

REPORT ON ORDERLY DEVELOPMENT by Joy Kenseth

The State of Vermont requires that a proposed project will not unduly interfere with the Orderly Development of a municipality and region, and that it will comply with their standards and interests regarding patterns of development, site selection and land use. Specifically the statute requires:

(b) Before the Public Utility Commission issues a certificate of public good as required under subsection (a) of this section, it shall find that the purchase, investment, or construction:

(1) With respect to an in-state facility, will not unduly interfere with the orderly development of the region with due consideration having been given to the recommendations of the municipal and regional planning commissions, the recommendations of the municipal legislative bodies, and the land conservation measures contained in the plan of any affected municipality.

...

(C) With respect to an in-state electric generation facility, the Commission shall give substantial deference to the land conservation measures and specific policies contained in a duly adopted regional and municipal plan that has received an affirmative determination of energy compliance under 24 V.S.A. § 4352. In this subdivision (C), “substantial deference” means that a land conservation measure or specific policy shall be applied in accordance with its terms unless there is a clear and convincing demonstration that other factors affecting the general good of the State outweigh the application of the measure or policy. The term shall not include consideration of whether the determination of energy compliance should or should not have been affirmative under 24 V.S.A. § 4352.

30 VSA § 248 (b)(1).

TOWN OF NORWICH MUNICIPAL PLAN

The following sections of the Norwich Town Plan and the Norwich Zoning Ordinance constitute land conservation measures and specific policies which are to be given “substantial deference” by the PUC because the Norwich Town Plan is “a duly adopted regional and municipal

plan that has received an affirmative determination of energy compliance under 24 V.S.A. § 4352”:

TOWN PLAN – LAND USE SECTION

The Land Use Chapter of the Norwich Town Plan provides the following land conservation measure and specific policies to be afforded substantial deference:

2. LAND USE

2.1 Objectives

...

- 2-1-d Identify, protect, and preserve important natural and historic features of the Norwich landscape, including: significant natural and fragile areas, outstanding water resources (including rivers, aquifers, shorelands and wetlands), significant roads, waterways and views, important historic structures, sites or districts.
- 2-1.e Encourage and strengthen Norwich forestlands by maintaining and improving forest blocks and habitat connectors (24 VSA §4302 (c) (6) (C), (9)).
- 2-1.f Interconnect the existing system of trails for access to nature for Norwich residents and visitors (24 VSA §4302 (c) (1) (D) (4), (8) (B)).
- 2-1.g Revise Norwich Zoning and Subdivision Regulation informed by the climate crisis, specifically the ability of existing forest cover to provide ecosystem services such as carbon absorption and sequestration

Exhibit NN-JK-6, Norwich Town Plan, p.4.

2.2 Policies

- 2-2.a Increase the resilience of Norwich by avoiding, minimizing and mitigating conflict between land development and natural riparian functions along streams and rivers.
- 2-2.b Guide development away from priority forest blocks and discourage fragmentation or subdivision of land within those blocks that would adversely impact natural resource

values, including absorption and sequestration of carbon dioxide.

2-2.c Guide development away from visually prominent locations on ridgelines and hills as viewed from public vantage points.

...

2-2.e Guide development away from steep slopes and require appropriate erosion control and stormwater management practices to protect water quality and avoid increased downstream flooding.

...

2-2.h Encourage and support continued permanent conservation of farmland, forest land and natural areas.

2.3 Actions

2-3.a Implement the recommendations made in this chapter (see Figure 1) and throughout this plan when revising the Norwich Zoning and Subdivision Regulations to:

- i. Maintain the rural character of Norwich by preserving working lands and forests
- ii. Recognize the important ecosystem services performed by forests

...

2-3.c Develop a plan to address any potential conflicts between existing or proposed development on the edge of the village and mapped forest blocks.

...

Exhibit NN-JK-6, Norwich Town Plan, p. 5.

2.5 Future Land Use

LAND CAPABILITY. A key principle of land use planning is to guide development towards land best suited to the purpose and discourage and prevent uses inappropriate to the landscape. Capability assessments identify landform attributes which can constrain future development. The following attributes influence future land use decisions in Norwich.

