

GEORGE M.
JANES &
ASSOCIATES

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*PLANNING with
TECHNOLOGY*

250 EAST 87TH STREET
NEW YORK, NY 10128

www.georgejanes.com

T: 646.652.6498
F: 801.457.7154
E: george@georgejanes.com

Ms. JoAnn Hanson, Chair
Village of Tuxedo Park Planning Board
80 Lorillard Road
P.O. Box 31
Tuxedo Park, NY 10987

RE: SEQRA
Review of PDEIS for
Overton Subdivision
Village of Tuxedo Park
Orange County, New York

Dear Ms. Hanson:

At your request, my office has conducted a review of the Preliminary Draft Environmental Impact Statement (PDEIS) for the Overton Subdivision dated May 23, 2011.^{1,2} This document provides my opinion as to the completeness and adequacy of the PDEIS for the purposes of commencing public review. This review is limited to my area of expertise, Visual Character, Section 3.5, and only touches on other sections when they are related to this topic.

Summary of Findings

The May 23, 2011 version of the PDEIS we reviewed is not complete for the purposes of commencing public review. There are simple deviations from the Scoping Document that require correction. More materially, the document makes assertions that are not supported by evidence, and which may not be accurate. I am especially concerned about the accuracy of the viewshed analysis and the conclusions drawn from it, and the lack of support for statements made about visibility of individual lots. I also suggest that if a revised viewshed shows extended visibility from East Lake Road, the significance of visual impacts, if any, may need to be assessed using photosimulation.

The applicant should revise and resubmit a PDEIS that includes Scope omissions, supports assertions with evidence, and corrects inaccuracies.

¹ This review was conducted on the digital version of the PDEIS, which is purportedly identical to hardcopies that was submitted.

² This PDEIS was prepared by the Chazen Companies. For the purposes of disclosure I am professionally acquainted with the applicant's planner, Chris Round, and others at the Chazen Companies. My firm has pursued a handful of projects with the Chazen Companies over the past two years, but does not currently have a formal business or subcontract arrangement with the Chazen Companies.

Review of PDEIS

This review is broken into three parts. First, it focuses on determining whether Section 3.5 Visual Character is complete as it regards the Scope of the DEIS.³ Second, this review looks to determine if the evidence this section presents and the assertions it draws are accurate. Finally, this review concludes with a short section that identifies minor issues.

Completeness

Visual Character & Existing Conditions Photographs

The Scope calls for:

A narrative accompanied by existing conditions photos and orthophotographs that will describe the visual character of the project site and surrounding area. (Page 18.)

There are no existing conditions photographs that accompany the required narrative as required by the Scope. In fact, there are no existing conditions photographs in the Visual Character section of the PDEIS. There are existing conditions photographs in Appendix 9.9 that might serve this purpose, but they were taken for archeological purposes and are described as to how they relate to archeology. The narrative itself is descriptive of the physical features of the site and surrounding areas, but is weak on the descriptive elements of the area's visual character. The applicant should rewrite the narrative so that it is accompanied by existing conditions photographs that are relevant to a discussion of the visual character of the area.

Preservation goals

The Village of Tuxedo Park is listed on the National Register of Historic places, and the Scope requires:

The visual impacts of the project will be described with specific attention to the noted resources and the compatibility of the project with the preservation goals of the Village's listing on the National Register of Historic Places. (Page 19.)

The DEIS should state what the preservation goals of the Village's listing are so that it could determine and demonstrate the project's compatibility with those goals. The PDEIS merely states that Village is a National Historic District and that the project will have "filtered views of the project from various scattered and small locations along Tuxedo Park." Since we do not know what the preservation goals of the Village's listing are, it is impossible to determine if the impact is consistent with the goals.

Overall Landscaping Plan

Under mitigation, the Scope requires:

³ The Scope is found starting on page 2 of the PDEIS. The most relevant portion is found starting on page 18.

“An overall landscaping plan shall be prepared that shall address the replacement of trees and vegetation removed during construction of the subdivision. Individual lot landscaping plans shall be prepared for review by the Board of Architectural Review at the time an applicant is made for the construction on an individual home.” (Page 19.)

There is no overall landscaping plan referenced in the Visual Character section, nor does one appear in the engineering drawings found in the Appendix. The plans do identify the areas of disturbance and the trees to be removed, but they do not show any added landscaping. Specifics regarding landscaping can be found on page 97, where the text states, “To reduce the visibility of the homes on lots 2 and 3, mitigation is recommended in the form of additional landscaping along the boundaries of Lot 2 with Ivy Road and the Tuxedo Park School property.” But no plan describes the specifics of this mitigation, which appears to be more consistent with individual lot landscaping that would be prepared for the BAR outside of SEQR.

Trees removed during construction are mentioned on page 99, when the PDEIS quotes the notes on the engineering drawing SP4, “Any trees, shrubs, and/or hedges to be removed during construction must be replanted in as good a condition as they were in before they were removed and any damaged trees, shrubs, and/or hedges must be replaced (in-kind) at the contractor’s expense.” The actual text on the notes on SP4 states, “*Ornamental* trees, shrubs, and/or hedges . . .” Even if this inconsistency is corrected, it would still does not meet the Scope’s requirement for an overall landscaping plan.

Accuracy

Tree height in the Viewshed Analysis

The project describes the impact of 10 homes constructed on largely wooded sites that are proposed to remain largely wooded. This forest to remain on the development site is important to the project’s overall visibility, as the buildings being evaluated are quite tall for single family homes at 70 feet.

The forest on the development site is accurately described as being mixed in various stages of succession. The applicant has assumed that off-site forested areas are 60 feet (40 feet for forested wetlands), while the viewshed uses 70 feet for the forests to remain on-site after sites are cleared for development. The PDEIS states that this is not an assumption, but rather, “is based upon on-site surveys, which yielded an average tree height of 70 feet.”

