

DEP- / Assessing and Mitigating Visual Impacts

New York State Department of Environmental Conservation

DEC Program Policy

Issuing Authority: Article 8, 49

Originating Unit: Division of Environmental Permits

**Date Issued: 07/31/2000, Amended on
xx/xx/xxxx**

**Latest Date Revised: DRAFT 10/30/2018
(By DTW-Includes TB suggested edits)**

Abstract

The Division of Environmental Permits issued the original version of its policy on Assessing and Mitigating Visual Impacts (Visual Policy) on July 31, 2000. The Visual Policy was intended to provide the staff of the Department of Environmental Conservation (Department or DEC) with a standardized method for evaluating the significance of a visual impact within the context of the State Environmental Quality Review Act (SEQR).

This revised Visual Policy provides improved guidance to staff when evaluating visual and aesthetic impacts as follows: 1) it updates the inventory of aesthetic resources; 2) provides additional staff guidance regarding when a visual assessment is necessary and how to review a visual impact assessment; 3) provides guidance on establishing a 'baseline' to assess visual impact; 4) provides more detailed guidance when making a determination of significance; and 5) revises guidance when assessing aesthetic resources of local concern.

The revised policy replaces the original version issued 7/31/2000 and includes a revised glossary of terminology and appendices that further illustrate the concepts set forth in the policy.

I. Purpose

This Visual Policy provides guidance to staff on evaluating visual impacts when the Department is lead agency under SEQR (as more fully discussed below under Applicability). The Visual Policy does not change the responsibility of project sponsors to local agencies (e.g., cities, towns and villages) to assess visual impacts pursuant to the requirements of adopted local laws or ordinances. In addition, this program policy does not relieve project sponsors from the visual impact analyses requirements of other state agencies such as the Department of State Coastal Zone Program, the Department of Public Service or the Office of Parks, Recreation and Historic Preservation.

II. Applicability

This program policy is applicable to DEC staff when DEC is lead agency under SEQR, or when no lead agency has been established, as in the case of an Unlisted action where DEC staff is responsible for making a determination of significance. Where the Department is an involved agency (but not lead agency), staff, in an appropriate case, should suggest use of the Visual Policy by the lead agency. The Visual Policy is advisory only as to all other lead or involved agencies in their SEQR assessments of visual impacts.

III. Background

An ever expanding body of research has demonstrated that aesthetic values (the perceived beauty of a place or structure) are shared among the general population. This research finds that such values are not idiosyncratic, random or arbitrary. For example, millions of people visit Niagara Falls and many other attractions and have a shared appreciation of the beauty of such places.

Under SEQR, agencies are required to evaluate aesthetic impacts to the environment in making a determination of significance for an action. See 6 NYCRR §617.7 (c) (5). An “aesthetic impact”¹ is the consequence of a visual impact on the public’s use and enjoyment of the appearance or qualities of a listed resource.

When the Department directly undertakes, funds or approves an action subject to SEQR, it must first determine whether the action may have a potentially significant adverse environmental impact, including impacts to aesthetic resources. See 6 NYCRR §617.7 (c) (1) (v). If an action is subject to an environmental impact statement, SEQR requires the lead and all involved agencies to avoid or mitigate such impacts to the maximum extent practicable. See 6 NYCRR Part 617.11(d)(5).

The SEQR Handbook states that “[b]ecause the quality of an aesthetic resource cannot be determined by a precise formula and because opinions may vary concerning the evaluation of visual impacts, there exists a widespread, but erroneous, notion that analysis of aesthetic impacts is hopelessly subjective. Instead, research has clearly established that landscape preference and perception are not arbitrary or random. There is substantial regularity in human perceptions of significant adverse and beneficial visual impacts. It is upon this regularity of human judgement concerning aesthetics that objective decision-making depends.”

Many places have been recognized for their beauty and designated by the Federal or State government, reinforcing the notion that aesthetic values are shared and these special places have been formally recognized as such. Through these designations, the Federal or State government has determined that such places have aesthetic value and that their value are worthy of protection. For example, the Department of State, through the Coastal Zone Management program designates Areas of State-wide Scenic Significance, which have been so far designated for parts of the Hudson Valley and Long Island.² A categorical listing of such places is set out below. The Visual Policy relies on these designations as evidence of a Federal or State area of aesthetic significance. SEQR provides the means to evaluate visual impacts on those designated resources. Recognition of aesthetic resources also occurs on the city, town and village levels through zoning laws and comprehensive plans. The Visual Policy provides guidance to staff on evaluating municipally designated areas of scenic significance.

IV. Policy

In the review of an application for a permit, Department staff must evaluate, where relevant, the potential for adverse visual and aesthetic impacts on receptors outside of the facility or property. When an action is proposed within the viewshed of a designated aesthetic resource (see Visual Policy, VI.A for a categorical listing of such places) and DEC is the responsible agency under SEQR for the environmental review of that action, staff shall make a determination on a project

¹ See Glossary.

² New York State Department of State, Scenic Areas of Statewide Significance, <http://www.dos.ny.gov/opd/programs/consistency/scenicass.html>, last visited October 3, 2016.

by project basis regarding the need for additional visual assessment as part of its determination of significance. Where significant impacts are identified in such an assessment leading to a positive declaration under SEQR, staff shall require the project sponsor to employ reasonable and necessary measures to avoid, minimize, or mitigate adverse significant aesthetic impacts.

V. Responsibility

The DEC environmental analyst, as project manager, shall have the lead responsibility for conducting the analysis required by the Visual Policy. This includes ensuring that visual and aesthetic impacts are properly evaluated by the applicant and determining the potential significance of the action pursuant to SEQR. To this end, the DEC environmental analyst should familiarize him or herself with: the visual impact related questions in the Short and Full EAFs (<http://www.dec.ny.gov/permits/6191.html>), the corresponding discussions in the EAF workbooks (<http://www.dec.ny.gov/permits/90125.html>); and applicable sections of the SEQR Handbook (see <http://www.dec.ny.gov/permits/6188.html>).

When an application is received or a project initiated, staff should use the information in Part I of EAF and Departmental resources such as the GIS Data Selector to make an initial evaluation of the potential for a significant impact to aesthetic resources in part II of the EAF. When appropriate, staff may request additional information such as a viewshed from the applicant if necessary to complete Part II of the EAF.

The first step in identifying a potential visual impact occurs in Part I of the EAF — to be completed by the project sponsor. For example, question 6 of the Part I of the Short-EAF asks “[if] the proposed action is consistent with the predominant character of the existing built or natural landscape?” The Short-EAF Workbook explains that in answering this question, “consideration should be given to [whether] the proposed activity has architectural features and site design that is visually consistent with other buildings and structures in the area?”

