of Connecticut ("UConn" or the "University") (the "Applicant") and the staff of the DEEP Inland Water Resources Division of the Bureau of Water Planning and Land Reuse ("DEEP Staff") (collectively, the "Parties") respectfully submit this Agreed Draft Decision in resolution of the above-captioned application matter. The Draft Permit, DIV-201205385, IW-201205383, WQC-201205382 (attached hereto as Exhibit A), to divert waters of the state pursuant to Conn. Gen. Stat. § 22a-368 and to conduct activities within inland wetlands and watercourses pursuant to Conn. Gen. Stat. § 22a-39, along with a Water Quality Certification issued pursuant to section 401 of the federal Clean Water Act (33 U.S.C. § 1341), submitted by the DEEP Staff is acceptable to the Parties.

Further, the Parties waive all objections to the adoption of the Agreed Draft Decision without substantive change or modification as the Hearing Officer's Proposed Final Decision and, if so adopted, waive all rights to file exceptions with the Commissioner pursuant to § 22a-3a-6(y) of the Rules of Practice, including the 15-day period normally allowed to file exceptions. The Parties respectfully urge the Hearing Officer to issue the Proposed Final Decision as expeditiously as possible.

Findings of Fact

Taking into consideration and giving due regard to all of the evidence in the record, I make the following findings of fact:

A. Project Background

Since the 1970s, the University has contemplated the construction of a roadway from North Eagleville Road to U.S. Route 44 in the Town of Mansfield through land adjacent to and generally north of the Storrs core academic campus for the development of a research and technology park (Exhibits App-51, App-53). This area, which is bounded on the north by Middle Turnpike (U.S. Route 44), to the east by Storrs Road (Route 195), to the south by North Eagleville Road, and to the west by Hunting Lodge Road (Exhibit App-1, Attachment B and Attachment G), is commonly known as the "North Campus." The initial 4,000 foot segment of the roadway, known as North Hillside Road, was completed in 1989 and extends north from North Eagleville Road to provide access to the Charter Oak Apartments and certain student recreational facilities (Exhibit App-1, Attachment A). The roadway extension proposed in the Application runs from the current terminus of North Hillside Road northward to U.S. Route 44, and is located to provide an alternate entrance to the University and to relieve traffic on U.S. Route 44, Route 195 and Hunting Lodge Road. The extension will also facilitate the development of the UConn Technology Park, for which the Connecticut General Assembly recently approved \$172.5 million in start-up funding through the issuance and sale of General Obligation Bonds under Public Act 11-57 (Exhibit App-51).

In 1982, the non-profit entity known as the University of Connecticut Educational Properties, Inc. ("UCEPI") was formed to develop a research park on the area of state-owned land adjacent to and north of the UConn core academic campus, now known as the North Campus (Exhibit-App-53). In 1987, the construction of an approximately 3,800 linear foot North Hillside Road was reviewed in an Environmental Impact Evaluation ("EIE") titled the "Connecticut Technology Park Access Road" prepared pursuant to the Connecticut Environmental Policy Act ("CEPA") (Exhibit App-39, Appendix A (Discussion in 1994 Research and Technology Park EIE (defined below))). After approval of the EIE, the Connecticut

Department of Transportation (“CTDOT”) began construction of the initial segment of North Hillside Road, which was completed in summer 1989 (Exhibit App-53). After a change in the developer for the project, UConn and the State Department of Economic Development jointly sponsored another EIE under CEPA to assess the purpose and need for a research and technology park (Id.). The EIE, titled “Actions Associated with a Research and Technology Park,” was released by UConn in May 1994 (the “Research and Technology Park EIE”) (Exhibits App-39, Appendix A, App-53). In the Research and Technology Park EIE, six alternative site layouts with slightly different roadway extension alignments and parcel configurations were initially considered, and then two configurations, identified as Option A and Option B, were analyzed in detail (Id.). Although a preferred alternative for the alignment was not explicitly identified in the Research and Technology Park EIE, the CTDOT began design for the Option B road alignment following approval of the EIE by the Connecticut Office of Policy and Management (“OPM”) in January 1995 (Exhibit App-53). However, design plans were halted at the sixty percent design stage (Id.).

In June 2000, UConn released the Outlying Parcels Master Plan (“Outlying Parcels Master Plan”), which identified UConn-related technology and research as the ideal land use for the North Campus and included a master plan for such development (Exhibits App-51, App-52, App-53). In 2001, the UConn Board of Trustees sponsored an EIE for Actions Associated with the Development of the North Campus (the “North Campus Master Plan EIE”) (Exhibit App-39, Appendix A). This EIE recommended the Option A alignment proposed in the Research and Technology Park EIE over Option B because it was more environmentally sensitive, resulting in fewer impacts to inland wetland resources and farmland soils (Exhibits App-39, Appendix A, App-53). In August 2001, OPM approved the North Campus Master Plan EIE, but required that a comparative analysis be conducted for the development of future projects, beyond the roadway project and the Charter Oak Apartments, which were approved previously under the Research and Technology Park EIE (Exhibit App-21).

In 2004, the Applicant submitted to DEEP an application for an inland wetlands and watercourses permit and a flood management certification along with an individual Section 404 permit application to the U.S. Army Corps of Engineers (“ACOE”) for the extension of North

Hillside Road (Exhibit App-53). The ACOE regulates the discharge of dredged or fill material into waters of the United States, including wetlands, under Section 404 of the federal Clean Water Act. The ACOE application underwent Section 404 regulatory review and coordination with federal and state resource agencies (Id.). The DEEP also performed an initial review of the state inland wetlands permit application for the project and requested an updated wetland delineation of the entire 330-acre North Campus and further review of wetland mitigation options. The permit application was subsequently withdrawn in December 2005. The ACOE agreed to keep the original Section 404 application “open” pending the updated wetland delineation and other revisions to the project design (Id.).

Finally, in 2005, following the appropriation of \$5.8 million by the federal government (leveraged up to \$6.2 million) for the design and construction of the North Hillside Road extension, the potential impacts of the proposed project were again evaluated in an Environmental Impact Statement (“EIS”) sponsored by the University jointly with the Federal Highway Administration (“FHWA”) and the CTDOT, which was conducted under the National Environmental Policy Act (“NEPA”) (Exhibits App-51, App-52, App-53). The allocation of federal funding for the project necessitated the NEPA review and the preparation of a EIS (Exhibits App-22, App-53, App-54). In addition, given the period of time that had elapsed since the North Campus Master Plan EIE, OPM requested a comparative analysis of background traffic growth since completion of that EIE (Exhibit App-24). The comparative analysis was submitted to OPM in January 2007 (Exhibit App-25). By memorandum dated October 1, 2007, OPM found that the North Campus Master Plan EIE was still valid relative to the potential impacts associated with the North Hillside Road extension project and concluded that no additional review was required under CEPA (Exhibit App-29).

The EIS process was initiated in 2006 with the publication of a Notice of Intent to prepare an EIS (Exhibit App-53). This was followed by invitations to federal and state agencies to become involved in the NEPA process, which includes both public and agency scoping meetings (Exhibits App-22, App-53). Agency coordination meetings and the preparation of a Draft EIS (“DEIS”) occurred between 2006 and 2008 (Exhibit App-53). For the preparation of the DEIS, the potential wetlands impacts of the Option A and Option B alignments from the

Research and Technology Park EIE were reviewed in light of an updated (2006) delineation of wetlands on the North Campus (Id.). The Option B alignment was determined to result in approximately 0.86 acres of wetland impacts compared to 0.34 acres of wetland impacts for Option A (Id.). Consequently, Option A, which was identified as the preferred alternative alignment in the North Campus Master Plan EIE, was identified by the FHWA as the most feasible and prudent alternative that balanced the need for the roadway extension with avoiding and minimizing environmental impacts (Id.).

On December 29, 2008, the FHWA, together with UConn and CTDOT, released for circulation and review by federal, state, and local agencies, as well as other interested parties, the DEIS for the extension of North Hillside Road (Exhibit App-35). A Notice of Availability of the DEIS was published in the Federal Register on December 29, 2008 (Id.). The DEIS identified the Option A roadway alignment as the preferred alternative (the “DEIS Preferred Alternative”). A joint environmental and design public hearing was held at UConn on January 29, 2009 to solicit public and agency comment on the DEIS (Exhibits App-36, App-37). The public comment period remained open through February 13, 2009.

UConn re-submitted the DEEP permit applications in December 2008 in conjunction with the release of the DEIS (Exhibit App-53). In May 2009, the DEEP and ACOE requested consideration and analysis of additional alternative road alignments, wetland crossing designs, and the proposed North Campus conceptual development envelope to further reduce impacts to aquatic resources as compared to the DEIS Preferred Alternative (Id.). The ACOE also requested additional information and analysis of alternatives to substantiate the selection of the Least Environmentally Damaging Practicable Alternative (“LEDPA”) in compliance with the federal Clean Water Act. Prior to the issuance of a 404 permit, the ACOE must ensure, among other things, that the activity complies with the U.S. Environmental Protection Agency's (“EPA”) Section 404(b)(1) Guidelines for Specification of Disposal Sites for Dredged or Fill Material codified in 40 C.F.R. Part 230 (“Guidelines”) (Id.). The purpose of the Guidelines is to restore and maintain the chemical, physical, and biological integrity of waters of the United States through the control of discharges of dredged or fill material. The Guidelines establish several prerequisites to approval, one of which, the basis for the LEDPA, requires that there are

no practicable alternatives to the proposed discharge that would have a less adverse effect on the aquatic environment (Id.).

The DEEP permit applications were subsequently withdrawn and a series of meetings were held with the DEEP and ACOE between May 2009 and February 2010 to further evaluate roadway alignment alternatives and wetland crossing designs that would minimize impacts to aquatic resources and maintain vernal pool habitat connectivity (Exhibits App- 53, DEEP-12). The additional agency coordination and expanded alternatives evaluation resulted in the selection of the roadway alignment/design and mitigation measures that are presented in the Application (defined below) (Id.).

A Final EIS (“FEIS”) was prepared and circulated in December 2011 (Exhibit App-39). The FEIS identified the Option A roadway alignment as the preferred alternative. On December 23, 2011, the EPA published a Notice of Availability of the FEIS in the Federal Register (Exhibit App-40). The comment period for the FEIS ended January 23, 2012 (Exhibit App-41). Comments on the FEIS were received from state and federal agencies and from members of the public. The FHWA approved the Option A roadway alignment, along with North Campus Development alternative 2C, as the “Selected Alternative” in the Record of Decision (“ROD”) on the EIS dated April 4, 2012 (Exhibit App-42).

B. The Application

In June of 2012, UConn submitted to the DEEP an application to conduct activities within inland wetlands and watercourses under the Inland Wetlands and Watercourses Act, Conn. Gen. Stat. § 22a-37 et seq., and to divert stormwater under the Water Diversion Policy Act, Conn. Gen. Stat. § 22a 365 et seq., along with an application for a Water Quality Certification pursuant to section 401 of the federal Clean Water Act (33 U.S.C. § 1341), for the construction of an extension of North Hillside Road and the development of six conceptual sites on the North Campus (the “Application”) (Exhibit App-1). Specifically, the Applicant proposes an approximately 3,400-foot extension of North Hillside Road on the Storrs campus from its current terminus northward to U.S. Route 44 (Exhibit App-1, DEEP-12). The proposed roadway extension will create a 2-lane, 32-foot wide road through land adjacent to the Storrs core

academic campus known as the North Campus (Exhibit App-1). The roadway will terminate at U.S. Route 44 between the two parcels occupied by First Niagara Bank and Bank of America across from Professional Park Drive, creating a four-way intersection. U.S. Route 44 will be widened at the intersection with the proposed North Hillside Road extension to accommodate turning lanes, a new traffic signal, and pedestrian access. The project also includes the installation of utilities along the roadway corridor, including water, reclaimed water, sanitary sewer, storm drainage, telecommunications, primary electrical, and natural gas, as well as street lighting and “code blue” emergency phones. The project design includes a paved pedestrian sidewalk on the east side of the roadway and a separate bicycle lane within the curb line in each direction (Exhibits App-1, App-53). The Commissioner of the DEEP (the “Commissioner”) issued a Notice of Tentative Determination to approve Applications for Diversion of Water Permit, Inland Wetlands Watercourses Permit and 401 Water Quality Certification Application and has submitted into the record a draft permit that would authorize the Applicant’s proposed regulated activities (Exhibits DEEP-4, DEEP-18).

The Application has been submitted on the prescribed forms and is complete (Exhibit DEEP-4). The Application consists of Exhibit App-1, as supplemented by the Applicant’s December 24, 2012 Response to the September 27, 2012 DEEP IWRD Letter of Application Deficiency (Exhibit App-10) and the Applicant’s February 8, 2013 Supplemental Response to the September 27, 2012 DEEP IWRD Letter of Application Deficiency (Exhibit App-13). Exhibit App-1 consists of a completed application form titled “Permit Application Transmittal Form” (“Application Form”) and Attachments A through Q (but excluding those attachments that are not required for this diversion application), Certification of Notice Form-Notice of Application, Permit Application for Programs Administered by the Inland Wetland Water Resources Division and Attachments A through Q (but excluding those attachments that are not required for this inland wetlands and watercourses application). The Applicant submitted several revisions and supplements to the Application during the DEEP technical review process (Exhibits App-2, App-3, App-4, App-5, App-7, App-10, App-11, App-12, and App, 13).

On June 27, 2012, the Applicant submitted a copy of the Application to the Windham Water Works (Exhibit App-1, Attachment C9a).

A Notice of the Application was published on June 28, 2012 in the Hartford Courant (Exhibit App-3).

On July 6, 2012, the DEEP requested a completed Certification of Notice Form-Notice of Application (Exhibit App-2). On July 11, 2012, the Applicant submitted a signed National Diversity Data Base (“NDDB”) Request Form in support of the Application (Exhibit App-5) and signed and sealed plans in support of the Application (Exhibit App-4). On July 13, 2012, the Applicant submitted a completed Certificate of Notice Form-Notice of Application (Exhibit App-3).

After submission of the Application and the supplementary materials listed above, on September 27, 2012, the DEEP requested additional information, including a completed Certification of Notice Form-Notice of Application and a draft conservation easement agreement, as well as clarifications regarding the Application (Exhibit App-7). After obtaining an extension of time to respond to this request from the DEEP (Exhibits App-8, App-9), on December 24, 2012, the Applicant responded to the DEEP’s request (Exhibit App-10). On January 10, 2013, the Applicant submitted a summary of the hydrologic analysis results, comparing the stormwater management design presented in the Application and the revised design changes submitted in response to the DEEP comments on the Application (Exhibit App-11). On January 28, 2013, in response to a request by the DEEP, the Applicant submitted an analysis of the Hunting Lodge Road stream crossing to evaluate its current capacity to safely pass the 100-year peak discharge and the revised hydrologic analysis results (Exhibit App-12).

On February 8, 2013, the Applicant submitted Supplemental Permit Application Materials in support of the Application and to address comments of the DEEP regarding the proximity of the proposed basins and potential point discharges of stormwater to the on-site wetlands and vernal pools (Exhibit App-13). The Supplemental Permit Application Materials included a Revised Attachment A, Revised Attachment C, Revised Attachment G, Revised Attachment H and Revised Attachment L, and reflected a revised stormwater management design (Id.). Specifically, the stormwater basins/swales had been redesigned to balance water

quality, peak flow attenuation, area of disturbance and secondary wetland impacts, and decoy wetland issues (Exhibits App-13, App-53).

On April 5, 2013, following a technical review of the Application and all supplementary material (Exhibits App-10, App-11, App-12, App-13), the DEEP published a Notice of Tentative Determination to approve Applications for Diversion of Water Permit, Inland Wetlands Watercourses Permit and 401 Water Quality Certification and Intent to Waive Public Hearing in the Willimantic Chronicle (Exhibit DEEP-4, App-14). The DEEP also issued a Draft Permit (Exhibit DEEP-6). The Draft Permit was amended during the hearing (see Exhibit DEEP-18).

On April 9, 2013, the DEEP issued the Floodplain Management Certification (Exhibit App-17).

Subsequently, on May, 1, 2013, the DEEP received a petition signed by 25 or more persons requesting a public hearing on the Application (DEEP-12).

A status conference was held on May 29, 2013, during which the prehearing procedures were established and dates for the hearing and prehearing conferences were assigned. David Monz, counsel for the Applicant, Douglas Hoskins and Sharon Yurasevecz of the DEEP Staff, Arthur Smith, counsel for the Petitioner, Elizabeth Wassmundt, and Paul Ferri and Richard Miller of UConn were present. At the conference, the public hearing and site visit were scheduled for July 25, 2013 to be continued for the collection of evidence on July 30, 2013. A second prehearing conference was scheduled for July 2, 2013 to stipulate to the facts, identify proposed witnesses and exhibits, and otherwise facilitate an orderly and expeditious hearing process. The Parties were further requested to file a list of legal issues to be resolved at the hearing, a list of proposed witnesses with a summary of each witness's proposed testimony and for each expert witness, a statement of credentials supporting that witness's qualifications as an expert, as well as a list of all exhibits and electronic copies of all exhibits (Status Conference Summary, Scheduling Directive and Notice of Prehearing Conference, Site Visit and Hearing dated June 4, 2013).

On June 10, 2013, a Notice of Public Hearing was published scheduling a public hearing on the Application beginning on Thursday, July 25, 2013 in Room 104 of UConn's Student Union located at 2110 Hillside Road in Storrs (Exhibit DEEP-1).

On July 2, 2013, a prehearing conference was held, during which the parties advised the Hearing Officer that there were no objections to the parties' respective lists of issues, witnesses and proposed exhibits. The DEEP Staff and representatives for the Applicant were present. The dates and procedures for the public and evidentiary hearing were reviewed and the Parties requested additional time to submit prefiled testimony, which was granted and the deadline for the submission of prefiled testimony was extended to July 19, 2013 (see Prehearing Conference Summary dated July 2, 2013).

On July 17, 2013, a revised scheduling directive and notice of site visit and hearing was issued. The public hearing originally scheduled for July 25, 2013 was rescheduled due to certain defects in the notice of the public hearing. The hearing and site visit were rescheduled for August 21, 2013 at UConn, and due to the new date for the hearing and site visit, the Parties were given until August 14, 2013 to submit prefiled written testimony (see Revised Scheduling Directive and Notice of Site Visit and Hearing).