The results of a tree survey appear in Appendix 9.4, which notes the location, species, diameter, but not tree height. If the tree height of the on-site forest was based upon this survey, the survey should include the height of the trees and demonstrate how they average 70 feet in height.

Absent of such evidence, 70 feet is an aggressive assumption for performing a viewshed analysis. There are clearly very large trees that are 70 feet or even taller

on site, but there are other areas that are thin, or are less mature. SEQR generally requires that potential impacts use reasonable worst-case assumptions. Consequently, the applicant should either provide more evidence on how they determined 70 feet is a reasonable tree height for performing a viewshed analysis, or the applicant should use less aggressive assumptions reflecting reasonable worst case conditions for project visibility.⁴

Viewshed & Viewshed write-up

My most serious concern regards the description of impacts on Tuxedo Park, which are purportedly supported by the viewshed mapping shown as Figure 3.5.5. The text of concern follows:

This assessment [the viewshed analysis] indicates that at 70 feet tall, the top five feet of the homes located on Lots 6 and 9 may be visible from limited areas of Tuxedo Lake.

This map indicates that there is the potential for filtered views of the project from various scattered and small locations in Tuxedo Park. These views mainly occur in the half to one mile range along the east side of the lake, but there are also a few locations where [sic] there may be views from the west side of the lake, between a half and one mile from the project site. This indicates that the roof of the proposed home on Lot 6 may potentially be visible from along the shoreline road. It is likely that, given existing vegetation along the shoreline, views would be filtered, of short duration, and in the middle ground. (Page 97)

I have many serious concerns with both the text and the viewshed mapping used as evidence to support that text. First, the viewshed analysis presented does not indicate that at 70 feet tall, the top five feet of the homes located on Lots 6 and 9 may be visible from limited areas of Tuxedo Lake. There are ways to support this assertion, but the viewshed map shown in the PDEIS is not one of them. Instead, the viewshed map in the PDEIS shows where the project, as a whole, may have visibility considering the building heights and assumptions about existing trees. The following is a small portion of the viewshed shown in the PDEIS. The red areas show from where the project may have visibility.

⁴ It is acknowledged that on a site like this with limited visibility, it is quite possible that a viewshed analysis conducted with 60 foot trees instead of 70 foot trees would not result in a material difference in project visibility. Nevertheless, the DEIS should make clear how the assumptions it uses were determined.

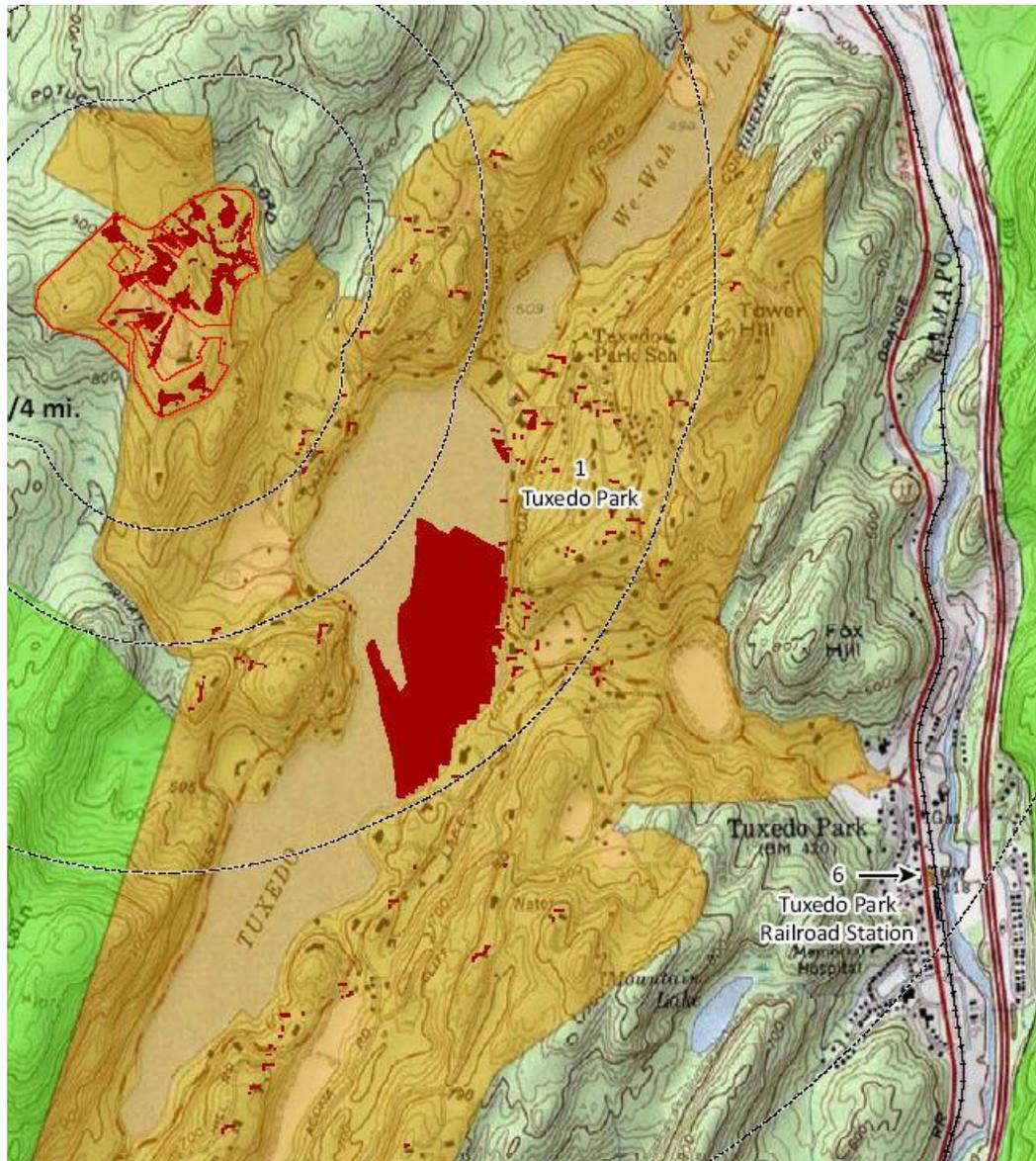


Figure 1: Reproduction of a portion of PDEIS Figure 3.5.5, showing the viewshed map

The viewshed shows that the project has limited visibility to most of Tuxedo Park. But there is a large portion of potential visibility on Tuxedo Lake. Regarding this visibility, the text says that, “It is likely that, *given existing vegetation along the shoreline*, views would be filtered, of short duration, and in the middle ground.” [Emphasis added.]

