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DEPARTMENT OF JUSTICE

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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 Michael Lawrence with two attachments on behalf of Counsel for the Public in the above-referenced matter.

A copy of this letter along with the testimony and 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,

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 MICHAEL LAWRENCE
MICHAEL LAWRENCE ASSOCIATES, PLC

ON BEHALF OF
COUNSEL FOR THE PUBLIC

JULY 31, 2017

Qualifications and Purpose of Testimony

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

A. My name is Michael C. Lawrence, ASLA, Principal, Michael Lawrence Associates, PLC ("MLA").

Q. Please summarize your educational background and professional experience

A. I hold a Bachelor of Landscape Architecture degree from the University of Michigan. I have over 40 years of experience as a landscape architect and founded MLA in 1988 where I have been the principal landscape architect. I am a member of the American Society of Landscape Architects, and have experience with a wide variety of residential, commercial and industrial projects including energy siting projects in New England. A copy of my Curriculum vitae is attached as Attachment MCL-1.

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

A. I have not testified before the New Hampshire Site Evaluation Committee ("SEC"). I have testified before other regulatory bodies in connection with the Bowers Wind project near Bowers, Maine, where I provided written testimony and an oral presentation before the Maine Land Use Regulation Commission.

Q. What is the purpose of your testimony?

A. On behalf of Counsel for the Public, MLA was asked to prepare an assessment report of the visual impacts of the Seacoast Reliability Project (the "Project") as proposed by Eversource Energy (the "Applicant"). As part of my assessment, I reviewed the visual assessment prepared by Landworks that was submitted on behalf of the Applicant. My testimony introduces my aesthetic analysis review report, which is attached as Attachment MCL-2, and summarizes my key findings on the impacts of the Project on aesthetics.

Overall Conclusions

Q. What are the conclusions of your analysis?

A. Based on my review of the Project, site visits and my expertise as a landscape architect, my expert opinion is that the Project, as proposed, will have significant adverse visual impacts in thirteen locations along the Project route that should be considered by the Committee. While the Project will not be widely visible due to the topography and forest cover across much of the project route, the Project will be highly visible at road crossings and across portions of the University of New Hampshire (UNH) campus. At these locations, which are identified in my Report, the combination of significantly taller structures (double or triple the height of existing structures) and substantial tree removal to the full width of the right-of-way (ROW) will dramatically change the visual character and decrease the aesthetic quality. In addition, tree removal is likely to result in additional degradation of the remaining trees adjacent to the ROW due to windthrow and sunscald of newly exposed branches. This will further diminish the remaining visual cover for the Project. In some locations, reasonable mitigation measures could be employed to reduce visual impacts, but because the Applicant's expert has not identified these areas as sensitive scenic resources, no mitigation has been proposed by the Applicant.

Q. Which of the locations identified in your report are considered Scenic Resources?

A. As set forth in my report, each of the thirteen areas of visual impact are key observation points because they are "viewpoints that receive regular public use and from which the proposed facility would be prominently visible." Site 102.25. To qualify as a "scenic resource," there must be a public legal right of access and the resource must meet one or more of the criteria set forth in Site 102.45. Some of the thirteen areas of visual impact identified in my report constitute scenic resource under the Committee's rules. Areas A, B and G are each road crossings at designated scenic roads or scenic byways, which qualify as "scenic resources" under Site 102.45(a) and/or (d). Areas I through L are located on the UNH campus and may qualify as "scenic resources" under Site 102.45(d),

(e) and/or (f) as areas established and maintained with public funds, historic sites with scenic quality, and/or village centers with scenic quality.

Q. Please comment on the relevance of visual impacts at areas that do not qualify as Scenic Resources.

A. While some of the areas of visual impact identified in my report do not qualify as "scenic resources" under the Committee's rules, they are nonetheless worthy of consideration by the Committee as assessing the overall aesthetic effect of the Project. In order for the Committee to make a determination of whether the Project will have an unreasonable adverse effect on aesthetics, the Committee should look at all visual impacts of the entire Project. At a minimum, visual impacts at key observation points – areas receiving regular public use – provide context and identify areas where the Applicant and the Committee can consider appropriate mitigation measures.

Evaluation Methodology

Q. Please explain the methodology used by MLA to evaluate the Project's visual impacts and effects on aesthetics.

A. To assess the Project's visual impacts and effects on aesthetics I conducted comprehensive site visits to the Project route to identify areas of potential impact. Using the Landworks (LW) report, environmental maps, and engineering plans as a guide, I analyzed the proposed Project in the context of the existing landscape. At areas of interest I took photographs and measured tree heights to assist my analysis of the Project's visual impacts. Using the information gathered through site investigation and from the Application, I analyzed the Project's visual impacts through the lens of the statutory and regulatory requirements for visual impact assessment of an energy facility. Based on my review I identified thirteen (13) key observation points (KOPs) at road crossings and on the UNH campus for detailed study. At each KOP, I compared the existing conditions to the proposed Project conditions and developed illustrative photos and maps. The results of my analysis were compiled into my accompanying report (Attachment MCL-2).

Evaluation of Applicant's Expert Assessment

Q. In your opinion did the Applicant's visual assessment provide the SEC with all the information required under SEC rules concerning effects on aesthetics?

A. No. While Mr. Raphael of Landworks produced a detailed visual assessment report for the Applicant, his overly complicated methodology appears to under-represent scenic resources and to minimize the visual impacts of those scenic resources identified. By utilizing a complicated series of scoring filters, Mr. Raphael arrived at only a single scenic resource that warranted full analysis. Nonetheless, Mr. Raphael himself identified four additional areas that "merit discussion" despite failing to emerge from the gauntlet of his visual assessment methodology. In addition, Mr. Raphael failed to identify key observation points where the project would be prominently visible, such as the road crossings included in my report. Of the 20 photosimulations prepared by Landworks, only one depicts a road crossing despite road crossings having some of the most prominent views of the Project. This information is critical to the Committee's ability to conduct a full review of the visual impacts of the Project.

Q. Please comment on the Applicant's proposed mitigation measures.

A. In my opinion the Applicant has missed opportunities to employ best practical measures to mitigate visual impacts at a number of key locations of public visibility, such as road crossings. The Applicant appears to propose to use natural revegetation to replace existing visual screens at road crossings where the ROW will be cleared for construction. Rather than employ simple planting of height appropriate species, which would provide immediate and economical visual mitigation, the Applicant's selection of natural revegetation results in a period of greater aesthetic impact than is necessary or warranted. Particularly in areas at road crossings where the Project will result in significant visual widening of the ROW combined with much taller structures, simple planting could be utilized to reduce the dramatic change in visual character and mitigate Project impacts.

Q. Does this conclude your testimony?

A. Yes.

Michael Lawrence Associates PLC

Landscape Architects / Site Planning Consultants

Michael Charles Lawrence ASLA

Highly motivated design professional practicing the discipline of landscape architecture
for over 40 years.
Applies primary character traits—
patient attitude—optimistic outlook—visions of beauty—careful craftsmanship
to transform site challenges—issues—problems
into
graceful landscapes.

LANDSCAPE ARCHITECTURAL DESIGN SKILLS

- Experienced as both primary landscape design consultant and consultant representative on site projects with budgets ranging from several thousand to over one million dollars.
- Design leader and team member for wide variety of award winning projects including; private residences, multi-family housing, public parks and gardens, urban landscapes, school campuses and both medical and commercial facilities. Works well with people.
- Adept at discovering site opportunities.
- Clear organization, presentation and communication of design ideas.

ORGANIZATIONAL AND PROJECT MANAGEMENT SKILLS

- First Chairperson Vermont Chapter of the American Society of Landscape Architects
- Skilled Presenter to Local Development and State Environmental Boards
- Co-organizer for Kairos at New York's Clinton Correctional Facility (max. security) - a nationally based volunteer program to bring peace to our prisons and communities.
- Co-organizer of Camp Agape Vermont - free camp for children who have experienced a parent's imprisonment— to break the cycle of intergenerational incarceration.

MEMBER
American Society
of Landscape Architects

Eight Linden Lane Essex Junction, Vermont, 05452
PH/FAX 802-878-2778 C 802-578-9591
mike@mclasla.com

EDUCATION

University of Michigan – Ann Arbor, Michigan
Bachelor of Landscape Architecture – 1969

EMPLOYMENT HISTORY

Michael Lawrence & Associates PLC – Landscape Architects – Essex Junction, Vermont
Founder, Landscape Architect 1988 - present.

The Site Concern Inc. – Landscape Architects – Burlington, Vermont
Co-founder, Landscape Architect 1977 – 1988.

Siteworks Inc. - Landscape Design/Build Firm – Hinesburg, Vermont
Co-founder, Design/Build Landscape Contractor 1974 – 1977

Burlington Associates - Architects – Burlington, Vermont
Landscape Architect 1972 – 1973

The Office of Terrence Boyle – Landscape Architects – Burlington, Vermont
Landscape Architect 1971 – 1972

M. Paul Friedberg Associates – Landscape Architects – New York, New York
Landscape Designer 1970 – 1971

Miceli-Weed-Kulik – Landscape Architects – East Rutherford, New Jersey
Landscape Designer 1969 – 1970

Ole Norgaard – Havearkitect – Copenhagen, Denmark
Landscape Architectural Draftsperson – 1967

PROFESSIONAL REGISTRATION

Landscape Architect—State of Vermont—#125.0070756

AFFILIATIONS

Alpha Rho Chi -Architectural Professional Fraternity

American Horticultural Therapy Association

American Public Gardens Association

American Society of Landscape Architects

Burlington Tree Committee – Promoting Urban Forestry

Friends of Central Park – Preserving the quality of New York City's Central Park

Gospelfest Choir—Interfaith Community Choir

Kairos – Vermont State Board Chairman & National Board Member

Rock Point Urban Reserve Natural Resources Committee - Member

Three Cathedral Square Elder Housing -Member Board of Directors

Camp Agape - Co-founder & Member Board of Directors

Habitat for Humanity—Construction Volunteer

PARTIAL LIST OF PROJECTS

Apple Hill Solar Project — Bennington, VT.
Visual Assessment of Proposed Solar Array in View of VT Welcome Center

Anbaric Energy Project — New Haven, VT.
Visual Assessment of New Regional Scale Energy Facility

Berlin Residence — Charlotte, VT.
Visual Assessment of Proposed Power Transmission Line in Scenic Vista

Bishop Brady Center Master Plan — Burlington, VT.
Site Master Plan for Historic Urban Lakefront Property

Bluffs at Northshore — Burlington, VT.
Master Site Development Plan for 75 Unit Lakefront Residential Development
Visual Impact Analysis from Perspectives on Lake Champlain

Bove's Foodprocessing Facility — Milton, VT.
Landscape Plan for New Processing Facility

Bowers Windturbine Project — Carroll & Kossuth, ME.
Visual Assessment & Maine LURC Testimony—Windturbines on Scenic Lakes

Butler's Corners Highway Improvement Project — Essex, VT.
Master Landscape Plan for Stormwater Detention Area

Burlington International Airport — Burlington, VT.
Long Range Site Development Plan
Master Landscape Plan for Parking Garage Expansion
Landscape Plans to Upgrade Planting for Aesthetics & Maintenance
Green Roof accessible to the Public
Living Wall Sound Barrier

Burlington Waterfront Park — Burlington, VT.
Master Plan for Downtown Park on Lake Champlain

Calais Celltower — Calais, VT.
Visual Impact Assessment of Proposed Celltower

Cathedral Church of St. Paul Master Site Plan including Memorial Garden for Urban Cathedral	Burlington, VT.
Cider Mill Neighborhood Traditional Neighborhood Development Master Plan	South Burlington, VT.
College & Battery Street Residences Master Site & Landscape Plan for Dense Downtown Residential Facility	Burlington, VT.
Cottonwood Crossing Master Site & Landscape Plan Including Small Parks for New Community	Williston, VT.
Denecker Chevrolet Visual Assessment and Photo Sims of Proposed Building in Scenic Corridor	Vergennes, VT.
Eastview Continuing Care Facility Visual Assessment and Photo Simulations of Proposed Elder Building Complex	Middlebury, VT.
Elm & Union Elementary Schools Site Development and Landscape Plans for Elementary School Rehabilitations	Springfield, VT.
Essex Town Center Master Plan for Traditional Neighborhood Development	Essex Junction, VT.
Essex Alliance Church Site Plan for Suburban Church Expansion	Essex, VT.
Essex Cinema Landscape Plan for Theater Addition	Essex, VT.
Fairpoint Communications Tower Visual Assessment of Proposed Cell Tower	Berkshire, VT.
Fairpoint Communications Tower Visual Assessment of Proposed Cell Tower	Grand Isle, VT.
Fairpoint Communications Tower Visual Assessment of Proposed Cell Tower	Milton, VT.
Franklin Park Master Plan & Visual Assessment of Residential Development along Interstate Corridor	St. Albans, VT.

Hakone at Smugglers Design for Japanese-style Garden	Smugglers' Notch, VT
Handy Auto Dealership Master Plan & Visual Assessment of Auto Sales Facility in I-89 Corridor	St. Albans, VT.
Hamlet Residential Neighborhood Landscape & Lighting Plan for New Traditional Neighborhood Development	Williston, VT.
Hardwick Veteran's Memorial Park Master Plan to Upgrade Small Historic Community Park	Hardwick, VT.
Hardwick Downtown Revitalization Plan for Village Shopping Street	Hardwick, VT.
Hilton Hotel Urban Garden overlooking Lake Champlain	Burlington, VT.
Homestead Residences Visual Assessment for Multi-story Residences visible from Interstate-89	St. Albans, VT.
IBM Corporation Site & Landscape Plans for New 1 Million SF HQ Facility	Southbury, CT.
IBM Corporation Plans for Renovating Site of Large Manufacturing Facility	Essex Jct. VT.
Key Bank Landscape Plan for New Branch Bank	Burlington, VT.
Lost Cove Residences Master Plan for 12 Home Sites on Bluffs overlooking Lake Champlain	Colchester, VT.
Lowell Windtowers Photo simulations of Proposed Windtowers from Vermont's Long Trail	Lowell, VT.
Marriott Residence Inn Landscape Plan for 90 Unit Inn	Colchester, VT.

