NIXON PEABODY

Nixon Peabody LLP
1300 Clinton Square
Rochester, NY 14604-1792

Attorneys at Law
nixonpeabody.com
@NixonPeabodyLLP

Jared C. Lusk
Partner

T / 585.263.1140
jlusk@nixonpeabody.com

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VIA EMAIL AND FEDERAL EXPRESS

Town Board and Planning Board
Town of Cortlandt
1 Heady Street
Cortlandt Manor, New York 10567

Attention: Chris Kehoe, AICP -- chrisk@townofcortlandt.com

RE: Application for the Necessary Zoning Approvals from the Town of Cortlandt Town Board by CVE North America to Construct and Operate a Solar Energy Production Facility on two parcels of property: one parcel located west of Lexington Avenue (Tax Parcel No. 13.18-2-2.4) and a second parcel located off Red Mill Road (Tax Parcel No. 13.14-5-25) in the Town of Cortlandt, County of Westchester, State of New York.

Dear Members of the Town Board and Planning Board:

By application dated June 23, 2020 and supplemental applications dated March 23, 2021 and June 22, 2021, CVE North America, Inc. ("**CVE**") submitted the above-referenced application (the "**Application**") to the Town of Cortlandt Town Board and Planning Board in connection with the above-referenced project (the "**Project**").

Thereafter, we received correspondence, dated June 21, 2021, from the North Cortlandt Residents Vision Committee (the "**NC Vision Committee Comments**"), correspondence dated June 23, 2021 from Paul Buckhout (the "**Buckhout Comments**"), correspondence dated June 25, 2021 from the Westchester County Planning Board (the "**County Planning Comments**"), comments made by the public at the July 6, 2021 public hearing (the "**Public Hearing Comments**"), the Review Memorandum, dated July 12, 2021, from the Department of Technical Services (the "**DTS Comments**"), and correspondence, dated July 19, 2021, from HVEA Engineers regarding the SWPPP (the "**HVEA Comments**"), all regarding the Project. Listed below are each of the comments/questions in bold italicized type, followed by CVE's response in regular type.

Enclosed as part of CVE's responses are the following Exhibits (lettered Exhibits W-EE to follow Exhibits A-V previously submitted in furtherance of the Application):

Exhibit W: Responses to Tree and Wildlife Related Comments;

Exhibit X:	Stormwater Analysis and Design Memorandum;
Exhibit Y:	Alternatives Report;
Exhibit Z:	Line-of-Sight Analysis;
Exhibit AA:	Revised Decommissioning Plan;
Exhibit BB:	Revised Steep Slope Findings Statement;
Exhibit CC:	Landscaping Maintenance Plan; and
Exhibit DD:	CESIR Study Results" and "MC-527777 Appendix A (Standard Contract) – Executed" attached.

In addition, the following revised/additional Drawings are enclosed as Exhibit EE:

Drawing No. 2 – General Notes;
Drawing No. 4 – June 2021 Site Plan;
Drawing No. 6 – Tree Plan;
Drawing No. 8 – Erosion and Sediment Control Plan;
Drawing No. 9 – Access Road Profiles;
Drawing No. L – 100, L-101, and L-102 - Landscaping Plan;
Drawing No. 10, 11, 12, 13 - Detail Sheets (10-13);
Attachment 1 – Fire Apparatus Access Plan; and
Attachment 2 – Maintenance and Protection of Traffic Plan.

NC Vision Committee Comments:

The project proposed by CVE North America located on a property just south of Mill Court will contribute 5 MW towards the CLCPA target of 6,000 MW by 2025. The Town will receive increased tax revenue. In addition, the developer will contribute $80,000 to $90,000 donation to the Town's environmental fund plus $12,000 to a local environmental agency.

The proposed site is located within a 164-acre forest patch and development will remove approximately 3,400 trees from its core adjacent to two recognized wetlands and in close proximity to a third as yet unmapped wetland. All three wetlands are part of a complex that feeds the Peekskill Hollow Brook.

These types of energy systems are critical to meeting goals to reduce carbon and while a solar farm is more efficient at carbon sequestration than trees, installation at this particular site has the potential to do irrevocable harm to a natural resource that performs functions well beyond the carbon service.

The following comments and questions seek to answer two overarching questions:

1. Are the impacts to this natural resource sufficiently quantified and completely minimized to the greatest extent possible?

Response: Refer to Exhibit W for a discussion on the impacts to natural resources.

The solar farm provides tremendous environmental benefits through the production of clean energy. The 4.98 MWdc solar farm will produce an estimated 6,474,000 kWh of energy each year, which will replace energy generated by fossil fuels - in effect avoiding over 10,000,000 pounds of carbon per year from being emitted into the atmosphere. These environmental impacts are equivalent to planting approximately 210,000 trees. Furthermore, the solar farm results in approximately 65 times less carbon in the atmosphere as compared to vacant land (and zero trees are removed from site). Please refer to the CVE_Carbon_Impact_Comparison_.pdf submitted to Chris Kehoe on May 25, 2021.

Given this data, along with the existing forest's low condition index, lack of threatened, rare, or endangered species, and CVE's proposed extensive tree mitigation and biodiversity enhancement measures, we believe the benefits of the solar farm strongly outweigh any negative impacts.

The Project Site (the Kirquel and Parr parcels) was selected after a rigorous site selection process. First, the Town of Cortlandt was targeted because of its location within the ConEdison electric utility territory. New York State, in collaboration with the New York State Energy Research and Development Authority ("NYSERDA") passed legislation to support the development of 6 GW of distributed solar by 2025. Within that policy program, ConEdison was a highly incentivized territory, with the aim of brining clean energy facilities to high demand areas. Beyond targeting the ConEdison utility territory, CVE had to consider a long list of site-specific conditions to identify a viable solar site. That list includes: acreage, wetlands, topography, protected species and habitats, zoning, not-previously developed, and proximity to 3-phase power lines.

Using GIS analytics, after all criteria is applied to all parcels within the Town of Cortlandt, only a small handful of sites were identified as viable. For example, the current project site meets the following criteria: (i) is greater than 10 acres; (ii) has less than 40% wetlands; (iii) has less than 40% steep slopes; (iv) is not located within a protected environmental community; (v) is zoned R-40; (vi) is compliant with the solar zoning law; (vii) is privately owned and not previously developed; and (viii) is adjacent to 3-phase power lines (along Red Mill Road).

It is worth noting that in 2019, when CVE was negotiating with the landowner for an option to purchase the property, a group of other solar developers were also interested. The Kirquel / Parr property is one of a very few land sites within the

ConEdison utility territory that can accommodate a ground-mounted solar energy facility.

2. Is the trade-off in natural resources of this particular project a fair exchange for the stated benefits?

Response: Refer to Exhibit W for a discussion on the natural resources.

See also the response to Comment #1 above.

3. The first sentence is an accurate paraphrasing from Scenic Hudson's "A Regional Response to Climate Change 2019".

The paper argues that due to the imbalance of demand where there is no space and space where there is no demand, "to reach the state energy goals, rooftop, community- and grid-scale solar must all be constructed in the Hudson Valley" and "With respect to large-scale solar, availability of sufficient and unutilized land to site grid-scale projects is key"

The yellow highlighted quote is actually taken from Scenic Hudson's vision statement on the title page of chapter one of their 2018 siting guide — Clean Energy, Green Communities: A Guide to Siting Renewable Energy in the Hudson Valley.

A primary message of Scenic Hudson's guide is that siting of Solar Energy Systems prioritize:

1. Co-location opportunities in the built environment or in agricultural areas

2. Large unforested open areas (i.e., unutilized)

3. Abandoned open areas that can provide renewed use for the land and stimulate local economy.

In support of identifying appropriate sites, Scenic Hudson has developed a freely available mapping tool. It does NOT choose sites but rather provides data that environmental organizations, municipalities, and developers alike can use to spot locations of interest.

As example, please refer to Figure 1 which shows a partial picture of sites that may meet the criteria for previously disturbed sites.

Clearly, CVE is aware of these guidelines. Please describe your process for site selection and your rationale for selecting this particular location despite obvious impact to the natural resources that climate actions seek to protect. What other sites did you consider?

Response: See the response to Comment #1 above.

4. Please quantify the increased tax revenue and any other DIRECT benefits to the community.

Response: The community benefits from the Mill Court Solar Farm are tremendous:

An estimated 1,061 local residents can subscribe to the facility to receive monthly discounts on their electricity bills, with priority given to Cortlandt residents. The year 1 customer savings will be approximately $130,000, with a total savings of $4,771,000 during the 25-year community solar term. CVE is also happy to host Student Days on site for educational field trips for local students.

The environmental benefits from the Mill Court Solar Farm are tremendous:

The 4.98 MWdc solar farm will remove 10,000,000 pounds of carbon per year from the energy grid (carbon emissions avoided). This is the equivalent of planting ~210,000 new trees. Pollinator friendly vegetation will be planted underneath the array, fostering a biodiverse habitat. Furthermore, CVE will donate $11,592 ($1 per panel) to a local environmental agency – for example, CVE recently donated $11,500 to Acushnet Sawmill in Acushnet, Massachusetts for the construction of a community garden, maintenance of trails, and overall ecosystem restoration.

The Town revenue benefits from the Mill Court Solar Farm are tremendous:

As discussed with Deputy Town Attorney Michael Cunningham on March 2, 2021, CVE will execute a PILOT agreement with the Town at the highest rate listed for ConEdison in the NYSERDA PILOT guidebook ($11,100 / MWac / year with a 2% annual escalator, with a 15 year term). Total estimated revenue from this agreement is $959,785, which will be split pro rata amongst the Town, County, and School District. Additionally, CVE will pay Special District Taxes (such as highway, fire, library, etc.) at the millage rates and assessed value provided by the Town Assessor. These Special District Taxes are estimated to be $50,000 in year one of the project and continue for each year of the project's useful life.

It is worth noting that this revenue comes to the Town with limited additional burden on Town services – for example, there will be no new students added to the School District, no new vehicles on the roads, no added crime, and no additional demands on the sewer and water supply infrastructure.

5. Please explain why the low index and the classification of "young" means this section of core forest is disposable.

Response: The forest condition index is a tool to provide the Town of Cortlandt with a context when making land-use planning decisions. The low forest condition index

indicates that while the Project Site is part of a 164.29-acre forest patch with a 57.95-acre core forest, it has limited connectivity with other large forest patches and has experienced environmental stressors from surrounding development, as demonstrated by the developed land uses in its immediate vicinity.

According to the Town of Cortlandt's tree consultant, Bartlett Tree Experts, the majority of trees at the Project Site are on the "very young side." Based on the information provided by Bartlett Tree Experts, the forest at the Project Site meets the criteria for young woods habitat according to the *Biodiversity Assessment Manual for the Hudson River Estuary Corridor* (Kiviat and Stevens, 2005). The *Biodiversity Assessment Manual for the Hudson River Estuary Corridor* does not provide any conservation or management recommendations for young woods, and states that "[y]oung woods is a very common habitat, and usually does not support rare species" (Kiviat and Stevens, 2005). The young woods habitat at the Project Site corresponds to successional southern hardwoods as defined in *Ecological Communities of New York State* (second edition) (Edinger et al., 2014). Successional southern hardwoods have a rarity and vulnerability rank of secure, both on the global and state level (Edinger et al., 2014). Secure communities, such as the successional southern hardwoods at the Project Site, are at very low risk of extinction or elimination due to extensive ranges, abundant populations, and have little to no concern from declines.

Based on the low forest condition index and classification as young woods, the forest community at the Project Site does not represent a high-quality or rare forest community. The Project is not impacting a high quality or rare forest community.

The ratings of this forest patch have to do with fragmentation effects — i.e., the distance between this whole 164-acre forest patch from the larger matrix. (See Figure 2). Fragmentation causes conditions lower its ability to support abundant wildlife, carbon sequestration. (See Figure 3).

However, the index is a comparative measure and considers ALL forests in the Hudson Valley, including 700,000 acres in the Catskills.

The index ranking does not mean this forest is not supporting wildlife and sequestering carbon, it just has less ability than the comparative forests.

The quality of the forest as assessed in the Tree Inventory describes a healthy forest:

"The site has very few invasive species with only 126 Norway Maples and 28 Ailanthus. It is rather unique to find a site in this area that is not primarily dominated by invasive species.

There are even very few if any invasive vines on site. The site overall has an excellent make up of native trees, but they are all on the young side."

165-acre forests in healthy condition in a densely populated area is unusual and any impact to it should be minimized if not avoided.

Response: This forest condition index for the Project Site is in the bottom 2.5 percentile of the Hudson Valley. The forest condition index is broken into sub-indexes that measure fragmentation, connectivity, habitat and ecosystem value, and carbon sequestration. The 164.29-acre forest patch had a fragmentation score of 4 out of a possible 12 and connectivity score of 8 out of a possible 48. These low fragmentation and connectivity scores are due to the surrounding development, as demonstrated by the developed land uses in its immediate vicinity.

The Project will affect less than 0.06 percent of the 32,195 acres of forest habitat within 5 miles of the Project Site. The Project will affect less than 0.17 percent of the 14,599 acres of core forest habitat within 5 miles of the Project Site.

6. Please quantify the areas of existing core that will become new forest edge after clearing and the effect of creating both fragmentation and new edges. How does CVE plan to avoid, minimize or mitigate these effects?

Response: Approximately 14.7% (8.5 acres) of the 57.97-acre core forest at the Project Site will be cleared for the solar array and associated facilities. This tree clearing will result in a conversion of 27.1% (15.69 acres) of the existing 57.97-acre core forest to edge forest, defined as forested land within 100 meters from the edge of a forest (Conley et al., 2019).

Refer to Exhibit W and the enclosed updated Landscaping Plan for a discussion of the tree reforestation plan to mitigate these effects.

Referring to Figure 4, it appears that the area being conserved to protect the wetlands will convert to an edge forest. The forest continues to the North and West of the site and will be completely fragmented off this patch. It should be noted that there is another complex of streams and wetland in this section which also feed Peekskill Hollow Brook. (See Figure 5)

While the project will not directly touch the wetlands on the site, indirect consequences need to be well understood.

According to land use training information available on the DEC site and feedback from their instructors:

- ***Clearing forest next to a wetland could have profound effects on the wetland--increasing the summer temperatures of wetland water and soils, reducing the amount and quality of organic detritus feeding the wetland, altering the surface runoff and groundwater feeding the wetland, aiding the incursion of non-native***

invasive plants, and altering the upland habitats available to wetland-associated wildlife, for example.

- ***A forest and wetland complex in the midst of the suburban neighborhood probably has outsized importance to the local community, both for its seen and its unseen ecological services (moderating local air temperatures, carbon storage, maintenance of groundwater and surface water resources, wildlife habitat, scenic values). Effects will be most immediate to the residences nearest the cleared areas.***

- ***This land is on a divide, draining both north (via swales or possible unmapped streams) and south (via mapped and unmapped streams), but it all drains ultimately to Peekskill Hollow Creek. Clearing 20 acres of forest is likely to affect the patterns of runoff and the quantity and quality of water in the streams and their associated wetlands, and the water reaching PH Creek.***

The Coleman Study in 2005 also found the following:

- ***There would be significant alteration and loss of existing species diversity and abundance currently present.***

- ***A majority of these species require upland habitat adjacent to the wetlands.***

- ***To reduce overall disturbance...design to lessen the amount of fragmentation and edges.***

- ***Of particular importance are 10 forest interior [avian] species that require large tract of relatively mature forest canopy and are extremely sensitive to forest fragmentation.***

Response: The Project's limit of disturbance ("**LOD**") has been sited at least 100 feet from the wetlands delineated at the Project Site. There will be no tree-clearing within 100 feet of the wetlands at the Project Site. A forested upland buffer will remain at least 100 feet from the delineated wetlands at the Project Site. All wetland and stream resources will be avoided, and therefore, no impacts to these communities are anticipated. A Stormwater Pollution Prevention Plan ("**SWPPP**") will be developed incorporating NYSDEC's Best Management Practices ("**BMPs**") as identified in the most current version of New York State's Standards and Specifications for Erosion and Sediment Control, in order to mitigate for potential pollutants from construction related erosion and sedimentation.

The pervious access roads will allow rainfall to percolate through the road to recharge groundwater, sheet flow will pass through to maintain natural water flow, and sediment and nutrient removal capacity will be maintained, allowing suspended sediment to settle out of the water column.

An herbaceous layer of vegetation will remain underneath the panels, in between the panel rows, and the general surrounding area. Therefore, solar projects do not create the same impervious cover that other types of development do, such as parking lots and buildings. The minimal impervious features associated with solar projects are mitigated with post-construction stormwater design features such as infiltration trenches. The impervious features, such as equipment pads, are taken into account when designing the project and stormwater control as to avoid altering surrounding wetland hydrology.

Native plant species will be used for planting under and around the arrays, which will prevent the introduction of exotic/invasive species. BMPs from the SWPPP will also limit the spread of invasive species. The Project will not result in a major increase in impervious features and these features are taken into account when modeling the water runoff and designing the SWPPP. Stormwater will flow off panels and drain to the ground as normal.

The 2005 Coleman Study evaluated the impacts from the proposed residential development at Mill Court Crossing, and not this solar development project. Compared to the previously proposed and approved residential development, this Project will have less impervious cover and provide more wildlife habitat.

The Town of Cortlandt's biodiversity peer reviewer, Weston & Sampson, submitted a memorandum to the Planning Board dated June 1, 2021, and concluded that "there is relatively low to moderate overall species diversity within the project area. The project will not significantly impact rare ecological communities or species identified at this time."

7. It's clear that properties immediately adjacent to the north of the facility will be looking at fences and panels as shown in Locations 12 and 13.

The simulations also show that the fence and panels will be visible from some locations south and west of the site.

The developer requests a reduction in buffer for the west and south sides in order to avoid wetland and steep slope impact.

Photo location 10 is taken from the boundary of the property looking north into the site. The southern boundary of the site's parcel is the northern boundary of the Cortlandt Colony tennis court. The LOD is only 150 feet from this point.

Likewise, Photo location 11 at 81 feet southwest (not southeast) will see fence and panels.

The viewshed report shows potential, albeit limited visual impact between 1.5 and 2 miles away. Two of the viewpoints are from public park land.

Please explain specifically how the reduced buffer mitigates environmental impact. If the 200-foot buffer were maintained would the panels still be visible? Did the photo simulations consider the reduced buffers?

Response: Regarding the setbacks, Chapter 255 Solar Energy Systems, § 255-8 A (10) (b) Setbacks [2] states "*The Tier 3 solar energy systems shall be set back:*

> *[2]Two hundred feet when the property boundary is located in a Residential District. The Town Board, at its discretion, may vary the required dimensional setback of 200 feet to minimize environmental impacts created when locating ground-mounted solar energy systems within the dimensional regulations. In such instances the approving authority may vary the setback to 100 feet or 200 feet from the nearest habitable building, which ever distance is more restrictive."*

The Project has been specifically designed to avoid impacting the DEC wetlands and associated 100-foot adjacent area to the wetlands that are located on the eastern portion of the Project Site. To avoid working in the 100-foot adjacent area and minimize work within steep slopes, the Project has proposed a reduced setback of 100 feet on west and 150 feet on the south. The entire Project layout meets or well exceeds the 200 feet distance of from the nearest habitat building as shown on the Drawing No. 4 Site Plan enclosed.

The Project's proposed setbacks and distances to nearest habitable buildings in each direction are summarized below.

Direction	Cortlandt Mill Solar Farm Distance to Nearest Habitable Building	Cortlandt Mill Solar Farm Proposed Setbacks	Mill Court Crossing Residential Development 2016 Setbacks
North	303 feet (5 Mill Court) 265 feet (9 Mill Court) 264 (10 Mill Court)	202 feet	115 feet (abutting 5 Mill Court) 62 feet (abutting 9 Mill Court)
South	341 feet	150 feet	105 feet
East	>763 feet	763 feet	180 feet, 196 feet, 123 feet
West	377 feet	110 feet**	93 feet, 145 feet, 187 feet

**Relative to the western side, it should be noted that there is Town property (wooded land) between the Project's parcel boundary and the residential properties to the west. The Town's property is about 188 feet wide. The Project's setback distance to the edge of the residential property boundary to the west is, therefore, 302 feet.

The photo-simulations presented in the March 2021 and June 2021 submittal do represent the reduced buffers. TRC submitted a revised Visual Impact Assessment in June 2021. In the June submittal, CVE revised the site plan and landscaping plan with the goal to further minimize views of the Project from the residences to the north. Specifically, CVE revised the fence line in the northwest corner to maintain a wider vegetative buffer. CVE revised the landscaping to include additional evergreen trees along the northwest and northeast sections. In addition to the planting, CVE proposed to plant 50 to 60 evergreen trees and 20 to 30 deciduous trees strategically located in the wooded area to the north to further screen views from the homes at the end of Mill Court Circle. In order to demonstrate the impact on potential views of the Project, TRC generated new photo simulations from three locations: Photo Locations: 7, 8, and 12. Both the original and revised figures for these three locations are included to show the improvement in the effectiveness of the visual buffers. Regarding photo-location 12, that location is actually just south of the Project's property boundary within the Project Site itself and located only 127 feet from the Project. This would represent a worse case view as there is a 202-foot setback to the Project from the property boundary to edge of solar Project on the north side.

It should be noted that the previously proposed and approved Mill Court Crossing Residential Development presents much taller structures (35-foot-high residential structures, compared to 6 feet, 10-inch-high solar panels, 9.5 foot high cabinets) and much narrower setbacks compared to the Project. For example, the Subdivision and Site Development Plan dated 2016 shows setbacks of only 62 feet abutting 9 Mill Court and 115 feet abutting 5 Mill Court, with only a 50-foot-wide wooded area. No landscaping buffer is proposed to mitigate views from the residential development from the abutting parcels to the north (or parcels to south or west). In contrast, the Project provides a 202-foot set back from the residences to the north, with a robust landscaping plan. Therefore, there would likely be greater visual impacts from the approved residential development than the Project.

The Project is proposing a significant landscaping buffer of evergreen trees and shrubs to minimize impacts to the nearest adjacent residential properties. Per the Town's Solar Energy System Code (§ 255-8 A (10) (f) Screening and Visibility), the applicant must submit a screening and landscaping plan to show adequate measures to screen through landscaping, grading or other means so that views of solar panels and solar energy equipment shall be minimized as reasonably practicable from public roadways and adjacent properties to the extent feasible. It is our opinion that we have met this requirement.

The original submission as described in the Planning Board Agenda from 6/1/2021 states that this installation would provide 3 MW. Now it's proposing 5 MW. Would a smaller footprint eliminate the need for buffer reductions? Likewise, would a smaller footprint eliminate visual impact not only in the immediate area but in the larger 2-mile viewshed?

Response: Please refer to Exhibit Y for a comparison of alternative layouts and setbacks and discussion of system size.

These locations are described having no visual impact but were only done with leaf-on simulation and 5-years after installation.

2 — Mill Court End

3 — Mt View

4 — Amherst near Armstrong

5 — high point in Cortlandt Colony on Cordoza

#3 appears to be from in front of the house. On the site visit on May 23, the back deck was clearly visible through the trees.

Would a leaf-on simulation show a visual impact?

Response: See response to Comment #5 above. TRC completed photo-simulations representing leaf-off conditions at several representative locations. TRC concluded there may be some limited views of the Project during leaf-off conditions, and therefore, CVE has proposed a significant landscaping buffer of evergreen trees and shrubs to minimize visual impacts to the nearest adjacent residential properties in accordance with the Town's Code as summarized above. TRC has also prepared line-of-sight diagrams. See Exhibit Z.

8. The Hudson Valley Natural Resource mapper layers show the whole site is in a "Significant Biodiversity" zone (see Figure 6) meaning this is an area in the Hudson River estuary watershed that contains high concentrations of biodiversity or unique ecological features.

This is confirmed in several of the studies submitted with the application. Items of concern being the box turtle, an elusive vernal pool and potential bats passing through.

The Weston & Sampson report indicates that the presence of this wildlife may be due to the fact that this site is embedded in a much larger forest patch.

Please explain why the impact to this wildlife from further fragmentation to the forest patch, (albeit non-endangered or threatened wildlife) is acceptable?

Response: See the discussion in Exhibit W.

Does the low height fence protecting the box turtle conflict with the elevated fencing to allow other wildlife to pass?

Response: A double row of silt fencing will be installed along the LOD, which will also serve as turtle exclusion fencing from the construction area. CVE will install two (2) separate rows of silt fence as an added barrier to reduce the opportunity for turtles from potentially entering the construction area. The double row of silt fence will be installed to prevent turtles from entering the LOD during the construction period. After construction is complete, the silt fence will be removed, and turtle populations will again be able to travel between wetlands and uplands. The wildlife-friendly chain-link fencing with a 6-inch gap off the ground will allow turtles, along with other small wildlife species, to pass between the wetlands and solar array. Therefore, passage will only be restricted for a short period of time for the duration of construction (approximately six (6) months).

Does the mitigation, such as a meadow help the specific species that currently utilizing the forest? or may be using the wetland for laying eggs but live in the upland?

Response: The overall reforestation and biodiversity enhancement plan is to provide a planting scheme throughout the Project Site using plant species that are native or indigenous to the area, pollinator friendly, and wildlife friendly. The updated Landscaping Plan proposes pollinator-friendly tree and shrub plantings that will benefit existing wildlife and increase biodiversity at the Project Site.

A low-growing perennial seed mix comprised of native/indigenous warm and cool season grasses, red and white clover (*Trifolium repens* and *T. pratense*), and other pollinator-friendly plant species, will be sown throughout most of the solar array.

Additionally, a native pollinator-friendly seed mix ground cover is intended to be sown wherever possible in areas where mowing is not needed in select locations that will allow pollinator-friendly flower species to develop to the best extent possible.

The pollinator-friendly seed mix will benefit a number of bees, butterflies, beetles, and flies. The conversion of the forest to a meadow may provide habitat for grassland-breeding birds including bobolinks (*Dolichonyx oryzivorus*), eastern meadowlarks (*Sturnella magna*), and savannah sparrows (*Passerculus sandwichensis*).