While there are trees between some portions of East Lake Road and the Lake, there is a long stretch, north of Tuxedo Road, where there is no vegetation along the shoreline side of East Lake Road that would filter views to the project.

The viewshed map in the PDEIS uses NOAA land cover data to define forested areas. These data are at 30 meter resolution and show that most of the eastern

shoreline of Tuxedo Lake as forested. My office created the following image that shows the forested areas used in the viewshed mapping:

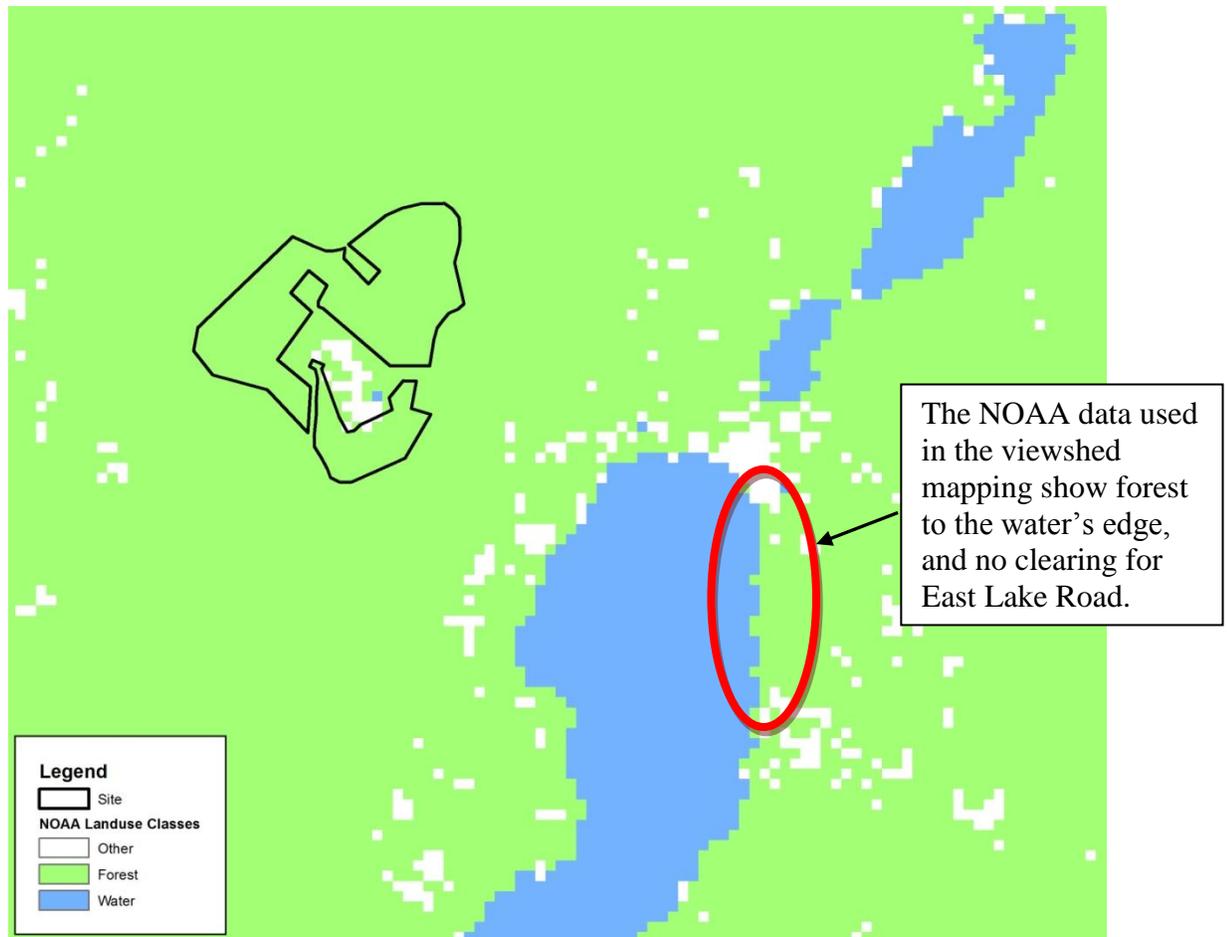


Figure 2: NOAA data for a portion of Tuxedo Park

The method used for the viewshed map defines forested areas as obstructions to visibility, and since the NOAA data classifies the eastern shoreline of the Tuxedo Lake north of Tuxedo Road as forested—where in reality there is a road and a clear view to the project site for much of this shore—the viewshed map and the text inaccurately indicate limited visibility from this area.

Further, the text makes assertions about project visibility specifically due to Lot 6. “This indicates that the roof of the proposed home on Lot 6 may potentially be visible from along the shoreline road.” Again, there are no data presented to support any assertion regarding the visibility of single lots from the “shoreline road,” and by singling out a single lot, the text suggests to the reader that only one of the 10 buildings may have visibility, which is both misleading and incorrect.