Marriott Residence Inn Landscape Plan for 80 Unit Inn	Williston, VT.
Meach Cove Trust Visual Assessment of Transmission Line Proposed to Cross Historic Farm	Shelburne, VT.
Merced Property Visual Impact Assessment of Transmission Line Proposed in Bucolic Setting	Newfane, VT.
Mount Mansfield Corporation Ski Lightings Assessment of Visual Impact of Night Ski Lighting	Stowe, VT.
NestGeneration Solar Project Aesthetic Analysis for Proposed 2.2 MW Solar Array	New Haven, VT.
Police Station Construction Documentation for New Urban Police Center	Boston, MA.
Prentiss Farm Visual Assessment and Vermont PSB Testimony for Rural Wind Tower	Huntington, VT.
Quimonda North America Research Facility Visual Assessment of Proposed Office Building	Williston, VT.
Quinby Residence Design Integrating Street Storm Drainage into Rear-yard Rain Garden	Burlington, VT.
Reinhart Foods Facility Landscape Plan for New Commercial Facility	Essex, VT.
REM Commercial Development Visual Assessment & Mitigation Plan for Commercial Facility in I-89 Visual Corridor	Williston, VT.
Rock Point Conference Center Master Plan for Three Building Retreat Center Overlooking Lake Champlain	Burlington, VT.
Rokeby Museum Landscape Plan for New Museum Commemorating Underground Railroad	North Ferrisburgh, VT.

Roxbury Latin School Site Plan for Athletic Fields & Parking Adjacent in Historic Neighborhood	West Roxbury, MA.
Ryder Brook Golf Course Residences Plan for New Residences and Club Center along Existing Golf Course	Morristown, VT
Saddleback Wind Turbines Aesthetic Assessment for Proposed Wind Turbine Project in Scenic Area	Weld, ME.
St Anne's Shrine Master Development Plan for Seasonal Retreat Center on Lake Champlain	Isle La Motte, VT.
Saxon Hill Industrial Park Master Plan to Integrate Recreation & Commerce on 600 Acre Land Parcel	Essex, VT.
Senecal Quarry Visual Assessment and Impact of Proposed Stone Quarry on Public Corridor	Essex, VT.
Silver Bay YMCA Camp Site & Memorial Garden Plans for Historic Camp on Lake George in Adirondacks	Lake George, NY
South Meadow Neighborhood Master Plan for 120 Affordable Housing Units, including Streetscape & Parks	Burlington, VT.
South Village Solar Array Landscape Mitigation Plan for Solar Panel Project	South Burlington, VT.
Suncommon Solar Project Aesthetic Analysis & Testimony before PSB on Proposed 150 kW Solar Array	Addison, VT.
Suncommon Solar Project Aesthetic Analysis & Testimony before PSB on Proposed 150 kW Solar Array	New Haven, VT.
Three Cathedral Square Parking Design & Courtyard Entry for 90 Unit Senior High Rise Bldg.	Burlington, VT.
Texas Falls Design for Universal Access to Scenic Waterfall in Green Mountain National Forest	Hancock, VT.

University of Vermont — Burlington, VT.
- Inventory and Donor Plan for Trees on Historic Campus Green
- Landscape Renovation for Campus Housing
- Landscape at Historic Centennial Athletic Field
- Landscape Renovation Plan for President's Residence

Vermont AllSun Solar Project — Charlotte, VT
- Aesthetic Analysis and Vermont PSB Testimony for Proposed 500kW Solar Project

Vermont Federal Credit Union — South Burlington, VT
- Landscape Design for New Branch Bank

Vermont Tent Co. — South Burlington, VT.
- Landscape Plan for Commercial Warehouse Expansion

Wagon Wheel — St. Albans, VT.
- Visual Assessment & Landscape Design for Truck Stop Visible from I-89

Wake Robin Continuing Care Retirement Community — Shelburne, VT.
- Landscape Design & Visual Assessment for Project Expansion
- Therapeutic Garden for People Living with Dementia & Alzheimer's

Walmart Bennington — Bennington, VT.
- Landscape Design & Aesthetic Assessment—New Store

Walmart Derby — Derby, VT.
- Landscape Design & Aesthetic Assessment—New Store

Walmart St. Albans — St. Albans, VT.
- Landscape Design & Aesthetic Assessment—New Store

Williston Fire Station — Williston, VT.
- Landscape Design for New Fire Station

Williston Police Station — Williston, VT.
- Landscape Design for New Police Station

NH Seacoast Reliability Project - Aesthetic Analysis Review

Plan of Project Route

Michael Lawrence Assoc. Landscape Architects Essex Junction, Vermont 05452

north

0 5,000 ft.

Graphic Scale

July - 2017

CONTENTS

INTRODUCTION & METHODOLOGY

In September of 2016, I was retained by Counsel for the Public to review and comment on the visual impact of a 12.9 mile long electrical transmission line proposed by Eversource Energy to be constructed in an existing power line ROW through Madbury, Durham, Newington and Portsmouth, NH known as the Seacoast Reliability Project.

My analysis focused on a review of Eversource's visual assessment report prepared by Landworks, a landscape architectural firm based in Middlebury, Vermont. In addition to reviewing the LW report, I studied the Project's engineering and environmental maps and conducted site observations.

On October 26th and 27th, November 15th, December 21st, 2016,and June 26th, 2017 I visited the Project site including locations described in the LW report and illustrated in photographs and photosimulations.

I took photos in the corridor, measured the heights of representative trees and existing poles, and noted the visual impact of the present line as it passes through several different kinds of landscapes along its route.

While looking at specific places along the corridor, I reviewed landscape treatments illustrated on the environmental plans as well as the heights and types of the poles in those locations shown on the engineering drawings. Since the environmental plans (Applications Appendix 2) don't detail species and sizes of plants in and along the project corridor (including types and height of vegetation to be cleared), I noted that information during my site visits.

It became evident that proposed new poles somewhere between two to three times the height of the existing poles and the removal of vegetation presently encroaching and in places almost filling the ROW will dramatically change the visual character of many places along the corridor.

The following report summarizes my analysis of the LW report and provides my additional observations on the visual impacts of the proposed project.

IMPORTANT N.H. TERMS & RULES

Before I began formally reviewing the LandWorks Visual Assessment, I took a look at the meaning of terms used to describe scenic resources and visual impact recorded in the Committee's administrative rules, Site 102, Definitions.

Eleven of the fifty-seven terms in this section especially fit the work of analyzing the Seacoast Reliabilty Project and reviewing the LW report.

Eleven important terms and their definitions;

102.10 "Area of potential visual impact" means a geographic area from which a proposed facility would be visible, and would result in potential visual impacts, subject to the areal limitations.

102.12 "Best practical measures" means available, effective, and economically feasible on-site or off-site methods or technologies used during siting, design, construction, and operation of an energy facility that effectively avoid, minimize, or mitigate relevant impacts.

102.22 "Fragmentation" means the loss of habitat that results from the division of relatively large, continuous habitats into smaller, more isolated remnants.

102.25 "Key observation point" means a viewpoint that receives regular public use and from which the proposed facility would be prominently visible.

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.

102.35 "Photosimulations" means computer-enhanced images generated using professionally accepted software that illustrate the visible effects anticipated from a proposed facility.

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.

102.45 "Scenic resources" means resources to which the public has a legal right of access that are:

a. Designated pursuant to applicable statutory authority by national, state, or municipal authorities for their scenic quality.

b. Conservation lands or easement areas that possess a scenic quality.

c. Lakes, ponds, rivers, parks, scenic drives and rides, and other tourism destinations that possess a scenic quality.

d. Recreational trails, parks, or areas established, protected or maintained in whole or in part with public funds.

e. Historic sites that possess scenic quality, or

f. Town and village centers that possess a scenic quality.

102.46 "Sequential observation" means a viewer is capable of seeing multiple energy facilities from different viewpoints as the viewer travels along a particular route such as a trail, river, scenic byway, or on a lake.

102.52 "Successive observation" means a viewer sees multiple energy facilities from a particular viewpoint, but not within the same viewing arc, by changing the viewer's cone of vision.

102.56 "Visual impact assessment" means the process for determining the degree of change in scenic quality resulting from construction of a proposed facility.

I also looked at New Hampshire's requirements for visual impact assessments set forth in Site 301.05 which describes the necessary components of a visual impact assessment:

(1) A description and map(s) of the project visible from any scenic resources.

(2) A description of how the landscape's scenic quality was identified and evaluated as well as the proposed project's visual impact.

(3) A description (narrative and graphics) of the physiographic, historical and cultural features of the landscape surrounding the proposed facility to provide the context for evaluating any visual impacts.

(4) A computer-based visibility analysis to determine the area of potential visual impact (10 mi. requirement for this line).

(5) Identify all scenic resources within the potential impact and a description of those scenic resources from which the proposed facility would be visible.

(6) Characterization of potential visual impacts of the proposed facility rated as high, medium or low considering.

a. The expectation of the typical viewer.

b. The effect on future use and enjoyment of the scenic resource.

c. The extent of the proposed facility, including disturbed areas visible from the scenic resource.

d. The distance of the proposed facility from the scenic resource.

e. The horizontal breadth or visual arc of the visible elements of the proposed facility.

f. The scale, elevation and nature of the proposed facility relative to surrounding topography and existing structures.

g. The duration and direction of the typical view of elements of the proposed facility, and

h. The presence of intervening topography between the scenic resource and the elements of the proposed facility.

(7) Photosimulations from representative key observation points, from other scenic resources for which the potential visual impacts are characterized as "high" pursuant to (6) above, and, to the extent feasible, from a sample of private property observation points within the area of potential visual impact, to illustrate the potential change in the landscape that would result from construction of the proposed facility and associated infrastructure, including land clearing, grading and road construction.

(8) Photosimulation requirements:

a. – d. high resolution, 50 mm. lens equivalent, clear weather, foreground objects, foliage set/non-foliage set, note GPS, camera make and model, camera settings, date, time, weather.

e. wind turbine (not applicable)

(9) FAA Lighting (not applicable)

(10) A description of measures planned to avoid, minimize , or mitigate potential adverse effects of the proposed facility.

It's important to remember that in performing the work, these requirements don't necessarily unfold in a linear 1 through 10 sequence. Rather, the steps intertwine and flow back and forth with one another.

ANALYSIS OF LANDWORKS REPORT

With this framework in mind I reviewed the LandWorks Visual Assessment (LW Report) in greater depth.

Site 301.05(b)(1) requires a "description and map(s) of the project visible from any scenic resource"

LW report's Exhibits 1 *(10 MILE POTENTIAL VIEWSHED MAP TOPO / VEG)* and 2 (*3-MILE POTENTIAL VIEWSHED MAP TOPO / VEG)* fulfill this mapping requirement.

Exhibit 1 maps the location of nine scenic resources within 10 miles of the project, seven of which are within three miles. Exhibit 2 repeats the locations of the seven scenic resources within the three mile zone on a larger scaled map.

While these nine Sensitive Scenic Resources are not named on either exhibit, they are named in the LW Report in Table 8 on page 64:

9 SCENIC RESOURCES FROM LW REPORT

1. *Great Bay National Wildlife Refuge– Newington*
2. *Little Bay Road—Newington*
3. *Cedar Point / Black River Roads from Rt 4—Durham*
4. *Scammell Bridge from Rt 4—Durham-Dover*
5. *Wagon Hill Farm—Durham*
6. *Fox Point—Newington*
7. *UNH Campus—Durham*
8. *Garrison Hill Park & Tower—Dover*
9. *Stratham Hill Park—Stratham*

With this information including the technical drawings showing proposed pole locations and heights, I traveled to the site. I measured tree heights with a hypsometer from public places along the project corridor where the existing line is visible and compared those heights with the heights of the poles proposed in each particular place.

I also visited the nine sites defined in the LW report as "sensitive scenic resources" .

Photo #1—Looking southwest across Little Bay from Fox Point, Newington to Durham —October, 2016—panorama

I found that the height of the proposed poles, generally within five or ten feet of the trees on either side of the existing right-of-way, and the rolling hill topography between the Project and the eight of the nine "sensitive scenic resources", generally confirms the LW report's statement 3) on page 95;

"Lack of overall visibility. Typical Project visibility is limited to crossing points on local roads, and state highways, a few open areas (some in parking lots), and a short section at the UNH campus.Visibility is limited due to the extensive tree cover and woodland landscapes in many sections, with tree heights typically 55 to 65 feet."

Photo #2—Local Road Crossing (Fox Point Road) looking northeast —October, 2016— panorama

ASSESSMENT OF VISUAL IMPACT

My observations however led me to suspect that this statement de-emphasizes the Project's potential to impact the visual character of the landscape at state highway, local roads crossings and several high-use pedestrian zones on the University of New Hampshire campus.

The LW Report proposes a highly detailed scoring process to rate the cultural value of specific sites in the Project's vicinity as well as assigning numerical scores that are added and divided to rate the amount of scenic quality provided in those places (scenic resources).

On page 98, the LW Report concludes;

"The employment of a comprehensive methodology for the visual assessment, beginning with the inventory of sensitive resources, yielded the conclusion that there were no locations where the project would exceed a threshold of visual change and effect that would be considered unreasonable."

Photo #3—Durham Point Road crossing looking southeast —June, 2017— panorama

This "Discussion of Sensitive Resources" paragraph states that only one area scored high enough (moderate high) to qualify for a deeper analysis.

The paragraph goes on to say however, that four additional areas (that did not earn a rating high enough to call for further analysis) *"merit discussion"* because "*visual effect will be noticeable and adverse due to one or more factors including visibility, height of the structure, lack of screening and the potential numbers of viewers.*"

The LW report doesn't account for the lack of discrepancy between the overall score and need for further analysis of the additional areas.

