

**ATTORNEY GENERAL
DEPARTMENT OF JUSTICE**

33 CAPITOL STREET
CONCORD, NEW HAMPSHIRE 03301-6397

GORDON J. MACDONALD
ATTORNEY GENERAL



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July 31, 2017

Via Hand Delivery and Email

Pamela G. Monroe, Administrator
N.H. Site Evaluation Committee
21 South Fruit Street, Suite 10
Concord, New Hampshire 03301-2429

Re: SEC Docket No. 2015-04 – Application of Public Service Company of New Hampshire d/b/a Eversource Energy for a Certificate of Site and Facility for the Construction of a New 115 kV Transmission Line from Madbury Substation to Portsmouth Substation (Seacoast Reliability Project)

Dear Ms. Monroe:

Enclosed for filing please find an original plus one copy of Pre-filed Direct Testimony of Patricia M. O'Donnell, FASLA, AICP, ICOMOS, IFLA on behalf of Counsel for the Public in the above-referenced matter.

A copy of this letter along with the testimony and a link to the attachments has been forwarded this day via electronic mail to the SEC Service List.

Thank you for your assistance and attention to this matter. Please contact me if you have any questions.

Sincerely,

A handwritten signature in blue ink that reads "Christopher G. Aslin".

Christopher G. Aslin
Assistant Attorney General
Environmental Protection Bureau
(603) 271-3679
christopher.aslin@doj.nh.gov

CGA/llm
Enclosures
cc: SEC Docket No. 2015-04 Service List

**THE STATE OF NEW HAMPSHIRE
SITE EVALUATION COMMITTEE**

Docket No. 2015-04

**APPLICATION OF PUBLIC SERVICE COMPANY OF NEW HAMPSHIRE
D/B/A EVERSOURCE ENERGY FOR A CERTIFICATE OF SITE AND FACILITY
FOR CONSTRUCTION OF A NEW 115kV TRANSMISSION LINE**

THE SEACOAST RELIABILITY PROJECT

**PRE-FILED DIRECT TESTIMONY OF
PATRICIA M. O'DONNELL, FASLA AICP, ICOMOS, IFLA
HERITAGE LANDSCAPES, LLC**

**ON BEHALF OF
COUNSEL FOR THE PUBLIC**

JULY 31, 2017

1 **Qualifications and Purpose of Testimony**

2 **Q. Please state your name, position and your employer.**

3 A. My name is Patricia O'Donnell, Principal, Heritage Landscapes LLC ("Heritage
4 Landscapes"), certified planner, landscape architect and an expert in historic places and
5 cultural landscapes.

6 **Q. Please summarize your educational background and professional experience**

7 A. I hold a Master of Landscape Architecture degree and a Master of Urban Planning degree
8 from the University of Illinois at Urbana Champaign, and a Bachelor of Science in
9 Design from the State University of New York College at Buffalo. I have 34 years of
10 experience, and over 500 successfully completed projects in the field of historic
11 preservation, focusing on cultural landscapes, frequently addressing aboveground
12 heritage assets and archaeological sensitivity in these projects. A copy of my *Curriculum*
13 *Vitae* is attached as Attachment PMO-1.

14 **Q. Have you testified previously before the New Hampshire Site Evaluation Committee
15 or other regulatory bodies?**

16 A. I have not testified before the New Hampshire Site Evaluation Committee ("SEC"),
17 however I have submitted pre-filed direct testimony in the Northern Pass Transmission
18 Line case (Docket No. 2015-06) and will testify at the upcoming hearing in that docket. I
19 have testified before other regulatory bodies in connection with the proposed Jordanville
20 Wind project near Cooperstown, New York, where I provided written testimony and an
21 oral presentation. I also have made several presentations to the Commission on Fine Arts
22 for approval of Washington, DC projects.

23 **Q. What is the purpose of your testimony?**

24 A. On behalf of Counsel for the Public, Heritage Landscapes was asked to prepare an
25 assessment report of the potential effects to aboveground historic sites and cultural
26 landscapes from the Seacoast Reliability Project (the "Project") as proposed by
27 Eversource Energy (the "Applicant"). The SEC process requires an assessment of effects
28 to "historic sites," among other criteria, relevant to finding that a project is in the public

1 interest. My testimony introduces our Assessment Report on Potential Impacts to Above
2 Ground Historic Sites for the New Hampshire Seacoast Reliability Project (the "Report"),
3 which is attached as Attachment PMO-2. In the Report, we evaluate the Applicant's
4 expert assessments of the Project's effects on historic sites as broadly defined by NH
5 statutes. This Report presents Heritage Landscapes' analysis of the effects and states our
6 conclusions regarding the adverse effects of the Project on the New Hampshire historic
7 sites located within the project area in the four towns along the proposed corridor.

8 **Evaluation of Applicant's Expert Assessment**

9 **Q. Please describe Heritage Landscapes' evaluation of the Applicant's expert's**
10 **assessment of the Project's effects on historic sites.**

11 A. Heritage Landscapes found that the Applicant's expert evaluation is unclear, as it fails to
12 align with the Applicant's Project Area Forms (PAF) and survey findings. The
13 Applicant's report fails to perform an assessment of effects. The sites identified in the
14 Applicant's report do not fully coincide with those identified by Cheryl Widell in
15 testimony. With this disparity, in terms of the historic properties identified and assessed,
16 there is no explanation of how Ms. Widell brought forward her finding of no
17 unreasonable adverse effect.

18 **Q. Please comment on the adequacy of the Applicant's expert's identification and**
19 **inclusion of historic sites in their assessment of the Project's effects.**

20 A. Our assessment indicates that the Applicant's report follows rigid adherence to National
21 Register listing and eligibility, while the broader definition of historic sites expressed in
22 New Hampshire legislation is ignored. Overall the Applicant applied an historic
23 architecture bias to historic resource identification. They generally failed to identify
24 properties of heritage value to the people of New Hampshire, other than historic
25 architecture for its significance for architecture (Criterion C), rather than for all areas of
26 historic significance. By conducting limited community outreach, they failed to increase
27 the types of historic sites covered in their reporting. When identifying larger historic
28 areas or districts, they assessed impacts to individual properties, based again on
29 architectural integrity, rather than the broader property. In addition, the Applicant's focus

1 was on what is missing from individual properties, rather than what degree of historic
2 integrity remains, inclusive of all seven aspects of integrity. This unnecessarily
3 eliminated properties from impact assessment. Further, a pervasive historic resource,
4 historic stone walls along roadsides and marking property boundaries, are only
5 mentioned, lacking purposeful inclusion and failing to be addressed in terms of potential
6 Project impacts from direct disturbance. Also, scenic roads, conservation lands and other
7 valued local heritage were not included. Overall the methods applied by the Applicant
8 serve to reduce the number and type of historic sites that are considered for potential
9 project impacts.

10 Evaluation Methodology

11 **Q. Please explain the methodology used by Heritage Landscapes to evaluate the**
12 **Project's effects on historic sites.**

13 A. Using the legal framework and definitions from New Hampshire statutes and guidance,
14 Heritage Landscapes prepared this report to synthesize the findings of a series of tasks
15 undertaken to evaluate the potential Project impacts to New Hampshire historic sites.

16 Heritage Landscapes assessment is organized around three core questions:

- 17 1. Did the Applicant provide a full capture of historic sites within a reasonable area
18 of potential effect?
- 19 2. Did the Applicant provide an accurate assessment of potential impact to above
20 ground historic sites?
- 21 3. Does Heritage Landscapes agree with the Applicant's assessment of potential
22 effect to above ground historic sites?

23 To explore and respond to each question, Heritage Landscapes employed specific
24 methods of study and analysis beginning with a review of filing materials including those
25 addressing historic sites and visual assessment. Field review along public roads near and
26 in the proposed project corridor through the four towns and context review somewhat
27 beyond the ½ mile from centerline area was carried out. Review of project files at NH
28 DHR and study of relevant NH Granite Geographic Information System layers added

1 more data to consider. Town planning and historic preservation documentation was
2 sought to assess local values and locally important historic sites. Heritage Landscapes
3 coordinated our work with Counsel for the Public's Scenic and Aesthetics consultants
4 from Michael Lawrence Associates. Heritage Landscapes reviewed historic sites
5 identified by the Applicant and identified additional historic sites along the defined
6 corridor for direct effects and within the 1-mile width, as well as somewhat beyond, for
7 indirect/visual effects. Within the corridor there are potential direct impacts to historic
8 sites, to include stone walls, cemeteries, conservation lands and scenic roads, as well as
9 the settings of historic buildings. Our work, conducted in accord with these methods
10 assesses the proposed Seacoast Reliability Project potential for adverse effects which are
11 detailed in our report. In terms of answering the three questions we posed, each question
12 is answered in the negative, the applicant did not fully capture the historic sites, they did
13 not provide an accurate assessment of potential impacts and we do not agree with the
14 Applicants assessment of potential effect to above ground historic sites.

15 **Overall Conclusions**

16 **Q. What are the conclusions of your analysis?**

17 A. Heritage Landscapes enumerated the historic sites in all four towns along the corridor and
18 presented those in town maps. We identified more historic sites than the Applicant that
19 we believe should have been assessed for potential Project effects. The Applicant's
20 materials also raise some unresolved questions about treatment of historic sites within the
21 corridor, limiting a complete assessment of the extent of impacts.

22 The corridor route in Portsmouth traverses a limited length through a developed area,
23 already much altered. However, in Portsmouth the impacts would be of large scale power
24 poles and the high lines along the existing transmission line if constructed as planned.

25 The three towns of Madbury, Durham and Newington, retain community character.
26 Through these towns the scale of the proposed corridor elements will rise above the tree
27 lines introducing new utility infrastructure that will be visible within and, in selected
28 areas, beyond the defined 1-mile corridor. In addition, there are potential direct impacts
29 to stone walls and cemeteries from the proposed project work. In all three towns the

1 settings of historic sites are likely to be adversely effected. We assert that the effects in
2 these three of the four towns where the proposed corridor extends, will be unreasonably
3 adverse if the Project is constructed as proposed.

4 **Q. Does this conclude your testimony?**

5 **A. Yes.**



**PATRICIA M. O'DONNELL,
FASLA, AICP, ICOMOS, IFLA
CURRICULUM VITAE**

EDUCATION

- MASTER OF LANDSCAPE ARCHITECTURE, University of Illinois at Urbana Champaign, Concentration behavioral aspects of landscape architecture, emphasis on applied behavioral research, 1982.
- MASTER OF URBAN PLANNING, University of Illinois at Urbana Champaign, Concentration in historic preservation with emphasis on the history, theories and practice of landscape preservation, 1985.
- BACHELOR OF SCIENCE IN DESIGN, State University of New York College at Buffalo, Concentration in Environmental Design, 1978.

PROFESSIONAL EXPERIENCE

- 1987-present, PRINCIPAL, FOUNDER, Heritage Landscapes LLC, Preservation Planners & Landscape Architects. Completed 500+ community and cultural landscape preservation plans and projects, applying best practices in cultural heritage and sustainable environment, society and economy. Implementation carried out through construction documents, staff and volunteer initiatives and management guidance.
- 1983-87, ASSOCIATE, Walmsley & Company, Inc. Project Manager for Prospect Park, Emerald Necklace, City Hall Park, and urban design, waterfront, residential community and residential design.
- 1980-81, VISITING LECTURER, Department of Landscape Architecture RESEARCH ASSOCIATE, Housing Research and Development Program, University of Illinois at Urbana-Champaign.
- 1979-80, CONSULTANT, Houghton Park User Survey, Community Development, City of Buffalo and Survey of Buffalo Olmsted Parks System, Landmark Society of the Niagara Frontier and NYS OPRHP.
- 1977-78, DIRECTOR, US Youth Conservation Corps, Buffalo, city youth work/education program.

SELECTED AWARDS, HONORS, EXPERT MEETINGS, MISSIONS

- 2017-1987, 80 Professional Awards for Planning and Implementation from National Trust, ASLA national and Connecticut, Kentucky, Louisiana, New York, Rhode Island and Vermont chapters; Connecticut and Vermont Public Spaces; Pennsylvania and Virginia Historic Preservation; New York State Preservation League; Pittsburgh History and Landmarks Preservation, Midwest and Mid-Atlantic Construction
- 2017-2006 ICOMOS World Heritage international and national upstream assistance, field reviews, desk review and missions in USA and several countries
- 2017-2005 UNESCO Culture, and World Heritage, experts group dialogue, HUL Mainstreaming, UN SDGs, Habitat iii New Urban Agenda, led by Francesco Bandarin, UNESCO ADG Culture
- 2017 July Moscow Urban Forum on Megacities, invited speaker
- 2017 May International Expert Meeting on the role of the historic urban landscape approach in the conservation of Arab Cities and cultural landscapes, Tangier and Chefchaouen, Morocco
- 2017 January UNESCO Sustainable Cities Culture Urban Future, Expert Meeting
- 2016 October, UNESCO Culture, Culture Urban Future Global Report Launch, Quito, Ecuador
- 2015 December, UNESCO Culture for Sustainable Cities, Expert's Meeting, Hangzhou, China
- 2014 September, UNESCO WH Expert, Conference on the preservation and regeneration of cultural heritage in Historic Cities, Mayor's Forum, Nanjing, China
- 2014 May, UNESCO HUL Mainstreaming Workshop, co-leader, Edirne, Turkey
- 2014 February, UNESCO HUL Experts Mainstreaming Conference/Workshop, Zanzibar, Tanzania
- 2014-2005 Cuba-USA Hemingway's Finca Vigia Technical Preservation Team, Havana, Cuba.
- 2013 December UNESCO World Heritage Expert Meeting, Reflection on HUL, Paris, France

Heritage Landscapes LLC

Preservation Planners & Landscape Architects

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501 Lake Road Charlotte, VT 05445 802.425.4330 34 Wall Street Norwalk, CT 06850 203.852.9966

- 2013 September, UNESCO World Heritage Expert Meeting, Mainstreaming the Historic Urban Landscape Recommendation, WH Centre presenter and session chair, hosted by IPHAN, Rio de Janeiro, Brazil
- 2013 August, Hopewell Ceremonial Earthworks, Ancient Hopewell Indigenous Culture Historic Sites, WH Tentative List Nomination, Upstream Assistance Mission, Ohio Historical Society, US/ICOMOS
- 2011 February, UNESCO Historic Urban Landscapes Initiative, International Expert Meeting, Paris, France, HUL Tools presentation, drafting committee contributions to framing final HUL Recommendation
- 2010 October, UNESCO International Landscape Convention, International Expert Meeting, Paris, France
- 2009 May, Rio de Janeiro World Heritage Nomination Framing Workshop, with Michael Turner, Israel and Katri Litzin, Sweden, invited experts, for IPHAN, Brazil Culture Ministry
- 2007 December, World Heritage Expert Meeting, Cultural Landscapes Authenticity, Aranjuez, Spain
- 2007 November, World Heritage Expert Meeting, Historic Urban Landscapes in the Americas, Olinda, Brazil
- 2005 May, IFLA Delegate, UNESCO World Heritage and Contemporary Architecture, Vienna, Austria
- 1999 US/ICOMOS Cape Coast, Ghana Design and Planning Charrette Team Delegate and Report co-editor
- 1995 Elected Fellow of the American Society of Landscape Architects, for Executed Works
- 1993 North America Delegate, World Heritage Centre, Cultural Landscapes Expert's Meeting, Germany

SELECTED PLANNING & IMPLEMENTATION PROJECTS

- New Hampshire Seacoast Reliability, Proposed Electrical Utility Upgrade through Madbury, Durham, Newington and Portsmouth, 13-mile corridor; Assessment of Applicants' Above-ground Historic Resources Study to include Cultural Landscapes, discovery, data requests, report, technical sessions and testimony, for the New Hampshire Counsel for the Public, 2017
- Northern Pass Historic Sites and Cultural Landscapes Assessment, Proposed Electrical Utility Upgrade 192-mile corridor from Pittsburg to Deerfield; Assessment of Applicants' Above-ground Historic Resources Study to include Cultural Landscapes, discovery, data requests, report, technical sessions and testimony, for the New Hampshire Counsel for the Public, 2017
- Reimagine the Alamo Master Plan, San Antonio, TX, World Heritage Site, NHL, World Heritage Site, lead Preservation Design Partnership, for Alamo Foundation, Texas General Land Office, City of San Antonio, 2017
- Schematic Design planning to restore the Ellen Biddle Shipman Garden, Miller Cottage, Chautauqua NY, 2017
- President's Park Permanent Fence, Washington DC, lead Mills+Schnoering, for National Park Service, 2017
- John Jay Homestead, Katonah, NY, Historic Site Circulation & Landscape Rehabilitation Plan, for Friends of the John Jay Homestead, New York State Historic Sites, NYS OPRHP, 2017
- Bloedel Reserve, Bainbridge Island, WA, 20 Component Landscapes Character Study, 2017; Heritage Landscape Report, for Bloedel Reserve Board, 2016
- Riverway, Niagara Falls State Park, planning and redesign in Olmsted-Vaux original character, Hatch Mott McDonald, team leader, for NYS Parks, 2008-15, design, construction 2014-2017
- South Parks, Olmsted's Jackson, Midway and Washington Parks, Framework Plans and urban uplift strategies; Jackson Park GLFER historic park and habitat restoration, with Army Corps of Engineers, Chicago, Illinois, for Project 120 Chicago and Chicago Park District, 2014-2016
- Urban Heritage Study, for the World Heritage Centre, Michael Turner, Patricia O'Donnell, Ana Piera Roders, et al, addressing the status of World Heritage inscribed urban heritage of global human settlements, 2015
- Intramuros Identity and Urban Design Guidelines for future growth, and legal tools, good governance and case studies, applying UNESCO HUL, Manila, Philippines, as Senior Urban Conservation Expert for The World Bank Social Sector, 2014-15
- Library of Congress Cultural Landscape Report, Thomas Jefferson, John Adams and James Madison Memorial Building Grounds, Washington DC; for the Architect of the Capitol, 2015
- Union Square (Olmsted Jr.) US Botanical Garden, Bartholdi Square and Square 575 Cultural Landscape Report, Washington DC; for the Architect of the Capitol, 2015
- Mellon Square, Restoration and New Terrace Construction, Mellon Square Preservation, Interpretation & Management Plan, award winning, 2008 to 2014

- Senate Parks Cultural Landscape Report, Washington DC; with Vitetta, Hord Coplan Macht, for the Architect of the Capitol, 2014
- Inclusive Urban Revitalization Guidelines for Indian Heritage Cities, O'Donnell, senior urban conservation expert, The World Bank, Social Sector, 2013
- Bhutan Heritage Villages Stewardship Plan framework, Bhutan Heritage Act PSI Assessment, senior urban conservation expert, The World Bank Social Sector, 2013
- Jefferson's Academical Village, NHL and World Heritage Site, HALS Documentation, 2017; CLR Part 1 Landscape History, Existing, Analysis; with Rivanna Archaeological Services, for Office of the Architect, University of Virginia, 2013
- Historic Nauvoo Master Plan: Presentation, Place, Management, for Historic Sites, LDS Church, 2013
- Capitol Square Cultural Landscape Report, Washington DC; with Charles Beveridge, PhD. for Olmsted Design Overview at Capitol Square; Vitetta team lead, for the Architect of the Capitol, 2012
- Historic Sites Strategic Master Plan 2012-2032, for Historic Sites Executive Committee, LDS Church, 2012
- Defensive City of Viejo San Juan, Puerto Rico, Workshop and reporting on World Heritage extension informed by NHL research, for Puerto Rico Historic Preservation Office, 2012
- Pittsburgh Regional Parks, Pittsburgh, PA; Regional Parks Master Plan+10; team lead LBA, 2012; Regional Parks Master Plan, A Stewardship Ethic, LBA team lead, 2001; Pittsburgh Regional Parks Management Plan, ETM team lead; for Pittsburgh Parks Conservancy and City of Pittsburgh, 2000
- National Mall, Turf & Soils Rehabilitation Phases 1-2-3, Walkway Study, NAMA NPS, Washington DC: lead HOK Planning, 2010-2014
- US National Mall Mapping 1790s to 2010, Louis Berger contract lead; report awards, for NPS NAMA, 2010
- Jefferson Memorial, NAMA National Park Service, Washington DC: Jefferson Memorial Security, Historic Research, NEPA Section 106 Cultural Landscape Sections, WRT/DHM co-team lead, 2009-2013
- Vizcaya, Miami, FL; Vizcaya Cultural Landscape Report, Stewardship & Management Plan; for the Vizcayans and Vizcaya Museum & Gardens, Miami-Dade County, 2010, award
- Longwood Gardens, Kennett Square, PA; *Longwood Landscape Evolution*; Longwood Heritage Management Plan; Longwood Interpretive Plan; Lord Cultural Resources lead; 2010, award
- Louis I. Kahn Bath House & Day Camp, Ewing Senior Community Center; Green & Parking, 2012, Pool House & Day Camp, 2010; Ewing Community Center Master Plan, 2008; *Kahn Modern Landscape Research & Assessment* 2007; lead Mills + Schnoering Architects, for Ewing Township and Mercer County, NJ; awards
- Shelburne Farms, Shelburne, VT, F.L. Olmsted Sr., Inn landscape 2016; Paths Stormwater Infiltration, 2012; Renewal of Tree Allées, 2007-2010; Entry Road reconstruction, 2009; *Shelburne House & Garden Stewardship Plan*, 2006; Breeding Barn Complex Campus Cons. Plan, *Landscape Stewardship Plan*, 2004, awards
- Finca Vigia, San Francisco de Paula, Cuba; US Technical Team in collaboration with the Cuban Culture Ministry, cultural landscape research, assessment and training, 2005-2011, awards
- St. Elizabeths West Campus, Washington, DC, *Landscape Preservation Plan* 2010; *Landscape Integration Plan*, 2010 with Andropogon, *Draft Landscape Management Plan*, 2009; *Cultural Landscape Report* with Robinson & Associates, 2007; for General Services Administration
- Bamboo Brook, Morris County, NJ; Implementation: Historic Landscape Water System, 2010; Coffee Terrace & Garden Restoration, 2004; *Bamboo Brook Historic Landscape Preservation & Maintenance Plan*, 2000
- Birmingham Civil Rights, AL, Alabama Christian Movement, National Civil Rights Act, 1964. Tentative List Preservation Planning toward World Heritage nomination, 2008; for the Birmingham Historical Society.
- Formosa, Elisabet Ney Museum, Austin, TX; Phase I Landscape Restoration, ADA Access, 2010; *Formosa Comprehensive Restoration Cultural Landscape Plan*, 2007; *Formosa Historic Landscape Report, Part I*, 1997
- Highland Park Welcome Entry Garden and Fountain Rehabilitation; Schenley Park Visitor Center Window on the Park Project, Frick Park Entry Renewal; for Pittsburgh Parks Conservancy, 2000-2005; awards
- Longue Vue House & Gardens, New Orleans, LA; *Landscape Renewal Plan for Katrina Recovery*, 2006-2008; Tree Care Plan and Wild Garden Restoration, 2002, *Historic Landscape Report*, 1998 awards
- Virginia State Capitol, Richmond, VA; Capitol Square, Landscape Rehabilitation, George Skarmas, RMJM Hillier lead, for Department of General Services, Commonwealth of Virginia, 2003-2007; awards