The following series of viewshed maps for the proposed project use the NOAA vegetation data⁵ that were reportedly used as inputs into the viewshed mapping found in the PDEIS. These were made by my office⁶ using the same assumptions regarding tree height used by the applicant. They have been done quickly to address this specific issue and have not been formatted to show scale, north arrows, etc. These maps highlight my area of concern: the northern portion of East Lake Road.⁷

This map shows areas with visibility to the project site in red with all buildings at 70 feet:

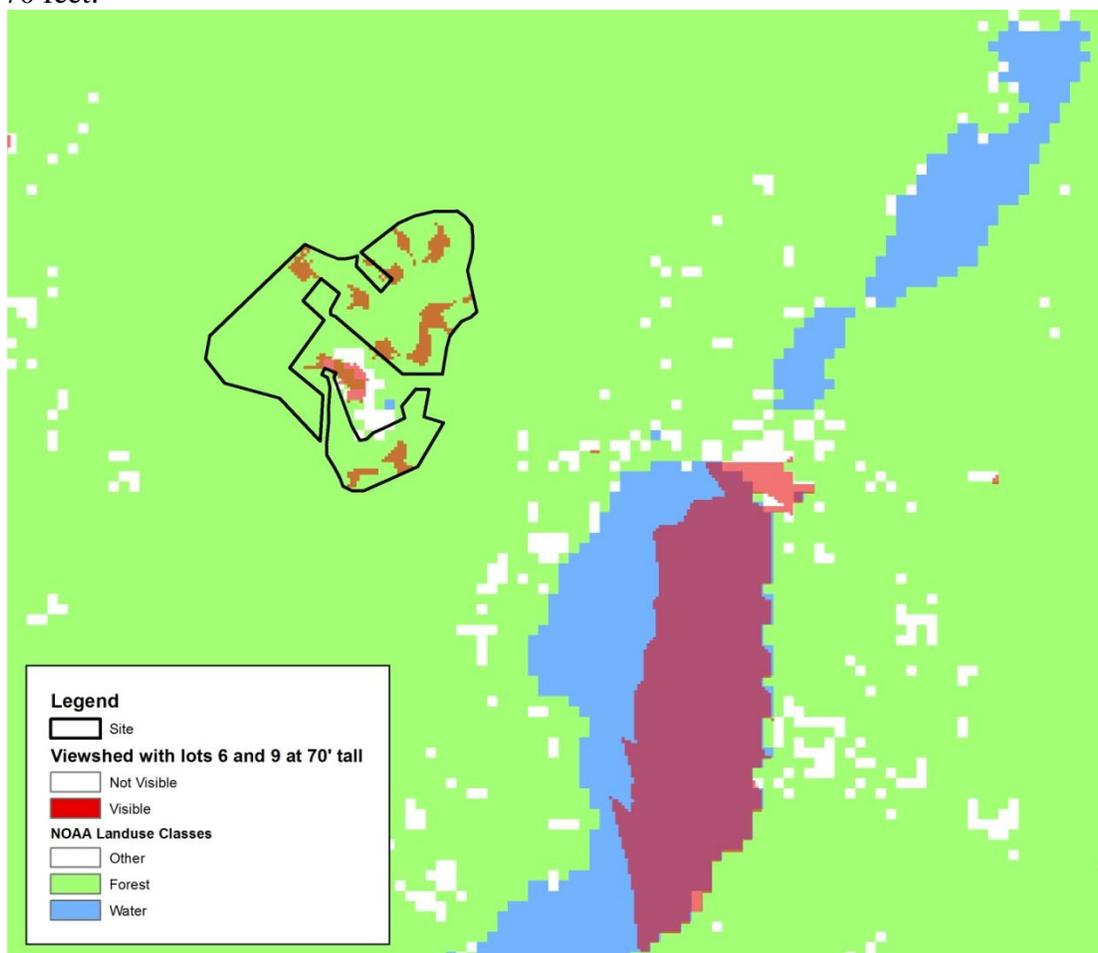


Figure 3: Independently derived viewshed map using NOAA data, with all buildings at 70 feet

⁵ The DEIS states it used 2005 NOAA data. The NOAA website says they have data for 1996, 2001, and 2006. The analysis using NOAA data in this document uses the 2006 data.

⁶ My office does not typically use NOAA land cover data for viewshed mapping. Instead, we use USGS's National Land Cover Database. For comparison, the appendix of this letter images showing the forest cover data from both sources. For Tuxedo Park, NOAA shows a larger forested area than USGS.

⁷ There are some differences between this map and the one that appears in the DEIS that we cannot explain. This map shows much more visibility at the north end of Tuxedo Lake.

This map shows the project visibility when the height of lots 6 and 9 are reduced to 65 feet, which is one of the mitigation measures designed to reduce the project's visibility.