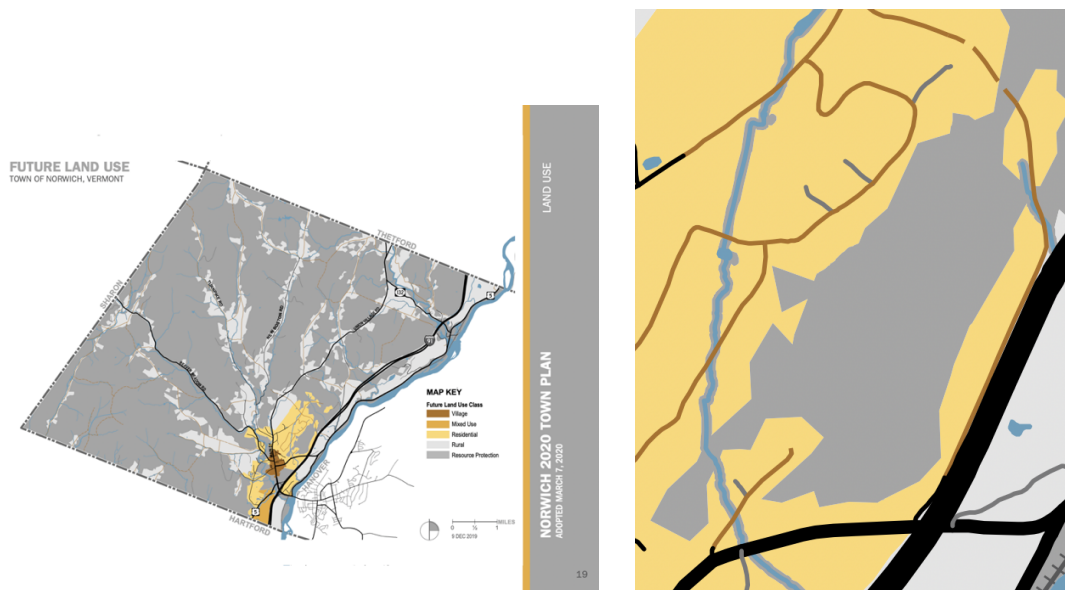
STEEP SLOPES are poorly suited to development. The landform of Norwich is dominated by narrow valleys and

steep slopes. As severe weather events increase in frequency and intensity, reviewing land use regulations as they pertain to development on steep slopes will be needed.

RIPARIAN AREAS (INCLUDING FLOODPLAINS) are sensitive environments often subject to flooding. . . . Today, repeated private property and public infrastructure losses due to flooding and erosion from severe storms is best resolved by avoiding continued development in these areas.

Exhibit NN-JK-6, Norwich Town Plan, p. 7-8.

The 2020 Norwich Town Plan also includes a **Future Land Use Map** (reproduced below).



As one can see, the slope and ridge behind the homes on Upper Loveland Road is designated as a Resource Protection area. The Future Land Use Map section of the ordinance describes the Resource Protection Planning Area and explains the intent of the designation:

The Resource Protection Planning Area...The intent of the Resource Protection Planning Area is to recognize the constraints and limitations that exist on a large portion of the land in Norwich. Little change in the use or development of these lands is anticipated and this plan discourages further disturbance or fragmentation of the remaining undeveloped portions of these lands through incremental, large-lot residential development. The

high and medium priority forest blocks have been mapped and can form a basis for future decision-making.

Exhibit NN-JK-6, Norwich Town Plan, p. 9.

TOWN PLAN –ENERGY SECTION

The Energy Chapter of the Town Plan provides:

Renewable Energy Project Siting Standards

This plan supports renewable energy production in Norwich. For this policy to continue with broad community support it must be balanced with this plan's policies related to:

- Protecting natural resources, environmental quality, scenic resources and rural character
- Maintaining viable farms and the working lands needed to sustain them
- Focusing development in those areas of town already served by existing public infrastructure
- Preserving cultural resources within Norwich village
- Preserving the recreational and natural value of those lands identified in the Ridgeline Protection Overlay Area and Shoreline Protection Overlay Area
- Increasing the supply, diversity and affordability of housing in Norwich

This plan calls upon the Public Utility Commission to issue Certificates of Public Good for projects between 15 kW and 500 kW based on the presumption that lands in Norwich meet the so-called 'preferred site criteria', except in areas already mapped as Ridgeline Protection Overlay Area, the Shoreline Protection Overlay Area, and the designated village center. Renewable energy projects in Norwich are further conditioned on the following standards:

- For individual or group net metered renewable energy projects, the property owner must take reasonable measures to site and/ or screen the installations to minimize any visual or noise impacts beyond the property line, particularly on sites where there are neighboring homes in close proximity.
- Projects larger than 150 kW must meet existing standards for setbacks, site design (landscaping, screening, lighting, stormwater, etc.) as laid out in the Norwich Zoning and Subdivision Regulations.