- New York Botanical Gardens, Bronx, NY; *Cultural Landscape Report History*, 2008; and Chronological Collection of 1,500 Research Documents, 2005; professional award
- Jordanville Wind Power Project, Cooperstown, NY, central New York high plateau Wind proposal, DEIS, SSEIS review through NYSEQR process, regional historic resource impacts testimony, team collaboration with Stone Environmental Inc., Xtra-Spatial Productions, for Otsego 2000, Advocates for Stark, 2008.
- Lincoln Cottage & Smith Visitor Education Center, President Lincoln & Soldiers' Home National Monument, AFRH, Washington DC; Landscape Construction, Gold LEED USGBC Preservation Pilot, 2007; *Lincoln Cottage Historic Landscape Report & Preservation Treatment Plan*; lead George Skarmeas, RMJM Hillier, for NTHP
- Oldfields, NHL, (Olmsted Brothers) Indianapolis, IN; Art & Nature Park, lead Edward Blake Jr.; Ravine Garden; Lilly House & Cutting Garden; Michigan Entry; NHL nomination contribution; Oldfields Landscape Plan; for Indianapolis Museum of Art, 1994-2006, awards
- Camden Garden Amphitheatre, Library Grounds (Fletcher Steele), Harbor Park (Olmsted Jr.) Restoration and Rehabilitation, Camden, ME; 2002-2006; Community consensus, 1999-2002; *Historic Landscape Report*, 1997, for Camden Public Library

SELECTED PUBLICATIONS

- O'Donnell, Patricia M., "Inclusive Public Spaces", *CULTURE URBAN FUTURE, UNESCO Global Report on Culture for Sustainable Urban Development*, Francesco Bandarin, et al, UNESCO Culture, Oct 2016, at Habitat iii.
- O'Donnell, Patricia M., "*Cultural Landscape Preservation: An Evolving Practice*" Landscape Journal, edited special issues on cultural landscapes, Fall 2016
- O'Donnell, Patricia M., "The Tudor Place Landscape," Tudor Place Americas Story Lives Here, 2016.
- Turner, Michael, Prof., Patricia M. O'Donnell, with Dr. Noah Hysler-Rubin, Dr. Juliana Forero, Françoise Descamps, Dr. Ana Pereira Roders, Dr. Loes Veldpaus, Rianne Bennink, "Urban Heritage Study," World Heritage Centre, December 2015
- O'Donnell, Patricia M., and Gregory W. De Vries. "Entangled Culture and Nature: Toward a Sustainable Jackson Park in the 21st Century" *Change Over Time: An International Journal of Conservation and the Built Environment*, Volume 5, Fall 2015
- O'Donnell, Patricia M., "Historic Urban Landscape: A New UNESCO Tool for a Sustainable Future," in *Conserving Cultural Landscapes: Challenges and New Directions*, Taylor Francis, 2014
- O'Donnell, Patricia M., "The Role of Regulatory Systems," in *Reconnecting the City: The Historic Urban Landscape Approach and the Future of Urban Heritage*, Francesco Bandarin, Ron van Oers, editors, Wiley & Sons, 2014
- O'Donnell, Patricia M. "An Ascendant Urban Space Restored" essay in *Mellon Square Discovering a Modern Masterpiece*, Princeton Architectural Press, 2014
- Interview with Patricia M. O'Donnell, FASLA, AICP, Principal, Heritage Landscapes, LLC, US Advisory Council on Historic Preservation, January 2014, <http://www.achp.gov/inclusiveness-patricia.html>
- O'Donnell, Patricia M., "Florence Charter on Historic Gardens (1982)" Springer Encyclopedia of Global Archaeology, Online, 2013
- Pascarella, Elena "An Interview with Patricia O'Donnell" CTHP News, Cultural Landscapes Issue, April 2012
- O'Connell, Kim, "Vibrant, Valued Landscapes", Clem Labine's Traditional Building, profile, October, 2009
- O'Donnell, Patricia M., "Thirty Years of Landscape Rescue", VIEW magazine, Library of American Landscape History, Summer 2008
- O'Donnell, Patricia M., "Preserving Cultural Landscapes USA: understanding and preserving the designed landscape," TOPOS 56: Cultural Landscapes, Fall, 2006
- O'Donnell, Patricia M., "Learning from World Heritage: Lessons in the Preservation & Stewardship of Cultural and Ecological Landscapes," George Wright Forum, September, 2004
- Schuyler, David and Patricia M. O'Donnell, "The History and Preservation of Historic Urban Parks and Cemeteries," *Preserving Cultural Landscapes in America*, John Hopkins University Press, 2000: 70-93
- Thompson, William J., "Is Historic Preservation Design?" Forum, Landscape Architecture, Dec 1998: 56-9

- O'Donnell, Patricia M., Cultural Landscape Currents: Benjamin Franklin Parkway Rehabilitation Case Study, Historic Landscape Initiative, Heritage Preservation Services, NPS, online, December 1998
- Weisgall, Deborah "Fighting Over the Future of an American Arden", Fletcher Steele's Camden Amphitheater, Camden, Maine, The New York Times, November 15, 1998: AR 26
- Dean, Andrea O. "Listening to: Landscape Architects", Forum, *Architectural Record*, August 1997: 44-49
- O'Donnell, Patricia M., "Cultural Landscapes of North America - An Overview of Status in the United States and Canada", in *Cultural Landscape of Universal Value*, October 1993, Gustav-Fischer Verlag, Germany
- O'Donnell, Patricia M. "Relating Integrity to Interpretation", *CRM Bulletin*, Thematic Issue on Landscape Interpretation, Volume 17, No. 7, 1994
- O'Donnell, Patricia M., Guest Editor, ICOMOS Landscapes Working Group Newsletter, North American Edition, September 1993, distributed to international group of experts
- O'Donnell, Patricia M., "The Treatment of Historic Landscapes: Determining the Most Appropriate Approach," *Historic Preservation Forum*, National Trust for Historic Preservation, V 7, No 3, May/June 1993
- O'Donnell, Patricia M., "Cultural Landscape Analysis: The Vanderbilt Estate at Hyde Park" *APT Bulletin*, The Association for Preservation Technology, Volume XXIV, No. 3-4, 1992
- O'Donnell, Patricia M., co-guest editor issue "Historic Preservation Defining an Ethic", *Landscape Architecture*, July/August 1987, "A Process for Parks," "A Preservationist's Glossary" and with Robert Z. Melnick, "Prospect"

SELECTED PRESENTATIONS & PAPERS

- "Urban Heritage Inclusive Public Spaces," American Planning Association, Urban Design and Preservation Division Webinar, 31 March 2017
- "Four Cultural Landscape Reports for the Architect of the Capitol: New Knowledge of the Past will Guide the Future," co-presented with Martin Shore, AOC Design Services, APT Preserving heritage with tomorrow technologies, Oct 30 to Nov 2, 2016, San Antonio, Texas
- "Culture Urban Future Habitat iii: Inclusive Public Spaces," Special Session on Urban Culture and Heritage, Habitat iii, 20 October 2016, Quito, Ecuador
- "Large Green Spaces and Urban Forests", session leader and presentation, World Urban Parks side event, UN Habitat iii, 17 October 2016, Quito, Ecuador
- "Evolving the Urban Landscape: Pittsburgh's Public Spaces in Planning and Design, Building and Growing Partnerships," with Frederick Bonci, Josh Lippert, Lauren Schmitt, for Pittsburgh Parks Conservancy and City of Pittsburgh. ASLA Annual Meeting, October 2016, New Orleans, LA
- "Longue Vue House & Gardens: Natural Disaster Sustainable Recovery through Philanthropy," presentation and tour, with Peter F. Viteretto, ASLA Annual Meeting, October 2016, New Orleans, LA
- "The Historic Urban Landscape Approach, Integrating Cultural/Natural Values in Urban Conservation: Mainstreaming UNESCO HUL for Sustainable Human Settlements," IUCN Planet at the Crossroads, IUCN-ICOMOS Nature-Culture Journey, Honolulu, Hawaii, September 2016
- "Developing Nature-Culture Professional Networks for Implementing the new UN Sustainable Development Goal Heritage Targets," IUCN Planet at the Crossroads, IUCN-ICOMOS Nature-Culture Journey, Honolulu, Hawaii, September 2016
- "Landscape Architects as Advocates for Culture-Based Sustainable Development", LAF Forum: The New Landscape Declaration, 10-11 June 2016, Philadelphia, PA
- "Integrating Urban Design & Cultural Heritage: Inclusive Urban Revitalization, Local Identity & Urban Design Guidelines," American Planning Association Conference Planning's New Landscape 2-5 April 2016, Phoenix Arizona
- "Employing Diverse Tools toward Sustainable Urban Heritage Management, Linking Urban, Peri-urban and Rural Context," Patricia O'Donnell, International Conference, Culture for Sustainable Cities, Toward Habitat iii: The need for an integrated vision for urban management, 10-12 December 2015 Hangzhou, China
- "Pittsburgh Parks Renaissance through Partnerships", Patricia O'Donnell, Meg Cheever, Susan Rademacher, Mike Gable, Large Parks in Large Cities Conference, 2-5 September 2015 Stockholm, Sweden

- "Revitalizing Historic Jackson Park: Integrating Heritage and Ecology, Sustainability and Resilience in Chicago," P. O'Donnell, L. Umek, G. De Vries, 12 June 2015, IFLA World Congress, St. Petersburg, Russia
- "Mellon Square: Revitalizing a Modern Masterpiece" Patricia M. O'Donnell and Susan M. Rademacher, 11 June 2015, IFLA World Congress, St. Petersburg, Russia
- "Sustaining & Revitalizing Urban Heritage in the Urban Millennium through Effective Change Management" Zube Lecture Series, UMass LARP, 29 January 2015, Amherst, MA, USA
- "Sustaining Heritage Cities into the Future: Fostering UNESCO HUL International Alliances," Mayor's Forum, 26 September 2014, Nanjing, China
- "Urban Landscapes: Integrating Culture & Sustainability for a Stronger Future through HUL Mainstreaming," 11-13 February, 2014, Zanzibar, Tanzania
- "Historic Urban Landscapes: Integrating Culture & Sustainability for a Vibrant Future through UNESCO HUL Mainstreaming" Lecture, Urban Preservation in Context: Challenges and New Approaches in the Mid-Atlantic Region, CHAPS Symposium, Rutgers University, 2 May 2014, New Brunswick, NJ, USA
- "UNESCO HUL Recommendation: Overview, Tools, Examples Annapolis MD, San Juan PR, Charleston SC", Conservation of Historic Urban Landscapes & Sustainable Development, Stanford University Archaeology Center with CICC, Cergy-Pontoise University, France, 7-8 March 2013
- "The Changing Role of Parks in Urban Water Management - Historic Iconic Landscapes Integrating Preservation & Sustainable Design," O'Donnell, Patricia M. and Gregory W. De Vries, City Parks Alliance, Webinar, Feb 2013
- "Cultural Landscapes for Our Global Future", University of Rhode Island, Landscape Architecture Global Future Lecture Series, 31 January 2013
- "UNESCO Historic Urban Landscape Recommendation for A Sustainable Urban Future" IFLA 49th World Congress, Cape Town SA; US/ICOMOS International Symposium, San Antonio, TX; San Juan, Puerto Rico; ICOMOS Theory Committee, Baku, Azerbaijan; with Michael Turner; September, August, May, April, 2012
- "Historic Iconic Landscapes: Integrating Preservation & Sustainability" Greater & Greener, New York, New York, City Parks Alliance and National Association for Olmsted Parks, July 2012
- "Global Standards for Contextual Development: A New UNESCO Tool", Presentation, American Planning Association Annual Conference, Los Angeles, CA, April 2012
- "Why Cultural Landscapes Matter," Invited Keynote, India Society of Landscape Architects, ISOLA 2011 Conference: Cultural Landscapes, Ahmedabad, India, September 2011
- "Why Cultural Landscapes Matter", Why Does the Past Matter? Valued Landscapes of parks, parkways, iconic, modern places, P. O'Donnell, P. Viteretto, G. DeVries, S. Gaulty, UMass Amherst, May 2011
- "Why Cultural Landscapes Matter," Keynote & Panel Discussion, European Council of Landscape Architecture Schools, ECLAS 2010, Istanbul, Turkey, November 2010
- "Historic Urban Landscapes: Responsibilities & Opportunities, Preserving Spirit of Place", Keynote, Center for Architecture in the Arab World International Conference, Petra University, Amman Jordan, Nov. 2008
- "Landscape Documentation: Fostering Informed Stewardship & Enriching Interpretation" American Public Gardens Association, Planting Fields Arboretum, Invited Keynote, Oyster Bay, NY, October 2008
- "Urban Cultural Landscapes & the Spirit of Place" ICOMOS, 16th General Assembly and Scientific Symposium, Québec City, Québec, Canada, October 2008
- "Is this Heritage Preservation or Sustainability?" As University, Oslo, Norway, invited lecture, April 2008
- "Cultural Landscape Preservation & Sustainability", Shanghai, Beijing and Wuxi, China, symposium and university invited lectures, and international exchange symposium, October 2007
- "Global Heritage Preservation & Historic Urban Landscapes", 1st IFLA Americas Region Conference 5th National Congress Landscape Architects Mexico, Mexico City, May 2007
- "Overview of World Heritage Inscription Trends, 1972 to 2006", and "USA Issues for World Heritage Tentative List", IUCN/US & US/ICOMOS Briefing & Symposium, September 2006
- "World Heritage Framework for Cultural & Natural Landscapes", Introductory presentation, Scientific Committee Chair, US/ICOMOS 7th Scientific Symposium, Natchitoches, LA, March 2004

- “Public Landscapes at the Intersection of Culture and Nature”, Symposium Developing an Urban Ecology Ethic: Promoting Urban Ecology, Park Stewardship & Sustainable Architecture, PPC, Pittsburgh, Jan 2004
- “Cultural Landscapes of Universal Value” Keynote, Maine Statewide Preservation Symposium, Camden ME, September 2003
- “Preserving Cultural Landscapes of Universal Value into the 21st Century,” Lecture, University of Rhode Island, Providence, RI, May 2002

PROFESSIONAL REGISTRATION, SERVICE & AFFILIATIONS

- Licensed Landscape Architect, CLARB professional examination 1987, Connecticut 571, Illinois 157-000917, Indiana 298000005, Kentucky 516, Maine LR2332, Maryland 2023, Massachusetts 1190, New Jersey 21AS00070700, New Mexico 391387, New York 001438-1, North Carolina 1515, Pennsylvania LA001566-R, Texas 3134, Vermont 125.0079675, Virginia 0406-000972
- AICP, American Institute of Certified Planners, professional examination 1995
- ICOMOS international member 1990 to present, participation in General Assemblies, World Heritage process
- ICOMOS/IFLA Cultural Landscapes International Scientific Committee, Treasurer 2016-2019 USA Voting Member, 2006-2015, Work Session Host, 2008, Corresponding Member 2001-2005, Presentations 2002+
- ICOMOS International Committee on Historic Towns and Villages, CIVVIH, 2016-2017
- ICOMOS International Cultural Tourism Committee, 2009-13, French Grand Sites 2011, Vigan, Philippines
- US/ICOMOS, Board of Trustees 2011-2016, 2000-2005, ASLA Ex-Officio 2005-2010, 2017; Chair US ICOMOS World Heritage Working Group, 2012-2016, Chair, US ICOMOS CL Committee, 2006-2015, 1997-2001, Scientific Chair 7th US/ICOMOS International Symposium, 2004
- IFLA Cultural Landscapes Committee, Global Chair, 2006-2015, IFLA CLC website creator, Organizer “Issues for Heritage Cities from Global to Local,” lectures/mobile workshop ASLA/IFLA Meeting, Minneapolis, 2006, IFLA conference papers St. Petersburg, Russia, Cape Town, South Africa, Mexico City, Mexico, 2007, Edinburgh, Scotland, 2005
- American Society of Landscape Architects, 1995 Fellow for Executed Works, US/ICOMOS Board Ex-officio 2006-2009, HALS Co-chair 2000-2006, Historic Preservation Committee, Chair, leader, 1981-1991, Annual Meeting Papers, 1981-2002, 2004-2006, Symposia, 1987-1990, Mobile Workshop Lead 2003, 2006
- World Urban Parks, board member, Large Parks Committee, Research Working Group, co-leader, 2016.
- The Cultural Landscape Foundation, founding Board Member, Finance Committee, 1998-2009
- National Center for Preservation Technology & Training, Board, 2002-2006, Coalition for Preservation Technology 1990-95, US Congress Preservation Technology Transfer, Landscape Preservation Chair, 1986
- Alliance for Historic Landscape Preservation, Member 1980 to 2016, Board 1988-98, conference papers
- National Association for Olmsted Parks, advisor 2012-2015, board 1985-1988, founding member 1979-80, conference committee and papers
- Memberships: George Wright Forum, APT International, National Trust for Historic Preservation, Garden Conservancy, Connecticut Trust for Historic Preservation, NYS Preservation League



Assessment Report on Potential Effects to Above-Ground Historic Sites for the New Hampshire Seacoast Reliability Project

Heritage Landscapes LLC

On Behalf of
Counsel for the Public

31 July 2017

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New Hampshire Seacoast Reliability Project Review and Assessment 31 July 2017 Heritage Landscapes LLC

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Appendix A: Corridor Maps of Historic Site Types

Appendix B: Cumulative Historic Site Maps for Four Host Towns

CHAPTER 1. INTRODUCTION TO HERITAGE LANDSCAPES ASSESSMENT

A. Overview

On behalf of Counsel for the Public, and the State of New Hampshire Office of the Attorney General, Heritage Landscapes has prepared this Expert Assessment Report on Potential Impacts to Above Ground Historic Sites for the New Hampshire Seacoast Reliability Project (“Project”) as proposed by Public Service Company of New Hampshire (“Applicant”).

The Project requires a certificate of site and facility from the State of New Hampshire Site Evaluation Committee (SEC) pursuant to RSA 162-H:5. The SEC process requires determination that the proposed Project will not unreasonably adversely impact historic sites, among other criteria, relevant to finding the Project in the public interest. Heritage Landscapes, LLC prepared this report to present our assessment of the potential for the Project as amended 29 March 2017 to impact New Hampshire historic sites, as guided by the SEC evaluation framework.

Briefly, the proposed Project travels approximately 12.9 miles from the existing Madbury Substation south through the town of Durham, and east across Little Bay through the town of Newington to terminate at the Portsmouth Substation. The Project design (as amended 29 March 2017) largely follows existing corridor, and includes a submarine crossing under Little Bay, and three underground sections designed to avoid visual impacts to historic and residential areas along the Project route. These three undergrounding areas occur at UNH campus (Durham), Gundalow Landing (Newington), a portion of Flynn Pit area (Newington), across the Frink Farm and Nimble Hill Road and extending underground through the Hannah Lane neighborhood (Newington). Existing overhead structures range between approximately 29ft to 70ft, and as proposed, the overhead sections of the Project will increase tower heights to range between approximately 50 to 105 feet tall.

As determined through consultation between the Applicant and New Hampshire Division of Historical Resources (“NHDHR”), the Project has previously been assessed using two areas of potential effect (“APE”). The APE for indirect effects is defined as extending one-half mile on either side of the Project center line, while the APE for direct effects includes the Project corridor, ranging between 60ft to 100ft, commensurate with the Project right-of-way.

B. New Hampshire Historic Preservation Law and National Historic Preservation Act

In preparing this report as with all our work, Heritage Landscapes adheres to the Secretary’s Standards for treatment of historic resources and cultural landscapes, as well as historic preservation best practices. The National Historic Preservation Act (“NHPA”), first enacted 1966, establishes a legal framework for protecting and managing historic properties deemed significant within the history of the United States. Section 106 of the Act requires a review of potential effects to historic resources prior to issuance of Federal permits for projects or Federal expenditures.

A parallel but somewhat different process exists at the state level in New Hampshire. New Hampshire law recognizes the importance of state historic and cultural resources as established in RSA 227-C:1. Through this law, the State establishes a broad intent to value cultural heritage, protect it in the face of rapid change and promote use and conservation for relevant purposes, as defined in RSA 227-C:1-a, Statement of Findings and Purpose:

I. The general court has determined that the historical, archeological, architectural, engineering, and cultural heritage of New Hampshire is one of the most important environmental assets of the state and that the rapid social and economic development of contemporary society threatens the remaining vestiges of this heritage; therefore, it is hereby declared to be public policy and in the public interest of this state to engage in a comprehensive program of historic preservation to promote the use and conservation of such property for the education, inspiration, pleasure, and enrichment of the citizens of New Hampshire.

To guide state preservation activities, RSA 227-C:1 section (b) establishes an inclusive definition that extends beyond properties eligible for federal listing on the National Register of Historic Places, particularly in the phrase “that enhances an understanding and appreciation of New Hampshire history,” which we are interpreting broadly as this citation directs.

"Historic resource" means:

(a) Any historic property which has been listed in the National Register of Historic Places or has been determined by the keeper of the register to be eligible for the National Register using the criteria for evaluation in 36 CFR 60.6;

(b) Any object, or group of objects, located in or associated with an historic property or that enhances an understanding and appreciation of New Hampshire history;

While SEC Rules do reference the Federal Code in defining historic sites and require compliance with Section 106 of the National Historic Preservation Act, the SEC Rules provide a discrete framework for defining and assessing impacts to historic sites. In conducting this assessment, Heritage Landscapes utilized the framework established in New Hampshire law to protect local and state heritage through the SEC permitting process. As such, this report only addresses the potential impacts to historic sites for purposes of SEC review.