While not yet well studied, it stands to reason that solar arrays can create a variety of microhabitats capable of promoting biomass at multiple stages along the food-chain. Solar panels absorb heat, and in the winter, the panels influence snow accumulation patterns and can provide "snow shadows" offering rare refugia from deep snow. The mixture of sunny/shaded areas across a solar farm promotes a diversity of plants, which ultimately encourages the proliferation of insects, amphibians, reptiles, small mammals, and birds such as grassland-breeding birds. Wildlife species observed on site during the 2005 biodiversity assessment that could use the meadow habitat in the solar array include:

- Eastern cottontail (*Sylvilagus floridanus*);

- Striped skunk (*Mephitis mephitis*);
- White-footed mouse (*Peromyscus leucopus*);
- Woodchuck (*Marmota monax*);
- Short-tail shrew (*Blarina brevicauda*);
- Eastern garter snake (*Thamnophis sirtalis sirtalis*);
- Eastern American toad (*Bufo americanus americanus*);
- Northern ringneck Snake (*Diadophis punctatus edwardsii*);
- Northern spring peeper (*Pseudocris crucifer crucifer*);
- American crow (*Corvus brachyrhynchos*);
- American goldfinch (*Carduelis tristis*);
- Brown-headed cowbird (*Molothrus ater*);
- Killdeer (*Charadrius vociferus*);
- Red-winged blackbird (*Agelaius phoeniceus*); and
- Song sparrow (*Milospiza melodia*).

In addition to the pollinator-friendly seed mix, other BMPs to be implemented to promote the continued use of wildlife at the Project Site include:

- Tree clearing to occur between October 1 and March 31 to avoid impacts to potentially roosting bats;
- Using felled trees to construct wildlife habitat piles strategically located in designated areas;
- Wildlife-friendly chain-link fencing with a 6-inch gap off the ground to allow small wildlife species to pass through the solar array;
- A variety of pollinator-friendly (woody-type and perennial) plantings in the laydown area after construction of the Project is complete;
- Bird boxes and nest boxes throughout the Project Site; and
- Allowing early succession to occur wherever possible throughout the Project Site.

As mentioned above, a double row of silt fence will be installed to prevent turtles from entering the LOD during the construction period. After construction is complete, the silt fence will be removed, and amphibian and reptile populations will again be able to travel between wetlands and uplands. The wildlife-friendly chain-link fencing with a 6-inch gap off the ground will allow species that lay eggs in wetlands and live in wetlands, to pass

between the wetlands and solar array. Therefore, passage will only be restricted for a short period of time for the duration of construction (approximately six (6) months).

Could the vernal pool suggested by presence of the wood frog be located in the wetland just north and west of the site? If yes, is it protected or will placing it in a forest edge damage it?

Response: The biodiversity assessment study performed by Stephen Coleman of Environmental Consulting, LLC in 2005 identified a single vernal pool indicator species, a wood frog, using a pond behind the apartment complex off of Lexington Avenue. This pond is not located on the Project Site; therefore, it will not be affected by the Project. TRC biologists performed a vernal pool survey on March 22, 2021, and no vernal pools were identified. A wood frog was observed during the site visit with TRC and the Town of Cortlandt's environmental consultant, Weston & Sampson, on May 27, 2021, within the vicinity of the delineated wetland on Site. Weston & Sampson confirmed there are no vernal pools on Site.

9. The storm water prevention plans seem to be focused on mitigating needed changes in steep slopes and the trees removed in those small sections.

The water may "flow off the panels and drain to the ground as normal", but the root system of thousands of trees will not be present to slow down and filter the water.

Does the SWPPP address the water related impacts of changes to the total site, not just the steep slopes? How? If not, what does?

Response: The post-construction stormwater practices have been designed in accordance with the NYSDEC Stormwater Management Design Manual based on the impacts of the entire project and not just the change in steep slopes. As noted in the attached memo (Exhibit X), modeling of stormwater flow and sizing of post-construction stormwater practices will be revised following a meeting between NYSDEC, the Town, CVE, and TRC.

Does a meadow and some new trees and shrubs sufficiently address all these potential impacts? How long does it take for the root systems of new trees of a newly seeded meadow to establish itself.

Response: Temporary and final stabilization completed in accordance with BMPs (e.g., mulching, hydroseeding, etc.) will prevent soil erosion and facilitate growth of newly planted vegetation until final stabilization is accepted by the Town.

10. CVE North America expansion into the US is fairly recent (2017) and while there is a solid history of energy installations internationally, the website only provides description of construction and maintenance support from the perspective of the solar energy system itself and the business of running it optimally.

Who will install the environmental mitigation aspects of the site? Will CVE ensure BMP's applied will function as expected and monitor their ongoing effectiveness.

Response: SE&SC BMPs will be installed concurrently with clearing operations. Inspections will be conducted daily by the Trained Contractor and weekly by the Qualified Inspector in accordance with the NYSDEC General Permit and all deficiencies noted must be corrected promptly. Deficiencies requiring immediate attention not only include the repair and/or replacement of installed BMPs, but also the installation of new BMPs to correct unanticipated conditions.

What will happen in the event of a failure — for example, the run-off is not contained by the swales and water damages surrounding properties or wetlands?

Response: An operation and maintenance manual is included in the SWPPP and documents the required inspections and upkeep of the post-construction stormwater practices. Inspections and maintenance will be conducted throughout the life of the Project. A bond agreement with the Town will provide financial surety in the event of failure of the stormwater improvements leading to damage to surrounding properties and/or wetlands.

Buckhout Comments:

11. The need for Solar installations of the kind being proposed is great in our rapidly changing climate conditions. If this installation were being proposed for the acres of parking lots or the roof of a commercial building where it would have only a net benefit, I would support it entirely. If it were even going into a superfund site or one of the large highly degraded land parcels we have in Cortlandt, I would support that also.

Instead there is a proposal to cut down 3,800 trees in the middle of an intact forest which has very few invasive species and relatively young trees that are pumping out oxygen, cooling the surrounding area and providing biodiversity for large numbers of plant and animal species, some of which are endangered. This property was identified by the Open Space committee as very valuable in its present state.

Response:

See the response to Comment #1 above.

Refer to Exhibit W for a discussion on tree clearing.

12. The water from this property flows under RT6 behind Pondview Commons into the Mac Gregor Pond Preserve then flows south eventually entering the Peekskill Hollow Brook at the Golf Course.

The R-40 designation for houses should remain.

Response: As the Planning Board is aware, Solar Energy Systems are expressly permitted in the Town's R-40 zone upon the issuance of a special use permit from the Town Board. (See Cortlandt Town Code § 255-8(A).)

13. The housing would not break up the forest cover as badly and would result in more distance between disturbed soil and the wetlands. It only takes one significant rain event when the forests are cleared to create enough silt and runoff to destroy a wetland for decades.

Response: The existing wetlands will be protected during the construction with soil erosion and sediment BMPs. An inspection and maintenance program will be implemented following the construction to ensure that the permanent protection measures are preventing silt and runoff to enter the wetlands.

14. The clearing of this large area for a solar array in the middle of the forest will provide an ideal pathway for invasive species to get into the heart of the forest primarily through wind born seeds and birds who inhabit cleared forest edges. In our time of climate change this solar field will be yet another heat island and the buffering effect the trees have on wind events will be lost.

Response: Please see Exhibit W for a discussion on tree clearing and invasive species.

15. If we look at the historic GIS arial (sic) photographs of this property the grainy 1947 arial (sic) shows the early forest that had emerged from pastureland. This is probably partly due to the Field families holdings the Field Mansion which still stands to the East of this proposal is less than a half mile away.

The 1960 and 1976 GIS show a wooded lot with no buildings ever constructed. The most up to date arial photos confirm in much greater detail that there have been no buildings on this property. Which may explain why there is a lack of invasive plants.

Response: According to Bartlett Tree Experts, "the site was cleared at some point in the not too distant past." Numerous rock walls are throughout the Project Site, thus indicating some form of human activity. The lack of invasive species may have been due to deer herbivory, as Bartlett Tree Experts noted, "[t]here are few understory trees as the deer have eaten almost everything." (See Attachment G to the SEQRA Supplemental Information Report.)

16. The following are statements made by CVE in regards to the biodiversity study and some questions pertaining to those statements

On Feb 4th 2021 CVE Biodiversity Assessment submitted to the Planning Board the following findings.

"TRC consulted the United States Fish and Wildlife Service (USFWS) Information for Planning and Consultation (IPaC) for federally listed species within the vicinity of the Project Site. The USFWS IPaC Unofficial Species List, dated February 1, 2021, identifies the Indiana bat (Myotis sodalis; state and federally endangered) and bog turtle (Clemmys muhlenbergii; state endangered and federally threatened), as potentially being in vicinity of the Project Site."

What does vicinity of the project site mean? Feet, Yards, Miles? Is it measured from the Solar array placement? The Fence?

Response: The USFWS IPaC system does not provide locations or distances to occurrences of federally listed species. The USFWS IPaC only tells if the Project Site is within the known range or critical habitat of federally listed species. The USFWS IPaC species list was generated for the entire 43.12-acre Project Site consisting of one 38.67-acre parcel west of Lexington Avenue (Parcel ID: 13.18-2-2.4) and a second 4.45-acre parcel off Red Mill Road (Parcel ID: 13.14-5-25).

17. In CVE North America Biodiversity Report of April 2021 it states the following:

"Through CVE and TRC's proposed conservation measures, no "take" of bog turtles is anticipated at the Project Site. The Phase 1 Bog Turtle Habitat Survey Report (Appendix J) will be submitted to the USFWS for their concurrence that no "take" of bog turtles is anticipated."

When was this report submitted to the USFWS ?

Response: The Phase I Bog Turtle Habitat Survey Report was submitted to USFWS on April 21, 2021.

18. What was the conclusion the USFWS came to?

Response: The USFWS's response, received on May 18, 2021, indicated they agree that "take" of bog turtle is not reasonable to occur.

19. Why was this report not submitted to the NYSDEP region 3?

Response: Based on review of the NYSDEC environmental resource mapper, there were no occurrences of state-listed rare, threatened, or endangered species within the Project Site or its immediate vicinity. Correspondence with the New York Natural Heritage Program indicated there were no records of state-listed rare, threatened, or endangered species within the Project Site or its immediate vicinity. This report can be submitted to the NYSDEC Region 3.

20. Where can Appendix J be found? It is not in the Biodiversity Report.

Response: The Phase 1 Bog Turtle Habitat Survey Report is included as Appendix J to the report submitted to the Town on April 26, 2021.

Why this is important?

Bog turtle habitat loss is enormous in the Hudson Valley.

Bog turtles, when they lay their eggs, move out of the wetlands and into upland drier sandy or disturbed soils. In the case of this project that would mean toward the Solar array.

The following is an excerpt from the Cortlandt town code:

The Cortlandt town code 179-5 A Determination and delineation of wetlands:

"As a policy, the determination and delineation of wetlands will only be conducted during the growing season which is usually April 2 to November 30".

Why wasn't the Biodiversity study done within these parameters?

Response: Wetlands at the Project Site were delineated on October 7, 2019, and November 1, 2019. The Phase 1 Bog Turtle Habitat Survey and Vernal Pool Survey were conducted on March 22, 2021. A biodiversity assessment site visit with TRC and Weston & Sampson was completed on May 27, 2021.

21. The Biodiversity study was done on March 22nd 2021. According to Accuweather's historical data from the Mohegan Lake weather station on this date 30 degrees F was the low and 63 degrees F was the high. During the previous week the low temperatures were below 32 degrees F every day except 3/18/2021. These are hardly temperatures conducive to spring emergence of Bog turtles.

What was the soil temperature on 3/22 ?

Response: Based on information provided by greencastonline.com, soil temperature for 0 – 4 inches deep was 46° F on March 22, 2021.

22. What was the water temperature on 3/22 ?

Response: Based on the nearest water temperature station information provided by the United States Geological Survey for the Hudson River at Poughkeepsie, New York, water temperature was 38° F on March 22, 2021.

23. Why is this important?

Bog turtles and most other turtle species will not emerge from hibernation when the temperatures are not warm enough they are cold blooded animals.

Response: TRC biologists followed the protocol specified in the USFWS's Guidelines for Bog Turtle Surveys For the Northern Population Range - Phase 1 and 2 Surveys (Revised October 26, 2018) (Guidelines) for a Phase 1 habitat survey on March 22, 2021. According to the USFWS's Guidelines, a Phase 1 habitat survey can be performed any month of the year, except when snow, ice cover or drought and/or flooding conditions are present. There was no snow or ice cover at the Project Site, and the drought index according to the National Integrated Drought Information System was "None." There were no flooding conditions at the Project Site during the Phase 1 habitat survey. The purpose of the Phase 1 habitat survey is to identify potential ***habitat*** of bog turtles and not their presence or absence.

County Planning Comments:

1. Tree removal.

Mill Court and the surrounding area have a wooded character, which could be compromised by the proposed solar farm. We note that the applicant has included a tree preservation and reforestation plan, stating that 3,396 trees are to be removed from the site. A landscaping plan establishes that 302 trees and other greenery would be planted to partially offset the tree removal, but 537 additional trees would need to be planted to fulfill removal requirements. The applicant states these trees would be planted after the decommissioning of the solar farm.

In the past year, we have received several solar farm applications proposed throughout the county due to the recent adoption of solar regulations in a number of municipalities. While the Town has robust tree removal regulations, we question if 841 trees is the correct total number of replacement plantings required for the removal of 3,396 trees. Our understanding of the Town's regulations is that protected trees must be replaced by 1.5 times the number of removed trees, and by 2 times the number of removed trees on steep slopes. While we are generally supportive of adding more solar power to our region's energy grid, such installations should balance the expense of other environmental factors, such as the carbon-negative impact of deforestation. We encourage the Town to consider deforestation impacts as solar farm development applications continue to be considered, and to work with the applicant to clarify the required number of replacement trees.

Response: Please see Exhibit W for further discussion in response to Comment #1 above.

The Town of Cortlandt's Zoning Ordinance (Chapter 283-3(C)(3)(d)) specifies shade or decorative trees be replanted at a minimum ratio of one (1) tree per 1,000 square feet lot area or major fraction thereof and on slopes 25% or greater, two (2) trees for each tree removed. CVE acknowledges the statements cited above and will comply with the Town's requirements and the appropriate amount of tree mitigation plantings and funds.

Public Hearing Comments[1]**:**

1. **Wendy Talio, North Cortlandt Residents Vision Committee**

Raised concerns about loss of trees and the corresponding impact on erosion, wetlands and animals. She asked if we considered the loss of trees in our stormwater analysis? She asked if we were doing anything to benefit the environment? Supports modifications to the current solar ordinance.

We have to have a balance for the environment - need to consider all impacts. This project is straight in the middle of a forest patch. There are a lot of animals living there. It's part of a larger forest. It's not a bad forest - even though the tree survey marked nearly all trees are good or fair - this is comparing to an excellent forest such as the Adirondacks. They're putting solar in a residential community. They're using every inch of land outside of the wetlands. The meadow that will be installed is not equivalent to a forest. Will disturb core forest - creating edge forest. Going to raise the area temperature. What if the site fails - they haven't considered enough water. Suggested that the entire area be "conserved". Asked if we were accounting for the root system we'd be removing.

Response:

Please see the discussion on forest condition and tree clearing in Exhibit W.

Please also see attached Stormwater Analysis and Design Memorandum in Exhibit Y.

2. **Rick Rivera, 5 Mill Ct.**

Closest property from visual impact perspective. The side of his home closest to the project has 116 sq. feet of windows. Will see the panels. Suggests 12'-14' planting materials and/or 3-4' berm. Concerned about stormwater impacts of trucks on street (will washout be provided). Can transformers be painted green? Is there a warranty period for the plantings? How will the landscaping be maintained? How will debris be removed from the site? Will chemicals be used?

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[1] The comments listed below are based on the notes of the CVE team taken during the Public Hearing and are not based on a transcript.

Response:

- The Project is proposing significant landscaping of evergreen (American holly, balsam fir, northern white cedar) trees and deciduous trees and shrubs to minimize views of the Project from the adjacent residential properties to the north. In addition, CVE proposes to plant additional evergreen trees (American holly and balsam fir) strategically located in the wooded area to the north to further screen views from the homes at the end of Mill Court Circle, and including 5 Mill Court.

- It should be noted that the previously approved residential development would have much taller residential houses and narrower wooded setbacks compared to the lower profile solar project. As a comparison, the approved Subdivision & Site Development Plan for Mill Court Crossing Zoning Compliance Plan, shows the set back to closest proposed residential structure 35-foot-tall residential structure only 62 and 126 feet from edge of properties boundary to the north with no proposed landscaping to screen views from abutters' lots to the north. The residential development would likely have greater visual impact compared to the solar project.

- Yes, CVE will have transformer/battery storage cabinets painted green.

- Please see attached Stormwater Analysis and Design Memorandum (Exhibit Y) for additional information regarding the construction phase and post-construction phase stormwater practices and methods to reduce impact to Mill Court throughout construction.

- Please refer to the General Landscape and Seeding Notes on Sheet L-101 and the Landscaping Maintenance Plan (Exhibit CC) regarding warranty and/or guarantees of proposed vegetation plantings, pruning standards and debris removal, maintenance and monitoring efforts pertaining to invasive species and mowing regimens as well as herbicide use and other O&M recommendations.

3. Paul Buckhout

Solar projects are fine in parking lots or roofs…not here. We are removing 3,300 trees in "protected forest". Removing trees will open the forest up to invasive species and create a "heat island." Reviewed the CVE/TRC Report—discussed what it means to say that Indiana bats and bog turtles are present in the "vicinity" of the site. Was the bog turtle report submitted to the Town? Where is Appendix J?

Parking lots, rooftops, superfunds would be preferable. 3,300 trees with very limited invasives – rare. The Open Space Committee marked it as a significant forest. Cutting the trees creates a pathway for invasive species, which are very limited currently. Will create a heat island, plus lost benefits of wind buffering. Never had buildings on property - why there aren't invasives. Indiana bat and bog turtle in the vicinity. Phase 1

bog turtle No Take conclusion - why wasn't this submitted to NYDEP. What were the weather conditions for the bog turtle survey on 3/22 - that is too early in the year to perform the survey. Very concerned about water runoff. 1947 photos show early forest. Rough notes here on what I think are his comments on our submission: CVE said Feb 24th – Something about USFWS and TRC. "What does "vicinity" mean? (I assume we used that word to describe something). Did we submit April report on box turtles? Where is Appendix J? Why was the biodiversity study not done between April-November?

Response:

- Regarding the siting the Project, see the response to Comment #1 above.

- Based on review of the NYSDEC environmental resource mapper, there were no occurrences of state-listed rare, threatened, or endangered species within the Project Site or its immediate vicinity. Correspondence with the New York Natural Heritage Program indicated there were no records of state-listed rare, threatened, or endangered species within the Project Site or its immediate vicinity. The USFWS IPaC system does not provide locations or distances to occurrences of federally listed species. The USFWS IPaC only indicates if the Project Site is within the known range or critical habitat of federally listed species. The USFWS IPaC species list was generated for the entire 43.12-acre Project Parcels consisting of one 38.67-acre parcel west of Lexington Avenue (Parcel ID: 13.18-2-2.4) and a second 4.45-acre parcel off Red Mill Road (Parcel ID: 13.14-5-25). TRC biologists followed the protocol specified in the USFWS's *Guidelines for Bog Turtle Surveys For the Northern Population Range - Phase 1 and 2 Surveys* (Revised October 26, 2018) (Guidelines) for a Phase 1 habitat survey. According to the USFWS's Guidelines, a Phase 1 habitat survey can be performed any month of the year, except when snow, ice cover, or drought and/or flooding conditions are present. There was no snow or ice cover during the Phase 1 habitat survey on March 22, 2021. Based on the information provided by the National Integrated Drought Information System, the drought index during the week of March 22, 2021, at the Project Site was "None." There were no flooding conditions at the Project Site during the Phase 1 habitat survey on March 22, 2021. The results of the Phase 1 habitat survey, including the USFWS's concurrence that the Project will not result in a "take" of bog turtles, will be submitted to the Town of Cortlandt. A biodiversity assessment site visit with TRC and Weston & Sampson was completed on May 27, 2021.

- See attached Stormwater Analysis and Design Memo (Exhibit X) for additional information regarding the construction phase and post-construction phase stormwater practices and methods to reduce impact to Mill Court throughout construction.

4. Andrea M, 7 Mill Ct

On 6/9 there was a box turtle that laid eggs, she has video.

Response:

- A box turtle was found within the vicinity of the delineated wetland during the biodiversity site visit with TRC and Weston & Sampson on May 27, 2021. Weston & Sampson recommended protective measures for box turtles. Two (2) separate rows of silt fence will be installed as an added barrier to reduce the opportunity for turtles from potentially entering the construction area. All construction workers and others employed on site will be trained to identify bog turtles by a certified bog turtle biologist prior to any ground disturbance. The double row of silt fence will be installed to prevent turtles from entering the limits of disturbance during the construction period. If the fence is installed after April 1, a qualified turtle biologist will be on site to monitor for bog turtles and observe proper installation of the fence. The fence will be secured at the base with at least 8 inches of fence material covered with soil backfill. If a turtle is seen on the construction site, all work will immediately stop in the area where the turtle is found. No machinery or vehicles will operate in the area until the turtle is cleared.

- If turtles are identified on site, contractors and site construction personnel will not touch or try to move turtles. Only a trained, experienced, and licensed turtle monitor will handle turtles. Any turtle sighting will be reported to the Project Manager and the qualified turtle biologist immediately. The double row of silt fence will be inspected daily to make sure that siltation has not built up to create a ramp; that nothing has fallen over the fence; and that it does not require repair. Repairs will be conducted as needed during construction of the facility. Vegetation technicians in charge of mowing and other maintenance will ensure no turtles are in the area during mowing. The height of the mower will be adjusted to avoid impacting turtles.

5. Don Canfield, 155 Red Mill Rd

The Mill Ct. Crossing submitted a DEIS with extensive studies of soil conditions. "His property will turn into a wetland – water goes underground to his property. It will take core forest and turn it into edge - his property will now be edge. There are owls, frogs, turtles, etc. The Eastern Hemlock tree species has been dying in the area and should be replaced (he says the Hemlock has been attacked by some species).

Response: See the attached Stormwater Analysis and Design Memo (Exhibit X) for additional information regarding the construction phase and post-construction phase stormwater practices and methods to reduce impact to Mill Court throughout construction.

TRC has removed eastern hemlock from the landscaping plan and replaced it with balsam fir.

6. Nancy Young, 9 Mill Ct

A Sophie's Choice - is this better than the residential development? Both are terrible. The DEP discourages tree cutting for solar. Mentioned DOER's land use suggestions & rules in MA restricting clearing of woods. The water flowing from the site concerns her. Water bubbling and sink holes. The 3,000 trees maintain the integrity of the soil - maintains the correct underground water flow. The lack of endangered species is "hogwash." There are fox, deers, turkeys, owls. The NYSDEC describes this as a biodiverse zone (I wrote down a "significant zone" - not sure if that's an expression.) Afterwards her husband said repeatedly "Nothing is going to be built on that land".

Response:

- Regarding siting the Project, see response to Comment #1 above.
- Compared to the previously proposed and approved residential development at Mill Court Crossing, this Project will have less impervious cover and provide more wildlife habitat.
- Based on review of the NYSDEC environmental resource mapper, there were no occurrences of state-listed rare, threatened, or endangered species within the Project Site or its immediate vicinity. Correspondence with the New York Natural Heritage Program indicated there were no records of state-listed rare, threatened, or endangered species within the Project Site or its immediate vicinity. Review of the USFWS IPaC system indicated two federally listed species have the potential to occur within the vicinity of the Project Site: bog turtle and Indiana bat. A Phase 1 Bog Turtle Habitat Survey was conducted and the results were submitted to USFWS on April 21, 2021. The USFWS's response received on May 18, 2021, indicated they agree that "take" of bog turtle is not reasonable to occur. An acoustic survey has been recently conducted to determine the presence or absence of Indiana bat at the Project Site. The analysis of the results are currently being processed.
- See attached Stormwater Analysis and Design Memorandum (Exhibit X) for additional information regarding the construction phase and post-construction phase stormwater practices and methods to reduce impact to Mill Court throughout construction.

7. Sandra, 5 Mill Ct

What's the long term effect? What happens at the end? What's the validity of our remediation? What's our true investment? Need to understand the figures better.

Response:

- See the response to Comment 4 and 5 above.

- At the end of the Project, CVE will be required to decommission the Project in accordance with the Decommissioning Plan submitted to the Town. The Project site will be restored and reforested in accordance with the Decommissioning Plan.

8. Jennifer & Alfonzo, 4 Mill Ct

The Open Space Report from 2004, page 9, lists this Kirquel parcel as one of the highest priority parcels. This project is impacting the Parr parcel with a construction access road. Along the back of her home (she is not correct about this. We told her afterwards but we should be explicit in our response). Why this land? Alfonso also said based on his research that CVE had not built any projects, just acquired a small one in MA. Again, we corrected him afterwards but we should be explicit. He also thinks that project changes the zoning of the property to "Commercial/Industrial". If the project will not be successful, "What is it going to be on our backyards, a supermarket, an industrial building?"

Response:

- As the Planning Board is aware, Solar Energy Systems are expressly permitted in the Town's R-40 zone upon the issuance of a special use permit from the Town Board. (See Cortlandt Town Code § 255-8(A).)

- Regarding the siting the Project, see response to Comment #1 above.

- The original filing in June 2020 had the access drive within the "Parr" parcel off Red Mill Road; however, the current plan has eliminated this access and instead the access drive entrance is off Mill Court. This change was made to reduce tree removal impacts and reduce construction noise disturbances behind the homes along Mill Court. Construction staging will not occur on Mill Court, except for approximately 2 weeks at the beginning of construction to establish site access. Thereafter, construction staging will occur on Site and parking for workers will be limited to the site and potentially allocated to a nearby parking lot with the permission of the owner.