...

Exhibit NN-JK-6, Norwich Town Plan, pgs. 28-29.

TOWN ZONING & SUBDIVISION REGULATIONS

As referenced in and consistent with the Norwich Town Plan, the Norwich Zoning and Subdivision Regulations establish the Ridgeline Protection Overlay (RPO) District, and states in relevant part in Table 2.9:

(A) Purpose. The purpose of the Ridgeline Protection Overlay District is to protect Norwich's rural character and scenic landscape by ensuring that development is located and designed in a manner that protects the uninterrupted skyline and minimizes adverse visual impact on designated ridgelines and adjacent slopes as viewed from public roads (Class I, II, and III town highways, state highways and interstate highways within the town).

(B) Area. The Ridgeline Protection Overlay District includes all land within 750 feet of the designated ridgelines except for land within 300 feet of Class I, Class II, or Class III town highways, state highways or interstate highways. The designated ridgelines are as shown on the Ridgeline Protection Overlay District Map.

Exhibit NN-JK-5, Norwich Zoning and Subdivision Regulations, Table 2.9.

The Ridgeline Protection Overlay District Map is Zoning Map #5. Upon examination, the entire subject parcel is located in the Ridgeline Protection Overlay District and therefore, subject to the provisions of the Zoning Regulations. A copy of Map #5 – Ridgeline Protection Overlay District is reproduced below:

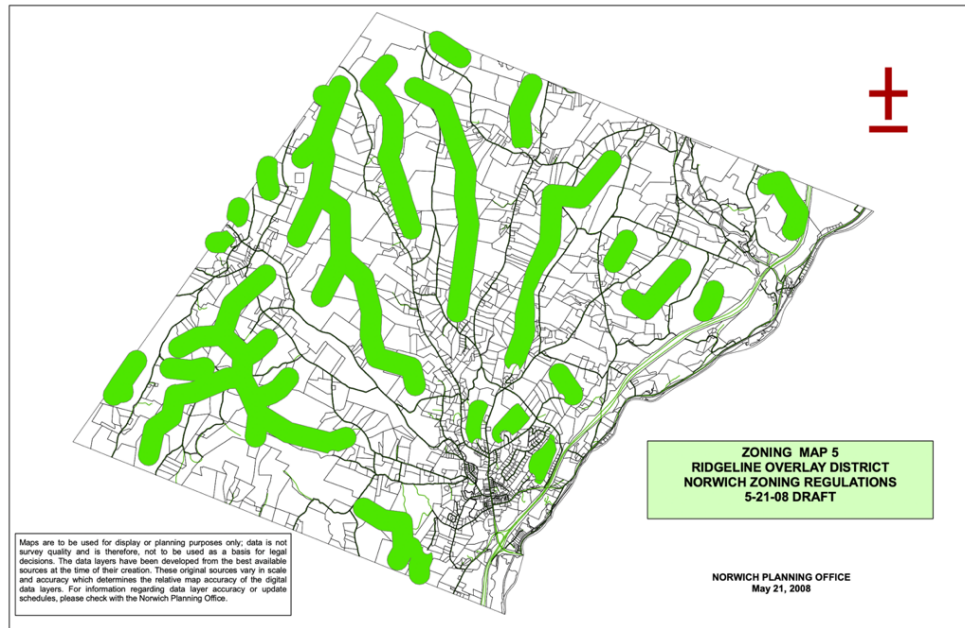
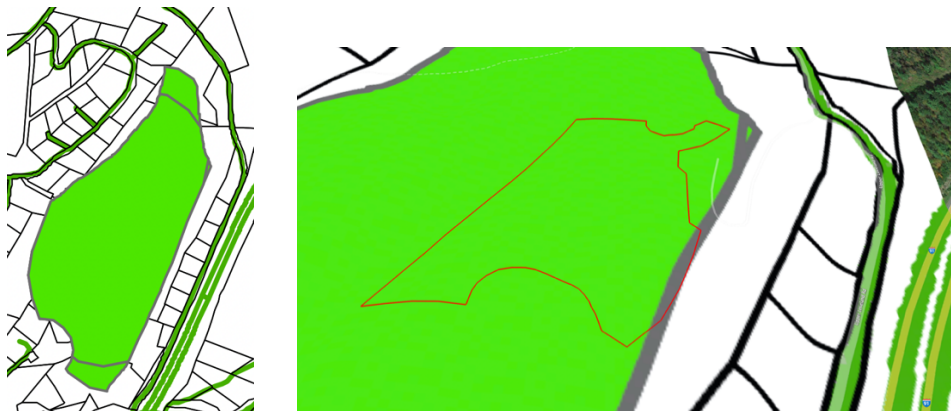