Noting the lack of guidance within SEC Rules for assessing potential direct and indirect effects, our assessment utilized the following published sources of guidance, in addition to professional experience:

- i. *The Vermont Division for Historic Preservation Criteria for Evaluating the Effect of Proposed Telecommunications Facilities, Transmission Lines, and Wind Power Facilities on Historic Resources*
- ii. *Assessing Visual Effects on Historic Properties*, Virginia Department of Historic Resources
- iii. *Criteria of Adverse Effect, Protection of Historic Properties*, 36 CFR 800.5 (as amended August 5, 2004)

C. Review of SEC Rules and Definitions

Heritage Landscapes' work references and cites the New Hampshire Site Evaluation Committee's enabling statute, NH RSA Chapter 162-H, Energy Facility Evaluation, Siting, Construction and Operation. The purpose of the statute quoted here, includes attention to historic sites:

162-H:1 Declaration of Purpose. – The legislature recognizes that the selection of sites for energy facilities may have significant impacts on and benefits to the following: the welfare of the population, private property, the location and growth of industry, the

overall economic growth of the state, the environment of the state, *historic sites*, aesthetics, air and water quality, the use of natural resources, and public health and safety. Accordingly, the legislature finds that it is in the public interest to maintain a balance among those potential significant impacts and benefits in decisions about the siting, construction, and operation of energy facilities in New Hampshire; that undue delay in the construction of new energy facilities be avoided; that full and timely consideration of environmental consequences be provided; that all entities planning to construct facilities in the state be required to provide full and complete disclosure to the public of such plans; and that the state ensure that the construction and operation of energy facilities is treated as a significant aspect of land-use planning in which all environmental, economic, and technical issues are resolved in an integrated fashion. In furtherance of these objectives, the legislature hereby establishes a procedure for the review, approval, monitoring, and enforcement of compliance in the planning, siting, construction, and operation of energy facilities (emphasis added).

Relevant definitions within these SEC rules include:

Site 102.23 “Historic sites” means “historic property,” as defined in RSA 227-C:1, VI, namely “any building, structure, object, district, area or site that is significant in the history, architecture, archeology or culture of this state, its communities, or the nation.” The term includes “any prehistoric or historic district, site, building, structure, or object included in, or eligible for inclusion in, the National Register of Historic Places maintained by the Secretary of the Interior,” pursuant to 36 C.F.R. §800.16(l)(1).

Site 102.26 “Landscape” means the characteristic, visible features of an area including landforms, water forms, vegetation, historic and cultural features and all other objects and aspects of natural and human origin.

Site 102.44 “Scenic quality” means a reasonable person’s perception of the intrinsic beauty of landforms, water features, or vegetation in the landscape, as well as any visible human additions or alterations to the landscape.

D. Heritage Landscapes’ Approach to Historic Sites Impact Assessment

Using the legal framework and definitions outlined above, Heritage Landscapes prepared this report to synthesize the findings of a series of tasks undertaken to evaluate the potential Project impacts to New Hampshire historic sites. Heritage Landscapes Assessment is organized around three core questions:

1. Did the Applicant provide a full capture of historic sites within a reasonable area of potential effect?
2. Did the Applicant provide an accurate assessment of potential impact to above ground historic sites?
3. Does Heritage Landscapes agree with the Applicant’s assessment of potential effect to above ground historic sites?

To answer each question, Heritage Landscapes employed specific methods of analysis including document and field review, resource mapping, and effects assessment for select sites. These methods are introduced below, and discussed in further detail in Chapters 2 through 5.

Heritage Landscapes began with a targeted review of filing materials, listed below, to gain an understanding of the overall capture of historic sites including scenic resources and other sites “significant in the...culture of this state”¹:

- *Application of Public Service Company of New Hampshire for Certificate of Site and Facility for the Construction of a New 115 kV Electrical Transmission Line from Madbury Substation to Portsmouth Substation, April 12, 2016*
- *Seacoast Reliability Project Environmental Maps, Prepared by Normandeau Associates and Eversource Energy, February 25, 2016*
- *Area and Individual Inventory Forms for Seacoast Reliability Project historic sites, prepared by Preservation Company for NH Division of Historical Resources*
- *Pre-filed Direct Testimony of Cherilyn E. Widell, April 12, 2016*
- *Pre-Field Direct Testimony of Victoria Bunker, Ph.D., April 12, 2016*
- *Seacoast Reliability Project Preliminary Report: Historic Resources, Prepared by Bruce Clouette, PhD, February 13, 2015*
- *Visual Assessment for the Seacoast Reliability Project, Prepared by LandWorks, April 2016*
- *Pre-Field Direct Testimony of David Raphael, April 12, 2016*
- *Amendment to Application, March 29, 2017*
- *Amended Pre-Filed Testimony of Cherilyn E. Widell, March 29, 2017*
- *Amended Pre-Filed Testimony of Victoria Bunker, March 29, 2017*

The Application was analyzed to determine what types of historic sites were identified for potential effects assessment. The document analysis sought any locational relationships between above and below ground historic sites and scenic resources, which by definition include historic sites. In particular, the analysis sought to identify noteworthy historic sites which were outside the Applicant’s 0.5 mile historic APE and were not included in the Applicant’s visual assessment. The document review expanded to include materials generated through the data request process and the Project Amendment. Heritage Landscapes staff also reviewed Project files held by the New Hampshire Division of Historic Resources. Chapter 2 provides a detailed review of the Applicant’s overall capture of historic sites within each town, guided by SEC criteria established in Site 301.06.

Parallel to document review, Heritage Landscapes traveled the proposed Project corridor along public roads to become familiar with historic sites identified through the Applicant’s reports and testimony. Field review enabled an understanding of landscape character and integrity within the host towns; proposed placement of the Project; and visual relationships between the proposed Project and identified historic sites. To understand Project visibility within specific areas of concern, Heritage Landscapes worked with Counsel for the Public’s Scenic and Aesthetics consultants from Michael Lawrence Associates.

To identify additional historic sites of cultural value within the host towns, Heritage Landscapes gathered and mapped available datasets from NH Granit Data Clearinghouse, and other relevant sources, for resources within each host town.² Following from the Applicant’s Visual Impact consultant who identified the potential for Project visual impacts extending up to three miles from the Project corridor, our mapping and primary analysis occurred within town-level study areas.

¹ Site 102.23 defines historic sites broadly, ranging from objects to districts and including sites that hold cultural importance, without defining a threshold for age or other defining criteria.

² The sources of data layers are listed in Chapter 4 and included on the town maps.

While approximately half of Portsmouth extends south beyond the three mile potential view range, the remaining three towns largely corresponded to this visual boundary, encouraging a town-level approach to resource identification, mapping and effects assessment.

Chapter 3 provides a description of the additional site types included in our process of resource identification and the basis for their inclusion within an assessment of impacts to historic sites along the proposed Project route. In addition to the historic parcels identified by the Applicant, these sites were mapped at the town level and enumerated to form a more complete capture of town-level historic sites potentially impacted by the Project. Mapping was supplemented and contextualized through review of online planning and zoning documents for each host towns, allowing for further identification of historic sites and areas holding cultural value.

Following this sequence of desktop and field review of historic sites within the host towns, and evaluation of the Applicant's methods, Heritage Landscapes conducted an independent assessment of potential project impact using published effects guidance.

E. Comprehensive Identification of Above-Ground Historic Sites

Guided by SEC Rule Site 102.23, as defined by New Hampshire RSA 227-C, Heritage Landscapes employed a broad definition of "historic site" to include sites holding cultural value, regardless of their assessed age. This approach included the following categories of culturally valued sites for consideration of potential effect within this assessment:

- Historic graveyards
- Conservation lands, in public stewardship and private ownership, including town forests
- Recreation lands
- Designated scenic roads
- Trails
- Public Waters, Designated Rivers, and public water access points
- Current Use listed lands
- Town identified sites of scenic or cultural value
- Stone Walls and Fences

Chapter 3 discusses these resources in greater detail, identifying the state laws which establish their importance to New Hampshire culture and heritage, and outlining the relevance of each resource type to this historic site assessment. Heritage Landscapes selected these site types based on their formal designation and available data, and because we recognize each as a cultural landscape. Cultural landscapes are broadly understood as the combined works of humanity and nature.³ The National Park Service defines cultural landscapes as geographic areas including cultural resources, natural resources, and domesticated animals and wildlife, identifying four types of cultural landscapes that can be listed on the National Register for their association with significant people, historic events or activities, or for cultural, aesthetic or other historic value. These four types of cultural landscapes, Designed, Historic, Ethnographic, and Vernacular Landscapes, range in scale from the land where an important historic event took place, to a

³ World Heritage Convention 1992, Article 1 defines cultural landscapes as the "combined works of nature and humankind" identifying designed, evolved and associative landscapes as categories. Found at <http://whc.unesco.org/en/culturallandscape#1>

designed estate landscape, or an agricultural valley. Cultural landscapes reflect historic patterns of use and management, including managed forests and agricultural fields, representing the historical landscape of New Hampshire sustained by enduring land uses that hold cultural values.

These resources are then identified and enumerated, as possible, within each host town. When geolocated data was available these resources were also mapped in GIS to depict distribution along the proposed corridor. This comprehensive identification, listing and mapping of the historic properties and cultural resources of the proposed Project corridor is presented in narrative, charts and maps in Chapter 4 to provide a town-level description of potential Project effects.

F. Expert Opinion on Potential Project Impacts to Historic Sites

Heritage Landscapes approached this assessment as presenting three possible outcomes: agreement with the applicant that the Project poses no unreasonable adverse effect; determination that not enough information is available to make an impact assessment; determination of unreasonable adverse impact.

The combined findings of the Application review, comprehensive identification and enumeration of historic sites within each host town, and effects assessment for target sites culminates in Chapter 5 by laying out an expert opinion of the potential adverse Project impacts and whether these potential impacts are unreasonably adverse. This opinion is based on three criteria. First, the number of sites with potential impacts is considered. Second, the efficacy of the Applicant's proposed minimization measures is reviewed for efficacy. Finally, the loss of integrity and change in character is assessed for specific sites and throughout the four host town study areas. In evaluating the potential effects to historic sites, Heritage Landscapes considered SEC Criteria Relative to Findings of Unreasonable Adverse Effects to aesthetics (Site 301.14) to include a consideration of landscape character and scope and scale of landscape change. These criteria were deemed important to understanding the potential effects to historic sites as scenic resources, as defined by Site 102.45.

CHAPTER 2. OVERALL INCLUSION AND ASSESSMENT OF IMPACTS TO HISTORIC SITES WITHIN SEC APPLICATION

A. Overall Inclusion and Capture of Historic Sites in Seacoast Reliability SEC Application

Heritage Landscapes reviewed SEC filing materials related to above ground historic sites including cultural landscapes that may have been captured in the Applicant's visual assessment and natural resources reporting. Archaeology reporting was also reviewed to determine if any gaps existed in the overall capture of landscape resources that have both underground and above-ground components which may not have fully been addressed in either report.

Heritage Landscapes' review of application materials revealed gaps in the consideration of potential project impacts to landscape resources resulting in a less comprehensive assessment of potential impacts to historic sites. As historic sites, cultural landscapes often hold values in diverse categories such as natural resources, aesthetics, and community identity and land use in addition to historic importance. Considering effects to each of these categories in isolation results in an incomplete assessment of the total impact a project may have on cultural landscapes within each of the host towns. While the SEC application process provides a framework for Applicant consideration and reporting on potential Project impacts, the apparent lack of purposeful collaboration between the Applicants' experts limited the capture of above ground heritage resources within each host town. In particular, there is no indication of efforts between the Applicant's historic and scenic consultants to identify historic sites outside of the Applicant's 1-mile corridor APE for historic sites.

A detailed review of the Applicant's assessment of potential impacts to historic sites is provided below. Due to the SEC Rule (Site 102.23) which defines scenic resources as inclusive of historic sites, and the fact that the Applicant's historic consultant utilized the visual assessment tools provided by the scenic consultant, LandWorks, reporting and testimony on potential impacts is also briefly reviewed below. To provide a clear understanding of the Applicant's methods and the outcomes of each step, Heritage Landscapes diagrammed the historic and scenic consultants' process in Figures 1 and 2 below.

B. Detailed Review of Applicants Historic Sites Methods and Capture

Heritage Landscapes utilized the SEC application requirements outlined in Site 301.06 "Effects on Historic Sites" to frame a review of the Applicant's historic site capture and assessment of potential effect. This Rule establishes five requirements (301.06 (a) – (e)) for the Applicant to adequately assess the Project impacts on historic sites for consideration by the SEC in determining whether the Project will "have unreasonable adverse effect on historic sites."

Heritage Landscapes' review of the Applicant's Project Area Form ("PAF") and accompanying inventories, pre-filed, and amended testimony, is organized topically below, with reference to the filing requirements.

1. Identification of Historic Sites

Heritage Landscapes conducted a review of the Project Area Form and accompanying Pre-filed and Amended Testimony to assess the Applicant's efforts to fully identify "all historic sites and areas of potential archaeological sensitivity located within the area of potential effects, as defined in 36 C.F.R. §800.16(d)" (Site 301.06 (b)).

Our review focused on the SEC definition of historic sites, the effectiveness of the Applicant's APE, and paid special attention to the inclusion of cultural landscapes.

a. Definition of "Historic Sites"

The SEC Rules require the assessment of potential effects to "historic sites" (Site 102.23). As defined in RSA 227-C:1 VI, an "historic property" means any building, structure, object, district, area or site that is significant in the history, architecture, archeology or culture of this state, its communities, or the nation." Heritage Landscapes understands "historic sites" as defined by Site 102.23 to include sites with historic or contemporary cultural significance that may not be eligible for the State or National Registers due to degraded integrity or other Register criteria. Using the Project Area Form as a template for identifying historic sites limited the Applicant's consultants to consideration of the Project impacts to sites eligible for the National Register. While the Project Area Form thoroughly identified historic themes for the Project area, Heritage Landscapes found their capture of sites related to several themes insufficient due to the limitations of National Register criteria. Among these themes are:

NH DHR Theme 78: outdoor recreation in New Hampshire

NH DHR Theme 135: the land conservation movement in New Hampshire

Heritage Landscapes proposes additional historic site types should be incorporated into the Project Area inventory to reflect these themes, including trails, recreation and conservation lands, and public waters and access points. While the Project Area form does briefly mention recreation as a historic theme in New Hampshire, there does not appear to have been a purposeful effort to include recreation lands within the Project Area Form inventory. Further, due to adherence to the "50-year rule" the Applicant largely excluded these valued sites from assessment. As stated on PAF page 85, outdoor recreation sites in the Project corridor consist of

"Large tracts of land, mainly owned by UNH, are used for passive recreation... However, these have been used for recreation mainly within the last fifty years and are not historically significant."

Similarly, while the PAF notes the importance of the land conservation movement within New Hampshire (DHR Theme 135), there does not appear to be any attempt to specifically identify conserved lands within the PAF inventory. Interestingly, the Applicant's Environmental Maps depict conservation lands, many of which are shown to be directly adjacent to or containing the Project corridor through Durham.

b. Area of Potential Effects

Through consultation with the NH Division of Historical Resources, the Applicant defined two Area of Potential Effects ("APE") to guide the identification of sites within the established Project Area. A 1-mile corridor defines the indirect APE, while the existing right-of-way defines the direct APE, varying between 60-100 feet along the length of the proposed project.⁴

Following review of the Applicant's Visual Assessment, Heritage Landscapes finds the 1-mile corridor APE may be insufficient for identifying the full range of historic sites potentially impacted by the Project. Based on regional precedents, LandWorks Visual Assessment concluded that the range of greatest potential Project visibility extends to a 3-mile wide corridor.

⁴ Application Appendix 10, Preservation Company, "Seacoast Reliability Project Area Form," June 201, 2016, p6.

SEC Rule 301.06 (b) requires the APE for historic sites be defined in accordance with Federal Code (36 C.F.R. §800.16(d)) which states that the APE should include all areas which the project “may directly or indirectly cause alterations in the character or use of historic properties.” Failure to establish an appropriate APE compromises the Assessment’s capacity to properly identify “all historic sites and areas of potential archaeological sensitivity located within the area of potential effects, as defined in 36 C.F.R. §800.16(d)” (Site 301.06 (b))

Guided by the 3-mile zone of visual influence identified within the Applicant’s Visual Assessment the one-mile corridor indirect APE appears inadequate for a full assessment of potential effect to historic sites within the four host towns. This is due to the Project scale both in terms of individual structure height extending above tree line and the geographic extent of modifications to the existing landscape.

Heritage Landscapes also questions the adequacy of the direct APE to capture the potential direct effects to historic sites located along the project route, particularly where blasting may occur. The Applicants provided no discussion of possible peripheral damage to adjacent historic sites by movement of large machinery and creation of work pads and other staging areas to hold equipment, materials, and excavated soils. The impacts of vibration from blasting, drilling and jackhammering during construction can range from cosmetic damage such as cracked plaster, to masonry damage or building settlement causing structural instability. A report to the National Cooperative Highway Research Program suggests the determination of possible effects to historic sites from construction activities requires an engineering assessment that considers soils, and building structure and materiality. Further, a recommended screening distance for potential vibration effects is 500 feet, unless it results from blasting, which the report recommends screening at a distance of “a few thousand feet of the blasting.”⁵

c. National Register Criteria

The Applicant included a Project Area Form within their SEC application to fulfill the requirements of Site 301.06, Effects on Historic Sites. The Project Area Form provides a useful synthesis of previously surveyed historic sites contained within the DHR files and addresses requirements of the Section 106 process. However, Heritage Landscapes notes the use of the Project Area Form for the SEC application results in an unnecessarily restrictive process of identifying historic sites within the project corridor. As noted above, the SEC requires identification and assessment for historic sites, which Site Rule 102.23 broadly defines to include culturally valued sites. Further, the SEC guidance does not provide strictures on determinations of integrity or significance, facilitating a more comprehensive assessment of historic sites which hold value beyond preservation. The four National Register criteria (A through D) provide categories for evaluating the significance a site holds in American history, while the SEC process considers impacts to local and state heritage. Finally, the Applicant used the 50-year “rule” to select sites for consideration of potential impacts. While frequently applied within professional practice, National Register rules do not require that a property achieve 50 years of age for inclusion.

d. Architectural Focus and Limited Landscape Consideration

Heritage Landscapes’ review of the Applicant’s methods identified three ways in which landscapes were removed from consideration. First, only sites with built components were listed in the Project

⁵ “Current Practices to Address Construction Vibration and Potential Effects to Historic Buildings Adjacent to Transportation Projects” prepared by Wilson Ihrig & Associates, Inc., ICF International, and Simpson, Gumpertz & Heger, Inc., September 2012.

Area Form spreadsheet. Second, the assessment of integrity and “visual significance” was not informed by research, but based solely on architecture. Third, the Applicant’s assessment of integrity and suggestions of historically significant views did not adequately consider the landscape component of each property, frequently relying instead on the orientation of building facades. In addition to applying an overly restrictive approach to the acreage and type of crops necessary to convey integrity for agricultural properties,⁶ the Applicant neglected consideration of landscape level patterns of integrity imparted through spatial organization, land use patterns, circulation along historic roads, and features such as stone walls.

The Project Area Form lists twelve different historic site types, including: agricultural sites; villages and town centers; civic, religious and educational sites; cemeteries; transportation sites; utility resources, industrial and commercial; and military sites. The twelfth and most developed category of historic sites inventoried by the Applicant was architectural sites, for which the Applicant’s consultants identified 22 building types. The Applicant’s consultants appear to have identified 85 additional properties through historic document and field review within the 1-mile corridor APE. Of these additional sites, over 30% were buildings. While the breadth of historic building types identified by the Preservation Company is impressive, a review of their methods suggests historic landscapes are not as well represented in their inventory and the Applicant’s assessment of effect. Very few historic sites lacking built resources were included in the Project Area Form. Among these are West and East Foss Farms, and the Oyster River Dam Ruins, all in Durham. For each of these sites, the lack of an intact structure precluded them from further assessment, as will be discussed further in Section 2, below.

The Project Area form identifies the importance of the geography in shaping cultural landscapes within the APE. Brooks, rivers, and the bay and shoreline areas played a pivotal role in shaping land use, transportation corridors and settlements. The Project Area Form also notes the importance of topographic highpoints within the predominately flat, tidal landscape that hold cultural and historical value. In addition to the Newington town center, located at the local highpoint, Beane’s Hill in Newington, was also “historically known for its views of the Piscataqua.”⁷ Our review of the historic sites identified by the Applicant revealed a focus on individual buildings with limited identification of historic sites at the landscape level or historically significant natural features.

Due to the unnecessary application of a 50-year standard and National Register standards for significance, the PAF methodology further limited consideration of more recently evolved historic sites, including conserved lands and recreation areas that hold contemporary cultural value.

Based on a review of the Project Area Form bibliography, the Preservation Company did not utilize reference materials related to the identification and assessment of historic landscapes including key guidance such as the National Register Bulletin *Guidelines for Evaluating and Documenting Rural Historic Landscapes*.

⁶ Heritage Landscapes notes the Applicant’s approach was not in keeping with guidance established in National Register Bulletin 30, “Guidelines for Evaluating and Documenting Rural Historic Landscapes.”

⁷ Application Appendix 10, Preservation Company, “Seacoast Reliability Project Area Form,” June 20, 2016, p. 12.

2. Assessment of Potential Effect

Heritage Landscapes reviewed the Application, Amendment, and associated Environmental Map series to determine the range of potential direct and indirect effects resulting from the proposed Project.

a. Direct

Review of the Application discussion of construction methods identified the following potential sources of direct effect to historic sites:

- construction of access roads and temporary access roads (including roads outside of the existing ROW)
- widening of existing access roads
- construction and removal of work pads, laydown areas, and temporary backfill storage areas
- vertical drilling to install structure foundations
- open-cut trenching to place underground cable
- blasting as needed for structure placement
- Extensive vegetation clearing within the ROW and beyond as needed in order to limit branch interference with transmission lines.

Each of these construction methods has the potential to impact historic sites within the Project Area, through direct damage to historic building foundations, structures, historic road alignments and other historic site types.

In addition to these potential effects, undergrounding of the project line generates heat which is mitigated through thermal sand or concrete. The elevated soil temperature may not kill plants, but can cause early germination in spring, potentially increasing the visibility of the underground line location in open fields. In addition, engineered soils surrounding the undergrounded cable can impact the use of surface land for farming and other practices.⁸

During field review, Heritage Landscapes noted the prevalence of stone walls lining historic roads and field and house lots as character-defining features within the Project Area. Using the Applicant's data obtained through a Data Request, Heritage Landscapes notes 529 stone wall locations the Applicant recorded through GPS points or drafted in AutoCAD. The Applicant recorded 1999 additional locations of "fences or stone walls," also obtained by Heritage Landscapes through data request. Despite the extensive documentation of character-defining stone walls and fences, within a 1,000 foot distance of proposed Project structures, the Applicant's consultants did not discuss the potential for direct effect to these features or the use of methods such as pipe-jacking to avoid direct effect. Rather, the Application notes that "Ditches, roads, walls, and fences will generally be restored to their former condition," suggesting a general strategy of removal.⁹ Based on the Applicant's provided statements and testimony on historic sites, it is unclear whether any stone walls within the ROW and along adjacent access roads will be permanently removed to ensure long-term maintenance access within the ROW.