Part 2 of the EAF (which is completed by staff), Question 8 asks “[w]ill the proposed action impair the character or quality of important historic, archaeological, architectural or aesthetic resources?” Checking “moderate to large impact” may trigger the need for a visual assessment. The Short-EAF also asks about impacts to critical environmental areas, which may be designated on account of aesthetic reasons. Part I, E3 of the Full-EAF asks, among other things, “[if] the project site is within five miles of any officially designated and publicly accessible federal, state, or local scenic or aesthetic resource?” The analyst should also acquaint them self with the narrative in Part II, question 9 of the Full-EAF “[t]he land use of the proposed action are obviously different from, or are in sharp contrast to, current land use patterns between the proposed project and a scenic or aesthetic resource? and the discussion therein on evaluating visual or aesthetic impacts.

Staff may be assisted in their review by consultants engaged by the Department or by the Project Sponsor, or both. However, completion of Part II and Part III of the EAF, the determination of significance and findings following the completion of a final environmental impact statement, are the responsibility of DEC staff. Analysts with suitable background may be able to acquire a sufficient degree of expertise to conduct a complete review of a project sponsor’s visual assessment. However, staff should seek expert advice for projects that are complex, and may require significant levels of mitigation.³

³ SEQR provides the Department with authority to engage its own experts and to have those costs reimbursed by the project sponsor. See 6 NYCRR §617.13

Local Resources

With respect to aesthetic resources of local concern, DEC staff should defer to local decision makers, who are more likely to be familiar with and best suited to address impacts to such resources. However, when the DEC is lead agency, and takes into consideration locally designated aesthetic resources when determining significance or scoping a visual impact assessment for preparation of a draft environmental impact statement, staff shall only consider aesthetic resources that are officially designated in an adopted comprehensive plan or through zoning as set out below. Typically, a municipality identifies aesthetic resources of local importance through an adopted comprehensive plan or zoning (*i.e.*, scenic overlay zones established through zoning). To ensure that locally designated aesthetic resources are brought to the attention of the staff as part of the SEQR review process, staff should seek input from the project sponsor and any relevant involved agency. In this way, the weight and importance of impacts to local resources may be given appropriate consideration.

An individual citizen's expression of concern regarding visual impacts is sometimes based on the belief that a property or particular "neighborhood" lies within the viewshed of a proposed project. While the citizen's concern may be valid in terms of their individual property, it may not come within the concerns of the Visual Policy. The Visual Policy is intended to address places or locations that have been officially designated for their aesthetic qualities and that are accessible to the public at large as opposed to places that may have individual or private importance only.

VI. Procedure

Staff must take the following steps in evaluating an application for a project's visual impacts:

- A. Verify the project sponsor's inventory of aesthetic resources.
- B. Verify the project sponsor's inventory of viewer characteristic, visual character and aesthetic value.
- C. Verify the project sponsor's visual assessment. This may include:
 - i. Desk top analysis using line-of-sight profiles and computer-generated viewsheds to provide a complete assessment of an impact, as appropriate, given the scale and place of concern
 - ii. Field verification techniques
 - iii. Computer visualization techniques such as photo and video simulations
- D. Determine or verify the project sponsor's assessment of the potential significance of the impact.
- E. Determine the measures that may be needed to avoid, mitigate or offset aesthetic impacts. If a significant impact is identified, confirm that the project sponsor has employed avoidance or mitigation strategies or where appropriate off-sets that are reasonable and likely to be effective.
- F. Enforcing mitigation measures

A discussion of each step follows:

A. Inventory of Aesthetic Resources.

Not all significant aesthetic resources have yet been designated in New York State. However, for the purposes of this policy all aesthetic resources of statewide significance shall be derived from one or more of the categories below:

- 1) Properties of historic significance described in 6 NYCRR 617.4 (b)(9), e.g. Trinity Church in Manhattan, Schuyler Mansion in Albany;
- 2) State Parks [Parks, Recreation and Historic Preservation Law Section 3.09]; e.g. Grafton Lakes State Park, Rensselaer County;
- 3) Heritage Areas (formerly Urban Cultural Parks) [Parks, Recreation and Historic Preservation Law Section 35.15]; e.g. RiverSpark (Hudson-Mohawk);
- 4) The State Forest Preserve [NYS Constitution Article XIV]; e.g., Adirondack and Catskill Parks;
- 5) National Wildlife Refuges [16 U.S.C. 668dd], and State Game Refuges [ECL 11-2105]; e.g. Montezuma National Wildlife Refuge, Seneca, Wayne and Cayuga Counties; Perch River Wildlife Management Area, Jefferson County;
- 6) National Natural Landmarks [36 CFR Part 62]; e.g. Iona Island Marsh, Hudson River, Rockland County;
- 7) The National Park System, Recreation Areas, Seashores, Forests [16 U.S.C. 1c]; e.g., Gateway National Recreation Area, Staten Island; Finger Lakes National Forest, Schuyler County;
- 8) Rivers designated as National or State Wild, Scenic or Recreational [16 U.S.C. Chapter 28, ECL 15-2701 *et seq.*]; e.g., Cedar River (Wild), Ampersand Brook (Scenic); West Branch of the Ausable River (Recreational);
- 9) A site, area, lake, reservoir or highway designated or eligible for designation as scenic [ECL Article 49 Title 1] or DOT equivalent; e.g. Storm King Highway (Article 49 Scenic Road), Orange County;
- 10) Scenic Areas of Statewide Significance [Article 42 of Executive Law]⁴; e.g. Catskill-Olana SASS;
- 11) A state or federally designated trail, or one proposed for designation [16 U.S.C. Chapter 27 or equivalent]; e.g., Appalachian Trail;

⁴ State Coastal Policies number 24 and 25 define the criteria that, when properly employed, assure project consistency with coastal zone management objectives. Such policies are consistent with the review mechanisms contained in the Visual Policy.

- 12) Adirondack Park Scenic Vistas [Adirondack Park Land Use and Development Map]; e.g., Whites Hill, Town of Hopkinton
- 13) State Nature and Historic Preserve Areas [Section 4 of Article XIV of the State Constitution]; e.g., Zoar Valley Multiple Use Area, Cattaraugus County
- 14) Palisades Park [Palisades Interstate Park Commission]; e.g., Harriman State Park;
- 15) Bond Act Properties purchased under Exceptional Scenic Beauty category [ECL Article 51, 52 and 56; e.g. Star Hill, Oneida County; or
- 16) National Heritage Areas [Each of the 49 designated NHAs has its own individual authorizing legislation e.g. Hudson River Valley National Heritage Area of 1996].

Not all the individual resources contained in the foregoing Inventory of Aesthetic Resources were designated because of an associated aesthetic value or quality. For example, the designation of an historic property is not always based on the aesthetic values associated with the property. Therefore, only those resources that have an aesthetic value associated with them should be considered as part of an assessment of the potential significance of the impact. The aim of a visual impact analysis is to determine potential visual impacts. It is not intended to be an exhaustive analysis of every resource that falls within one of the 16 categories described above. For all resources within the inventory, the test of significance should focus on the impairment of the aesthetic value or quality associated with the resource, not mere presence within a viewshed. Consequently, all aesthetic resources identified within the viewshed of a project must have an explanation of their specific value and quality addressed in the assessment.