1. Little Bay Road
2. Little Bay shoreline
3. Great Bay National Wildlife Refuge
4. UNH Main Street crossing in Durham

Photo #4—UNH Main Street railroad overpass looking west —June, 2017— panorama

For areas #1 & 2—The spring 2017 line design change from over to underground, removing it from sight near Little Bay Road and the Little Bay shoreline eliminates the need for further aesthetic analysis.

Area—#3, Site study and observations led me to agree with the LW Report's conclusion that the line will have little effect on views from the Great Bay National Wildlife Refuge.

Area #4—The LW report discusses the Main Street crossing at UNH on page 104

"Eversource will bury a 0.4 mile section of the transmission line on either side of Main Street. Beyond this section the line will continue as an overhead design as it heads northerly adjacent to an area of extensive parking lot infrastructure on the campus."

"To either side of the proposed underground section, the campus has a distinctly utilitarian quality in terms of visual character and land use. The addition of structures ranging in height from a median of 88 feet to the highest at 105 feet will result in a change in visibility in this section of the Project. At the same time it is reasonable to expect that a vital existing utility corridor such as this one will change over time with the reconfiguration of existing or the addition of new lines."

Photo #5—High-use Pedestrian Zone (UNH Gables Apartment Complex) —December, 2016—panorama

"But the scale and height will only be prominent from a very limited set of vantage points, and the primary vantage points from the street and sidewalks along Main Street as well as adjacent areas will not be impacted or altered visually by tall structures in this specific section of the campus."

"These structures will not seem overly dominant or overwhelming—or serve as any type of focal point or be viewed as a significant visual intrusion."

These descriptions don't consider the visual impact of;

A. The Project's clearing, higher poles and wires running near the Gables Apartment Complex—housing hundreds of students.

B. Clearing and high poles and wires through the treed islands in the Gables north parking lots.

C. Clearing for the underground portion right-of-way southwest of the Main Street railroad overpass east of the University Field House.

D. The increased scale of poles placed near Gregg Hall, approximately 1,500 ft. south of the Main Street railroad overpass.

ADDITIONAL AREAS A-M IMPACTED BY THE PROJECT NOT INCLUDED IN THE LANDWORKS REPORT

As I traveled and looked at specific places along the corridor, measured the heights of trees, noted vegetation to be cleared, reviewed proposed pole locations and heights, I concluded that visibility, height of structure, lack of screening and the potential number of viewers required further analysis in the following places;

A. FOX POINT ROAD CROSSING

B. DURHAM POINT ROAD CROSSING

C. SANDY BROOK DRIVE (east) CROSSING

D. SANDY BROOK DRIVE (west) CROSSING

E. FROST DRIVE CROSSING

F. CUTTS ROAD CROSSING

G. ROUTE 108 CROSSING

H. MILL ROAD CROSSING

I. UNH—GREGG HALL VICINITY

J. UNH—MAIN STREET OVERPASS

K. UNH—GABLES APARTMENT COMPLEX

L. UNH—GABLES NORTH PARKING

M. ROUTE 4 CROSSING

NH Seacoast Reliability Project - Aesthetic Analysis Review

Plan of Project Route

Michael Lawrence Assoc. Landscape Architects Essex Junction, Vermont 05452

north

0 5,000 ft.

Graphic Scale

July - 2017

ANALYSIS FOR VISUAL IMPACTS FOR AREAS A-M

Pursuant to the Committee's rules at Site 301.05(b), the visual impact assessment must include:

(3) A description (narrative and graphics) of the physiographic, historical and cultural features of the landscape surrounding the proposed facility to provide the context for evaluating any visual impacts.

(4) A computer-based visibility analysis to determine the area of potential visual impact (10 mi. requirement for this line).

(5) Identify all scenic resources within the potential impact and a description of those scenic resources from which the proposed facility would be visible.

(6) Characterization of potential visual impacts of the proposed facility rated as high, medium or low considering.

a. The expectation of the typical viewer.

b. The effect on future use and enjoyment of the scenic resource.

c. The extent of the proposed facility, including disturbed areas visible from the scenic resource.

d. The distance of the proposed facility from the scenic resource.

e. The horizontal breadth or visual arc of the visible elements of the proposed facility.

f. The scale, elevation and nature of the proposed facility relative to surrounding topography and existing structures.

g. The duration and direction of the typical view of elements of the proposed facility, and

h. The presence of intervening topography between the scenic resource and the elements of the proposed facility.

Photo #6—Looking south from UNH Gregg Hall —June, 2017— panorama

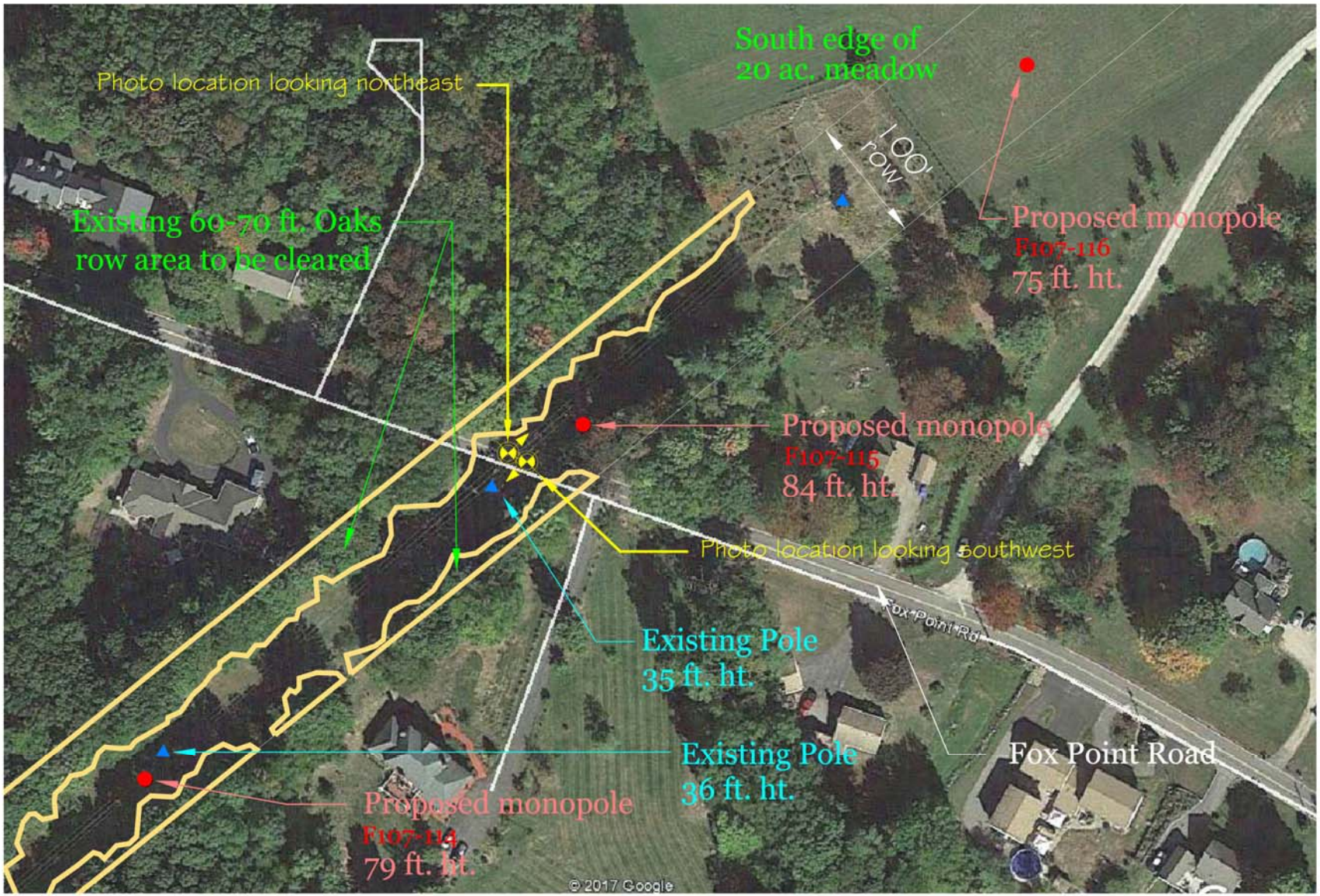
Photo #7—Fox Point Road—East End

Photo #8—Fox Point

A. FOX POINT ROAD CROSSING—Newington

Fox Point Road is a two-lane, quiet suburban residential road framed with mature trees. It connects with a bike path to the east and passes the Newington Town offices, elementary school, historic houses and farms on its way to Fox Point.

The expectation of the typical viewer looking south on Fox Point Road is to see a mix of small and large residences on wooded lots and wooded land parcels. This expectation includes not seeing structures grossly out of scale with the one and two story residences.



NH Seacoast Reliability Project - Aesthetic Analysis Review

A. Fox Point Road Crossing

Clearing diagram with tree and pole heights

0 100'

Graphic Scale

north

Photo #9—LOCATION A1. (Fox Point Road Crossing) looking southwest along proposed project—October, 2016 panorama

Looking southwest from the crossing, four 35-40 ft. high wood poles are visible in a 50 ft. wide clearing between 50-70 ft. ht. oak trees. The existing poles set 330-400 ft. apart, the closest is 30 ft. from the edge of the road.

The tops of the first and second poles are visible in silhouette against the sky, the remaining poles are backgrounded by trees further back. The oaks partially screen houses on either side of the ROW. A neatly manicured lawn extends across the ROW, under the oak trees and into the residential yard to the east. The mature trees and lawn establish the beautiful character of this area.

Environmental Map 23/28 shows a 100 ft. wide cleared opening in the oak vegetation, removing 30-40 ft. on the west of the ROW and 10-20 ft. on the east.

It's unclear if the map's vegetation removal symbol indicates that trees to remain will have a 50-70 ft. high vertical cut, and to what extent trees outside the row will be declared "hazard trees" and require removal.

Engineering plans indicate a 79 ft. pole (F107-114) approximately 400 ft. south of Fox Point Road and triple 55 ft. tall poles 640 ft. further. Clearing and significantly higher poles (twice as high) will dramatically alter the character of this view at the crossing.

Photo #10—LOCATION A1 (Fox Point Road Crossing) looking southwest along proposed project—November, 2016 55 mm eq.

Photo #11—LOCATION A2 (Fox Point Road Crossing) looking northeast along proposed project—October, 2016 panorama

Views to the northeast at the existing line from Fox Point Road are constricted by a narrow (30 ft. wide) opening in a mixed stand of both young and mature oak trees including a few white pines (35-40 ft. tall). This grove extends from within both sides of the ROW onto the residential properties both east and west. The stand extends approximately 200 ft. back from Fox Point Road. Low deciduous shrubs fill much of the 30 ft. wet zone between the trees.

Environmental Map 23/28 shows the removal of 20 ft. of vegetation on the west side of the ROW and engineering plans show five new single poles, 84, 75, 70, 70 and 75 ft. high. respectively (F107-115-F107-119) extending 1,500 ft. north from Fox Point Road. The 84 ft. tower (F-107-115) is proposed to be located less than 50 ft. north of the edge of Fox Point Road.

Opening the ROW, placing a tall structure close to the road, and replacing the existing poles running north with structures nearly twice as high will represent a major change in north views from the Fox Point Road crossing.

The expectation of the typical viewer looking north on Fox Point Road is to see a mix of residences on wooded lots, wooded areas and an occasional glance at a twenty acre meadow that runs along much of this east end of the road behind the residential lots.

Photo #12—20 acre meadow north of Fox Point Road—June, 2017 55mm eq.

Photo #13—LOCATION B1 (Durham Point Road Crossing) looking southeast along proposed project—June, 2017 55 mm eq.

Photo #14—LOCATION B1 (Durham Point Road Crossing) looking southeast along proposed project—June, 2017 panorama.

B. DURHAM POINT ROAD CROSSING—Durham

Travelers on this scenic historic road generally expect wooded views opening occasionally to both intimate and grand open spaces including farm meadows and marshes as well as Little and Great Bay. They also expect to see historic houses and farmsteads as well as more contemporary homes in wooded, rural settings.

Looking southeast at the crossing, a single pole approximately 175 ft. southeast of Durham Point Road is barely visible against a cluster of 40-50 ft. white pine trees. From road perspectives, the pole barely projects into the sky. An open wetland 60 ft. wide extends 70 ft. along the northeast side of the ROW.

White pines occupy a 30 ft. zone along the southern boundary of the ROW as well as sporadically across the northeast side the wetland. A residential driveway parallels the ROW to the northeast. While a few trees and shrubs edge the driveway their size and arrangement allow views across another wetland to the east.

A residence sits atop a gentle rise approximately 120 ft. east of Durham Point Road and 40 ft. south of the south edge of the ROW. 40-60 ft. tall white pines and oaks fill the area between the transmission line and the residence.