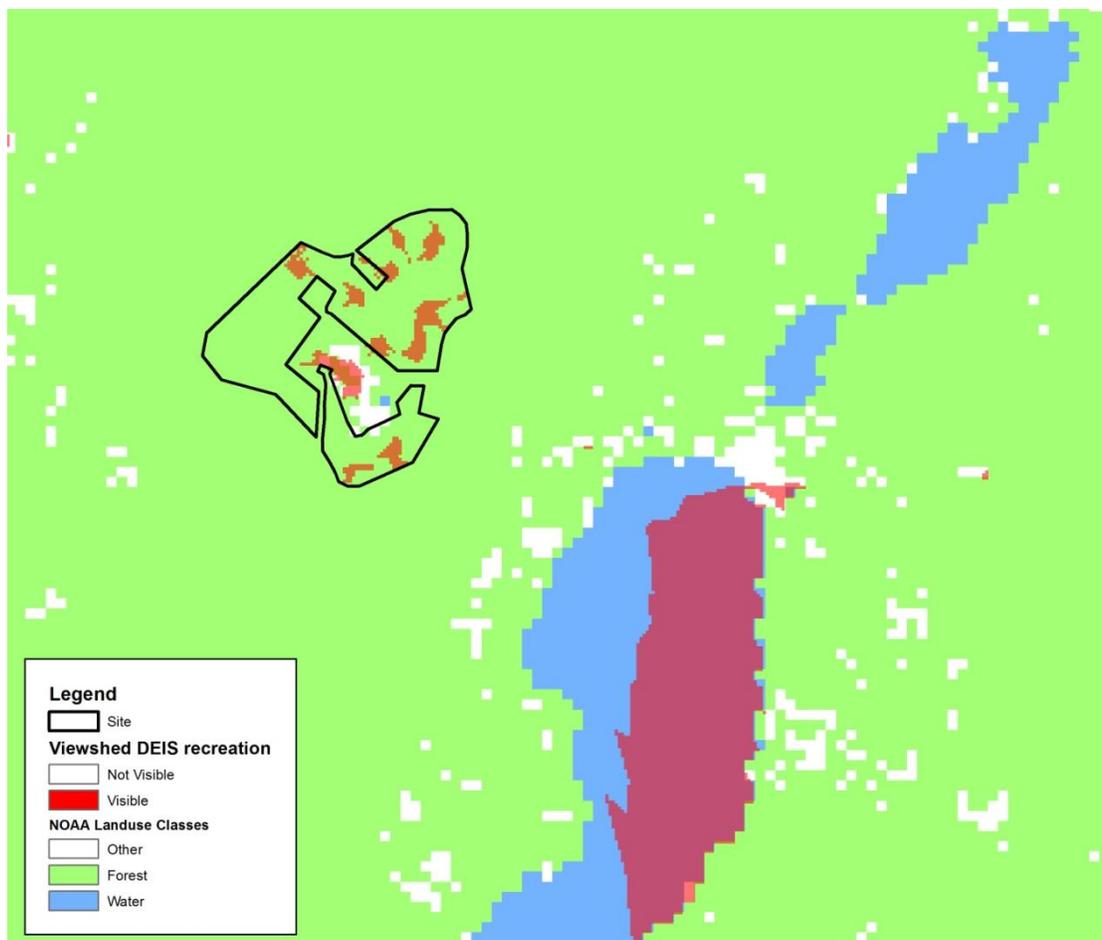


Figure 4: Independently derived viewshed map using NOAA data. Lots 6 & 9 at 65 feet, all other lots at 70 feet

The following shows the visibility of the project without lots 6 and 9, removing them from the project altogether, so that there are only eight houses.

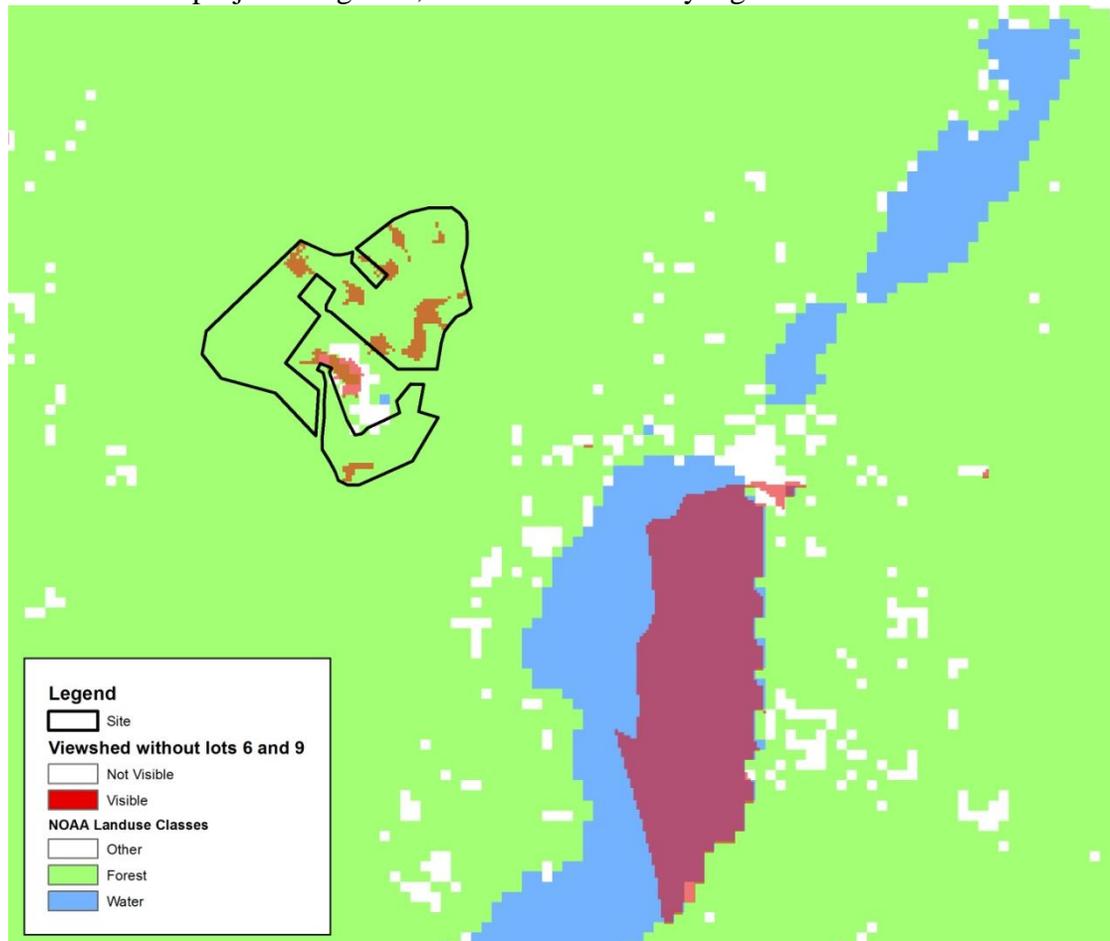


Figure 5: Independently derived viewshed map using NOAA data, lots 1-5, 7-8 and 10, all at 70 feet. (i.e. lots 6 and 9 are entirely removed)

This series of viewsheds suggest that the mitigation measure of reducing the height of lots 6 and 9 have a trivial impact on overall project visibility and that even without lots 6 and 9 at least some of the remaining eight houses will have clear visibility to the northern portion of East Lake Road.