B. Inventory of Viewer Characteristic, Visual Character and Aesthetic Value

In assessing a project's impact on the aesthetic qualities of an inventoried resource, the project sponsor should identify designated aesthetic resource users, and the activity in which such viewers are engaged in. This enables the project manager to better understand their probable sensitivity to a particular visual intrusion. For example, a mountain biker traversing a trail in a State park that is not otherwise designated for its aesthetic qualities would less likely be affected by a brief view of an out of character development than a hiker walking a hiking trail containing a scenic overlook.

A description of the aesthetic qualities and character of an inventoried resource within a visual impact assessment should include an identification of the existing natural and human made conditions, in addition to the aesthetic value of the resource, thereby establishing a 'baseline' from which visual change may be measured and visual impact assessed. Visual character includes the physical, natural and cultural components of the existing landscape such as landforms, vegetation, water features and land uses.

The aesthetic value of the inventoried resource include the specific reasons why that particular resource is recognized for state or federal designation, and the value worthy of protection. For example, Olana, in Columbia County, is included on the National Register of Historic Places, in part, because of the aesthetic value of the views associated with Frederick E. Church's work, not only in the structures and surrounding landscape but in the panoramic views from the

property. See *In the Matter of St. Lawrence Cement Company, LLC*, Second Interim Decision, September 8, 2004. Identification of the existing visual character of the landscape can subsequently be used to assess the impacts of a proposed project in the visual assessment.

C. Visual Assessments

Staff must review the project sponsor's visual assessment for adequacy, accuracy and thoroughness. "Thoroughness," as used here, is a relative term that requires staff to exercise reasonable judgment depending on the project and its visual assessment needs. The control points (see glossary for definition) must be established by staff and should include a worst case scenario. Worst case here means establishing the control points that reveal a project's visibility at an aesthetically significant place. In most circumstances, high points will reveal the worst case scenario. For example, the tallest facility component (e.g., combustion exhaust stack), may be the control point at the project end of the profile, while a high point of ground upon which the observer stands within a State Park may be the control point at the resource end of the profile.

In all visual assessments, staff must ensure that significant resources together with a project's potential adverse effects on those resources is adequately assessed. If a resource designated in any of the above categories potentially lies in the viewshed of the proposed project then a visual assessment should be required. At a minimum, a line-of-sight-profile may be used to determine if a significant resource is located within the potential viewshed of the proposed project (see attached Appendix A for guidance on how to construct and use a line-of-sight profile). However, a viewshed analysis is the preferred method of analysis because it will indicate where a project can or cannot be seen from within the delineated impact area. The presence of an inventoried resource within the viewshed of a proposed project may trigger additional analysis, including the verification of visibility through the use of photography, GPS, balloons, or other appropriate field verified techniques. Confirmation of the extent of visibility may require subsequent analysis through the use of photo-simulations and other industry accepted visual simulation techniques. Appendix B contains examples of computer generated graphics, including a line-of-sight profile, a viewshed analyses and a photo simulation. A viewshed analysis, coupled with line of site analyses, may be sufficient for projects of smaller magnitude with limited potential significance to the resource. Staff must ensure that the use of technology and associated costs is consistent with the potential significance of the project. For many projects, the use of sophisticated visual assessment techniques may be unwarranted as the cost of conducting such studies may be disproportionate to their potential benefit. Not all projects require field verified techniques such as balloons and GPS systems, or the use of photo simulations and computer modeling. Consequently, each project must be analyzed on a case by case basis to determine the most appropriate use of visual assessment technology.

Determining Distance Limits for Visual Analysis

Each landscape and project must be analyzed on a case by case basis to determine the most appropriate viewshed radius. For larger scale actions, it is usually protective to use a five-mile radius to determine the area required to be considered for potential visual impacts. The five-mile distance probably owes its origins to the U.S. Forest Service "distance zones" set forth in their landscape management journal written in 1973⁵ (five miles is still largely considered

⁵ U.S. Forest Service, Agricultural Handbook Number 434, Feb. 1973.

“background,” *i.e.*, distances at which most activities are not a point of interest to the casual observer).

For example, very large projects, such as power plants (particularly those that generate wet cooling tower plumes), industrial wind turbines, and large landscape alterations, greater distances have been shown to be important in some landscape settings, and staff should consider extending the analysis to such distances. In those instances, project sponsors must document to the satisfaction of staff that impacts beyond five miles to any resource of statewide concern is insignificant or include that resource in the Visual Analysis. Such demonstrations may be convincing if resource inventories beyond five miles are coupled with line-of-sight profiles (see Appendix A for a complete discussion of these graphic tools) or other accepted visual criteria, such as computer simulations, analogous comparative studies or worstcase presentations.

Five miles may not be appropriate for all landscapes or all projects. Urban or built up areas with flat terrain, where the skyline is blocked by complex, large scale, visually confining structures, require a much smaller radius to be considered in the viewshed Analysis. For example, In New York City, a one-mile viewshed radii or less is adequate for very large projects, including power plants with tall attendant combustion stacks and plumes. On Long Island, three mile radii have typically been used for such facilities because the surrounding urban landscape, coupled with the flat terrain, limits the potential visual impact through urban landscape screening. However, in rural environments, with expansive views, giving due consideration to the size and scope of the particular project, a viewshed radius of five miles or more is appropriate.

D. Significance

Aesthetic impact occurs when there is a detrimental effect on the perceived beauty of a place or structure. Significant aesthetic impacts are those that cause a diminishment of the public enjoyment and appreciation of an inventoried resource, or one that impairs the character or quality of such a place. While private individuals or landowners are members of the public, aesthetic impacts to a non-publicly accessible scenic or aesthetic resource do not usually rise to the level of significance contemplated in this policy inasmuch as a criteria of significance involves evaluating the number of people affected by an action (6 NYCRR §617.7 [c] [3] and EAF, Part 3.)

In this regard, staff must consider "**magnitude**" and "**importance**" in determining the significance of a visual impact under SEQR. Magnitude assesses factors such as severity, size or extent of an action. Importance relates to how many people are going to be impacted or affected by the project; the geographic scope of the project; and any additional social or environmental consequences if the project proceeds (or doesn't proceed). Each impact of an action must be judged by these two characteristics. Generally, projects with a bigger impact (larger "magnitude" and or "importance") are more likely to need more detailed analysis.

Likewise, staff must consider the setting of a proposed building or structure and its impact on a designated resource — not just size alone. Context is a key element of significance especially when evaluating visual impacts. The fact that a project is large, by itself, should not be a trigger for a positive declaration under SEQR. Context matters, which is the function of staff's analysis

under Part 3 of the EAF. On the other hand, a project by virtue of its siting in visual proximity to an inventoried resource may lead staff to conclude that there may be a significant visual impact.