Exhibit NN-JK-5, Norwich Zoning and Subdivision Regulations, Zoning Map #5.

Detail of Ridgeline Overlay District that shows the entire solar project, fencing and area of clearing is within the Ridgeline Overlay District:



See Exhibit NN-JK-5, Norwich Zoning and Subdivision Regulations, Map #5.



See Exhibit NN-JK-5, Norwich Zoning and Subdivision Regulations, Map #5.

Section 5.08 Ridgeline Protection Review lays out the standards for review of projects proposed for the Ridgeline Protection Overlay Area which require that “Proposed development shall comply with the standards in Table 2.9 (F) & (G).”

(G) Supplemental District Standards. New structures within the RPO District shall comply with the following:

- (1) Forest Cover. On wooded sites, forest cover shall be maintained or established adjacent to proposed structures to interrupt the facade of buildings, provide a forested backdrop to structures, and/or soften the visual impact of new development as viewed from public roads. The Development Review Board shall consider the location of proposed structures relative to existing vegetation, and may require additional planting and/or limit the amount of clearing adjacent to proposed development to provide screening and maintain a forested backdrop. A tree cutting, landscaping and/or forest management plan may be required to ensure that ridges and hill tops remain wooded, and to ensure that trees remain standing immediately adjacent to buildings to visually interrupt facades and reduce reflective glare, as viewed from off site. Such a plan shall address specific measures to be taken to ensure the survival and, if necessary,

replacement of designated trees during or after site development and the installation of all site improvements.

(2) Placement of Structures. New structures shall be as minimally visible from public roads as possible given site conditions and topography, and shall not stand in contrast to the surrounding landscape patterns and features, serve as a visual focal point, or be visible from multiple points along a road, for an extensive distance along a road segment, and/or which is highly visible from several vantage points within one mile of the development site.

Exhibit NN-JK-5, Norwich Zoning Regulations, Table 2.9(G).

As observed in my aesthetics report, the natural scenic beauty of the Upper Loveland Rd neighborhood results almost exclusively from its forested ridgelines and slopes. Norwich, through its Town Plan, gives the highest priority to protecting the natural environment and recognizes that the preservation of its beauty enhances the quality of life of its citizens. The land conservation measures and specific policies contained in the Town plan, particularly regarding ridgelines and steep slopes are clearly expressed in the 2020 Town Plan and in related entries from the town's Zoning Regulations. Exhibits NN-JK-5, NN-JK-6. Such land conservation measures and specific policies are entitled to substantial deference by the Public Utility Commission and are clearly violated by the proposed project.

Norwich Town Plan policies state explicitly that development be guided "away from steep slopes" (Land Use 2.2e) and "away from visually prominent locations on ridgelines and hills as viewed from public vantage points" (Land Use 2.2c). Further, when pointing out that a "key principle of land use planning is to guide development towards land best suited to the purpose and discourage and prevent uses inappropriate to the landscape", the plan says unambiguously "Steep Slopes are poorly suited to development." (2.5 Future Land Use). Zoning regulations,

which are incorporated into the Town Plan on pp. 22 and 28 specific to the Ridgeline Protection Overlay District, are equally clear. Article II, Table 2.9 (A) stresses that “The purpose of the Ridgeline Protection Overlay (RPO) District is to protect Norwich’s rural character and scenic landscape by ensuring that development is located and designed in a manner that protects the uninterrupted skyline and minimizes adverse visual impact on designated ridge lines and adjacent slopes as viewed from public roads...within the town.”

Furthermore, when new structures are constructed within the RPO, they require compliance with supplemental district standards, specifically Article II G (1) which concerns the maintenance of forest cover on wooded sites, and Article II G (2) which says in part that the placement of structures “shall not stand in contrast to the surrounding landscape patterns and features.” Finally, regulation 3.13 A (1) f (ii) states clearly that “development in areas to be disturbed with slopes in excess of 25% is not allowed.” The exceptions to this rule do not include solar arrays. The solar array project violates each and every one of the policies and regulations described above.