Direct impacts to historic sites are possible along the submarine section of the Project crossing under Little Bay. The Applicant did not address the potential impact of submarine cable burial on

⁸ "Underground Electric Transmission Lines," Public Service Commission of Wisconsin. Online. <https://psc.wi.gov/Documents/Under%20Ground%20Transmission.pdf>

⁹ Application, p35.

underwater historic sites or archaeological resources identified in Little Bay. There does not appear to have been any underwater archaeological survey conducted by the Applicant.

b. Indirect

Within professional practice, indirect effects can include visual, auditory (e.g. Corona effects), and atmospheric (e.g. extreme scale variation, scents, or heat) elements that impact the character or use of a historic site.¹⁰ Heritage Landscapes’ review of the Applicant’s Statement, Project Area Form, and expert testimony by Cherilyn Widell reveals that only potential visual impacts were assessed.

The Project Area Form provides a sequential description of tasks conducted to determine potential visibility, beginning with viewshed mapping and proceeding to field review and 3D digital modeling. The Applicant’s consultant notes that during field review “substantial vegetation (such as trees and hedgerows)” were used to assess potential visibility. It is questionable whether a hedgerow can be considered “substantial vegetation,” as it can easily be lost to storm events, disease, or changes in management patterns. In addition, the consultant does not indicate if the narrow bands of screening trees were located on the historic site parcel or on adjacent properties.

The Project Area Form and expert testimony also do not indicate whether interim visibility assessment was conducted as a gradient of visibility or if a historic site with any type of view was moved forward for the next stage of determining potential effect.

It is unclear how the Applicant’s consultants assessed visibility within historic areas including farms, districts, and historic residential subdivisions. The Project Area Form mapping shows visibility within districts and residential areas which are then listed within the Table of Resources as not having visibility to the project. The methods used to assess visibility from large areas that may hold views from buildings and landscapes are not clear.

3. Significance and Integrity of Historic Sites

In determining which sites with views should be assessed for potential visual effects, the Applicant’s consultants proposed an area of significance for each site and determined whether the site retained its historic integrity. The significance of a historic site relates to why it is important and typically derives its association with an event, a person, a mode of construction or its ability to provide information for future research. Analysis of the Applicant’s assessment of National Register Eligibility criteria listed within the Project Area Form identifies the following pattern:

- Historic Sites potentially eligible under Criterion A¹¹: 52
- Historic Sites potentially eligible under Criterion C¹²: 118
- Historic Sites potentially eligible under Criterion D¹³: 3
- Historic Sites with no potential eligibility: 46

¹⁰ As guided by 36 CFR 800.5 (2)(v).

¹¹ Criterion A is “associated with events that have made a significant contribution to the broad patterns of our history.” Not all historic sites listed by the Project Area Form were provided a National Registry criterion and some sites were provided more than one criterion.

¹² Criterion C is used for historic sites “that embody distinctive characteristics” of a period, type or method of construction or that represent high artistic values or the work of a master. Not all historic sites listed by the Project Area Form were provided an association National Registry criterion and some sites were provided more than one criterion.

¹³ Criterion D is used to evaluate sites “that have yielded, or may be likely to yield, information important in prehistory or history.” Not all historic sites listed by the Project Area Form were provided a National Registry criterion and some sites were provided more than one criterion.

Total number of Historic Sites recorded in PAF: 197

The Project Area Form did not identify any sites associated with the lives of people significant in host town or state history, an assessment difficult to perform without thorough research or local knowledge.

Integrity is generally described as the ability of a historic site to communicate its significance through character-defining features that date to the period of significance. The Applicant's consultants used a two-step process to assess integrity, first assessing built resources then assessing the integrity of associated land. As noted above, only 3 sites without built resources were included in the Project Area Form. Of these, only one site was identified as having potential views of the Project.

Following an assessment of integrity, the Applicant's consultant considered whether the historic sites with potential visibility were historically significant for their landscape, setting, or views. The Project Area Form describes two methods used to determine this landscape based significance for agricultural properties and for historic houses. In addition to providing only a very limited description of a method that is critical to deciding which historic sites are potentially impacted by the Project, Heritage Landscapes finds these examples further highlight the architectural bias contained within the Project Area Form.

The use of architectural details such as bay windows, dormers and porches as primary indicators of a historic consideration of view, landscape and setting unnecessarily restricts a consideration of potential impact to those historic sites originally designed or later modified for aesthetic appreciation of the surrounding landscape or specific views. Hypothetically, using this rubric, a traditional Cape Cod style house may not be considered for potential impact, despite having integrity of setting. The historic importance of setting, landscape or views may have been functional rather than aesthetic and not readily apparent through architectural embellishment.

One example of the Project Area Form architectural bias for determining the significance of views, setting or landscape, is the Adams Homestead (N-41, 148 Nimble Hill Road). The Applicant's consultant determined that it retains integrity, yet the site does not have setting, views or landscape as essential character-defining features. However, the farmstead is placed on local high ground and the farmstead buildings are arranged along Nimble Hill Road while the house facade was clearly oriented toward historic Nimble Hill Road intersection with Fox Point Road. This suggests purposeful placement of the buildings within the landscape and that setting and views are character-defining features of the historic site.

For agricultural landscapes, the Applicant's consultant determined that only sites with "the area associated with their agricultural use" that could "visually demonstrate" agricultural use were considered for potential visual effect from the Project. Based on a review of the Project Area Form Table of Resources, it is unclear whether a visual demonstration of historic agricultural use was interpreted by the Applicant's consultant to include only sites that continue to be actively farmed within the entire historic agricultural boundary.

Despite limited research, the Applicant's consultants suggested whether the significance of each site related to character defining features of "setting, landscape or view," confusing the process of assigning significance with the process of determining integrity of the site. Through this process, a large number of resources with potential historic integrity and possible project visibility were removed from consideration of potential effect.

Determination of why a historic site is significant and how much of the historic character remains should be informed by thorough research. It is not clear if any research was conducted for historic sites not recorded in previous DHR surveys. Historic sites are the product of an interaction between the pre-existing landscape and human action and therefore express consideration of views, topography, and other site and cultural factors. Regardless of whether a site contains architectural details designed for aesthetic appreciation of landscape views, the indirect effects of modern intrusions can impact the integrity of historic sites and their ability to express their historic character for the enjoyment and education of citizens and visitors alike. For this reason, National Register standards for assessing integrity utilize seven aspects including setting, location, association and feeling, regardless of the type or aesthetic goals of the historic design.

4. Avoidance, Minimization and Mitigation

Heritage Landscapes reviewed the Applicant's efforts "*to avoid, minimize, or mitigate potential adverse effects on historic sites and archaeological resources, and the alternative measures considered but rejected by the applicant*" pursuant to Site 301.06 (d). Our review of the Application materials determined that avoidance was not considered and the following methods for minimization are noted:

- Structure color "optimized to blend in with surroundings or mimic existing features" with most of the structures constructed as monopoles with weathering steel to mimic wood.¹⁴
- Undergrounding through UNH Campus along Main Street and beneath the Frink Farm and Hannah Lane.

While the Applicant's Natural Resources report prepared by Normandeau Associates, Inc., indicates efforts were made to first avoid water resources, and then minimize impacts, through "Multiple rounds of preliminary design reviews...between project engineering and environmental specialists," there is no parallel statement of an avoidance-based approach to the initial project design with regard to historic sites.¹⁵ Heritage Landscapes' review finds the Applicant's design was not driven by efforts to avoid historic sites, but did include targeted efforts to minimize impacts as a response to public input. Heritage Landscapes' assessment of the effectiveness of these measures to minimize and mitigate impacts within each host town is provided in Chapter 4.

5. Assessment of Effect

The Applicant's assessment of potential effect derives from a several step process including two preliminary reports, a Project Area Form completed as part of the separate Section 106 process, and the testimony of Cheryllyn Widell. Prior to completing the Project Area Form, Preservation Company produced a Historic Resource Assessment (HRA) for the Seacoast Reliability Project which identified six historic sites with potential adverse effect.¹⁶ Following their review of the

¹⁴ Application p54.

¹⁵ Application Appendix 34, Natural Resource Impact Assessment, Normandeau Associates, Inc., March 2016, p.5; See also Application Appendix 34a, Natural Resource Impact Assessment Amended, Normandeau Associates, Inc., March 2017, p.3.

¹⁶ Preservation Company, Historic Resource Assessment. Obtained through December 2016 data request response to Town of Durham 1-27.

Project Area Form, NH Division of Historical Resources requested that an additional six historic sites be reviewed for potential effect.¹⁷ These sites are listed below.

Potential Adverse Effect Site	HRA Identified	PAF Identified	DHR Identified	Widell Identified
Pickering-Rowe House	X	X	X	
Adams Homestead			X	
Little Bay Cable House	X	X	X	
Stone House Farm		X	X	
UNH Historic District			X	
UNH Woodman Horticultural Farm		X		
B&M Western Division Railroad	X		X	
Gosling Meadows Housing Development			X	
Durham Point Historic District			X	
Newmarket & Bennett Roads District			X	
Pickering Farm	X	X	X	X
Newington Center Historic District	X		X	
Portsmouth Water Dept. Aux. Station	X			

Heritage Landscapes notes a disparity in the number of sites with potential effect identified by DHR to those noted by the Applicant. It is also noteworthy that in the Project Area Form, Preservation Company produced a different assessment of potential adverse effect for three sites than they had stated in their previous report.

Prior to completion of effects assessment for the DHR, the Applicant’s expert consultant, Cheryl Widell, provided testimony that only three historic sites within the Project APE were “likely to have an indirect (visual) adverse effect.” Subsequent to the Amendment undergrounding the Project through the Frink Farm in Newington, Widell supplied amended testimony that only one site, the Pickering Farm will likely have an adverse effect. It is unclear how Widell rendered her judgment of adverse effect, as her testimony does not describe her methods or list guidance she used in her analysis of potential adverse effects.

While a more detailed review of the potential adverse effects to historic sites will occur in Chapter 4, for each town, Heritage Landscapes’ review of the Applicant’s materials finds the assessment of potential effects lacking for several reasons:

1. As a result of using National Register eligibility rather than the SEC definition of historic sites, the capture of historic sites within the APE is lacking.
2. The indirect and direct Areas of Potential Effect may not fully capture the extent of direct and indirect impacts.
3. The focus on architecture and exclusive adherence to National Register eligible properties limited the identification of historic sites and the assessment of potential effect to historic character of landscape level sites.

¹⁷ Nadine Miller letter to Pamela G. Monroe, “Eversource Seacoast; NH Site Evaluation Committee Docket No. 2015-04 (DHR RPR #6528),” November 10, 2016; also addendum dated November 17, 2016.

As a corollary, Heritage Landscapes notes that the only indirect potential effects identified within the Project Area Form, Preservation Company’s earlier Historic Resource Assessment, and Widell’s testimony are visual effects. Similarly, direct effects are not defined in any of these assessments outside of the discussion of disassembling the Little Bay Cable Houses.



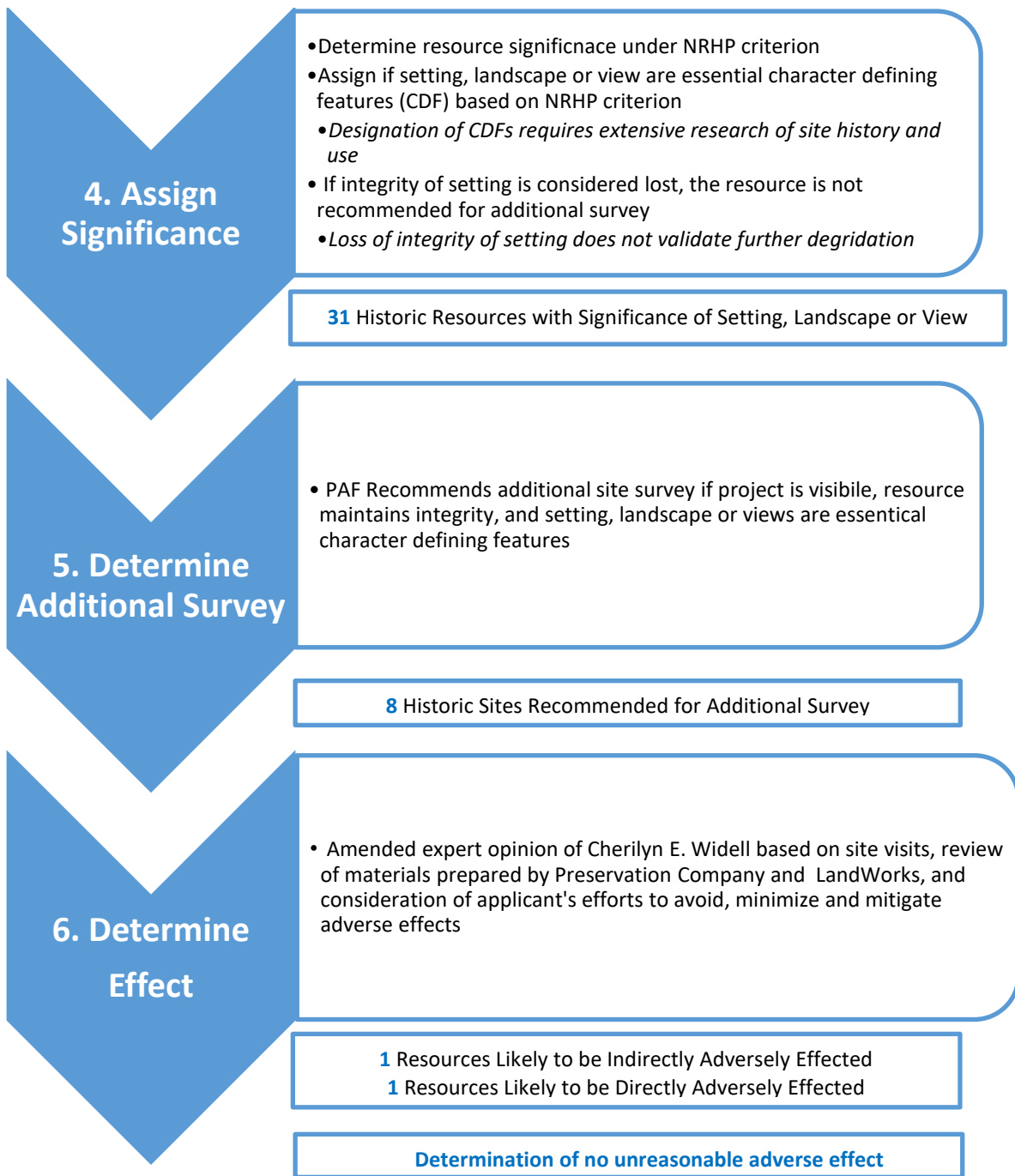


Figure 1. Heritage Landscapes' diagram of Applicant's methods to identify and assess potential impact to historic sites and findings as amended.

C. Review of Applicant's Visual Assessment of Project Impacts to Historic Sites as Scenic Resources

Heritage Landscapes reviewed the Visual Assessment (VA) for the Seacoast Reliability Project prepared by LandWorks to understand the spatial extent of potential visual effects as well as the overall capture of historic sites.

Through their analysis, LandWorks determined that the “greatest’ potential for visual impact” occurred within a 6-mile corridor paralleling the Project centerline.¹⁸ Based on this assessment, Heritage Landscapes questions the adequacy of the 1-mile corridor APE for identifying potential indirect visual effects to historic sites from the proposed Project.

As established in Site 102.45, scenic resources include “historic sites that possess a scenic quality.” The Visual Assessment limited the capture of historic sites to those listed by the State or National Register. LandWorks further narrowed their list of historic sites by including only those listed sites “that have setting included as a feature of their significance.”¹⁹ The Visual Assessment provides no indication of how this was determined.

The Visual Assessment inventory captured 181 scenic resources within the study area, with only one scenic resource, Little Bay Road, ultimately determined to hold potential adverse effect. Following assessment of the amended Project design, LandWorks’ revised assessment determined the undergrounding reduced adverse effects.

In addition to omitting historic sites that have been determined eligible for either State or National Register this approach excludes locally valued historic sites that contribute to the landscape character of local communities. While LandWorks identifies listing as an “official designation” of public value, it should be noted that there is a general reticence to list properties at the state or national level, while historic and culturally valued sites are often held at the community level. The Visual Assessment does incorporate other culturally valued sites such as conserved and recreation lands, public waters and access points, and rivers and roads designated at local, state and national levels. Again, for these site types, those holding a primary use other than scenic appreciation were rated lower, despite the fact that setting may be central to the experience of each site.

The methods of evaluating scenic quality may not fully capture the impacts modern intrusions have on the integrity of historic sites. The Visual Assessment uses criteria for evaluating scenery include: landform, vegetation, water, color, adjacent scenery, scarcity, and cultural modification. These criteria do not translate to integrity and the ability of a site to communicate its significance. Even if the Visual Assessment captured historic sites outside of the 1-mile corridor APE, they would not be meaningfully assessed for impacts to integrity. For example, the Visual Assessment found both Bennett Road and Durham Point Road to have low scenic value, yet notes that both possess high cultural designation as local scenic roads. This cultural value does not translate into a method for identifying the qualitative change to a historic site as a place of meaning and value.

Those historic sites and cultural landscapes that were omitted from the Project Area Form 1-mile corridor APE but captured within the Visual Assessment may not be adequately assessed for potential effects. Historic landscapes, particularly in agricultural areas and historic town centers,

¹⁸ Application Appendix 32, LandWorks. Seacoast Reliability Project Visual Assessment. 2016, p.7.

¹⁹ Application Appendix 32, LandWorks. Seacoast Reliability Project Visual Assessment. 2016, p.9.

may be central to the identity and daily experience of local people however, these sites may not possess the dynamic visual quality that scores highly in scenic assessments. The Visual Assessment provides a brief overview of the evolution of the “human-altered environment” that suggests an awareness of the unique qualities retained by “more natural, rural landscape[s]” and “remnant woodlands and agricultural open spaces, particularly within the river valley and environs” particularly in juxtaposition with spreading urban cores.²⁰ However, Heritage Landscapes’ review of the Visual Assessment rubric for judgements on the quality and variety of the landscape scene do not value these often subtly shaped and small scale sites. Based on this review, the conclusions drawn by the Visual Assessment cannot serve as a historic site assessment for those resources outside of the 1 mile corridor because the Visual Assessment did not fully capture historic sites within the area nor does their methodology account for resource historic integrity.

D. Assessment of Applicant’s Overall Capture of Historic Sites

Review of the Applicants’ materials determines limitations to the number of historic sites identified and assessed for impact. The limited capture resulted primarily from an inadequate indirect APE for historic sites and an architectural focus. Further, the assessment made inconsistent and unnecessarily restrictive decisions on the relationship between buildings and settings and the degree to which each site expressed the significance of that heritage.

While the Visual Assessment considered a broader range of historic and culturally valued sites, and reviewed potential landscape impacts within a more suitable Zone of Visual Influence, its capture of historic sites was limited to listed historic sites. Further, the rubric used to assess scenic quality may not adequately capture important character-defining features of historic landscapes. Heritage Landscapes found the Applicant’s materials suggest a conceptual approach that focuses on what aspects of integrity are missing from each site rather than the aspects of integrity that remain within broader patterns in each host town. While this approach is applicable to nominating specific sites to the National Register, it is not aligned to the SEC process which aims to protect historic and culturally valued sites and areas that continue to express their historic character.

²⁰ Application Appendix 32, LandWorks, Seacoast Reliability Project Visual Assessment, 2016, p.39.

CHAPTER 3. HISTORIC SITES COMPREHENSIVE IDENTIFICATION

A. Introduction

New Hampshire Statutes discuss historic preservation under Title XIX, Public Recreation, providing a statement of Findings and Purpose that serves as a touchstone for SEC consideration of effects to historic sites from energy development. As stated in RSA 227-C:1-a:

I. The general court has determined that the historical, archeological, architectural, engineering, and cultural heritage of New Hampshire is one of the most important environmental assets of the state and that the rapid social and economic development of contemporary society threatens the remaining vestiges of this heritage; therefore, it is hereby declared to be public policy and in the public interest of this state to engage in a comprehensive program of historic preservation to promote the use and conservation of such property for the education, inspiration, pleasure, and enrichment of the citizens of New Hampshire.

Bearing in mind this broad mandate to preserve historic sites, it is important to note efforts by New Hampshire Division of Historical Resources to develop contextual themes that describe key periods in New Hampshire's history and conduct comprehensive surveys have been hampered by chronic budget constraints.²¹ Further limiting efforts to comprehensively identify historic sites is a general reticence to pursue government designation for culturally valued sites, and for historic properties this reticence results in limited National Register listings, while State listings may be slightly more favorably perceived.²²

The SEC Rule Site 102.23 defines "Historic sites" as "any building, structure, object, district, area or site that is significant in the history, architecture, archeology or culture of this state, its communities, or the nation." While the rule includes National Register eligible sites, it clearly provides a more comprehensive capture of sites valued by the people of New Hampshire.

In rendering a finding as to the potential for a project to have unreasonable adverse effects to the New Hampshire landscape, the SEC includes assessment of adverse effects to historic sites and aesthetics including landscape change. SEC rule Site 102.26 defines "Landscape" to mean "the characteristic, visible features of an area including landforms, water forms, vegetation, historic and cultural features and all other objects and aspects of natural and human origin."

To explore a fuller capture of potentially impacted historic and culturally valued sites and landscapes as directed by Site 102.23, and Site 301.14, Heritage Landscapes reviewed text within SEC rules pertaining to historic sites and landscape character and NH Historic Preservation Law for guidance on preserving the heritage of places, areas and objects extending beyond National Register of Historic Places listing or eligibility. As available, data locating these additional historic site types were mapped to understand their distribution within the four Seacoast Reliability Project Host Towns.

²¹ Discussion conducted with Linda Ray Wilson, retired Deputy State Historic Preservation Officer, and James Garvin, retired State Architectural Historian, 9 August 2016, Office of the Public Counsel, Concord NH.

²² As cited above discussion 9 August 2016, Concord NH.

B. Seacoast Historic and Culturally Valued Sites Identification

Heritage Landscapes interprets the SEC Rules and statutes designating historic and culturally valued site types as expressions of the values landscape-based heritage resources hold for the citizens of New Hampshire. To more comprehensively assess the potential Project effects on historic sites (as guided by Site 301.14 (b)(1)), Heritage Landscapes undertook complementary processes of identifying additional historic site types and curating cartographic data sources. This exercise determined the following historic site types to include within a more comprehensive identification of potential Project effects:

- *Historic Graveyards*
- *Conservation Lands*
- *Current Use Properties*
- *Recreation Lands and Sites*
- *Scenic and Cultural Byways and Scenic Roads*
- *Trails*
- *Public Waters and Designated Rivers*
- *Town Identified, Other Historic Sites*
- *Stone Walls and Fences*

For each historic and culturally valued site category listed above, there is a cultural and legislative process that sets land aside, protects sites, and/or develops them for access and use to achieve a positive societal purpose. A discussion of the significance of each historic site type is provided below, as established through state statutes.