Therefore, staff must verify the potential significance of the impact using magnitude and importance, the qualities of the resource, and the juxtaposition (use viewshed or line-of-sight profiles, or both) of the project to the inventoried resource as the guide for the determination. If the potential exists for a significant adverse aesthetic impact (the potential for impairment of the character or quality of any identified visual resource), then a positive declaration should be issued under SEQR. However, for projects with no significant adverse impact, Department staff would issue a negative declaration of significance provided there are no other impacts of environmental significance associated with the project.

E. Measures to Avoid, Mitigate or Offset Aesthetic Impacts

To conclude that significant impacts have been avoided or minimized to the maximum extent practicable the environmental analyst must be assured that all known practical mitigation strategies have been used. The analyst must ensure the project sponsor submitted a design that includes mitigation if such mitigation is available or practicable. The analyst should also inform appropriate staff of the mitigation strategies to ensure appropriate permit conditions are imposed consistent with the required mitigation. When significant residual impacts remain after employment of mitigation strategies, the environmental analyst should investigate if offsets are available to further minimize impacts.

1. Avoidance & Mitigation

Project sponsors should first seek to avoid impacts. In some cases, a project can be sited in a location that precludes the possibility of having an aesthetic resource within its viewshed. Also, through sensitive design treatment, elements of particular concern may be sited or dimensioned in a way that eliminates impacts on significant resources. For example, buildings can be sited off to the side of a lot or some utility uses can be enclosed in a pole barn, which in a rural area may reduce its visual impact. Design is, however, primarily the sphere of professional designers rather than environmental analysts. Sometimes circumstances prevent the realization of optimal siting and other times engineering, economic or other constraints preclude optimum dimensioning or other appropriate design treatments.

Mitigation may reduce or eliminate the visibility of the project or alter the projects effect on the aesthetic resource. As a general rule, it is better for staff to advise project sponsors on methods to mitigate impacts rather than offering advice on how to redesign their projects. A project sponsor may find it easier to reduce the visibility of the project rather than alter its composition to achieve mitigation.

Staff should assure effective mitigation is thoroughly explored by requiring project sponsors to consider the following menu of tools to mitigate impacts:

- a. Screening
- b. Relocation
- c. Camouflage/Disguise
- d. Low Profile

- e. Downsizing
- f. Alternate Technologies
- g. Maintenance
- h. Non-specular materials
- i. Lighting

A discussion of each item follows:

a. Screening.

Screens are objects that conceal other buildings or other types of structures from view. They may be constructed of soil, rocks, bricks, or almost anything opaque. Vegetation can function as a screen when a sufficient mass is employed. Screens may be natural, e.g. vegetation, or artificial, e.g. fences and walls. In natural settings it is generally better to employ natural materials, while in urban places designers may employ a broader range of materials.

Screens constructed from soil are called berms. Berms may appear natural e.g. blend with nearby topography, or appear artificial e.g. geometrical or symmetrical shape. Each may be employed depending upon the overall design intent. Berms may be vegetated or not vegetated depending upon their particular function, e.g., spill containment and/or screening.

Properly sized and placed screens may completely conceal an object, while improperly sized and placed screens may fail to conceal. Screens may block desirable views when improperly placed (see Appendix A, which illustrates the importance of screen placement).

Screens possess line, form, texture, planes and color, and therefore, have their own aesthetic qualities. At times, they may be more impacting than the object to be concealed. Screens may draw attention to the object to be concealed. Screens may physically connect two similar or dissimilar areas.

b. Relocation.

A facility component may be relocated to another place within the site to take advantage of the mitigating effects of topography and vegetation.

c. Camouflage/Disguise.

Colors and patterns of color may conceal an object or its identity. Disguise may take many forms, and is limited only by the imagination of the project designers. As an example, communication towers can be disguised as trees, flagpoles, barn silos, church steeples, or any other “in-character” structure depending upon circumstances.

d. Low Profile.

Reducing the height of an object reduces its viewshed area.

e. Downsizing.

Reducing the number, area or density of objects may reduce visual impacts.

f. Alternate technologies.

Substituting one technology for another may reduce impacts (e.g., the project sponsor’s choice of cooling tower technology may mitigate aesthetic impacts).

g. Maintenance.

Aesthetic effects can result from poorly maintained landscapes and buildings. “Eyesores” are often the result of neglect. Maintenance should be considered part of any mitigation strategy.

h. Non-Specular Materials.

Using building materials that do not shine may reduce visual impacts.

i. Lighting.

As a general rule, the project lighting plan should reflect the functional requirements of a project. Where relevant and appropriate, project sponsors should assess off-site light migration, glare and “sky glow” light pollution. Project sponsors should be asked to show that they have met all applicable lighting standards under the local jurisdiction. For tall structures (Generally over 200 feet above ground level) such as a tall combustion exhaust stack or radio tower, the Federal Aviation Administration (FAA) requires certain lighting for public transportation safety. Impacts from these requirements may be considered unavoidable unless lower profiles can be achieved.

Evaluating Mitigation Measures

SEQR does not require that impacts be mitigated to levels of no adverse impact. Some types of structures will inherently or by their function have an impact, notwithstanding efforts to avoid or mitigate such impacts. Examples include wind turbines and stand-alone cellular towers (whose impacts are inherent to their function). The aesthetic impact of a building is, on the other hand, more susceptible to avoidance and mitigation. If a particular action is the subject of a final EIS and findings, SEQR requires that impacts found to be significant must be avoided or minimized to the maximum extent practicable consistent with social, economic and other essential considerations [see 6 NYCRR Part 617.11(d) (5)]. This sometimes means that adverse aesthetic impacts may occur even after all known avoidance and mitigation strategies have been employed.

A project sponsor may assert that all economically sound mitigation strategies have been incorporated into the proposed design and such self-imposed mitigation has effectively mitigated significant negative impacts on a listed resource. However, if staff concludes that significant impacts remain then staff must determine if other measures are available to further mitigate or minimize impacts.

The project sponsor always has the burden to provide clear and convincing evidence that the proposed design does not diminish the public enjoyment and appreciation of the qualities of the listed aesthetic resource. Staff can and should review the strength or merit of such proof. A project sponsor’s mere assertion that the design is in harmony with or does not diminish the values of the listed resource is insufficient for the purposes of reaching findings. Instead, a project sponsor must demonstrate through evidence provided by others (e.g., recognized architectural review boards, comparative studies that are clearly analogous, or other similar techniques) that the action is one that avoids or minimizes adverse impacts to the maximum extent practicable.

In making findings following completion of a final environmental impact statement, staff must be assured that consistent with social, economic and other essential considerations, the action is one that avoids or minimizes adverse impacts to the maximum extent practicable. This can be accomplished by asking and responding affirmatively to the following questions:

1. Was the full mitigation menu considered?
2. Will those mitigation strategies selected be effective?
3. Were the costs of mitigation for impacts to other resources identified, and were all mitigation investments prioritized appropriately?
4. Are the estimated costs of all mitigation insignificant (e.g., are the costs of visual mitigation taken together with all other mitigation less than 10% of the total project cost?)
5. Were the mitigation strategies employed consistent with previous similar applications? If not, was the reasoning for any changes reasonable and justified?
6. Was the mitigation cost effective? For example, if fully mature vegetation with an immediate screening effect costs 10 times the amount that less mature vegetation would cost, is it appropriate to require the less costly option if its full screening effect can be realized in just, say, 3 years?