On July 19, 2013, a second revised scheduling directive and notice of site visit and hearing was issued to the parties. The hearing and site visit were rescheduled for September 10, 2013, with the hearing to be continued on September 11, 2013. On August 2, 2013, a Notice of Rescheduled Public Hearing was published in the Willimantic Chronicle (Exhibit DEEP-16). On August 29, 2013, the Notice of Rescheduled Public Hearing was again published in the Willimantic Chronicle (Exhibit DEEP-17). The Hearing Officer held a site walk on September 10, 2013 at 1:00 pm, followed by an evening public hearing session held at UConn beginning at 6:00 pm in the Merlin D. Bishop Center located at One Bishops Circle, in Storrs. The public comment portion of the hearing concluded on September 10, 2013 and the hearing was continued to the DEEP headquarters in Hartford on September 11, 2013 beginning at 9:30 a.m. The public was given until September 19, 2013 to submit written public comments to the Hearing Officer and the parties were given the opportunity to respond to the written public comments with

additional testimony, if necessary, at the DEEP headquarters on September 26, 2013 at 9:30 a.m. The hearing in this matter concluded on September 26, 2013 and the record was closed. The parties were directed to file post hearing briefs, including proposed findings of fact and conclusions of law, on or before October 28, 2013. On October 11, 2013, the Applicant filed a Motion to Admit New Evidence pursuant to section 22a-3a-6(w) of the Rules of Practice. The Applicant moved to admit the redacted Real Estate Purchase and Sale Agreement (Exhibit App-76) for the purchase of a portion of 574 and 596 Middle Turnpike into the record of this proceeding as a full exhibit. The DEEP had no objection to the Applicant's Motion and consented to the admission of the Real Estate Purchase and Sale Agreement as a full exhibit. The Motion was granted on October 16, 2013.

Prior to the hearing, prefiled exhibits were received from the Applicant and from the DEEP Staff. Among its exhibits, the Applicant submitted prefiled testimony for Erik V. Mas, P.E., Kristen E. Solloway, P.E., Joshua W. Wilson, P.W.S, Mun Y. Choi, Ph.D, and Richard A. Miller (Exhibits App-43, App-44, App-45, App-51, App-52, App-53, App-54, App-55). On September 11, 2013, the Applicant submitted a resume for Thomas E. Worthley regarding his professional experience, and on September 25, 2013, the Applicant submitted a resume for Attorney Robert J. Sitkowski regarding his professional experience (Exhibits App-67, App-70). The DEEP Staff submitted credentials and prefiled testimony for Douglas Hoskins and Sharon Yurasevecz (Exhibit DEEP-14 and DEEP-15).

C. Project Description

1. Water Diversion

The proposed project includes the collection of stormwater runoff from a drainage area of approximately 170 acres (App-1, Attachment H, App-13, Attachment H). This is considered a regulated activity under the Water Policy Diversion Act (Conn. Gen. Stat. § 22a-365 et seq., R.C.S.A. § 22a-377(c)-1(a)(2)) since the proposed project involves the collection of stormwater runoff from an area greater than 100 acres (Exhibit App-53). The proposed project does not involve an interbasin transfer of water, nor does it involve the withdrawal of groundwater or surface water (Id.). Therefore, there will be no effect on public water supply, wastewater treatment or waste assimilation. Approximately 66 acres are proposed for development,

including the North Hillside Road extension and subsequent development of the North Campus sites (i.e., the development envelope). Surface runoff patterns are generally from east to west across the site (Id.). The proposed north-south roadway alignment will generally intercept the east-west surface runoff since the roadway will be constructed primarily as an embankment (i.e., at a higher elevation than the surrounding ground) and will be aligned roughly perpendicular to the surface runoff flow direction (Id.).

2. *Inland Wetlands and Watercourses*

The proposed roadway extension will result in a total of approximately 0.12 acres of permanent direct impacts to one wetland area (Exhibit App-1, Attachment L, Exhibit App-13, Attachment L). Direct impacts to wetlands resulting from the development of the North Campus sites are estimated at 0.22 acres (Id.). The total combined area of proposed direct wetland impacts for the roadway extension and associated North Campus development is 0.34 acres (Exhibits App-1, Attachment G, Plates 20 and 26, App-1, Attachment L, App-13, Attachment L). An additional 0.15 acres of secondary impacts associated with tree removal within wetlands is anticipated (Exhibit App-1, Attachment L, Exhibit App-13, Attachment L). The project is also anticipated to result in 0.04 acres of temporary wetland impacts associated with temporary fill or short-lived disturbance during construction (Id.).

Statutory and Regulatory Background

A. Water Diversion

1. Required Information

Conn. Gen. Stat. § 22a-369 prescribes that the following information is required for a water diversion permit application:

a) Reasons and Need for the Diversion

The Application entails the collection and discharge of stormwater runoff from an overall watershed area of approximately 170 acres (Exhibit App-1, Attachment H). To collect runoff from the upgradient (east) side of the roadway, vegetated channels will be constructed at the toe of slope to convey stormwater to the proposed wetland crossing structures. Roadway

runoff will be collected, detained, treated, and discharged on-site through the use of a catch basin drainage system, water quality swales, and stormwater basins (Exhibit App-1, Attachment D).

The extension of the existing North Hillside Road is needed to provide an alternate entrance to the University and to relieve traffic (and enhance the level of service) in the vicinity of the Storrs campus, especially U.S. Route 44, Route 195, and Hunting Lodge Road (Exhibit App-1, DEEP-12). The extension will also facilitate the development of the North Campus consistent with the Outlying Parcels Master Plan. Currently, traffic traveling eastbound on U.S. Route 44 must travel to the intersection of U.S. Route 44 and Route 195 (Storrs Road) to enter UConn. The extension of North Hillside Road would provide an alternate entrance to the campus and capture northbound traffic on U.S. Route 44, relieving traffic on U.S. Route 44, Route 195, Hunting Lodge Road, and other local roads in the vicinity of the project area (Exhibits App-54, App-59). It will also serve as a measure to mitigate traffic impacts from UCONN 2000 development and eliminate the need for additional capacity improvements (*Id.*). The new road is also needed to facilitate the development of the North Campus. The proposed diversion (i.e., construction of the stormwater management system) is necessary to support the proposed North Hillside Road extension and the development of the North Campus (Exhibits App-1, Attachment C5, Attachment D, App-59).

North Campus Development

The Outlying Parcels Master Plan identified a campus-wide organizational plan for UConn that included land use priorities for the areas of the campus adjacent to the Storrs core academic campus (Exhibits App-1, App- 39 at 12). The approximately 330-acre North Campus was identified in the Outlying Parcels Master Plan as an area for land uses with strategic ties to the academic core, specifically housing, academics, academic-related research, commercial/retail, and remote parking (Exhibit App-39 at 13). The proximity of the North Campus to the academic core provides an area for student housing close to the core and offers a location for uses that support both economic development and higher education (*Id.*). These land uses support UConn's continued growth as a top-tier academic and research institution consistent with UConn's Academic Plan and the UConn 21st Century initiative (*Id.*). The Academic Plan outlines five primary goals to advance UConn's standing in five interrelated areas: 1)

undergraduate education; 2) graduate and professional education; 3) research, scholarship and creative activity; 4) diversity; and 5) public engagement (Id.). The North Campus development is particularly relevant to the goal of advancing research, scholarship, and creative activity and the strategy of moving discoveries to applied outcomes. Areas of the North Campus have been identified in the Outlying Parcels Master Plan for academic-related research, and space for technology-related public-private partnerships (Id.).

In addition, the North Hillside Road Extension supports the goal of public engagement by providing improved physical access to UConn-housed resources and facilities (Id.). The Academic Plan goals for education and research are also linked to the UConn 21st Century program, successor to the UCONN 2000 program (Id.). UCONN 2000 was an initiative to rebuild, restore, and enhance UConn's physical infrastructure (Id.). Numerous projects were completed under the program on the Storrs campus and other UConn campuses, which contributed to a significant increase in the size, diversity and academic skill of the student body (Id.). It also increased UConn's research activity, which rose from \$55.9 million in Fiscal Year 1996 to \$91.5 million in Fiscal Year 2001 (Id.). UConn 21st Century is a 10-year extension of the UCONN 2000 program and will continue to implement improvements to the physical setting of UConn including student housing and support facilities, to land uses identified for areas of the North Campus (Id.).

Need for Traffic Mitigation and Alternate University Entrance

The development projects associated with the UCONN 2000 initiative resulted in increases in traffic on and around (or in the vicinity of) the Storrs campus as a result of new construction, expanded enrollment, and increased activity on campus. The increased traffic was anticipated and the potential traffic impacts of the UCONN 2000 projects were evaluated through a State Traffic Commission (STC) (now known as the Office of Traffic Administration) review in 2000 (Exhibit App-59). Certificate of Operation No. 904-E was issued by the STC for the UCONN 2000 Campus Master Plan development projects on the Storrs campus, which included 1,019,419 square feet (SF) of new construction and 2,500 new parking spaces (Id.). The STC regulations require a Certificate of Operation for construction or expansion projects which will generate large volumes of traffic, specifically developments that provide 200 or more

parking spaces or have a gross floor area of 100,000 SF or more (Id.). Included in the STC application for the Outlying Parcels Master Plan were mitigation measures to improve operating conditions to acceptable levels at the completion of the UCONN 2000 projects identified in the Outlying Parcels Master Plan (Id.). The completion of the North Hillside Road extension to a signalized intersection with U.S. Route 44 was identified in the STC application and included in the STC Report of Findings as a measure to mitigate traffic impacts from UCONN 2000 development and to eliminate the need for additional capacity improvements (Id.). Specifically, the extension would attract outbound (northbound) vehicles during the peak PM hour, shifting vehicles from both Hunting Lodge Road and Route 195 north of North Eagleville Road (Id.).

The current traffic conditions were revisited in 2007 in a CEPA Comparative Evaluation Traffic Analysis to update the existing (i.e., background) traffic conditions in the vicinity of the campus. The results of the analysis confirmed the increase in traffic projected in North Campus Master Plan EIE and the STC Certificate for the UCONN 2000 projects. This demonstrated that the increases in traffic, and effects on level of service and capacity of surrounding roadways, still necessitate the North Hillside Road Extension as identified in the 2000 STC Certificate (Id.).

b) Description of the Existing Water System

Currently, there is no system in place beyond the existing terminus of North Hillside Road for the collection and discharge of stormwater runoff from the project area (Exhibits App-1, Attachment H, App-13, Attachment H). The existing North Hillside Road is served by a stormwater collection system consisting of catch basins and storm drainage piping (Id.). Runoff from the northern portion of North Hillside Road and wooded areas adjacent to the Charter Oak Apartments is collected by catch basins and discharged through a reinforced concrete culvert on the west side of North Hillside Road (Id.). An existing stormwater basin located near the terminus of North Hillside Road across from Charter Oak Apartments receives runoff from the apartment complex. Both of these discharges ultimately flow downgradient to the wetland complex west of the existing North Hillside Road (Id.). Stormwater drainage systems also exist along U.S. Route 44 in the vicinity of the proposed intersection of the North Hillside Road extension and U.S. Route 44 (Id.). The U.S. Route 44 drainage systems consist of catch basins and drainage piping and ultimately discharge to Cedar Swamp Brook (Id.).

c) Locations of Withdrawals and Discharges

The Application does not involve the withdrawal of groundwater or surface water (Exhibit App-1, Attachment D), so the quantity, frequency and rate of diversion is not applicable to the Application. That said, the collection, treatment and discharge of stormwater runoff will occur during most rainfall events, other than de-minimus events. The existing and proposed drainage areas and discharge locations are described in the Application and associated Engineering Report/Stormwater Management Plan (Exhibit App-1, Attachment H, App-13, Attachment H). The overall watershed for the roadway extension is comprised of approximately 170 acres at the headwaters to the Willimantic River Basin (Id.). Stormwater runoff from a majority of the project area will flow westerly to Cedar Swamp Brook or Eagleville Brook (a small portion of Parcel G), as it currently does, and eventually to the Willimantic River (Id.). Due to the existing drainage patterns on the site, stormwater runoff from east of the proposed roadway will be collected in vegetated channels and will be drained to the stormwater basin at STA 36+25 RT, Crossing A, Crossing B, or Crossing C. Roadway drainage from the beginning of the proposed North Hillside Road to approximately STA 52+55 will be collected by catch basins and drain to the system of vegetated channels located to the west of the proposed roadway (Id.). These channels convey water to various locations, but all runoff will ultimately flow to Cedar Swamp Brook (Id.). The remainder of the roadway (STA 52+55 to the intersection with U.S. Route 44) will drain to the proposed catch basins along this portion of North Hillside Road (Id.). Runoff collected by these catch basins will be discharged into the existing system along U.S. Route 44, ultimately discharging into Cedar Swamp Brook (Id.).

In addition, some stormwater runoff from the eastern portion of Parcel B discharges toward Route 195 to the Fenton River watershed (via the Mason Brook subwatershed) (Exhibits App-1, Attachment H, App-13, Attachment H).

d) Quantity, Frequency and Rate of Water Diversion

The Application does not involve the withdrawal of groundwater or surface water. (Exhibit App-1, Attachment D). Anticipated peak rates of runoff and runoff volumes for various design storms, including the mitigating effects of the proposed stormwater management systems,

are described in detail in the Application and associated Engineering Report/Stormwater Management Plan (Exhibits App-1, Attachment H, App-13, Attachment H).

Construction of the proposed roadway and subsequent development of the North Campus will result in an increase of stormwater runoff from the altered landscape (*Id.*). The proposed stormwater management system for the roadway extension and the conceptual stormwater management system for the North Campus development include a variety of stormwater management methods, including Low Impact Development (“LID”) techniques, to achieve stormwater quantity and quality objectives consistent with the stormwater management standards and design guidelines in the DEEP *2004 Connecticut Stormwater Quality Manual*, as amended, and UConn’s Sustainable Design & Construction Policy (Exhibits App-1, App-53). The project will not result in significant increases in peak runoff over existing conditions for storms up to and including the 100-year storm for the drainage areas analyzed within the project area (Exhibit App-53, DEEP-12). Proposed stormwater treatment and upgrades to the U.S. Route 44 drainage system and outfall to Cedar Swamp Brook will mitigate potential adverse impacts on the Route 44 drainage system and on Cedar Swamp Brook (*Id.*). In addition, the proposed roadway stormwater management system and proposed conceptual stormwater management measures for future development of the North Campus sites is designed to preserve the existing hydrologic conditions to the extent possible, including drainage patterns, runoff volume, groundwater recharge, and runoff quality (*Id.*).

e) Length of Time for Which the Diversion is Sought

The Application seeks the approval of a system to collect, treat and discharge storm water runoff indefinitely (Exhibit App-1, Attachment D). Although the draft permit (Exhibit DEEP-18) did not include an expiration date, R.C.S.A. § 22a-377(c)(2)(h)(1) provides, in pertinent part, that “[i]n no event shall a permit authorize any diversion for a period greater than twenty-five years.” Accordingly, the Draft Permit attached hereto as Exhibit A contains an expiration date of twenty-five years from the date of issuance.

f) Effect of the Proposed Diversion

The proposed project does not involve an interbasin transfer of water, nor does it involve the withdrawal of groundwater or surface water (Exhibits App-1, App-53). Therefore, there will be no effect on public water supply, wastewater treatment or waste assimilation (Id.). Attachments G and H of the Application (Exhibit App-1) set forth the various factors that significantly reduce the impact of this diversion. These factors include the following:

- The existing drainage system along U.S. Route 44 that will receive flow from the northern portion of the proposed North Hillside Road extension will be upgraded to eliminate existing deficiencies and to accommodate increased flows (Exhibit App-1, Attachments G and H). This system will receive runoff from North Hillside Road and from U.S. Route 44 beginning at the proposed high point, west to the downstream-most catch basin in the system (Id.);
- The existing corrugated metal pipes that convey stormwater westerly along U.S. Route 44 to the system outlet at Cedar Swamp Brook have deteriorated. These pipes will be replaced with appropriately sized reinforced concrete pipes (Id.). Additionally, the catch basins connected by these pipes will be replaced (Id.);
- The existing pipes connecting the catch basins on the northern side of U.S. Route 44 will be extended as necessary to connect to the proposed catch basins on the southern side of the roadway (Id.). The existing outlet of this system will be improved by discharging through a reinforced concrete culvert into a riprap basin and then to a riprap channel prior to flowing into Cedar Swamp Brook (Id.);
- The proposed stormwater management system for the roadway extension and the conceptual stormwater management system for the North Campus development include a variety of stormwater management methods, including LID techniques, to achieve stormwater quantity and quality objectives consistent with the stormwater management standards and design guidelines in the DEEP 2004 *Connecticut Stormwater Quality Manual*, as amended (the “DEEP *Stormwater Quality Manual*”), and UConn’s Sustainable Design & Construction Policy (Exhibit App-1, Attachments G and H, App-63, DEEP-13);
- Development of individual North Campus sites, whether by the Applicant or private entities, will be subject to CEPA review and applicable state permitting requirements. The land will continue to be owned by the Applicant (Exhibits 1, Attachment I, Attachment Q, App-42);
- The Applicant is committed to using pervious pavement wherever feasible on the North Campus unless the use of permeable pavement is demonstrated to be impracticable (Exhibits App-1, Attachments G and H, App-13, DEEP-18). Although the individual North Campus development sites will be developed and operated by private entities (with the exception of the Innovation Partnership

Building (“IPB”) to be developed by the Applicant on Parcel C), all planned and future infrastructure expansion on the North Campus, whether developed by the Applicant or private entities, will be required to use pervious pavement wherever feasible based on consideration of technical feasibility, maintenance, and cost (Exhibit App-54);