9. Rick Romero, 5 Mill Ct

There are 200 foot setbacks proposed, but he can see up to 400 feet. Suggested we should consider what views are from higher up (like his 2nd floor, I presume). "We will see a sea of panels". 6 - 7 foot trees won't mitigate. Can he have a say where we place the buffer trees? There will need to be protections during construction for the asphalt on Mill Ct. Install tracking pad. Offer to repave? Storage containers should be painted green. What is the warranty for the plantings? Is there a procedure for replacing?

What is the procedure for maintaining the access road? Who does trimming? How do we plan to handle the debris removal?

Response:

- See the response to Public Hearing Comment #2 above.

DTS Comments:

1. ***Applicant shall submit all permits by agencies with approving authority (e.g. NYS DEC, NYC DEP, Army Corp., SHPO, FWS).***

   Response:

   Comment noted.

   - The only state approval required is the New York State Pollutant Discharge Elimination System (SPDES) General Permit for Stormwater Discharges from Construction Activity. SHPO sign-off has already been submitted to the Town.
   - No federal permits are required for this project.
   - The USFWS's response, received on May 18, 2021, requested more information to evaluate the potential impacts to Indiana bat roosting and/or foraging habitat. The USFWS recommended bat presence/absence surveys be conducted at the Project Site. A study plan for a bat acoustic survey in accordance with the USFWS's Range-Wide Indiana Bat Survey Guidelines was submitted to USFWS on July 28, 2021 and approved by the USFWS on July 30, 2021. The bat acoustic survey was performed August 5 – 9, 2021. Data from the bat acoustic survey is currently being processed and results will be submitted to USFWS as soon as they are available. Tree clearing will be performed between October 1 and March 31 to avoid "take" of Indiana bat and the USFWS agreed that lethal impacts are unlikely.

2. ***The Applicant's proposal has expanded to a 6 MW facility with battery storage. The overall disturbance has also significantly increased from the initial proposal.***

   Response:

   Please note that the Limit of Disturbance has decreased in size since the original filing in June 2020 (**not increased**).

   As a result of the system size change from June 2020 to March 2021, the available space for the solar panels was reduced due to the extra space needed for the

required more robust fire access requirements. CVE was able to increase system size within the reduced space by:

- Revising the azimuth of the modules to 172 degrees, which aligned the rows to be parallel with the property lines, allowing for a more efficient use of the LOD;
- Increasing the efficiency of the modules, from 400W to 430W; and
- Resubmitting a new interconnection application to ConEdison for 5MWac, because the 3MWac application was no longer sufficient for 4.98MWdc (there would be too much DC power entering the inverters).

a. ***The Applicant is requesting a waiver to vary the side yard setback from 200 feet to 90 feet which brings the proposed solar array closer to the properties to the west (Wild Birch).***

Response:

Chapter 255 Solar Energy Systems, Section 255-8 A (10) (b) Setbacks [2] states "*The Tier 3 solar energy systems shall be set back:*

> *[2]Two hundred feet when the property boundary is located in a Residential District. The Town Board, at its discretion, may vary the required dimensional setback of 200 feet to minimize environmental impacts created when locating ground-mounted solar energy systems within the dimensional regulations. In such instances the approving authority may vary the setback to 100 feet or 200 feet from the nearest habitable building, which ever distance is more restrictive."*

The Project has been specifically designed to avoid impacting the DEC wetlands and associated 100-foot adjacent area to the wetlands that are located on the eastern portion of the site. To avoid working in the 100-foot adjacent area and minimize work within steep slopes, the Project has proposed a reduced setback of 100 feet on west and 150 feet on the south. The entire Project layout meets or well exceeds the 200 feet distance of from the nearest habitable building as shown on the Drawing No.4 Site Plan.

The Project's proposed setbacks and distances to nearest habitable buildings in each direction are summarized below.

Direction	Cortlandt Mill Solar Farm Distance to Nearest Habitable Building	Cortlandt Mill Solar Farm Proposed Setbacks	Mill Court Crossing Residential Development 2016 Setbacks
North	303 feet (5 Mill Court) 265 feet (9 Mill Court) 264 (10 Mill Court)	202 feet	115 feet (abutting 5 Mill Court) 62 feet (abutting 9 Mill Court)
South	341 feet	150 feet	105 feet
East	>763 feet	763 feet	180 feet, 196 feet, 123 feet
West	377 feet	110 feet**	93 feet, 145 feet, 187 feet

**Relative to the western side, it should be noted that there is Town property (wooded land) between the Project's parcel boundary and the residential properties to the west. The Town's property is about 188 feet wide. The Project's setback distance to the edge of the residential property boundary to the west is 302 feet.

b. ***The Applicant is requesting a waiver to vary the rear yard setback from 200 feet to 150 feet which brings the proposed solar array closer to the properties to the south (Cardozza Ave).***

Response: See the response immediately above.

The setbacks provided are to the limits of the solar array. The required fire apparatus turn around(s) are much closer to the southern property line. Their use should be fairly limited, but this should be noted.

The Applicant should provide an alternate layout for a solar array meeting the required setbacks and compare the environmental impacts to the proposed development.

Response: See the alternative layout analysis in Exhibit Y.

3. ***The requirements for a fire apparatus road will not be exempted by the Code Enforcement Director. The following modifications will be considered:***

a. ***Maximum grade of the fire apparatus access road will be allowed to be increased beyond the maximum grade of 10% provided sufficient horizontal and vertical curvature is designed by a licensed professional engineer and a swept path analysis is provided demonstrating fire apparatus' can maneuver the proposed road.***

Response: The swept path analysis for the largest fire apparatus is shown on the enclosed new Fire Apparatus Access Plan on Attachment 1.

b. ***The surface of the fire apparatus access road must be designed to support the imposed loads and surfaced as to provide all-weather driving capabilities (typically 55,000 – 75,000 lbs). While the Town understands the Applicant's desire to construct limited use pervious access roads to minimize storm water requirements, said roadways as detailed, designed and constructed are difficult to traverse by fire apparatus. In addition they are difficult to maintain.***

Therefore, at the locations of all dead-ends and turnarounds a more suitable surface shall be detailed and specified. Asphalt runouts shall be provided prior to steep grades in excess of 10% and along their runs.

A re-design of the limited use pervious access road shall also be provided for consideration that utilizes appropriately sized aggregate more suitable to be driven over by large fire apparatus.

Permeable pavements and other surfaces will be considered and referred to the Mohegan Fire Department for comments. Please note that in order to obtain infiltration credit for permeable pavements, they must be an acceptable practice and designed in accordance with the NYSDEC Storm Water Manual.

Response: Based on direction provided during the July 20, 2021 conference call with the Town of Cortlandt staff, the Applicant had a subsequent discussion with Martin G. Rogers, P.E., Director of Code Enforcement, to clarify specific changes required to the access drives. Mr. Rogers requested a Fire Apparatus Access Plan, which focuses specifically on fire safety considerations, be prepared and submitted. This new drawing (Attachment 1) is provided in this response, and indicates:

a) An overview of the site plan that includes the percent slope range of each section of the drive, colored to display graphically;

b) Hose pull distances;

c) Brush clearing locations; and,

d) Swept path analysis results showing that the largest anticipated fire truck will be able to safely traverse the entire access drive network, including the turnarounds.

The Applicant has also provided an updated Access Road Profile Drawing No. 9 that now shows percent slope along the access drive at lesser, 50-foot intervals.

Finally, Detail Sheet 1 Drawing No. 10, which presents the details of the limited access pervious access, has been updated with a reduced aggregate size range of 1 to 2 inches in diameter.

At this time, the Applicant is not pursuing an infiltration credit for permeable pavement design in accordance with the NYSDEC Stormwater Management Design Manual.

c. ***The width of the road may be maintained at 20-ft. Designated parking areas shall be provided as no parking by employees shall be permitted on the access road.***

Response: The width of the access drive is currently shown as 20 feet wide. During start-up and operational phases, employee parking shall be limited to the four (4) turnouts, with no parking on the access drive proper, as noted on the Fire Apparatus Access Plan in Attachment 1.

d. ***Provide detail of security gate on the revised plan set. It shall be located in such a manner as to not impact the ability of the fire apparatus from maneuvering and accessing the site.***

Response: The requested detail for the access gate is included on Detail Drawing No. 11.

e. ***The Applicant's design professional shall provide a certification stating that the grades of the proposed fire apparatus access road as provided will not impact the maneuverability of fire apparatus'.***

Response: The requested certification has been provided on the Fire Apparatus Access Plan (Attachment 1).

f. ***Clear sight lines in accordance with the recommendations of AASHTO shall be provided at the proposed site entrance off of Red Mill Road. A sight distance profile in both directions shall be provided, demonstrating adequate stopping sight distance is provided based on grade and posted speed. If required, a sight easement shall be shown and all vegetation within this easement removed and mitigated accordingly.***

Response: This information is shown on the Vehicle Tracking drawing (Exhibit X).

4. ***Revise and submit a "Final" Decommissioning Plan shall be submitted incorporating the following revisions:***

a. ***The estimated cost to remove the solar energy system and restore the site to pre-existing conditions.***

Response: An Engineer's decommissioning cost estimate is provided in the revised Decommissioning Plan provided as Exhibit AA.

b. ***Security amount required by the Town of Cortlandt as defined in Chapter 255 of the Town Code. Security is required prior to the issuance of a building permit.***

Response: Acknowledged.

c. ***All concrete structures, utilities, electrical conduits, access roadway shall be removed from the subject premises. Concrete and other waste material shall not be left on site. All materials shall be disposed of in a lawful manner.***

Response: Comment noted.

d. ***Site restoration shall include reforestation. Over and understory trees shall be planted as recommended by the Town's Consultant Arborist and as specified in the Town's Tree Ordinance Chapter 283.***

Response: The requested scope of the sampling and analysis has been included in the revised Decommissioning Plan, provided as Exhibit AA.

e. ***A section shall be added to perform soil testing at representative locations across the solar array and electrical equipment to ensure no onsite soil contamination has resulted due to the systems operation. The analysis must conclude that there is no site contamination and meet NYSDEC criteria (6 NYCRR Part 375) for unrestricted residential use. This includes volatiles, semi-volatiles, metals, PFOAs, oils and other hydrocarbons. Groundwater samples shall be included as well. List all contaminants of concern to be tested.***

Response: The requested scope of the sampling and analysis has been included in the revised Decommissioning Plan, provided as Exhibit AA.

f. ***The decommissioning plan shall be attached to the property deed and filed with Westchester County Land Records prior to the approval.***

Response: CVE will so comply and will arrange for such filing of such deed as a condition of approval (as CVE will not purchase the Property unless and until all zoning approvals are granted).

g. ***Decommissioning activities shall start within 90 days of facility ceasing to operate.***

Response: Comment noted. The Revised Decommissioning Plan is provided as Exhibit AA.

h. ***The decommissioning plan shall be attached to the property deed and filed with Westchester County Land Records.***

Response: CVE will so comply and will arrange for such filing of the deed as a condition of approval (as CVE will not purchase the Property unless and until all zoning approvals are granted).

5. ***Submit a revised Steep Slope Findings Statements. The following steep slope thresholds shall be used; 15-25%, 25-35%, >35%. A revised written narrative addressing 259-6 shall be prepared in addition to revised drawings. Both shall be signed and sealed by a licensed professional engineer. The Applicant must clearly summarize impacted steep slopes vs site wide steep slopes.***

a. ***All slopes greater than 4H:1V shall be stabilized with erosion control matting and blanketing. Plans must delineate areas requiring such stabilization.***

Response: The plans have been revised to delineate these areas.

b. ***Details to restore the entire limits of disturbed shall be provided including de-compaction methods and soil amendments necessary to create a 4-inch minimum depth of topsoil in order to promote vegetative growth, meadow mix placement and pollinator (perennials and annuals) species.***

Response: CVE acknowledges the request for a 4-inch minimum depth of topsoil. Restoration details in accordance with Table 4.6 of the New York State Standards and Specifications for Erosion and Sediment Control will be included in the revised SWPPP.

6. ***The Applicant is proposing to install the solar panels perpendicular to grade. While the general panel height was discussed to be no greater than 6'-10" at maximum height it is shown on drawing sheet no. 12 to be 7'-9" max. The actual height of the solar panel from finished graded may exceed the proposed detail. The Applicant shall provide response and clarify panel heights.***

Response: The updated, lower profile panel detail (which was submitted for the July 6 Planning Board Meeting) is provided on revised Detail Drawing No. 12.

7. ***The Applicant does not identify the local wetland just south of Mill Court that was first identified in the 2005 wetlands study prepared by Environmental Design Consulting and more recently shown on the Mill Court Subdivision Approval, dated December***

2016. The wetland while small (< 1/2 acre) was determined to have above average function and capable of attenuating storm events and provide water quality.

It is quite possible that this area no longer meets the definition of a local wetland in accordance with Chapter 179 of the Town Code. A statement to this effect along with confirmation from the Town's wetland consultant shall be provided.

If the local wetlands still exists, a revised wetland statement will be required along with mitigation measures. If the local wetlands no longer exists, no further action is required. It is recommended under the latter scenario, that the Planning Board recommend enhanced landscaping along the eastern limits of disturbance to enhance buffering to the regulated NYSDEC wetland.

Response: Wetland biologists from TRC and the Town of Cortlandt's wetland consultant, HVEA Engineers, visited the Project Site on August 9, 2021. Based on further investigation, it was determined this area no longer meets the definition of a wetland as determined during the prior site visits.

8. ***The total number of trees proposed for removal is still outstanding. The Bartlett Study indicates 4208 trees and the Applicant states 3400 trees. A final number shall be confirmed and agreed upon.***

Response: As clarified during the July 20, 2021 conference call with the Town of Cortlandt staff and documented in the SEQR Supplemental Information Report, the Bartlett Tree Experts report references total trees surveyed of 3,808 trees over a 4-inch diameter at breast height (DBH) (of which 2,684 of these trees were noted as in good condition) in the stake out area; the stake out area assumed a larger LOD area that was proposed in the original filing of June 2020 plus an additional 50 feet beyond the LOD. The LOD has since been reduced in size from the original filing in June 2020. Therefore, Bartlett's tree count is based on a larger area than the currently proposed LOD. TRC's tree estimate is based just on the actual, reduced LOD. Based on the currently proposed 19-acre LOD (reduced from June 2020 and March 2021 filings), the total tree estimate in the 19-acre LOD is **3,347 trees (with an estimate of 2,370 trees in good condition).**

The applicant is currently proposing to plant 318 trees and 50-60 additional evergreen trees to be strategically placed throughout the site. Of the 318 trees, 14 are proposed to be shadblow serviceberry and 150 are northern white cedar (commonly referred to as American Arborvitae). The additional evergreen trees are proposed as American Holly or Eastern Hemlock. In addition 208 shrubs are proposed for planting around the perimeter of the proposed solar array and battery storage. The proposed plantings are essentially shrubs for screening purposes. Arborvitae and many of the evergreen varieties being proposed typically grow to 20-ft in height. The limited number of species being proposed is creating a mono-culture of planting and not necessarily mitigating

the removal of mature trees and healthy native growth that provides extensive canopy coverage.

Response: The Project is proposing significant landscaping of evergreen trees and shrubs to minimize impacts to the nearest adjacent residential properties. Per the Town's Solar Energy System Code (§ 255-8 A(10)(f), Screening and visibility), the applicant is required to

> *...submit a screening and landscaping plan to show adequate measures to screen through landscaping, grading or other means so that views of solar panels and solar energy equipment shall be minimized as reasonably practicable from public roadways and adjacent properties to the extent feasible.*

CVE has met this objective. In addition, the proposed landscaping plan proposes tree and shrub plantings that are pollinator friendly and will enhance wildlife habitat and increase biodiversity in and around the Project Site. TRC's proposed landscaping plan includes a total of 14 different plant species (three evergreen) are proposed in the planting scheme. TRC's professional Landscape Architect's opinion, supported by various references (including several reputable dictionary resources) that a monoculture planting is defined by use of a single plant, organism, or crop.

The northern white cedar, eastern hemlock, and American holly are considered as trees based on several reputable entities as listed below – including University Extensions that consider the threshold in determining a tree versus a shrub to be around the 10 to 13-foot height. According to the Arbor Day Foundation Tree Guide, all evergreen species proposed will reach minimum heights of 40 feet.

The quantity and types of evergreen tree species were proposed to satisfy a number of criteria including visual mitigation during leaf-off conditions. Additionally, these evergreen species were selected because they are native/indigenous plant species that will address shading concerns as it pertains to the solar array panels. These evergreen species will grow tall enough to help screen the Project; however, the mature heights can be managed well enough through annual operations and maintenance (O&M) to alleviate future shading issues.

See below references.

Northern White Cedar | Thuja occidentalis (wildadirondacks.org)

Eastern Hemlock | Tsuga canadensis (wildadirondacks.org)

https://newyork.plantatlas.usf.edu/Plant.aspx?id=129

TRC has updated the landscaping plan to include additional native/indigenous species including balsam fir (to replace the eastern hemlock), red maple, red oak, and black gum.

Consideration shall be provided by the Applicant to revise the proposed landscaping to create a more robust and diverse forest which a mixture of deciduous and coniferous trees. Furthermore, hardly any plantings are shown along the eastern limits of disturbance which is the buffer to the NYSDEC wetlands. The forest will be removed and replaced with meadow. This is one of the most sensitive areas onsite and should enhanced to allow for a more robust buffer to the wetlands.

Response: TRC's proposed planting scheme was created to satisfy various design criteria including visual mitigation/screening of the solar project during leaf-off conditions. Additionally, a conscious effort was made to minimize unnecessary tree clearing of existing species. Achieving visual mitigation while minimizing shading concerns was also considered and factored into the design. Stormwater elements are being proposed on the eastern portion of the project site and additional plantings will be included to best extent possible without affecting the proposed stormwater components.

The Project has been specifically designed to avoid any work within the 100-foot adjacent area to the NYSDEC wetlands and this area, and existing natural vegetation will remain.

TRC has revised the landscaping plan to include additional deciduous trees within the northern wooded area and also to the eastern side of the project site near the proposed stormwater facility, Additional species proposed in this are (as noted in the planting schedule) include shadblow serviceberry, flowering dogwood, American holly, northern white cedar, and balsam fir. Additionally, several other native/indigenous tree and shrub species proposed include sugar maple, red oak, black gum, witch hazel, winterberry, and red chokeberry.

When determining the actual number of trees required to be replanted, the Planning Board shall consider the following factors:

Approximately 19.3 acres are proposed for disturbance. Currently the Applicant indicates 166 trees on steep slopes (>25%). The requirement to replant trees removed from slopes in excess of 25% is 2 to 1. At minimum the total number of trees required to be mitigated shall be set at 1005.

Response: The Project's proposed area of disturbance has been reduced to 19 acres. Based on this reduced area, TRC estimates the following for number of trees to be mitigated in accordance with the Chapter 283 Trees of the Town's Code.

- Area of Project not on steep slopes (25% or greater) = 787,550 square feet x 1 tree per 1,000 square feet = 788

- Area of project on steep slopes over 25% = 40,637 square feet
- 165 trees to be removed on slopes greater than 25% X 2 trees = 330 tree
- 1 tree on protected species list (not in great condition, per Bartlett Tree Survey) 1 x 1.5 trees = 2 trees (rounded up)
- Total number of trees to be mitigated: 788 + 330 +2 = 1,120

Per Cortlandt Town Code, Chapter 283 Trees, § 283-3(C)(3)

"(d): A reforestation plan that shall conform to the following minimum standards:

[1] Shade and/or decorative trees shall be planted at minimum ratio of at least 1 tree per 1,000 square feet of lot area or major fraction thereof. Trees to be planted shall have a minimum diameter of three inches at a point 4 ½ feet above ground level and should be planted in soil suitable for tree species.

[2] In selecting locations to plant trees, priority should be given to that section of the lot that is within buffer zone or adjacent to any land owned by the Town.

[3] In determining number of replacement trees to be planted, the Planning Board and Town Arborist shall consider the size, genus and cultivar of the trees which are proposed to be removed. Each protected Tree that is to be removed shall be replaced by at least 1 ½ times the number (rounded up) of the same trees as removed. On Slopes of 25% or greater, two trees shall be planted for each tree which is to be removed."

b. ***The plans depict the Applicant is proposing to run transmission lines north / northeast through the project site along the land's N/F Par (13.14-5-25). This creates unnecessary tree removal and soil disturbance and is most likely proposed to limit excavation in the Mill Court right-of-way. The Board should wave the positives of installing utilities within a previously disturbed right-of-way, thereby preserving woodlands vs the impacts to the residents of Mill Court.***

Response: Acknowledged. CVE does not believe that moving the utility lines from the Parr parcel to the Mill Court right-of-way is a good solution. CVE believes the utility lines installation along the Parr parcel is favorable for a variety of reasons including: a) it would avoid the need to disturb and excavate the Mill Court right-of-way during construction, and b) it would avoid potential future utility line maintenance from blocking and disturbing the Mill Court right of way.

CVE is willing to consider additional tree plantings on the Parr parcel to mitigate the impacts from underground utility lines and aboveground equipment.

c. ***Credit to reduce replanting requirements for the removal of invasive, non-native and trees in poor condition.***

Response: Acknowledged. Removal of invasive trees (per the Bartlett Tree Survey) and required O&M efforts will be accounted for. Additionally, please see Note 2 in the general landscape and seeding notes on Sheet L-101.

d. ***Pollinator species, grasses and meadow mixes shall be specified to be seeded, annually for a period of no less than 5-years and be incorporated into an annual monitoring plan. The variety of pollinator species shall meet or exceed those as recommended by the NYSDEC.***

Response: Acknowledged. The proposed seed mixes are developed by Ernst Seed Company, which is a nationally known seed company that is recognized by the Xerces Society and works with various entities such as The Bureau of Land Management, Pheasant Forever, The National Wild Turkey Federation, various university extensions, and state agencies. Please see Sheet L-102 for proposed seed mixes.

e. ***Plans shall list and identify any trees identified as significant, specimen or listed as protected shall be denoted. Trees of this type shall be protected if feasible or mitigated at a ratio of 1 1/2 for every tree removed.***

Response: Acknowledged. The Bartlett Tree Survey was referenced.

The Bartlett Tree Experts report dated November 2, 2020 states:

> *There was only one tree on the Protected Species list and it was a small 4-inch Dogwood, which is listed as "Vulnerable." But the tree is not in great condition. Flowering Dogwood species are proposed in the planting schedule and over one dozen of the species are being proposed to help mitigate the removal of the existing dogwood identified in the tree survey. There are no trees that neatly fit into the definition of Specimen Tree as written in the Town Code, but tree #3454 is an 82-inch DBH Road Oak with a twin stem. It is a really significant tree but may not fit the definition of a Specimen as outlined in the code. If possible, preserve it, it should be considered. It would require pruning and cabling if it was to remain.*

f. ***The extensive reliance on evergreens (e.g. arborvitaes), that are more shrub than tree. I estimate the proposed planting plan more accurately replants 210 equivalent trees, when the following standards are utilized:***

i. ***All deciduous plantings shall be 2-3 inch caliper at DBH and all evergreens 6-8 ft in height from finished grade.***

Response: Acknowledged.

ii. ***The following equivalent ratios may be used in lieu of planting a tree***

1. ***3:1 Understory trees (minimum 1" caliper)***

Response: Acknowledged.

2. ***10:1 Small maturing trees (<4-ft in height) and shrubs (2 gallon minimum)***

Response: Acknowledged.

Every effort shall be made to re-plant the required number of trees onsite. In the event that this quantity cannot be re-planted, off-site mitigation or payment in-lieu may be provided. The Applicant has estimated the balance to be planted as 537 trees. Based on my calculations the balance is 795 trees.

Response: See below calculations also provided on Sheet L-101 Tree Preservation and Reforestation Plan.

As noted above, the Northern White Cedar, Eastern Hemlock (now replaced by Balsam Fir species), and American Holly are considered as trees based on several reputable entities including the University Extensions that consider the threshold in determining a tree versus a shrub to be around the 10 to 13-foot height. According to the Arbor Day Foundation Tree Guide, all evergreen species proposed will reach minimum heights of 40 feet.

Below is a summary of the credits based on the updated sheet L-100 Landscape Plan.

1:1 Ratio Credit: 307 Evergreen Trees

1:1 Ratio Credit: 11 Deciduous Trees

3:1 Ratio Credit: For the serviceberry and dogwood trees, as they are considered understory, small maturing, ornamental trees based on size and growth rates. A total of 54 serviceberry and dogwood trees were proposed = Tree Credit of 18.

10:1 Ratio Credit: Shrubs. 316 total shrubs were proposed = Tree Credit of 31

Total tree credits for the proposed landscaping plan: 367 Trees (307 + 11 + 18 + 31) (excludes trees to be planted in the woods to the north)

Approximately 50-60 evergreen trees and approximately 20-30 deciduous trees (70-90 trees total) will be strategically located and installed in the wooded areas north of the

Project Site to further mitigate views occurring from the adjacent landowners. An average of 80 trees total are also included in the tree credit calculations at a 1:1 ratio credit for additional mitigation efforts.

Therefore, the total number of trees remaining to be mitigated through the Town's tree mitigation fund = ***673 Trees*** (1,120 – 367-80)

The revised reforestation plan will be submitted to the Town's Conservation Advisory Council for final comment.

Response: Comment acknowledged.

9. ***Due to the existing grades onsite and the Applicant's desire to limit extensive grading onsite and proposed planting types (20-ft mature growth), the solar arrays appear to be visible from the west (Wild Birch Farms) and the north (Mill Court). In addition the arrays may be visible from the upper floors of 5, 9 and 10 Mill Court. It is recommended that additional photographs be taken at these locations and from a higher elevation (2nd story). The Applicant shall also provide a cross sections of the site (N/S and E/W) and compare the solar panel heights to adjacent first and second story house elevations for the properties listed.***

Response: See the line-of-sight analysis in Exhibit Z.

10. ***The Storm Water Pollution Prevention Plan (SWPPP) shall be revised as follows:***

a. ***A revised Notice of Intent is required in order to obtain coverage under the SPDES General Permit for Construction Activity.***

Applicant is advised that controls will need to be modified to accommodate corrections made to the site plan in response to this comment letter, specifically in response to the driveway profile and proposed limited use access roads.