The project sponsor should be brought into the discussion of mitigation strategies. If more than one mitigation strategy meets all environmental protection needs, the project sponsor's needs and preferences should be considered in deciding the appropriate mitigation.

The Department prefers that all mitigation options are specified in the project sponsor's plans for the Department's review. The plans should sufficiently depict readily understandable and enforceable details. Adherence to such plans should then become a permit condition. During and after facility construction, staff should visit the site and ensure that all mitigation strategies detailed in the plans and specifications have been adequately incorporated into the facility design.

If all mitigation options available from the menu are considered, applied where appropriate, and determined to be cost effective, then staff can conclude that impacts have been minimized to the maximum extent practicable. After all such strategies have been employed impacts may still be significant. Offsets should then be considered to help achieve the balancing required of SEQR. Finally, decommissioning options may be considered that reduce the duration of impacts for projects with severe residual impacts. Note that offsets, combined with decommissioning may result in a net improvement in visual quality over time, as discussed below.

2. Offsets

Offsets involve the correction of an existing aesthetic problem identified within the viewshed of a proposed project that may qualify as compensation for project impacts. A decline in the landscape quality associated with a proposed project can, at least partially, be "offset" by the correction. In some circumstances a net improvement may be realized. A classic offset might be the removal of an existing abandoned structure that is in disrepair (*i.e.*, an "eyesore") to offset impacts from a proposal within visual proximity to the same sensitive resource. All appropriate onsite measures should be employed before the use of an offset is considered. Offsets should be employed in sensitive locations where significant impacts from a project are unavoidable, or mitigation of other types would be economically infeasible or mitigation is only partially effective. The opportunities to utilize offsets may be limited by the SEQR requirement that alternatives sites must be under the control of the project sponsor. Offsets should be employed, generally as a last choice, when significant improvement can be expected at reasonable cost and

mitigation or avoidance would be unreasonable. Offsets and other measures should focus on the quality of the user experience, and should be keyed to the viewshed of actual project site.

3. Decommissioning

Decommissioning is distinct from offsets as it involves removing one or more components of the proposed facility once the component's useful life is over in order to limit the duration of a visual impact. Decommissioning may take many forms, and other DEC program areas may have an interest in decommissioning. However, from the perspective of aesthetics, three types of decommissioning are of most significance:

- the total removal from the site of all facility components and restoration to an acceptable condition, usually with attendant revegetation;
- partial removal of facility components, such as elimination of visually impacting structures; and
- maintenance agreements designed to maintain an abandoned facility and site in an acceptable condition that precludes “eyesores” or site and structural deterioration. Project sponsors should provide such plans when deemed necessary.

F. Enforcing Mitigation Measures

In most circumstances mitigation measures will not be standalone permit conditions but will be incorporated into the approved maps and plans associated with the action. However, when there is an EIS and SEQR findings, the core substantive requirement is the conclusion that all significant adverse environmental impacts have been avoided, minimized, or mitigated, to the maximum extent practicable. This provides staff the authority to use the written SEQR findings as the basis for requiring substantive permit conditions, or by incorporation in the approved maps and plans as a permit condition, that fully or partially mitigate identified adverse impacts.

Glossary

Aesthetic impact: An aesthetic impact occurs when there is a detrimental effect on the perceived beauty of a place or structure. Mere visibility, even startling visibility of a project proposal, should not be a threshold for decision making. Instead a project, by virtue of its visibility, must clearly interfere with or reduce the public's enjoyment or appreciation of the appearance of a significant place or structure.

Aesthetic Quality: There is a difference between the quality of a resource and its significance level. The quality of the resource has to do with its component parts and their arrangement. The arrangement of the component parts is referred to as composition. The quality of the resource and the significance level are generally, though not always, correlated.

Aesthetic Value: The perceived beauty of a place often recognized through designation as such by the local, state or federal democratic process

Aesthetically Significant Place: A place that is formally designated and visited because of its beauty. For example, millions of people visit Niagara Falls on an annual basis. They come from around the country and even from around the world. By these measurements, one can make the case that Niagara Falls (a designated State Park) is an aesthetic resource of national significance. Similarly, a resource that is visited by large numbers who come from across the state probably has statewide significance. A place visited by fewer people whose place of origin is local has only local significance. Unvisited places either have no significance or are "no trespass" places.

Atmospheric Perspective: Even on the clearest of days, the sky is not entirely transparent because of the presence of atmospheric particulate matter. The light scattering effect of these particles causes atmospheric or aerial perspective, the second important form of perspective. In this form of perspective there is a reduction in the intensity of colors and the contrast between light and dark as the distance of objects from the observer increases. Contrast depends upon the position of the sun and the reflectance of the object, among other items. The net effect is that objects appear "washed out" over great distances.

Control Points: The two end points of a line-of-sight profile. One end is always the elevation of an observer's eyes standing in a place of interest (e.g., a high point in a State Park) and the other end is always an elevation of a project component of interest (e.g., top of a stack of a combustion facility or the finished grade of a landfill).

Line-of-sight profile: A profile is a graphic depiction of the depressions and elevations one would encounter walking along a straight path between two selected locations. A straight line depicting the path of light received by the eye of an imaginary viewer standing on the path and looking towards a predetermined spot along that path constitutes a line-of-sight. The locations along the path where the viewer stands and looks are the control points of the line-of-sight profile.

Linear Perspective: Linear, or size perspective is the reduction in the apparent size of objects as the distance from the observer increases. An object appears smaller and smaller as an observer moves further and further from it. At some distance, depending upon the size and degree of contrast between the object and its surroundings, the object may not be a point of interest for most people. At this hypothetical distance it can be argued that the object has little impact on the composition of the landscape of which it is a tiny part. Eventually, at even greater distances, the human eye is incapable of seeing the object at all.

Viewshed: A map that shows the geographic area from which a proposed action may be seen is a viewshed.

Viewer Characteristics: Includes both the type of viewer groups and the activity in which designated aesthetic resource users may be engaged in.

Visual Assessments: Analytical techniques that employ view sheds, or line-of-sight profiles, or both, and descriptions of aesthetic resources, to determine the impact of development upon

aesthetic resources, and potential mitigation strategies to avoid, eliminate or reduce impacts on those resources.

Visual Character: Is the physical, natural and cultural components of the existing landscape such as landforms, vegetation, water features and land uses.