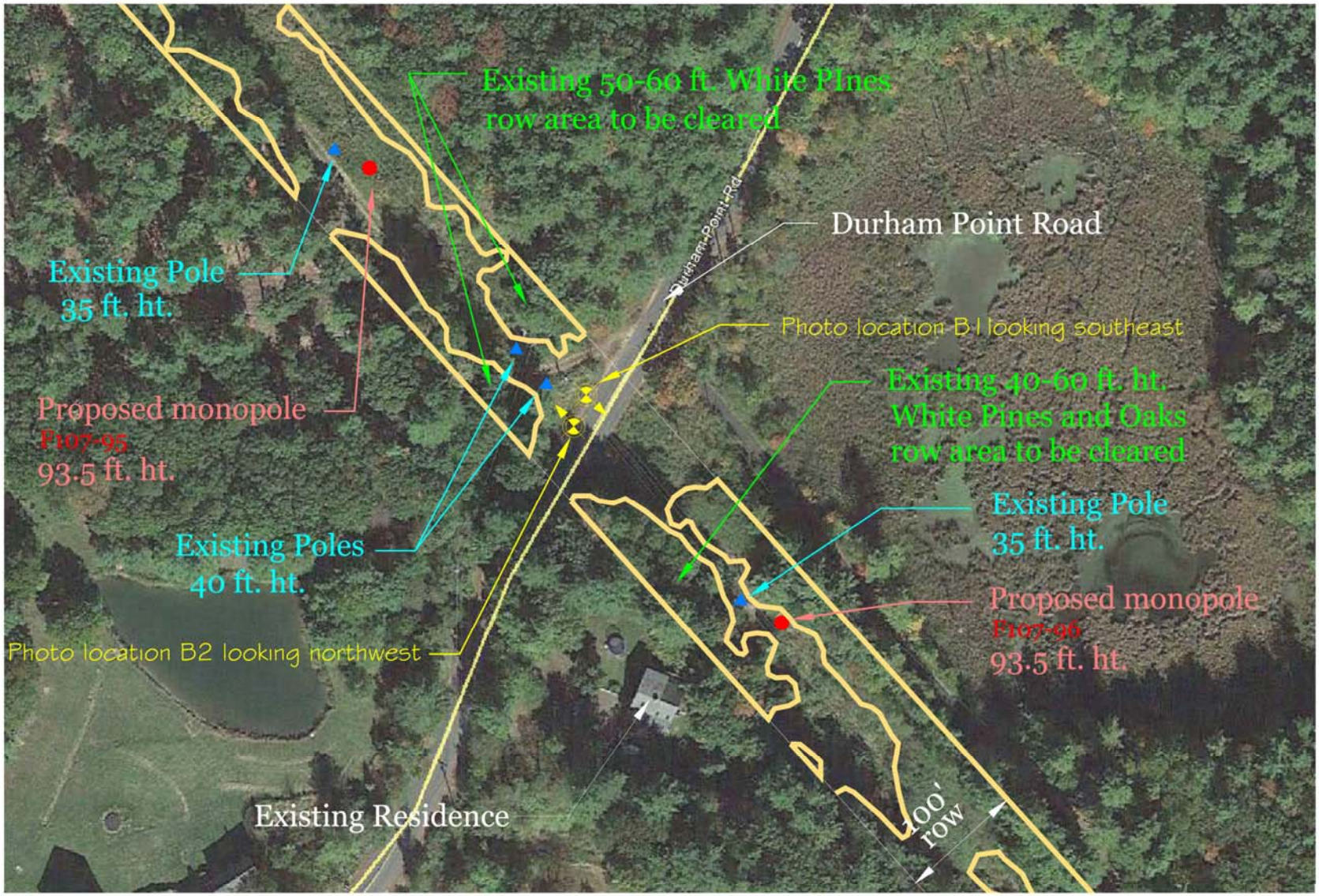
Photo #15—LOCATION B1 (Durham Point Road Crossing) looking southeast along proposed project—December, 2016 panorama

Environmental map 16/28 illustrates that the trees that fill the ROW beyond the wetland will be cleared. Grades on the plan show that clearing will extend half way up the hill to the existing residence. Presently these trees form a single grove. Removing half of them will expose the inside of the grove making some of the remaining trees potentially vulnerable to windthrow. If this happens, their height will cause them to be a hazard to the line and they'll be required to be removed.

Even without considering windthrow, it appears that the residence will lose at least half the trees that screen the transmission line.

The new line heads in a straight line southwest from Durham Point Road for .03 mi. along four new single-pole structures (F-107-96, 97, 98 and 99) that range in height from 66-98 ft. Because grade is relatively level, the 100 ft. wide clearing will expose the new poles and wires along this section of the project from Durham Point Road.

A 93 ft. ht. pole F107-96) is proposed just south of the existing pole closest to Durham Point Rd. The higher, unscreened pole standing out against the sky will attract attention to itself, altering the view looking southeast at the Durham Point Road crossing.



NH Seacoast Reliability Project - Aesthetic Analysis Review

B. Durham Point Road Crossing
Clearing diagram with tree and pole heights

0 100'
Graphic Scale

north

50-60 ft. tall oaks and white pines grow into and along the edges of the transmission line ROW uphill northwest of Durham Point Road. The opening in the trees averages 40 ft. wide over a distance of 200 ft.

Two 40 ft. wood poles within 30 and 60 ft. of Durham Point Road as well as a 35 ft. pole 250 ft. beyond are visible against the sky. The narrow opening in the trees growing into the ROW frames a thicket of 15 ft. pussy willows, sumac and several 20 ft. tall pines within 150 ft. of Durham Point Road. This vegetation limits the duration of visibility of the poles against the sky silhouette as they step up the hill.

Environmental Map 16/28 shows the ROW cleared to a full 100 ft. and a 93 ft. high pole (F107-95) placed approximately 250 ft. from Durham Point Road. The next nine poles (F107-94 – F107-87) continue in a straight line for 0.7 mi. Base elevations for these nine poles rises as much as 40 ft. above Durham Point Road and their vertical dimensions vary from 79-103 ft.

A 100 ft. cleared zone offering views of multiple poles receding in the landscape against the sky will dramatically alter the existing view looking northwest at Durham Point Road.

Photo #16—LOCATION B (Durham Point Road Crossing) looking northwest along proposed project—December, 2016 panorama

Photo #17—Durham Point Road—Historic Character

Photo #18—LOCATION C1 (Sandy Brook Drive—East Crossing) looking east along proposed project—November, 2016 panorama

C-F. SANDY BROOK ROAD (EAST & WEST) FROST DRIVE AND CUTTS ROAD

Sandy Brook Road, Frost Drive and Cutts Road are part of an interconnected contemporary suburban residential neighborhood in a wooded setting. The existing power line consists of 35-40 ft. poles spaced as close as 60 ft. and as far a 350 ft. running in a ROW through 40-60 ft. evergreen and deciduous trees.

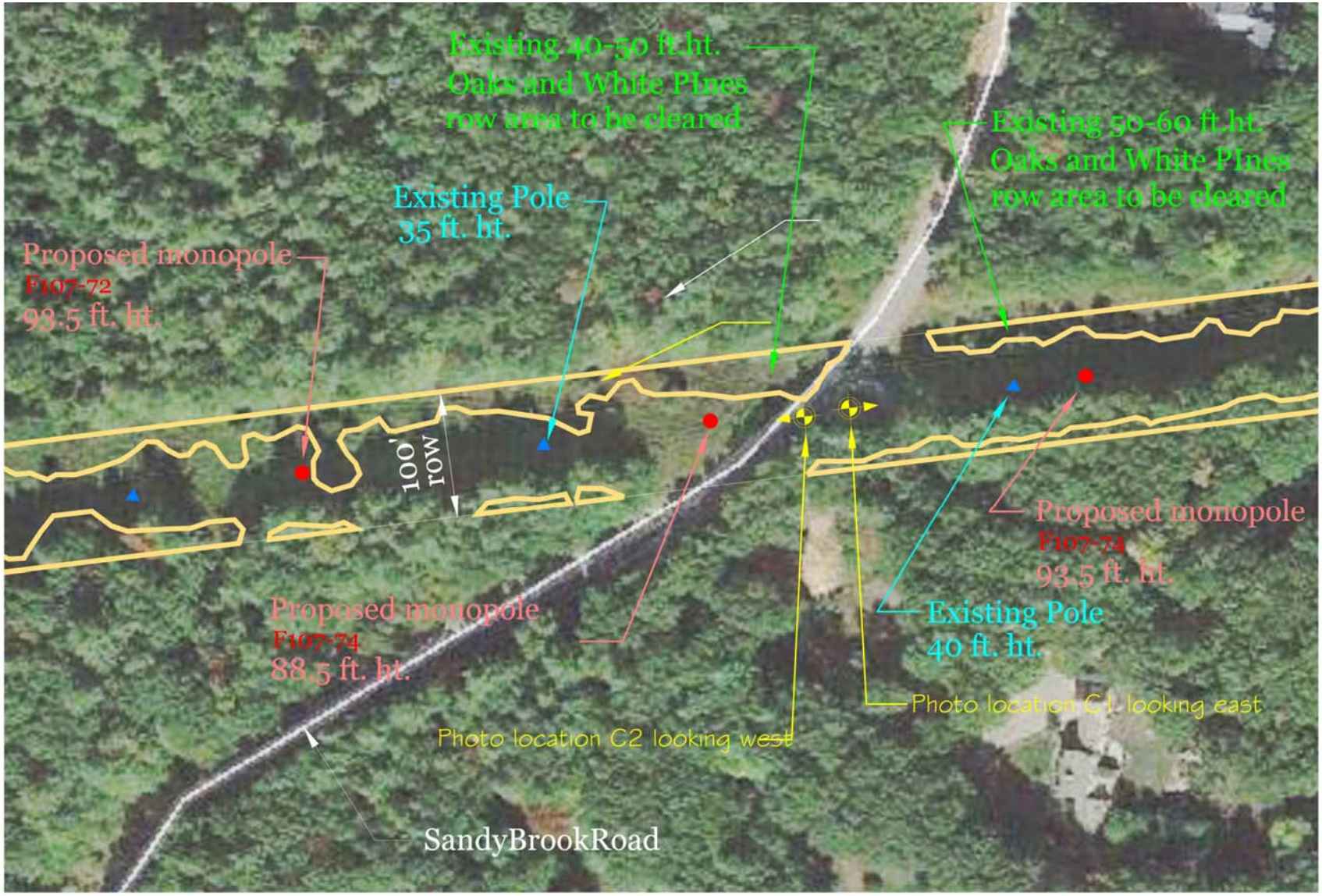
The expectation of the typical viewer along these four streets is to see residences in an environment that gives the sense of being in or close to nature. The neighborhoods have a sense of quiet retreat and separation from nearby, more urban environments.

C. SANDY BROOK ROAD EAST CROSSING

Views east down the corridor at the Sandy Brook Road East Crossing are of four wooden poles against the sky. The nearest wood pole is 40 ft. ht. and 140 ft. from the Road. 50-60 ft. tall oaks and pines with continuous foliage bottom to top line the sides and project into the ROW.

Environmental Map 12/28 shows a 93 ft. pole (F107-74) located 190 ft. east of the crossing and an 84 ft. pole (F107-75) 550 ft. beyond. A straight line of poles with similar heights continue for a mile over the gently rolling topography.

The map shows the edges of the ROW cleared.



NH Seacoast Reliability Project - Aesthetic Analysis Review

C. Sandy Brook Road (east) Crossing
Clearing diagram with tree and pole heights

0 100'
Graphic Scale

north

Photo #19—LOCATION C2 (Sandy Brook Drive—East Crossing) looking west along proposed project—November, 2016 panorama

The LW report does not describe or provide photosimulations of the post-construction appearance of the taller poles in this wider, more open view. Nor does it indicate if the straight clearing line indicated on the environmental map means the foliage of trees with branches projecting into the ROW will be sheared vertically along the ROW line. If that is the case, windthrow and the need for more tree removal is highly likely.

The increased scale of the structures and height of the line will be dominant from this perspective.

Looking West from the crossing, a 35 ft. wood pole is visible 190 ft. away. 40-50 ft. oaks and pines line and grow into the north side of the ROW.

Environmental Map 12/28 shows an 88 ft. high pole (F107-73) 65 ft. west of the road backed by a half mile of poles similar in height spaced at 300-500 ft. intervals. The plan indicates clearing a quarter to a third of the north side of the ROW over a distance of 800 ft. The same issues and questions regarding clearing practices and long term effects of winthrow apply in this location.

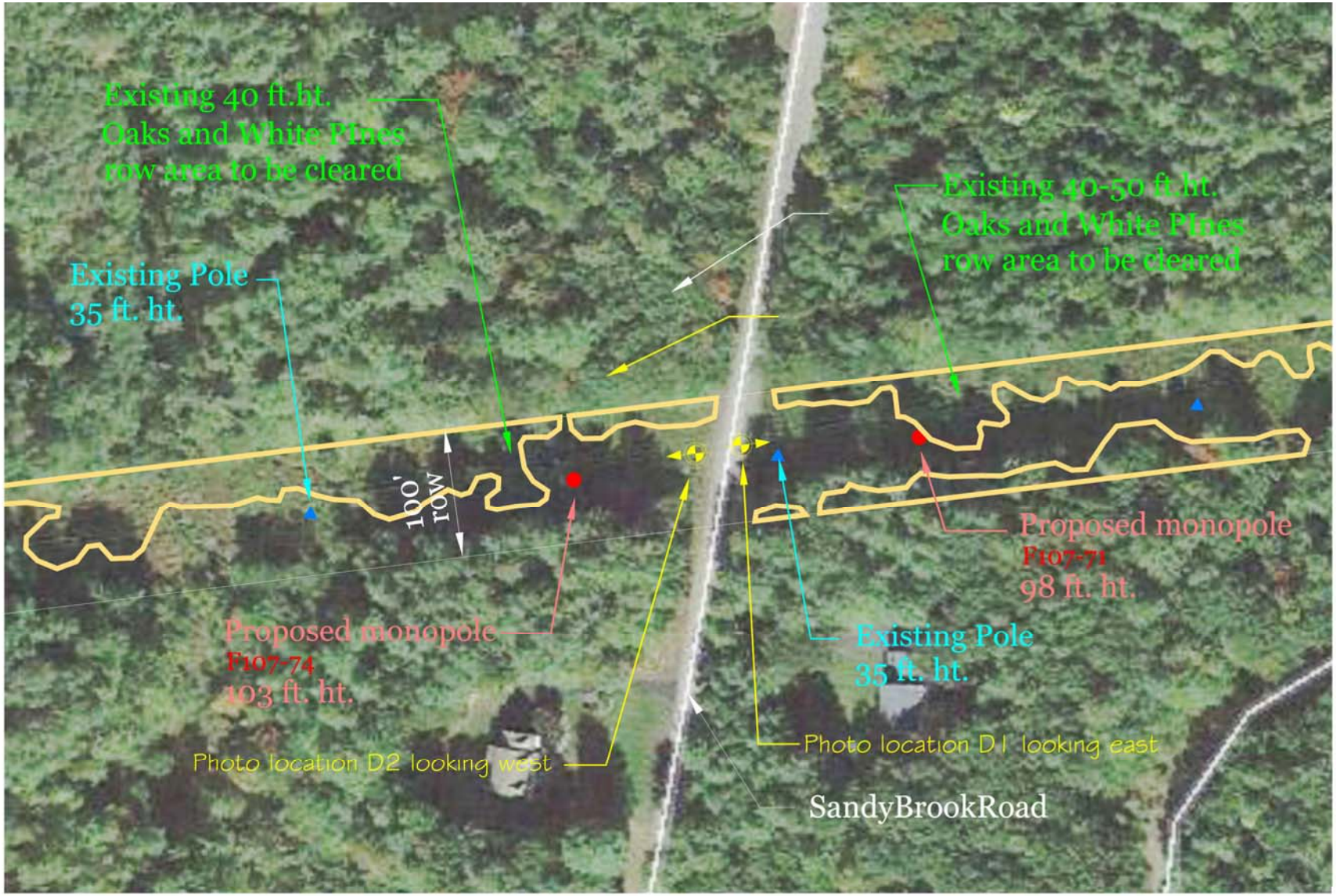
The increased scale of the structures and height of the line will be much more visually prominent from this crossing.