1. Historic Graveyards serve as final resting places for relatives and community members, making them respected memorial sites that have been shaped and maintained as cultural landscapes. Graveyard locations are generally selected as places of honor (such as at topographic highpoints such as Newington Town Cemetery or the Pine Hill Cemetery in Dover) and meaning (such as those located on family property in association with natural features or buildings). Often the boundaries and character of historic graveyards are shaped through use of stone walls, wrought or cast-iron fencing, orientation of the graveyard to historic roads or natural features, and use of vegetation as screens or focal features. Throughout the four Project host towns, historic graveyards remain important memorial sites and serve as contributing features of historic farmstead and civic landscapes within the four towns.

The New Hampshire laws provide guidance for historic graveyards as cultural resources and historic sites deserving respect and preservation, as well as offering opportunities for learning about New Hampshire's past. RSA 227-C:1-a seeks to protect unmarked burials which may be located in historic walled or fenced graveyards when grave markers have been lost over time, or may be located in other areas less substantially defined. The importance of managing these historic sites is set forth in RSA 227-C:12-a which establishes a commission on historic burying grounds and cemeteries to make recommendations, as outlined in section IV:

On the establishment and criteria for a New Hampshire state register of historic burying grounds and cemeteries, including their markers, walls, gates, and other associated and identifying features and artifacts that are meaningful to the history, historic landscape, cultural, religious, craft, and architectural traditions of the state.

(c) Concerning the protection of property owners, and owners of contiguous or surrounding properties, with respect to a listed property.

(d) On the persons permitted to nominate a state historic burying ground or cemetery for a state register in accordance with RSA 289.

(e) Concerning notice to potentially interested parties for proposals that affect burial grounds, and the adoption of a "public good" standard.

2. Land Conservation sets aside diverse land covers and uses including forests, open spaces, and farm lands, to benefit the broader public by protecting historic and existing shaped and natural landscapes from development and providing access.

Heritage Landscapes notes that land conservation is a purposeful management act that expresses an appreciation of places holding meaning and identity. The process of land conservation is a societal act that involves decision-making and funding from private and public sources.

Land conservation and public access to conserved sites is deeply valued in New Hampshire and conserved parcels often exemplify the SEC definition of historic sites as having both historic and cultural value.²³ Master Plans within the four host towns state the importance of land conservation for preservation of rural landscapes, retention of historic fabric and atmosphere and to provide public recreation.

Several state statutes also establish the significance of conservation including RSA 162-C:6, which clearly captures the value of public land conservation to New Hampshire:

In order to maintain New Hampshire's distinctive quality of life, strong economic growth must be balanced with responsible conservation initiatives, and that the history of conservation in New Hampshire has been marked by cooperation among government, business, individuals, and conservation organizations. The general court further recognizes the strong traditions of both public and private land ownership and use, and the need to respect investments in the conservation of natural resource lands in the state for the perpetual use of the people of New Hampshire. In addition, the general court recognizes that the land conservation investment program was undertaken, in part, with significant donations of cash and land value by citizens of the state who intended that the conservation value of these lands be protected in perpetuity.

The role of land conservation as an expression of cultural value and means of preserving historic character is exemplified by the correlation of conserved land parcels with identified historic sites. As shown on the Town Maps, conserved lands within the Project corridor are clustered in significant areas of heritage valued by local residents. Examples include conservation areas along Perkins Road; in Durham, this is exemplified by conserved lands along historic Durham Point Road and the Bennett and Newmarket Roads Historic District and the conserved lands surrounding Wagon Hill Farm and the National Register listed Folsom's Tavern.

Forests are a core component of New Hampshire land conservation, providing cultural landscapes actively stewarded and managed across decades and generations. In addition to actively managed productive forests, conservation lands include natural areas that protect native and rare species,

²³ Identified as Theme #135-"The land conservation movement in New Hampshire," on NH Architectural Survey Manual, Appendix C, Historic Contexts. Online. <http://www.nh.gov/nhdhr/programs/survey.htm>.

and reflect cultural values and traditions including hunting, gathering and nature-based recreation. Notable conserved forest lands within the host towns include the Pudding Hill Town Forest,²⁴ Newington Town Forest, and Powder Major's Farm and Forest.²⁵

RSA 31:110 authorizes municipalities to establish town forests to serve multiple productive uses as set forth in RSA 31:111 to include "proper management of timber, firewood and other natural resources through planting, timber stand improvement, thinning, harvesting, reforestation, and other multiple use programs."

In 2000 the state expressed the multi-faceted value of landscape conservation through creation of the Land and Community Heritage Investment Program (LCHIP). An independent state agency, LCHIP provides guidance and grant assistance for landscape conservation to acquire resource assets. RSA 227-M:1 established the program:

"to conserve and preserve this state's most important natural, cultural, and historic resources through the acquisition of lands, and cultural and historic resources, or interests therein, of local, regional, and statewide significance, in partnership with the state's municipalities and the private sector, for the primary purposes of protecting and ensuring the perpetual contribution of these resources to the state's economy, environment, and overall quality of life."

As stated on the LCHIP website, through partnerships with local municipalities and non-profits, the open space acquisition program has protected over 283,000 total acres, and preserved or revitalized 218 historic structures since inception in 2000. During this time LCHIP has provided 376 grants totaling \$37 million that "positively impacted 150 New Hampshire communities."²⁶

3. Current Use is a *de facto* method of land conservation process by which landowners maintain open lands in productive, undeveloped, use for a reduced tax rate. The purpose of the Current Use Assessment of lands is to aid in the conservation of open lands for cultural, aesthetic, and natural resource benefits. The valuation reduces tax on current use acreage to enable landowners to keep their land undeveloped. Landowners can achieve an additional 20% tax reduction by providing public access to their current use acreage.

RSA 79-A, enacted in 1973, provides the framework for this approach to open land conservation in RSA79-A:1, Declaration of Public Interest:

It is hereby declared to be in the public interest to encourage the preservation of open space, thus providing a healthful and attractive outdoor environment for work and recreation of the state's citizens, maintaining the character of the state's landscape, and conserving the land, water, forest, agricultural and wildlife resources. It is further declared to be in the public interest to prevent the loss of open space due to property taxation at values incompatible with open space usage. Open space land imposes few if any costs on local government and is therefore an economic benefit to its citizens. The

²⁴ The Pudding Hill Town Forest appears visible in a 1918 USGS Map used in the Applicant's Project Area Form, p 137. Though truncated, a full version of the map can be located online through UNH.

²⁵ Protected in February 2017, the property preserves both natural and historic resources.

²⁶ New Hampshire Land & Community Heritage Investment Program, Welcome, at <http://www.lchip.org> (visited June 7, 2017).

means for encouraging preservation of open space authorized by this chapter is the assessment of land value for property taxation on the basis of current use. It is the intent of this chapter to encourage but not to require management practices on open space lands under current use assessment.

RSA 79-A:2 Definitions

V. "Current use value" means the assessed valuation per acre of open space land based upon the income producing capability of the land in its current use solely for growing forest or agricultural crops, and not its real estate market value. This valuation shall be determined by the assessor in accordance with the range of current use values established by the board and in accordance with the class, type, grade and location of land.

VI. "Farm land" means any cleared land devoted to or capable of agricultural or horticultural use as determined and classified by criteria developed by the commissioner of agriculture, markets, and food and adopted by the board.

VII. "Forest land" means any land growing trees as determined and classified by criteria developed by the state forester and adopted by the board. For the purposes of this paragraph, the board shall recognize the cost of responsible land stewardship in the determination of assessment ranges.

VIII. "Land use change tax" means a tax that shall be levied when the land use changes from open space use to a non-qualifying use.

IX. "Open space land" means any or all farm land, forest land, or unproductive land as defined by this section. However, "open space land" shall not include any property held by a city, town or district in another city or town for the purpose of a water supply or flood control, for which a payment in place of taxes is made in accordance with RSA 72:11.

The land use change tax rules are stringent in that once land is accepted into the current use program it remains, with a change penalty providing a strong disincentive. Landowners removing acreage from current use are required to pay 10% of the land value as a penalty. Former Governor, Walter Peterson (1979-1983), provided introductory remarks published in "A Layperson's Guide to New Hampshire Current Use," that described the purpose and successes of the current use statute by 2007:²⁷

"Today, nearly 3 million acres (almost 60% of the state's taxable private land) are enrolled in the program by some 27,000 landowners. Contrary to popular notions, the average family with land in current use has below average median household income. For these and many other New Hampshire landowners, current use is the vital means by which they can afford to keep their lands.

²⁷ Statewide Program of Action to Conserve our Environment, "A Layperson's Guide to New Hampshire Current Use," 2007, located at <http://newenglandforestry.org/wp-content/uploads/2016/04/CurrentUseLaypersonsGuide.pdf>.

Current use has worked well to achieve its original purpose. And, while not without occasional legislative tinkering, the law has remained remarkably similar to the original law passed in 1973. This is no accident; our lawmakers understand and have strongly supported current use taxation over the years.

In a state where tourism is an important component of the economy, it's important to reflect on the value of fair taxation of undeveloped land. The rural scenery—the farm vistas and forested country roads, appreciated by visitors and residents alike—is testament to the foresight of leading citizens and lawmakers a quarter century ago.”

This 2007 Guide published by the Statewide Program of Action to Conserve our Environment (SPACE) notes that 82% of lands in current use taxation are individual or family owned, adding quantitative support to historic themes documented by the NH Division of Historical Resources on the importance of mixed agriculture and the family farm to the development of New Hampshire from 1630 to present.²⁸ Over half of New Hampshire acreage is listed under current use taxation, with just under half of those acres providing public access.²⁹ Guided by the statutes, current use lands are predominantly productive lands, subject to stewardship and actively managed as cultural landscapes in forest and farm uses. These lands were identified as 87% forest, 7% farm, 3% wetlands and 3% unproductive.

As intended by RSA 79, these lands often maintain historic land use patterns, thereby contributing to the preservation of broader cultural landscapes within New Hampshire. However, no comprehensive mapping of current use lands exists to identify their location in relationship to the proposed Project. Summary lists from State reports provide useful insight into the proportion of town lands that are maintained by citizens as open, undeveloped landscapes, which are included in Chapter 4, Town Summaries.

4. Recreation Lands provide the public opportunities for outdoor activity, and interaction with the landscape. The people of New Hampshire broadly engage in outdoor recreation, keeping alive historic traditions.

RSA 216-A:2 addresses a core category of recreation lands, State Parks, by stating

It is the intent of the general court that a comprehensive state park system shall be developed, operated, and maintained to achieve the following purposes in order of the following priority:

- I. To protect and preserve unusual scenic, scientific, historical, recreational, and natural areas within the state.
- II. To continually provide such additional park areas and facilities as may be necessary to meet the recreational needs of the citizens of all regions of the state.
- III. To make these areas accessible to the public for recreational, education, scientific, and other uses consistent with their protection and preservation.
- IV. To encourage and support tourism and related economic activity within the state.

²⁸ Identified as Theme #51, “Mixed agriculture and the family farm, 1630-present,” on NH Architectural Survey Manual, Appendix C, Historic Contexts. Online. <http://www.nh.gov/nhdhr/programs/survey.htm>

²⁹ State of New Hampshire Department of Revenue Administration, “Current Use Report: Acreage, Percentages & Other Statistics,” 2015.

As noted through review of the New Hampshire Division of Historical Resources Historic Contexts list, outdoor recreation has been an important driving force in the shaping of New Hampshire economy, landscape and culture. This began in the 1870s with boarding house tourism, later followed by summer and vacation home tourism beginning in 1880 which continues to present along with a general focus on outdoor activities.³⁰

5. Scenic and Cultural Byways and Scenic Roads offer pleasing and informative landscape experiences across the state. The designation of scenic quality at the town, state or national level is a societal act and based on the quality of the experience of traversing that road. Scenic and Cultural Byways are state designated roads designated under a program established by RSA 238:19 to:

“...provide the opportunity for residents and visitors to travel a system of byways which feature the scenic and cultural qualities of the state within the existing highway system, promote retention of rural and urban scenic byways, support the cultural, recreational and historic attributes along these byways and expose the unique elements of the state's beauty, culture and history.”

Scenic Roads are locally designated at the town level, as authorized by RSA 231:157. The purpose of the scenic road statute is to “encourage the tourist attractiveness of our scenic roads in our towns and permit the retention of trees and stone walls so characteristic of our New England scenery” (RSA 231:157). This statute also controls impacts to the scenic character of the road and adjacent landscape. Specifically, the statute requires planning board approval for cutting or removal of trees over 15 inches in diameter or the tearing down or destruction of stone walls.

Often located along historic routes that have persisted over decades Scenic Roads provide unique experiences of New Hampshire historic character, Scenic Roads offer views to cultural and natural landscapes, traverse routes dotted with historic structures and lined by stone walls. There are numerous scenic roads within the proposed Project corridor which the Project will cross. Following the amended design, the Project is planned to be undergrounded beneath four scenic roads in Newington, but the overhead sections are still proposed to cross Fox Point Road and Gosling Road in Newington and Durham Point Road in Durham.³¹

6. Public Trails are human shaped landscape features, established historically and in modern times for transport and recreation through a variety of modes including on foot, bike, horseback, ATV, and snowmobile.

Outdoor recreation has been widely enjoyed by residents and visitors alike from the historic period to present, with recreational trail development beginning in New Hampshire in the early 1800s.³² Some contemporary roads may also retain even earlier trail patterns established by indigenous groups.

³⁰ Identified as Theme #72, “Boarding house tourism, 1875-1920;” #73, “Summer and vacation home tourism, 1880-present;” #78, “Outdoor recreation in New Hampshire,” on NH Architectural Survey Manual, Appendix C, Historic Contexts. Online. <http://www.nh.gov/nhdhr/programs/survey.htm>.

³¹ Application Amendment Appendix 43, Normandeau Associates, “Review of Land Use and Local and Regional Planning: The Seacoast Reliability Project,” October 2016 Revision, p.10.

³² Crawford Path, constructed 1819 by Abel Crawford, is identified by the White Mountain National Forest as the oldest continuously used mountain trail in America.

RSA 216-F establishes a statewide trail system and authorizes state acquisition of lands for expansion, noting:

The trails within the system shall be held, developed and administered under this chapter primarily as recreational trails for hiking, nature walks, bird watching, horseback riding, bicycling, ski touring, snowshoeing, snowmobiling, mushing, and off highway recreational vehicles and the natural scenic beauty thereof shall be preserved insofar as is practical; provided, however, that the commissioner may permit uses of trails and land acquired hereunder, by the owner of adjoining land or others, in such a manner and at such seasons as will not substantially interfere with the primary use of the trails. Use of motorized devices by mushers shall be limited to trails designated as appropriate for motorized use.

Trails occur in the Project area, under authorization provided by RSA 231-A for towns to acquire land and establish trails for public access. These trails may use historic circulation routes or otherwise provide access to conserved historic landscapes. Examples include the trails at Wagon Hill Farm, and trails through historic conservation and agricultural landscapes maintained by the University of New Hampshire in Madbury (Kingman Farm) and Durham (East Foss and West Foss Farms).

7. Public Waters and Designated Rivers are character-defining features of the landscape, shaping historic and contemporary land use. Within the Project area, small brooks, the Piscataqua, Oyster, and Lamprey Rivers as well as the Little Bay have played central roles in the history of the four host towns, continuing to serve as culturally important and character-defining features of town landscapes. As such, these water features are considered by Heritage Landscapes a necessary site type to be included within the review of the proposed Project effects on historic sites. A subset of these waters are designated by the State as “public waters” and are held in trust for the people of New Hampshire. Among these are “great ponds,” public rivers and tidal waters.³³

These public waters are established and protected through state statutes which outline the values and uses for these features. Public waters in New Hampshire are defined as great ponds (natural waterbodies of 10 acres or more in size), public rivers and streams, and tidal waters. These common law public waters are held by the State in trust for the people of New Hampshire. Private property owners generally hold title to the land underlying freshwater rivers and streams, and the State controls an easement over this land for public purposes.³⁴

RSA 483-A establishes the Lakes Management and Protection Program and RSA 483-A:1 details the biological, social and economic value of lakes as state assets:

New Hampshire's lakes are one of its most important natural resources; vital to wildlife, fisheries, recreation, tourism, and the quality of life of its citizens. It is the policy of the state to insure the continued vitality of New Hampshire lakes as key biological, social, and economic assets, while providing that public health is ensured for the benefit of

³³ New Hampshire Department of Environmental Services, “Public Waters/Great Pond Program,” 2017. http://www.des.nh.gov/organization/divisions/water/dam/public_waters/index.htm

³⁴ *Official List of Public Waters*, New Hampshire Department of Environmental Services Water Division, Revised July 29, 2016. Online. <http://www.des.nh.gov/organization/commissioner/pip/publications/wd/documents/olpw.pdf>

present and future generations. The state shall encourage and assist in the development of management plans for the waters as well as the shoreland to conserve and protect valued characteristics, including recreational, aesthetic, and those of community significance, so that these valued characteristics shall endure as part of lake uses to be enjoyed by the citizens of New Hampshire. If conflicts arise in the attempt to protect the valued characteristics of a lake, priority shall be given to those characteristics that are necessary to meet state water quality standards.

Pursuant to RSA 4:40-a, the state holds title to the bed and water of a lake to provide the public opportunities for appropriate, non-degrading public uses. Legal decisions have confirmed the right for “any member of the public may exercise a common law right to boat, bathe, fish, fowl, skate and cut ice in and on its public waters.”³⁵

The importance of rights of access to public waters are further established in RSA 233-A:1 and A:2 which establish a public water access advisory board to “Advise and monitor state agency public access efforts including the statewide public boat access program.” This statute specifically notes the importance of boat access to public waters, in Section A:2-e, while RSA 233-A:3 establishes the Statewide Public Boat Access Program clearly stating the program goal of acquiring, constructing, restoring, maintaining and operating “new and existing public boat access areas.”

Retaining the quality and character of shoreline as well as the character of scenery along the waterway is also important to the state of New Hampshire, as evidenced by the Shoreland Protection Act, RSA 483-B:1, a statute that delineates both values and shoreline treatment in its statement of purpose:

I. The shorelands of the state are among its most valuable and fragile natural resources and their protection is essential to maintain the integrity of public waters.

I-a. A natural woodland buffer, consisting of trees and other vegetation located in areas adjoining public waters, functions to intercept surface runoff, wastewater, subsurface flow, and deeper groundwater flows from upland sources and to remove or minimize the effects of nutrients, sediment, organic matter, pesticides, and other pollutants and to moderate the temperature of the near-shore waters.

I-b. Scientific evidence has confirmed that even small areas of impervious surface coverage can have deleterious impacts on water quality and the aesthetic beauty of our lakes and rivers if not properly contained or managed within each watershed. These impacts are known to reduce recreational opportunity, reduce property values, and pose human health risks.

II. The public waters of New Hampshire are valuable resources held in trust by the state. The state has an interest in protecting those waters and has the jurisdiction to control the use of the public waters and the adjacent shoreland for the greatest public benefit.

III. There is great concern throughout the state relating to the utilization, protection, restoration and preservation of shorelands because of their effect on state waters.

IV. Under current law the potential exists for uncoordinated, unplanned and piecemeal development along the state's shorelines, which could result in significant negative impacts on the public waters of New Hampshire.

³⁵ *Whitcher v. State*, 87 N.H. 405, 409 (1935).

Efforts to control human degradation of public waters provided in state statute indicates the cultural value these landscapes hold in addition to their natural resource values.

In addition to public waters, the State designates rivers as holding particular natural and/or cultural values. Designated Rivers are administered by the New Hampshire Rivers Management and Protection Program for purposes set forth in RSA 483:1 Statement of Policy:

New Hampshire's rivers and streams comprise one of its most important natural resources, historically vital to New Hampshire's commerce, industry, and tourism, and the quality of life of New Hampshire people. It is the policy of the state to ensure the continued viability of New Hampshire rivers as valued ecologic, economic, public health and safety, and social assets for the benefit of present and future generations. The state shall encourage and assist in the development of river corridor management plans and regulate the quantity and quality of instream flow along certain protected rivers or segments of rivers to conserve and protect outstanding characteristics including recreational, fisheries, wildlife, environmental, hydropower, cultural, historical, archaeological, scientific, ecological, aesthetic, community significance, agricultural, and public water supply so that these valued characteristics shall endure as part of the river uses to be enjoyed by New Hampshire people. If conflicts arise in the attempt to protect all valued characteristics within a river or stream, priority shall be given to those characteristics that are necessary to meet state water quality standards.

This purpose clearly states the intent to conserve and protect outstanding characteristics which include historical, scenic, and natural aspects of these cultural landscapes. As stated in RSA 483:2, a statute establishing the Rivers Management and Protection Program, "It is also the intent of the legislature that, through said program, the scenic beauty and recreational potential of such rivers shall be restored and maintained, that riparian interests shall be respected."

Rivers can be designated according to four classifications: Natural, Rural, Rural-Community and Community Rivers. These designations recognize range of factors shaping rivers reflecting human modification into cultural landscapes, and purposeful decisions to retain rivers in an uninterrupted and natural state. Within Durham, the Oyster River is designated a Community River.³⁶

8. Town Identified Resources

As noted in the introduction to this chapter, many of New Hampshire's important places have not yet been captured by state historic sites surveys. Some sites may not retain integrity for inclusion on State or National lists, but continue to hold historic and cultural importance to local communities, especially when considered within the broader, town-level context. To capture additional historic sites identified by local communities, Heritage Landscapes reviewed available master plans for Madbury and Durham to locate sites documented by the towns which were not included in the Applicant's Project Area Forms. Added to this capture are historic sites identified in non-historic state data layers such as recreation sites and other named entities.

³⁶ New Hampshire Department of Environmental Services, Designated Rivers. Online. <http://www.des.nh.gov/organization/divisions/water/wmb/rivers/designriv.htm>

9. Stone Walls and Fences define historic field and property boundaries, providing a pervasive reminder of New Hampshire cultural and geological heritage. Impacted by theft and construction, stone walls have been called a “hallmark” of the New Hampshire landscape.³⁷

Statutory protection for stone walls is provided by RSA 539:4 “Stone, Etc.”

Whoever shall willfully and unlawfully dig or carry away any stone, including stone from a stone wall, ore, gravel, clay, sand, turf, mold, or loam upon or from land holden in common or from the land of another person, or shall aid therein, shall forfeit to the person injured treble damages based on the cost of materials and restoration, and including attorney's fees and costs.

A commentary by State Architectural Historian James L. Garvin notes the law was amended in 2009 to update the language on punishments. Originally written in 1791, the law and subsequent updates speaks to the enduring importance stone walls have as character defining features of the New Hampshire landscape.³⁸

Stone walls occur widely throughout the four host towns, lining narrow historic roads and defining historic property lines and fields remaining as testament to agricultural past even in areas where open fields have given way to successional woodland. Despite the pervasiveness of these stone walls, they are not well mapped. Through data request, Heritage Landscapes obtained a file of stone wall locations from the Applicant.