Any assertions or claims made need to be supported by evidence. The PDEIS viewshed mapping is clearly inaccurate in its assessment of the visibility from the northern portion of East Lake Road. Further, PDEIS provides no evidence to support claims regarding the impact and effectiveness of the mitigation measures regarding lots 6 and 9. The applicant needs to correct this analysis and add information to support assertions made regarding the impacts of individual lots.

Significance of impacts

While the viewshed maps should be redone following the recommendations found herein, and text re-written to reflect the results, it is likely that the project's visual

impact on on-site resources, Sterling Forest and Harriman State Park will remain insignificant. But there will clearly be many houses visible from a stretch of East Lake Road, which provides perhaps the best commonly experienced publicly accessible views of the Village and that these houses may create a significant visual impact.

How will significance or lack thereof, be demonstrated? If the project remains the same, and building heights are not further reduced, it will be unlikely that a viewshed analysis will produce sufficient evidence to make a determination of significance from East Lake Road, and that the Village and the Applicant should consider performing photosimulation(s) that demonstrate the impact of these houses on the view from East Lake Road, and perhaps other areas if the revised viewshed mapping warrants them.

While photosimulations are not explicitly required in the Scope, the Scope does require on page 18 that the “evaluation of potential impacts . . . be set forth at a level of detail that reflects the severity of the impacts the reasonable likelihood of their occurrence . . .” A viewshed analysis cannot tell us if a viewpoint that has visibility is significantly impacted. Further, quantitative assessments by themselves (e.g. X houses will have their roofs visible from this view), while useful, also cannot definitively provide evidence for making a determination regarding significance. Photosimulations do provide such evidence and considering the severity of the impacts and the reasonable likelihood of their occurrence, they should be very seriously considered if the revised viewshed analysis shows the kind of visibility expected.

Finally, photosimulation has become common in Tuxedo Park, with recent applications for single houses and even a deck and landscape improvements using photosimulations to demonstrate their impact. The community is becoming accustomed to evaluating projects and their impacts using this medium. A photosimulation that demonstrates impact graphically avoids the Planning Board and the public from having to imagine how this view would appear with an additional 5 or 7 or 10 houses, and what the impacts would be.

Other Issues

These issues are generally minor.

Figures 3.10a and 3.10b on pages 135 and 136 of the copy reviewed were missing. Other figures may be missing on sections that were not reviewed. The document should be thoroughly reviewed for similar errors in formatting.

No figure numbers were listed on the figures in Section 3.5 (and possibly other sections). Consequently, when Figure 3.5.5, for example, is mentioned in the text, the reader is unable to easily reference this figure because there is no label identifying which Figure is 3.5.5. (The reader must instead go to the Table to

Contents and find on what page Figure 3.5.5 is to review the map mentioned in the text.)

Page 97 states that Figure 3.5-5 is “also included at a larger scale as an attachment to Appendix 9.9.” However, only the first 11 pages of this 70 page Appendix are numbered and it is not clear where in Appendix 9.9 this larger scale attachment can be found. Paginating the Appendix and pointing the reader to where this larger scale map can be found would increase the usability of the document.

The following comes from Figure 3.5.3 *Visual Impact of Proposed Development on Map Documented Structures and Landscape Features*.⁸

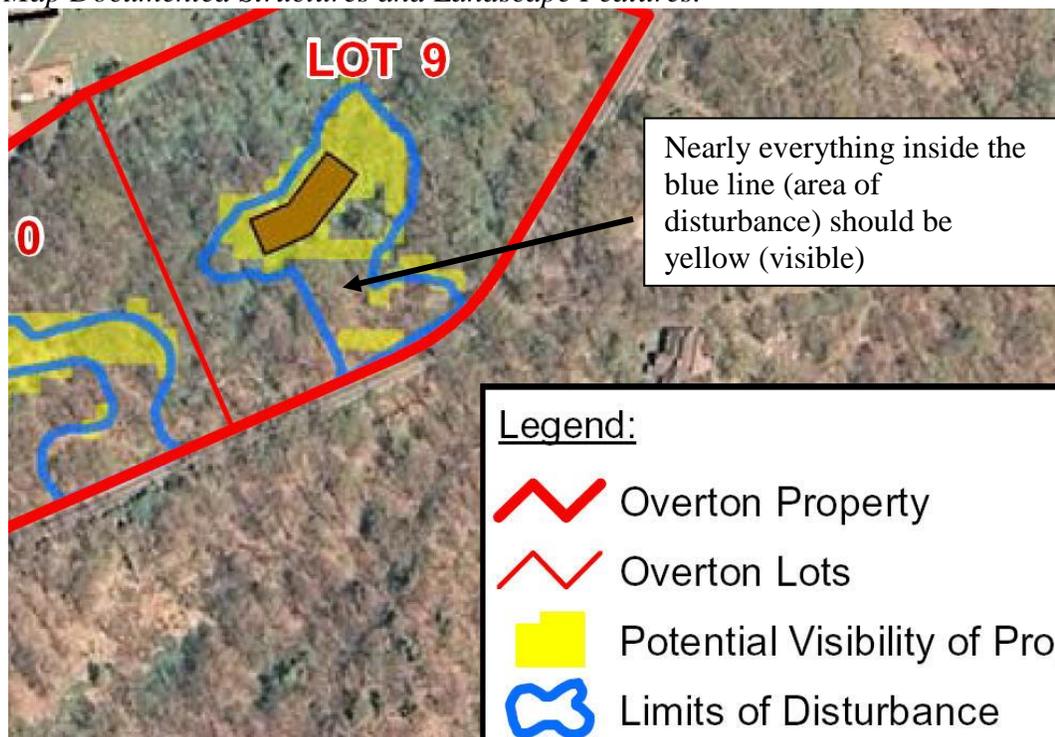


Figure 6: Reproduction of a portion of Figure 3.5.3

The brown polygon is the footprint for a proposed building. The area outlined in blue is the area of disturbance. The yellow shows areas where a building is potentially visible. One would expect that nearly the entire area outlined in blue, where trees have been removed, would have visibility to a 65 foot tall building on the same lot. Yet, this map shows that much this area would not have visibility to this building, which defies logic.