- Construction activities will be subject to the DEEP *General Permit for the Discharge of Stormwater and Dewatering Wastewater Associated with Construction Activity* (“Stormwater Construction General Permit”). An erosion and sedimentation control plan will be implemented for the construction phase of the North Hillside Road extension and for the development of each parcel. Erosion and sediment control measures will be consistent with the *2002 Connecticut Guidelines for Soil Erosion and Sediment Control*, as amended (Exhibit DEEP-13). Perimeter stormwater controls, such as a silt fence or haybale barrier, are included on the project design plans for the road (Exhibit App-1, Attachment G);
- An Operation and Management Plan (“O&M Plan”) for the roadway stormwater management system has been developed consistent with guidance provided in the DEEP *Stormwater Quality Manual* (App-1, Attachment H, Attachment I). The Applicant will be responsible for implementing the O&M Plan, which includes requirements for stormwater system inspections and maintenance (*Id.*). O&M requirements for individual North Campus development projects (with the exception of the IPB, which will be developed and operated by the Applicant) will be prepared by private entities, which will be responsible for development and operation of the North Campus facilities (*Id.*). The anticipated long-term land lease agreements between UConn and these private entities will include specific stormwater O&M requirements (street and parking lot sweeping, catch basin cleaning, drainage system and stormwater treatment system operation and maintenance, etc.) (*Id.*);
- The stormwater management design for the proposed roadway extension will attenuate increases in peak rates of stormwater runoff for discharges to the on-site wetlands (Exhibit App-53). The proposed vegetated channels/water quality swales and stormwater basins located on the eastern side of the road are designed to collect stormwater runoff flowing westerly from the eastern drainage areas (*Id.*). The proposed stormwater management features on the eastern side of the road discharge to the wetland crossings (*Id.*). The proposed vegetated swales and stormwater basins located on the west side of the roadway extension collect and detain stormwater runoff from the proposed roadway via the roadway storm drainage network (*Id.*);
- Runoff from the northernmost portion of the proposed roadway extension will receive treatment for water quality via a proposed off-line hydrodynamic separator, and ultimately discharge to Cedar Swamp Brook via the U.S. Route 44 drainage system (*Id.*). A portion of the Route 44 drainage system will be

upgraded to accommodate the proposed widening of U.S. Route 44 and to eliminate hydraulic deficiencies in the existing Route 44 drainage system (Id.). Any increase in flow will not have an adverse impact on stormwater runoff rates, timing, and volume (Id.). The amount of increase is small compared to the flow of Cedar Swamp Brook and will not contribute to stream erosion or flooding downstream (Id.);

- The proposed stormwater basins have been designed to address comments of the DEEP regarding the proximity of the proposed basins and potential point discharges of stormwater to the on-site wetlands and vernal pools (Id.). The stormwater basins/swales have been designed to balance water quality, peak flow attenuation, area of disturbance and secondary wetland impacts, and decoy wetland issues (Id.). As documented in Exhibits App-13 and App-53, the design features include:
 - a. The drainage pipe associated with the discharge of upgradient overland flow from the west side of the road at Wetland Crossing B has been eliminated. The swale on the west side of the road has been revised to tie into the swale to the north, thereby eliminating one of the outlets on the east side.
 - b. The basins at Wetland Crossing C (in the vicinity of Vernal Pool No. 2) have been reduced in size to attenuate peak flows up to the 10-year storm, while minimizing adverse impacts (increases to the peak flow rate, the timing of runoff and the volume of runoff) on downstream or adjacent properties for larger design storms up to the 100-year event. With the exception of a small portion of the southern embankment, the basin on the north side of Wetland Crossing C has been relocated outside of the 100-foot vernal pool envelope. The relocated basins and reduced footprint reduce the clearing and disturbance limits and secondary wetland impacts.
 - c. The basin outlet structures at Wetland Crossing C have been redesigned and simplified to reduce the potential for clogging and downstream erosion during large storms. Level spreaders have been added to the outlets of the basins at Wetland Crossing C to convert point discharges to diffuse overland flow and further reduce the potential for erosion.
 - d. The bottoms of the stormwater basins have been located 1 to 3 feet above seasonal high groundwater to avoid intercepting groundwater, which can reduce the storage capacity of such basins; and
 - e. The stormwater basins have been designed to treat the water quality volume, while minimizing the permanent pool and the potential for the basins to act as decoy wetlands, consistent with the Connecticut Stormwater Quality Manual (DEEP-13).

- The stormwater management measures proposed for the conceptual North Campus development sites include bioretention, rain gardens, permeable pavement, underground detention and infiltration, and surface stormwater basins. These measures are identified conceptually in the Application (Exhibits App-1, Attachments G and H, App-13);
- The proposed extension of North Hillside Road and development of the North Campus will increase the amount of impervious cover (“IC”) at the project site by approximately 35 acres. This proposed increase in IC would result in an approximately 2% increase in IC of the Cedar Swamp Brook subwatershed and an approximately 1% increase in IC of the Mason Brook subwatershed. The IC in the subwatersheds is expected to remain at 10% or less – a level that is generally indicative of healthy stream systems that have been minimally impacted by human activity. Potential hydrologic impacts associated with increases in IC as a result of the proposed project will be mitigated by the project design features, including the preservation of wetland/watercourse buffers and the proposed stormwater management system for the roadway extension and future parcel development. The use of LID stormwater management techniques such as bioretention, rain gardens, and permeable pavement for the future development of Parcel G, a portion of which will discharge to Eagleville Brook, is also consistent with the Eagleville Brook IC Total Maximum Daily Load objectives (“TMDL Objectives”); and
- UConn has also agreed to use only non-potable water for irrigation on North Campus sites. Any land lease agreements between UConn and future North Campus tenants will include language requiring the use of only non-potable water for irrigation purposes (Exhibits App-1, Attachment K, App-10, App-53).

g) Alternatives

The Application contains a detailed and thorough Alternatives Assessment at Attachment M of Exhibit App-1. The Alternatives Assessment discusses a variety of alternatives, including a “No Action” Alternative, alternative development sites, alternative roadway alignments and alternative North Campus Development Plans (Exhibits App-1, Attachment M). The alternatives considered in the preparation of the EIS and the Application incorporated information on alternatives from prior environmental reviews of the North Campus development and North Hillside Road extension under CEPA in the Research and Technology Park EIE and in the North Campus Master Plan EIE (Exhibits App-19, App-29, App-39, Appendix A, App-53). The analyses were revisited in light of updated information on natural and physical resources in the project area and are explained in detail below.

No Action Alternative

Under the No Action Alternative, the proposed extension of North Hillside Road would not be completed. Consequently, the mitigation measures required by the STC to alleviate increased traffic associated with UCONN 2000 would not be implemented. And the objectives of the Outlying Parcels Master Plan, including the development of the research and technology park, would not be achieved. The No Action Alternative is inconsistent with the STC Certificate No. 904-E for UCONN 2000, the Outlying Parcels Master Plan, and the CTDOT 2012 Statewide Transportation Improvement Program (a four-year financial document that lists all projects expected to be funded with federal participation) (Exhibits App-19, App-39, App-59, App-62). The No Action Alternative would not address the identified purpose and need for the project, which is to provide an alternative entrance to UConn, to relieve traffic on the surrounding roadway network, and to facilitate the development of the North Campus (Exhibits App-19, App-59, App-62, DEEP-12).

Alternative Development Site Feasibility

The potential to site a research and technology park in the area of the North Campus has long been recognized by the State, the Town of Mansfield and the University (Exhibit App-51). The Research and Technology Park EIE examined the feasibility of utilizing the former Mansfield Training School (now known as the Depot Campus), the other large tract of land in proximity to the Storrs campus, as an alternate site for the potential development of a research park (Exhibit App-39, Appendix A). Based on the Research and Technology Park EIE, the Depot Campus site was determined not to be suitable for the technology park due to regulatory barriers and physical site constraints (Exhibits App-39, Appendix A, DEEP-12, Tr. 9/11/2013 (Choi) p.16). This conclusion was reaffirmed in the North Campus Master Plan EIE (Exhibits App-19, App-39, Appendix A). Moreover, both the North Campus Master Plan EIE and the Outlying Parcels Master Plan identified the North Campus site as the preferred location for a research and technology park (Exhibit App-39, Appendix A, DEEP-12). No other site has been identified on which a technology park could be located in close physical proximity to the Storrs core academic campus (Exhibit App-51, Tr. 9/11/2013 (Choi) p.16). The importance of physical proximity for a technology park was described in detail in the Feasibility Study for a Research

and Technology Park at the University of Connecticut (“Feasibility Study”) commissioned by UConn and prepared by George Partners (Exhibits App-64, Tr. 9/11/2013 (Choi) p.14). The Feasibility Study concluded that the success and growth of university research and technology parks across the country is dependent on the physical proximity between the university and the benefiting businesses (Id.). Universities and companies that are positioned at a location proximate to research parks very often work directly with researchers at the university, hire students, and in some cases, sponsor research at the university (Id.). The North Campus location is immediately adjacent to the Storrs Core Academic Campus (Id.).

In addition, there is no other site in the vicinity of the Storrs campus that would allow for traffic from the core academic campus to reach U.S. Route 44, so there is no other alternative for a new roadway into campus that would divert existing traffic from residential areas near U.S. Route 44 (thereby satisfying the STC Certificate traffic mitigation commitments) and provide a more direct route and gateway entrance to the campus (Exhibits App- App-53, App-59).

Roadway Alignment

The North Campus Master Plan EIE focused primarily on a comparative land-use analysis for the development of the North Campus as envisioned in the Outlying Parcels Master Plan, which was released by the University in June 2000 (Exhibits App-39, Appendix A, App-52). The Outlying Parcels Master Plan identified University-related technology and research as the ideal land use for the North Campus, and identified twelve conceptual development sites on both sides of a proposed extension of North Hillside Road (Id.). In August 2001, OPM found that the North Campus Master Plan EIE satisfied the requirements of CEPA (Exhibit App-21).

The North Campus Master Plan EIE built on the Research and Technology Park EIE that was sponsored jointly by the State Department of Economic Development and the UCONN Board of Trustees (Exhibits App-39, Appendix A, App-52). The Research and Technology Park EIE assessed the purpose of and need for the technology park and comprehensively evaluated six alternative roadway alignments for the extension of North Hillside Road, which are designated in the EIE as design Options A-1 (3,200’ in length), A-2 (2,400’ in length), A-3 (3,600’ in length), A-4 (3,000’ in length), B-1 (4,000’ in length), and B-2 5,600’ in length) (Id.). The development

alternatives in the 1994 Research and Technology Park EIE were driven by the roadway extension alignment and the goal of avoiding or minimizing impacts to wetlands and aquatic resources (Exhibit App-39, Appendix A). Each alignment was evaluated in the Research and Technology Park EIE for consistency with the project purpose and need, and screened to assess its potential impact on, among other things, wetlands, vegetation and wildlife, archeological resources, aesthetics, public safety, and traffic congestion relief. (These options are presented collectively on Figure ES-3 of the FEIS, dated October 2011, and discussed below.)

Through the EIE process, the roadway alignment alternatives were narrowed to Option A, which was a composite of the A-1 through A-4 options, and Option B, which was a modification of Option B-2 and connected to the North Hillside Road to the south of its existing terminus (Exhibit App-52). In January 1995, OPM found that the Research and Technology Park EIE satisfied the requirements of CEPA regarding the extension of North Hillside Road, the extension of utilities along the roadway, and the construction of the Advanced Technology Institute building (now known as the Innovation Partnership Building) (Exhibit App-18, App-52). Ultimately, the CTDOT began design of a 4,000 foot roadway alignment presented in the 1994 Research and Technology Park EIE as Option B (Exhibit App-52). However, design plans were halted at the sixty percent design stage (Id.). In the 2001 North Campus Master Plan EIE, the Option A roadway alignment was presented because it was more environmentally sensitive, with fewer impacts on wetlands and farmlands than Option B (Exhibits App-39, Appendix A, App-52). It was this preferred alignment that was approved by OPM in August 2001 (Exhibits App-21, App-52).

In 2005, the federal government appropriated \$5.8 million (leveraged up to \$6.2 million) for the design and construction of the North Hillside Road extension, which triggered the need to conduct an environmental review under NEPA (Exhibit App-53). FHWA together with CTDOT determined that an EIS was the appropriate level of NEPA documentation for the project (Exhibit App-52). The EIS was sponsored by the FHWA, as the lead agency, and both the CTDOT and the University, as joint lead agencies (Id.).

For the preparation of the EIS, the potential wetlands impacts of the Option A and Option B alignments from the 1994 Research and Technology Park EIE were reviewed in light of an updated (2006) delineation of wetlands on the site (Exhibits App-39, Appendix A, App-52). The Option B alignment was determined to result in approximately 0.86 acres of wetland impacts compared to 0.34 acres of wetland impacts for Option A (Id.). Consequently, Option A, which was identified as the preferred alternative alignment in the 2001 North Campus Master Plan EIE, was identified by the FHWA as the most feasible and prudent alternative that balanced the need for the roadway extension with avoiding and minimizing environmental impacts (Id.). On December 29, 2008, the FHWA released the DEIS for review and comment by federal, state and local agencies, along with other interested parties (Exhibit App-52, App-35). The DEIS identified the Option A roadway alignment as the DEIS Preferred Alternative (Exhibits App-33, App-52).

A public hearing on the DEIS was held at the University on January 29, 2009 to solicit comments from the general public, along with comments from regulatory agencies (Exhibit App-52). The public comment period for the DEIS remained open through February 13, 2009 (Id.). Comments received from local officials and the public during the comment period supported the proposed extension of North Hillside Road and associated development of the North Campus in accordance with the DEIS Preferred Alternative (Id.).

Based on comments received from various regulatory agencies, the seven roadway alignments that had been considered in the previous EIEs (design Options A, A-1, A-2, A-3, A-4, B-1, and B-2) were further evaluated for potential impacts to wetlands and other environmental resources, including vernal pools (and related amphibian migration), which had not yet been identified at the project site when the previous EIEs were prepared (Id.). One additional roadway alignment was also evaluated (design Option A-5), which is a modification of the Option A-3 alignment (Id.).

Based on the results of the evaluation, the DEEP and the ACOE requested consideration and analysis of additional alternative roadway alignments, wetland crossing designs, and the proposed North Campus development alternatives to further reduce impacts to aquatic resources

(Exhibit App-52, DEEP-12). Specifically, the DEEP and the ACOE requested additional information to compare the design Option A roadway alignment (the DEIS Preferred Alternative) with an alignment that would place the roadway east of Vernal Pool No. 1 (identified as the design Option A-5 alignment) (Id.).

Further coordination with the DEEP and the ACOE in January and February 2010 resulted in several key project modifications of the Option A alignment to address the remaining concerns regarding wetland impacts and aquatic habitat connectivity (Exhibits App-52, DEEP-12). The two wetland crossings of greatest concern (Crossings A and C as depicted on Figure 3-5 in the FEIS) were re-designed to essentially eliminate wetland impacts and maintain habitat connectivity for aquatic resources and other wildlife (Id.). Crossing A was re-designed as a 40-foot precast concrete rigid frame with an open bottom designed to comply with the DEEP and ACOE stream crossing standards, and Crossing C was re-designed as a 76-foot clear span bridge to completely avoid wetland impacts and maintain vernal pool habitat connectivity for semi-aquatic resources and terrestrial wildlife. With these design modifications, the Option A alignment was retained as the preferred alignment in the FEIS and was approved, along with North Campus development alternative 2C, by the FHWA in the Record of Decision dated April 4, 2012 as the Selected Alternative (Exhibits App-39, App-42, App-52). A summary table comparing environmental impacts of the various alternative roadway alignments is presented in the Executive Summary and Attachment M of the Application (Exhibit App-1, Attachment M).

Conceptual Development Alternatives

Alternatives for the development of the North Campus were analyzed in the Research and Technology Park EIE, the Outlying Parcels Master Plan and associated North Campus Master Plan EIE, and again as part of the EIS and permitting process (Exhibits App-39, Appendix A, App-53). In the Research and Technology Park EIE, the development alternatives were driven by the roadway extension alignment and the goal of avoiding or minimizing impacts to both inland wetlands and associated wetland buffer areas (Id.). In the North Campus Master Plan EIE, the North Campus development alternatives were narrowed to development plans associated with the roadway alignment Options A and Option B (as described above) (Id.). Both

alternatives included five conceptual sites and both were presented as possible designs for the technology park development (Id.).

The Outlying Parcels Master Plan revisited the development concepts for the North Campus in terms of UConn's long-term master planning, with an emphasis on optimal resource utilization and efficient development that incorporates sustainable design principles (Id.). This approach inherently reduces indirect impacts from the roadway extension (Id.). The Outlying Parcels Master Plan identified 12 conceptual development sites located on both sides of a proposed North Hillside Road extension that followed the roadway alignment of Option A presented in the Research and Technology Park EIE (Id.). The North Campus Master Plan EIE defined 10 development sites, while still achieving the development goals set forth in the Outlying Parcels Master Plan (Id.).

As part of the ACOE section 404 wetlands permitting and the preparation of the EIS, the North Campus development alternatives were revisited (Id.). Five conceptual North Campus development alternatives (Alternative 1, 2, 2A, 2B, and 2C as shown in Figures M-7 through M-11 in Attachment M of App-1) were evaluated, including consideration of development area, impervious cover, and wetland impacts (Id.). The proposed roadway alignment is the same for all five development scenarios (Option A as discussed previously) (Id.). Alternatives 1, 2, 2A and 2B reflect the box culvert wetland crossing design that was presented in the DEIS Preferred Alternative (Id.). Alternative 2C reflects the modified crossing designs at Wetland Crossings A and C (Id.). All five alternative development concepts reflect the most recent wetland delineation for the entire North Campus project area performed in 2006 and a 2008 updated wetland delineation for Parcel C (Id.).

Additional coordination with the DEEP and the ACOE in January and February 2010 resulted in several modifications to the North Campus concept development plan to address the remaining concerns regarding wetland impacts and habitat connectivity for aquatic resources (Exhibits App-52, DEEP-12). The North Campus concept development plan was modified to eliminate entirely the previously proposed development on Parcel A and preserve an additional 76 acres on the North Campus (including Parcel A and a proposed wetland mitigation area)

through a conservation easement (Id.). (Based on discussions with the DEEP and ACOE during the subsequent Application process, the conservation easement area was expanded to encompass approximately 101 acres.) The revised North Campus development concept is referred to as “Alternative 2C” in the FEIS (Exhibits App-39, App-52).

Alternative 2C is consistent with the approved building square footage and associated parking requirements identified in the North Campus Master Plan, while limiting total wetland disturbance from the roadway extension (0.12 acres of direct impacts) and North Campus development (0.22 acres of indirect impacts) to 0.34 acres, and 0.19 acres of secondary or temporary impacts associated with tree removal and construction (Exhibit App-39, Appendix A, App-52). Development that was previously proposed for Parcel A was re-allocated by increasing the density of development on Parcel B (Id.). The North Campus development Alternative 2C, combined with the modified wetland crossings for roadway alignment Option A, reflects the overall roadway and parcel development scenario that addresses UConn’s goals for development of the North Campus while minimizing impacts to the on-site wetlands and maintaining habitat connectivity (Id.). This alternative, which was identified in the FEIS as the FEIS Preferred Alternative and in the ROD as the Selected Alternative, has also been identified as the LEDPA under the Clean Water Act (Exhibits App-39, App-42, App-53).

h) Conservation Measures

The Application does not involve the withdrawal of ground or surface water, thus a Long Range Water Conservation Plan is not required. (App-1, Attachment D). Notwithstanding the foregoing, the Applicant has committed to using only non-potable water (reclaimed water provided by UConn and/or water from on-site rainwater harvesting) for irrigation of the North Campus developments (Exhibit App-10). Land lease agreements between UConn and future tenants of the North Campus development will contain language requiring the use of non-potable water for landscape irrigation (Id.).

i) Environmental Impact Report

The Application does not involve an interbasin transfer of water, thus an Environmental Impact Report is not required (App-1, Attachment D).