C. Seacoast Historic Sites Cumulative Mapping

The Applicant’s Visual Assessment found that “the area with the ‘greatest’ potential for visual impact” was a 6-mile corridor parallel to the Project centerline,³⁹ which Heritage Landscapes considers a more appropriate study area in which to identify historic sites. As discussed in Chapter 2, Site 301.06 (b) references 36 C.F.R 800.16(b) to define the APE for SEC review of potential effects to historic sites.

As directed by SEC rules requiring a full identification of historic sites, and supported by the Applicant’s determination that a 6-mile corridor contained the greatest potential indirect impact, Heritage Landscapes cumulatively mapped available historic site data for the four Project host towns. The town boundaries roughly coincide with the 6-mile corridor zone greatest visual impact corridor, and provide a clear demarcation for additional site inventory.

Data sets obtained during the statutory review process, described above in Section A, were combined with additional data sets and mapped to illustrate the overall distribution of each historic site type within the four host towns. The maps include an overlay of the Applicant’s viewshed model to graphically depict the potential extent of impacts to each mapped historic site category.

³⁷ Reed Clark, as quoted in Terry Date, “New law protects stone walls,” Eagle Tribune, August 6, 2009. Online. http://www.eagletribune.com/news/local_news/new-law-protects-stone-walls/article_d1d2c811-a3e4-5653-af1a-1895d4fa5c9b.html

³⁸ Garvin, James L. “1791 Law Amended to Protect Stone Walls,” New Hampshire Division of Historical Resources. Online. http://www.nh.gov/nhdhr/publications/documents/stone_wall_legislation.pdf

³⁹ Application Appendix 32, LandWorks, “Visual Assessment for the Seacoast Reliability Project,” April 2016, p.71.

The categories Heritage Landscapes selected as historic and culturally valued sites include the following mapped data sets:

- *National and State Listed properties, Map HL1*
- *Determined Eligible, Town Identified, Other Historic, Map HL2*
- *Historic Graveyards, Map HL3*
- *Stone Walls and Fences, Map HL3*
- *Conservation Lands, Map HL4*
- *Current Use Properties, no mapping available*
- *Recreation Lands and Sites, Map HL4*
- *Scenic and Cultural Byways and Scenic Roads, Map HL5*
- *Trails, Map HL5*
- *Public Waters, Designated Rivers, Access Points, Map HL6*

Data was obtained primarily from New Hampshire GRANIT GIS data clearinghouse. National Register Data was obtained through the National Park Service-managed National Register Information System database. Additional data on stone wall and fence locations was provided by the Applicant, while additional data on State listed and eligible sites was digitized by Heritage Landscapes using site listings provided by NH Division of Historical Resources.

Mapping was performed in ArcGIS, an industry standard geographic information systems software, in order to graphically represent patterns of distribution and density of historic sites within the host towns. ArcGIS was also used to count the number of each historic site category that is potentially visible within each host town.

As introduced above, the 11x17 map series of historic site categories, accompanies this chapter in Appendix 1, showing the distribution of each category and potential throughout the four host towns. Heritage Landscapes put forth a reasonable, though not exhaustive effort to remove duplications within overlapping data sets. A second map series contained in Appendix 2 depicts the clustering of these data types at the town level, serving as visual reference for the Town Summaries in Chapter 4.

A description of data sources and presence of each historic site type within the Project towns is provided below. Review of overlap between the Applicant's viewshed model and each data type produced a summary chart listing the number of potentially visible historic sites within the four towns, by historic site category.

1. Historic Graveyards (Map HL3)

Data Source: NH GRANIT (layer graveptnh)

Notes: Historic burial grounds were identified by the NH Old Graveyards Association for six of ten counties, covering the four Project host towns.

2. Conservation Lands (Map HL4)

Data Source: NH GRANIT (layer consnh, update May 2016)

Notes: This data set consists of parcels two-acres or larger of generally undeveloped land. These parcels may be protected by easement limiting or eliminating future development or lands owned and/or stewarded by a public group, agency or institution intending to retain and manage the land for recreation, conservation, or educational purposes.

3. Current Use Lands

No mapping data available. Current Use report provides data including acreage in current use for each town.

4. Recreation Lands, Parks (Map HL4)

Data Source: NH GRANIT (layers nhrec_points, nhrec_poly)

Notes: Heritage Landscapes sorted the recreation data sets to extract entries on that list that relied on landscape or a landscape setting for the recreation experience, eliminating indoor or event focused recreation sites. Data was extracted from Granit recreation layers according to "Primary Use" attribute to include values such as natural area, trail area, fishing, picnic, swimming, and scenic road. Data includes private lands, local state and federal lands. The data set contains overlap with Conserved Public lands, layering land use values.

5. Scenic and Cultural Byways and Scenic Roads (Map HL5)

Data Source: NH Granit Public Road layer (roads_dot), Official Map of National Scenic and Cultural Byways (NH DOT), Town Master Plans.

Notes: Digitized by Heritage Landscapes using the above listed data sources.

Mills Scenic Byway traverses Durham, Madbury and Rollinsford. Town of Madbury has also designated two additional scenic roads, Nute Road and Cherry Lane, neither holding potential views to Project.

6. Trails (Map HL4)

Data Source: NH GRANIT (layers nhtrails)

Notes: Listed trail uses include hiking, skiing, snowmobile and ATV.

7. Public Waters, Designated Rivers and Public Access Points (Map HL4)

Data Source: NH GRANIT (layers nh_access_sites), NH Dept of Environmental Services Official List of Public Waters), National Hydrography Dataset

Notes: Designated Rivers layer digitized by Heritage Landscapes.

Each of the four host towns contains linear corridors and wider bodies of public waters listed as public waters by the state to include:⁴⁰

Madbury – Barbadoes Pond, Bellamy Reservoir Dam, Bellamy River outflow of Bellamy Reservoir; Oyster River, Juncture of DUBY Brook.

Durham – Durham Reservoir, Moat Island Pond; Lamprey River Designated Segment from Epping/Lee Town Line to the Durham/Newmarket Town Line, Lamprey River (Juncture Of Nicholls Brook In Deerfield), Bellamy River (Outflow Of Bellamy Reservoir In Madbury), Oyster River (Juncture Of DUBY Brook In Madbury).

Newington – Peeverly Brook Pond, Piscataqua River.

⁴⁰ *Official List of Public Waters*, New Hampshire Department of Environmental Services Water Division, Revised July 29, 2016. Online.
<http://www.des.nh.gov/organization/commissioner/pip/publications/wd/documents/olpw.pdf>.

Portsmouth – North Mill Pond, South Mill Pond, Tidal Waters of Piscataqua.

Designated Rivers – Madbury (Oyster), Durham (Oyster, Lamprey, Piscassic, Upper Narrows).

Reaches of the Oyster River through Durham, including through the Durham Historic Town Center have potential views.

8. Town Identified Resources (Map HL2)

Data Source: Town Master Plans

Notes: mapped by Heritage Landscapes by location

9. Stone Walls and Fences (Map HL3)

Data Source: Applicant Data Request

Notes: Applicant mapped stone walls and fences

D. Comprehensive Capture of Historic Sites Summary

Alignment to the purpose, intent and guidance provided by the New Hampshire statutes and the SEC rules guided this process of identification of historic and culturally valued sites town-level studies. Mapping indicates that within the four host towns, diverse historic sites are located to include those listed in the following:

Historic Site Cultural Landscape Category	Count or Measure Potentially Visible
National Register/State Listed	26
Local, DOE, other non-listed historic	8
GNIS Identified Historic	9
Historic Graveyards	50
Conservation Lands	87
Recreation Lands- Sites	12
Recreation Lands- Areas	13
Scenic Roads	15.4 miles
Trails	3.5 miles
Public Waters - Lakes or Ponds	12
Designated Rivers	4.3 miles
Public Waters Access Points	5

Heritage Landscapes finds that the SEC Rules suggest a broader consideration of historic sites that are important to the history and culture of the four host towns. Review of New Hampshire statutes identified categories of historic and culturally valued resources codified within state statutes and rules. Heritage Landscapes mapped the occurrences of these sites, as available, along with stone wall data from the Applicant to create a more comprehensive understanding of proposed project impacts to historic sites which continue to express an association to the Seacoast historic past. The resulting town level maps of historic sites, provided in Appendix B, display a density of culturally valued sites within the 6-mile zone of greatest visual impact, which will be discussed in Chapter 4.

CHAPTER 4. HOST TOWN HISTORIC COMPREHENSIVE MAPPING & STUDY SITES

A. Introduction and Town Level Assessment Methods

As discussed in Chapter 2, Heritage Landscapes understands the New Hampshire SEC definition of “historic site” to include categories of historic sites beyond those considered by the Applicant. Similarly, as discussed in the Applicant’s Visual Assessment, the possibility for Project views extend well beyond the 1-mile corridor APE used to identify historic sites. To provide a more comprehensive enumeration of historic sites potentially impacted by the proposed Project, Heritage Landscapes mapped additional historic site data for each host town. These data were combined with Applicant’s capture of historic sites and stone walls and overlaid by the Applicant’s viewshed model to provide a more comprehensive capture of potentially impacted historic sites. The town level mapping more closely corresponds to the full extent of potential zone of visual influence while also providing a more detailed assessment of resources within the host towns that will experience the greatest degree of potential effect. Additional information was compiled to inform town-level assessment, to include:

- Relevant town planning or zoning excerpts from the four towns addressing values and intent to preserve and protect historic, scenic and natural resources and cultural landscapes of their community;
- Applicant identified potential visual impacts for identified historic properties;
- Comparison of Applicant’s one-mile corridor APE and overall town-wide Listed or DOE historic resources; and
- List and counts of Heritage Landscapes identified historic sites and cultural landscapes on town summaries.

Town planning documents for each of the four host town communities reference the importance of scenic, historic, and environmental resources. While portions of each document focus on preservation of historic architectural resources, each of the four towns place priority in maintenance of small town community character as described through agricultural landscape, views, and overall feeling.

Experience of the historic landscape in these four towns is shaped by the alignment of narrow roads, and the scale of buildings and objects, retention of historic land divisions as evidenced through stone walls, and the location of different land uses in relationship to natural landforms. While these experiential dynamics are more difficult to quantify, they are central to community character and are most at risk of disturbance by the proposed project.

By highlighting excerpts of town master plans in each of the host town summaries below, we focus attention on priorities of preservation beyond the limited scope of study pursued by the Applicant. Similarly, Heritage Landscapes identified the percentage of town land listed in current use. While these data are unmapped, they further an understanding of citizen efforts to retain the existing landscape character and historic patterns of land use.

Field Review

To develop a general understanding of landscape character and examine specific resources and points of impact more closely, Heritage Landscapes conducted field review of the four host towns in the fall of 2016 and spring of 2017. Field review objectives include:

- Review sites and targeted areas identified in both Applicant's project area forms and visual assessment of scenic resource study. The presence of sites or areas within both of these reports suggest that individual historic sites are situated within a landscape context that retains an easily perceived historic character with scenic value;
- Overall review of towns along corridor to understand landscape character;
- Site reviews to understand site components, organization and orientation to project; and
- Select review of sites included in PAF but not assessed because out of their APE, most notably Madbury Town Center.

Desktop Review

Heritage Landscapes conducted a desktop review to gain clarity on the Applicant's assessment process, determine visibility within areas and from selected sites, and evaluate the effectiveness of avoidance and minimization efforts.

The town-level desktop review began by reviewing the Applicant's assessment of integrity, visibility, and area of significance for each historic site identified in the 1-mile corridor APE. This review sought understanding of the Applicant's decision-making process to determine site integrity; the degree to which landscape was considered within site assessment; and the nuanced strategy employed by the Applicant to determine whether historic sites derived significance from landscape, setting, or views.

Geographic relationships between Project structures and identified resources were reviewed using Applicant provided site maps, Google Earth, and ArcGIS. Applicant provided materials and additional resources were selectively reviewed for potential direct and indirect impacts by identifying sites located within the viewshed map. In general, Applicant's determination of Project visibility was taken at face value and Heritage Landscapes targeted a subset for closer review, focusing instead on broader patterns of direct and indirect effects rather than a site-by-site evaluation. Sites the Applicant identified as both retaining integrity and deriving significance from setting, landscape, or views, were among those selected for closer review using viewshed mapping, Google Earth, and informed by field review.

In addition to desktop review of the Applicant's identified sites, Heritage Landscapes augmented assessment of town character gained through field review. To enhance understanding of town character, community landscape values, and additional historic sites, Heritage Landscapes reviewed publicly available municipal planning documents. These master plans and other land use guidance documents were consulted to understand community priorities and to confirm Applicant provided assessments of resource significance.

Informed by field review, Heritage Landscapes assessed the effectiveness of measures proposed by the Applicant to avoid, minimize or mitigate unreasonable adverse effects on historic sites as guided by Site 301.14 (b)(5).

Mapping and Enumeration

Using data available online from the New Hampshire GIS clearinghouse, GRANIT, and data collected from several other sources noted within the document, Heritage Landscapes created town level

maps to graphically assess the distribution and density of historic and culturally valued sites within each host town that may be impacted by the proposed Project. Existing GIS layers were minimally processed to remove obvious instances of duplicated resources between layers and to extract data pertinent to this study. Additional data was digitized to capture Designated Rivers and historic sites Listed or Determined Eligible by the State of New Hampshire.

A second series of maps (HL A-D) shows the clustering of all mapped historic site types within each host town, listed below:

- HL-A, Town of Madbury
- HL-B, Town of Durham
- HL-C, Town of Newington
- HL-D, City of Portsmouth

Tables were prepared from the GIS maps enumerating the sites and resources with potential direct and indirect impacts. Each resource located within the viewshed model map was counted and presented below by town boundary in tables titled "Town Resource Category & Potentially Visible Count/Total."

To determine the potential for direct effects, Heritage Landscapes identified sites located within a 500 foot buffer from the Project center line. These sites were counted and included by town in tables titled "Number of Town Resources within 500' Buffer of the Project Structures." The 500 foot review buffer was determined following review of "Current Practices to Address Construction Vibration and Potential Effects to Historic Buildings Adjacent to Transportation Projects" prepared by Wilson Ihrig & Associates, Inc., ICF International, and Simpson, Gumpertz & Heger, Inc., September 2012.

The town level maps show the distribution and patterns of associated resources valued by the citizens of New Hampshire. Heritage Landscapes' identification and enumeration of historic sites and cultural landscapes within each host town clearly demonstrate the potential for the Project to cause indirect effect to historic sites outside the 1-mile corridor APE.

B. Madbury Summary

This summary presents the findings of the Applicant's reporting and Heritage Landscapes' identification of additional historic sites for Madbury.

B1. Project Corridor Description:

The Project starts at Madbury Substation at 7 Miles Lane and routes southwest adjacent to the Boston and Maine Railroad to the edge of town at NH Route 4. The corridor is mostly 75 feet wide running adjacent to the existing railroad ROW where existing energy line and structures will remain. The existing structures are 29-66' tall and the Project structures outside of the substation are to be 55-75' tall. The Project clearing combined with the existing ROW will create a cleared corridor of approximately 160'.

B2. Town Character and Values:

The existing character of Madbury is of a small, historic town with rural and agricultural connotations. Roads are narrow, and gently curve around the rolling topography. The wooded areas are older growth with the exception of large plots in early successional growth following their use as agricultural lands. The housing stock includes several historic farmhouses as described in the Applicant's PAF. The scale of development is small and human scaled as is typical for communities that developed in 17th and 18th centuries. The landscape of Madbury expresses historic character, most notably within the historic town center, and extending east to Durham Road and south to the town line. Historic settlement patterns are evident as is the historic open agricultural character in the relatively flat area near the intersection of Madbury and Knox Marsh Road. This area includes the Kingman Farm and W.H. Elliott & Sons Rose Company Historic District.

Existing transmission lines are prominent at the train bridge and along Madbury Road, particularly at the road crossing. Existing single pole structures along the cleared railroad bed rise above the tree line. Madbury Road is experientially connected to Madbury Historic Center. A war memorial marks the historic town green at the intersection between Madbury and Town Hall Road with a bench directed toward the substation. The road is lined with stone walls in places and is quite picturesque despite the existing lines. There are very minimal views at present through the line of trees at the north end of Madbury Road.

Planning and zoning documents for Madbury include references to historic resources and landscape values. The Town of Madbury Masterplan describes the significance of the Town's historic character:

"In an era of ever quickening change, mobility, and standardization, Madbury's historic landscape provides a unique identity, a sense of time, place, and continuity."⁴¹

"The town's quiet back roads, open spaces, stonewalls, and picturesque old farmhouses make Madbury an inviting place to live... Despite these dramatic changes, for the most part Madbury retains the historic character of a rural New England village. In many parts of town, the landscape is one of fine old houses surrounded by open fields and forests. To a

⁴¹ Town of Madbury, New Hampshire Masterplan: Toward the Year 2010. 2001. Strafford Regional Planning Commission, Dover, New Hampshire. 2.4-3.

remarkable extent, Madbury's architectural heritage has been preserved, lending a sense of continuity to the town's past and present."⁴²

B3. Applicant Identified Sites in 1 mile corridor APE:

Total Applicant identified historic sites in Madbury: **22**

sites with potential views: **4**

sites with integrity and project views: **1**

sites with views but unknown integrity: **2**

sites with setting/landscape/view as defining feature: **3**

The Miles-Young-Elliott House in the Elliot Rose Company district was identified as retaining integrity and having views to the Project. However, the Applicant noted that the House was determined eligible as part of the district, which they suggest (without concurrence from DHR) no longer holds integrity following the loss of green houses, and subdivision of the land. They also suggest the property holds no individual integrity due to the loss of a barn.

Two sites in Madbury identified by the Applicant as having project views, but unknown integrity include Foss Cemetery (M-16) near the Madbury Substation, and Perkins Road at the Railroad Bridge in the B&M RR Western Division Historic District. The bridge was previously determined eligible individually, and as part of a district. However, the bridge deck has been removed.

The Applicant did not find any of the three sites they determined as deriving significance from landscape, views or setting to have any views to the Project. Heritage Landscapes disagrees, finding a potential for visual intrusion within the Madbury Town Center District (M-01) which runs along Town Hall Road to the intersection of Knox Marsh Road and Madbury Road.

B4. Heritage Landscapes Additional Identified Sites with Potential Effect:

Heritage Landscapes identified additional historic sites and culturally valued resource types in Madbury that may be visually impacted. The number of each category with potential project visibility as determined using the Applicant's viewshed model is provided below. These areas of potential visual effect are also shown accompanying Madbury map, HL-A.

Current use lands also cover 49.54% of town acreage, but are unmapped.

⁴² Town of Madbury, New Hampshire Masterplan: Toward the Year 2010. 2001. Strafford Regional Planning Commission, Dover, New Hampshire. 2.4-15-16.

Sites with Potential Direct Effect:

Number of Madbury Historic Sites within 500' Buffer of the Project Structures

	Madbury
Historic Graveyards	0
Stone walls and Fences ⁴³	71
Conservation Lands (tracts) ⁴⁴	0
Recreation Lands- Sites	0
Recreation Lands- Areas ⁴⁵	0
Designated Roads (miles)	0
Trails (miles)	0
Public lakes or ponds	0
Public water access points	0
Designated Rivers (miles)	0
Applicant identified PAF historic sites	3

The three Applicant-identified sites located within the potential direct impact buffer are Foss Cemetery (M-16), Perkins Road Railroad Bridge (M-02), and Boston & Maine Railroad (D-01). The Jackson House (M-18) is just outside the 500 foot buffer, approximately 560 feet from the nearest proposed new structure, F107-2.

Sites with Potential Indirect Effect:

Potential visibility extends beyond the 1-mile corridor APE. A town-level approach was used to identify additional sites within Madbury that have the potential for visual effect that were not capture by the Applicant's 1-mile corridor.

Madbury Historic Sites Category & Potentially Visible Count/Total

	Madbury >1mile
National and/or State Register Listed	0
Local Other Non-Listed Historic ⁴⁶	2
Historic Graveyards	6
Conservation Lands (tracts) ⁴⁷	6
Recreation Lands- Sites	0
Recreation Lands- Areas ⁴⁸	0
Designated Roads (miles)	0.8
Trails (miles)	0.9
Public lakes or ponds	0

⁴³ This number represents a count of stone wall and fence location points mapped by the Applicant within the 500 ft. buffer.

⁴⁴ Any portion of tract within direct impact buffer.

⁴⁵ Any portion of tract within direct impact buffer.

⁴⁶ Listed as historic within in USGS GNIS, determined eligible for state listing by NHDHR, "Rte 16 Historic and Cultural Features", identified historic resource by town master plans.

⁴⁷ 20% or more of tract within viewshed map.

⁴⁸ 20% or more of tract within viewshed map.

Public water access points	0
Designated Rivers (miles)	0

Two 18th century sites identified by the Madbury Master Plan along Old Stage Road, were field reviewed and determined likely to have minimal if any visual effect due largely to the orientation of the sites away from the Project.

All but one of the six historic graveyards identified with potential views were determined unlikely to have visual effect. The only graveyard with potential views based on desktop review is Hix Graveyard, located on the eastern flank of Hicks Hill within the UNH Kingman Farm.

The Kingman Farm is a conserved property that also holds potential views from the trails and the planted fields. Two of the other 5 conserved parcels with potential views, the Roselawn Farm Conservation Easement (hosts M-20) and the NRCS Gangwer Parcel (hosts M-19) have some visual effect within cleared agricultural fields along Perkins Road.

B5. Avoidance/Minimization/Mitigation:

The Applicant provided minimization efforts for the portion of transmission corridor from the Madbury substation to the Town border at Route 4. Structure height was lowered and the number of structures reduced in an effort to reduce the visual impact to surrounding historic resources. The Amendment shifted the proposed structure alignment 10 feet west and changed the spacing to increase the distance from the bridge, at the request of NHDOT. The Amendment further states the two H-frames at the Madbury Road crossing were redesigned as monopoles, which Engineering Drawings included in Appendix 5 appear to show at heights of 84 feet and 88.5 feet significantly larger in scale than the existing line, which holds a strong visual presence along Madbury Road.

No efforts to avoid, minimize or mitigate potential direct effects to Madbury above-ground historic sites were found within the Applicant’s materials.

B6. Heritage Landscapes Summary of Potential Adverse Effect

Madbury historic sites with potential project views as determined through desktop review of the Applicant’s viewshed model, maps, and informed by site visit were reviewed to assess potential adverse effect on the Town of Madbury. Heritage Landscapes adopts a holistic approach to considering the overall change to valued landscape character within Madbury. However, specific sites are discussed to exemplify both potential effects identified by Heritage Landscapes and aspects of the Applicant’s analysis, which resulted in an overall reduction in the number of sites assessed for potential effect.

Direct

In Madbury, the proposed Project poses direct effect primarily to stone walls within the ROW and the Boston & Maine Railroad corridor. Due to the railroad’s National Register determination of eligibility, it is the only historic site in Madbury to be considered by the Applicant’s consultants for potential effect.⁴⁹ Although not included within the Application to the SEC, the Boston & Maine was later selected for review by NH DHR with the finding of “No Historic Properties Affected.”