This odd result may be the result of a glitch in the method used to determine visibility, or the applicant may be assuming that “Any trees, shrubs, and/or hedges to be removed during construction must be replanted in as good a condition as they

⁸ Visibility is not visual impact. The title of this map should be: *Visibility of Proposed Development on Map Documented Structures and Landscape Features*.

were in before they were removed and any damaged trees, shrubs, and/or hedges must be replaced (in-kind) at the contractor's expense." Yet, the applicant is assuming that these trees *average* 70 feet tall. If a 70 or 80 foot tall tree is removed during construction, this statement appears to be committing to the replacement of the same tree, which is exceptional for such large trees (the note on the SP 4 offers *ornamental* trees will be replaced). Generally, visibility analyses are done removing all trees from within the area of disturbance, assuming that general landscaping elements will provide little screening at time of planting, unless they are specifically designed as a screen. Even if individual trees from previously forested areas are salvaged and incorporated into the landscape, the area of disturbance cannot be considered forested for the purposes of visibility analysis because these trees typically offer little screening due to their lack of branches. In the absence of a landscape plan, the analysis should not assume there is any screening offered from within disturbed areas and this and any other map or analysis that assumes otherwise should be redone.⁹

Close

There are serious errors and omissions with Section 3.5 of the PDEIS for the Overton subdivision. It is not complete for the purpose of commencing public review, nor can it be used to assess the significance of the project's impacts on the area's visual resources.

Should you or the applicant have any questions or comments regarding this evaluation, please don't hesitate to contact me directly. If you would like me to appear before your board to explain this document, please let me know.

Thank you for the opportunity to assist your Board on this important project.

Sincerely,



George M. Janes, AICP
Principal

Attachment: Appendix A

⁹ It is possible that this assumption created the differences noted in footnote 7.

Appendix: A comparison of NOAA and NLCD land cover data in Tuxedo Park

As stated in the comment letter, the PDEIS uses NOAA land cover data for the Overton Subdivision viewshed analysis. My office uses NLCD data for this type of analysis, and while we have never systematically compared the two sources and evaluated their quality, in Tuxedo Park, these sources are different in their classification of forest data. The following maps show forested land in green on top of an aerial photo of the area. Tuxedo Lake is the large dark area on the bottom. We-Wah Lake is the dark area at the top.

This map shows the NOAA forest data, which shows nearly the entire non-lake portion of the Village covered in forest:

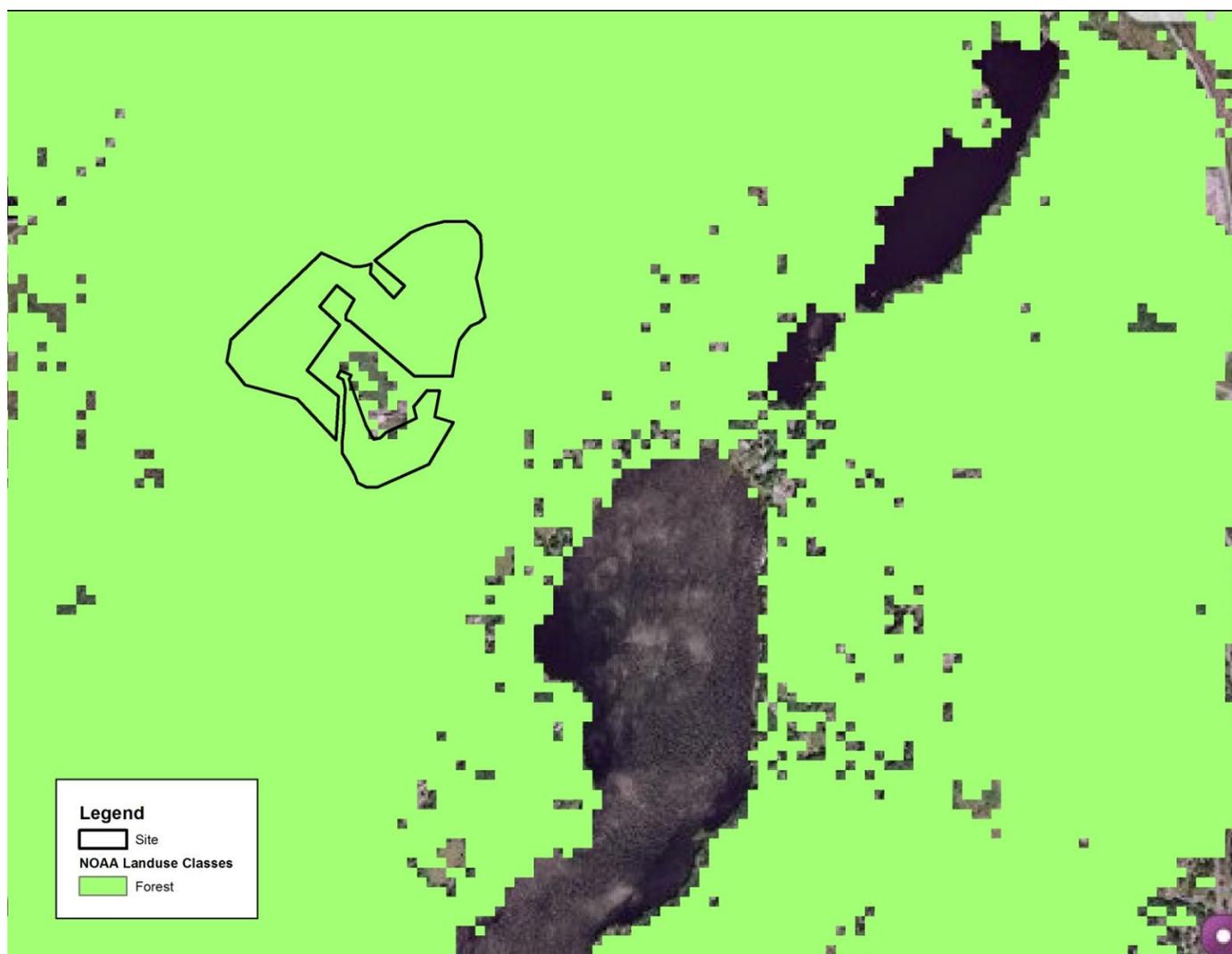


Figure 7: NOAA forest data on an aerial photograph of part of Tuxedo Park

The NLCD data shows much less of the Village as forested. It acknowledges that large areas on the eastern shore of Tuxedo Lake are not forested and also eliminates much of the forests on built lots to the north and east of Tuxedo Lake. It instead classifies much of this land as developed. The data sets clearly use different criteria when classifying land.

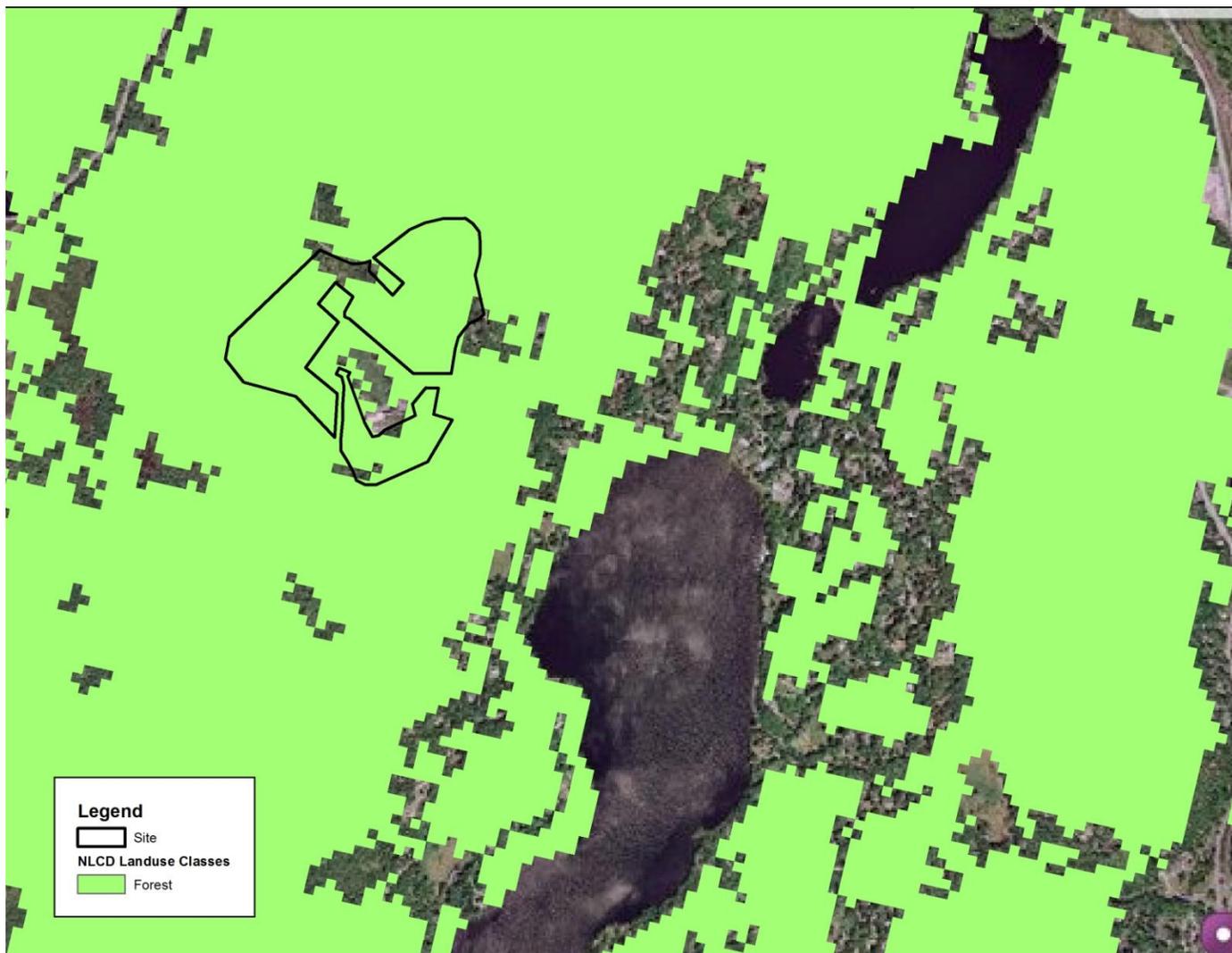


Figure 8: NLCD forest data on an aerial photograph of part of Tuxedo Park

Typically under SEQR when given two otherwise equal sources of data, the one that discloses a larger impact should be used. The information in a DEIS should always err the side of disclosing more, rather than risking understating a project's impacts. So unless there is a compelling reason to use the NOAA data, the NLCD data would be preferable for viewsheds in Tuxedo Park because they show fewer forested areas and will result in a viewshed analysis that discloses more visibility.