The applicant makes much of the Town Plan’s energy objective 3.2h which says: For solar generation projects sized from 15kW to 500kW the presumption is that all of Norwich meets the Public Utility Commission definition of ‘preferred site’, notwithstanding the existing areas of local concern including the Ridgeline Protection Overlay Area, Shoreline Protection Overlay Area and the historic village district as identified in the Norwich Land Use Regulations. The Applicant states that energy objective 3.2h automatically overrides clearly stated policies adopted by the Norwich community. If that were the case, then any policies set forth in the town plan could also be overridden. Not only would this set a very bad precedent, it makes mockery of the Town Plan

itself, rendering its policies and objectives utterly meaningless. In fact, the Town Plan (3.1.d) states that while renewable energy production should be increased it ought to be carried out “in a manner that is consistent with the goals, objectives, and policies of this plan (24 VSA §4302 (c) (7) (A).” To justify their site selection for the solar array, the applicant also refers to the second paragraph of 3.8 (Renewable Energy Project Siting Standards.) It reads: “This plan calls upon the Public Utility Commission to issue Certificates of Public Good for projects between 15kW and 500kW based on the presumption that lands in Norwich meet the so-called ‘preferred site criteria’, except in areas already mapped as Ridgeline Protection Overlay Area, the Shoreline Protection Overlay Area, and the designated village center.”

Significantly, the applicant failed to mention the immediately preceding paragraph that says: “This plan supports renewable energy production in Norwich. For this policy to continue with broad community support it must be balanced with this plan’s policies related to: [among other things] ... Preserving the recreational and natural value of those lands identified in the Ridgeline Protection Overlay Area and Shoreline Protection Overlay Area.” The applicant did not and could not achieve such “balance” because the final site plan now before the PUC show significant clearcutting along the ridgeline and steep slopes. Such a proposal violates the land conservation measures and specific policies of the Norwich Town Plan; thus, the Project has an undue adverse impact on Orderly Development and should be denied.

ORDERLY DEVELOPMENT -- REGIONAL PLAN

The relevant goals and policies related to orderly development at the regional level are set forth in the following sections of the [TRORC Regional Plan](#) :

Healthy Communities

. . .Land use choices influence the underlying determinants of community and environmental health, such as obesity, heart disease, mental health, social isolation, nutrition, and air quality. Developing coherent strategies that integrate health considerations is critical.

. . .

By planning for and creating a healthy environment where walking and biking on back country roads is the most available form of exercise, then we can increase the physical and mental health of our residents.

Exhibit NN-JK-10, TRORC Regional Plan, Healthy Communities, p. 14.

Green Infrastructure. Providing residents with parks and greenspace not only beautify communities but can also increase the well-being of people. Healthy by Nature is a movement about the physical and mental health benefits of green infrastructure and states that spending more time in nature improves human health, that human health depends on healthy ecosystems, and that parks or other conserved natural areas contribute to vibrant and healthy communities. Studies also show that people who connect with nature often feel less isolated and can form connections with neighbors.

In a practical sense, green infrastructure can mitigate climate change effects by preserving ecological functions, such as carbon sequestration and water storage.

Exhibit NN-JK-10, TRORC Regional Plan, Green Infrastructure, p. 20.

Active Living As the built environment has become increasingly car-centric, levels of physical activity have correspondingly declined. Reduced physical activity has resulted in population weight gains. To counter these trends, it is necessary to make communities more conducive to physical activity once again, particularly walking and cycling.

Designing our communities to be safe and walkable in a way that provides access to essential goods and services is extremely important for all ages, as well as the environment .

The implementation of bicycle and pedestrian trails has been demonstrated to promote a healthy lifestyle. Biking and hiking trails can promote increased activity and can be created with

smaller amounts of land than large parks. They can often be created from “leftover” or unwanted land.

Exhibit NN-JK-10, TRORC Regional Plan, Active Living, p.21 (emphasis in the original)

Land Use Our forests are an important component of our Region. They represent a significant store of natural resources, are a driver for economic activity, and provide us with a backdrop that is distinctly rural. However, the landscape shift of open lands reverting to forest over the last century has ended, and we are now starting to lose forest again as a state, with 1,500 acres a year being converted to development or open land. We continue to fragment the forest we do have with subdivisions, reducing the natural functions of large, contiguous sections of forested land that are vital to many plant and animal species. In planning for the future, we need to consider the places where we have already impacted forest integrity beyond repair and the places where good forests remain.