Response: As noted in the attached Stormwater Analysis and Design Memo (Exhibit X); modeling of stormwater flow, sizing of post-construction stormwater practices, the SWPPP, and Notice of Intent ("**NOI**") will be revised following a meeting between NYSDEC, the Town, CVE, and TRC.

b. ***Temporary controls for storm water management such as temporary sediment traps during construction are not provided. Applicant shall clarify and/or provide appropriate details.***

Response: Additional details will be included in the revised SWPPP.

c. ***The report must clearly demonstrate the post development peak flow rate(s) and velocities have not increased from the pre-developed condition. There is***

extensive regrading shown which will alter the surface hydrology, including importation of fill material. Therefore post construction controls may be required in addition to water quality controls.

Removal of field stone wall and/or rock outcroppings shall not be used to as "credit" to offset impervious areas proposed as part of construction.

Response: As noted in Exhibit X, modeling of stormwater flow, sizing of post-construction stormwater practices, and the SWPPP will be revised following a meeting between NYSDEC, the Town, CVE, and TRC.

d. ***The Applicant shall provide comment as to why the 2-year rainfall event was not evaluated, as it is typically is to ensure non-erosive flows. Since the majority of proposed practices receive overland flow through swales, etc. said storm shall be evaluated. NYSDEC requires that the exit velocities from pre-treatment must be non-erosive for the 2-year storm (page 6-41).***

Response: The NYSDEC requirements on page 6-41 (of the New York State Stormwater Management Design Manual) specifically refer to infiltration practices which are not being employed at the Project site due to shallow bedrock.

e. ***The site is generally rocky with fractured and weathered bedrock prevalent. Table 1 on Page 3 and Page 9 of the geotechnical report both indicate shallow bedrock. Furthermore the Dec. 2020 correspondence from TRC indicates the site is relatively rocky.***

It is expected that rock crushing / processing proposed will occur during construction. It is recommended that the plans be modified to include storage piles, crushing equipment, etc... Applicant shall provide all air quality permits and denote on a revised site plan if rock crushing is proposed.

Response: Representative locations of proposed rock crushing/processing operations have been included on the revised Erosion and Sediment Control Plan Drawing No. 8. CVE acknowledges responsibility for any required air quality permits.

f. ***The SWPPP and limited details do not demonstrate how pre-treatment is proposed to be provided for storm water runoff. The Applicant shall clarify if the stone diaphragms are sufficient? Depending on the underlying soil characteristics, 100% of the water quality volume may require pre-treatment since infiltration exceeds 5 inches/hour.***

Response: As noted in Exhibit X, modeling of stormwater flow, sizing of post-construction stormwater practices, and the SWPPP will be revised following a meeting between NYSDEC, the Town, CVE, and TRC.

Infiltration of stormwater at the site is not being proposed due to the presence of shallow bedrock at the site. The referenced required element for pre-treatment of 100% of the water quality volume applies specifically to infiltration practices and therefore, is not relevant.

g. ***Certain details such as a storm water diaphragm, rip rap outlet protection, infiltration trenches, headwalls level spreaders and energy dissipaters are provided but not correlated to locations on the proposed site plan.***

Response: The locations of the details will be included in the revised SWPPP.

h. ***The bio-retention detail shall be revised to include proposed plant material.***

Response: The proposed plant material for the bioretention practice will be included in the revised SWPPP.

ii. ***The site does not uniformly slope. Applicant shall verify that the bio-retention swale and dry swale are located to properly capture and treat their intended storm water volumes as well as be accessible for routine maintenance.***

Response: As noted in Exhibit X, modeling of stormwater flow, sizing of post-construction stormwater practices, and the SWPPP will be revised following a meeting between NYSDEC, the Town, CVE, and TRC.

j. ***A detail for panel spacing is required. The NYSDEC does not issue guidance for panels installed on slopes greater than 10%. Contact the NYSDEC and determine acceptable standards. Provide correspondence regarding the same. At minimum match the guidance criteria provided for solar panels on slopes between 5 and 10% which include level spreaders and energy dissipaters at the drip line edge of each panel to maintain sheet flow.***

Furthermore, the guidance material provided by the NYSDEC and Maryland Department of the Environment notes, that disconnected impervious surfaces works best in undisturbed materials, with emphasis to minimize compaction of material during construction. The majority of the site is proposed to be graded. The Applicant shall address in the revised SWPPP whether said activity will adversely affect infiltrative capacities of the underlying soil.

Response: The requested meeting between NYSDEC, the Town, CVE, and TRC has been requested and is pending. This comment will be addressed in the revised SWPPP to be submitted following the resolution of issues to be discussed at the meeting.

k. ***Applicant is advised to review notes 13 and 14 on their submitted limited use pervious access road detail. Specifically, that the "design professional must***

account for the limited use pervious access road in their site assessment/hydrology analysis". While consideration is provided that this surface is permeable it should not be considered equivalent to forest, meadow or similar surfaces which promote infiltration.

Apparatus access roads are shown perpendicular to grade which may require drainage ditches and vegetated runoff areas. A drainage ditch is noted as proposed but not provided on the plans or detailed,

Response: The curve number of the pervious access road is greater than the curve numbers for forest or meadow within the stormwater model to account for the decrease in infiltration on the pervious access road compared to the existing forest or proposed meadow surfaces.

The drainage ditches associated with the limited use pervious access road will be detailed in the revised SWPPP.

l. ***The applicant is requesting a 5-acre waiver and is proposing to disturb a total of 19.3 acres. Typically it is recommended that soil disturbance be kept at less than 5 acres at any one time. A revised sequencing plan demonstrating such shall be submitted.***

i. ***Sequencing plan shall include various stages of construction (e.g., clearing, erosion controls, access road construction, staging, installation, restoration, plantings, and pollinator soil stabilization). All employee parking and material storage shall be revised to limit unnecessary tree removal and disturbance to steep slopes.***

Response: The request for a 5-acre waiver has been redacted.

ii. ***The concrete waste wash location is shown outside the limits of disturbance. Staging and equipment storage is shown in wooded areas not proposed to be disturbed as part of the construction of the solar array. Plans shall be revised accordingly (refer to comment above).***

Response: Concrete washout locations are now shown within the LOD on the revised Erosion and Sediment Control Plan Drawing No. 8.

iii. ***Show location of construction staging and employee parking. Applicant is referred to Chapter 33 of the NYS Building Code, Safeguards During Construction.***

Response: Site Plan Drawing No. 4 establishes a requirement to comply with the 2020 Building Code of New York State.

m. ***Site maintenance and good housekeeping protocol shall include fugitive dust control and watering requirements.***

Response: Acknowledged. These protocols will be addressed in the revised SWPPP.

n. ***Include copies of maintenance easements during and after construction in accordance with Town Code Chapter 262-9***

Response: The maintenance easements will be included as part of the revised SWPPP.

o. ***The proposed storm water best management practices are high maintenance. The Applicant has noted that the total number of maintenance trips is extremely limited (less than once a month). Furthermore many of the proposed practices will be inaccessible for maintenance equipment once permanent vegetated cover and landscaping is planted.***

Response: Detail Drawing No. 10 has been revised to provide a detail for a pervious revegetated gravel road for maintenance equipment access to stormwater practices, which will be shown on the revised SWPPP-related drawings.

p. ***Absolutely no recycled material shall be permitted onsite. Only earthen material or natural stone is permitted to be used as fill. Strike all notes regarding recycled material.***

i. ***Applicant shall clarify how much fill is proposed to be brought to the site. All fill shall be tested in accordance with NYSDEC rules and regulations and shall be certified as unrestricted for residential use, certified by a professional engineer prior to importation on site.***

Response: A note has been added to the revised General Notes Drawing No. 2.

Please note that under separate correspondence the Town's Consultant Engineer will complete review of the SWPPP and issue additional comments.

11. ***Details missing include racking and battery details, foundations, site access details, footings, foundations, pad slab, fire access gate (knox box), etc.... Provide details for all site features shown and indicated on the plans.***

a. ***The plans shall only include details of the limited use pervious access road proposed for construction. Temporary erosion controls, sediment traps, haul roads, etc... shall be provided on a revised plan.***

Response: The Details Drawings Nos. 10, 11, 12, and 13 have been revised with additional details. The limited use pervious access road is proposed for use only for operations, not construction.

12. ***A maintenance and protection of traffic plan shall be submitted and included in this plan set. Applicant shall note direction of proposed delivery and service to the site. Flag persons, barricades, signage, etc... shall be provided. The Engineer of record shall verify that heavy vehicles can traverse and enter the site from Red Mill Road and Mill Court without blocking or delaying vehicular movement at these locations.***

Response: New plan set Drawings Nos. 1, 2, and 3 in Attachment 2 of Exhibit EE have been prepared to address this comment.

13. ***Provide photometric analysis for the site. At minimum provide for access areas and equipment stations.***

Response: This Project will have no lighting, so this requirement is not applicable.

14. ***Provide a copy of the Con Edison interconnection approval. Hard copy and digital.***

Response: CESIR Study Results" and "MC-527777 Appendix A (Standard Contract) – Executed" provided as Exhibit DD.

15. ***Add the following notes to the site plan:***

a. ***Prior to the commencement of any tree clearing or construction activity, the Applicant shall submit a clearing and grading stake-out sketch prepared by a licensed professional land surveyor. Once prepared a pre-construction meeting and site walkthrough shall be coordinated with the Department of Technical Services.***

Response: This note has been added to the revised Site Plan Drawing No. 4.

b. ***Applicant is advised that prior to the issuance of a building permit all details for foundations and racking design, electrical components, underground transmission must be submitted by a licensed professional engineer. Details noted as preliminary on the plans will be considered "Deferred Design" by this department.***

Response: A note to this effect has been added to the revised Site Plan Drawing No. 4.

c. ***All electrical utilities proposed for installation shall be located underground.***

Response: This note has been added to the revised Site Plan Drawing No. 4.

d. ***A highway work permit shall be filed and obtained through the Town's Department of Environmental Services (DES) prior to the issuance of a building permit. Any revisions to the maintenance and protection of traffic plan must be approved in writing by the Directors of DES and DOTS or their respective designee.***

Response: This note has been added to the revised Site Plan Drawing No. 4.

e. ***No recycled material shall be brought to the site without prior NYC DEP and Town of Cortlandt written acknowledgement.***

Response: This note has been added to the revised Site Plan Drawing No. 4.

f. ***Prior to the issuance of a certificate of occupancy / compliance, the designer of record shall provide a signed and sealed letter addressed to "Whom it May Concern", stating that there is no adverse impact to adjacent or adjoining neighbors as it pertains to storm water runoff associated with these construction activities.***

Response: This note has been added to the revised Site Plan Drawing No. 4.

g. ***Prior to the issuance of a certificate of occupancy / compliance an as-built survey shall be submitted. The as-built survey shall include a centerline profile of the fire apparatus access road as constructed. The engineer of record shall certify that the grades as constructed are in conformance to the approved plans on file with the Town.***

Response: This note has been added to the revised Site Plan Drawing No. 4.

h. ***Prior to the issuance of a certificate of occupancy / compliance the design professional of record shall submit certification that all storm water best management practices, landscaping and wetland mitigation measures have been installed in general conformance to the approved plans on file with the Town of Cortlandt.***

Response: This note has been added to the revised Site Plan Drawing No. 4.

i. ***No blasting or rock crushing is permitted at this location without prior written approval by the Town of Cortlandt.***

Response: This note has been added to the revised Site Plan Drawing No. 4.

HVEA Comments:

1. ***It appears there is some disconnect between the body of the report and the NOI. It would be good to include a more detailed discussion of the process by which the project***

was categorized, as well as what the post-construction stormwater requirements were found to be. The solar panel configuration does not meet the criteria that would classify it as a disconnected rooftop/surface and therefore the 15 acre area should be considered impervious. Water quantity and quality controls should be designed for this area.

Response: Acknowledged and a more detailed discussion of the categorization process will be included in the revised SWPPP. As noted in the attached Stormwater Analysis and Design Memo (Exhibit X), modeling of stormwater flow and sizing of post-construction stormwater practices will be revised following a meeting between NYSDEC, the Town, CVE, and TRC.

2. ***Page 3 of the NOI, Question 4: The value for Future Impervious within Disturbed Area is 0.1 acres. The report references that this area is for the concrete electrical equipment pads. However, on Page 9 of the NOI, there is about 15 acres of impervious area shown contributing to the bioretention and dry swale practices. The NOI should account for the 15 acres of impervious in Question 4 and show any reductions or treatment throughout the document.***

Response: As noted in the attached Stormwater Analysis and Design Memo (Exhibit X), modeling of stormwater flow and sizing of post-construction stormwater practices will be revised following a meeting between NYSDEC, the Town, CVE, and TRC.

3. ***Looking at the set of plans and the post-construction subcatchment plan in the SWPPP, it seems that the solar panels are being categorized as impervious, as they do not meet all of the criteria listed in the DEC Solar Panel Construction Stormwater Permitting Memo (in Appendix D of the SWPPP). The March 2021 plans show a configuration that appears to be perpendicular to the contours. It is my understanding that the panel configuration does not meet items 3, 5, or 6 as outlined in the memo, and therefore the area would be considered impervious and require both stormwater quality and control measures. The report should specifically reference these items and the DEC memo when outlining the project description and water quality/quantity requirements. The report should clarify that the solar panel configuration is being considered an impervious area as a result of this.***

Response: As noted in the attached Stormwater Analysis and Design Memo (Exhibit X), modeling of stormwater flow and sizing of post-construction stormwater practices will be revised following a meeting between NYSDEC, the Town, CVE, and TRC.

4. ***The report references using porous pavement as a runoff reduction technique. The plans call out the access road as a pervious road, and the details seem to meet the porous pavement guidelines outlined in the NYSDEC Stormwater Management Design manual and has been accepted by NYSDEC shown in Appendix D. It is also stated in the report that this porous pavement will replace what would have been an impervious gravel road. The NOI does not take credit for porous pavement on page 9.***

Response: The NOI will be revised following the remodel and sizing of post-construction stormwater practices.

5. ***Is the swale leading to the bioretention basin a dry swale or vegetated swale for pretreatment? It seems as if it may be modeled the same way as the dry swale in HydroCAD, but there is no callout on the site plan.***

Response: As noted in the attached memo (Exhibit X), modeling of stormwater flow, sizing of post-construction stormwater practices, and the SWPPP will be revised following a meeting between NYSDEC, the Town, CVE, and TRC.

6. ***The initial Water Quality Volume calculation does not account for the impervious area provided by the solar panels.***

Response: As noted in the attached Stormwater Analysis and Design Memo (Exhibit X), modeling of stormwater flow and sizing of post-construction stormwater practices will be revised following a meeting between NYSDEC, the Town, CVE, and TRC.

7. ***ESC Plan- 12" Compost Filter Socks are called out to be installed along the contour line, but the plan shows them perpendicular to contours.***

Response: The compost filter sock will be installed as shown on the plan and the text will be revised to reflect as part of the revised SWPPP.

8. ***The Applicant may consider adding additional trees, shrubs, and herbaceous plants at the boundary of the site disturbance between the panel area and the wetland area. A mix of these plants could be used to transition the newly disturbed and then stabilized site area to the wetland area. The Applicant may consider using facultative upland plants in this transitional area to help protect the wetland as well as enhance the buffer.***

Response: TRC has updated the Landscaping Plan to include additional plantings in this area as recommended. A total of 15 evergreen trees, 11 deciduous trees, 26 ornamental trees, and 108 shrubs have been proposed in this area. Additional plantings include:

- (51) Red chokeberry
- (35) Winterberry
- (22) Witch hazel
- (10) Northern white cedar
- (10) Serviceberry
- (2) Balsam fir
- (4) Red oak
- (16) Flowering dogwood
- (4) Black gum

- (3) American holly
- (3) Sugar maple

Should you have any additional questions, please do not hesitate to contact me. Otherwise, we look forward to appearing before the Planning Board at its August 31, 2021 meeting.

Very truly yours,

Jared C. Lusk

JCL/mkv
Enclosures

cc: Carson Weinand
Steven Meersma
Laura Lefebvre
Cristina Tapia
Ali Yildiz

TAB W

TRC

1430 Broadway, 10th Floor
New York, NY 10018

T 212.221.7822
TRCcompanies.com

MEMORANDUM

To: Chris Kehoe, AICP, Deputy Director, DOTS, Planning, Town of Cortlandt

From: Laura Lefebvre and Matt Regan, TRC

Subject: Response to Trees and Wildlife-Related Comments
CVE North America - Cortlandt Mill Solar Farm
PB-2020-9

Date: August 17, 2021

CC: Carson Weinand, CVE North America
Steven Meersma, TRC

On behalf of the CVE North America Cortlandt Mill Solar Farm project, TRC is providing this memorandum to address tree and wildlife-related comments received during the public hearing.

The memorandum is based on TRC wetland scientists and ecologists' numerous Site visits and assessments for the Project, and the Town of Cortlandt's biodiversity peer reviewer, Weston & Sampson.

Forest Condition

The Project Site is within the Hudson Highlands, which is a significant biodiversity area of the Hudson River Estuary corridor. However, the Project Site is located close to the southern boundary of the Hudson Highlands, where there is greater development and therefore, is not representative of the rest of the Hudson Highlands.

A forest condition index was developed by the Hudson River Estuary Program to assess the condition, connectivity, stress, and ecosystem value of forest patches at least 100 acres in size. The Project Site is part of a 164.29-acre forest patch with a forest condition index of 47.5 out of a maximum 228 points. This forest condition index for the Project Site is in the bottom 2.5 percentile of the Hudson Valley. The forest condition index is broken into sub-indexes that measure fragmentation, connectivity, habitat and ecosystem value, and carbon sequestration. The 164.29-forest patch had a fragmentation score of 4 out of a possible 12 and connectivity score of 8 out of a possible 48. These low fragmentation and connectivity scores are due to the surrounding development, as demonstrated by the developed land uses in its immediate vicinity.

Core forests are defined as interior forest areas at least 100 meters from the edge of an unfragmented forest patch that is at least 100 acres. Approximately 49 percent (21.02 acres) of the Project Site is part of a 57.97-acre core forest.

The forest condition index is a tool to provide the Town of Cortlandt with a context when making land-use planning decisions. The low forest condition index indicates that while the Project Site is part of a 164.29-acre forest patch with a 57.95-acre core forest, it has limited connectivity with other large forest patches and has experienced environmental stressors from surrounding development, as demonstrated by the developed land uses in its immediate vicinity.

According to the Town of Cortlandt's tree consultant, Bartlett Tree Experts, the majority of trees at the Project Site are on the "very young side." Furthermore, Bartlett Tree Experts remarked that the Project was cleared at some point in the "not too distant past." The lack of invasive species at the Project Site may have been due to deer. According to Bartlett Tree Experts, "[t]here are few understory trees as the deer have eaten almost everything."

Based on the information provided by Bartlett Tree Experts, the forest at the Project Site meets the criteria for young woods habitat according to the *Biodiversity Assessment Manual for the Hudson River Estuary Corridor* (Kiviat and Stevens, 2005). The *Biodiversity Assessment Manual for the Hudson River Estuary Corridor* does not provide any conservation or management recommendations for young woods, and states that "[y]oung woods is a very common habitat, and usually does not support rare species" (Kiviat and Stevens, 2005). The young woods habitat at the Project Site corresponds to successional southern hardwoods as defined in *Ecological Communities of New York State* (second edition) (Edinger et al., 2014). Successional southern hardwoods have a rarity and vulnerability rank of secure, both on the global and state level (Edinger et al., 2014). Secure communities, such as the successional southern hardwoods at the Project Site, are at very low risk of extinction or elimination due to extensive ranges, abundant populations, and have little to no concern from declines.

Based on the low forest condition index and classification as young woods, the forest community at the Project Site does not represent a high quality or rare forest community. The Project is not impacting a high quality or rare forest community.

Tree Clearing

It is estimated that 3,347 trees (with an estimate of 2,370 trees in good condition) will be removed from the Project Site. Approximately 14.7 percent (8.5 acres) of the 57.97-acre core forest at the Project Site will be cleared for the solar array and associated facilities. This tree clearing will result in a conversion of 27.1 percent (15.69 acres) of the existing 57.97-acre core forest to edge forest, defined as forested land within 100 meters from the edge of a forest (Conley et al., 2019).

The Project will affect less than 0.06 percent of the 32,195 acres of forest habitat within 5 miles of the Project Site. The Project will affect less than 0.17 percent of the 14,599 acres of core forest habitat within 5 miles of the Project Site.

Tree Reforestation Plan

A tree reforestation plan has been developed in accordance with Chapter 283 of the Town Code of Cortlandt. A reforestation plan shall conform to the following minimum standards:

- Shade and/or decorative trees shall be planted at minimum ratio of at least 1 tree per 1,000 square feet of lot area or major fraction thereof.

- In determining the number of replacement trees to be planted, the Planning Board and Town Arborist shall consider the size, genus, and cultivar of the trees that are proposed to be removed. Each protected tree that is to be removed shall be replaced by at least 1.5 times the number (rounded up) of the same trees as removed.
- On slopes of 25% or greater, two trees shall be planted for each tree which is to be removed.

TRC has estimated that 1,120 trees will need to be replanted. The Bartlett Tree Experts report, dated November 2, 2020, states "[t]here was only one tree on the Protected Species list and it was a small 4-inch Dogwood, which is listed as 'vulnerable,' but the tree is not in great condition." TRC has proposed flowering dogwood (*Cornus florida*) in the revised planting schedule and over one dozen plantings of this species are being proposed to help mitigate the removal of the existing flowering dogwood identified in the tree survey.

The proposed trees shall be planted during appropriate timeframes and stages throughout the construction of the Project so that the reforestation efforts are completed simultaneously with the installation of the solar panels to the best extent possible.

The proposed landscaping plan includes planting of 688 new native and pollinator-friendly evergreen and deciduous trees and shrubs. The requirements put forth allow for credit to be taken for plantings of certain heights and sizes that are proposed to be planted within the Project Site. In this instance, a total tree credit of 367 trees was calculated using the formulas allotted. An additional 80 trees used for mitigating views from adjacent landowners were added to the tree credit. Once the tree credit is applied, the remaining 673 trees will be compensated by CVE's contribution to the Town of Cortlandt's Tree Fund.

Additionally, the remaining 673 trees will be planted at the Project Site after decommissioning in the area where the solar array system was sited and removed. The tree species to be planted after decommissioning will be similar to the original species at the Project Site prior to construction. The tree inventory prepared by Bartlett Tree Experts will be referenced to ensure that the proper tree species are procured and installed, to the best extent possible, in the same locations as that of the original tree species that existed at the Project Site prior to construction. Any remaining trees that cannot be planted due to spacing, availability, layout limitations, or any other reasonable restrictions will be accounted for via an in-lieu fee payment to compensate for any remaining deficiencies in tree quantity totals required.

Wetlands and Stormwater

The Project's limit of disturbance has been sited at least 100 feet from the wetlands delineated at the Project Site. There will be no tree-clearing within 100 feet of the wetlands at the Project Site. A forested upland buffer will remain at least 100 feet from the delineated wetlands at the Project Site. All wetland and stream resources will be avoided, therefore, no impacts to these communities are anticipated. A Stormwater Pollution Prevention Plan (SWPPP) will be developed incorporating NYSDEC's Best Management Practices (BMPs) as identified in the most current

version of New York State's Standards and Specifications for Erosion and Sediment Control, to mitigate for potential pollutants from construction-related erosion and sedimentation.

The pervious access roads will allow rainfall to percolate through the road to recharge groundwater, sheet flow will pass through to maintain natural water flow, and sediment and nutrient removal capacity will be maintained, allowing suspended sediment to settle out of the water column.

An herbaceous layer of vegetation will remain underneath the panels, between the panel rows, and the general surrounding area. Therefore, solar projects do not create the same impervious cover that other types of development do, such as parking lots and buildings. The minimal impervious features associated with solar projects are mitigated with post-construction stormwater design features such as infiltration trenches. The impervious features, such as equipment pads, are taken into account when designing the Project and stormwater control as to avoid altering surrounding wetland hydrology.

Native plant species will be used for planting under and around the arrays, which will prevent the introduction of exotic/invasive species. BMPs from the SWPPP will also limit the spread of invasive species. The Project will not result in a major increase in impervious features and these features are taken into account when modeling the water runoff and designing the SWPPP. Stormwater will flow off panels and drain to the ground as normal.

Impacts to Wildlife

Impacts to wildlife habitat will include the establishment of a 9.06-acre solar array within a 16.0-acre fenced area; the conversion of 18.57 acres of forest, including 8.50 acres of core forest, to a meadow; and the establishment of 0.12 acres of impervious surfaces from the equipment pads.

Construction and occasional maintenance (e.g., mowing) of the proposed Project may result in some limited unavoidable impacts to wildlife. Direct impacts of the proposed Project on wildlife resources could include the following:

- Incidental injury and mortality due to construction activity and vehicle movements,
- Minor temporary habitat disturbance during construction, and
- Temporary disturbance of wildlife due to increased noise and human activity during construction.

Incidental injury and mortality should be limited to sedentary and slow-moving species that are unable to relocate from disturbed areas during construction/maintenance. More mobile species should be able to vacate the areas that will be disturbed. Direct loss of reptiles and amphibians will also be minimized by avoiding impacts to streams and wetlands. It is likely that upland species using the area, such as forest mammals and forest birds, have the greatest potential to be impacted.

No operation impacts on wildlife are expected. Although the glass surfaces of solar photovoltaic (PV) systems can produce glint and glare, the panels are designed for light absorption, rather than reflection. Modern PV panels reflect as little as 2 percent of incoming sunlight, about the

same as water and less than soil or wood shingles (Meister Consultants Group, 2014). Therefore, glare is not expected to adversely impact wildlife. The noise-producing elements for the Project are inverters, transformers, and battery storage units. The inverters will only produce noise during daily hours when the panels are generating electricity. The transformers and battery storage units may continue to produce sound during nighttime hours. Based on the assumed background sound level of 45 A-weighted decibels (dBA), estimated Project noise levels will not increase background sound levels at nearby residential receivers more than 4 dBA. These noise impacts follow the NYSDEC's guidance in Assessing and Mitigation Noise Impacts (NYSDEC, 2001), and therefore, noise is not expected to adversely impact wildlife.