Photo #20—LOCATION D1 (Sandy Brook Drive—West Crossing) looking east along proposed project—November, 2016 panorama

D. SANDY BROOK ROAD WEST CROSSING

Looking to the east where the west loop of Sandy Brook Road passes under the line, three, 35 ft. wood poles (closest 30 ft. from road) are visible against the sky. 40-50 ft. tall oaks and pines with continuous foliage bottom to top line the sides of the ROW.

Environmental Map 12/28 shows a 98 ft. pole (F107-71) 150 ft from the road and a straight line of poles similar in height extending east. The plan indicates clearing a quarter to a third of the north side of the ROW over a distance of 800 ft. The increased scale of the structures and height of the line will be much more dominant from this perspective



NH Seacoast Reliability Project - Aesthetic Analysis Review

D. Sandy Brook Road (west) Crossing
Clearing diagram with tree and pole heights

0 100'
Graphic Scale

north

Photo #21—LOCATION D2 (Sandy Brook Drive—West Crossing) looking west along proposed project—November, 2016 panorama

Looking west at the Sandy Brook Road West Crossing – three 35 ft. poles are visible heading up a gentle slope in a corridor with undulating edges of 40-50 ft. oaks and pines. Foliage facing the ROW is solid top to bottom. The closest pole is 150 ft. away. Young pines growing in the ROW partially screen long-distance views.

Environmental Map 12/28 shows a 103 ft. pole (F107-70) 100 ft from the road and a straight line of poles similar in height extending west. The plan indicates major clearing in the corridor, from 30 to 90 percent. These changes will cause a major visual impact here.

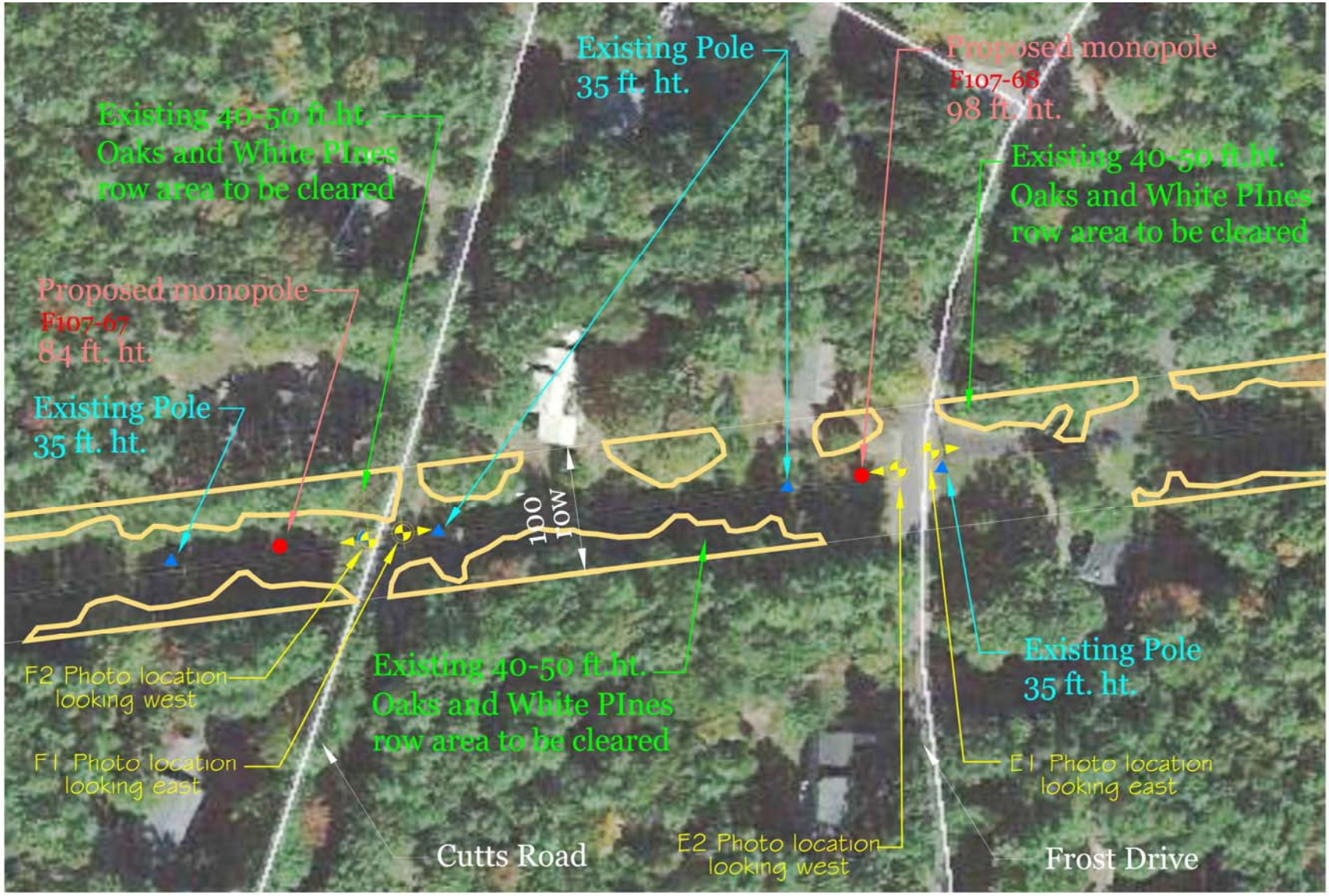
Photo #22—LOCATION E1 (Frost Drive) looking east along proposed project—November, 2016 panorama

E. FROST DRIVE CROSSING

Frost Drive looking east – three 35 ft. poles are visible, the closest within six ft. of Frost Drive. A residence borders the south ROW. Its lawn flows from the house to approximately half way across the ROW. and its driveway runs for 150 ft. in the right of way before turning into the house. Tall pines and young oaks extend 20-30 ft. into the north side of the ROW.

Environmental Maps 11/28 and 12/28 show the 20-30 ft. zone of vegetation removed on the north side of the row and a 98 ft. pole (F107-69) placed 430 ft. from Frost Drive. A series of similarly high poles extend in a straight line to the east.

The view will be more open and revealing of the large structures (almost three times higher than those existing) and represent a negative visual impact from the present crossing.



NH Seacoast Reliability Project - Aesthetic Analysis Review

E. Frost Drive Crossing & F. Cutts Road Crossing
Clearing diagram with tree and pole heights

0 100'
Graphic Scale

north

Photo #23—LOCATION E2 (Frost Drive) looking west along proposed project—November, 2016 panorama

Frost Drive looking west – Three 35 ft. poles are visible looking up a gentle grade. The closest pole is about 100 ft. from Frost Drive. A residence immediately north of the line is open to the ROW. 40-50 ft. oak trees line and encroach into the edge of the ROW.

Environmental Map 11/28 depicts a 98 ft. pole (F107-68) 30 ft. from the west side of Frost Drive. A straight line of poles with similar heights extends west. The map also shows 30 ft. wide sections of vegetation to be removed on both sides of the ROW. Clearing, high poles extending into the distance and the proximity of a 98 ft. pole at the edge of the road will change the character of this part of the Frost Drive neighborhood.

F. CUTTS ROAD CROSSING

Three 35 ft. poles are in view looking east from Cutts Road, the closest 25 ft. off the edge of the pavement. There are residences on both sides of the ROW. There are no trees between the north residence and the ROW. A row of 40 ft. pines screen the residence to the south.

The closest new pole east of Cutts Road on Environmental Map 11/28 is 350 ft. away. New poles continue in a straight line every 475-500 ft. in the 100 ft. wide clearing. Higher poles extending into the sky to the west will alter the visual character in this place.

Cutts Road looking west – The tops of three, 30-40 ft. poles are visible over the top of a low hill. Narrow bands

Photo #24—LOCATION F1 (Cutts Road) looking east along proposed project—November, 2016 panorama

Photo #25—LOCATION F2 (Cutts Road) looking west along proposed project—November, 2016 panorama

of oak trees help screen the residences north and south of the ROW from the existing poles. Environmental Map 11/28 shows a 30 ft. band of vegetation on the north side of the ROW removed . 84 ft. tall F107-67 will sit 75 ft. away from the road with 80-90 ft. poles continuing in a straight line for the next half mile.. These changes will dramatically transform the visual character at this location.

Photo #26—LOCATION G1 (Route 108 Crossing) looking north across proposed project—December, 2017—panorama

G. ROUTE 108

Route 108 is a two-lane state highway that crosses the transmission line site about 1.25 mi. south of Main Street in Durham. Longmarsh Road intersects Route 108 from the east immediately south of the power line ROW. The area is rural and rural residential.

East of Route 108, a 56 ft. high triple wood pole sits about 80 ft. off the edge of the pavement. Further east, two lower (30-40 ft. ht.) single poles are visible against the sky. Additional poles run along Route 108 and Longmarsh Road. Young white pines, alders and witchhazel shrubs extending almost all the way across the ROW limit the opening and constrict views of the line. The furthest pole is approximately a quarter mile away. Large (60-70 ft. ht.) white pines branched to the ground line both sides of the ROW.

Environmental Maps 10 /28 and 11/28 and engineering drawings indicate a 100 ft. wide clearing and the installation of higher poles including 79 ft. ht. (F107-61) 150 ft. from the road, 70 ft. ht. (F107-62) 300 ft. further and 79 ft. ht. (F107-63) 400 ft. beyond.

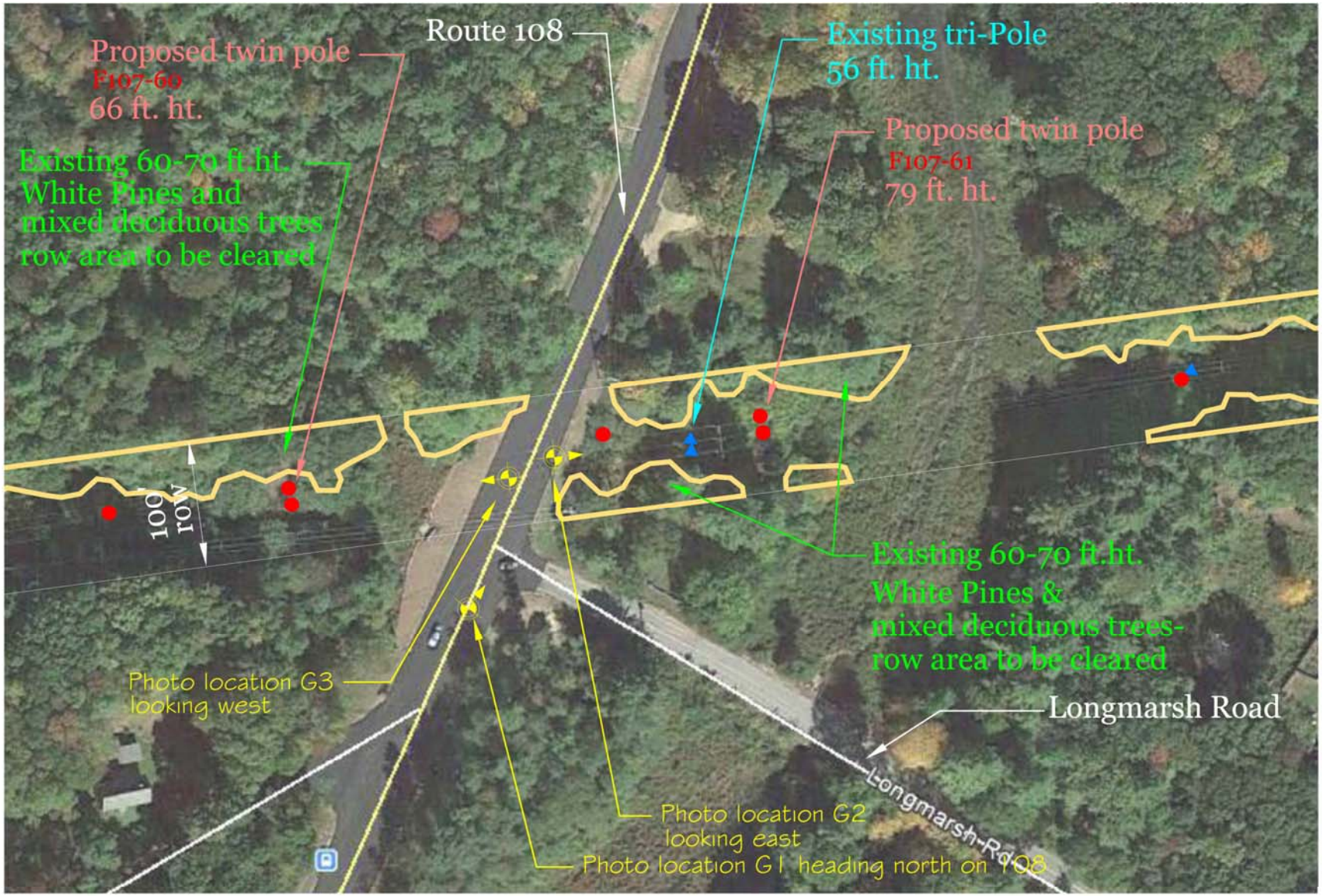
Photo #27—LOCATION G2 (Route 108 Crossing) looking east along proposed project—June, 2017 55 mm eq.