⁴⁹ Preservation Company, Historic Resource Assessment. Obtained through December 2016 data request response to Town of Durham 1-27.

The 500 foot buffer review identified 71 stone walls and fences mapped by the Applicant. As presented above, stone walls are implicitly recognized by the community as landscape features which contribute to the town character. Historic stone walls are present within the project ROW and have potential for direct damage by construction and maintenance equipment routes and construction vibrations, though no potential adverse effects were identified by the Applicant.

Additionally, the Applicant did not consider potential direct impact to the historic Foss Cemetery (M-16) located approximately 400 feet from Project structures. While the Applicant report noted the 19th century cultural landscape has views to the proposed Project, the cemetery was not considered for effect because the Applicant was unable to determine the integrity of the “overgrown” site. As a result, the Applicant concluded that setting, landscape and views were not important components of the historic site. The Applicant’s opinion that the site is “overgrown” does not impact the site integrity nor the cultural significance to the community.

Indirect

Indirect, visual effects are more extensive within Madbury than considered by the Applicant. The Applicant reduced the number of historic sites considered for effect by a stringent use of National Register eligibility to select sites for review. Heritage Landscapes finds the following key sites and areas continue to convey the history and unique character of Madbury, which will be indirectly impacted by the proposed Project:

- W.H. Elliott Rose Company District

Despite having views to Project, the Applicant suggests the historic district has lost eligibility for National Register following demolition of the greenhouses. However, the district retains five historic buildings and associated open land that continues to convey the character of the historic open horticultural/agricultural landscape. Further, the Mile-Young-Elliott House (M-12), has been identified as a valued historic site by the Madbury Historic Building Survey in the Town Master Plan.⁵⁰

Despite retaining multiple components of the historic landscape, the Applicant suggests the landscape is not an essential character defining feature. This represents an example of the number of Project effects not included in consideration due to the unnecessary adherence with National Register standards. In keeping with the sentiment expressed in the introduction of the Town of Madbury Master Plan, these historic buildings are not in isolation from their surroundings but are experienced in tandem with them.

- Perkins Road

This historic road, clearly visible on an 1856 map, retains a historic character imparted by the historic alignment, stone walls, and historic properties the Applicant identified along Perkins Road. Contrary to the assessment of integrity for historic sites along Perkins Road, Heritage Landscapes does not consider views to the existing transmission justification for further degradation of historic character. Further, we believe the road should be assessed for impact as an area rather than as individual sites.

The Jackson House (M-18) at 124 Perkins Road provides another example of the unnecessarily stringent criteria for assessing integrity applied by the Applicant as well

⁵⁰ Town of Madbury, New Hampshire Masterplan: Toward the Year 2010. 2001. Strafford Regional Planning Commission, Dover, New Hampshire. 2.4-18.

as an architectural bias in determining visual impact. Located approximately 0.1 mile from the existing transmission line, the property holds views to the existing towers from the landscape and from the public road. The proposed towers will be approximately 10' taller, increasing visual effect. However, the applicant did not consider the effect of views from within the landscape, only those from the house, which is oriented away from the Project.

While the Applicant states the Jackson House may be individually eligible for the National Register, they also find that the property does not hold significance from setting, landscape or views.⁵¹ The Applicant finds that the historic agricultural associations are lost in part because the property holds a new barn, in addition to a historic workshop, and the crop is now Christmas trees. The applicant does not specify what the landscape held nor what crops were grown during the historic (c1846) period, however. Heritage Landscapes finds that while the crop may have changed and a barn has been constructed, the site retains a consistent land use that conveys historic character.

- Evans Road and Miles Road

Historic road within 1-mile corridor APE that retains alignment and expresses historic character. Along the road is the c1840 Nathaniel Meserve House, also included in the Madbury Master Plan, which has views to the project. Despite the association of the house, carriage barn and historic road, the Applicant did not find the Meserve House to have integrity due to more recent surrounding development and views to the existing transmission line. Evans Road was not considered as a historic site by the Applicant.

An extension of Evans Road across the B&M Railroad Tracks, Miles Lane bounds the Madbury Substation to the north. Applicant environmental mapping shows a proposed access road entering the Madbury Substation from Miles Lane, but no planned tree clearing. If Miles Lane is expanded, field review suggests tree clearing along the narrow existing gravel drive will be required. This would increase visibility to the substation and the Project, with potential for greater views from Madbury Road and south from Knox Marsh Road.

- Madbury Center Historic District and Town Green

Mapped within the Madbury Historic Center, a parcel near the intersection of Madbury and Lee Roads is the Madbury "Town Green." The triangular parcel holds a war memorial and bench oriented southeast to Madbury Road. Potential visibility suggested by the Applicants viewshed mapped was confirmed by Heritage Landscapes' field review. While a line of trees along Madbury Road limits views to the existing transmission line, they could easily be lost to storm events or disease, increasing the visibility of the transmission line.

Overall

Based on the above review and analysis, Heritage Landscapes finds that Madbury will be adversely affected by the proposed Project. This effect is driven by an overall change in historic landscape character, particularly within the open landscape of the W.H. Elliott Rose Company district and the UNH Kingman Farm, extending south along Evans and Perkins Roads, and the potential for

⁵¹ Seacoast Reliability Project Historic Resource Assessment for NHSEC Application. 2016. Preservation Company, p.16. Obtained through data request.

irreparable loss of historic stone walls within the Project ROW. Views along Madbury Road and expansive views from Knox Marsh Road, which mark important arrival corridors to historic Madbury will also be further degraded, as will the experience of smaller historic roads east and west of the substation. The larger transmission structures are out of scale with the community and will adversely affect the historically small-scale, agricultural, rural character that Madbury continues to express.

C. Durham Summary

This summary presents Heritage Landscapes' findings of the Applicant's reporting and identification of additional historic sites for Durham.

C1. Project Corridor Description:

The Project corridor enters Durham from the north at NH Route 4, along the Madbury town border. The Project then travels southwest within the existing ROW adjacent to the Boston and Maine Railroad. The corridor turns east at the Durham substation and runs parallel to Bennett Road until meeting the shore of Little Bay where the line is underground to the Town of Newington on the opposite shore.

The Project will remove and replace the existing 29-66' tall structures along the ROW with structures approx. 75-110' tall. The existing line and structures will remain in place for the portion of the corridor where the Project is underground through UNH campus.

Review of the Project Environmental maps indicates vegetation will be cleared to a width of approximately 60' along the railway and mostly 100' wide along the east-west corridor connecting the Durham substation to Little Bay.

C2. Town Character and Values:

Durham exhibits an evolved historic landscape character with new development within and adjacent dense historic centers such as the Durham Historic District and historic UNH campus. South of the Historic District, the landscape is more sparsely populated, with a mix of historic and modern buildings and sections of stone wall retained along the two-lane Newmarket Road a State Scenic and Cultural Byway. The southern extent of Durham contains large areas that retain a historic character, exhibiting early settlement and land use patterns resulting from agriculture and industry. Three of these areas are the Bennett Road Farms Historic District, the Packers Falls area, and the landscape along Durham Point Rd and Adams Point.

The existing transmission line is visually dominant along historic UNH by train depot/Dairy Bar and at the intersection of Bennett Road and Newmarket Road. The existing line also intrudes at breaks in the vegetation lining the north side of Bennett Road, including the Packers Falls substation. Traveling east from Route 108 along stone wall-lined Durham Point Road (north of the Project corridor) and along Sweet Trail (south of the Project corridor), the existing line is unobtrusive due to the low height of the poles below the tree line. The existing line crosses Durham Point Road near the Stone House Farm, however, the height of the wooden poles and limited clearing within the corridor minimize the visual obtrusion along this historic and scenic road.

As a Certified Local Government with the NH DHR, Durham has made a commitment to preservation of their valued distinctive historic character. This is expressed through planning and zoning documents that include descriptions of the influence of historic resources on the overall character of the Town. As the Town Master Plan states,

“Preservation of Durham’s history and cultural resources contributes to [a] sense of place and quality of life within the community.”⁵²

⁵² Town of Durham Master Plan. 2015. Durham Planning Board, Durham, New Hampshire. HR-28.

The Town of Durham also recognizes the importance of maintaining the character of the historic landscape and viewsheds, as evidenced in their 2015 Masterplan:

“Issue: The development and growth of UNH and the town poses a challenge to preserving historic resources... Goal: Encourage development that reflects and maintains the historic landscape and viewsheds.”⁵³

A key concern expressed in the Town Masterplan is the issue of incompatibly large scaled new development within the Town, as excerpted below:

“Maintaining historic character in an evolving and changing community is a challenge due to... Newer development that is not built to the scale [of?] historic structures.”⁵⁴

The Town Master Plan outlines preservation goals indicating the importance of Durham’s historic character to the Town, including the broad spatial organization of the landscape, which “reflect initial settlement patterns along the Oyster River and Great Bay.”⁵⁵

C3. Applicant Identified Sites in 1 mile corridor APE:

Total Applicant identified historic sites in Durham: **72**

sites with potential views: **25**

sites with integrity and project views: **23**

sites with views but unknown integrity: **1**

sites with setting/landscape/view as defining feature: **22**

The Applicant identified 72 historic sites in Durham, finding that over 30% of these retain their historic integrity and have potential views to the project.

The Applicant also identified the potential for views from the UNH East Foss Farm (D-35), for which they were unable to establish integrity. It is noteworthy that the Applicant identified the property as eligible under Criterion D, Archaeology. As the Project Area Form states on page 63, both the East Foss Farm (D-35) and West Foss Farm (D-34) retain open land that reflect their former agricultural use as well as historic stone-lined farm lanes. Further, the properties were purchased by the University of New Hampshire in the early 1920s for educational and research purposes, which continue although the parcels now also serve public recreational uses.

C4. Heritage Landscapes Additional Identified Sites with Potential Effect:

Heritage Landscapes identified additional historic sites and culturally valued resource types in Durham that may be visually impacted. The number of each category with potential project visibility as determined by the viewshed model is provided below, and are shown on the accompanying Durham map. Current use lands also cover 38.99% of town acreage, but are unmapped.

⁵³ Town of Durham Master Plan. 2015. Durham Planning Board, Durham, New Hampshire. HR-30-31.

⁵⁴ Town of Durham Masterplan. 2015. Durham Planning Board, Durham, New Hampshire. HR-23.

⁵⁵ Town of Durham Master Plan. 2015. Durham Planning Board, Durham, New Hampshire. HR-34.

Direct:

Number of Durham Historic Sites within 500' Buffer

	Durham
Historic Graveyards	2
Stone walls and Fences	475
Conservation Lands (tracts) ⁵⁶	28
Recreation Lands- Sites	0
Recreation Lands- Areas ⁵⁷	7
Designated Roads (miles)	1.4
Trails (miles)	1.2
Public lakes or ponds	2
Public water access points	0
Designated Rivers (miles)	0.3
Applicant identified PAF historic sites	22

By mapping a 500 foot buffer around the Project centerline, Heritage Landscapes counted over 20 historic sites identified by the Applicant that have the potential for direct impact due to construction. In addition, the Applicant's dataset indicates that there are 475 potential points of intersection between the Project centerline and historic stone walls and fences.

Of greatest concern, however, are two cemeteries and several houses within the Newmarket and Bennett Roads Farms Historic District, including the Mooney-Beaudette Farm (3 Bennett Road), Mooney-Moriarty House (4 Bennett Road), and the Levi Hamel-Beliveau House. Located within East Foss Farm, the historic Stevens family graveyard is approximately 400 feet, due east from a proposed transmission structure (F107-39). The Mooney Graveyard, part of Newmarket and Bennett Roads Farms Historic District is closer to the existing corridor. The proposed project will be removing existing structures and replacing them with two new structures: a taller H-frame, and a supporting stub pole, creating the potential for graveyard disturbance not only to the graves themselves but also significant above ground elements such as the historic stone wall and iron gate.

Indirect:

Potential visibility extends beyond the 1-mile corridor APE. A town-level approach was used to identify additional sites within Durham that have the potential for visual effect that were not capture by the Applicant's 1-mile corridor.

⁵⁶ Any portion of tract within direct impact buffer.

⁵⁷ Any portion of tract within direct impact buffer.

Durham Historic Sites Category & Potentially Visible Count/Total

	Durham >1mile
National and/or State Register Listed	4
Local Other Non-Listed Historic ⁵⁸	5
Historic Graveyards	28
Conservation Lands (tracts) ⁵⁹	60
Recreation Lands- Sites	5
Recreation Lands- Areas ⁶⁰	5
Designated Roads (miles)	5.8
Trails (miles)	2.6
Public lakes or ponds	7
Public water access points	3
Designated Rivers (miles)	4

Heritage Landscapes identified additional sites in the Town of Durham outside of the 1-mile corridor APE that hold potential views to the project, including National/State Register listed sites such as the Durham Historic District, including the General John Sullivan House, situated on a small hill overlooking the Oyster River and roughly oriented west toward the Project Corridor. Folsom’s Tavern (also known as Odiorne Farm) also appears to have potential, though slightly more limited landscape views west to the Project.⁶¹

Locally recognized and unlisted by Eligible historic sites with potential visual effect include Wagon Hill Farm, and the Oyster River Bridge. Wagon Hill holds value as a historic farm and a conserved property with public trails. 3-D modeling suggests the possibility of Project views to the south east.

Additional historic Durham graveyards outside the 1-mile corridor APE include the Demeritt graveyard on Route 4, the Smith cemetery on Mill Pond Road, the Willey graveyard, off Durham Point Road, and the Mathes graveyard on Langley Road.

Heritage Landscapes also identified conserved lands and recreation areas outside the 1-mile corridor APE, but which have potential views. These include the Durham Memorial Park, a recreation site and natural area; the Faculty Neighborhood Open Space and Tot Lot, and the Adams Point Wildlife Management Area, an interpreted historic site that has been rehabilitated as a natural area with boat launch ramp but which retains a historic family mausoleum. Durham also holds 60 conserved parcels, including the UNH Thompson Farm and East and West Foss Farms, which have been managed for conservation and research for nearly 100 years. Other conserved lands occur near the Durham Point area and in a cluster around the Folsom Tavern and Wagon Hill Farm, indicating the importance residents place in maintaining the historic scale and character of the landscape.

⁵⁸ Listed as historic within in USGS GNIS, determined eligible for state listing by NHDHR, “Rte 16 Historic and Cultural Features”, identified historic resource by town master plans.

⁵⁹ 20% or more of tract within viewshed map.

⁶⁰ 20% or more of tract within viewshed map.

⁶¹ Based on viewshed mapping and 3D modeling.

C5. Avoidance/Minimization/Mitigation:

Heritage Landscapes review of the Application Narrative and testimony identified the Applicant's only effort to avoid impacts is the proposed Project undergrounding through Main Street area of Durham to avoid visual effects to the UNH Dairy Bar (B&M Depot), the 1930s Main Street Bridge and surrounding elements of the historic UNH campus. Heritage Landscapes' review of the Applicant's Visual Assessment photo-simulations as well as 3D modeling suggest the UNH Dairy Bar will still be impacted by the scale and repetition of new structures farther north along the tracks.

The Applicants efforts to minimize Project impact in Durham include longer spans of line to reduce the number of structures from Route 4 to the UNH campus and place structures along the B&M Rail line at or below tree canopy. The use of H-Frames was also employed to minimize disturbance at road crossings and permit a greater distance from the road. For example, near the crossing of Route 108, the structure height was reduced and structure placed behind existing vegetation to be buffered in views from the road.

As stated in the Applicant's Amendment, intended mitigation within Durham include plans to "partially fund a living shoreline solution for ongoing erosion at the Wagon Hill Farm conservation area."⁶²

C6. Heritage Landscapes Summary of Sites with Potential Effect

Durham historic sites with potential project views as determined through desktop review of the Applicant's viewshed model, environmental maps, and informed by site visit were reviewed to assess potential adverse effect on the Town of Durham. Heritage Landscapes adopts a holistic approach to considering the overall change to valued landscape character within Durham. However, specific sites are discussed to exemplify both potential effects identified by Heritage Landscapes and aspects of the Applicant's analysis, which resulted in an overall reduction in the number of sites assessed for potential effect.

First, as shown on the Durham map (HL-Durham), the 1-mile corridor APE did not adequately capture sites along the eastern branch of the Oyster River leading to Little Bay. As mapped, these resources include recreational sites, historic graveyards and conserved lands, in addition to the locally important historic Wagon Hill Farm, and the National Register listed Folsom's Tavern. Perhaps most notable, was the omission of the Durham Historic District. The district lays outside the APE and was not assessed for impact, despite viewshed modeling indicating the possibility for views.

Heritage Landscapes also notes inconsistent recording of graveyards which were at times included within or independently of historic districts. While most of the historic graveyards identified within the 1-mile corridor APE by the Applicant were identified and assessed independently, the Mooney Cemetery was not identified in the PAF spreadsheet, but was instead included in the assessment of impact to the Newmarket Bennet Roads Historic District. The nearby Stevens Family cemetery on East Foss farm was identified and assessed separately from East Foss Farm.

Despite identifying the importance of land conservation as a historic theme in Durham within the Project Area Form, the Applicant's assessment did not sufficiently consider potential effects to

⁶² Amendment to Application for Certificate of Site and Facility, March 29, 2017, pE-2.

several significant conservation properties within Durham: UNH Thompson Farm, UNH East Foss Farm, and UNH West Foss Farm, all of which show potential for views based on viewshed analyses.

Mapping of available data on Durham historic sites identifies areas and properties of particular concern for both direct and indirect effects.

Direct:

- **Cable House**
The most obvious direct impact, as identified by the Applicant, is the removal of the Durham Cable Switch house. In addition to the cable houses are the potential impacts to stone walls, which were not discussed in the Applicant's Project Area Forms or testimony.
- **Stone Walls**
As shown on HL-Durham, and listed in the table above, Durham possesses a wealth of stone walls that are important expressions of historic character and exhibit the integrity of historic settlement patterns.
- **Graveyards**
There is also the potential for direct effect to numerous historic structures and graveyards, as discussed above. Most concerning is the potential impacts to Mooney Cemetery which has the potential for vibration or other direct effects during demolition of existing structures and installation of the new H-frames. Other sites with direct effect include the Mathes-Stevens House (D-61), and the Meader Farm/Elmhurst Farm (D-67).

Indirect:

Heritage Landscapes notes the potential for adverse effect in several areas of Durham within the Newmarket and Bennett Roads Farms Historic District (D-44), and the Durham Point Historic District with other indirect effects distributed along Bay Road, at the UNH Dairy Bar and at the Wagon Hill Farm.

- **Newmarket and Bennet Roads Farms Historic District (D-44)**
The character of this area will be adversely affected visually by intrusions in the district setting that currently holds very little incompatible modern development. The existing wooden monopole structures rest at or below the tree line, while the proposed structures are significantly taller and larger, dramatically out of scale with and visually overwhelming the historic buildings and fields within the district. Of particular concern is the intrusion the new project will have on the Bennett Road – Newmarket Road (Route 108) intersection and the potential for not only visual impact but also direct effects to the Mooney Cemetery, a historic site seemingly overlooked by the Applicant.
- **Durham Historic District**
The District appears to have limited views to the Project, if any. Based on the density of architecture, the orientation of facades toward the road and the location of historically and culturally important open space in low ground along the river, only the General John Sullivan House appears to have potential visual effect from the Project. Historic neighborhoods around the University of New Hampshire also appear largely unaffected by potential views to the project, due to the density of existing vegetation and buildings.
- **Durham Point Historic Area (D-62)**

Heritage Landscapes also notes the potential for adverse effects to the Durham Point Historic Area (D-62) including Langley House, Durham Point Schoolhouse, Colony Cove House, and Mathes House. Durham Point/Bay Road appears to retain integrity of alignment and continues to serve as central organizing feature of historic settlement patterns on Durham Point.

The integrity and historic character of this area are recognized through the designation of Durham Point (also Bay Road) as a local scenic road.⁶³ In addition to views from key resources within this area and along the road, the Project crosses Durham Point Road just north of Stone House Farm (D-69) which will significantly disrupt the existing character due to the increased height of the poles and extended width of the cleared corridor. The scale of the proposed Project will also create a significant visual intrusion within the existing landscape farther south along Durham Point Road, for example at the Meader Farm/Elmhurst Farm (D-67) and will effect views north to Durham Point from Adams Point Road viewing area.

Overall

The possibility of effect to Wagon Hill Farm and the National Register listed Folsom's Tavern as well as to additional sites along Newmarket Road indicates the widespread impact to historic sites within Durham. Due to the wide potential for effect and the significant visual intrusion likely within several specific areas, Heritage Landscapes finds the Project would have an adverse effect on the Town of Durham.

⁶³ As noted within the Applicant's Visual Assessment.

D. Newington Summary

This summary presents the findings of the Applicant's reporting and Heritage Landscapes' identification of additional historic sites for Newington.

D1. Project Corridor Description:

The energy corridor enters Newington from Little Bay where the proposed underground transmission line will travel east through cleared woodland and under roadways until a 65 foot transition structure on the east side of Little Bay Road. The corridor follows the existing ROW traveling east and turns southeast to follow the Spaulding Turnpike. Existing poles within the ROW ranging approx. 30-50' tall will be removed and replaced with structures approx. 110' tall approx. 350-550' apart. Along the Turnpike, 52-110' Project structures are designed to run parallel to the existing 30-50' structures which will remain in place. The Project corridor crosses the highway headed east and removes and replaces existing structures through the Fox Run Mall parking lot, crosses Woodbury Avenue, and turns south to enter Portsmouth.

Within the underground section along Little Bay Road the corridor will be cleared to a width of 50ft, and widening to 100 feet of clearing along the overhead portion before being undergrounded again through Frink Farm. This clearing will require tree removal. Between Flynn Pit and Frink Farm, the amended structure heights will vary between 65 feet and 80 feet, of similar height to the existing tree canopy.

D2. Town Character and Values:

While Newington does not have a publicly available master plan document, 2015 Site Plan Review Regulations retrieved online demonstrate municipal efforts to protect the rural and historic character of Newington:

"Cultural Resources consist of historic and prehistoric archeological sites and standing structures, cemeteries, private graveyards, stone walls, cellar holes, old growth trees and other artifacts and features which contribute to the authentic cultural heritage of Newington."⁶⁴

"This ordinance... regulates use, civic design and arrangement of structures and land for trade, industry, residence, transportation, and other public requirements... to retain the rural charm now attached to our town."⁶⁵

D3. Applicant Identified Sites in 1 mile corridor APE:

Total Applicant identified historic sites in Newington: **88**

sites with potential views: **46**

sites with integrity and project views: **30**

sites with views but unknown integrity: **2**

sites with setting/landscape/view as defining feature: **6**

D4. Heritage Landscapes Additional Identified Sites with Potential Effect:

⁶⁴ Site Plan Review Regulations. 2015. Newington Planning Board, Newington, New Hampshire. SP-6.