This Project will include a wildlife-friendly chain-link perimeter fence to discourage trespassing and access of large animals onto the Project. The perimeter fence will have a 6-inch gap off the ground to allow smaller animals to pass through the Project and inhabit the facility following construction. Large animals will still have access to the remaining portion of the Project Site not enclosed by the perimeter fence.

Based on review of the NYSDEC Environmental Resource Mapper, there were no occurrences of state-listed rare, threatened, or endangered species within the Project Site or its immediate vicinity. Correspondence with the New York Natural Heritage Program on January 28, 2020, indicated there were no records of state-listed rare, threatened, or endangered species within the Project Site or its immediate vicinity.

The United States Fish and Wildlife Service (USFWS) Information for Planning and Consultation (IPaC) system provides a list of federally listed species that may be present in the vicinity of the Project Site. IPaC system does not provide locations or distances to occurrences of federally listed species. The USFWS IPaC only tells if the Project Site is within the known range or critical habitat of federally listed species. The USFWS IPaC species list was generated for the entire 43.12-acre Project Site consisting of one 38.67-acre parcel west of Lexington Avenue (Parcel ID: 13.18-2-2.4) and a second 4.45-acre parcel off Red Mill Road (Parcel ID: 13.14-5-25). The USFWS identified the following two species as potentially occurring in the vicinity of the Project:

- Bog turtle – Federally listed threatened and state-listed endangered species; and
- Indiana Bat – Federally and state-listed endangered species.

TRC biologists conducted a Phase 1 Bog Turtle Habitat Survey at the Project Site on March 22, 2021. TRC biologists followed the protocol specified in the USFWS's *Guidelines for Bog Turtle Surveys For the Northern Population Range - Phase 1 and 2 Surveys* (Revised October 26, 2018) (Guidelines) for a Phase 1 habitat survey. According to the USFWS's Guidelines, a Phase 1 habitat survey can be performed any month of the year, except when snow, ice cover, or drought and/or flooding conditions are present. There was no snow or ice cover at the Project Site, and the drought index, according to the National Integrated Drought Information System, was "None." There were no flooding conditions at the Project Site during the Phase 1 habitat survey. Air temperature was 50° F at the time of the Phase 1 habitat survey on March 22, 2021. Based on information provided by greencastonline.com, soil temperature for 0 – 4 inches deep was 46° F on March 22, 2021. Based on the nearest water temperature station information provided by the

United States Geological Survey for the Hudson River at Poughkeepsie, New York, water temperature was 38° F on March 22, 2021. While the weather conditions at the time of the Phase 1 habitat survey on March 22, 2021, may not have been ideal for bog turtles to emerge for hibernation, the purpose of the Phase 1 habitat survey is to identify potential habitat of bog turtles and not their presence or absence.

No bog turtles were observed during the Phase 1 habitat survey conducted on March 22, 2021. Potential bog turtle habitat was identified in the wetland at the Project Site; however, this potential bog turtle habitat was deemed low to very low quality based on the surrounding dense canopy coverage. The Town of Cortlandt's environmental consultant, Weston & Sampson, reviewed the potential bog turtle habitat area during the biodiversity assessment. Weston & Sampson determined that the potential bog turtle habitat at the Project Site had extremely low habitat suitability. Weston & Sampson also noted there had been no existing populations of bog turtles observed in Westchester County within the past 30 years.

The results of the Phase 1 habitat survey were submitted to the USFWS on April 21, 2021. The USFWS's response received on May 18, 2021, indicated that "take" of bog turtle is not reasonable to occur.

The USFWS's response received on May 18, 2021, requested more information in order to evaluate the potential impacts to Indiana bat roosting and/or foraging habitat. The USFWS recommended bat presence/absence surveys be conducted at the Project Site. A study plan for a bat acoustic survey in accordance with the USFWS's *Range-Wide Indiana Bat Survey Guidelines* was submitted to USFWS on July 28, 2021, and approved by the USFWS on July 30, 2021. The bat acoustic survey was performed on August 5 – 9, 2021. Data from the bat acoustic survey is currently being processed and results will be submitted to USFWS as soon as available. Tree clearing will be performed between October 1 and March 31 to avoid "take" of Indiana bat and the USFWS agreed that lethal impacts are unlikely.

A box turtle was found within the vicinity of the delineated wetland during the biodiversity Site visit with biologists from TRC and Weston & Sampson, on May 27, 2021. Weston & Sampson recommended protective measures for box turtles. Two separate rows of silt fence will be installed as an added barrier to reduce the opportunity for turtles from potentially entering the construction area. All construction workers and others employed on Site will be trained to identify box turtles by a certified turtle biologist prior to any ground disturbance. The double row of silt fence will be installed to prevent turtles from entering the limits of disturbance during the construction period. If the fence is installed after April 1, a qualified turtle biologist will be on Site to monitor for bog turtles and observe proper installation of the fence. The fence will be secured at the base with at least 8 inches of fence material covered with soil backfill. If a turtle is seen on the construction Site, all work will immediately stop in the area where the turtle is found. No machinery or vehicles will operate in the area until the turtle is cleared.

If turtles are identified on Site, contractors and Site construction personnel will not touch or try to move turtles. Only a trained, experienced, and licensed turtle monitor will handle turtles. Any turtle sighting will be reported to the Project Manager and the qualified turtle biologist immediately. The double row of silt fence will be inspected daily to make sure that siltation has not built up to create

a ramp; that nothing has fallen over the fence; and that it does not require repair. Repairs will be conducted as needed during construction of the facility. Vegetation technicians in charge of mowing and other maintenance will ensure no turtles are in the area during mowing. The height of the mower will be adjusted to avoid impacting turtles.

Biodiversity Enhancement Plan

The overall reforestation and biodiversity enhancement plan is to provide a planting scheme throughout the Project Site using plant species that are native or indigenous to the area, pollinator friendly, and wildlife friendly. The landscaping plan proposes pollinator-friendly tree and shrub plantings that will benefit existing wildlife and increase biodiversity at the Project Site.

A low-growing perennial seed mix composed of native/indigenous warm and cool season grasses, red and white clover (*Trifolium repens* and *T. pratense*), and other pollinator-friendly plant species, will be sown throughout most of the solar array.

Additionally, a native pollinator-friendly seed mix ground cover is intended to be sown wherever possible in areas where mowing is not needed in select locations that will allow pollinator-friendly flower species to develop to the best extent possible.

The pollinator-friendly seed mix will benefit a number of bees, butterflies, beetles, flies, and hummingbirds. The conversion of the forest to a meadow may provide habitat for grassland-breeding birds including bobolinks (*Dolichonyx oryzivorus*), eastern meadowlarks (*Sturnella magna*), and savannah sparrows (*Passerculus sandwichensis*).

While not yet well studied, it stands to reason that solar arrays can create a variety of microhabitats capable of promoting biomass at multiple stages along the food-chain. Solar panels absorb heat, and in the winter, the panels influence snow accumulation patterns and can provide "snow shadows" offering rare refugia from deep snow. The mixture of sunny/shaded areas across a solar farm promotes a diversity of plants, which ultimately encourages the proliferation of insects, amphibians, reptiles, small mammals, and birds such as grassland-breeding birds.

Wildlife species observed on Site during the 2005 biodiversity assessment that could use the meadow habitat in the solar array include:

- Eastern cottontail (*Sylvilagus floridanus*);
- Striped skunk (*Mephitis mephitis*);
- White-footed mouse (*Peromyscus leucopus*);
- Woodchuck (*Marmota monax*);
- Short-tail shrew (*Blarina brevicauda*);
- Eastern garter snake (*Thamnophis sirtalis sirtalis*);
- Eastern American toad (*Bufo americanus americanus*);
- Northern ringneck snake (*Diadophis punctatus edwardsii*);
- Northern spring peeper (*Pseudocris crucifer crucifer*);
- American crow (*Corvus brachyrhynchos*);
- American goldfinch (*Carduelis tristis*);
- Brown-headed cowbird (*Molothrus ater*);

- Killdeer (*Charadrius vociferus*);
- Red-winged blackbird (*Agelaius phoeniceus*); and
- Song sparrow (*Milospiza melodia*).

In addition to the pollinator-friendly seed mix, other BMPs to be implemented to promote the continued use of wildlife at the Project Site include:

- Tree clearing to occur between October 1 and March 31 to avoid impacts to potentially roosting bats.
- Using felled trees to construct wildlife habitat piles strategically located in designated areas;
- Wildlife-friendly chain-link fencing with a 6-inch gap off the ground to allow small wildlife species to pass through the solar array;
- A variety of pollinator-friendly (woody-type and perennial) plantings in the laydown area after construction of the Project is complete;
- Bird boxes and nest boxes throughout the Project Site; and
- Allowing early succession to occur wherever possible throughout the Project Site.

As mentioned above, a double row of silt fence will be installed to prevent turtles from entering the limit of disturbance during the construction period. After construction is complete, the silt fence will be removed, and amphibian and reptile populations will again be able to travel between wetlands and uplands. The wildlife-friendly chain-link fencing with a 6-inch gap off the ground will allow species that lay eggs in wetlands and live in wetlands, to pass between the wetlands and solar array. Therefore, passage will only be restricted for a short period of time for the duration of construction (approximately 6 months).

The 2005 biodiversity assessment study performed by Stephen Coleman of Environmental Consulting, LLC identified a single vernal pool indicator species, a wood frog, using a pond behind the apartment complex off Lexington Avenue. This pond is not located on the Project Site; therefore, it will not be affected by the Project. TRC biologists performed a vernal pool survey on March 22, 2021, and no vernal pools were identified. TRC and Weston & Sampson biologists observed a wood frog during the Site visit on May 27, 2021, within the vicinity of the delineated wetland on Site. Weston & Sampson confirmed there were no vernal pools on Site.

Conclusion

Finally, Weston & Sampson's peer review memorandum to the Planning Board dated June 1, 2021, concluded that "***there is relatively low to moderate overall species diversity within the project area. The project will not significantly impact rare ecological communities or species identified at this time.***" Weston & Sampson recommended an exclusion fence for turtles and tree clearing be conducted between October 31 and March 31. TRC will comply with Weston & Sampson's recommendations.

Compared to the previously proposed and approved residential development at Mill Court Crossing, this Project will have less impervious cover and provide more wildlife habitat.

If you have questions or would like to discuss this information further, please feel free to contact Laura Lefebvre at 512.745.0649 or llefebvre@trccompanies.com.

Sincerely,

Laura Lefebvre, PE

Matt Regan, PWS

Tab X

TRC

1430 Broadway, 10th Floor
New York, NY 10018

T 212.221.7822
TRCcompanies.com

Memorandum

To:	Town of Cortlandt Planning Board
From:	Steve Meersma and Kirsten Myers TRC
Subject:	Stormwater Analysis and Design Memo
Date:	August 16, 2021

Introduction

This Stormwater Analysis and Design Memo is presented in response to the Town's review of the Stormwater Pollution Prevention Plan (SWPPP) and site plan design drawings submitted on June 21, 2021. As required by the Town, TRC has provided existing conditions of the Site to the NYSDEC and a breakdown of the work to be conducted to prepare the Site, install the solar array and Site features, and to restore the Site. A meeting is anticipated between the Town, NYSDEC, CVE, and TRC to discuss the proposed project and associated mitigation related to the spacing of the solar panels, final grading of the Site, construction soil erosion and sediment control (SE&SC) best management practices (BMPs), and post-construction stormwater practices. The stormwater modeling will be revised following concurrence of the parties related to these items. The post-construction stormwater practices and pre-treatment will be sized in accordance with the NYSDEC Stormwater Management Design Manual. The SWPPP and appendices will be revised and submitted to the Town for review and approval.

In response to the comments received on the June 21, 2021 submittal, TRC provides the following clarifications for the during construction and post-construction stormwater management.

During Construction Stormwater Management

At the onset of the project, a gravel tracking pad will be installed at the interface of Mill Court and the Site to prevent tracking of sediment into the neighborhood. Parking of personal vehicles will be at a parking lot outside the neighborhood to reduce traffic impacts through the subdivision. After consultation with the chosen contractor, a maximum of 5 acres will be disturbed at any one time and a waiver to disturb more than 5 acres will not be requested. SE&SC BMPs will be installed concurrently with clearing operations. Inspections will be conducted by the contractor in accordance with the NYSDEC General Permit and all deficiencies noted must be corrected immediately. Deficiencies requiring immediate attention not only include the repair and/or replacement of installed BMPs but also the installation of new BMPs to correct unanticipated conditions. These inspection reports will be available for inspection by the Town at all times.

Rock-crushing operations and staging will be sited at locations to minimize travel distance. Based on the anticipated amount of rock and limited hours of work, an air permit is not required. At all times during rock-crushing operations and as necessary during the construction of the solar array, water will be applied to prevent the production of nuisance dust.

Post-Construction Stormwater Management

Prior to seeding, disturbed soils will be decompacted and amendments will be added to expedite germination and growth of the meadow seed mix. SE&SC BMPs will be maintained until vegetative cover with a density of 80% over the entire area in accordance with the NYSDEC General Permit. This will allow sufficient root growth to facilitate infiltration of stormwater and reduce runoff. Post-construction devices within the array consisting of gravel-filled level spreaders, diversion dikes, and flow diffusers to achieve sheet flow to reduce the velocity of stormwater, allow additional infiltration time, and decrease the volume of runoff. Additional post-construction pre-treatment and practices will be sized based on updated modeling to treat the required water quality and runoff reduction volumes.

An operation and maintenance manual is included in the SWPPP and documents the required inspections and upkeep of the post-construction stormwater practices. Inspections and maintenance will be conducted throughout the Site's life. A bond agreement with the Town to provide financial surety in the event of damage to surrounding properties and/or wetlands.

Tab Y

Alternatives Report

August 2021

CVE North America

Proposed Cortlandt Mill Solar Farm

Cortlandt, Westchester County, New York

Prepared For:

CVE North America
Changing Visions of Energy

Prepared By:

TRC

TABLE OF CONTENTS

Tables

Appendices

1.0 Introduction

At the CVE North America's (CVE's) request, TRC has analyzed five alternative configurations of the layout for the proposed Cortlandt Mill Solar Farm for regulatory and environmental factors. The following sections describe the configurations considered and the results of comparison.

2.0 Factors Compared

The configurations considered have significant similarities and thus nearly identical impacts to environmental factors. The considered alternatives were designed to avoid impacts to wetlands.

The factors considered in comparing and contrasting the alternatives include:

- System size;
- Area within the limit of disturbance;
- Setback from property boundaries;
- Estimated number of trees expected to be cut (trees include tree species with 4-inch diameter at breast height);
- Estimated number of trees that are of good quality expected to be cut;
- Areas of steep slope; and
- Distance to the closest residences to the north, south, and west of the Project Site. Residences to the east were not compared as all setbacks from the Project to the eastern side of the property are 763 feet or greater, and the properties to the east are unlikely to experience any visual or sound impact from the Project due to distance and intervening topography and vegetation.

3.0 Alternatives Considered

The following sections briefly describe each of the alternatives considered. The alternative concept plans are attached.

3.1 Alternative 1

Alternative 1 was submitted as a conceptual design to the Town in June 2020. This alternative (see Drawing No. 4, Alternative 1) features two arrays of panels separated by a central access drive. The solar arrays have a capacity of approximately 3.0 megawatts alternating current (MWac). The access drive extends through the narrow northern parcel to Red Mill Road. All electrical equipment is located on pads along the section of access drives separating the two arrays.

3.2 Alternative 2

Alternative 2 was submitted as a conceptual design to the Town in March 2021. This alternative (see Drawing No. 4, Alternative 2) features five arrays of panels separated by access drive spurs with a combined capacity of approximately 5.0 MWac. The main access drive runs along the

northern side of the panels and connects to Court Mill. An interconnection line follows the approximate path of the access road and leads to an interconnection point on Red Mill Road. All the electrical equipment is positioned on concrete pads to the north of the solar arrays.

3.3 Alternative 3 (preferred currently proposed)

Alternative 3 is the configuration that is currently proposed for the layout of the Project and was submitted to the Town in June 2021. Alternative 3 (see Drawing No. 4, Alternative 3) represents only minor adjustment to Alternative 2. The position of the center line of a dry swale to the northwest of the panels has been altered and there has been a minor adjustment to the fenceline in the northwest corner of the Project. This is CVE's preferred alternative providing sufficient area to allow for target system size and AC/DC ratio.

3.4 Alternative 4

Alternative 4 has not yet been submitted to the Town and was specifically requested in comments from the Town. As shown on Drawing No. 1, Alternative 4, panels and electrical equipment are position in a similar manner to Alternatives 2 and 3 with five arrays of panels separated by drive spurs and electrical equipment to the north. The arrays' size been reduced so that the Project has a minimum 200-foot setback from the property boundary in each direction.

3.5 Alternative 5

Alternative 5 has not yet been submitted to the Town. As shown on Drawing No. 1, Alternative 5, the panels and electrical equipment are positioned in a similar manner to Alternatives 2 and 3 with five arrays of panels separated by drive spurs and electrical equipment to the north. The arrays have been reduced in area and re-positioned so that the Project has a 250-foot setback from the northern boundary of the property and 150-foot setback from the southern boundary.

3.6 Alternative Outputs

Alternative 1 has an energy output of 3.0 MWac. All other alternatives have a greater output despite having smaller limits of disturbance. This increase in output was accomplished by adjusting the azimuthal orientation of the panels to make better use of the reduced limit of disturbance and using 430-watt panels, which have become more prevalent since June 2020, instead of 400-watt panels.

4.0 Findings

With the exception of visual impacts, the comparison for the five alternatives is summarized in Table 1 below. To understand the visual impacts of the Project, CVE commissioned a Visual Assessment Report (VAR), revised in June 2021, and a Line-of-Sight (LOS) Analysis, completed in August 2021. These reports were written for the current proposed configuration of the Project (Alternative 3) and comparisons to other Alternatives can only be made qualitatively.

The viewshed analysis, which identifies areas of potential areas that may have views of the Project, was created for a 2-mile radius around the Project. The viewshed assumes ideal atmospheric conditions for viewing and only indicates if there is the possibility that the Project can

be seen. The viewshed does convey information about how much or what portions of the Project are visible. Due to terrain, buildings, and vegetation, the Project has limited potential visibility within the 2-mile study area. The viewshed analysis indicates an area of potential visibility in the following locations:

- Directly north of the Project Site near the end of Mill Court;
- To the northwest of the Project Site on Piano Mountain;
- To the northwest of the Project Site near Tanglewylde Road, west of Lake Peekskill; and
- On the west slope of Jones Hill between Lake Mohegan and Mohegan Highlands Park.

The alternatives represent only small adjustments to the size and location of the Project components and are unlikely to change the areas of potential visibility that are further from the Project Site. There may be a decrease in the size of the area with potential views of the Project from Mill Court for Alternatives 5 due to the increased thickness of the vegetative barrier between Mill Court and the north side of the Project.

The VAR also included photo-simulations for 13 locations around the Project Site with approximately half depicting areas during leaf-on conditions and half showing areas during leaf-off conditions. With the exception of the access drive, no views of Project components are expected during leaf-on conditions. Photo-simulations show potential views of the landscape plantings, the fenceline, and limited views of panels and other electrical equipment during leaf-off conditions. As landscape plantings mature, they will further obscure views of the Project components.

Alternative 4 may have some reduced visibility of the Project from the west and south sides and Alternative 5 from the north, west, and south sides, where the thickness of the vegetative barrier is increased as compared to Alternative 3.

The LOS provides an analysis of Project visibility along four cross-sections of the Project. Due to topography, existing vegetation that will be maintained, and proposed landscape plantings, views of Project components will be limited along these LOS cross sections. There may be some reduced visibility from the north and west sides for Alternative 4 and the north, west, and south sides for Alternative 5, where the vegetative barriers are thicker compared to Alternative 3.

Table 1. CVE Cortlandt Mill Solar Farm – Alternatives Analysis							
Alternative	**Setback from Property Boundary (feet)**	**Distance to Closest Habitable Structure (feet)[1]**	**Approximate Limit of Disturbance (LOD) and Fenced-in Area (Acres)**	**Estimated number of Trees to be removed[2] (*estimate in good condition*)**	**Steep Slopes – Area within LOD (acres)**	**System Size**	**Comments**
Alternative 1: *June 2020 Submittal*	N – 215 S – 114.5 E – 772.8 W – 114.5	N – 272 S – 356 W – 378	19.4 (LOD)	3,414 (2,406)	-	3.0 MW AC/4.66 MW DC	Original Filing included access driveway off Red Mill Road.
Alternative 2: *March 2021 Submittal*	N – 202 S – 150 E – 763 W – 110	N – 264 S – 321 W – 377	19.3 (LOD)	3,396 *(2,393)*	15 – 25% - 3.72 25 – 35% - 0.70 >35% - 0.25	5.0 MW AC/4.98 MW	Revised layout and access drive off Red Mill Road eliminated to respond to Town comments.
Alternative 3: *June 2021/Currently proposed*	N – 202 S – 150 E – 763 W – 110	N – 264 S – 321 W – 377	19.0 (LOD) 16.07 (fenced-in area)	3,347 *(2,370)*	15 – 25% - 3.73 25 – 35% - 0.71 >35% - 0.26	5.0 MW AC/4.98 MW	Northwest corner of LOD was reduced to provide a wider buffer to abutting residence.
Alternative 4 200-foot setbacks	N – 200 S – 200 E – 763 W – 200	N – 264 S – 412 W – 477	15.91 (LOD) 14.70 (fenced-in area)	2,800 (1,973)	15 – 25% - 3.17 25 – 35% - 0.56 >35% - 0.20	4.09 MWdc / 5.0 MWac	Layout includes a minimum of 200-foot setback in all directions.
Alternative 5 250-foot/150-foot setbacks	N – 250 S – 150 E – 763 W – 200	N – 311 S – 351 W – 477	16.75 (LOD) 14.75 (fenced-in area)	2,948 (2078)	15 – 25% - 3.28 25 – 35% - 0.61 >35% - 0.25	4.09 MWdc / 5.0 MWac	Layout provides 250-foot setback from the north and 150-foot setback from the south.

[1]East not included as setbacks to east are greater than 763 for all alternatives.

[2]Tree identified as 4 inch or greater diameter at breast height. Per Bartlett Tree Experts report dated November 2, 2020: 70.48% of trees are estimated in good condition. Estimated number of trees per acre: 176 trees.