Based on the foregoing, the Application contains all of the information required under the Water Diversion Policy Act.

2. Considerations for Decision

In deciding whether to issue a diversion permit, the Commissioner must consider all relevant facts and circumstances that include, but are not limited to, those listed in Conn. Gen. Stat. §§ 22a-373 and 26-310 as well as those set forth in R.C.S.A. § 22a-377(c)-2(f).

a) Statutory Factors (Conn. Gen. Stat. § 22a-373(b) Considerations)

i. *Effect of the Proposed Diversion on Related Needs for Public Water Supply Including Existing and Projected Uses, Safe Yield and Reservoir Systems and Reservoir and Groundwater Development*

The proposed diversion does not involve the withdrawal of groundwater or surface water, and the overall hydrology of the small portion of the project area within the Mason Brook/Fenton River watershed (eastern portion of Parcel B) will be maintained to the extent possible (Exhibit App-1). Therefore, the proposed diversion will not have an effect on public water supply.

ii. *Effect of the Proposed Diversion on Existing and Planned Water Uses in the Area affected such as Public Water Supplies, Relative Density of Private Wells, Hydropower, Flood Management, Water-Based Recreation, Wetland Habitats, Waste Assimilation and Agriculture*

The proposed stormwater collection, treatment and management will not have an effect on public water supply, relative density of private wells, hydropower, water based recreation, waste assimilation or agriculture (Exhibit App-1, Attachment D). The Applicant has worked closely with the DEEP to avoid or minimize environmental impacts to wetlands and watercourses, including minimizing potential impacts on wetlands and vernal pools, wildlife habitat and species, and flood management. Accordingly, the proposed diversion (i.e., stormwater runoff) will not have an adverse effect on flood management and wetland habitats. The DEEP issued approval of the Flood Management Certification for the proposed project dated April 9, 2013 (Exhibit App-17).

iii. Compatibility of the Proposed Diversion With the Policies and Programs of the State of Connecticut Dealing With Long-Range Planning, Management, Allocation and Use of Water Resources

The Application does not involve the withdrawal of groundwater or surface water, thus the policies and programs of the State of Connecticut dealing with long range planning, management, allocation and use of water resources are not applicable (Exhibit App-1, Attachment D). The proposed project is consistent with the relevant policies of the State Plan of Conservation and Development that was in effect during preparation of the EIS and the Application (App-1 and Development Policies Plan for Connecticut, 2005 - 2010 or "2005 - 2010 C&D Plan) (Exhibits App-53, App-56, App-57).

The Locational Guide Map in effect at the time identified the proposed project area as a "Growth Area," indicating an area designated for urban-scale expansion and suitable for long-term economic growth that is currently less than 80% built up, but has existing or planned infrastructure to support future growth in the region (Exhibit App-53). A portion of the existing agricultural field on the project site was identified as a "Preservation Area," which corresponds to the farmland preservation area identified in the EIS and Application and that will remain as cultivated prime farmland (Id.).

The proposed project is consistent with the 2005-2010 C&D Plan's policy to promote an urban economy through the expanded use of the state's higher education institutions and to target state resources to support infrastructure improvements and development in areas where infrastructure is already in-place (Id.).

A new State Plan of Conservation and Development was approved by the Connecticut General Assembly on June 5, 2013 (the "2013 – 2018 C&D Plan") (App-57), which followed approval of the EIS and submission of the Application (Id.). The 2013-2018 C&D Plan includes revised growth planning principles and an updated Locational Guide Map and designations. Under the 2013-2018 C&D Plan, the proposed extension of North Hillside Road and subsequent development of the North Campus technology park is considered a growth-related project. The project site is located entirely within a Priority Funding Area (i.e., priority areas for state

funding, defined based on U.S. Census Block data), although a portion of the site is also within a Conservation Area (i.e., areas delineated based on the presence of factors that reflect environmental or natural resource values), as identified on the Locational Guide Map. Because the project site meets the criteria for both a Priority Funding Area and Conservation Area, the site is considered a “Balanced Priority Funding Area.” State agencies that propose certain actions in these areas must provide balanced consideration of factors in determining the extent to which it is consistent with the policies of the State C&D Plan. The proposed project is consistent with the 2013-2018 C&D Plan because it is a growth-related project located in a Balanced Priority Funding Area and incorporates mitigation measures that protect and preserve the site’s environmental resources, including water quality, wetlands and wildlife, and farmland resources (Exhibits App-39 and App-53).

iv. Relationship of the Proposed Diversion to Economic Development and the Creation of Jobs

The requested diversion will not result in adverse social and economic impacts. On the contrary, failure to secure the requested diversion permit could result in reduced commercial and economic development within the Town of Mansfield. The extension will also facilitate the development of the UConn Technology Park, for which the Connecticut General Assembly recently approved \$172.5 million in start-up funding through the issuance and sale of General Obligation Bonds under Public Act 11-57 (Exhibit App-51). This state support follows federal funding leveraged up to \$6.2 million already utilized in part for planning and design, with remaining funds committed to construction (Id.). Of the total state investment, \$40 million is committed for specialized equipment and facilities that will be housed in the planned state-of-the-art IPB (Id.). The IPB is funded with the specific purpose of aligning the highly competitive needs of Connecticut industry with unique research and development (“R&D”) capacity at UConn (Id.).

The development of a technology park, envisioned by the state, the University and the Town of Mansfield as an important driver of both R&D and economic growth in the region, is the cornerstone of UConn’s master planning process. UConn today, with more than \$200 million in research awards, is positioned to deliver on the primary objective of a technology

park, which is to leverage key (“R&D”) advances into commercial products, growing high-technology employment and new entrepreneurial companies (Id.). Based on the 2008 Feasibility Study (Exhibit App-64) and other studies at similarly-situated research institutions, it is envisioned that the direct and attendant activities of a technology park will create and retain hundreds of new R&D and high-tech jobs in Connecticut (Id.). Studies of technology parks throughout the United States, including parks at Penn State University, Purdue University and the University of Wisconsin, indicate that the development of a technology park at UConn can enhance Connecticut’s global competitiveness and become a critical component of the state’s future economic growth supporting job retention and growth of industry (Id.).

In addition to driving economic growth in the region, the proposed project will also provide significant new and expanded high technology employment opportunities in Mansfield and the region (Exhibit App-39). The North Campus development is anticipated to generate approximately 2,800 new jobs at full buildout over a 10 to 20 year period (Id.). Some of these new jobs are expected to be filled by the existing population residing in an approximately 30 to 40 mile radius of the Storrs campus (Id.). Others, particularly those associated with management level and high-technology positions, will likely be filled by new professionals moving into the area (Id.). Graduates of UConn and other local colleges and universities choosing to live in the region are also expected to be part of the employment pool on the North Campus facilities (Id.). The proposed project, which has been analyzed extensively and approved by key state and federal agencies and publically vetted, is of central importance to economic development in Connecticut.

v. *Effect of the Proposed Diversion on Existing Water Conditions*

The diversion will not have an adverse impact on existing water conditions (Exhibit App-1, Attachment A). The proposed stormwater management measures are designed to preserve the existing site hydrologic conditions to the extent possible, including drainage patterns, runoff volume, groundwater recharge, and runoff quality (Exhibits App-1. App-13). The proposed stormwater management and other water quality protection measures will maintain runoff quality from the project site and thereby maintain the chemical, physical, and biological integrity of the

surface waters and groundwater at the site, including existing and designated uses related to aquatic life north from Professional Park Drive (Id.).

The proposed stormwater basins were designed to address comments of the DEEP regarding the proximity of the proposed basins and potential point discharges of stormwater to the on-site wetlands and vernal pools (Exhibit App-13). The stormwater basins/swales have been designed to balance water quality, peak flow attenuation, area of disturbance and secondary wetland impacts, and decoy wetland issues (Id.). The stormwater basins are designed to treat the water quality volume, while minimizing the permanent pool and the potential for the basins to act as decoy wetlands (i.e., to attract amphibians), consistent with the DEEP *Stormwater Quality Manual* (Exhibits App-13, App-58, DEEP-13).

Within the project area for the extension of North Hillside Road, the existing runoff is collected by four storm drainage systems (Exhibit App-13, Attachment H). The systems consist mostly of on-grade catch basins to capture gutter flow, with a small number of low-point catch basins (Id.). There are no sedimentation structures or detention facilities utilized within the existing drainage systems (Id.).

The existing drainage system along North Hillside Road will be slightly modified, and a number of additional storm systems will be added along the roadway (Id.). The existing system along U.S. Route 44 draining the West Bank Parcel, Jensen's, Inc. residential parcel, and the U.S. Route 44 runoff will be modified to accommodate the proposed widening of U.S. Route 44 and to eliminate hydraulic deficiencies (Id.). The proposed vegetated channels located to the east of the roadway extension will be used to divert overland flow from the higher elevations to the east of the proposed roadway flow to one of four locations: the stormwater basin at Sta. 36+25 RT, Crossing A, Crossing B, or Crossing C (Id.).

The existing drainage system along U.S. Route 44 receiving flow from North Hillside Road and the proposed Route 44 widening will be upgraded to eliminate existing deficiencies and to accommodate increased flows (Id.). This system will collect runoff from U.S. Route 44 beginning at the proposed high point at approximately Sta. 107+79 west to the downstream-most

catch basin in the system at approximately Sta. 90+70 RT(Id.). All existing pipes flowing westerly along U.S. Route 44 from approximately Sta. 104+25 to the system outlet at Cedar Swamp Brook will be upgraded to appropriately sized concrete pipes (“RCP”) in order to eliminate the degraded corrugated metal pipes currently in place (Id.). Additionally, the catch basins connected by these pipes will be replaced (Id.). The existing pipes connecting the catch basins on the northern side of U.S. Route 44 will remain and be extended as necessary to connect to the proposed catch basins on the southern side of the roadway (Id.). The existing outlet of this system will be improved by discharging through a reinforced concrete culvert end into a riprap basin and then to a riprap channel prior to flowing into Cedar Swamp Brook (Id.).

vi. Effect, including Thermal Effect, of the Proposed Diversion on Fish and Wildlife

As described above in Section A.1.f) (Statutory and Regulatory Background), the proposed diversion will not have any adverse effect, including thermal effect, on fish or wildlife (See also DEEP-12).

vii. Effect of the Proposed Diversion on Navigation

The diversion will have no effect on navigation (Exhibit App-1).

viii. Necessity

Taking into consideration and giving due regard to the Alternatives Assessment (Exhibit App-1, Attachment M) proffered by the Applicant, given the ongoing need for the North Hillside Road extension and the future development of the North Campus, the diversion is necessary (Exhibit App-1, Attachments A and D).

ix. Effect on Interstate Waters

The Application involves the collection, treatment and discharge of stormwater runoff from an overall watershed area of approximately 170 acres centrally located in Connecticut (Exhibit App-1, Attachment H). The diversion will not have any effect on interstate waters, particularly those without the state that may flow into the state.

x. Municipal Interests

The project is consistent with the interests of the Town of Mansfield (the “Town”) and has received support from the Town. Notice of the Application was provided to the Town on July 2, 2012 (Exhibit App-3). In February 2009, the Town submitted written comments on the DEIS indicating its support for the project (Exhibits App-1, App-33, see also Written Public Comments from Elizabeth C. Paterson dated September 10, 2013). As detailed in the Town’s written comments, the Town supports the project because it would provide relief from traffic congestion, promote vehicular and pedestrian safety, and facilitate the development of the North Campus (*Id.*). The project is fully consistent with the Connecticut Policies Plan for Conservation and Development, the Windham Region Land Use and Transportation Plans, and Mansfield’s Plan of Conservation and Development (*Id.*). The Town submitted additional comments in 2012 on the FEIS, which noted that the FEIS Preferred Alternative included several changes to reduce the environmental impact of the project, most notably eliminating development on Parcel A, preserving an additional 76 acres of land through a conservation easement (bringing the total preservation area to 101 acres) and using bridges instead of culverts to reduce wetland impacts and to improve wildlife habitat connectivity (Exhibit App-39; see also Written Public Comments from Elizabeth C. Paterson dated September 10, 2013).

b) Regulatory Factors (R.C.S.A. § 22a-377(c)-2(f)(1) Requirements)

i. R.C.S.A. § 22a-377(c)-2(f)(1) provides:

[N]o permit shall be issued unless the applicant demonstrates that:

(1) the proposed diversion is consistent with the standards, criteria, policies, and water quality classifications for ground and surface water adopted and amended under section 22a-426 of the General Statutes.

The Application, which entails the collection of stormwater runoff from an overall watershed area of approximately 170 acres, is consistent with the standards, criteria, policies, and water quality classifications for ground and surface water adopted and amended under Conn. Gen. Stat. § 22a-426. (Exhibits App-1, Attachment D, App-53). The Application does not involve the withdrawal of groundwater or surface water (Exhibit App-1, Attachment D). In addition, the proposed stormwater management measures are designed to preserve the existing site hydrologic conditions to the extent possible, including drainage patterns, runoff volume,

groundwater recharge, and runoff quality and thereby maintain the chemical, physical, and biological integrity of the surface waters and groundwater at the site, including existing and designated uses (Exhibit App-53). The proposed stormwater management system for the proposed roadway extension and the stormwater management system for the North Campus development sites includes a variety of stormwater management methods, including LID techniques, such as bioretention, rain gardens, and permeable pavement, to achieve stormwater quantity and quality objectives consistent with the stormwater management standards and design guidelines in the DEEP *Stormwater Quality Manual*, state water quality standards, criteria, policies, and water quality classifications adopted by DEEP, DEEP Flood Management Certification requirements, and the University's Sustainable Design & Construction Policy. The project design also includes the use of a variety of practices to infiltrate runoff from impervious surfaces such as bioretention, water quality swales, infiltration of roof runoff, and level spreaders (Exhibits App-1, App-39, App-53).

ii. R.C.S.A. § 22a-377(c)-2(f)(2) provides:

No permit shall be issued unless the applicant demonstrates that . . . (2) the proposed diversion is consistent with the policies and requirements of chapter 440 of the General Statutes and regulations thereunder . . .

As described below Section B.2) (Statutory and Regulatory Background), the proposed diversion is consistent with the policies and requirements of the Inland Wetlands and Watercourses Act.

iii. R.C.S.A. § 22a-377(c)-2(f)(3) provides:

No permit shall be issued unless the applicant demonstrates that . . . (3) the proposed diversion is designed and will be carried out so as to minimize and, if possible, eliminate flooding and flood hazards, and to be consistent with the policies and requirements of chapter 476a of the General Statutes and regulations thereunder

The proposed stormwater management measures for the project are designed to maintain existing site hydrology and minimize or eliminate flooding and flood hazards consistent with the DEEP flood management policies and requirements (Exhibits App-53, DEEP-8, DEEP-12, DEEP-13). The DEEP issued approval of the Flood Management Certification for the proposed project dated April 9, 2013 (Exhibit App-17). The majority of the project site and proposed

activities are located outside of mapped floodplains or floodways (Exhibit App-1, Attachment H). Only the proposed upgrades to the U.S. Route 44 drainage outfall are within a mapped 100-year flood zone (Id.). Measures to be taken by UConn and contractor(s) during and after construction to protect life and property and to prevent pollution during significant rainfall events are described in the Flood Contingency Plan in the Application (Exhibit App-1, Attachment I).

Measures to mitigate possible flooding and flood hazards related to proposed increases in impervious cover associated with the proposed roadway extension include: stormwater basins designed to attenuate peak discharge up to the 10-year storm, while minimizing adverse impacts (increases to the peak flow rate, the timing of runoff and the volume of runoff) on downstream or adjacent properties for larger design storms up to the 100-year event; redesigning the basin outlet structures at Wetland Crossing C to reduce both the potential for clogging and downstream erosion to sensitive wetlands during large storms; adding level spreaders to the outlets of the basins at Wetland Crossing C to convert point discharges to diffuse overland flow and further reduce the potential for erosion; relocating the bottoms of the stormwater basins 1 to 3 feet above seasonal high groundwater to avoid intercepting groundwater and reducing the storage capacity of the basins; and designing the stormwater basins to provide peak discharge attenuation, while minimizing the permanent pool and the potential for the basins to act as “decoy wetlands.” (Exhibits App-13, App-54). Other conceptual stormwater management measures are proposed for future development of the North Campus sites including bioretention, rain gardens, permeable pavement, underground detention and infiltration, and surface stormwater basins. These measures are identified conceptually in the Application (see App-1, Attachments G and H, App-13). The Application does not include detailed design of stormwater management measures for the North Campus parcels since the details of any future development are unknown at this time. Rather, the Application identifies stormwater performance standards for each parcel based on the development envelope approach. The proposed conceptual stormwater management plan will be refined during the design and permitting for the individual development parcels. Development of individual North Campus parcels will be subject to further CEPA review and review by DEEP (see Exhibits App-23, App-24, App-25, DEEP-18).

The Hunting Lodge Road stream crossing, which is the first road crossing downstream of the project site and corresponds to the UConn property boundary, was analyzed to evaluate its current capacity to safely pass the 100-year peak discharge. The analysis shows that the twin culvert crossing provides 1.2 feet of freeboard from the top of the roadway during the 100-year peak discharge, which meets CTDOT hydraulic criteria. No increase in the 100-year peak flow is predicted at this design point. Therefore, the Hunting Lodge Road crossing safely passes the 100-year peak discharge under proposed conditions.

iv. R.C.S.A. § 22a-377(c)-2(f)(4) provides:

No permit shall be issued unless the applicant demonstrates that . . . (4) if it is within or may significantly affect the coastal area as defined by subsection (a) of section 22a-94 of the General Statutes, the proposed diversion is consistent with the goals and policies of chapter 444 of the General Statutes.