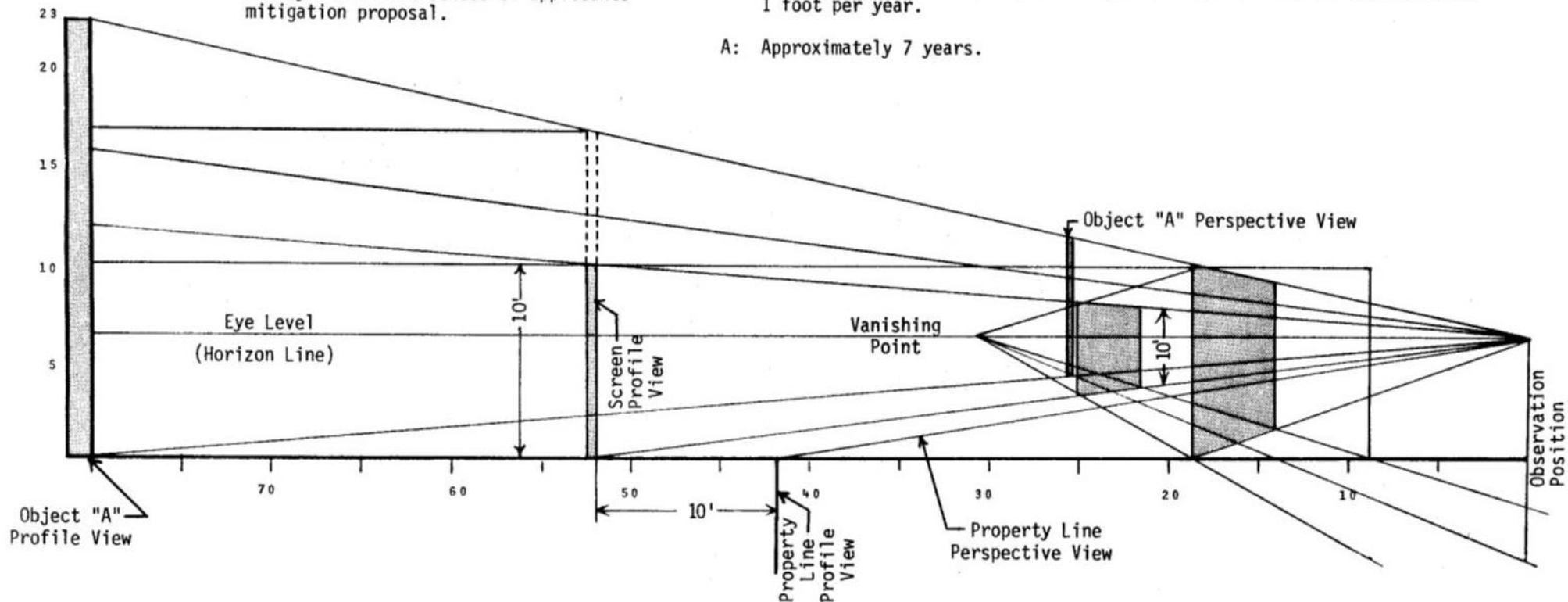
Visual impact: Visual impact occurs when the mitigating effects of perspective do not reduce the visibility of an object to insignificant levels. Beauty plays no role in this concept. A visual impact may also be considered in the context of contrast. For instance, all other things being equal, a blue object seen against an orange background has greater visual impact than a blue object seen against the same colored blue background.

APPENDIX A

SCREENS

THE RELATIONSHIP BETWEEN SCIENTIFIC PERSPECTIVE AND A LINE OF SIGHT PROFILE.

Scientific or linear perspective is a geometric procedure that projects space onto a plane. This technique provides the analyst with a simplified way to verify the effectiveness of applicants mitigation proposal.



USE THE DIAGRAM BELOW TO ANSWER THESE SAMPLE QUESTIONS

Q: At what height should a screen be constructed to completely conceal a 23 foot object from an observer standing 80 feet from the object?
Constraint: Screen must be located 10 feet inside property line.

A: About 17 feet.

Q: What is the maximum height of an object to be concealed behind a 10 foot screen that is located 80 feet from an observer?
Constraint: The observer is standing about 18½ feet behind the screen.

A: About 23 feet.

Q: In approximately how many years would a vegetative screen 6 feet in height planted on a berm 4 feet in height completely conceal a 23 foot object?
Constraints: Berm must be located 10 feet inside property line; object is 80 feet from observer; expected vegetation growth rate of approximately 1 foot per year.

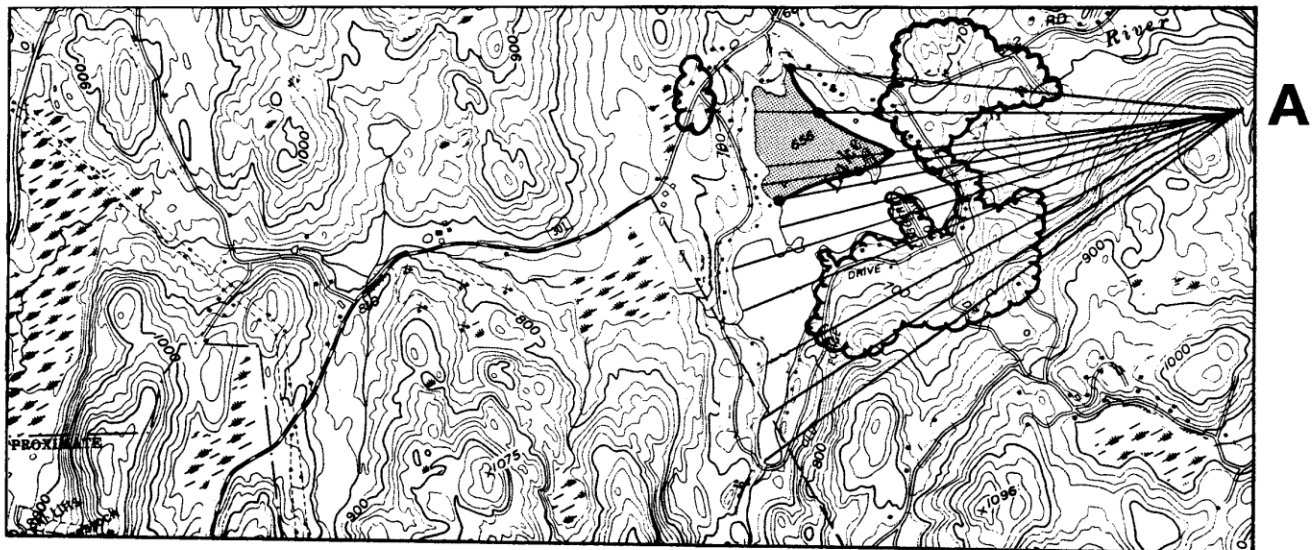
A: Approximately 7 years.

VIEWSHEDS

For illustrative purposes only, a "partial" viewshed has been constructed below. A partial viewshed is distinguished from a full viewshed in that it only shows a selected area from which an object may be seen. A full viewshed shows all such areas.

The shaded area in the northwest corner of the lake is the only area within the lake that a hypothetical object 100 feet in height and situated at A (where the profile radii converge) may be seen.