Photo #28—LOCATION G3 (Route 108 Crossing) looking west along proposed project—December, 2017—panorama

Looking West—60-70 ft. high pines and mixed deciduous trees line the north side of the ROW, 40-50 ft. ht. deciduous trees line the south. Groups of poplar trees and sumac shrubs grow in the ROW. Moving west, the land elevation rises 40 ft. over a distance of approximately 400 ft. A 35 ft. monopole and higher triple pole are visible on the hillside. The proposal calls for a 66 ft. high pole (F107-60) and 50 ft. ht. pole (F107-59) in the same vicinity as the existing poles.

The larger poles including seeing those at greater distances as well as the clearing will alter the character of this view to the west.

Windthrow is a potential issue along the edge of the ROW both east and west of Route 108. Opening the cut, along with higher wires and higher structures will make the crossing less attractive.



NH Seacoast Reliability Project - Aesthetic Analysis Review

G. Route 108 Crossing
Clearing diagram with tree and pole heights

0 100'
Graphic Scale

north

Photo #29—LOCATION H1 (Mill Road Crossing) looking south along proposed project—December, 2017—panorama

LOCATION H. MILL ROAD

Mill Road connects Main Street in downtown Durham to Packers Falls Road 2.25 mi. southwest. Leaving Main Street the two-lane road passes through a 0.6 mi mix of historic and contemporary residences set among mature trees and stone walls. Two side streets in this zone link Mill Road directly to the UNH campus 200 ft. to the west.

At the 0.6 mi. point Mill Road enters a dense woodland, proceeding through a tight, tunnel-like space for 0.2 mi. At this point the space opens first into the project power line ROW clearing on both sides, closes briefly for a distance of 100 ft., and opens again as it crosses the bridge over a set of railroad tracks. From the overpass to Packer Falls Rd., the environment near Mill Rd. consists of contemporary residences in wooded settings with several side roads accessing more homes.

The 0.2 mi. wooded zone acts as a visual gateway helping define the edge of the more densely settled part of Durham.

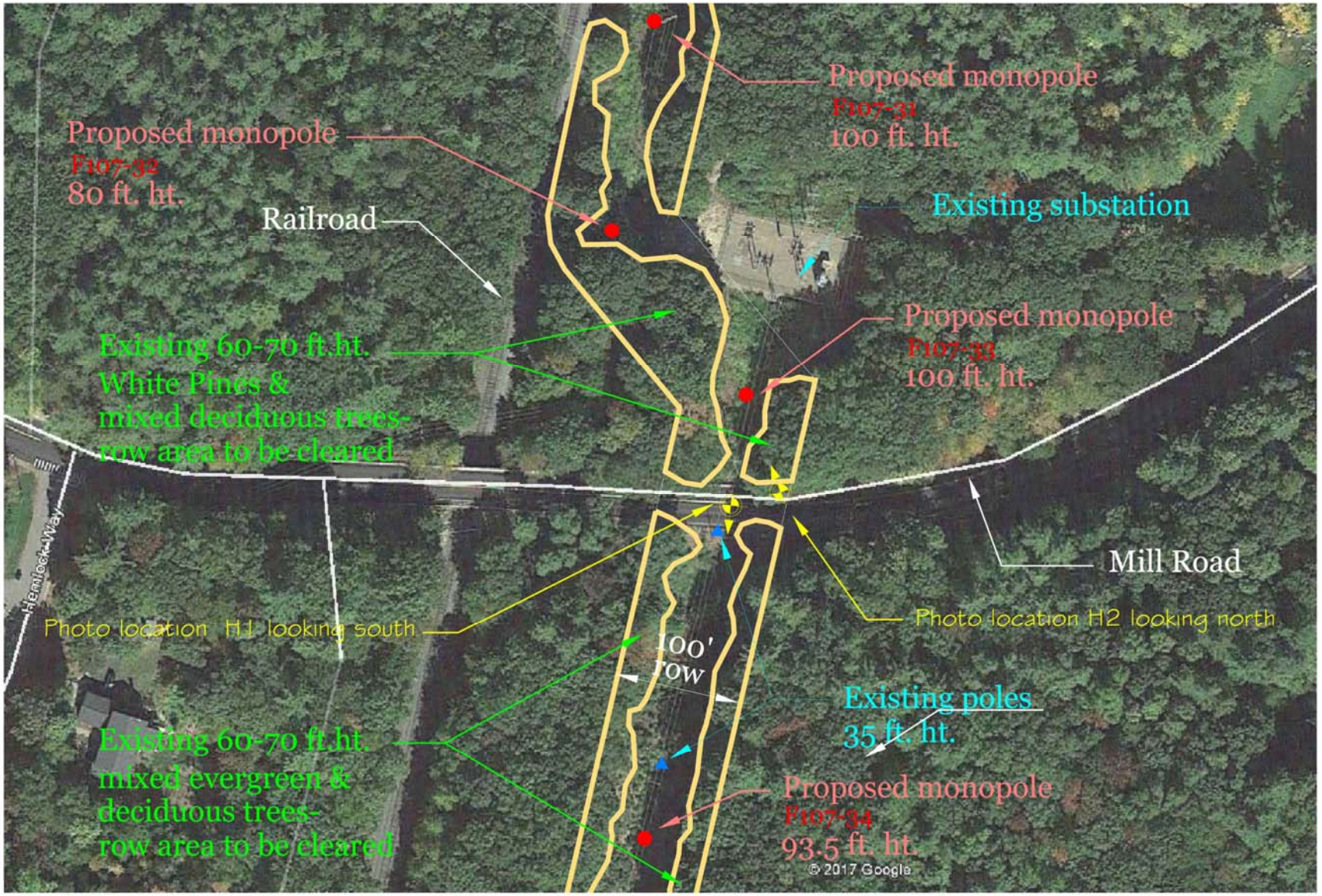
Photo #30—LOCATION H2 (Mill Road Crossing) looking north along proposed project—December, 2016—panorama

Looking south, the tops of four 35 ft. poles are visible in silhouette against the sky. The closest pole is about 15 ft. south of the road. To the north a 35ft. pole sits about 30 ft. from the road with an electrical substation in an open clearing approximately 175 ft. away.

Environmental Map 6/28 depicts clearing the 100 ft. ROW north of Mill Road. Five new poles starting with 93 ft. tall F107-34, 275 ft. south of the road and four more between 84 and 93 ft. tall (F107-35-F107-38) extend in a straight line for the next 1,700 ft.

Grade gradually rises 20 ft. over this distance.

The combination of additional clearing and high poles (twice to three times the height of existing) nearby and extending into the distance will result in greater visibility, an increased silhouette in the sky, a bigger interruption in the wooded character of the road, creating a different character looking south at the Mill Road crossing.



NH Seacoast Reliability Project - Aesthetic Analysis Review

H. Mill Road Crossing

Clearing diagram with tree and pole heights

0 100'

Graphic Scale

north

Photo #31—LOCATION H2 (Mill Road Crossing) looking north along proposed project—Jume, 2017—panorama

Looking north, Environmental Map 6/28 shows the 100 ft. ROW between Mill Road and the existing sub-station cleared. In addition the new transmission line changes direction near the substation. South of Mill Road the line runs roughly north-south, parallel with and about 175 ft. east of the railroad. At the new pole closest to Mill Road (F107-33) the transmission line pivots 45 degrees to the northwest, proceeding 175 ft. to pole F107-32. Here the line meets the railroad and turns north again. Clearing for this run southwest of the substation will open a view from the substation to the railroad. New poles in the view include 100 ft. tall F107-33 (75 ft. from Mill Road) and 80 ft. tall pole F107-32 , 175 ft. beyond.

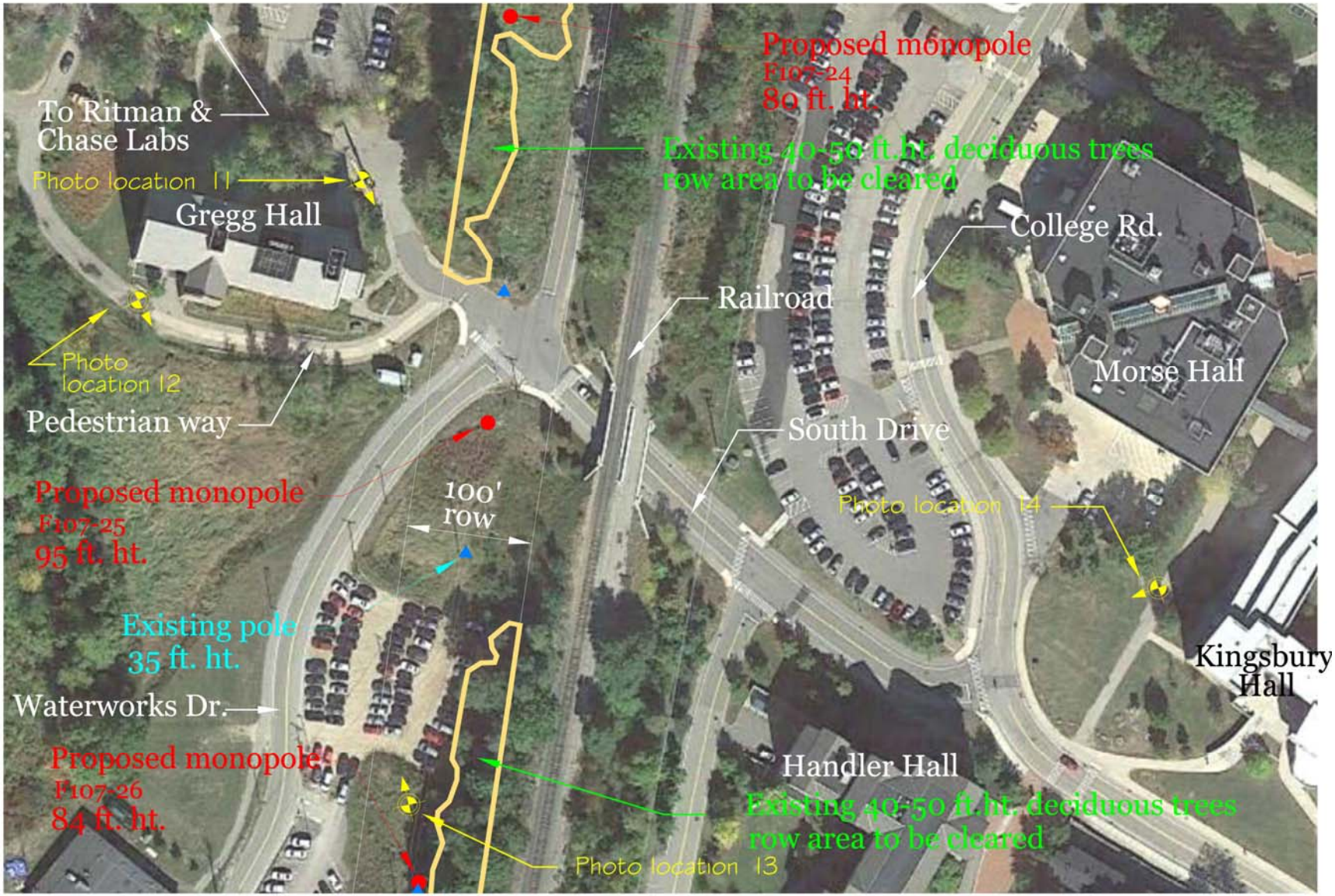
The higher poles and additional clearing including the angle cut adjacent to the substation will fragment a wooded area that presently feels contiguous looking north on Mill Road.

Photo #32—LOCATION I1 (UNH—Gregg Hall Vicinity) looking east toward proposed project from north side of Gregg Hall June, 2017—

I. UNH – GREGG HALL VICINITY—SOUTH DRIVE UNDERPASS LINKING THE CORE CAMPUS TO THE SOUTHEAST QUAD ENVIRONMENTAL CAMPUS

South Drive railroad underpass, about 0.3 mi. south of the Main Street overpass connects UNH's central campus with what the University describes as the "Southeast Quad Environmental Campus", presently home to Gregg Hall (environmental technology), the Ritzman Animal Nutrition Laboratory, the Chase Ocean Engineering Laboratory, the Flow Physics Facility and campus police and grounds departments.

South Drive also links the core campus to the College Woods Natural Area, 64 acres of woods streams and small fields. UNH describes College Woods as the oldest and most intensively used University property for education, research and recreation. The woods offer hiking, walking, cross country skiing, snowshoeing, jogging, birdwatching , and general relaxation. UNH utilizes the tract to teach orienteering, hydrology, vegetation, and more.



NH Seacoast Reliability Project - Aesthetic Analysis Review

1. UNH - Gregg Hall Vicinity

Clearing diagram with tree and pole heights

0 100'

Graphic Scale

north

Photo #33—LOCATION I 2 (UNH—Gregg Hall Vicinity) looking southeast toward proposed project from south side of Gregg Hall June, 2017
55mm eq.

Photo #34—LOCATION I 3 (UNH—Gregg Hall Vicinity) looking north along proposed project from south of underpass— June, 2017—panorama

South Drive at the underpass is a two lane road with sidewalks on either side intersecting with Waterworks Road 100 ft. west of the underpass.

Gregg Hall is located about 100 ft. beyond the intersection. South Drive curves right to parking on the north side of Gregg Hall. A series of sidewalks direct pedestrians to walkways north and south of Gregg Hall that lead to the Chase and Ritzman facilities.

Existing poles in the area vary from 30 to 40 ft. Trees top out from between 40 –50 ft.

Environmental Map 5/28 show a 95 ft. pole (F107-25) about 50 ft. south of the South Drive/Waterworks Road intersection. It also indicates that 30 ft. of vegetation growing alongside the railroad right of way starting 175 ft. south of South Drive and extending for 750 ft. will be cleared. This run will include four more new poles, 84 ft. ht. (F107-26), 84 ft. ht. (27), and 93 ft. ht. (28).