The diversion is not located within and will not affect the coastal area (Exhibit App-1).

v. R.C.S.A. § 22a-377(c)-2(f)(4) provides:

No permit shall be issued unless the applicant demonstrates that . . . (5) the proposed diversion is consistent with the relevant policies of the State Plan of Conservation and Development adopted under sections 16a-24 to 16a-32, inclusive, of the General Statutes

P.A. 05-205 has removed this compatibility test from Con. Gen. Stat. § 22a-366.

Notwithstanding the foregoing, as discussed above Section A.2a)iii (Statutory and Regulatory Background), the proposed diversion is consistent with the relevant policies of the State Plan of Conservation and Development (Exhibits App-53, App-56, App-57).

B. Inland Wetlands

1. Required Information

The Inland Wetlands and Watercourses Act does not prescribe specific information that is required for an inland wetlands and watercourses permit application. The implementing regulations require that the following information be provided in writing on a form prescribed by the Commissioner: the applicant's name, address and telephone number; the owner's name (if the applicant is not the owner of the property on which the regulated activity is proposed); the applicant's interest in the land on which the regulated activity is proposed; the geographical

location of the property on which the regulated activity is proposed; the purpose and description of the proposed activity; a site plan; and the names of adjacent property owners. Such information was provided by the Applicant (Exhibit App-1, Attachment C).

2. Considerations for Decision

a) Statutory Factors (Conn. Gen. Stat. § 22a-41(a) Considerations)

i. The environmental impact of the proposed regulated activity on wetlands or watercourses

The environmental impact of the proposed project on wetlands and watercourses, including vernal pools, and wildlife habitat and species are discussed in detail in Attachments A and L of the Application and the prefiled testimony of Erik Mas (Exhibit App-53) and Joshua Wilson (Exhibit App-55, App-68).

Three wetland areas will be impacted by the proposed roadway construction (Wetland A, Wetland B, and Wetland C), and a single wetland/watercourse area (Wetland Area 1) will be impacted by the development of the North Campus sites (as shown in Attachments M, Q1 and Q2 of App-1). The proposed roadway extension will result in a total of approximately 0.12 acres of permanent direct impacts to one wetland area. Direct impacts to wetlands resulting from the development of the North Campus sites are estimated at 0.22 acres (Exhibit App-55). The direct impacts will occur at Wetland Area 1, a low functioning wetland that is not sufficient to provide a breeding habitat for amphibians or other vernal pool species (Exhibits App-55, DEEP-12). The total combined area of proposed direct wetland impacts for the roadway extension and associated North Campus development is 0.34 acres (Id.). An additional 0.15 acres of secondary impacts associated with tree removal is anticipated (Id.). The project is also expected to result in 0.04 acres of temporary wetland impacts associated with temporary fill or disturbance during construction (Id.). Ultimately, this limited area of disturbance will not affect the natural capacity of the undisturbed wetlands on site to support desirable biological life, to prevent flooding, to supply water, to control sediment, to facilitate drainage or to promote public health and safety. The wetlands to be affected are primarily broad-leaf deciduous forested areas (Id.). No activity is proposed within the on-site vernal pools, and minimal development activity is proposed within the 100-foot vernal pool envelope (Id.).

Wetland Area A

The proposed crossing at Wetland A and the associated intermittent stream is designed to traverse the wetland at its narrowest point using a precast concrete rigid frame bridge with a 40-foot span (Exhibit App-1, Attachment L). The structure will avoid permanent impacts to the wetlands, will maintain habitat connectivity, and allow safe passage of flow (Id.). The design for this crossing was selected in conjunction with the DEEP and ACOE over the previously-proposed box culvert design (Id.). The proposed bridge at Wetland Crossing A will result in no direct permanent impacts to wetlands or watercourses (Id.). Anticipated secondary impacts include removal of approximately 2,523 square feet of forest cover within wetlands (along approximately 75 linear feet) which will be mitigated through a proposed 2.2-acre forested wetland creation area (Id.). Approximately 58 square feet of temporary wetland impacts are anticipated to construct footings for the rigid frame bridge (Id.). These temporary impacts will be mitigated through in-situ restoration of the disturbed areas following construction (Id.).

Wetland Area B

The proposed crossing at Wetland B consists of an 8-foot by 4-foot precast concrete box culvert (Exhibits App-1, Attachment L, App-55). The bottom of the structure will be embedded by 1-foot, creating a natural substrate with a clearance of 3 feet (Id.). The Crossing was designed with input from the DEEP and ACOE and will allow for the passage of flow from this low-quality, headwater lobe wetland (Id.). The proposed roadway extension traverses the tip of the wetland, with an approximately 3-foot average depth of fill proposed (Id.). Approximately 824 cubic yards of permanent wetland fill are proposed at this location, resulting in approximately 5,127 square feet (0.12 acres) of permanent direct wetland impacts at Wetland Crossing B (Exhibits App-1, App-53, App-55).

Wetland Area C

The proposed crossing at Wetland C is designed to completely traverse the wetland between Vernal Pool No. 1 and Vernal Pool No. 2 using an approximately 76-foot long clear-span concrete box beam bridge (Exhibit App-1, Attachment L). The structure will avoid permanent impacts to the wetlands, and will maintain habitat connectivity for semi-aquatic and

terrestrial wildlife between the vernal pools and along this larger amphibian migration corridor (Id.). The design for this crossing was selected in conjunction with DEEP and USACE over the previously-proposed box culvert design (Id.). Anticipated secondary impacts include tree clearing within approximately 4,034 square feet (0.09 acres) of wetlands, which will be mitigated through a proposed 2.2-acre forested wetland creation area adjacent to the nearby farm field (Id.). Approximately 1,221 square feet of temporary wetland impacts will be mitigated through in-situ restoration following construction. (Id.).

Wetland Area 1

Wetland Area 1 is located on Parcel C of the North Campus, approximately 300 feet west of the existing terminus of North Hillside Road (Exhibits App-55, App-1, Attachment L). This wetland area, which is approximately 0.22 acres in size and has a low functional value for wildlife habitat, flood storage, pollutant renovation and groundwater recharge, is, in fact, a regulated watercourse and the headwaters of an intermittent watercourse that flows in a southwesterly direction (Id.) Slopes across this wetland area are approximately 3.5 percent (Id.). The grading required to develop this site to satisfy the North Campus Master Plan development goals for this site, combined with the limited access to the back of the parcel will require some degree of fill/impacts to Wetland Area 1 (Id.). Although the actual site configuration of buildings, parking, and access drives on Parcel C, as with the other North Campus parcels, will depend on future site-specific development proposals by private entities or UConn, thereby requiring future site-specific permitting, the Application has considered the entire 0.22 acres (all associated with the development of Parcel C) as directly impacted.

Vernal Pools

The vernal pools in the project area were studied intensively and the project was designed – with extensive input both from the DEEP and from ACOE – to minimize potential impacts to the wetlands and watercourses, in general, and to vernal pools, specifically (Exhibit App-1, Attachment Q2, App-55). Consideration of the potential impacts to vernal pools included a thorough evaluation of vernal pool hydrology, fauna, and surrounding upland areas (Exhibit App-55). A detailed vernal pool study was performed in the spring of 2004 by Fuss & O’Neill, New England Environmental Services, and UConn (Exhibit App-55). The study included a drift

fence survey and aquatic larval sampling, and resulted in the confirmation of a vernal pool (referred to in the following discussion as Vernal Pool No. 1 or VP-1) located east of the proposed alignment of North Hillside Road (as depicted in Attachment Q2 of App-1). Fuss & O'Neill and New England Environmental Services further identified several additional potential vernal pools at the project site in January 2007. These potential vernal pools are located in the northern portion of the site. Fuss & O'Neill then conducted a vernal pool inventory at the project site in the spring and summer of 2007 to confirm and further evaluate the characteristics of the potential vernal pools. The 2004 vernal pool study was subsequently amended following an evaluation of the additional vernal pools identified and the upland habitat associated with those vernal pools based on specific requests from the DEEP and the ACOE.

The vernal pool study and evaluation described previously was included as Attachment Q2 of App-1 and identified thirteen potential vernal pools on the North Campus. Twelve of the thirteen potential vernal pools were confirmed as viable vernal pools in accordance with the ACOE definition of a vernal pool. (Vernal Pool No. 12 was eliminated from the evaluation as it was determined not to meet the ACOE definition of a vernal pool due to the presence of a breeding population of fish.) The proposed extension of North Hillside Road and subsequent North Campus development will not directly impact any of the identified vernal pools, as no activity is proposed within the vernal pools and minimal development activity is proposed within the 100-foot vernal pool envelope. Of the twelve vernal pools present in the project area, very minimal development is proposed within the 100-foot vernal pool envelope of only two of the pools – Vernal Pool Nos. 1 and 2 (VP-1 and VP-2) (App-68). Only 2% of the area within the 100-foot envelope of VP-1 and 2% of the area within the 100-foot envelope of VP-2 will be impacted (Id.). There is absolutely no development – roadway or otherwise – proposed within the 100-foot envelope of any of the other ten vernal pools (Id.). In the original Vernal Pool Evaluation (Attachment Q2 of App-1), UConn had proposed to develop 9% of the area within the 100-foot envelope of VP-1; however, based on discussions with the DEEP and ACOE, the project design was modified to reduce the development impact to 2% (Exhibits App-68, App-13, Attachment Q6). To the extent practicable, UConn has limited the proposed development within the 750-foot critical terrestrial habitat to no more than 25% as recommended in the Calhoun and Klemens, *Best Development Practices: Conserving Pool-Breeding Amphibians in Residential*

and Commercial Developments in the Northeast United States (2002) (“Best Development Practices”) (Exhibit App-68).

Wetland Mitigation Measures

The FEIS and Application have considered the secondary (i.e., indirect) and cumulative impacts of the proposed roadway extension on wetlands and watercourses by considering the potential impacts associated with the maximum theoretical future buildout of each development site on the North Campus (Id.). The project has incorporated extensive design and mitigation measures to avoid impacts to wetlands and watercourses, including vernal pools and associated habitat and amphibian migration routes. In addition to the mitigation measures discussed above in connection with the vernal pool assessment, proposed wetland mitigation measures include:

- The proposed crossing at Wetland A is designed to traverse the wetland at its narrowest point using a precast concrete rigid frame bridge with a 40-foot span. The structure was designed to avoid any permanent impacts to the wetlands, maintain habitat connectivity, and allow the safe passage of water flow;
- The proposed crossing at Wetland C is designed to completely traverse the wetland between VP-1 and VP-2 using an approximately 76-foot long clear-span concrete box beam bridge. The structure will avoid all permanent impacts to the wetlands, and will maintain habitat connectivity for semi-aquatic and terrestrial wildlife between the vernal pools and along this larger amphibian migration corridor;
- Preserving an undisturbed wetland and amphibian migration corridor through a proposed 101-acre conservation easement, thereby protecting the vernal pools with the highest rating and ecological value (Exhibit App-55, DEEP-12);
- Creating an approximate 2.2-acre wetland (including vernal pool areas) through the expansion of an existing forested wetland adjacent to an agricultural field east of the proposed roadway extension, the creation and success of which shall be monitored as outlined in the Wetland Mitigation Plan (Exhibits App-1, Attachment L, App-55, DEEP-12);
- In-situ wetland restoration to mitigate temporary construction impacts (Exhibit App-53). Areas affected by temporary activity will be restored to original grade, stabilized, and seeded using New England Wetmix (or equivalent) (Id.). At Wetland Crossing B, in-situ restoration is also proposed to mitigate wetland impacts associated with tree removal and grading west of the proposed crossing (Id.). The area will be re-planted with shrubs and seeded using New England Wetmix (or equivalent) (Id.);

- Implementing a comprehensive stormwater management system design for the roadway and North Campus development, including LID approaches (Id.);
- UConn has limited the proposed development within the 750-foot critical terrestrial habitat to no more than 25% as recommended in the *Best Development Practices* (Exhibit App-68). When the vernal pools are considered collectively, which is consistent with their meta-population function described in Dr. Klemens' comments to the Office of Adjudications, the development in the 750-foot critical terrestrial habitat of all the vernal pools within the vicinity of the project site is less than 24% (Id.). This includes the currently existing development of 38% within the 750-foot upland area of VP-5 and 22% within the 750-foot upland area of VP-6 (Id.);
- Limiting site clearing or grading within 750 feet of a vernal pool to the period outside of the spring amphibian migration (mid-March to the end of May), to the extent practicable (Exhibit App-55);
- Vernal pool monitoring will be conducted as part of the wetland mitigation plan for the project. Monitoring will be performed of the existing vernal pools within the area of potential impact associated with roadway construction and North Campus parcel development (VPs 1, 2, 3, 4, 10 and 11). New vernal pools created as part of the mitigation plan will also be monitored (Exhibits App-10, App-13 (Attachment L));
- Staggering construction and minimizing silt fencing within 750 feet of vernal pools (Exhibit App-55);
- Maintaining undeveloped forested habitat around vernal pools, including canopy and understory (Id.);
- Excluding amphibians from active construction areas through the use of silt fencing (Exhibit App-53);
- Restricting equipment laydown areas, using wetland matting where necessary, and monitoring construction (Id.);
- Limiting construction of the intermittent stream crossing at Wetland A to between November and March, to the extent practicable, to avoid potential impacts to the Northern Spring Salamander (if present) (Id.);
- Creating an area of reduced salt application in the vicinity of the wetland crossings, where feasible based on safety considerations (Id.). Placing catch basins up-gradient of the wetland crossings to collect runoff containing de-icing and anti-icing materials (Id.). Improving the efficiency of de-icing and anti-icing

practices to minimize application, which is part of UConn's on-going strategy for more environmentally sensitive winter roadway maintenance (Id.); and

- Strategically locating lighting fixtures and controlling directionality to minimize light at the wetland crossings to the extent practicable while still maintaining public safety and complying with the requirements for full cutoff lighting (i.e., no light emitted above horizontal) (Id.).

Wildlife Habitat

The roadway extension and proposed North Campus development will result in some loss of existing woodland, grassland/field, and wetland habitat for bird and terrestrial species (Exhibits App-1, Attachment A, App-55). The University, therefore, commissioned both a bird survey and analysis and a habitat and listed species analysis (Id.). Based, in part, on these analyses, the proposed roadway alignment and conceptual development plans were designed to minimize the loss of wetland habitat (Id.). In addition, the University has proposed to create an approximately 2.2-acre wetland and place 101 acres of land under a conservation easement to mitigate any impact to wildlife or wildlife habitat (Exhibits App-1, Attachment A, App-55, DEEP-12).

a. Bird Survey and Analysis

A bird survey performed in 2006 by Robert Craig, Ph.D., of Bird Conservation Research, Inc (Exhibit App-1, Attachment Q, App-55) determined that the bird population in the project area is dominated by species associated with forest edges, since the existing forest is a relatively small fragment, and that the bird population is not high value (Id.). However, the mature nature of the forest, especially a number of large, mature trees, is of notable value (Id.). The forest contains a mixture of hardwoods, with oaks dominating in the less moist soils, and moderate shrub density at the most hydric locations (Id.). Typical species include black oak, red oak, white oak, sugar maple, red maple, yellow poplar, black birch, yellow birch, white ash, shagbark hickory, and pignut hickory (Id.).

The forested area contains a number of large trees, notably some of the oaks (Id.). Trees of 55-66 cm diameter at breast height (dbh) are fairly common throughout the forest (Id.). At the landscape level, the tract can be described as forest fragment, albeit a fairly substantial one,

because it is largely separated from other forest tracts by fields and other developments (Id.). The bird community in this tract is composed of a number of species associated with forest edge and openings (Id.). These include the mourning dove, northern flicker, eastern kingbird, yellow-throated vireo, American robin, American crow, gray catbird, common yellowthroat, song sparrow, northern cardinal, rose-breasted grosbeak, Baltimore oriole, indigo bunting, and American goldfinch (Id.). The great horned and barred owls, along with the red-tailed hawk, were also observed (Id.). Eastern bluebirds appeared as regular breeders at the forest edge near farm fields (Id.). The bird community is largely characterized by species associated with forest edge and openings, although there were also a number of characteristic forest interior species present (Id.). Because the existing habitat is fragmented, the bird community is not characterized as a high value interior forest community (Id.).

Given the higher habitat value of the wetland areas, loss of woodlands will likely result in less overall wildlife impact compared to wetland disturbance of similar magnitude (Id.). Furthermore, the proposed disturbances to woodlands and grasslands fields have been designed to minimize fragmentation and isolation of wetland and upland forested habitats, and to maintain, through a conservation easement, contiguous wildlife habitat and migration corridors (Id.).

b. Threatened or Endangered Species Analysis

No federally-listed threatened or endangered species have been identified in the project area (Id.). The 2006 field investigations indicated that state-listed grassland bird species do not use the small grasslands present at the site as breeding habitat, but cornfields present at the site may serve as staging and migratory habitat for grassland-associated bird species (Id.). Loss of between approximately 5 and 10 acres of this potential staging and migratory habitat will be offset by farmland mitigation measures described in the FEIS and ROD, which will involve the creation of fields of similar character and acreage to those that currently exist (Id.). Prior to development activity on existing agricultural fields on the North Campus between late April and July, UConn will perform a field survey of these fields to verify a lack of nesting state-listed grassland birds (Id.).

No other state-listed species have been identified in the project area; however, the Northern Spring Salamander was reported in 2008 two miles away from the North Campus (Id.). Notwithstanding the foregoing, at the suggestion of the DEEP Wildlife Division, for project planning and design purposes, UConn assumed that the Northern Spring Salamander was present in the project area and proactively included the following mitigation measures into the project to the extent practicable: a construction time window that limits when the intermittent stream crossing at Crossing A can be constructed; maintenance of significant forest canopy around the intermittent stream and the preservation of large-diameter trees to the extent practicable; wetland crossing designs that maintain habitat connectivity; and measures to reduce and manage runoff to the intermittent stream during and after construction (Exhibit App-68). In addition, the Draft Permit (attached hereto as Exhibit A) contains a Special Condition requiring the Applicant to install and maintain a low profile rigid amphibian guidance fence for approximately 350 feet north and south of Wetland Crossing C at the toe of the slope of the roadway embankment and around the stormwater basins, and approximately 175 feet north and south of Wetland Crossing A at the toe of the slope of the roadway embankment and around the stormwater basin to guide amphibians into the bridge openings and further reduce the potential for amphibian access to the roadway and stormwater basins.

ii. The applicant's purpose for, and any feasible and prudent alternative to, the proposed regulated activity which alternatives would cause less or no environmental impact to wetlands and watercourses

As demonstrated above in Section A.1.g) (Statutory and Regulatory Background), the Application contains a detailed and thorough Alternatives Assessment at Attachment M of Exhibit App-1. The Alternatives Assessment discusses a variety of alternatives, including a no action alternative, alternative development sites, alternative roadway alignments and alternative North Campus Development Plans (Exhibits App-1, Attachment M). The alternatives considered in the preparation of the FEIS and the Application incorporated information on alternatives from prior environmental reviews of the North Campus development and North Hillside Road extension under CEPA in the Research and Technology Park EIE and in the North Campus Master Plan EIE (Exhibits App-19, App-29, App-39, Appendix A, App-39 App-53).