⁶⁵ Town of Newington Zoning Ordinance, Article I, Section 3. 2017. Z-1.

Heritage Landscapes identified additional historic sites and culturally valued resource types in Newington that may be visually impacted. The number of each category with potential project visibility as determined by the viewshed model is provided below, and are shown on the accompanying Newington map. Current use lands also cover 9.75% of town acreage, but are unmapped.

Direct:

There are 19 historic buildings identified by the Applicant within a 500 foot buffer of the Project centerline, each of which has the potential for vibration or other direct effect due to site preparation and construction.

In addition to these sites, Heritage Landscapes notes the number of stone walls and fences identified by the Applicant in the Project corridor (n=259), both in underground and overhead sections. There is no discussion provided of what potential impacts there may be to these important character-defining features of the Newington landscape as a result of clearing, work pad construction, drilling or other construction activities. There is no indication of what efforts were made to identify, avoid, minimize or mitigate damage to or demolition of stone walls.

Other historic sites with the potential for direct effect due to proximity to the Project include the Thomas Pickering cemetery and the Downing Family cemetery, each located less than 200 feet from the proposed Project.

Number of Newington Historic Sites within 500' Buffer

	Newington
Historic Graveyards	2
Stone walls and Fences	259
Conservation Lands (tracts) ⁶⁶	2
Recreation Lands- Sites	0
Recreation Lands- Areas ⁶⁷	1
Designated Roads (miles)	0.5
Trails (miles)	0
Public lakes or ponds	1
Public water access points	0
Designated Rivers (miles)	0
Applicant identified PAF historic sites	31

The Flynn Pit, a parcel conserved by the Town of Newington holding a vernal pool (Days Pond), and recreation area is also located adjacent the proposed underground section and where the line transitions to above-ground.

Indirect:

Potential visibility extends beyond the 1-mile corridor APE. A town-level approach was used to identify additional sites within Newington that have the potential for visual effect that were not capture by the Applicant’s 1-mile corridor as shown on the table below.

⁶⁶ Any portion of tract within direct impact buffer.

⁶⁷ Any portion of tract within direct impact buffer.

Newington Historic Sites Category & Potentially Visible Count/Total

	Newington >1mile
National and/or State Register Listed	2
Local Other Non-Listed Historic ⁶⁸	3
Historic Graveyards	6
Conservation Lands (tracts) ⁶⁹	5
Recreation Lands- Sites	2
Recreation Lands- Areas ⁷⁰	1
Designated Roads (miles)	7.5
Trails (miles)	0
Public lakes or ponds	4
Public water access points	0
Designated Rivers (miles)	0.1

Due to the size and shape of Newington, the 1-mile corridor APE captured many of Newington’s historic sites. However, mapping of publicly available data, supplemented by field review identifies several areas containing historic sites that were not assessed for potential impact by the Applicant. These include the Fox Point area, beginning at the intersection with Little Bay Road marked by what appears to be a historic barn or mill structure. Also, missing from consideration were landscape features such as Flynn Pit and Beane’s Hill, which was “historically known for its views of the Piscataqua.”⁷¹

In addition, review of the Applicant’s materials raised questions about why important features such as the historic (and designated scenic) roads within Newington are not considered for effect in conjunction with historic buildings and land use patterns.

D5. Avoidance/Minimization/Mitigation:

Project design within the Town of Newington represents the most substantial efforts to minimize potential effects within the Project corridor. Original design efforts to reduce effects in Newington included “optimized...design to limit impacts to parking and driving areas and potential disruptions to the surround [sic] businesses.”⁷²

An Amendment submitted March 29, 2017 altered the Project design to further underground the Project through the Flynn Pit, and across the Frink Farm and Hannah Lane neighborhood. Additional design alterations include relocating the above ground transition structure near Flynn Pit to 440 feet east of Little Bay Road to reduce Project visibility within open field within the viewshed of many historic properties including the Adams Homestead, the National Register listed Hoyt House, and the historic and locally designated scenic Fox Point Road. This redesign involves removal of structure F107-117. Structures 116 and 118 have been located close to existing woodland edge, and slightly enlarged to be 79 feet and 75 feet, respectively.

⁶⁸ Listed as historic within in USGS GNIS, determined eligible for state listing by NHDHR, “Rte 16 Historic and Cultural Features”, identified historic resource by town master plans.

⁶⁹ 20% or more of tract within viewshed map.

⁷⁰ 20% or more of tract within viewshed map.

⁷¹ Application Appendix 10, Project Area Form, p.12.

⁷² Application p58.

The Applicant's mitigation efforts, as identified within the Amendment, include partially funding a conservation easement purchase by the Newington Conservation Commission for a 10-acre parcel "including wetlands and hayfields on Knights Brook near the Frink Farm."⁷³

D6. Heritage Landscapes Summary of Sites with Potential Effect

Newington's historic sites as determined through desktop review of the Applicant's viewshed model, environmental maps, and informed by site visit were reviewed to assess potential adverse effect to the Town of Newington. Heritage Landscapes adopts a holistic approach to considering the overall change to valued landscape character within Newington. Specific sites are discussed below to exemplify both potential effects identified by Heritage Landscapes and potential inconsistencies within the Applicant's analysis.

Direct:

- Flynn Pit
Days Pond within the conserved Flynn Pit was reclassified as a vernal pool following subsequent field review in 2016. An unsigned planting plan obtained through data request suggests intent to retain the existing warming hut, with augmented plantings to restore a sense of woodland enclosure following construction.⁷⁴ Amended testimony by Victoria Bunker confirms the absence of an archaeological site adjacent the entry to Flynn Pit, Heritage Landscapes finds that greater attention to assessment and consideration of treatment following project implementation should be given to this community-valued site.
- Frink Farm
The Amendment notes that underground trenching through Frink Farm will be backfilled with native material beginning "approximately 400 feet east of the transition structure location to the west side of Nimble Hill Road."⁷⁵ It is unclear from this description whether the native fill will be placed only on the eastern Frink Farm field. Also unclear is why the Frink Farm underground trench will not be treated in a uniform manner. It is possible that differential backfill treatment or soil compaction could affect vegetation patterns within the field on the farm and make the outline of the underground transmission line visible from the farm, road, and in broader views within the Newington Historic District.
- Stone Walls
There is no indication of how the many stone walls that define historic properties are intended to be addressed during construction of either the overhead or underground sections of the Project, and if dismantled, whether they will be replaced following construction.

Indirect:

Heritage Landscapes identified several specific sites with potential for indirect effects.

⁷³ Application p.58.

⁷⁴ "Flynn Pit Proposed Planting Plan" June 2, 2016, Sheet L1. Obtained through Data Request Response CFP 2-11.

⁷⁵ Amendment p.10.

- Newington Center National Register Historic District (N-16)
The proposed undergrounding greatly reduces visual impact to the Frink Farm and Newington Center Historic District. However, the proposed tower within a 100 foot cleared corridor adversely effects views from the important historic intersection of Old Post Road and Nimble Hill Road.⁷⁶ In addition, the Applicant provides no indication of intent to avoid, minimize or mitigate impacts to stone walls during construction.
- Little Bay Road
Little Bay road is important as a historic site and expresses other cultural values as indicated by its local designation as a scenic road. The Applicant's visual assessment identified Little Bay Road as one of two scenic resources impacted by the Project as initially proposed. Following design amendment, there remain towers in the open fields and woodland adjacent to the Pickering Farm (N-13). The towers (F107-106, 107, 108) range in height between 65 ft to 75' within a 100foot corridor, inserting significant intrusions of scale into the experience of historic character of Little Bay Road, not only due to structure height but also clearing width.

In addition, along the eastern edge of Newington are several additional historic sites with views to the Project, including the deRochemont House(N-82) and the National Register listed deRochemont Mansion (N-60). However, due to the degraded character of this area, there is little potential for historic adverse effect.

Overall:

Visual effect to the Newington Historic District appears to be fairly well resolved by undergrounding the line through Frink Farm and Hannah Lane. However, the potential remains for direct and indirect impacts to the Town of Newington. In addition to effects to Flynn Pit, the Applicant did not identify efforts to avoid, minimize or mitigate damage to the many stone walls located within the Project corridor. In addition, there remains potential for visual intrusions along Little Bay Road, Old Post Road and Fox Point Road due to increased structure heights and widened clearing. Most significant, is the potential visual intrusion to the historic intersection of Old Post Road and Nimble Hill Road. The 100-foot wide clearing and increased size of the 3-pole 65-foot structure visible at the west edge of the Frink Farm, disrupting the entry experience into the Historic District. For these unresolved reasons, Heritage Landscapes finds the Town of Newington will experience unreasonable adverse effects.

⁷⁶ Application Appendix 10, Preservation Company, "Seacoast Reliability Project Area Form, "June 20, 2015, p.15.

E. Portsmouth Summary

This summary presents the findings of the Applicant's reporting and Heritage Landscapes' identification of additional historic sites for Portsmouth.

E1. Project Corridor Description:

The corridor enters Portsmouth on Gosling Road east of Woodbury Avenue and terminates at the Portsmouth substation. Four structures between 75'-100' in height are planned for installation with poles placed approximately 350'-500' apart. As indicated on the Applicant's Environmental Maps, the corridors will be cleared to their full 100 foot width, requiring removal of woodland edge and portions of existing wetlands.

E2. Town Character and Values:

City of Portsmouth planning and zoning report reveal the community values historic resources as improving the overall character of the city and sense of place, suggested by these report excerpts:

"Historic preservation is integral to the cultural identity of Portsmouth"⁷⁷

"A city that treasures its unique character, natural resources and historic assets."⁷⁸

An outcome of a master plan community workshop was "a word cloud" graphic that depicted responses to a survey request to 'List three words that best capture Portsmouth's character.' The largest word (signifying the most frequent response) was 'historic.'

"Residents identified three places they felt contribute to an authentic Portsmouth and describe why they liked these places. Participants identified parks, natural landscapes, and water as important features that contribute to Portsmouth's identity. Participants also identified historic landmarks, the waterfront, original housing stock and newer cultural or civic venues as authentic parts of the City."⁷⁹

As noted in the City of Portsmouth planning board report, Portsmouth has experienced controversy over development blocking historic views, especially in the North End area. As a result, consideration should be given to ensuring new construction respects historic scale and views.

E3. Applicant Identified Sites in 1 mile corridor APE:

Total Applicant identified historic sites in Portsmouth: **10**

sites with potential views: **8**

sites with integrity and project views: **3**

sites with setting/landscape/view as defining feature: **0**

E4. Heritage Landscapes Additional Identified Sites with Potential Effect:

Heritage Landscapes identified additional historic sites and culturally valued resource types in Portsmouth that may be visually impacted. The number of each category with potential project visibility as determined by the viewshed model is provided below, and are shown on the

⁷⁷ Portsmouth 2025: Planning Board Draft, February 2017 Public Hearing. 20.

⁷⁸ Portsmouth 2025: Planning Board Draft, February 2017 Public Hearing. 50.

⁷⁹ Portsmouth 2025: Planning Board Draft, February 2017 Public Hearing. 25.

accompanying Portsmouth map. Current use lands also cover 5.61% of town acreage, but are unmapped.

Direct:

Heritage Landscapes counted 107 stone walls or fences recorded in the Applicants data collection that existing within the proposed Project corridor.

Number of Portsmouth Historic Sites within 500' Buffer

	Portsmouth
Historic Graveyards	0
Stone walls and Fences	107
Conservation Lands (tracts) ⁸⁰	0
Recreation Lands- Sites	0
Recreation Lands- Areas ⁸¹	0
Designated Roads (miles)	0
Trails (miles)	0
Public lakes or ponds	0
Public water access points	0
Designated Rivers (miles)	0
Applicant identified PAF historic sites	3

In addition to these stone walls and fences there are several other historic sites identified within a 500 foot buffer, which include: Ryder Truck warehouse (P-02) and Oriental Gardens mobile home park (P-05). However, it is unlikely due to their age and methods of construction that they would be subject to the same potential impacts as older structures.

Indirect:

Potential visibility extends beyond the 1-mile corridor APE. A town-level approach was used to identify additional sites within Portsmouth that have the potential for visual effect that were not captured by the Applicant's 1-mile corridor APE.

⁸⁰ Any portion of tract within direct impact buffer.

⁸¹ Any portion of tract within direct impact buffer.

Portsmouth Historic Sites Category & Potentially Visible Count/Total

	Portsmouth
National and/or State Register Listed	19
Local Other Non-Listed Historic ⁸²	7
Historic Graveyards	10
Conservation Lands (tracts) ⁸³	16
Recreation Lands- Sites	5
Recreation Lands- Areas ⁸⁴	7
Designated Roads (miles)	1.25
Trails (miles)	0
Public lakes or ponds	1
Public water access points	2
Designated Rivers (miles)	0

As shown through Heritage Landscapes' mapping, (HL-Portsmouth), while the Project only makes a limited entrance into the north corner of Portsmouth, the potential for visual effects extend toward the wealth of National Register listed and National Historic Landmarks clustered along the shore. As indicated by the dashed white line on this map, this density of resources occurs within the 6-mile corridor Zone of Visual Impact defined by the Applicant. However, due to the density of buildings and vertical elements between these more distant historic sites and the Project, there is little possibility for effect.

E5. Avoidance/Minimization/Mitigation:

Heritage Landscapes' review of the Applicant's materials identified no effort to minimize impact by combining the new line with the extensive existing structures.

E6. Heritage Landscapes Summary of Sites with Potential Effect

Heritage Landscapes finds there is potential for direct impact to stone walls, as is common throughout the Project corridor, with little possibility for additional direct effects.

The Project will certainly have an effect on the Gosling Meadows subdivision (P-01), further degrading the quality of the historic site's setting and association, as well as the overall quality of the broader Project area. Another important historic residential neighborhood that also retains historic organization, land use and association with the waterfront is the Oriental Gardens mobile home park (P-05). The orientation of the homes and the close buffer of mature vegetation make significant visual intrusions unlikely.

In summary, due to the heavily evolved and developed nature of the Portsmouth landscape within the Project area, the Project poses no adverse effect to Portsmouth.

⁸² Listed as historic within in USGS GNIS, determined eligible for state listing by NHDHR, "Rte 16 Historic and Cultural Features", identified historic resource by town master plans.

⁸³ 20% or more of tract within viewshed map.

⁸⁴ 20% or more of tract within viewshed map.

F. Assessment of Town Summary Mapping

In this town-level assessment of potential effects to above-ground historic sites, Heritage Landscapes found a greater potential for visual and direct effects than identified by the Applicant. The Heritage Landscapes town level maps show additional historic sites outside the 1-mile corridor APE with potential visual effect from the proposed Project as well as the area of historic sites that should be assessed for potential direct effect. It is likely that windshield survey of each town beyond the 1-mile corridor would identify additional historic sites with potential effect.

A notable omission from the Applicant's assessment was the potential for effects to stone walls. These are important landscape features that convey the integrity of historic settlement patterns and road alignment, and contribute to the historic character valued by each host town. Destruction of these walls during construction or ongoing damage due to transmission line maintenance would be a permanent loss to the community.

Heritage Landscapes' review of the Applicant's Project Area Form noted instances of historic sites mentioned in the Form that were omitted from consideration due to their location outside of the 1-mile corridor APE⁸⁵, or because of an architectural bias within the Applicant's study, which is common within the field of preservation, and reflected in surveys on file in the NHDHR.⁸⁶

Additionally, these maps show the clustering and layering of landscape values as expressed through scenic road designation, conserved parcels and designated recreation lands as well as listed and otherwise recognized historic sites. These agglomerations illustrate the importance of the historic landscape character in each town that continues to be expressed through scale, organization and material.

Finally, Heritage Landscapes found the Applicant's overall approach to be focused on what has been lost as opposed to identifying what integrity remains within each historic site. This reduced the number of sites considered for potential effect. Further, the architectural focus employed by the Applicant in identifying historic sites limited consideration of the broader landscape context and relationships between buildings, fields, walls and roads that have been retained.

⁸⁵ Examples include the National Register listed Richman Margeson Estate located in the Great Bay National Wildlife Refuge (Newington) and the Hamilton Smith summer estate along Mill Pond Road (Durham).

⁸⁶ Examples include Beane's Hill in Newington.

CHAPTER 5. EXPERT OPINION OF POTENTIAL PROJECT EFFECTS TO HISTORIC SITES

A. Framework for Defining Unreasonable Adverse Effect

Heritage Landscapes utilized Site Evaluation Committee Rules 301.14 (a) and (b) in order to assess whether the proposed Seacoast Reliability Project poses an unreasonable adverse effect to historic sites within the four host towns (“the study area”). Acknowledging the fact that scenic sites, by definition, include historic sites “that possess a scenic quality” and “Town and village centers that possess a scenic quality,” Heritage Landscapes also incorporated consideration of the SEC criteria for assessing unreasonable adverse effects to aesthetics. Barring a few historic industrial/commercial sites in Newington and Portsmouth, Heritage Landscapes finds that historic sites within the study area (ranging from individual to landscape scale sites) possess scenic qualities recognized by residents through town planning and ordinances, conservation easements and scenic designation, as well as through tourist visitation.

To adequately consider the potential effect to historic sites that SEC Rules identify as providing both aesthetic and historic and cultural value, Heritage Landscapes utilized the following sets of Criteria Relative to Findings of Adverse Effects (Site 301.14):

(a) In determining whether a proposed energy facility will have an unreasonable adverse effect on aesthetics, the committee shall consider:

- (1) The existing character of the area of potential visual impact;*
- (2) The significance of affected scenic resources and their distance from the proposed facility;*
- (3) The extent, nature, and duration of public uses of affected scenic resources;*
- (4) The scope and scale of the change in the landscape visible from affected scenic resources;*
- (5) The evaluation of the overall daytime and nighttime visual impacts of the facility as described in the visual impact assessment submitted by the applicant and other relevant evidence submitted pursuant to Site 202.24;*
- (6) The extent to which the proposed facility would be a dominant and prominent feature within a natural or cultural landscape of high scenic quality or as viewed from scenic resources of high value or sensitivity; and*
- (7) The effectiveness of the measures proposed by the applicant to avoid, minimize, or mitigate unreasonable adverse effects on aesthetics, and the extent to which such measures represent best practical measures.*

(b) In determining whether a proposed energy facility will have an unreasonable adverse effect on historic sites, the committee shall consider:

- (1) All of the historic sites and archaeological resources potentially affected by the proposed facility and any anticipated potential adverse effects on such sites and resources;*
- (2) The number and significance of any adversely affected historic sites and archeological resources, taking into consideration the size, scale, and nature of the proposed facility;*
- (3) The extent, nature, and duration of the potential adverse effects on historic sites and archeological resources;*
- (4) Findings and determinations by the New Hampshire division of historical resources of the department of cultural resources and, if applicable, the lead federal agency, of the proposed*

facility's effects on historic sites as determined under Section 106 of the National Historic Preservation Act, 54 U.S.C. §306108, or RSA 227-C:9; and
(5) The effectiveness of the measures proposed by the applicant to avoid, minimize, or mitigate unreasonable adverse effects on historic sites and archaeological resources, and the extent to which such measures represent best practical measures.

Heritage Landscapes synthesized these criteria to render an expert opinion as to whether the proposed Project poses an unreasonable adverse effect to historic sites in the four host towns. To evaluate the findings of effect discussed in Chapter 4, Host Town Historic Comprehensive Mapping & Study Sites, Heritage Landscapes addressed three overarching questions:

1. Did the Applicant sufficiently capture historic sites with potential effects?
2. Are the efforts to avoid, minimize, and mitigate effects sufficient given the scale, extent, and duration of project impacts?
3. What is the overall extent of Project effects to historic sites?

This framework looked at the number of potential impacts based on the number of identified sites within the study area and considered the fact that additional historic sites may exist within each town beyond the 1-mile corridor APE that could be impacted by the Project. Efforts to avoid, minimize and mitigate potential Project impacts stated within the Application and Amendment narratives as well as historic sites expert testimony were reviewed against the range of potential direct and indirect effects posed by this Project. These effects were looked at holistically to understand the overall loss of integrity and change of character to historic sites within each host town, and considered the scale and duration of impacts.

B. Expert Opinion of Potential Unreasonable Adverse Effects

The Applicant's scenic experts determined the potential for indirect visual effects well beyond the 1-mile corridor APE used to identify historic sites. This suggests the possibility for greater extent of visual impact than recorded in the Project Area Form or Widell's testimony. Indeed, as illustrated in the town level maps in Appendix B, there are local, state and nationally recognized historic sites with potential views to the Project.

In addition, Heritage Landscapes finds the Applicant applied an architectural bias toward site identification and assessment of both significance and integrity, as well as assessment of potential effect. For example, despite acknowledging the historical significance of conservation and recreation within the four towns, conservation and recreation lands were not well captured within the Applicant's study, and when recreation and conserved lands were identified they were not assessed for integrity using other themes, notably agriculture. As shown on the town level maps (Appendix B), there is an overlap between the parcels mapped by the Applicant as historic sites and conservation lands recorded in state data, suggesting landscape significance and integrity that has been discounted by the Applicant.

Architectural bias is also evident in the Applicant's assessment of visual impact, which they repeatedly assessed from the primary building and considered the 'historically significant' view despite limited research and lack of consideration of landscape views.

For these reasons as well as the inattention to potential direct effects posed by the Project (aside from the very obvious dismantling of the Cable Houses), Heritage Landscapes finds the potential for Project effects likely extends well beyond those identified by the Applicant. This is best exemplified by the inattention to stone walls that are significant historic character-defining features within the

four project towns, an opinion also expressed by the NH Division of Historical Resources in their finding of effect.⁸⁷ These limitations to the Applicant's identification of historic sites and potential effects influences the ability to fully assess the extent of project effects to historic sites.

However, using available data obtained through field review, the Applicant's materials, and publicly available data layers, Heritage Landscapes determined there are overall adverse effects to three of the Project host towns.

C. Conclusion

Heritage Landscapes found the Applicant provided a limited capture of historic sites with potential impact from the Project and did not fully address the potential direct and indirect effects to sites identified. Further, this review found the Applicant considered historic sites (primarily buildings) in isolation of the landscape context, resulting in a limited understanding of the overall impacts the Project may have on historic integrity and landscape character within each town. Heritage Landscapes applied a more comprehensive approach to identifying historic sites with potential impact in the Project corridor and identified significant areas with potential adverse effect. Due to the widespread counts and acreages of historic sites within the four host towns, and the long-term presence of the Project, Heritage Landscapes finds there would be unreasonable adverse effects. The scale of structures and width of clearing will impose 'prominent' or 'dominant' features within the landscape that will diminish the integrity of historic sites and significantly degrade the character of broad areas within three of the four Project host towns.

⁸⁷ Richard A. Boisvert. Letter to Frank J. Delgiudice, June 20, 2017.