APPENDIX A

Alternative Site Plans – 1-5

LEGEND

- 418 — PROPOSED CONTOUR (FEET)
- LIMIT OF DISTURBANCE LINE
- 418 — EXISTING MINOR CONTOUR (FEET)
- 420 — EXISTING MAJOR CONTOUR (FEET)
- EXISTING FENCE LINE
- PROPERTY LINE SETBACK (100 FT)
- PROPERTY LINE SETBACK (200 FT)
- PARCEL LINE
- PROPOSED UNDERGROUND ELECTRIC
- WETLAND BUFFER BOUNDARY
- HABITABLE BUILDING SETBACK (200 FT)
- WOOD LIMIT

MAP REFERENCES:

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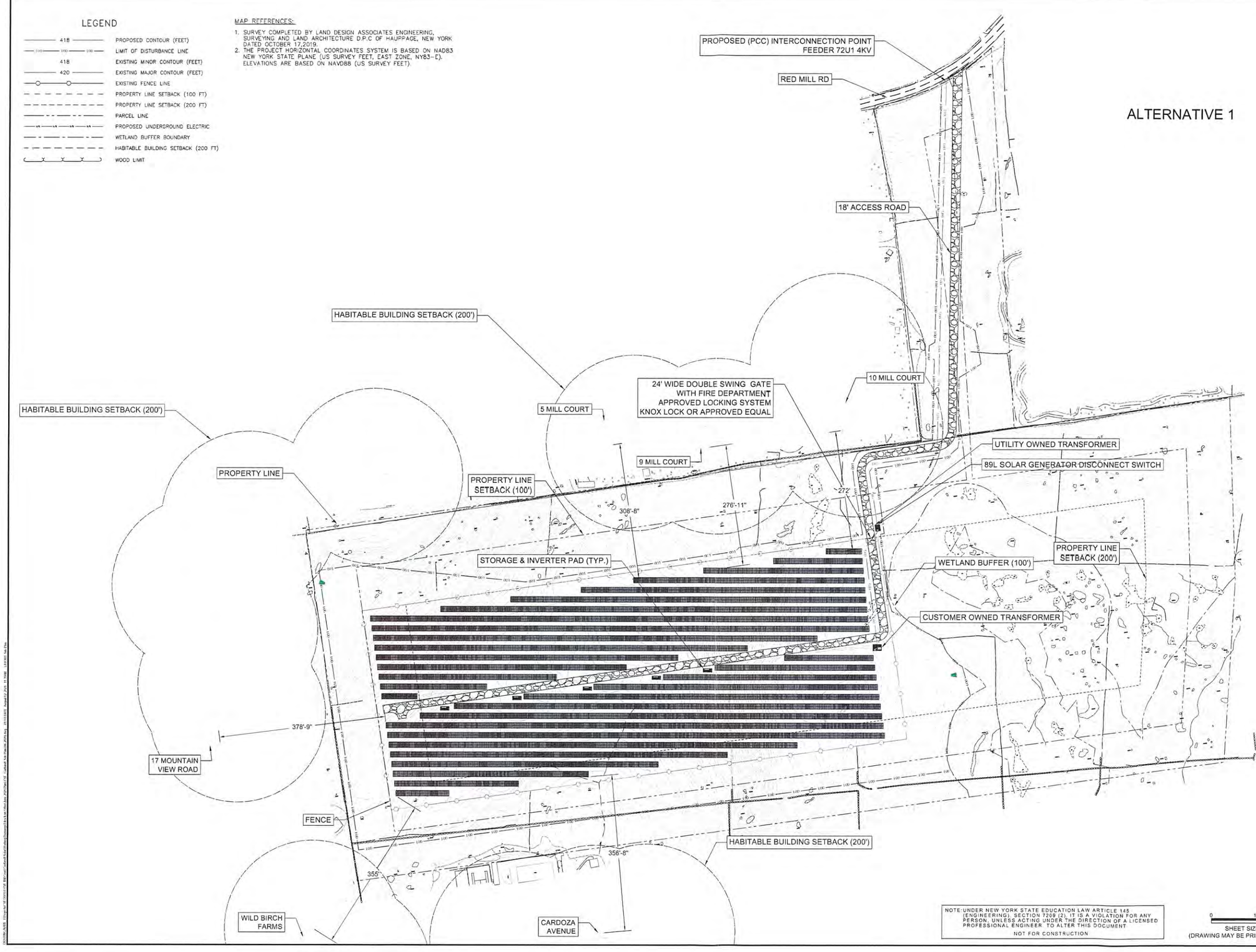
ALTERNATIVE 1



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TRC Project No: 360551.0000.0000

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Changing Visions of Energy

Revisions:	
No.	Date:

Drawn by: R. SANTINI
Design by: R. SANTINI
Checked by: S. MEERSMA

CVE NORTH AMERICA, INC.
CORTLANDT MILL SOLAR FARM
5.0 MW GROUND MOUNT SOLAR SYSTEM
0 MILL COURT
CORTLANDT, NEW YORK 10520

Contract No: 360551
Scale: AS NOTED
Date: JUNE 2020
Sheet: SITE PLAN
Drawing No: 4

LEGEND

418	EXISTING MINOR CONTOUR (FEET)
420	EXISTING MAJOR CONTOUR (FEET)
	PROPOSED FENCE LINE
	PROPERTY LINE SETBACK (100 FT)
	PROPERTY LINE SETBACK (200 FT)
	PARCEL LINE
	PROPOSED UNDERGROUND ELECTRIC
	WETLAND DELINEATION
	100-FOOT NYSDEC ADJACENT AREA
	STREAM
	HABITABLE BUILDING SETBACK (200 FT)
	STONE WALL
	STONE WALL
ROCK	ROCKS
	TREE LINE
	ACCESS DRIVEWAY 7' EQUIPMENT SETBACK
	PERMANENT CHECK DAM
	10' MIN. BRUSH CUT AREA
	20' WIDE ACCESS ROAD
	150' MAX. HOSE PULL DISTANCE
LOD	LIMIT OF DISTURBANCE

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- BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE - ACI 318-14

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Existing Steep Slope Analysis for Areas of Disturbance

Number	Minimum Slope	Maximum Slope	Color	Area (Acres)
1	15.00%	25.00%		3.72
2	25.00%	35.00%		0.70
3	35.00%	Vertical		0.25

ALTERNATIVE 2

STOPPING SIGHT DISTANCE
LINE OF SIGHT
PROPOSED (PCC) INTERCONNECTION POINT FEEDER 72U1 4KV AT EXISTING POLE
UNDERGROUND MANHOLE
DRIVER'S EYE (10' BEHIND EDGE OF TRAVEL LANE)
89L SOLAR GENERATOR DISCONNECT SWITCH RELAY & RECLOSER UTILITY METER ENCLOSURE
HABITABLE BUILDING SETBACK (200')
HABITABLE BUILDING SETBACK (200')
HABITABLE BUILDING SETBACK (200')
APPROXIMATE LOCATION OF EXISTING FIRE HYDRANT
ACCESS DRIVE PROFILE 1 (SEE SHEET 9)
20' WIDE ACCESS DRIVE (TYP.)
ACCESS DRIVE PROFILE 4 (SEE SHEET 9)
PROPERTY LINE
38' RADIUS (TYP.)
PROPERTY LINE SETBACK (200 FEET)
BATTERY STORAGE AND INVERTER UNIT (TYP.)
CUSTOMER-OWNED TRANSFORMER (TYP.)
LIMIT OF DISTURBANCE
WETLAND BOUNDARY
ACCESS DRIVE PROFILE 2 (SEE SHEET 9)
SOLAR ARRAY (TYP.)
100-FOOT NYSDEC ADJACENT AREA
DRY SWALE CENTERLINE (TYP.)
44' x 12" Ø HDPE PIPE 1% SLOPE GRAVEL APRON AS SHOWN ON DETAIL SHEET
35' x 12" Ø HDPE PIPE 1% SLOPE GRAVEL APRON AS SHOWN ON DETAIL SHEET
APPROXIMATE LOCATION OF EXISTING FIRE HYDRANT
STREAM
42' x 12" Ø HDPE PIPE 1% SLOPE GRAVEL APRON AS SHOWN ON DETAIL SHEET
DIAPHRAGM - 12" PERFORATED PIPE WITH GRAVEL SLEEVE (TYP.) TOTAL AREA = 3' X 3'
PROPOSED BIORETENTION AREA WITH 10' WIDE ARMORED GRAVEL WEIR 36" BELOW SURROUNDING GRADE
FENCE
38' RADIUS (TYP.)
10' MIN. BRUSH CUT AREA (TYP.)
ACCESS DRIVE PROFILE 3 (SEE SHEET 9)
PROPERTY LINE SETBACK (100')
HABITABLE BUILDING SETBACK (200')

202'
110'
150'

0 100' 200'
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New York, NY 10018
Phone: 212 221 7822

TRC Project No: 360551.0000.0000

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Revisions:

No.	Date

Drawn by: A. REXROAT
Design by: A. REXROAT
Checked by: S. MEERSMA

CVE NORTH AMERICA, INC.
CORTLANDT MILL SOLAR FARM
5.0 MW GROUND MOUNT SOLAR SYSTEM
0 MILL COURT
CORTLANDT, NEW YORK 10520

Contract No: 360551
Scale: AS NOTED
Date: JUNE 2020
Sheet: SITE PLAN
Drawing No: 4

LEGEND

418	EXISTING MINOR CONTOUR (FEET)
420	EXISTING MAJOR CONTOUR (FEET)
	PROPOSED FENCE LINE
	PROPERTY LINE SETBACK (100 FT)
	PROPERTY LINE SETBACK (200 FT)
	PARCEL LINE
UG UG UG UG	PROPOSED UNDERGROUND ELECTRIC
	WETLAND DELINEATION
	100-FOOT NYSDEC ADJACENT AREA
	STREAM
	HABITABLE BUILDING SETBACK (200 FT)
	STONE WALL
	STONE WALL
ROCK	ROCKS
	TREE LINE
	ACCESS DRIVEWAY 7' EQUIPMENT SETBACK
	PERMANENT CHECK DAM
	10' MIN. BRUSH CUT AREA
	20' WIDE ACCESS ROAD
	150' MAX. HOSE PULL DISTANCE
LOD	LIMIT OF DISTURBANCE
	REVISION CLOUD

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Number	Minimum Slope	Maximum Slope	Color	Area (Acres)
1	15.00%	25.00%		3.73
2	25.00%	35.00%		0.71
3	35.00%	Vertical		0.26

ALTERNATIVE 3

STOPPING SIGHT DISTANCE
LINE OF SIGHT
PROPOSED (PCC) INTERCONNECTION POINT FEEDER 72U1 4KV AT EXISTING POLE
UNDERGROUND MANHOLE
DRIVER'S EYE (10' BEHIND EDGE OF TRAVEL LANE)
89L SOLAR GENERATOR DISCONNECT SWITCH RELAY & RECLOSER UTILITY METER ENCLOSURE
HABITABLE BUILDING SETBACK (200')
HABITABLE BUILDING SETBACK (200')
HABITABLE BUILDING SETBACK (200')
APPROXIMATE LOCATION OF EXISTING FIRE HYDRANT
ACCESS DRIVE PROFILE 1 (SEE SHEET 9)
20' WIDE ACCESS DRIVE (TYP.)
5 MILL COURT
10 MILL COURT
ACCESS DRIVE PROFILE 4 (SEE SHEET 9)
PROPERTY LINE
38' RADIUS (TYP.)
9 MILL COURT
PROPERTY LINE SETBACK (200 FEET)
HABITABLE BUILDING SETBACK (200')
BATTERY STORAGE AND INVERTER UNIT (TYP.)
CUSTOMER-OWNED TRANSFORMER (TYP.)
LIMIT OF DISTURBANCE
WETLAND BOUNDARY
ACCESS DRIVE PROFILE 2 (SEE SHEET 9)
SOLAR ARRAY (TYP.)
100-FOOT NYSDEC ADJACENT AREA
DRY SWALE CENTERLINE (TYP.)
44' x 12" Ø HDPE PIPE 1% SLOPE GRAVEL APRON AS SHOWN ON DETAIL SHEET
35' x 12" Ø HDPE PIPE 1% SLOPE GRAVEL APRON AS SHOWN ON DETAIL SHEET
APPROXIMATE LOCATION OF EXISTING FIRE HYDRANT
STREAM
377'
42' x 12" Ø HDPE PIPE 1% SLOPE GRAVEL APRON AS SHOWN ON DETAIL SHEET
PROPOSED BIORETENTION AREA WITH 10' WIDE ARMORED GRAVEL WEIR - 6" BELOW SURROUNDING GRADE
17 MOUNTAIN VIEW ROAD
DIAPHRAGM - 12" PERFORATED PIPE WITH GRAVEL SLEEVE (TYP.) TOTAL AREA = 3' X 3'
FENCE
110'
38' RADIUS (TYP.)
10' MIN. BRUSH CUT AREA (TYP.)
ACCESS DRIVE PROFILE 3 (SEE SHEET 9)
PROPERTY LINE SETBACK (100')
HABITABLE BUILDING SETBACK (200')
WILD BIRCH FARMS
CARDOZA AVENUE
303'
265'
264'
202'
150'
341'
321'

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Checked by: S. MEERSMA

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Contract No: 360551
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Drawing No: 4

ALTERNATIVE 4

LEGEND

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	STREAM
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	STONE WALL
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	TREE LINE
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	PERMANENT CHECK DAM
	10' MIN. BRUSH CUT AREA
	20' WIDE ACCESS ROAD
	150' MAX. HOSE PULL DISTANCE
LOD	LIMIT OF DISTURBANCE

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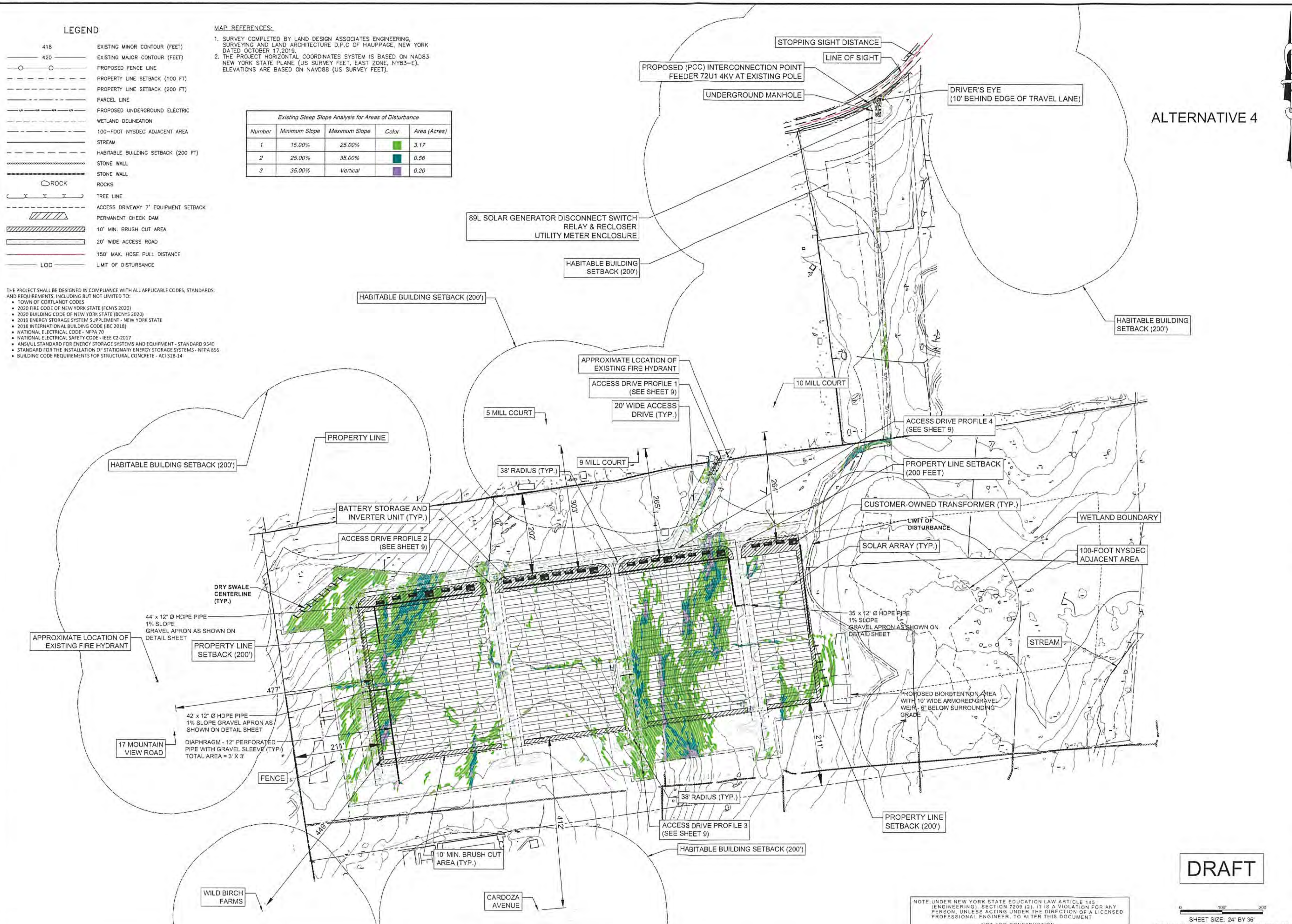

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Checked by: S. MEERSMA

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Sheet: ALT.LAYOUT-200FT
Drawing No: 1 OF 1

LEGEND

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	PROPOSED FENCE LINE
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ALTERNATIVE 5

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PROPOSED (PCC) INTERCONNECTION POINT FEEDER 72U1 4KV AT EXISTING POLE
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DRIVER'S EYE (10' BEHIND EDGE OF TRAVEL LANE)
89L SOLAR GENERATOR DISCONNECT SWITCH RELAY & RECLOSER UTILITY METER ENCLOSURE
HABITABLE BUILDING SETBACK (200')
HABITABLE BUILDING SETBACK (200')
HABITABLE BUILDING SETBACK (200')
APPROXIMATE LOCATION OF EXISTING FIRE HYDRANT
ACCESS DRIVE PROFILE 1 (SEE SHEET 9)
20' WIDE ACCESS DRIVE (TYP.)
10 MILL COURT
5 MILL COURT
ACCESS DRIVE PROFILE 4 (SEE SHEET 9)
PROPERTY LINE SETBACK (250 FEET)
PROPERTY LINE
HABITABLE BUILDING SETBACK (200')
38' RADIUS (TYP.)
9 MILL COURT
CUSTOMER-OWNED TRANSFORMER (TYP.)
BATTERY STORAGE AND INVERTER UNIT (TYP.)
ACCESS DRIVE PROFILE 2 (SEE SHEET 9)
LIMIT OF DISTURBANCE
SOLAR ARRAY (TYP.)
WETLAND BOUNDARY
100-FOOT NYSDEC ADJACENT AREA
DRY SWALE CENTERLINE (TYP.)
44' x 12" Ø HDPE PIPE 1% SLOPE GRAVEL APRON AS SHOWN ON DETAIL SHEET
APPROXIMATE LOCATION OF EXISTING FIRE HYDRANT
PROPERTY LINE SETBACK (150')
35' x 12" Ø HDPE PIPE 1% SLOPE GRAVEL APRON AS SHOWN ON DETAIL SHEET
STREAM
42' x 12" Ø HDPE PIPE 1% SLOPE GRAVEL APRON AS SHOWN ON DETAIL SHEET
DIAPHRAGM - 12" PERFORATED PIPE WITH GRAVEL SLEEVE (TYP.) TOTAL AREA = 3' X 3'
17 MOUNTAIN VIEW ROAD
PROPOSED BIORETENTION AREA WITH 10' WIDE ARMORED GRAVEL WEIR 36" BELOW SURROUNDING GRADE
FENCE
38' RADIUS (TYP.)
PROPERTY LINE SETBACK (150')
ACCESS DRIVE PROFILE 3 (SEE SHEET 9)
10' MIN. BRUSH CUT AREA (TYP.)
HABITABLE BUILDING SETBACK (200')
WILD BIRCH FARMS
CARBOZA AVENUE

477'
211'
410'
350'
313'
250'
311'
351'
150'

DRAFT

NOTE: UNDER NEW YORK STATE EDUCATION LAW ARTICLE 145 (ENGINEERING), SECTION 7209 (2), IT IS A VIOLATION FOR ANY PERSON, UNLESS ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, TO ALTER THIS DOCUMENT.
NOT FOR CONSTRUCTION

0 100' 200'
SHEET SIZE: 24" BY 36"
(DRAWING MAY BE PRINTED AT REDUCED SIZE)

TRC
1430 Broadway
Suite 1604
New York, NY 10018
Phone: 212.221.7822

TRC Project No: 360551.0000.0000

CVE Changing Visions of Energy

Revisions:	
No.	Date:
1	08/09/2021

Drawn by: H. DELGADO
Design by: A. REXROAT
Checked by: S. MEERSMA

CVE NORTH AMERICA, INC.
CORTLANDT MILL SOLAR FARM
5.0 MW GROUND MOUNT SOLAR SYSTEM
0 MILL COURT
CORTLANDT, NEW YORK 10520

Contract No: 360551
Scale: AS NOTED
Date: JUNE 2020
Sheet: ALT.LAYOUT-250FT
Drawing No: 1 OF 1

Tab Z

Line-of-Sight Analysis

August 2021

CVE North America

Proposed Cortlandt Mill Solar Farm

Cortlandt, Westchester County, New York

Prepared For:

CVE North America
Changing Visions of Energy

Prepared By:

TRC

TABLE OF CONTENTS

Figures

1.0 Introduction

At CVE North America's (CVE's) request, TRC generated a series of line-of-sight analysis graphics to evaluate the potential views of the Cortlandt Mill Solar Farm (Project) site from abutting private properties. Four lines-of-sight and the perspective locations represented have been prepared in response to comments in the Review Memorandum dated July 12, 2021, from the Town of Cortlandt Department of Technical Services. The lines-of-sight provide examples of the typical setting for the Project. Four selected abutters are represented in this report. Because of the similarity in topography, geometry, and land cover, these should be sufficient to provide the context of the conditions at the site and are applicable to all other abutters. The purpose of these graphics is to determine the potential likelihood for visibility of Project features through or around existing vegetative cover.

The line-of-sight depicts the existing terrain and vegetation surfaces based on Light Detection and Ranging (LiDAR) data (NYCDEC-East of Hudson [2009]), topographic survey, and proposed grading. It also depicts any existing potential visual obstructions that may occur along that line. These surfaces and project features are represented in profile view to depict the visibility potential from the modeled observer location to the planned site features. These graphics are presented in **Figures 1-5**. Included in the graphic are the vertical profiles lines along the sightline as well as an inset map showing the plan-view perspective of the sightline. A photograph representing the sightline views is presented as well. Photographs were obtained on August 9, 2021.

In June of 2021, CVE submitted a visual assessment report (VAR) with photo-simulations from similar viewpoints to the locations selected for line-of-sight analysis. The VAR is in general agreement with this line-of-sight analysis.

2.0 Line-of-Sight Methodology

Environmental Systems Research Institute (ESRI) Geographic Information Systems (GIS) software was used to generate the line-of-sight analysis and graphic. A plan-view line was selected intersecting the chosen abutter residences and major project components. Profile lines were generated from LiDAR data (NYCDEC-East of Hudson [2009]), a topographic survey, and proposed grading to represent the bare-earth (topographic) surface, and the first-return (vegetated) surface along that sightline. To-scale project information is added based on the current plans and specification for the site. The component height information was based on specifications provided by the client for typical fixed rack solar panels. The following heights were assumed for line-of-sight analysis: 6 feet, 10 inches for the solar panels; 5 feet, 10 inches (1.78 m) for the transformer; 9 feet, 6 inches for the inverters; and 8 feet, 6 inches) was used for the Site fence for this analysis. In addition to components of the Project, houses representing a residential development proposed for the same properties are shown for comparison to the Project. An assumed standing observer with an eye level of 6 feet (1.83 m) was used for sightlines from the first floor and second floor of abutter residences. For existing residences, each floor is assumed to be 15 feet high, which keeps the observer eye level on the second floor at 21 feet. In addition to the existing conditions, proposed planted screenings are also presented on the line-of-sight drawings. The planting areas are based on the best information available at the time of this report.

3.0 Findings

The line-of-sight graphics are presented in Figures 1-5. Findings for each are described below.

3.1 Line-of-Sight Profile A – 5 Mill Court

Figure 1 represents the views from 5 Mill Court (Parcel ID: 13.14-5-15). For this graphic, the modeled observer is placed on both the first and second floors of the 5 Mill Court private residence. From this line-of-sight, the distance from the observer to the first panel in the proposed solar array is approximately 314 feet, with a total of about 204 feet of existing mature vegetation remaining that will obscure or obstruct visibility of the Project. Planted screening (6 to 8 feet in height) of shade-tolerant evergreen tree species and shrubs (30 to 36 inches) are proposed just outside the fence and in addition, CVE proposes to strategically plant additional trees in the line-of-sight of 5 Mill Court closer to the property boundary. These plantings will provide ample obstruction to visibility from the first floor through bare trunks or gaps of existing vegetation or during leaf-off conditions. However, obscured views of the fence line, inverter/battery storage, and some back of the panels may be possible from the second floor due to upslope topography toward Cardoza Avenue during leaf-off conditions. These potential minimal views will decrease over time (5 years on) as the proposed planting species mature.

As a comparison, the approved Subdivision & Site Development Plan for Mill Court Crossing Zoning Compliance Plan shows the set back to closest proposed 35-foot tall residential structure only 62 feet and 115 feet from the edge of the property boundary to the north with no proposed landscaping to screen views from the abutter lots.

3.2 Line-of-Sight Profile B – 9 Mill Court

Figure 2 represents the views from 9 Mill Court (Parcel ID: 13.14-5-16). For this graphic, the modeled observer is placed on both the first and second floors of the 9 Mill Court private residence. From this line-of-sight, the distance from the observer to the first panel in the proposed solar array is approximately 280 feet, with a total of about 188 feet of existing vegetation remaining that will obscure or obstruct visibility of the Project. Additionally, planted screening (6 to 8 feet in height) of shade-tolerant evergreen tree species and shrubs (30 to 36 inches) are proposed just outside the fence that obstructs any visibility through bare trunks of existing vegetation or during leaf-off conditions. No significant Project visibility is expected from this vantage point due to the amount of existing dense vegetation and proposed planted screening. Obscured views of the fence line, inverter/battery storage, and some panels may be possible from the second floor during leaf-off conditions.

As a comparison, the approved Subdivision & Site Development Plan for Mill Court Crossing Zoning Compliance Plan shows the set back to closest proposed 35-foot-tall residential structure, only 62 and 115 feet from edge of property boundary to the north with no proposed landscaping to screen views from the abutter lots.

3.3 Line-of-Sight Profile C – Wild Birch Farms and 10 Mill Court

Figure 3 represents the views from Wild Birch Farms (Parcel ID: 13.17-3-45) and 10 Mill Court (Parcel ID: 13.14-5-24). For this graphic, the modeled observer is placed on both the first and second floors of both private residences. From the Wild Birch Farms line-of-sight, the distance from the observer to the first panel in the proposed solar array is approximately 486 feet, with about 288 feet of existing mature vegetation remaining that will obscure or obstruct visibility of the Project. Additional proposed planted screening (6 to 8 feet in height) of shade-tolerant evergreen tree species and shrubs (30 to 36 inches) outside the fence obstructs any visibility through gaps of existing vegetation or during leaf-off conditions. As such, project visibility is highly unlikely from this vantage point.

From the 10 Mill Court line-of-sight, the distance from the observer to the first panel in the proposed solar array is approximately 472 feet, with about 140 feet of existing mature vegetation remaining that will obscure or obstruct visibility of the Project. An additional proposed planted screening (6 to 8 feet height) of shade-tolerant evergreen tree species and shrubs (30 to 36 inches) outside the fence obstructs any visibility through gaps of existing vegetation or during leaf-off conditions. No significant project visibility is expected from this vantage point but obscured views of the fence line, inverter/battery storage, and some panels may be possible from second floor during leaf-off conditions but very unlikely due to distance.

3.4 Line-of-Sight Profile D – 17 Mountain View Road

Figure 4 represents the views from 17 Mountain View Road (Parcel ID: 13.18-1-2). For this graphic, the modeled observer is placed on both the first and second floors of the 17 Mountain View Road private residence. This line-of-sight demonstrates that the upslope between the 17 Mountain View residence and solar arrays provides ample visual obstruction. Also, the distance from the observer to the first panel in the proposed solar array is approximately 372 feet, with a total of about 192 feet of existing vegetation remaining that will obscure or obstruct visibility of the Project. Additionally, planted screening (6 to 8 feet height) of shade-tolerant evergreen tree species and shrubs (30 to 36 inches) are proposed just outside the fence for additional screening. As such, project visibility is not expected from this vantage point.

3.5 Line-of-Sight Profile E – 9 Mill Court – Previously Proposed and Approved Residential Subdivision

Figure 5 represents the views from 9 Mill Court (Parcel ID: 13.14-5-16). For this graphic, the modeled observer is placed on both the first and second floors of the 9 Mill Court private residence. From this line-of-sight, the distance from the observer to the first home in the proposed subdivision is approximately 80 feet, with a total of about 80 feet of existing vegetation remaining. In comparison, the distance of first panel in this line-of-sight is 256 feet. As such, the proposed residential development would likely have greater visual impacts due to the narrower setbacks to abutting properties and taller structures.