The extent of clearing indicated on the environmental map raises questions about the amount and quality of the vegetation to remain. This is a relatively narrow body of tightly connected vegetation with foliage along its entire west face.

Photo #35—LOCATION I 4 (UNH—) looking southwest toward proposed project from walkway north of Handler Hall—June, 2017 panorama

The LW report did not include a photosimulation to illustrate whether clearing operations will result in a line of one-sided trees along the railroad ROW. If that occurs, the risk is high for sunscald, windthrow, the "danger tree" label, their removal and the area looking worse, even more utilitarian than described on page 104 of the LW report.

To the south, the area is presently peppered with power poles (25-35 ft. ht). and parking lots, However, the University's recent investment in Gregg Hall, its research labs and emphasis on College Woods for education and recreation demonstrate that the area is in the process of being transformed.

Visual impacts from the project are a concern from several high pedestrian traffic areas in the immediate vicinity of the underpass and Gregg Hall including; traveling west toward the underpass from the main campus, traveling both east and west across the Project ROW at the intersection of South Drive and Waterworks Road, heading east on the pedestrian way that curves around the south side of Gregg Hall (connecting to Ritzmann Animal Nutrition Lab. and Chase Ocean Engineering Lab., eastbound on the pedestrian walk north of Gregg Hall and heading north from the College Woods entry gate along Waterworks Road.

A high pole at the intersection of South Drive and Waterworks Road with additional high poles heading south will be detrimental to the visual attractiveness of the area. While the LW's report states (page 104) that, "*this area of campus is already well-established with University infrastructure and includes physical plant buildings adjacent to it, providing a sense that portions of this area are part of the University's more utilitarian and functional areas—not primary campus focal points or gathering areas.*" these are not valid reasons to allow the visual quality to be further eroded.

The LW report does not propose any suggestions or solutions to mitigate the Project's visual impacts in this vicinity.

This portion of the project will be also be visible from several locations on the core campus to the east. The LW report includes a photosimulation from the front steps of Kingsbury Hall where the closest proposed pole (95 ft. ht F107-25) is about 600 ft. away. Five-story Handler Residential Hall in the photosimulation's middleground blocks all but 200 ft. of the new, higher wires and new poles running to the south of pole F107-25.

Four-story Morse Hall's (immediately northwest of Kingsbury) southwest façade and entranceway view the project. Its southwest entrance terrace is 200 ft. closer to pole F107-25 than the Kingsbury stairs (LW report's photosimulation point) and its orientation angle relative to Handler Hall allows views of 800 ft of high transmission line south of pole F107-25 including 84 ft. pole F107 -26 and 84 ft. pole F107-27.

Pedestrians moving south on the main walkway linking the academic campus with four and five story Handler, Peterson and Haaland Residential Halls will also view the project. Southbound traffic on College Road adjacent to Morse Hall will experience similar views.

Handler, Peterson and Haaland Halls extend south on the east side of the railroad for 750 ft., roughly in line with poles F107-25-F107-27. The buildings run lengthwise along the tracks, giving significant numbers of dorm rooms west views. The railroad is about 20 ft. above the first floor of each building. Deciduous trees along both sides of the tracks effectively screen existing power lines when in leaf. During times when leaves are not on the trees, the higher poles and transmission lines will be detrimental to views from rooms on the upper floors of the west side of the three dorms.

Photo #36—LOCATION J1. (UNH—Main Street Overpass) looking southwest toward proposed project—June, 2017—panorama

J. UNH MAIN STREET RAILROAD OVERPASS

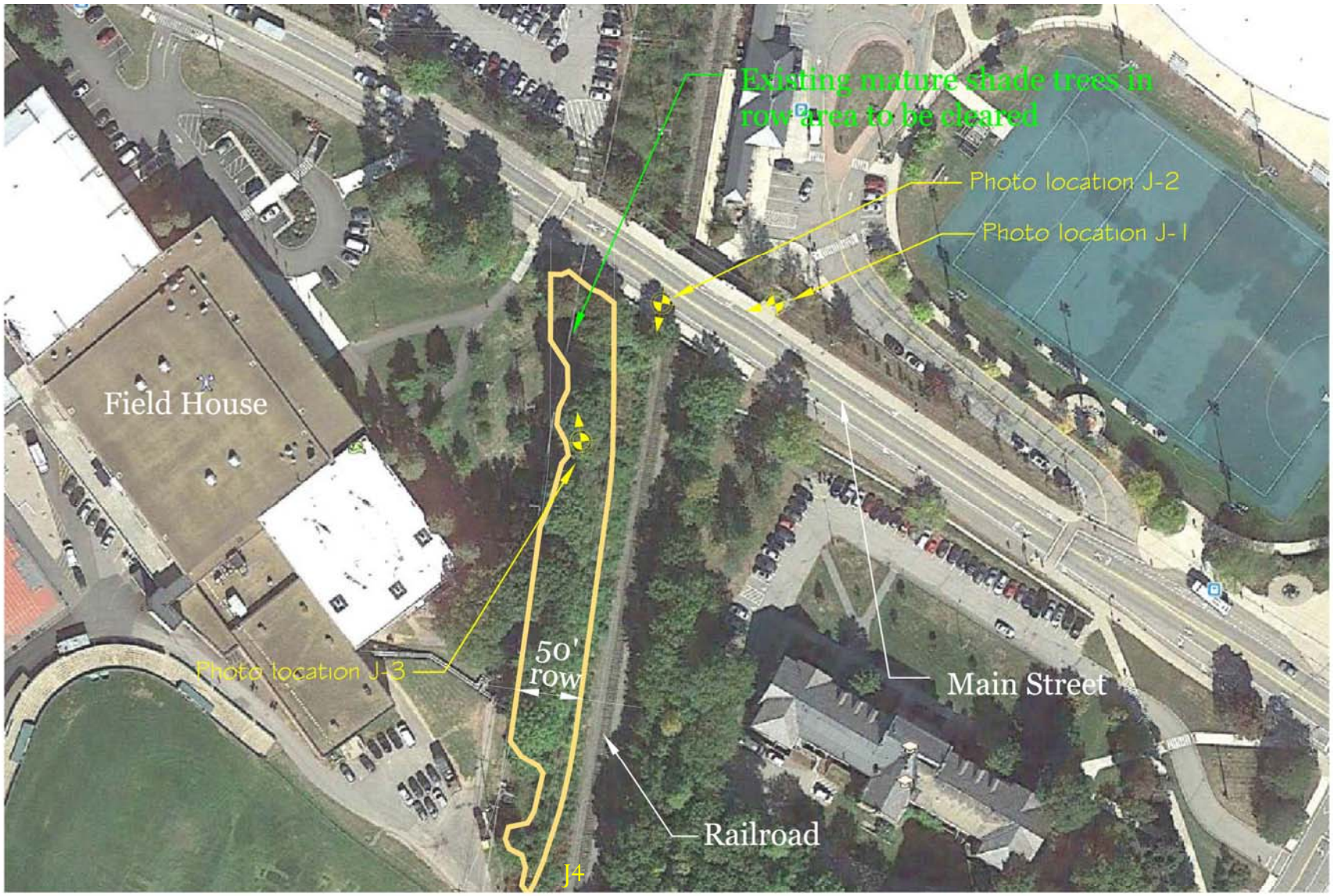
The south sidewalk across the Main Street bridge over the railroad is the primary pedestrian route connecting UNH's academic and athletic campuses.

The section of walk on the bridge above the railroad has a long distance view to the south framed by mature oaks growing on either side of the tracks. The same oaks screen southwest views of the large field house 200 ft. away. Moving west under an overhanging tree canopy, the field house emerges in a treed setting.

Environmental Map 4/28 shows a 50 ft. wide clearing running south from Main Street for about 475 ft. about 50 ft. beyond the west side of the railroad ROW. The line is underground here. The Project ROW angles towards the railroad ROW and joins it approximately 150 ft. south of Main Street.

The Landworks report did not include a photosimulation from this point to indicate the impact of clearing, and the visual effect of the trees that are to remain in the 50 ft. x 150 ft. triangle between the railroad and project ROW. This remaining vegetation is presently the east edge of a contiguous grove of mature trees. The environmental map illustrates the 50 ft. wide project ROW cleared along its

Photo #37—LOCATION J2. (UNH—Main Street Overpass) looking south parallel with proposed project—October, 2016—55 mm eq.



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J. UNH - Main Street Overpass

Clearing diagram with tree and pole heights

0 100'

Graphic Scale

north

Photo #38—LOCATION J3. (UNH—Main Street Overpass) looking north along proposed project—June, 2017—panorama

Photo #39—LOCATION J4. (UNH—Main Street Overpass) looking north along proposed project—June, 2017—panorama

length. A photosimulation would be helpful to know if the trees to remain will lack side foliage, appear one-sided and unattractive and what visual impact the loss of trees will have on the character of the walk and street across the bridge, especially as it relates to the approach to the UNH Field House and associated athletic facilities.

Photo #40—UNH—Gables Apartment Complex –June 2017—context

Photo #41—LOCATION K1 (UNH—Gables Apartment Complex) looking north along proposed project—December, 2016—panorama

K. UNH – GABLES APTMENT COMPLEX GATEWAY

The Gables Apartment Complex provides living accommodations for almost 1,000 UNH students. Consisiting of five– six-story brick buildings clustered in a wooded setting, the complex is located at the northwest edge of the campus next to the railroad.

A drive and pedestrian walk enter the complex from the south through a 1.5 acre recreation green-space. The area includes active (basketball and beach volleyball courts) and passive (lawn, benches) uses.

The park is defined by a large parking lot to the south, the Gables entrance drive and walk running along a wooded area to the west, three layers consisting of 1) native 6-20 ft. tall shrubs and higher trees below an existing transmission line supported with 35-40 ft. wood poles, 2) railroad tracks and 3) a continuous woodline of 70-80 ft. white pines to the east and grove of mature oaks and large white pine to the north.

After passing the recreation space, the drive and walk enter into the wooded "Gables" environment through a gap beneath the oak trees. This gateway marks a clear transition between a sprawling, car oriented environment that's open to the sky to a quiet, shady, more natural, pedestrian and campus-like atmosphere.

Photo #42—LOCATION K2 (UNH—Gables Apartment Complex) looking north along proposed project—June, 2017—panorama

Once inside, the road bends below a leafy canopy, first right towards the railroad, then left at the edge of the ROW. A turnaround 300 ft. north of the treed entrance accommodates a campus bus stop. The drive continues north to several large parking lots.

Environmental Maps 4/28 and 5/28 show a 500 ft. long vegetation clearing zone, 70 ft. wide running immediately west of the railroad ROW. The area encompasses the recreational greenspace (300 ft.) and zone across from the bus-stop turnaround (200 ft.) The zone appears to include the large white pine (82 ft. ht.). Drawings show a new 84 ft. high pole (F107-20) very close to the location of the big pine.

Looking north, the loss of the 70 x 500 ft. zone of vegetation will expose new poles (F107-19-16)— 83, 84, 88 and 94 ft. tall respectively, that extend in a straight line for 1,500 ft.

The loss of the big pine and mass of taller vegetation at the southeast corner of the Gables campus removes vital components of the green wall that establishes and helps protect the Gables' environment.

Clearing vegetation and placing high poles and wires will dramatically alter the character of the student outdoor recreation space. The present 30-40 ft. tall poles are well below the tops of the white pines east of the tracks and

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K. UNH - Gables Apartment Complex - Main Entry
Clearing diagram with tree and pole heights

0 100'
Graphic Scale

north

Photo #43—LOCATION K3 (UNH—Gables Apartment Complex) looking south along proposed project—June, 2017—panorama

tend to blend into their foliage. The scale and location of the new poles and lines will appear in silhouette high in the sky, visually dominating the entire area.

Travelers heading south from the bus turnaround look almost directly toward the large (82 ft.) white pine. From this perspective, the tree is a key landscape component that marks the edge of the Gables' wooded zone and helps screen the railroad, the power lines and large parking lots to the south.

The proposal placing an 82 ft. poles near where the pine stood and transmission wires 50, 60 and 70 ft. in the air will clutter views of the sky, changing this part of the UNH campus most dramatically.

New power transmission lines will be located almost directly above portions of the existing drive including the area opposite the turnaround and bus stop.

The driveway will orient almost straight towards pole F107-20. Clearing the vegetation as depicted on Environmental Maps 4/28 and 5/28 will expose upper portions of three additional poles to the south including 84 ft. tall pole F107-21, 91 ft. tall pole F107-22 and 81 ft. F107-23, all within 1,000 ft. The three poles will also be visible at the point where the drive exits the trees.

The LW report neither provides photosimulations nor prescribes mitigation for the project in this area.