Exhibit NN-JK-10, TRORC Regional Plan, Land Use, p.30

Rural Areas Development within these Rural Areas has been largely constrained by on-site limitations, including soil composition, slope, and elevation; ease of access to highways; lot size minimums; and distance to community services.

Exhibit NN-JK-10, TRORC Regional Plan, Rural Areas, p.45

Wetlands Wetlands are a vital component for maintaining the ecological integrity of land and water, and they provide an array of functions and values that support environmental health and provide benefits to humans, including flood and stormwater control. Draining, filling, and development have resulted in the loss of more than 35 percent of Vermont’s original wetland acreage, primarily due to agricultural and large- scale development projects, and this loss has increased flood risk.

Exhibit NN-JK-10, TRORC Regional Plan, Wetlands, p.63

Riparian Buffers and Lands Adjacent to Streams Naturally vegetated riparian zones (vegetated buffer strips next to surface waters) are essential for healthy and resilient river corridors.

Vegetated riparian buffers provide a number of “ecosystem services” including attenuating floodwaters; providing river bank support and stabilization; reducing flood and ice damage to adjacent lands and structures; and slowing surface water runoff.

Exhibit NN-JK-10, TRORC Regional Plan, Riparian Buffers and Lands Adjacent to Streams, p.64

Policies Upland forests and watersheds should be maintained predominately in forest use to ensure high-quality valley streams and to ensure that flood flows are absorbed. Outside of areas of existing compact development, new development must preserve vegetated riparian buffer zones that are consistent with state riparian buffer guidelines.

Exhibit NN-JK-10, TRORC Regional Plan, Policies, p.66

Forestry Healthy forests provide a significant number of benefits to our communities. Environmental services of forests include clean water supply, clean air, mitigation against climate change, wildlife habitat, and biological diversity. Economic benefits of forests include tourism, recreation, and raw supply for the wood products industry.

Of even greater concern is the fragmentation of lands that are still forested, causing many of these lands to lose ecological functions and also to be harder to manage for forestry.

Another separate, but related at times, threat to forest health is the spread of invasive species, primarily forest pest insects and diseases. Just as we lost our native chestnut forests and many of our elms, we now face pests to ash (emerald ash borer) and hemlock (wooly adelgid, mentioned above) that could decimate these trees. Many other pests and diseases are on the rise that also threaten maple, beech, and even oak.

Exhibit NN-JK-10, TRORC Regional Plan, Forestry, p.115

Policies It is the policy of TRORC to minimize or mitigate the loss of agricultural and silvicultural lands to development. When on-site protections are not able to be reasonably done to protect future agricultural or silvicultural use, TRORC endorses off-site mitigation techniques to offset the loss of these resources when it provides

an equal or greater public benefit than conservation of the development site itself.

Exhibit NN-JK-10, TRORC Regional Plan, Policies, p.120

Natural Resources, Wetlands A buffer zone is essential protection both for species in the wetland and for those species preferring the upland/wetland border. The trees and shrubs provide important food, cover, and nesting sites for large and small mammals, songbirds, reptiles, and amphibians.

State officials at the Vermont Department of Environmental Conservation recommend a setback of at least 200 feet for wildlife habitat protection around wetlands.

Exhibit NN-JK-10, TRORC Regional Plan, Natural Resources, Wetlands, p.136

Vernal Pools Vernal pools provide important breeding habitat for amphibians, primarily the wood frog and Vermont's three species of "mole" salamanders, and have characteristic populations of fairy shrimp, fingernail clams, snails, water fleas, and copepods. Since amphibians and many other species return to the same vernal pool each year to breed, destruction or alteration of vernal pools will result in the loss of local populations of some species.

Scientists recommend a continuous forested buffer of roughly 500 feet around vernal pools

Exhibit NN-JK-10, TRORC Regional Plan, Vernal Pools, p.136-137.

Wildlife Policies Development should be designed and sited in a manner to preserve contiguous areas of active or potential wildlife habitat. Corridors connecting habitat areas for large mammals must be incorporated in plans for management and conservation of forested areas. Fragmentation of critical wildlife habitat should not be approved.