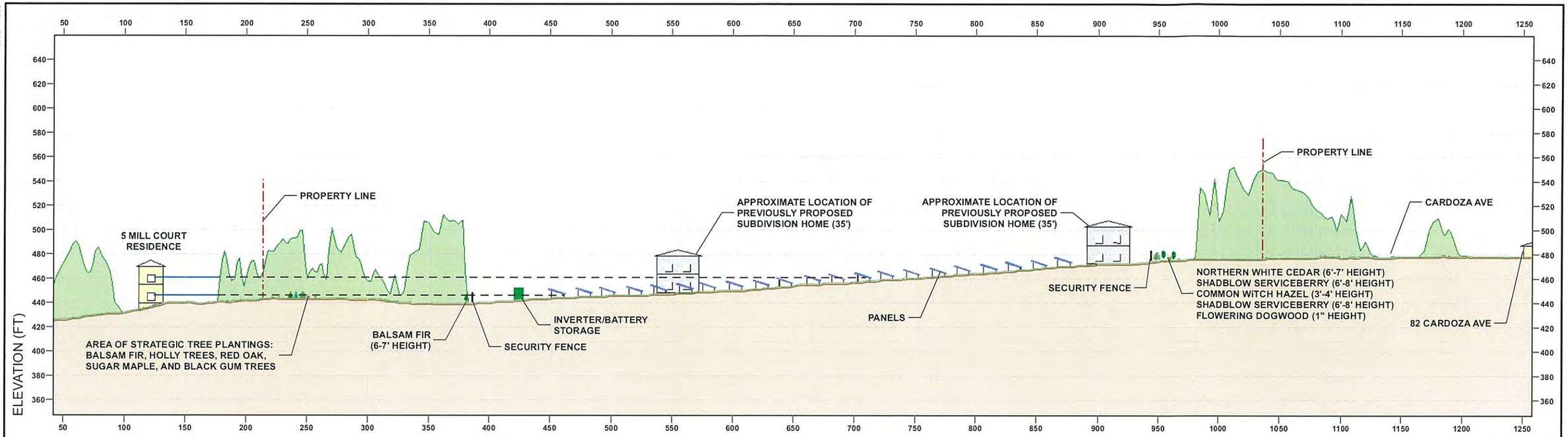
4.0 Conclusions

The review of site photography combined with the line-of-sight analyses for this project indicate the Project visibility from representative viewpoints on Mill Court-abutting landowners is likely to be minimal to unlikely. The views are obscured to varying degrees by more than 150 feet of mature trees and topography. In some instances, visibility from second floor through gaps in existing vegetation or through clearings may be possible, particularly during leaf-off conditions where deciduous vegetation is bare. However, the buffer screening from the conceptual Landscaping Mitigation Plan will provide additional cover to the minimal views that may be present. Based on the line-of-sight analysis, no views are expected from residences on Mountain View road due to distance, topography, and planted screening. The overall visual impact of the Project to abutting landowners is expected to be minimal to unlikely.

The line-of-sight analysis is in general agreement with the VAR photo simulations with any differences likely due to the difference in photo locations.. The photo-simulations concluded that during leaf-off conditions there are potential obscured views of the fence line, the proposed landscape plants, and limited views of panels. However, the line-of-sight demonstrates that distance and a long stretch of vegetation supplemented with additional planted screening will obstruct any potential views to minimal to unlikely views.

The proposed residential development would likely have greater visual impacts to adjacent existing residences due to the narrower setbacks to abutting properties and taller structures. The residential development does not include a landscaping plan to screen views of the residences from existing abutting residences.

Figures



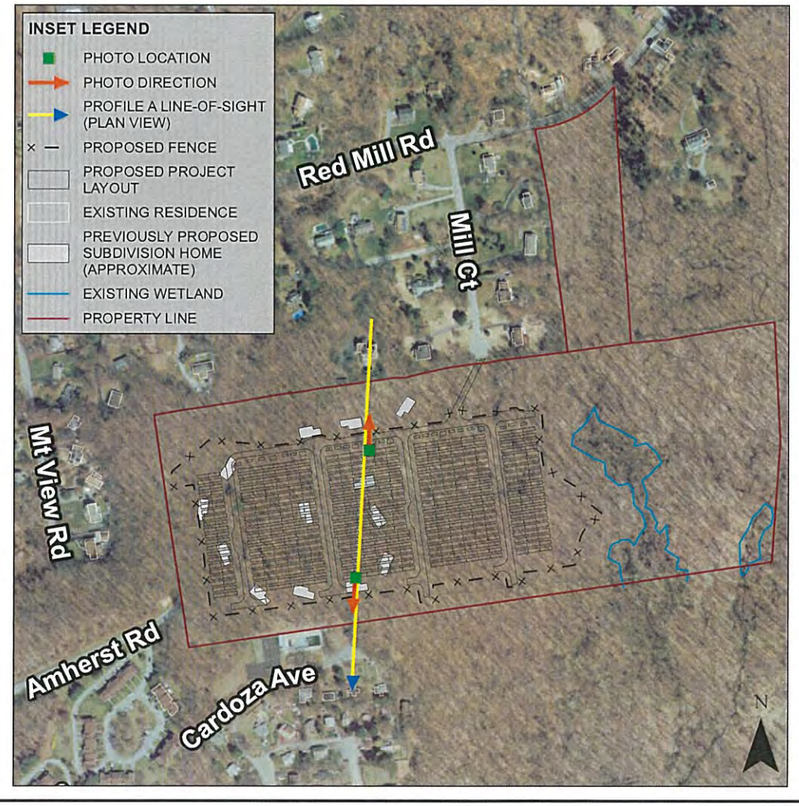



PHOTO LOOKING TOWARD 5 MILL COURT


PHOTO LOOKING TOWARD 82 CARDOZA AVE

NOTES

1. VISIBILITY ANALYSIS ASSUMES THE FOLLOWING HEIGHTS: ARRAY- 6'10", FENCE - 8'6", INVERTER/BATTERY - 9'6", STANDING OBSERVER - 6', EXISTING RESIDENCES - 35', AND PREVIOUSLY PROPOSED SUBDIVISION BUILDINGS - 35'

2. TOPOGRAPHIC AND VEGETATION SURFACES ARE GENERATED FROM 2009 NYCDEP EAST OF HUDSON LIDAR DATA, EXISTING CONDITIONS SURVEY, AND PROPOSED GRADING.

3. ALL FEATURES DEPICTED WITHIN THE LINE-OF-SIGHT ARE FOR ILLUSTRATIVE PURPOSES ONLY.

LINE-OF-SIGHT LEGEND

- UNOBSTRUCTED SIGHTLINE
- OBSTRUCTED/OBSCURED SIGHTLINE
- SUBSURFACE
- EXISTING VEGETATION TO REMAIN

CONCLUSION:

THERE MAY BE POTENTIAL OBSCURED VIEWS OF LANDSCAPE PLANTINGS, FENCELINE, INVERTERS/BATTERY STORAGE, AND BACKS OF DISTANT PANELS, PARTICULARLY DURING LEAF-OFF CONDITIONS FROM SECOND FLOOR. THESE POTENTIAL MINIMAL VIEWS IN THESE AREAS WILL DECREASE OVER TIME (5 YEARS ON) AS PROPOSED PLANTING SPECIES MATURE.

PROJECT:
CVE NORTH AMERICA
CORTLANDT MILL SOLAR FARM
CORTLANDT, WESTCHESTER COUNTY, NEW YORK

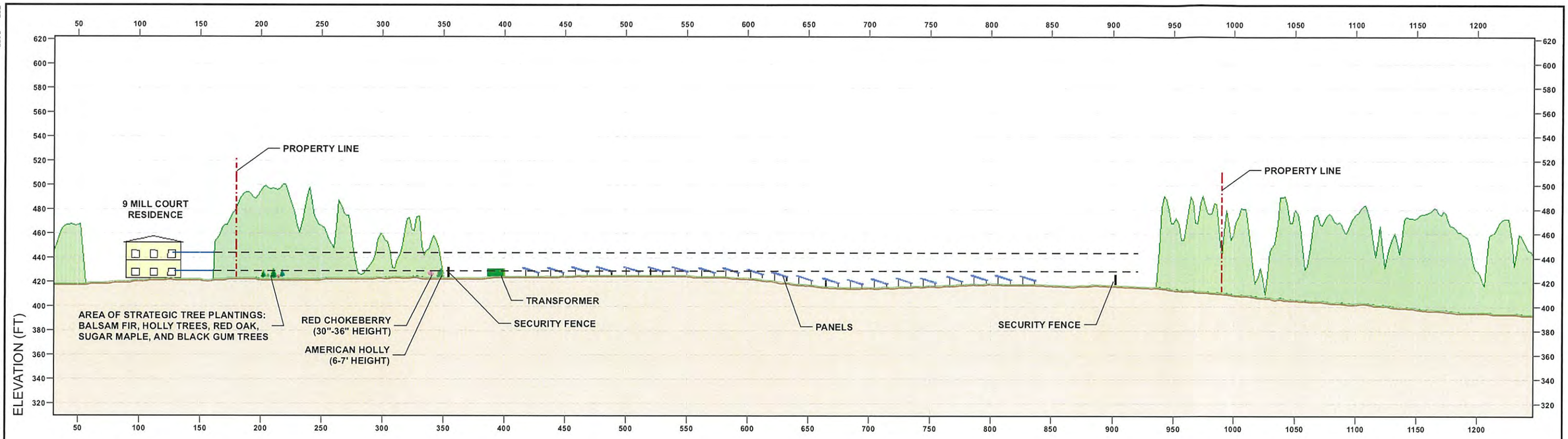
TITLE:
LINE-OF-SIGHT
PROFILE A - 5 MILL COURT

DRAWN BY:	S. MOTURI	PROJ NO.:	360551
CHECKED BY:	A. HORRIE		
APPROVED BY:	L.LEFEBVRE		
DATE:	AUGUST 2021		

FIGURE 1

TRC
215 GREENFIELD PKWY, STE 102
LIVERPOOL, NY 13088

FILE NO.: ProfileA_LOS_11x17_20210813.mxd



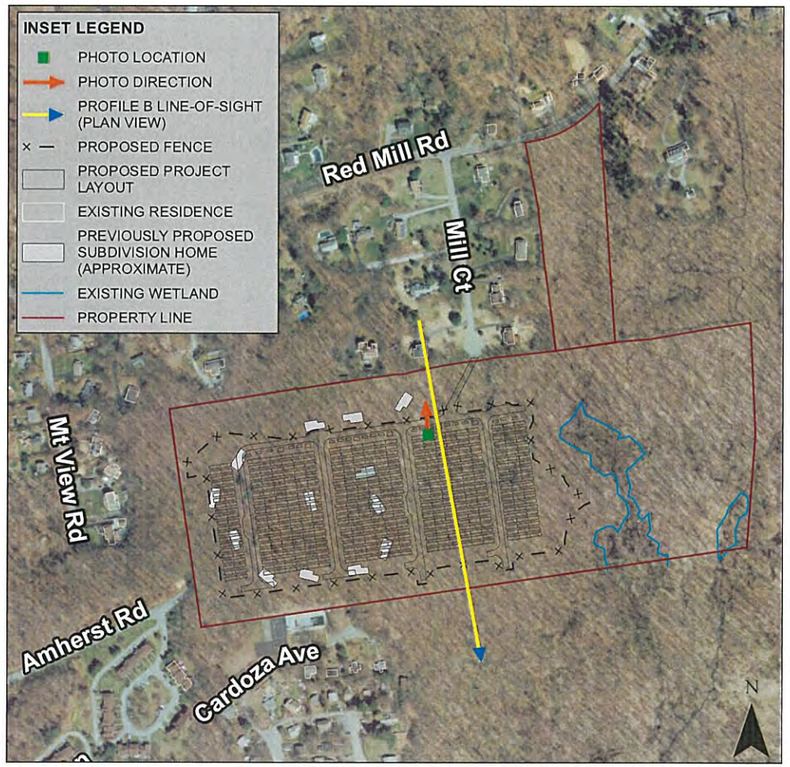


PHOTO LOOKING TOWARD 9 MILL COURT

NOTES

1. VISIBILITY ANALYSIS ASSUMES THE FOLLOWING HEIGHTS: ARRAY- 6'10", FENCE - 8'6", INVERTER/BATTERY - 9'6", STANDING OBSERVER - 6', EXISTING RESIDENCES - 35', AND PREVIOUSLY PROPOSED SUBDIVISION BUILDINGS - 35'

2. TOPOGRAPHIC AND VEGETATION SURFACES ARE GENERATED FROM 2009 NYCDEP EAST OF HUDSON LIDAR DATA, EXISTING CONDITIONS SURVEY, AND PROPOSED GRADING.

3. ALL FEATURES DEPICTED WITHIN THE LINE-OF-SIGHT ARE FOR ILLUSTRATIVE PURPOSES ONLY.

LINE-OF-SIGHT LEGEND

- UNOBSTRUCTED SIGHTLINE
- OBSTRUCTED/OBSCURED SIGHTLINE
- SUBSURFACE
- EXISTING VEGETATION REMAIN

CONCLUSION:

POTENTIAL OBSCURED VIEWS OF LANDSCAPE PLANTINGS, FENCELINE, INVERTERS/BATTERY STORAGE, AND BACKS OF DISTANT PANELS, PARTICULARLY DURING LEAF-OFF CONDITIONS FROM SECOND FLOOR.

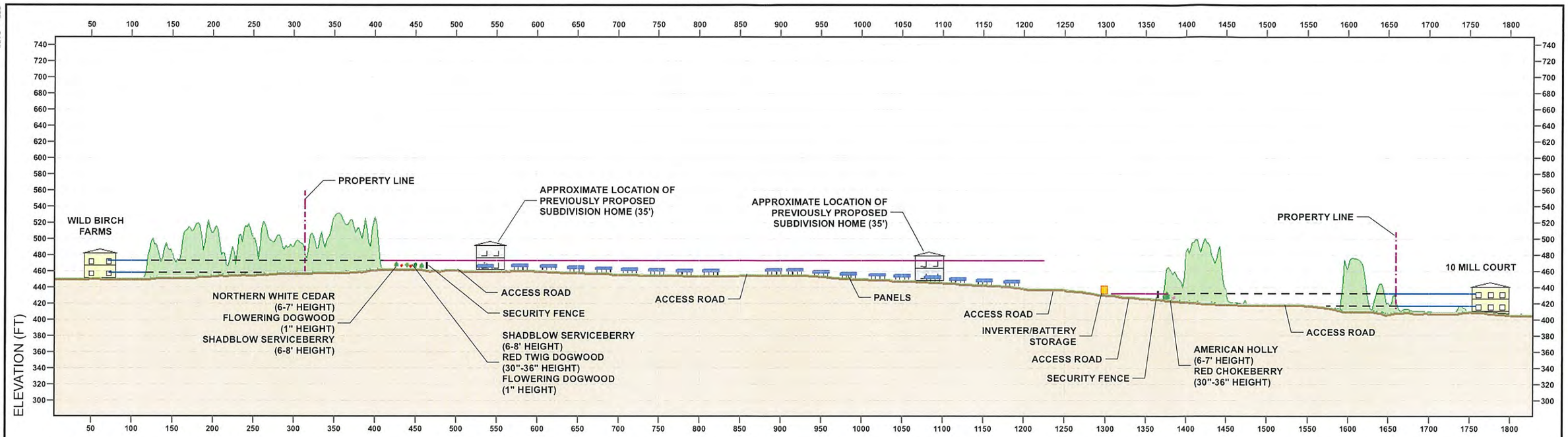
PROJECT:
CVE NORTH AMERICA
CORTLANDT MILL SOLAR FARM
CORTLANDT, WESTCHESTER COUNTY, NEW YORK

TITLE:
LINE-OF-SIGHT
PROFILE B - 9 MILL COURT

DRAWN BY:	S. MOTURI	PROJ NO.:	360551
CHECKED BY:	A. HORRIE		
APPROVED BY:	L LEFEBVRE		**FIGURE 2**
DATE:	AUGUST 2021		

TRC
215 GREENFIELD PKWY, STE 102
LIVERPOOL, NY 13088

FILE NO.: ProfileB_LOS_11x17_20210809.mxd



HORIZONTAL VERSUS VERTICLE SCALE - 1:1

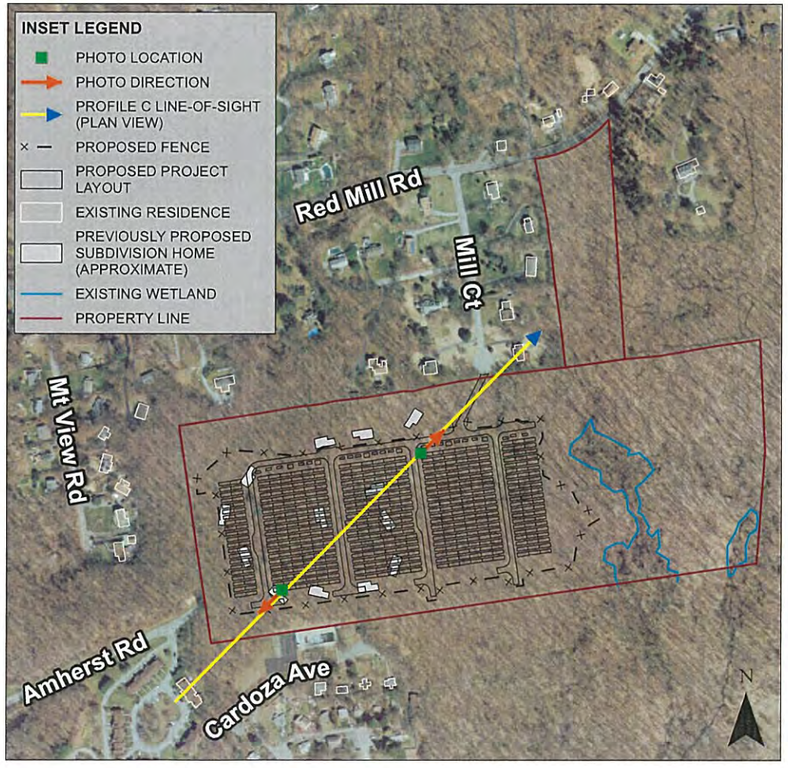



PHOTO LOOKING TOWARD WILD BIRCH FARMS


PHOTO LOOKING TOWARD 10 MILL COURT

NOTES

1. VISIBILITY ANALYSIS ASSUMES THE FOLLOWING HEIGHTS: ARRAY- 6'10", FENCE - 8'6", INVERTER/BATTERY - 9'6", STANDING OBSERVER - 6', EXISTING RESIDENCES - 35', AND PREVIOUSLY PROPOSED SUBDIVISION BUILDINGS - 35'

2. TOPOGRAPHIC AND VEGETATION SURFACES ARE GENERATED FROM 2009 NYCDEP EAST OF HUDSON LIDAR DATA, EXISTING CONDITIONS SURVEY, AND PROPOSED GRADING.

3. ALL FEATURES DEPICTED WITHIN THE LINE-OF-SIGHT ARE FOR ILLUSTRATIVE PURPOSES ONLY.

LINE-OF-SIGHT LEGEND

- BLOCKED SIGHTLINE
- UNOBSTRUCTED SIGHTLINE
- OBSTRUCTED/OBSCURED SIGHTLINE
- SUBSURFACE
- EXISTING VEGETATION TO REMAIN

CONCLUSION:

PROJECT VISIBILITY IS HIGHLY UNLIKELY FROM WILD BIRCH FARMS. NO SIGNIFICANT PROJECT VISIBILITY IS EXPECTED FROM 10 MILL COURT BUT OBSCURED VIEWS OF THE FENCE LINE, INVERTER/BATTERY STORAGE AND SOME PANELS MAYBE POSSIBLE FROM SECOND FLOOR DURING LEAF-OFF CONDITIONS BUT HIGHLY UNLIKELY DUE TO DISTANCE.

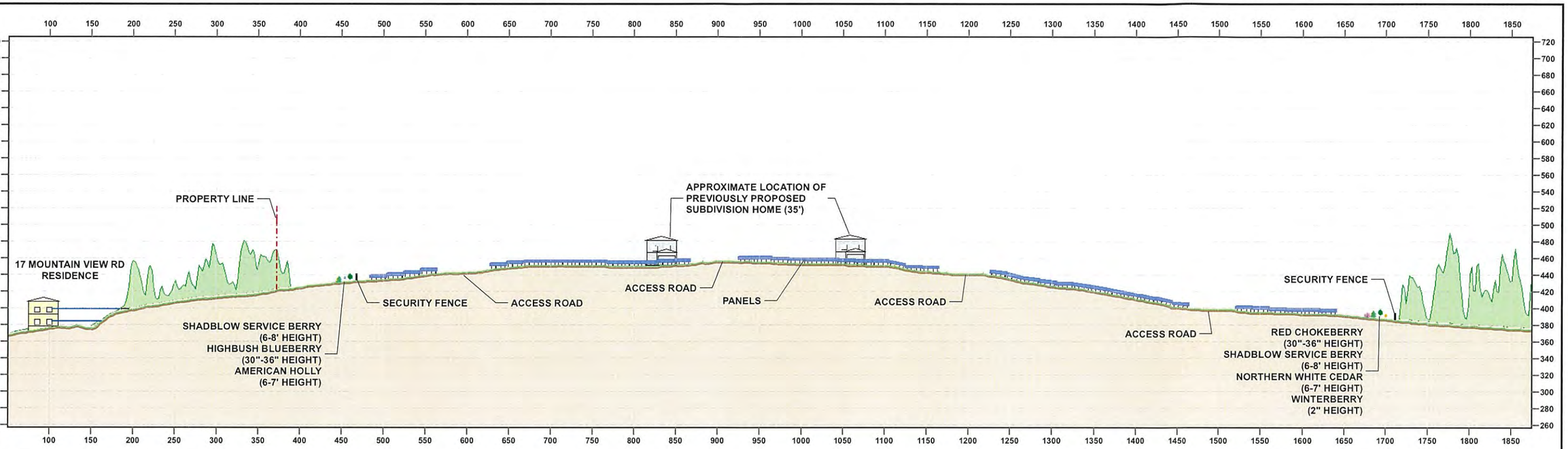
PROJECT:
CVE NORTH AMERICA
CORTLANDT MILL SOLAR FARM
CORTLANDT, WESTCHESTER COUNTY, NEW YORK

TITLE:
LINE-OF-SIGHT PROFILE C
WILD BIRCH FARMS AND 10 MILL COURT

DRAWN BY:	S. MOTURI	PROJ NO.:	360551
CHECKED BY:	A. HORRIE		
APPROVED BY:	L.LEFEBVRE		**FIGURE 3**
DATE:	AUGUST 2021		

TRC
215 GREENFIELD PKWY, STE 102
LIVERPOOL, NY 13088

FILE NO.: ProfileC_LOS_11x17_20210813.mxd



DISTANCE (FT)

HORIZONTAL VERSUS VERTICLE SCALE - 1:1

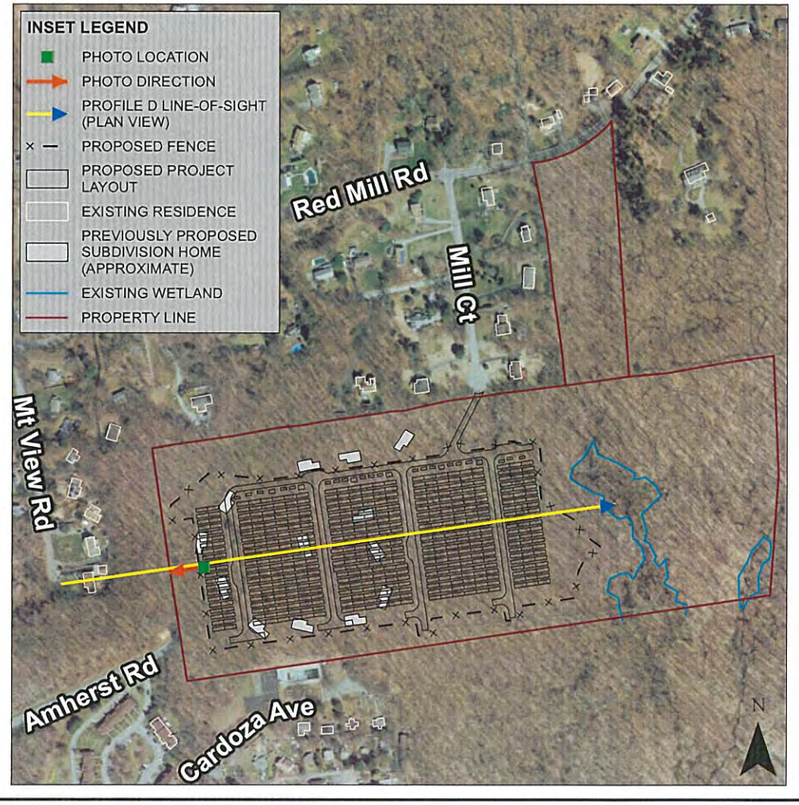


PHOTO LOOKING TOWARD 17 MOUNTAIN VIEW ROAD

NOTES

1. VISIBILITY ANALYSIS ASSUMES THE FOLLOWING HEIGHTS: ARRAY- 6'10", FENCE - 8'6", INVERTER/BATTERY - 9'6", STANDING OBSERVER - 6', EXISTING RESIDENCES - 35', AND PREVIOUSLY PROPOSED SUBDIVISION BUILDINGS - 35'

2. TOPOGRAPHIC AND VEGETATION SURFACES ARE GENERATED FROM 2009 NYCDEP EAST OF HUDSON LIDAR DATA, EXISTING CONDITIONS SURVEY, AND PROPOSED GRADING.

3. ALL FEATURES DEPICTED WITHIN THE LINE-OF-SIGHT ARE FOR ILLUSTRATIVE PURPOSES ONLY.

LINE-OF-SIGHT LEGEND

- UNOBSTRUCTED SIGHTLINE
- OBSTRUCTED/OBSCURED SIGHTLINE
- SUBSURFACE
- EXISTING VEGETATION TO REMAIN

CONCLUSION:

DUE TO TOPOGRAPHY, DISTANCE, AND EXISTING AND PROPOSED VEGETATION, NO VIEWS OF THE PROJECT ARE ANTICIPATED ALONG THIS LINE-OFF-SIGHT.