The analyses were revisited in light of updated information on natural and physical resources in the project area and are explained in detail in Section A.1g) above.

iii. The relationship between the short-term and long-term impacts of the proposed regulated activity on wetlands or watercourses and the maintenance and enhancement of long term productivity of such wetlands or watercourses

The short-term impacts of the project, primarily due to the construction activities, will be minimized through erosion and sedimentation control measures that will be included in the construction contracts (Exhibits App-1, App-39, DEEP-13). These measures will protect ground and surface water quality, minimize the possibility of siltation and sedimentation and minimize adverse effects to semi-aquatic and terrestrial wildlife (Id.). In addition, in-situ wetland restoration will mitigate temporary construction impacts (Exhibits App-53, App-55). Areas affected by temporary activity will be restored to original grade, stabilized, and seeded using New England Wetmix (or equivalent) (Id.). At Wetland Crossing B, in-situ restoration is also proposed to mitigate wetland impacts associated with tree removal and grading west of the proposed crossing (Id.). The area will be re-planted with shrubs and seeded using New England Wetmix (or equivalent).

In addition to erosion and sedimentation controls and in-situ wetland restoration, the Applicant has also proposed the following mitigation measures to minimize the short-term impacts of the project including:

- Limiting construction of the intermittent stream crossing at Wetland A to between November and March, to the extent practicable, to avoid potential impacts to the Northern Spring Salamander (Exhibit App-53);
- Staggering construction and minimizing silt fence within 750 feet of vernal pools (Id.);
- Using a silt fence to exclude amphibians from active construction areas (Id.);
- Avoiding construction within vernal pools and minimal development within the 100-foot vernal pool envelope (Id.); and
- Restrictions on equipment laydown areas, use wetland matting where necessary, and construction monitoring (Id.).

(Exhibits App-53, App-55).

The Applicant will mitigate the long-term impacts, virtually all associated with Wetland Crossing B and the development of Parcel C, by creating a new 2.2-acre wetland area (an area roughly 6.5 times the area of wetlands to be permanently impacted). This wetland restores a functioning wetland to replace the long term values lost to the project. The location of the proposed wetland mitigation area, which is situated adjacent to a larger tract of farmland and close to Wetland Crossing B, is suitable for developing and creating additional wetland habitat. The hydrology of the site is also conducive to creating a wetland area without significant disturbance to other natural communities. Ultimately, the proposed forested wetland creation area is expected to replace and improve the functions and values of the wetland areas affected by the proposed activity. In addition to the wooded wetland area, a vernal pool creation area is proposed within the 2.2-acre mitigation area. This depression is intended to provide additional breeding and refuge habitat to both obligate and facultative vernal pool species. Based on Cowardin et al., *Classification of Wetlands and Deepwater Habitat*, the vernal pool would be classified as Palustrine Shrub-Scrub Broad-leaved Deciduous and Unconsolidated Bottom Mud (PSS1/UB3).

- iv. Irreversible and irretrievable loss of wetland or watercourse resources which would be caused by the proposed regulated activity, including the extent to which such activity would foreclose a future ability to protect, enhance or restore such resources, and any mitigation measures which may be considered as a condition of issuing a permit for such activity including, but not limited to, measures to (A) prevent or minimize pollution or other environmental damage, (B) maintain or enhance existing environmental quality, or (C) in the following order of priority: Restore, enhance and create productive wetland or watercourse resources*

To mitigate the wetland impacts described above, UConn has proposed to create a scrub-shrub and forested wetland area of approximately 2.2 acres adjacent to the agricultural field to the east of the proposed roadway extension in the area of VPs 10 and 11 (Exhibits App-1, App-55). This area is roughly 6.5 times the 0.34-acre area of permanent wetland impact. Additional mitigation, in the form of preservation, will include the establishment of an approximately 101-acre conservation area that will preserve the existing wildlife habitat corridor associated with the wetlands and watercourses on the 330-acre parcel. Temporary wetland impacts will be mitigated

through in-situ restoration (Id.). The mitigation plan is expected to enhance the functions and values of the extant wetland systems.

The proposed mitigation plan was developed in accordance with the ACOE *New England District Regulatory Division's Mitigation Plan Checklist and Mitigation Guidance* document (July 10, 2010), which serves as the definitive mitigation guidance for projects in New England (Id.). Eight potential mitigation areas were identified by the Applicant and the DEEP Staff during a site walk in January 2004 and during supplemental site visits (Id.). Areas that were found to be suitable for mitigation included areas for both wetland creation and wetland enhancement (Id.). Five potential creation sites were considered because of their connectivity to the Wetland A system (Id.). Two wetland enhancement sites were identified in the FEIS to improve overall wetland functions and values throughout the project area and as part of the University's campus-wide wetland management efforts (Exhibits App-1, Figure 3 in Attachment Q2, Attachment B to Attachment Q1, and Figure M-11 in Attachment M). A wetland area east of Horsebarn Hill was recommended by the DEEP as a potential enhancement site and a wetland area on the northeast side of Hunting Lodge Road was recommended as a potential enhancement site (App-1, Attachment L).

The cultivated field to the south of the Wetland Area A (Creation Option A-4) ultimately was identified as the best location for wetland creation (Exhibits App-1, App-55). As depth to seasonal groundwater is less than two feet, the hydrology in this area is ideal for wetland creation (Id.). In addition, due to the ease of access and the lack of any natural resources, this area is the most suitable and feasible location for wetland creation (Id.).

The proposed wetland mitigation area will ultimately result in the creation of forested wetland (Id.). The wetland classes, which are based on Cowardin et al., *Classification of Wetlands and Deepwater Habitat*, proposed at the wetland creation site are: Palustrine Forested/Shrub-Scrub Broad-leaved Deciduous (PFO/SS1); Wetland and Palustrine Shrub-Scrub Broad-leaved Deciduous; and Unconsolidated Bottom Mud (PSS1/UB3) (Id.). The initial planting plan calls for a mixture of trees and shrubs throughout the mitigation area. Until the planted trees reach maturity and become the dominant canopy cover, the mitigation area will be

considered a PSS1 wetland (Id.). The proposed wetland creation area is designed to ultimately reach the Palustrine Forested Wetland Deciduous (PFO1) class. Full maturation of the trees and achievement of PFO1 classification will occur over a number of years (Id.).

A vernal pool creation area is also proposed within the 2.2-acre mitigation area. This vernal pool creation area is intended to provide additional breeding and refuge habitat to both obligate and facultative vernal pool species. The vernal pool would be classified as PSS1/UB3 and is designed to enhance the anticipated functions and values of the proposed wetland creation area were determined using the *ACOE New England District Highway Methodology Supplement* (NENEP-360-1-30a), which include groundwater recharge/discharge, floodflow alteration, sediment/toxicant retention, production export, wildlife habitat, and educational/scientific value (Id.). The functions and values of the mitigation area are expected to be an improvement to the functions and located on a university campus, will also provide an educational resource for students and faculty (Id.).

In addition to the creation of the 2.2 acres of wetlands, other mitigation measures are proposed as part of the roadway design and the North Campus development, including the following:

- Stormwater Management - The proposed stormwater management system for the roadway extension and the conceptual North Campus development was designed to achieve stormwater quantity and quality objectives consistent with the stormwater management standards and design guidelines in the DEEP 2004 *Connecticut Stormwater Quality Manual*, as amended, and UConn's Sustainable Design & Construction Policy. The proposed stormwater management system is expected to address potential impacts to receiving waters and wetlands as a result of changes to site hydrology;
- Vernal Pool Mitigation Measures - The project has incorporated extensive design and mitigation measures to avoid secondary impacts to the vernal pool critical upland habitat and amphibian migration routes. No activity is proposed within the vernal pools and minimal development activity is proposed within the 100-foot vernal pool envelope. An undeveloped forested habitat will be maintained around the vernal pools, including the canopy and understory. The conceptual development plan is designed with the greatest degree of protection for the vernal pools with the highest rating and ecological value, including the vernal pools that are part of the red maple swamp vernal pool complex (VPs 5-9), with an emphasis

on preserving the undisturbed wetland and amphibian migration corridors. The proposed mitigation measures also include limiting development within the 750-foot critical upland area to less than 25 percent collectively to further preserve the vernal pool environment. UConn has also eliminated all development on Parcel A and included this parcel in the 101-acre conservation easement area;

- In-Situ Wetland Restoration - Construction of the three wetland crossings (Crossings A, B and C) will result in temporary wetland impacts. Areas affected by temporary activity will be restored to original grade, stabilized, and seeded using a wetland plant seed mixture. At Wetland Crossing B, in-situ restoration is also proposed to mitigate wetland impacts associated with tree removal and grading west of the proposed crossing. The area will be re-planted with shrubs and seeded using a wetland plant seed mixture;
- Amphibian and Wildlife Crossings and Roadway Crossing Design - proposed crossing at Wetland C is designed to completely traverse the wetland between VP-1 and VP-2 using an approximate 76-foot long clear-span concrete box beam bridge. The structure will avoid all permanent impacts to the wetlands, and will maintain habitat connectivity for semi-aquatic and terrestrial wildlife between the vernal pools and along this larger amphibian migration corridor. By spanning the migration corridor, the clear-span bridge allows for light penetration and greater clearance, and preserves the natural substrate for amphibian migration;
- Restricting site clearing or grading within 750-feet of a vernal pool to the period outside of the spring amphibian migration period (mid-March to the end of May), to the extent practicable;
- Limiting construction of the intermittent stream crossing at Wetland A to the period between November and March, to the extent practicable, to avoid potential impacts to the Northern Spring Salamander;
- Staggering construction and minimizing silt fence within 750 feet of vernal pools; and
- Excluding amphibians from active construction areas through the use of silt fencing.

The proposed project has been designed to minimize the irreversible and irretrievable loss of wetland resources. In recognition that wetlands are indispensable, irreplaceable fragile natural resource, the project is designed to protect existing wetland areas to the greatest extent possible. Coordination with various regulatory agencies during the NEPA EIS and Application processes resulted in a modified project design, including proposed mitigation measures, that avoids or minimizes potential impacts to wetlands and watercourses, water quality, wildlife habitat, and

farmland/agriculture (DEEP-12). UConn significantly reduced the North Campus development envelope and re-designed two wetland crossings (Crossings A and C) to essentially eliminate wetland impacts and maintain habitat connectivity for aquatic resources and other wildlife.

v. ***The character and degree of injury to, or interference with, safety, health or the reasonable use of property which is caused or threatened by the proposed regulated activity***

The project involves 0.34 acres of direct impacts to regulated wetlands and additional 0.19 acres of secondary or temporary impacts. These impacts, related to the extension of North Hillside Road and the development of Parcel C, are centrally located on property owned by the University that has long been identified by UConn for development of a research and technology park. The project has been designed to avoid impacts to the wetlands to the greatest extent possible, and to enhance public health and safety (Exhibits App-1, App-39).

The extension of North Hillside Road (and signalization of the intersection with U.S. Rt. 44) will alleviate traffic congestion on U.S. Route 44, Route 195, Hunting Lodge Road, and other local roads in the vicinity of the project area. The roadway extension will alter traffic patterns in the area surrounding the North Campus by attracting outbound (northbound) vehicles from the campus during the peak afternoon hour, shifting vehicles from both Hunting Lodge Road and Route 195 north of North Eagleville Road (Exhibits App-1, App-39). These modifications to the extant roadway network are supported by the Town of Mansfield (Exhibit App-39) and were identified by the STC as a measure to mitigate traffic impacts from UCONN 2000 development and to eliminate the need for additional capacity improvements in Certificate of Operation No. 904-E for the UCONN 2000 Campus Master Plan. (Exhibit App-59) In addition, the stormwater management system for the project has been designed to maintain existing site hydrology and, particularly with respect to the upgrades to the U.S. Route 44 system, to minimize or eliminate flooding and flood hazards consistent with the DEEP flood management policies and requirements. These improvements will also enhance the functions and values of the wetland systems impacted by the project.

The project design includes a paved pedestrian sidewalk on the east side of the roadway extension and a separate bicycle lane within the curb line in each direction (Exhibits App-1,

App-39, App-53). The widening of U.S. Route 44 at the intersection with North Hillside Road will maintain pedestrian access along Route 44 and between Route 44 and North Hillside Road. The inclusion of bicycle lanes within the roadway curb line minimized the roadway width and associated wetland impacts at the wetland crossings (Id.). The project design also includes the use of a variety of stormwater management practices to treat and attenuate runoff from impervious surfaces such as water quality swales, stormwater basins, and level spreaders. Once the roadway is completed, existing transit service on the UConn campus will be extended to include the new section of North Hillside Road (Id.).

The North Campus facilities will be developed following the University's Sustainable Design & Construction Policy (App- 63), which requires that any new building construction or renovation project entering the pre-design planning phase to establish the Leadership in Energy & Environmental Design Silver rating as a minimum performance requirement (Id.). Comprehensive approaches to energy efficiency in the design of the new buildings will help to offset increased energy consumption and reduce potential increases in greenhouse gas ("GHG") emissions (Id.). In addition, any plans for the future parcel development will require review under CEPA and review and approval by the DEEP (see Exhibits App-23, App-24, App-25, and DEEP-18).

vi. Impacts of the proposed regulated activity on wetlands or watercourses outside the area for which the activity is proposed and future activities associated with, or reasonably related to, the proposed regulated activity which are made inevitable by the proposed activity and which may have an impact on wetlands or watercourses

The North Campus consists of approximately 330 acres of hardwood forest, rolling topography, stream corridors, wetland areas, and agricultural land (Exhibits App-1, App-39). The wetlands and prime farmland areas comprise approximately one-half of the North Campus (Id.). The activities regulated under the Inland Wetlands and Watercourses Act are limited to 0.34 acres of direct wetland impacts and an additional 0.15 acres of secondary impacts associated with tree removal within wetlands is anticipated (Exhibit App-1, Attachments A and G). The project is also anticipated to result in 0.04 acres of temporary wetland impacts associated with

temporary fill or short-lived disturbance during construction (Id.). These isolated impacts are centrally located on the North Campus and will not affect wetlands outside the project area.

The permanent wetland impacts will be mitigated by a proposed 2.2-acre forested wetland creation area adjacent to the nearby farm field (Exhibits App-1, Attachment A, App-55). The wetland creation area will have a beneficial impact on the existing forested wetland, and will benefit wetland systems that surround the area (Id.). In addition, the Applicant is preserving an undisturbed wetland and amphibian migration corridor through a proposed 101-acre conservation easement, thereby protecting the vernal pools with the highest rating and ecological value. The approximately 0.04 acres of temporary wetland impacts will be short-lived and mitigated through in-situ restoration of the disturbed areas following construction (Id.). The areas affected by temporary activity will be restored to original grade, stabilized, and seeded using a wetland plant seed mixture (Exhibit App-55). There is no evidence that the proposed project will have a negative impact on wetlands outside of the project area.

b) Regulatory Factors (R.C.S.A. § 22a-39-6.1 Considerations)

The regulatory factors for consideration under R.C.S.A. § 22a-39-6(1) are identical to the statutory factors discussed above in Section B.2a) (Statutory and Regulatory Background).

C. Conn. Gen. Stat. § 26-310 Requirements

Conn. Gen. Stat. § 26-310 requires that “any action authorized, funded or performed by . . . [a state] agency . . . not threaten the continued existence of any endangered or threatened species or result in the destruction or adverse modification of habitat designated as essential to such species.” Although the roadway extension and proposed North Campus development will result in some loss of existing woodland, grassland/field, and wetland habitat for bird and terrestrial species, a comprehensive survey of federally-listed and state-listed species was conducted in accordance with generally accepted standards for such surveys (Exhibits App- 1, Attachment Q1, App-55). No federally-listed threatened or endangered species were identified in the project area, nor were breeding habitats for federally-listed threatened or endangered

species identified. And, with the possible exception of the Northern Spring Salamander, no state-listed species have been identified in the project area.

Field investigations as reported in the 2006 survey conducted by Robert Craig, Ph.D., indicated that state-listed grassland bird species do not use the small grasslands present at the site as breeding habitat, but cornfields present at the site may serve as staging and migratory habitat for grassland-associated bird species. Loss of between approximately 5 and 10 acres of this potential staging and migratory habitat will be offset by farmland mitigation measures described in the FEIS and ROD (see App-1, Attachment Q), which will involve the creation of fields of similar character and acreage to those that currently exist. The Northern Spring Salamander, a state listed species, that was observed in 2008 approximately two miles from the site, was not identified in the project area, nor is it believed that the habitat is suitable for this species. Nevertheless, at the suggestion of the DEEP Wildlife Division, for project planning and design purposes UConn assumed that the Northern Spring Salamander was present. Based on this assumption, UConn proactively included mitigation measures that would be appropriate to accommodate the Northern Spring Salamander if the species is in fact present on the site, which based on the extant surveys is unlikely (Exhibits App-1, App-5, App-6, App-53, App-68).

The potential environmental effects of the proposed extension of North Hillside Road and the associated development of the North Campus area, including the potential impacts on endangered or threatened species and the habitat thereof, have also been evaluated extensively in several environmental impact evaluations (Exhibits App-1, Attachment Q1, App-51). Such potential impacts were considered in the 1994 Research and Technology Park EIE and in the 2001 North Campus Master Plan EIE, which were conducted under CEPA, and in the 2011 FEIS, which was conducted under NEPA (Exhibits App-39, Appendix A, App-39). Based on these evaluations and the mitigation measures in the Application, which are incorporated into the Draft Permit (attached hereto as Exhibit A), the actions for which UConn seeks authorization under the Application will not threaten the continued existence of any endangered or threatened species or result in the destruction or adverse modification of habitat designated as essential to such species.