Buffer zones, necessary for species' health, should be maintained between land development and critical habitat.

Exhibit NN-JK-10, TRORC Regional Plan, Wildlife Policies, p144

Prominent Scenic Landscapes

The following areas are likely to be affected by projects and should be reviewed. Such areas are generally accepted as areas of scenic significance:

...

3. Prominent ridgelines, mountaintops, or excessively steep slopes that can be readily viewed from public corridors;

Exhibit NN-JK-10, TRORC Regional Plan, Scenic Resources, p. 159

Scenic Resources

...

3. Given their unique visual experience, roads exhibiting exceptionally high scenic and cultural values, and determined to be of local or state significance, must be constructed or improved with due concern for the special scenic qualities inherent to the roadway and roadway fringe. Substantial modifications or off-alignment options that unnecessarily destroy the special characteristics of such roadways are not consistent with this Plan.

Exhibit NN-JK-10, TRORC Regional Plan, Scenic Resources, p. 160

Goals

...

2. Investments in utilities, facilities, and recreation enhance the desired pattern of development which is compact village and urban centers surrounded by open countryside.

Exhibit NN-JK-10, TRORC Regional Plan, Goals, p. 184

Transmission towers are necessary telecommunications facilities, but as land uses, these towers have emerged as planning concerns, primarily for aesthetic reasons. To ensure adequate transmission of signals in mountainous areas such as ours, towers and related facilities need to be located on hilltops or high elevation points. One of the Region’s principal scenic qualities is its ridgelines and mountainsides. These areas are significant contributors to the rural character of the Region. The ridges are predominately undeveloped and provide an unbroken skyline viewed from the valley floor. The use of the Region’s ridges for telecommunication towers and related facilities needs to be undertaken in a manner that will not unduly detract from, nor adversely affect, these scenic values. Protection of these areas from insensitive developments is a matter of public good. Thus, due to transmission towers’ higher visibility from multiple vantage points, conflict with scenic landscapes has become an issue.

Exhibit NN-JK-10, TRORC Regional Plan Utilities, Facilities, and Services, p. 199-200.

Policies

...

- 6. Telecommunications facilities development shall minimize site clearing and highly visible roadways.

Exhibit NN-JK-10, TRORC Regional Plan, Policies, p. 200

Recreational Opportunities

- 1. The maintenance and development of recreation trail networks (e.g., Appalachian and Long Trails, Cross Vermont and Cross Rivendell Trails, regional and state snowmobile networks, and cross-country ski trails) is encouraged.
- 2. New development and land subdivisions that have an undue adverse impact on the enjoyment or continued use of recreational uses are inconsistent with this Plan.
- 3. Consistent with property rights, ownership and management practices that maintain or enhance public access to and uses of recreational amenities on privately held land are encouraged.

...

Exhibit NN-JK-10, TRORC Regional Plan, Recreational Opportunities, p. 204

Utility-Scale Renewable Energy Facility Siting

Solar Siting

Sites with raw solar potential are flat to gently sloping and face east, south, or west.

Exhibit NN-JK-10, TRORC Regional Plan, Energy Solar Siting, p. 241

Hierarchy of Suitability As mentioned earlier, only lands with good exposure and gentle slopes make sense for solar development. (It should be noted that the maps do not take into account whether lands are clear or forested.)

Exhibit NN-JK-10, TRORC Regional Plan, Hierarchy of Suitability, p. 242

Much like the Norwich Town Plan, the proposed Project violates the Regional Plan’s land conservation and specific policies which were designed to protect the region’s prominent ridgelines, mountaintops, or excessively steep slopes that can be readily viewed from public

corridors. This project is the quintessential example of what the town and regional plans are specifically protecting against: an industrial solar site on the top of a highly visible ridgeline, with clearing significantly down the eastern side of the ridgelines on severely steep slopes. Clearly, the project would have an under adverse impact on the Orderly Development of the Region and should be Denied by the PUC.

This report has shown that both the Town Plan and the Regional Plan contain land conservation measures and specific policies which do not support the proposed solar project. As such, the project unduly interferes with the orderly development of the town and region. This solar farm proposal, as visually demonstrated by my Aesthetics Analysis, has a much greater impact on surrounding properties than was shown in the applicant's materials. If allowed to move forward, the project will degrade the natural settings of the surrounding properties in view of the project. Therefore, the project should be denied.