Photo #44—UNH—Gables Apartment Complex—December 2016

Photo #45—LOCATION L-1. (UNH—Gables North Parking-) looking west at Gables North Building from proposed project—June, 2017

Photo #46—LOCATION L-2. (UNH—Gables North Parking) looking south along proposed project—November, 2016—panorama

L. UNH GABLES NORTH PARKING

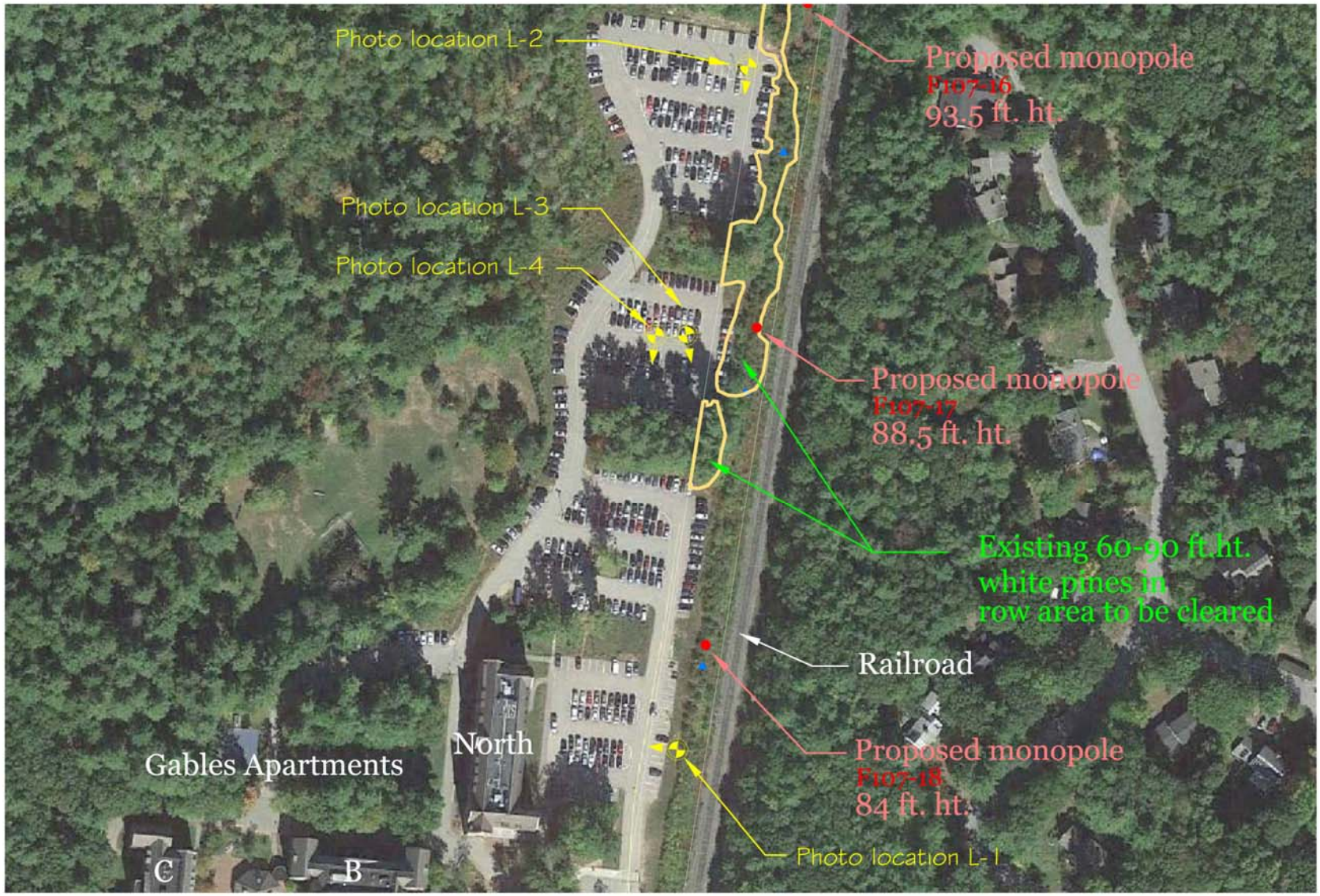
Parking for the five-building Gables residential complex is located in four lots, the first (southernmost) lot in a 200 ft. wide area between the northernmost Gables building and the railroad and the rest in lots to the north.

The southernmost lot holds 75 vehicles. Moving north, the lots accommodate 110, 110 and 150 vehicles respectively. The access drive runs on the east side of the first and second lots, crosses the second lot, then turns and accesses the northern two lots from the west.

70 ft. wide islands separate the lots.

Groves of mature white pines (60-90 ft. high) fill the two northern islands. This vegetation extends approximately 100 ft. west from the railroad ROW. The size of the islands and scale of the trees reduces the mass of the parking, limits views and gives the overall parking area distinct character.

Environmental Map 3/21 shows a 60 ft. wide clearing in the northernmost island and a 30 ft. wide clearing in the next island to the south. A photosimulation here would help explain the impact of this clearing. It appears that the vegetation to be removed are the healthiest 70-90 ft.



NH Seacoast Reliability Project - Aesthetic Analysis Review

L. UNH - Gables North Parking
Clearing diagram with tree and pole heights

0 150'
Graphic Scale

north

Photo #47—LOCATION L-3—
white pines in clearing zone—June, 2017

pines in the grove. This will be a significant loss. The trees further west in the island (to remain) appear stressed. Removing part of the community will exacerbate their problems. The result of the project is highly likely to result in windthrow and the removal of additional trees in the grove.

Even though the grove does not appear robust, clearing a significant portion (the healthiest appearing trees) will hasten the decline. People will be able to see adjacent lots

Photo #48—LOCATION L-4—
white pines outside clearing zone—June, 2017

through the gaps thereby eroding the quality of separateness that the islands were intended to create.

Four poles F107-19, 18, 17 and 16 ranging in height between 83 and 94 ft. and spaced about 400 ft. apart supporting the transmission lines run on the east side of the parking lots representing a significant scale increase over the existing 35 ft. poles.

Because the of the lots' close proximity, poles and wires will be seen against the sky. The project will dominate views in all four lots. The LW report did not propose any mitigation for this area.

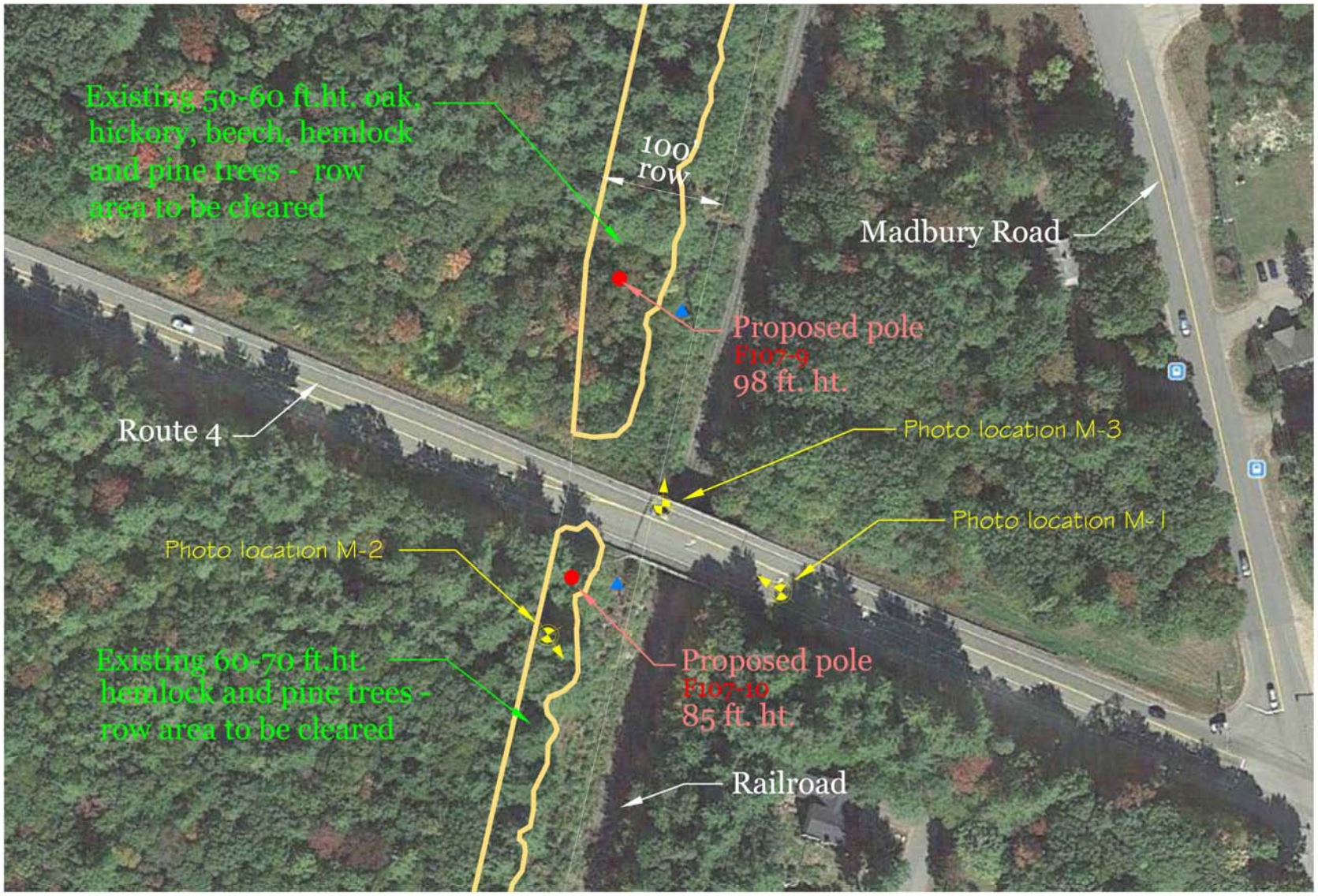
Photo #49—Location M-1. (Route 4 crossing) looking west —December— 2016— panorama

LOCATION M. ROUTE 4

The transmission line crosses Route 4, a limited access, east-west highway north of Durham just west of the bridge over the Boston and Maine Railroad. This section of highway runs for about 1.5 miles beteen the Madbury Road intersection and the West Main Street interchange. The character of the road is rural, mostly lined with mature woodlands, interrupted briefly with wetlands and farmland. There is no development along this stretch of Route 4. This section of road has scenic value.

The existing line consisting of 35-40 ft. high wood poles runs in an 80-90 foot wide corridor along with the B&M tracks formed by walls of large white pines. Present line views both south and north of Route 4 are imperceptible due to the relatively narrow opening in the woods along the road.

Environmental Map 2/28 locates the edge of the current pines 15 ft. west of the existing transmission line. It shows new poles south of Route 4 running parallel with the tracks in the line of the existing poles. New poles north of Route 4 are located about 50 ft. west of the current poles.



NH Seacoast Reliability Project - Aesthetic Analysis Review

M. Route 4 Crossing

Clearing diagram with tree and pole heights

0 100'

Graphic Scale

north

Photo #50—Location M-2. (Route 4 crossing) white pine trees along edge of row south railroad overpass —June— 2017— panorama

Photo #51—Location M-3. (Route 4 crossing) looking south from railroad overpass —June— 2017— 55mm eq. 60 ft. to be cleared left of existing pole

The plan shows vegetation cleared in an area varying between 25 and 40 ft. wide by over 2,000 ft. long south of Rt. 4 and 60 ft. wide by 700 ft. to the north.

The new opening to the south including the railroad ROW is 120 ft. wide. The closest pole south of Route 4 is 85 ft. high (F107-10). Twenty-three more poles ranging in height from 80 to 93 ft. continue for 0.75 mi. in a straight line into the UNH campus.

North of Route 4, the closest pole is 135 ft. away, 98 ft. high (F107-9). Eight more structures between 55 and 84 ft. extend straight for a half mile to the Madbury substation. Trees to be cleared to create a corridor 150 ft. wide north of Route 4 include mature beech, hickory and oak.

Without photosimulations, the appearance of the post-clearing opening, condition of the trees to remain and the issue of windthrow are concerns. Large (70-90 ft.) white pines and hemlocks with side foliage form the edge of a deep woodland along the entire edge of the western row south of Route 4. Removing the edge trees will leave trees with no side branches.

The new lines higher poles and additional clearing will result in negative visual impacts.

CONCLUSION

Based on my review of the project route, I have identified thirteen places along the line where the project will have negative impacts. Holding the project up in the light of eleven of New Hampshire's terms used in siting energy facilities helps clarify the impacts.

Site 102.10 "Area of potential visual impact"

Areas A-M are "areas of potential visual impact." They are places where clearing, increased scale and views of the facility over greater distances will result in visual impacts.

Site 102.12 "Best practical measures"

The Project does not propose any "best practical measures" - available, effective and economically on-site or off-site methods used during its operation that will effectively avoid, minimize, or mitigate relevant aesthetic impacts.

Site 102.22 "Fragmentation"

Each of the thirteen areas (A-M) are attractive, relatively contiguous visual environments. The proposed project will "fragment." them, divide them into smaller, more isolated remnants.

Site 102.25 "Key observation point"

Areas A-M are "key observation points." They receive regular public use and the proposed facility will be prominently visible from them.

Site 102.26 "Landscape"

Areas A-M have characteristic, visible features, characteristics including landforms, vegetation, historic and cultural features that will be impacted by the project.

Site 102.35 "Photosimulations"

Since the Landworks report didn't identify the thirteen areas as potentially problematic, they didn't prepare photosimulations to illustrate the visual effect.

Site 102.44 "Scenic quality"

A reasonable person can perceive the intrinsic beauty of the landscapes in areas A-M and will perceive a loss due to the project's vegetation clearing and the increased scale of it components.

Site 102.45 "Scenic resources"

The definition designates certain places deserving protection. The University of New Hampshire campus qualifies under;

> d. Recreational trails, parks, or areas established, protected or maintained in whole or in part with public funds.
>
> e. Historic sites that possess scenic quality, or
>
> f. Town and village centers that possess a scenic quality.

While the residential neighborhoods where the project is sited aren't covered in the definition, their woodland settings makes them attractive and desirable. They're wonderful places to live, walk and be. The scale and appearance of the project contrasts with the forested character of these neighborhoods and requires comprehensive mitigation measures to minimize these visual impacts.

Site 102.46 "Sequential observation"

Viewers traveling along streets, roads and walks in vicinities A-M will be capable of seeing multiple energy facilities from different viewpoints.

Site 102.52 "Successive observation"

Viewers will be able to see multiple energy facilities from particular viewpoints in each of the areas, A-M, not within the same viewing arc, but by changing their cone of vision.

Site 102.56 "Visual impact assessment"

The LW report did not describe the change in scenic quality at areas A-M resulting from the construction of the proposed facility.

Each of the thirteen areas is important to the people who live, work, study and recreate nearby. And, each area is an important place where significant numbers of people pass by and will be impacted by the project.

The developer needs to provide explicit information on strategies to A. minimize the damage associated with clearing operations and B. put in place targeted mitigation in each of these places. to minimize the project's visual impacts.