The defined viewing area has been constructed by connecting each point along each profile where a viewer just begins to see the hypothetical object. To add realism to the viewshed, 40' vegetation has been factored into the lines of sight. The vegetation alters the viewing angle and hence the initial viewpoint indicated by the large black dots at the intersection of the shaded area with each profile radii.



LEGEND



VIEWSHED
(Area within lake from which a hypothetical
100 foot object located at "A" may be seen)

↑
N
SCALE 1" = 2,000'

PROFILES

To construct a profile, first position the graph paper parallel and contiguous to the horizontal alignment of the desired profile (indicated by line A-B). Proceed by extending vertical lines (indicated by dashed lines) to the correct height according to any selected convenient vertical scale (in this case 1" = 100'). This must be done from each spot where the horizontal alignment crosses a contour line. It is the elevation of the intersected contour that determines the height of each vertical line. Then, simply connect the top of each vertical line to form the profile (indicated by line C-D). The profile C-D depicts the depressions and elevations one would encounter walking a straight path from Point A to B on the plan map. To add realism add vegetation at the proper locations at the proper height (in this case 40').

Sample Questions and Answers

According to the profile:

Q. Can an observer at location "Z" see the east shore of the lake?

A. No

Q. At what point will the observer no longer be able to see object "X"?

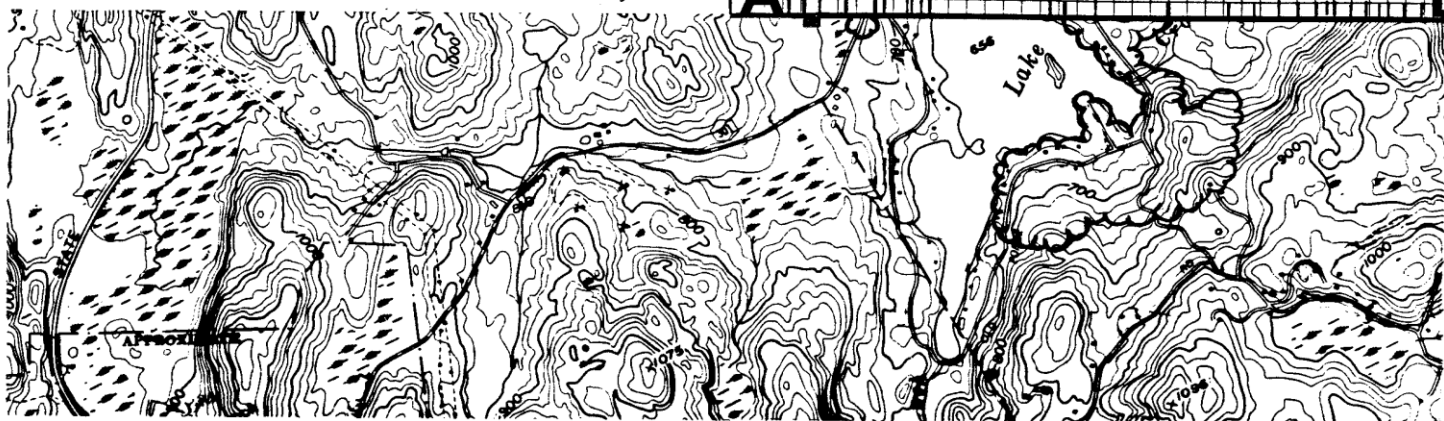
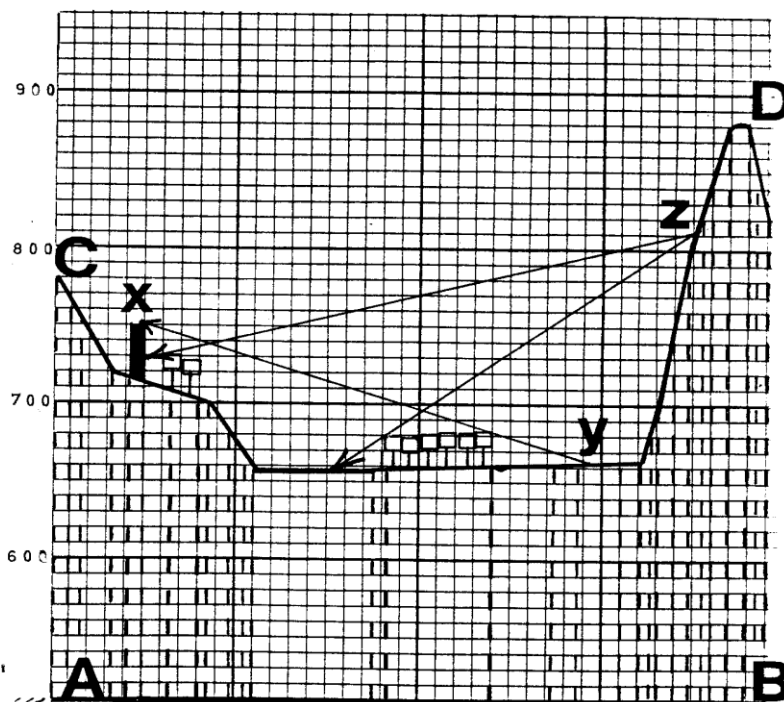
A. At point "Y".