Other Required Permits

The Applicant has obtained all other necessary federal, state and local permits for the project. The Applicant submitted an application for the U.S. Army Corps of Engineers (“USACE”) Individual section 404 Permit (App-1, Attachment C11a) concurrently with its Application. The DEEP has already approved the Applicant’s Flood Management Certification on April 9, 2013 (Exhibit App-17). Prior to construction, registration under the Stormwater Construction General Permit will be necessary.

The Draft Permit and Proposed Permit Conditions

The Commissioner has issued a Notice of Tentative Determination to approve the Applications for Diversion of Water Permit, Inland Wetlands Watercourses Permit and 401 Water Quality Certification, thereby authorizing the Applicant to divert waters of the state pursuant to Conn. Gen. Stat. § 22a-368 and to conduct activities within inland wetlands and watercourses pursuant to Conn. Gen. Stat. § 22a-39, along with a Water Quality Certification issued pursuant to section 401 of the federal Clean Water Act (33 U.S.C. § 1341). The stated purpose of the diversion and activities within inland wetlands and watercourses is to allow for (1) the construction of a 3,4000 foot, 2-lane, 32-foot wide road through land adjacent to UConn’s core campus known as the North Campus, including three wetland crossings and stormwater treatment structures; (2) the widening of Route 44 at terminus of North Hillside Road for turning lanes; and (3) the creation of six conceptual development envelopes on six sites of future research and technology space area located on the North Campus (Exhibit DEEP-18)¹.

By virtue of the Draft Permit, the Applicant would be authorized to impact 0.53 acres of inland wetlands, watercourses, and/or waters of the state. This activity will be conducted in accordance with the Application and plans entitled: (1) “Connecticut Department of Transportation/Plans for North Hillside Road Extension/Town of Mansfield” drawing nos. G-1, TYP-01, MDS-01 through MDS-04, HPN-01 through HPN-12, GRA-01 through GRA-12, LND-01 through LND-12, and WMT-01 and WMT-02, plotted and stamped February 11, 2013; (2)

¹ The draft permit (Exhibit DEEP-18) did not include an expiration date. Accordingly, in order to conform the draft permit to the term limitation set forth in R.C.S.A. § 22a-377(c)(2)(h)(1), the Draft Permit attached hereto as Exhibit A contains an expiration date of twenty-five years from the date of issuance.

“University of Connecticut North Hillside Road Extension” (various titles), Plates 1 through 30, dated February 8, 2013; and (3) “University of Connecticut North Hillside Road Extension – Proposed Conservation Easement” dated November 2012 (Id).

The DEEP Staff has proposed a series of Special and General Conditions to the Draft Permit. The proposed special conditions include the following:

1. The Applicant shall monitor and report on the conditions of the compensatory wetland creation site as well as existing Vernal Pools 1, 2, 3, 4, 10 and 11 pursuant to the Applicant’s Wetland Mitigation Plan. (Exhibit App-1, Attachment L).
2. The Applicant shall submit a draft of the conservation easement deed restriction within 90 days of the date the permit is issued and prior to initiation of permitted work in aquatic resources.
3. The Applicant shall use only non-potable water for irrigation on North Campus sites. Any land lease agreements between the Applicant and future North Campus tenants shall include language requiring the use of only non-potable water for irrigation purposes.
4. The Applicant shall submit any site plans for future parcel development to the Department for its review. Construction for future parcel development shall not commence without written approval from the Department. Any land lease agreements between the Applicant and future North Campus tenants shall include language requiring that the tenant submit site plans to the Department for review and approval.
5. The Applicant shall incorporate Low Impact Development and green infrastructure approaches to stormwater management to the extent practicable and in accordance with the Connecticut Stormwater Quality Manual.
6. The Applicant shall restrict construction activities at Wetland Crossing A to the period of November through March to avoid impacting potential populations of the state-listed Northern Spring Salamander.
7. The Applicant shall ensure that site clearing or grading activities within 750 feet of a vernal pool be performed outside of the spring amphibian migration period of March 15 through June 1. In addition, the Applicant shall install and maintain low profile rigid amphibian guidance fencing for approximately 350 feet north and south of Wetland Crossing C at the toe of the slope of the roadway embankment and around the stormwater basins, and for approximately 175 feet north and south of Wetland Crossing A at the toe of the slope of the roadway embankment and around the

stormwater basin, to guide amphibians into the bridge openings and further reduce the potential for amphibian access to the roadway and stormwater basins.

8. The Applicant shall consult with a qualified wildlife biologist prior to the development activity on existing agricultural fields on the North Campus between late April and July to verify a lack of nesting state-listed grassland bird species. If state-listed grassland species are detected, construction shall not take place in these habitats until nesting and rearing activity has been completed.
9. The Applicant shall clearly delineate in the field all wetland boundaries adjacent to proposed construction areas prior to the start of construction.

The Applicant has reviewed both the Special and General Conditions contained in the Draft Permit and has no objection to their inclusion in the final permit.

Proposed Conclusions of Law and Decision

A. Jurisdiction and Standing

The Applicant has satisfied all standing requirements and, accordingly, the Commissioner has subject matter jurisdiction as to this matter.

At the time that the Application was submitted, with the exception of the northernmost portion of the proposed extension of North Hillside Road where it crosses a portion of two properties known as 574 and 596 Middle Turnpike in Mansfield, Connecticut, just south of the proposed intersection with Route 44, the University owned all of the property subject to development under the Application (see Exhibit App-1). There are no activities regulated under the Inland Wetlands and Watercourses Act, Conn. Gen. Stat. § 22a-37 et seq., proposed on either of the Middle Turnpike properties (see *Id.*). And the only activity regulated under the Water Diversion Policy Act, Conn. Gen. Stat. § 22a-365 et seq., proposed on these properties is the passive collection of stormwater from the roadway corridor itself. (Exhibit App-1, Attachment D). (There are numerous other privately-owned properties within the area of diversion from which stormwater also will be collected.) There are no stormwater management facilities associated with the project located on these properties. Under these circumstances, there is no requirement either under the Inland Wetlands and Watercourses Act or in under the Water Diversion Policy Act that UConn possess an interest in the land at 574 and 596 Middle Turnpike in order to apply for and prosecute the Application.

Notwithstanding the foregoing, at the time that the Application was filed, the CTDOT had already notified the owner of the properties at 574 and 596 Middle Turnpike that it would be acquiring the approximate 2.08 acres of property necessary for the proposed extension of North Hillside Road across these properties by eminent domain. See App-71, -72, -73. The owner of those properties received notice of the hearing on the Application (Exhibit DEEP-17) and did not make any objection to the inclusion of proposed improvements within its boundaries in UConn's plans. More importantly, on or about October 2, 2013, UConn and Campus Crossing, LLC, the owner of 574 and 596 Middle Turnpike, executed a Purchase and Sale Agreement for the acquisition by UConn of the property necessary for the extension of North Hillside Road through to Route 44. See App-76. While the Purchase and Sale involves the acquisition of 7.318 acres, the roadway corridor will occupy only approximately 2.08 acres of the property to be acquired. Thus, to the extent that UConn's standing to prosecute the Application was questionable prior to the execution of the Purchase and Sale Agreement with Campus Crossing, LLC, the execution of the Purchase and Sale Agreement renders that issue moot and conclusively establishes the University's standing to prosecute the Application. See, e.g., Shulman v. Zoning Board of Appeals of the City of Stamford, 154 Conn. 426, 431 (1967) ("one who has contracted to purchase property has standing to apply for as special exception or a variance governing its use"). See also Gladysz v. Planning and Zoning Com. Of Plainville, 256 Conn. 249, 261 (2001) (expectancy of partnership that it would receive an assignment of an option, without continuous ownership of equitable interest, was sufficient for it to have standing to apply before the agency).

Nothing about the timing of UConn's acquisition of its equitable interest in the property rendered any aspect of its Application academic or hypothetical. Throughout, UConn controlled all the land on which the activities regulated under the Inland Wetlands and Watercourses Act and all structures proposed for the collection, treatment and discharge of stormwater runoff under the Water Diversion Policy Act are to be located, and had the power and, in coordination with the CTDOT, had the ability to obtain control of the Middle Turnpike parcels (or the necessary

portions thereof) by eminent domain as a state special service highway providing access to a state facility. See Conn. Gen. Stat. §§ 13a-14² and 13a-73.

B. Water Diversion Permit

1. Application Contents

Conn. Gen. Stat. § 22a-369 requires an applicant for a water diversion permit to submit the application on forms prescribed by the Commissioner and with information that the Commissioner deems necessary to fulfill the purposes of the Connecticut Water Diversion Policy Act, Conn. Gen. Stat. § 22a-365 et seq. The application must, at a minimum, contain the information specified in Conn. Gen. Stat. § 22a-369 and in the implementing regulations, R.C.S.A. § 22a-377(c)-2). The Applicant submitted the Application on the appropriate form prescribed by the Commissioner, DEEP-IWRD-APP-100 (Exhibit App-1), and, following several requests for additional information, DEEP Staff determined that the Application was complete, as required by Conn. Gen. Stat. § 22a-371 (Exhibit DEEP-4.) Based on the record, the Application contains that material required pursuant to applicable law.

2. Procedural Requirements

Based on the record, the procedural requirements of Conn. Gen. Stat. §§ 22a-370, 22a-371(c), (d), and (f), and 22a-372(e) have been fulfilled (Exhibits App-1, App-3, App-10, App-13, DEEP-1, DEEP-4, DEEP-5, DEEP-16, DEEP-17).

3. Standards for Issuing Permit

Conn. Gen. Stat. § 22a-373 sets forth certain criteria that must be considered in rendering a decision on a diversion permit.³ R.C.S.A. § 22a-377(c)-2(f) sets forth additional substantive matters that must be considered. As set forth in the Findings of Fact, the record reflects that

² Conn. Gen. Stat. § 13a-14 (state highway system) provides: “There shall be a system of state highways which shall include . . . (3) state special service highways, which are highways which provide access from the primary and secondary systems of state highways to federal and state facilities.”

³ The considerations of Conn. Gen. Stat. § 22a-373(c) are not applicable to this Application.

substantial evidence has been presented on the record relevant to each of the substantive matters that must be considered. Based upon the record, the Applicant has demonstrated that:

- The proposed diversion will not have an adverse impact on needs for public water supply, including existing and projected uses, safe yield of reservoir systems and reservoir and groundwater development;
- The proposed diversion will not have an adverse impact on existing and planned water uses in the area affected, such as a public water supplies, relative density of private wells, hydropower, flood management, water-based recreation, wetland habitats, waste assimilation and agriculture;
- The proposed diversion is compatible with the policies and programs of the state of Connecticut, as adopted or amended, dealing with long-range planning, management, allocation and use of the water resources of the state;
- The relationship of the proposed division to economic development and the creation of jobs is positive;
- The proposed diversion will not have an adverse impact on the existing water conditions, with due regard to groundwater availability, watershed characterization, potential evapotranspiration conditions, and water quality;
- There will be no adverse impact, including thermal effect, on fish and wildlife as a result of flow reduction, alteration or augmentation caused by the proposed diversion;
- There will be no adverse effect on navigation from the proposed diversion;
- The water to be diverted is necessary for the Applicant to extend North Hillside Road and to develop the North Campus and, considering all of the alternatives, the alternative advanced in the Application is the most feasible and prudent alternative;
- Since the proposed diversion will not affect interstate waters, it will not be inconsistent with actions taken by the Attorney General pursuant to Conn. Gen. Stat. §§ 3-126 or 3-127;
- The diversion is consistent with the interests of the host municipality;

- The proposed diversion is consistent with the standards, criteria, policies, and water quality classifications for ground and surface water adopted and amended under Conn. Gen. Stat. § 22a-426;
- The proposed diversion is consistent with the applicable policies and requirements of chapter 440 of the General Statutes and regulations thereunder;
- The proposed diversion is designed and will be carried out so as to minimize and, if possible, eliminate flooding and flood hazards, and to be consistent with the policies and requirements of chapter 476a of the General Statutes and regulations thereunder; and
- The proposed diversion is not within and will not affect the coastal area as defined by Conn. Gen. Stat. § 22a-94(a).

C. Inland Wetlands and Watercourses Permit

1. Application Contents

The Inland Wetlands and Watercourses Act does not prescribe specific information that is required for an inland wetlands and watercourses permit application, only that, for an application to conduct a regulated activity within the watershed of a water company, the applicant provide written notice of the application to the water company and to the Commissioner of Public Health. See Conn. Gen. Stat. § 22a-42f. The Application involves activities regulated under the Inland Wetlands and Watercourses Act that are located exclusively within the Cedar Swamp Brook and Eagleville Brook watersheds, which are not public water supply watersheds (Exhibit App-1, Attachments C and L). Accordingly, as none of the activities regulated under the Inland Wetlands and Watercourses Act are located within the watershed of a public water company, notice under Conn. Gen. Stat. § 22a-42f was not required. Notwithstanding the foregoing, the Applicant provided such notice to the Windham Water Works, which is the water company of the adjacent Fenton River Watershed.

The implementing regulations require that the following information be provided in writing on a form prescribed by the Commissioner: the applicant's name, address and telephone number; the owner's name (if the applicant is not the owner of the property on which the

regulated activity is proposed); the applicant's interest in the land on which the regulated activity is proposed; the geographical location of the property on which the regulated activity is proposed; the purpose and description of the proposed activity; a site plan; and the names of adjacent property owners. The Applicant submitted the Application on the appropriate form prescribed by the Commissioner, DEEP-IWRD-APP-100 (Exhibit App-1), and, following several requests for additional information, DEEP Staff determined that the Application was complete (Exhibit DEEP-4). Based on the record, the Application contains that material required pursuant to applicable law.

2. *Standards for Issuing Permit*

The Commissioner is charged with the responsibility of protecting inland wetland and watercourses by regulating activity that might have an adverse environmental impact on such natural resources. River Bend Assocs. v. Conservation and Inland Wetlands' Comm'n, 269 Conn. 57, 74 (2004), citing Connecticut Fund for the Environment v. Stamford, 192 Conn. 247, 249 (1984). The Inland Wetlands and Watercourses Act provides that "no regulated activity shall be conducted upon any wetland or watercourse without a permit." Conn. Gen. Stat. § 22a-42a(c)(1). When the applicant for the permit is a state agency such as UConn, the Commissioner has the authority to "[g]rant, deny, limit or modify in accordance with the provisions of section 22a-42a, an application for a license or permit for any proposed regulated activity" under § 22a-39(h). Because a public hearing was held pursuant to General Statutes § 22a-39(k), the provisions of § 22a-41(b) (1) apply to the Application. Under § 22a-41(b) (1) a permit shall not be issued unless the Commissioner finds on the basis of the record that a feasible and prudent alternative does not exist.⁴ Based upon the record, the Applicant has demonstrated that:

- The project will result in some loss of wetlands and watercourses and some disturbance to wetlands during construction. It will result approximately 0.12 acres of permanent direct impacts associated with the construction of the extension of North Hillside Road and approximately 0.22 acres of direct impacts to wetlands resulting from the development of the North Campus (confined to

⁴ The terms "feasible" and "prudent" are defined in Conn. Gen. Stat. § 22a-38 (17) and (18). The courts have further interpreted these factors. Prudent alternatives are those that are economically reasonable in light of the social benefits derived from the act. Feasible alternatives are sound from an engineering standpoint. An alternative will be deemed to be a feasible and prudent alternative only if it meets both criteria. Samperi v. Inland Wetlands Agency, 226 Conn. 579, 595 (1993); Tandlo v. Inland Wetlands and Watercourses Comm'n of Wolcott, 263 Conn. 572, 582 (2003).

development parcel C). However, UConn significantly reduced the North Campus development envelope to minimize wetland impacts and re-designed two wetland crossings (Crossings A and C) to essentially eliminate wetland impacts associated with those crossings and maintain habitat connectivity for aquatic resources and other wildlife;

- There are no feasible or prudent alternatives to the proposed project. The “no build alternative” would not meet the dual goals of the project to provide an alternative entrance to the Storrs campus and to relieve traffic on the surrounding roadway network. Nor would the no build alternative allow for the future development of the North Campus. Roadway alignment Option A, along with development Alternative 2C, presented in the Application represents the most environmentally feasible and prudent alternative for this project. This alternative addresses the project purpose and need by providing an alternative entrance to the Storrs campus and will relieve traffic on the surrounding roadway network. This alternative also reflects the overall roadway and parcel development scenario that best advances UConn’s development goals for the North Campus while minimizing impacts to environmental resources in the project area;
- The short-term impacts of the project, primarily due to construction activities, will be minimized through extensive design and mitigation measures. Construction activities will be regulated under the Stormwater Construction General Permit. An erosion and sedimentation control plan will be implemented for the construction phase of the North Hillside Road project and for the development of each parcel. In addition, construction of the Wetland A Crossing will be limited to the period between November and March, to the extent practicable, to avoid potential impacts to the Northern Spring Salamander and silt fences will be utilized to exclude amphibians from active construction areas. The new 2.2-acre wetland mitigation area - an area significantly larger than the area of wetlands to be impacted and one that will include the creation of additional vernal pool habitat - is expected to enhance the long-term values and productivity of the wetland system on the project site;
- The proposed project has been carefully designed to minimize the irreversible and irretrievable loss of wetland resources. In recognition that wetlands serve as an indispensable, irreplaceable fragile natural resource, the project has been designed with input from the DEEP and ACOE to protect existing wetland areas to the greatest extent possible. To compensate for the irretrievable loss of 0.34 acres of wetlands, a 2.2 acre wetland creation area, including a vernal pool habitat, will be created. In addition, the Applicant is preserving an undisturbed wetland and amphibian migration corridor through a proposed 101-acre conservation easement, thereby protecting the vernal pools with the highest rating and ecological value. The irretrievable and irreplaceable loss of wetland resources that would be caused by proposed regulated activity, will be effectively offset by the mitigation measures proposed by the Applicant, through which high value wetlands will be created and productive wetland resources enhanced;

- The impacts to the wetlands that would be caused by proposed regulated activity do not pose a threat of injury or interference with safety, health or the reasonable use of the property. The project has been designed to avoid impacts to the wetlands to the greatest extent possible, and to enhance public safety. During construction, measures to protect ground and surface waters, such as sedimentation and erosion controls, will be employed. The success of these measures will be monitored through regular inspections during the construction phase of the project. The extension of North Hillside Road will alleviate traffic congestion on U.S. Route 44, Route 195, Hunting Lodge Road, and other local roads in the vicinity of the project area. In addition, the stormwater management system has been designed to maintain existing site hydrology and, particularly with respect to the upgrades to the U.S. Route 44 system, to minimize or eliminate flooding and flood hazards consistent with the DEEP flood management policies and requirements. These improvements will also enhance the functions and values of the wetland systems impacted by the project; and
- There is no evidence that the project will have a negative impact on wetlands outside of the project area. The impact to wetlands and watercourses onsite is not significant and extensive mitigation is proposed, including the creation of 2.2 acres of new wetlands and the establishment of a 101-acre conservation easement. The measures that will be employed during construction will minimize erosion and sedimentation that could potentially encroach upon surrounding wetlands. Improvements as a result of the project, such as upgrades to the current drainage system along U.S. Route 44 and the inclusion of stormwater basins and vegetated swales, will mitigate potential future impacts to onsite wetlands, and are expected to enhance (or at worst be neutral to) the functions and values of surrounding wetland systems.