Q. What is the visible portion of object "X" to an observer at location "Z"?

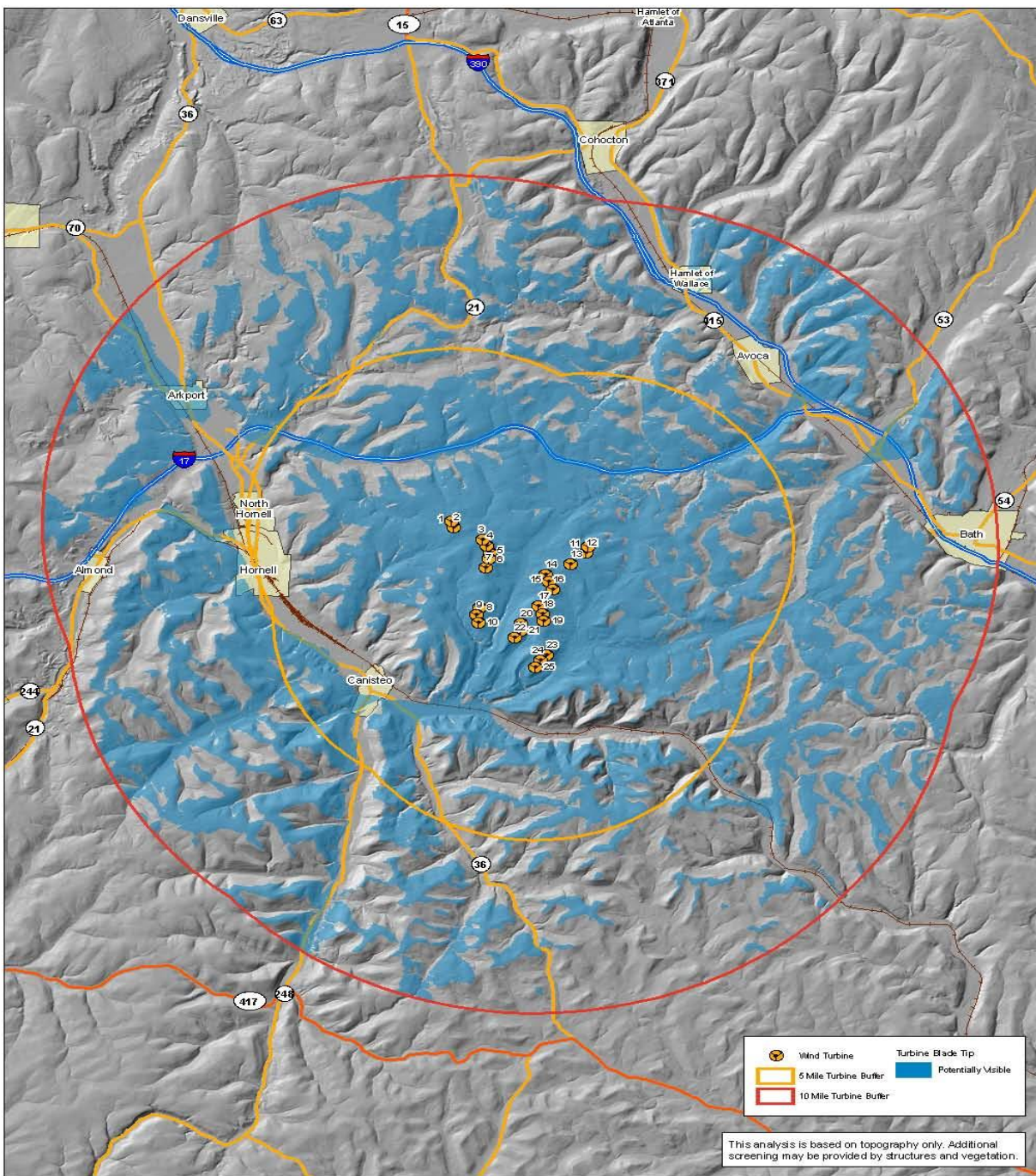
A. About 40 feet.



VERTICAL SCALE 1" = 100'
HORIZONTAL SCALE 1" = 2,000'

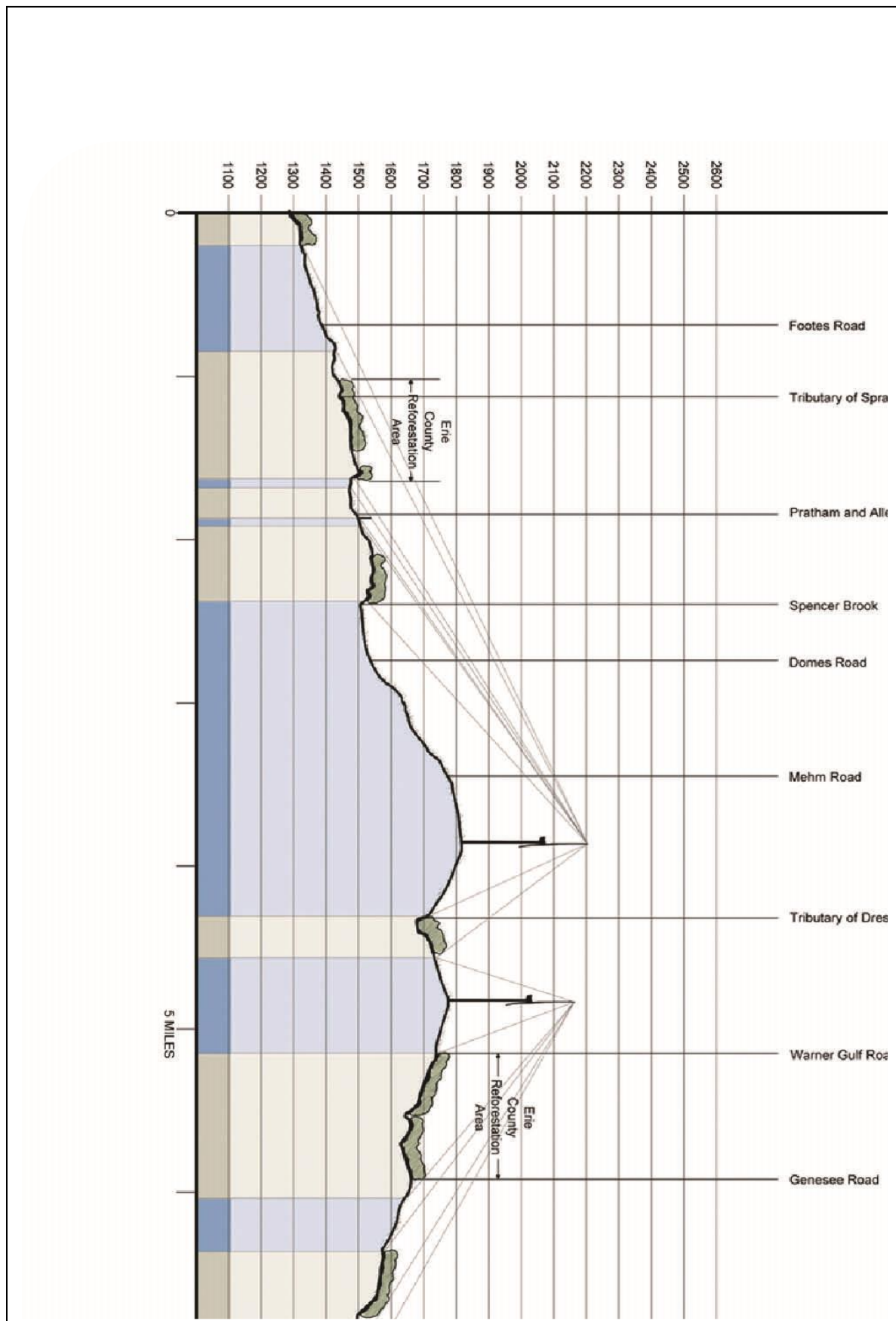


Viewshed Analysis



Graphics courtesy of Environmental Design & Research, Landscape Architecture, Engineering, and Environmental Services, D.P.C.

Line-of-Sight



Graphics courtesy of Environmental Design & Research, Landscape Architecture, Engineering, and Environmental Services, D.P.C.

SIMULATIONS

1. Photos are selected to illustrate typical views of the propose wind farm project.



2. A three-dimensional computer model of the project is built based on proposed turbine specifications and tower site coordinates.
3. Aerial photographs and GPS data collected in the field are used to create an AutoCAD 2010® drawing and these data are superimposed over photographs from each of the viewpoints,
4. The proposed exterior color/finish of the turbines was then added to the model and the appropriate sun angle is simulated based on the specific date, time and location (latitude and longitude) at which each photo was taken.



Simulations courtesy of Environmental Design & Research, Landscape Architecture, Engineering, and Environmental Services, D.P.C.

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