The record presented and all relevant facts and circumstances, including the six factors outlined in §22a-41(a), demonstrate that there is no feasible and prudent alternative to the proposed project that would cause substantially fewer impacts to the natural resources.

D. Permit and Permit Conditions

The Draft Permit meets all the statutory requirements and contains provisions that are sufficiently protective of the environment. The Applicant has not objected to any of the Draft Permit's terms and conditions. Accordingly, issuance of the diversion permit, the inland wetlands and watercourses permit and section 401 Water Quality Certification is recommended in its current form and wording (attached hereto as Exhibit A) except as may be needed to correct typographical errors, if any exist.

E. Conclusion and Recommendation

The Applicant has demonstrated by a preponderance of the evidence presented that its Application and the Draft Permit comply with all applicable statutory and regulatory requirements. Accordingly, the Draft Permit attached hereto as Exhibit A, should be issued as a final permit.

AGREEMENT

Based on the foregoing, the undersigned hereby agree to the granting of a permit subject to the Special and General Conditions stated in the Draft Permit, which is attached hereto.

UNIVERSITY OF CONNECTICUT

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**INLAND WATER RESOURCES DIVISION BUREAU
OF WATER PROTECTION AND LAND REUSE**

By: /s/ Douglas Hoskins
Douglas Hoskins
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EXHIBIT A



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Affirmative Action/Equal Opportunity Employer

PERMIT

Permittee: University of Connecticut
 31 LeDoyt Road U-3055
 Storrs, CT 06269-3055

Attn: Richard A. Miller

Permit No: DIV- 201205385, IW-201205383, WQC- 201205382

Permit Type: Water Diversion
 Inland Wetlands and Watercourses
 Water Quality Certification

Town: Mansfield

Project: North Hillside Road Extension / Research and Technology Park

Pursuant to Connecticut General Statutes section 22a-368, University of Connecticut (the "permittee") is hereby authorized to divert the waters of the state. Pursuant to Connecticut General Statutes Sections 22a-39 the Commissioner of Energy and Environmental Protection hereby grants a permit to the permittee to conduct activities within inland wetlands and watercourses. Pursuant to Section 401 of the Federal Clean Water Act (33USC 1341) Water Quality Certification is hereby issued to the permittee for the discharge(s) of material into waters of the State. All authorizations made herein are in accordance with the applications referenced above and filed with this Department on June 28, 2012 and described herein. The purpose of said activities is to allow for 1) construction of a 3,400-foot, 2-lane, 32-foot wide road through land adjacent to the University of Connecticut's core campus known as the "North Campus" including three wetland crossings and stormwater treatment structures, 2) widening of Rte. 44 at terminus of North Hillside Rd. for turning lanes, and 3) creation of six conceptual development envelopes on six parcels of future research and technology space area located in the "North Campus" section of the University of Connecticut's Storrs campus generally bounded on the north by Middle Turnpike (Rte. 44), on the east by Storrs Rd. (Rte 195), on the south by North Eagleville Road, and on the west by Hunting Lodge Road (the "site").

AUTHORIZED ACTIVITY

Specifically, the permittee is authorized to 1) impact 0.53 acres of inland wetlands, watercourses, and/or waters of the state, and 2) collect and impound storm water runoff from an area of approximately 170 acres for storm water management purposes. These activities will be conducted in accordance with said application and plans which are a part thereof entitled 1) "Connecticut Department of Transportation / Plans for North Hillside Road Extension / Town of Mansfield," drawing nos. G-1, TYP-01, MDS -01 through MDS-04, HPN-01 through HPN-12, GRA-01 through GRA-12, LND-01

through LND-12, and WMT-01 and WMT-02, plotted and stamped February 11, 2013, prepared by Fuss & O'Neill; 2) "University of Connecticut North Hillside Road Extension" (various titles), Plates 1 through 30, dated February 8, 2013, prepared by Fuss & O'Neill; and 3) "University of Connecticut North Hillside Road Extension – Proposed Conservation Easement," dated November 2012, prepared by Fuss & O'Neill (the "plans").

Said discharge(s) of material will comply with the applicable provisions of Section 301, 302, 303, 306 and 307 of the Federal Clean Water Act and will not violate Connecticut's Water Quality Standards.

This authorization constitutes the licenses and approvals required by Section 22a-39 of the Connecticut General Statutes and is subject to and does not derogate any present or future property rights or other rights or powers of the State of Connecticut, conveys no property rights in real estate or material nor any exclusive privileges, and is further subject to any and all public and private rights and to any federal, state, or local laws or regulations pertinent to the property or activity affected thereby.

This authorization does not comprise the licenses or approvals as may be required by Chapters 446i, 446j and 446k of the Connecticut General Statutes.

PERMITTEE'S FAILURE TO COMPLY WITH THE TERMS AND CONDITIONS OF THIS PERMIT SHALL SUBJECT PERMITTEE AND PERMITTEE'S CONTRACTOR(S) TO ENFORCEMENT ACTIONS AND PENALTIES AS PROVIDED BY LAW.

This authorization is subject to the following conditions:

SPECIAL CONDITIONS:

1. **Wetland Monitoring.** The permittee shall monitor and report on the condition of the compensatory wetland creation site as well as existing Vernal Pools 1, 2, 3, 4, 10 and 11 pursuant to the permittee's Wetland Mitigation Plan contained in Attachment L of the their application, dated June 2012 and revised to February, 2013.
2. **Conservation Easement Deed Restriction.** Within 90 days of the date this permit is issued and prior to initiation of permitted work in aquatic resources, the permittee shall submit to the Department a draft of the conservation easement deed restriction. Within 30 days of the date the Department approves this draft document in writing, the permittee shall execute and record it with the Registry of Deeds for the Town of Mansfield. A copy of the executed and recorded document must then be sent to the Department within 120 days of the date the Department approves it.

3. **Non-potable Water Use.** The permittee shall use only non-potable water for irrigation on North Campus parcels. Any land lease agreements between the permittee and future North Campus tenants shall include language requiring the use of only non-potable water for irrigation purposes.
4. **Future Parcel Development.** Any site plans for future parcel development shall be submitted to the Department for its review. Construction for future parcel development shall not commence without written approval from this department. Any land lease agreements between the permittee and future North Campus tenants shall include language requiring that the tenant submit such site plans to the department for review and approval.
5. **Low Impact Development.** All future parcel development undertaken by the permittee or future leases shall a) incorporate Low Impact Development and green infrastructure approaches to stormwater management to the extent practicable, and b) be in accordance with the Connecticut Stormwater Quality Manual (2004, or as amended).
6. **Northern Spring Salamander.** The permittee shall restrict construction activities at Wetland Crossing A to the period of November through March to avoid impacting potential populations of the state-listed Northern Spring Salamander.
7. **Amphibian Migration.** Site clearing or grading activities within 750 feet of a vernal pool shall be performed outside of the spring amphibian migration period of March 15 through June 1. In addition, the permittee shall install and maintain low profile rigid amphibian guidance fencing for approximately 350 feet north and south of Wetland Crossing C at the toe of the slope of the roadway embankment and around the stormwater basins, and for approximately 175 feet north and south of Wetland Crossing A at the toe of the slope of the roadway embankment and around the stormwater basin, to guide amphibians into the bridge openings and further reduce the potential for amphibian access to the roadway and stormwater basins.
8. **Grassland Birds.** Prior to any development activity on existing agricultural fields on the North Campus between late April and July, the permittee shall consult with a qualified wildlife biologist to perform a survey of these areas to verify a lack of nesting state-listed grassland bird species. Should state-listed grassland bird species be detected, construction shall not take place in these habitats until nesting and rearing activity has been completed
9. **Wetland Boundaries.** The permittee shall clearly delineate in the field all wetland boundaries adjacent to proposed construction areas prior to the start of construction.

GENERAL TERMS AND CONDITIONS:

1. **Initiation and Completion of Work.** At least fourteen (14) days prior to starting any construction activity at the site, the permittee shall notify the Commissioner of Energy and Environmental Protection (the "Commissioner"), in writing, as to the date activity will start, and no later than five (5) days after completing such activity, notify the Commissioner, in writing, that the activity has been completed.

2. **Expiration of Permits:**

- a. **Inland Wetlands and Watercourses & Water Quality Certification.** If the activities authorized pursuant to Connecticut General Statutes Sections 22a-39 or Section 401 of the Federal Clean Water Act (33USC 1341) Water Quality Certification are not completed by five years after the date of this license, or by the expiration date of the permit issued by the U.S. Army Corps of Engineers for this proposal, whichever is sooner, said activity shall cease and, if not previously revoked or specifically extended, this permit shall be null and void

Upon the written request of the permittee and without notice, the Commissioner may extend the expiration date of this permit for a period of up to one year, which period may be extended once for a like period, in order for the permittee to complete activities authorized herein which have been substantially initiated but will not be completed by the expiration date of this license. Any request to extend the expiration date of this permit shall state with particularity the reasons therefore.

In making his decision to extend the expiration date of this license, the Commissioner shall consider all relevant facts and circumstances including but not limited to the extent of work completed to date, the permittee's compliance with the terms and conditions of this license, and any change in environmental conditions or other information since the permit was issued. Any application to renew or reissue this permit shall be filed in accordance with the Section 22a-39 of the General Statutes and section 22a-3a-5(c) of the regulations of Connecticut State Agencies.

- b. **Water Diversion.** Authorization pursuant to Connecticut General Statutes section 22a-368 shall expire on [25 years].

3. **Compliance with Permit.** All work and all activities authorized herein conducted by the permittee at the site shall be consistent with the terms and conditions of this license.

Any regulated activities carried out at the site, including but not limited to, construction of any structure, excavation, fill, obstruction, or encroachment, that are not specifically identified and authorized herein, or exempted pursuant to section 22a-377 of the General Statutes or section 22a-377(b)-1 of the Regulations of Connecticut State Agencies, shall constitute a violation of this permit and may result in its modification, suspension, or revocation. In constructing or maintaining the activities authorized herein, the permittee shall not store, deposit or place equipment or material including without limitation, fill, construction materials, or debris in any wetland or watercourse on or off site unless specifically authorized by this license. Upon initiation of the activities authorized herein, the permittee thereby accepts and agrees to comply with the terms and conditions of this license. The permittee may not make any alterations, except de minimis alterations, to any structure, facility, or activity authorized by this permit unless the permittee applies for and receives a modification of this permit in accordance with the provisions of section 22a-377(c)-2 of the Regulations of Connecticut State Agencies. Except as authorized by subdivision (5) of section 22a-377(b)-1(a) of the Regulations of Connecticut State Agencies, the permittee may not make any de minimis alterations to any structure, facility, or activity authorized by this permit without written permission from the Commissioner. A de minimis alteration means an alteration which does not significantly increase the quantity of water diverted or significantly change the capacity to divert water.

4. **Transfer of Permit.** This authorization is not transferable without the written consent of the Commissioner.
5. **Reliance on Application.** In evaluating the permittee's application, the Commissioner has relied on information provided by the permittee. If such information subsequently proves to be false, deceptive, incomplete or inaccurate, this permit may be modified, suspended or revoked.
6. **Best Management Practices.** In constructing or maintaining the activities authorized herein, the permittee shall employ best management practices, consistent with the terms and conditions of this license, to control storm water discharges and erosion and sedimentation and to prevent pollution. Such practices to be implemented by the permittee at the site include, but are not necessarily limited to:
 - a. Prohibiting dumping of any quantity of oil, chemicals or other deleterious material on the ground;
 - b. Immediately informing the Commissioner's Oil and Chemical Spill Section at 424-3338 of any adverse impact or hazard to the environment, including any

discharges, spillage or loss of oil or petroleum or chemical liquids or solids, which occurs or is likely to occur as the direct or indirect result of the activities authorized herein;

- c. Separating staging areas at the site from the regulated areas by silt fences or haybales at all times.
- d. Prohibiting storage of any fuel and refueling of equipment within 25 feet from any wetland or watercourse.
- e. Preventing pollution of wetlands and watercourses in accordance with the document "Connecticut Guidelines for Soil Erosion and Sediment Control" as revised. Said controls shall be inspected by the permittee for deficiencies at least once per week and immediately after each rainfall and at least daily during prolonged rainfall. The permittee shall correct any such deficiencies within forty eight (48) hours of said deficiencies being found.
- f. Stabilizing disturbed soils in a timely fashion to minimize erosion. If a grading operation at the site will be suspended for a period of thirty (30) or more consecutive days, the permittee shall, within the first seven (7) days of that suspension period, accomplish seeding and mulching or take such other appropriate measures to stabilize the soil involved in such grading operation. Within seven (7) days after establishing final grade in any grading operation at the site the permittee shall seed and mulch the soil involved in such grading operation or take such other appropriate measures to stabilize such soil until seeding and mulching can be accomplished.
- g. Prohibiting the storage of any materials at the site which are buoyant, hazardous, flammable, explosive, soluble, expansive, radioactive, or which could in the event of a flood be injurious to human, animal or plant life, below the elevation of the five-hundred (500) year flood. Any other material or equipment stored at the site below said elevation by the permittee or the permittee's contractor must be firmly anchored, restrained or enclosed to prevent flotation. The quantity of fuel stored below such elevation for equipment used at the site shall not exceed the quantity of fuel that is expected to be used by such equipment in one day.
- h. Immediately informing the Commissioner's Inland Water Resources Division (IWRD) of the occurrence of pollution or other environmental damage resulting from construction or maintenance of the authorized activity or any construction associated therewith in violation of this license. The permittee shall, no later than 48 hours after the permittee learns of a violation of this license, report same

in writing to the Commissioner. Such report shall contain the following information:

- (i) the provision(s) of this permit that has been violated;
- (ii) the date and time the violation(s) was first observed and by whom;
- (iii) the cause of the violation(s), if known
- (iv) if the violation(s) has ceased, the duration of the violation(s) and the exact date(s) and times(s) it was corrected;
- (v) if the violation(s) has not ceased, the anticipated date when it will be corrected;
- (vi) steps taken and steps planned to prevent a reoccurrence of the violation(s) and the date(s) such steps were implemented or will be implemented;
- (vii) the signatures of the permittee and of the individual(s) responsible for actually preparing such report, each of whom shall certify said report in accordance with section 9 of this license.

For information and technical assistance, contact the Department of Energy and Environmental Protection's Inland Water Resources Division at (860)424-3019.

7. **Contractor Liability.** The permittee shall give a copy of this permit to the contractor(s) who will be carrying out the activities authorized herein prior to the start of construction and shall receive a written receipt for such copy, signed and dated by such contractor(s). The permittee's contractor(s) shall conduct all operations at the site in full compliance with this permit and, to the extent provided by law, may be held liable for any violation of the terms and conditions of this license.
8. **Monitoring and Reports to the Commissioner.** The permittee shall record all actions taken pursuant to Condition Number 6(e) of this permit and shall, on a monthly basis, submit a report of such actions to the Commissioner. This report shall indicate compliance or noncompliance with this permit for all aspects of the project which is the subject of this license. The report shall be signed by the environmental inspector

assigned to the site by the permittee and shall be certified in accordance with Condition Number 9 below. Such monthly report shall be submitted to the Commissioner no later than the 15th of the month subsequent to the month being reported. The permittee shall submit such reports until the subject project is completed.

9. **Certification of Documents.** Any document, including but not limited to any notice, which is required to be submitted to the Commissioner under this permit shall be signed by the permittee, a responsible corporate officer of the permittee, a general partner of the permittee, or a duly authorized representative of the permittee and by the individual or individuals responsible for actually preparing such document, each of whom shall certify in writing as follows:

"I have personally examined and am familiar with the information submitted in this document and all attachments and certify that based on reasonable investigation, including my inquiry of those individuals responsible for obtaining the information, the submitted information is true, accurate and complete to the best of my knowledge and belief, and I understand that any false statement made in this document or its attachments may be punishable as a criminal offense in accordance with Section 22a-6 and Section 22a-376 under Section 53a-157b of the Connecticut General Statutes."

10. **Submission of Documents.** The date of submission to the Commissioner of any document required by this permit shall be the date such document is received by the Commissioner. Except as otherwise specified in this license, the word "day" as used in this permit means the calendar day. Any document or action which falls on a Saturday, Sunday, or legal holiday shall be submitted or performed by the next business day thereafter.

Any document or notice required to be submitted to the Commissioner under this permit shall, unless otherwise specified in writing by the Commissioner, be directed to:

The Director
DEEP/Inland Water Resources Division
79 Elm Street, 3rd Floor
Hartford, Connecticut, 06106-5127

11. The permittee may not make any alterations, except de minimis alterations, to any structure, facility, or activity authorized by this permit unless the permittee applies for and receives a modification of this permit in accordance with the provisions of section 22a-377(c)-2 of the

Regulations of Connecticut State Agencies. Except as authorized by subdivision (5) of section 22a-377(b)-1(a) of the Regulations of Connecticut State Agencies, the permittee may not make any de minimis alterations to any structure, facility, or activity authorized by this permit without written permission from the Commissioner. A de minimis alteration means an alteration which does not significantly increase the quantity of water diverted or significantly change the capacity to divert water.

12. Unless the permittee maintains in optimal condition any structures or facilities authorized by this permit, the permittee shall remove such structures and facilities and restore the affected waters to their condition prior to construction of such structures or facilities.
13. This permit is subject to and does not derogate any rights or powers of the State of Connecticut, conveys no property rights or exclusive privileges, and is subject to all public and private rights and to all applicable federal, state, and local law. In constructing or maintaining any structure or facility or conducting any activity authorized herein, the permittee may not cause pollution, impairment, or destruction of the air, water, or other natural resources of this State. The issuance of this permit shall not create any presumption that this permit should be renewed.

Issued by the Commissioner of Energy and Environmental Protection on:

Date

Macky McCleary, Deputy Commissioner