PROJECT:
CVE NORTH AMERICA
CORTLANDT MILL SOLAR FARM
CORTLANDT, WESTCHESTER COUNTY, NEW YORK

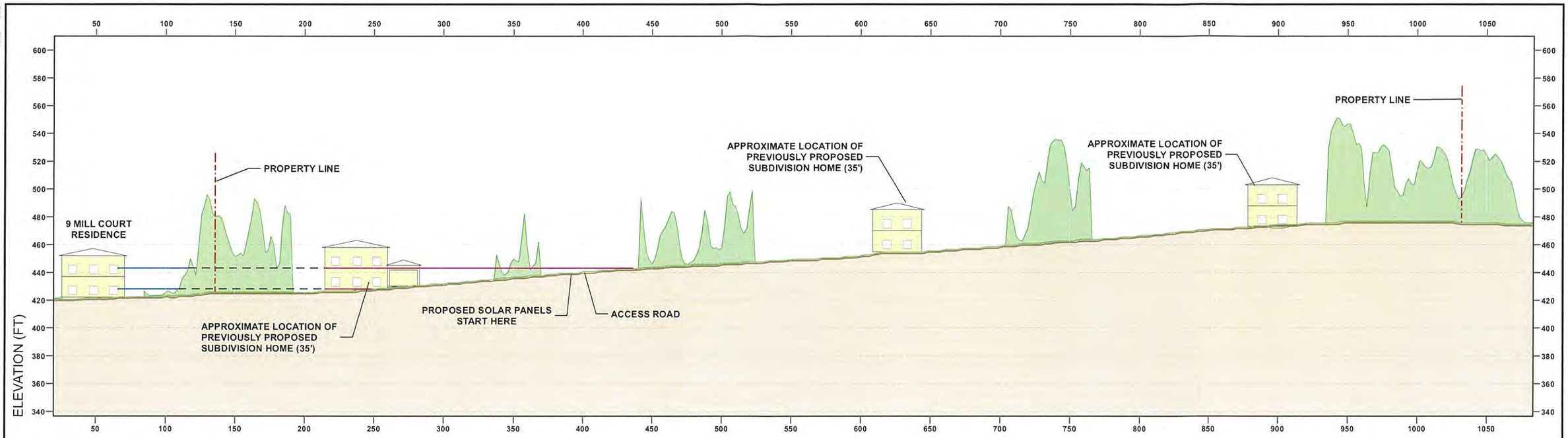
TITLE:
LINE-OF-SIGHT PROFILE D
17 MOUNTAIN VIEW ROAD

DRAWN BY:	S. MOTURI	PROJ NO.:	360551
CHECKED BY:	A. HORRIE		
APPROVED BY:	L.LEFEBVRE		
DATE:	AUGUST 2021		

FIGURE 4

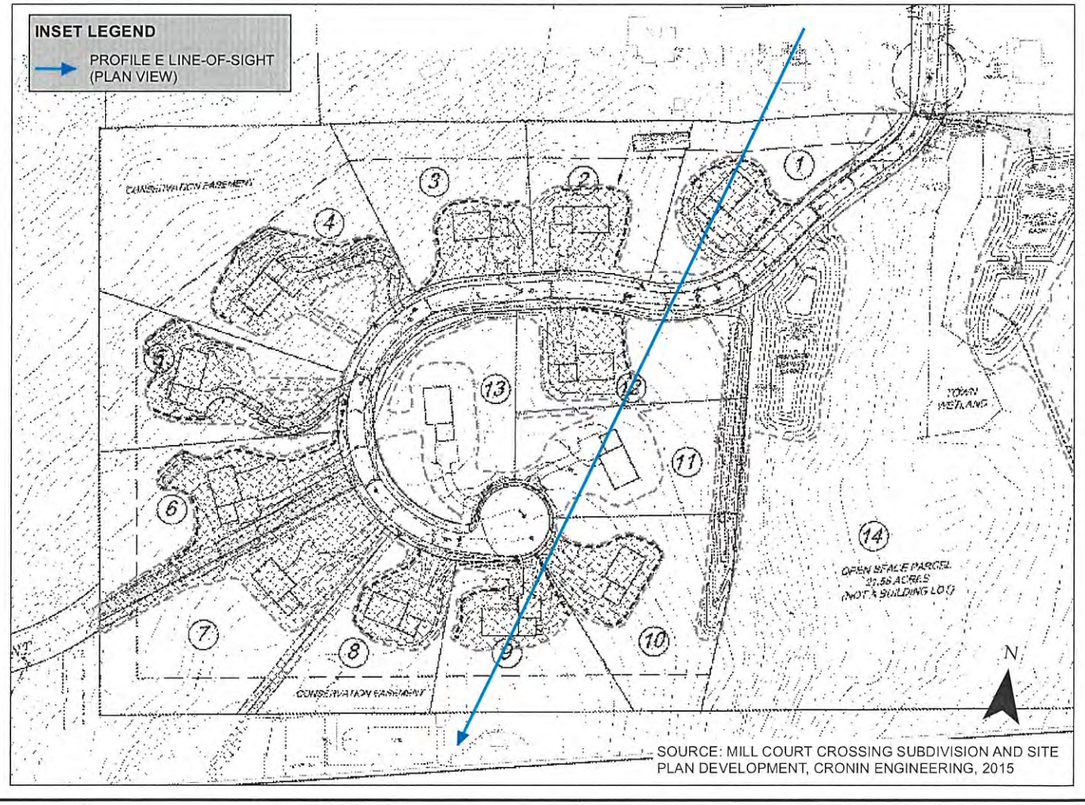
TRC
215 GREENFIELD PKWY, STE 102
LIVERPOOL, NY 13088

FILE NO.: ProfileD_LOS_11x17_20210811.mxd



DISTANCE (FT)

HORIZONTAL VERSUS VERTICLE SCALE - 1:1



SOURCE: MILL COURT CROSSING SUBDIVISION AND SITE PLAN DEVELOPMENT, CRONIN ENGINEERING, 2015

NOTES

1. VISIBILITY ANALYSIS ASSUMES THE FOLLOWING HEIGHTS: STANDING OBSERVER - 6', EXISTING RESIDENCES - 35', AND PREVIOUSLY PROPOSED SUBDIVISION BUILDINGS - 35'

2. TOPOGRAPHIC AND VEGETATION SURFACES ARE GENERATED FROM 2009 NYCDEP EAST OF HUDSON LIDAR DATA AND EXISTING CONDITIONS SURVEY. PROPOSED GRADING IS NOT INCLUDED FOR THIS LINE-OF-SIGHT DUE TO NON-AVAILBILITY OF DATA. HOWEVER, SIGINIFICANT CHANGES ARE NOT EXPECTED FOR SUBSURFACE TOPOGRAPHYT LINE FOR THIS LINE -OF-SIGHT DUE TO MINIMAL GRADING AROUND THE PROPOSED HOMES AND ACCESS ROAD.

3. ALL FEATURES DEPICTED WITHIN THE LINE-OF-SIGHT ARE FOR ILLUSTRATIVE PURPOSES ONLY.

CONCLUSION:

IT SHOULD BE NOTED THAT THE PREVIOUSLY PROPOSED AND APPROVED RESIDENTIAL SUBDIVISION PRESENT MUCH TALLER STRUCTURES (35-FOOT-HIGH HOUSE, COMPARED TO 6 FEET, 10-INCH HIGH SOLAR PANELS, 9.5-FOOT HIGH CABINETS) AND NARROWER WOODED SETBACKS THAN THE LOWER PROFILE SOLAR PROJECT.

LINE-OF-SIGHT LEGEND

- BLOCKED SIGHTLINE
- UNOBSTRUCTED SIGHTLINE
- OBSTRUCTED/OBSCURED SIGHTLINE
- SUBSURFACE
- EXISTING VEGETATION TO REMAIN

PROJECT:

CVE NORTH AMERICA
CORTLANDT MILL SOLAR FARM

CORTLANDT, WESTCHESTER COUNTY, NEW YORK

TITLE:

LINE-OF-SIGHT PROFILE E - 9 MILL COURT PREVIOUSLY PROPOSED AND APPROVED RESIDENTIAL SUBDIVISION

DRAWN BY:	S. MOTURI	PROJ NO.:	360551
CHECKED BY:	A. HORRIE		
APPROVED BY:	L.LEFEBVRE		**FIGURE 5**
DATE:	AUGUST 2021		

TRC
215 GREENFIELD PKWY, STE 102
LIVERPOOL, NY 13088

FILE NO.: ProfileE_LOS_11x17_20210817.mxd

Exhibit AA

TRC

1430 Broadway, 10th Floor
New York, NY 10018

T 212.221.7822
TRCcompanies.com

August 13, 2021

MICHAEL PREZIOSI, P.E.
THE DEPARTMENT OF TECHNICAL SERVICES
TOWN OF CORTLANDT
TOWN HALL OFFICE #2
1 HEADY STREET
CORTLANDT MANOR, NY 10567

Re: Proposed Cortlandt Mill Solar Farm
Town of Cortlandt Manor, New York, NY

Dear Town of Cortlandt Manor,

TRC Engineers Inc., on behalf of the Town of Cortlandt Manor (Owner/Operator), is pleased to present the enclosed decommissioning cost estimate for the installation of a large-scale, ground-mounted photovoltaic (PV) system on a portion a 43.12-acre property located south of Red Mill Road and Mill Court in Cortlandt Manor, Westchester County, New York (the Project). The arrays are located within fenced areas with access gates. The system will reside on a total area of approximately 13.08-acres. The attached decommissioning cost was prepared by a Professional Engineer licensed in New York.

This opinion of probable cost is based on the engineer's experience in the design and construction of energy facilities and is subject to final engineering, if applicable. Costs have been split between plant disassembly, site restoration, and salvage, which reflect the overall decommissioning process. This opinion assumes a third-party contractor experienced in the construction and decommissioning of PV facilities will lead the effort. The reported costs include labor, materials, taxes, insurance, transport costs, equipment rental, contractor's overhead, and contractor's profit. Labor costs have been estimated using regional labor rates and labor efficiencies from the Bureau of Labor Statistics, along with previous decommission plan estimates completed for similar projects.

The PV plant will first be disassembled, removing the above- and below-grade components. This removal includes all buried cables. Concrete can be removed mechanically to increase efficiency.

The disturbed site is expected to be re-planted with native vegetation. The decommissioning estimate is prepared with an assumption that re-grading of the entire site is not required. The earth-moving equipment required to regrade the site would likely trigger additional permits.

Finally, all associated structures will be demolished and removed from the site within 180 days for recycling or disposal after the end of energy production or proposed date of decommissioning, as required by the Town. The time periods stated herein may be extended by mutual consent of the Town and the Owner/ Operator.

Salvage values have been estimated using publicly available data from http://www.scrapmonster.com (visited on 08/10/2021), from We Recycle Solar, Inc., as well as industry provided actual salvage values, and previous experience with similar solar projects.

The decommission estimate includes labor costs and credits for salvaging project materials in 2021 and at the end of an assumed 20-year lifespan. Due to inflation, a 2.5 percent annual increase in labor costs and a 1 percent annual increase in salvage value was assumed and included in the estimate. Based on the decommissioning estimate, the demolition costs and salvage value yield a net credit of $499,673 at the end of the 20-year span for the solar project.

TRC Engineers, Inc.

_____ August 13, 2021

Steven Meersma, P.E. Date

Principal Engineer

Decommissioning Plan

Cortlandt Mill Solar Farm
Town of Cortlandt,
Westchester County,
New York

Prepared For:

cve | North America
Changing Visions of Energy

Prepared By:

TRC
1430 Broadway, 10th Floor
New York, New York 10018

STATE OF NEW YORK
STEVEN DONALD MEERSMA
No. 076572-1
LICENSED PROFESSIONAL ENGINEER

March 2021 (Revised August 2021)

TRC

TABLE OF CONTENTS

TABLE

ATTACHMENT

1.0 INTRODUCTION

CVE North America (CVE) proposes to construct and operate the Cortlandt Mill Solar Farm, a 5-megawatt (MW) alternate current (AC)/4.98-MW direct current (DC) solar generating facility (SGF) and a battery energy storage system (the Project) on property located in the Town of Cortlandt, Westchester County, New York. The Project Site consists of two parcels totaling 43.12 acres: one 38.67-acre parcel west of Lexington Avenue (Parcel ID: 13.18-2-2.4) and a second 4.45-acre parcel off Red Mill Road (Parcel ID: 13.14-5-25) in the Town of Cortlandt, Westchester County, New York. The expected life of the Project is 30 years.

The Project consists of arrays of solar panels separated by pervious access drives. The solar arrays will cover approximately 9.06 acres. The arrays will consist of rows of solar panels installed aboveground on a metal framework. New pervious access drives will cover 1.88 acres. In addition, concrete pads for battery storage pack units, inverters, and transformers will be installed along the northern access drive. To the extent practicable, electrical connections within the array will be underground. One 230-footlong pervious gravel access drive will connect the Project to Mill Court. The access drive has been designed to allow access for emergency vehicles. An 8.5-foot-tall wildlife-friendly perimeter fence will surround the solar arrays and access will be through a single security gate. Emergency access will be available through a KnoxBox.

The Project also includes a 75-foot-long pull-out off Red Mill Road for access to a utility meter enclosure. There will be an underground electric interconnection from the utility meter enclosure to the Project's solar array.

The Project represents a Tier 3 Solar Energy System as described in Chapter 255 of the Cortlandt Bylaws and therefore requires a decommissioning plan as required under Section 255-8. This document presents the Decommissioning Plan for the Project.

2.0 SYSTEM DECOMMISIONING

Solar panels (photovoltaic modules or PV Modules), brackets, posts, support structures, battery storage pack units, inverters, transformers, concrete pads, underground electric, fencing, access drive geotextile support structures and gate will be removed from the Site. Materials will be salvaged when possible. In the event that salvage is not an option, recycling or disposal in the appropriate facility will be carried out. Any work completed as part of the Decommissioning Plan will be conducted in compliance with all local, state, and federal regulation governing the activities.

No decommissioning activities will occur in wetlands or associated buffer zones on the property and any excavations to remove Project components will not commence until best management practices (BMPs) for erosion and sediment control are in place.

2.1 Photovoltaic Modules

The PV modules will be disconnected from the inverters and removed from the steel racking system. Since, PV modules are made of silicon, glass, and aluminum they do not constitute hazardous waste. Recycling and reuse of the PV modules will be assessed at the time of decommissioning.

2.2 Electrical Equipment

All electrical equipment including, but not limited to inverters, switchboards, transformers, and meters will be disconnected from the electrical grid and removed from the concrete pads upon which they are mounted. The electrical equipment will be disposed of at an approved facility.

2.3 Electrical Wiring

All electrical wiring is made of copper and aluminum, which will be recycled appropriately. All aboveground and underground conductors will be removed to the point of interconnection with the local electrical grid.

2.4 Concrete Pads

The concrete mounting pads for the electrical equipment will be excavated to the depth below grade necessary to remove all concrete, rebar, and foundation bolts. Clean concrete will be crushed and re-used off site or on-site at the discretion of the property owner. The excavation will be filled with clean material with characteristics similar to surrounding soils.

2.5 Access Drive

If requested by the property owner and with approval of the Town, the access drive can be maintained and remain in place for future use of the Site. Otherwise, clean stone will be stripped and reused. All other stone and geotextile fabric will be disposed of at an appropriate facility. Compacted soils in the subgrade of the road will be assessed for use on-site. Soil will scarified and loosened to return the road access area to pre-existing slope conditions.

2.6 Racking and Fencing

All metal racking equipment, fencing, and gate material will be removed and recycled at an appropriate facility. All driven posts for the racking system and fence footings will be removed.

2.7 Hazardous and Solid Waste

All hazardous and solid wastes generated by decommission activities will be disposed of in accordance with applicable rules and regulations at the time of decommissioning.

As part of the decommissioning, CVE will conduct soil and groundwater sampling and analysis at representative locations across the solar array and electrical equipment to ensure no onsite contamination has resulted due to the systems operation. The associated activities will include:

- A visual and Photo-Ionization Detector (PID) inspection of all equipment pads areas will be conducted at the removal of the concrete.
- If any staining of the soil or concrete is observed or elevated PID readings are noted, then samples will be taken at those locations.
- A minimum of four soil samples will be taken from the equipment pad area. The samples willbe taken at a depth of 0 to 2 feet with the samples biased to locations where visual or other signs of contamination are observed. If no visual or other signs of contamination are evident, then the four sampling locations will be selected randomly.
- Three soil samples from the solar array area will be taken at a depth of 0 to 2 feet.
- Two filtered groundwater samples will be obtain from wells to be installed for the purpose in representative locations down gradient of the electrical equipment and panels.
- Analysis of the soil and groundwater samples will include volatile organic compounds, semi-volatile organic compounds, per- and polyfluoroalkyl substances (PFOAs), total petroleum hydrocarbons, and metals.The metal suite will be broad enough to capture the constituent materials within the solarpanels (copper, aluminum, manganese, lithium, cobalt, and nickel). Laboratory methods will be consistent with NYSDEC guidance and the analytic laboratory will be approved for each analysis through the New York State Department of Health Environmental Laboratory Approval Program (ELAP).
- A report relating the sample locations, chain of custody, laboratory reports, and comparison of analytic results for soil samples to the Unrestricted Residential Use Soil Cleanup Objectives (SCOs) found in 6 NYCRR 375-6.8. Analytical results for groundwater will be compared to the NYSDEC Division of Water Technical and Operational Guidance Series (TOGS) 1.1.1 Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations (NY-AWQS).

3.0 SITE RESOTORATION

To the extent practicable, the topography of the Site will remain consistent with the grading plan for post-construction contours. The small amount of fill introduced to the Site to accommodate the installation of the Project will remain on the Site. The fill necessary for excavations related to below grade components (internal conductors or concrete pads) will be filled with materials similar to adjacent soils. Any disturbed areas will be re-seeded. Erosion and sediment control BMPs will remain in place until final stabilization is achieved.

4.0 TREE PRESERVATION AND REFORESTATION PLAN

The existing trees proposed to be removed within the Project Site limits of disturbance require replacement efforts to satisfy calculations pertaining to tree replacement at a minimum ratio of 1 tree per 1,000 square feet of disturbance; for every tree proposed for removal on a regulated steep slope (>25 percent), two trees shall be planted; and for every tree removed on the protected special list, 1.5 trees shall be planted. The Planning Board shall determine the minimum number of trees to be replanted and the total quantity of trees to be replanted shall be set based on the calculations and requirements cited above.

In the Landscaping Plan submitted with the Project application, it was concluded that ***1,120 trees*** will need to be replanted using the requirements put forth of 1 tree per 1,000 square feet ofdisturbance, 2 trees for every tree removed on steep slopes over 25%, and 1.5 trees for every tree removed that is on the protected special list.

The Landscaping Plan for the Project provides proposed tree plantings that for mitigation to potential views into the Project Site to the best extent possible. The Landscaping Plan also provides proposed tree and shrub plantings that are pollinator-friendly and a beneficial enhancement to wildlife habitat increasing biodiversity in and around the Project Site. The Project's Landscaping Plan includes planting of ***768 new native and pollinator-friendly evergreen and deciduous trees and shrubs.*** The Town's requirements put forth allow for credit to be taken for plantings of certain heights and sizes that are proposed to be planted within the Project Site. In this instance, a ***total tree credit of 447 trees*** was calculated using the formulas allotted in the submitted Landscaping Plan. Once the tree credit is applied, a remaining total of 673 trees will still need to be replanted. These remaining trees will be planted after Project decommissioning in the area where the solar array system was sited and removed.

The tree species to be planted after decommissioning will be like or similar to the original species that existed on the Project Site prior to construction and the tree survey prepared by Bartlett Tree Experts (dated November 2, 2020), will be referenced to ensure that the proper tree species are procured and installed, to the best extent possible, in the same locations as that of the original tree species that existed on the Site prior to construction. Any remaining trees that cannot be planted due to spacing, availability, layout limitations, and/or any other reasonable restrictions will be accounted for via monetary payment fee-in lieu of to compensate for any remaining deficiencies in tree quantity totals required.

Some factors that are not conducive to tree transplanting/planting/installation include but, are not limited to frozen or snow-covered ground, mid-summer drought conditions, and plant availability and may affect planting schedules and installation timeframes.

5.0 DECOMMISSIONING SCHEDULE

Removal of the Project components will begin within 90 days of the Project's decommissioning. Table 1 presents and approximate schedule for decommissioning activities.

Table 1. Approximate Decommissioning Schedule

Activity	Time After Commencement of Decommissioning
Disconnection from local electrical grid and removal of the PV Modules and aboveground conductors	Month 1 – 2
Removal of racking system	Month 2 – 3
Removal of concrete pads	Month 3 – 4
Removal of below grade conductors	Month 4 – 5
Regrading to post-construction contours	Month 5 – 6
Removal of fence	Month 6
Implementation of reforestation plan	Month 6 - 7
Removal of access drive (if pursued)	Month 6 - 7

6.0 DECOMMISIONING COSTS

The Engineer's cost estimate for removal of the solar energy system in accordance withthe Town Code following issuance of Site Plan approvals, along with a certification letter, are provided in Attachment 1.

DECOMMISSIONING COST ANALYSIS
CORTLANDT MILL SOLAR FARM, WESTCHESTER COUNTY

DESCRIPTION OF ITEM	QUANTITY	UNIT	UNIT COST	TOTAL COST (2021)	TOTAL COST (After 20 Years)**	LOGIC
I. DISASSEMBLY & DISPOSAL						
Photovoltaic Modules	11,592	EA	$2.65	$30,705.92	$50,315.23	* Use Crew A-5 (2 Laborers; .25 Truck Driver; .25 Flatbed Truck) = $1,192/day. Assume crews can remove 450 panels/day.
Inverters	40	EA	$271.00	$10,840.00	$17,762.60	* Use Crew A-5 (2 Laborers; .25 Truck Driver; .25 Flatbed Truck) = $1,192/day. Assume crews can remove 4/day.
Transformers	14	EA	$271.00	$3,794.00	$6,216.91	* Use Crew A-5 (2 Laborers; .25 Truck Driver; .25 Flatbed Truck) = $1,192/day. Assume crews can remove 4/day.
Racking Frame	483	EA	$2.98	$1,439.34	$2,358.53	* Use Crew A-5 (2 Laborers; .25 Truck Driver; .25 Flatbed Truck) = $1,192/day. Assume crews can remove 400/day.
Racking Posts	3,864	EA	$2.98	$11,514.72	$18,868.21	* Use Crew A-5 (2 Laborers; .25 Truck Driver; .25 Flatbed Truck) = $1,192/day. Assume crews can remove 400/day.
Low Voltage Wiring	9,156	LF	$0.12	$1,091.40	$1,788.38	* Use Crew A-5 (2 Laborers; .25 Truck Driver; .25 Flatbed Truck) = $1,192/day. Assume crews can remove 10,000 LF/day.
Gravel (Access Drive)	2,034	CY	$6.90	$14,026.46	$22,983.99	* Use Crew B-3B (2 Laborers; 1 Equip Oper; 1 Truck Driver; 1 Backhoe; 1 Dump Trk) = $3,448/day. Assume crews can remove 500 CY/day.
Medium Voltage Wiring	3,263	LF	$0.24	$777.78	$1,274.48	* Use Crew A-5 (2 Laborers; .25 Truck Driver; .25 Flatbed Truck) = $1,192/day. Assume crews can remove 5000 LF/day.
Fence	4,004	LF	$1.19	$4,772.77	$7,820.74	* Use Crew A-5 (2 Laborers; .25 Truck Driver; .25 Flatbed Truck) = $1,192/day. Assume crews can remove 1000 LF/day.
Concrete	172	CY	$17.24	$2,965.28	$4,858.96	* Use Crew B-3B (2 Laborers; 1 Equip Oper; 1 Truck Driver; 1 Backhoe; 1 Dump Trk) = $3,448/day. Assume crews can remove 200 CY/day.
General Conditions (Geo liner removal; other misc. items)	1	MW	$8,000.00	$8,000.00	$13,108.93	* Use Crew B-3B (2 Laborers) Assumes can complete in one day
			SUBTOTAL	**$89,927.67**	**$147,356.95**	
II. SITE RESTORATION						
Re-Seeding	2.01	AC	$2,400.00	$4,824.00	$7,904.69	* Cost includes:(Seed: 4-7 species (native types) Also with estimate is labor Spraying; Disking; Planting; Mulch; One man & machine)
Re-Grading	2,206	CY	$3.45	$7,606.29	$12,463.79	* (2 Laborers; 1 Equip Oper; 1 Truck Driver; 1 Backhoe; 1 Dump Trk) = $3,448/day. Assume crews can grade 2000 CY/day.
Re-forestation	1,115	EA	$12.00	$13,380.00	$21,924.69	* Cost includes plantings, labor, years procured, location, availability, etc.
Soil and Groundwater Sampling & Analysis	1	LS	$25,000.00	$25,000.00	$40,965.41	
			SUBTOTAL	**$50,810.29**	**$83,258.57**	
III. SALVAGE						
Photovoltaic Modules	11,012	EA	$35.00	$385,420.00	$470,285.65	We Recycle Solar source - $35/module in 2021 depreciated 5%/year
Inverters	40	EA	$0.08	$3.20	$3.90	We Recycle Solar source - $0.08/lb. for low-grade non-PC boards
Transformers	42,840	LBS	$0.49	$20,991.60	$25,613.74	Scrapmonster 2021 source - $0.49/lb. for copper transformer scrap price (estimated weight of each transformer as 3060 lb. from Schneider Electric)
Racking Frame (Fixed Tilt)	671,370	LBS	$0.18	$122,860.71	$149,913.41	Scrapmonster 2021 source - $405 /MT of structural steel = $0.183 /lb. of structural steel
Racking Posts	292,118	LBS	$0.18	$53,457.67	$65,228.51	Scrapmonster 2021 source - $405 /MT of structural steel = $0.183/lb. of structural steel
Low Voltage Wiring	5,951	LBS	$0.71	$4,249.01	$5,184.60	WeRecycleSolar source - $0.714/lb. for insulated copper cable rate
Medium Voltage Wiring	6,329	LBS	$1.45	$9,177.05	$11,197.75	WeRecycleSolar source - $1.45/lb. for scrap Al insulated wire rate
Chain Link Fence	12,813	LBS	$0.18	$2,344.78	$2,861.08	Scrapmonster 2021 source - $405 /MT of structural steel = $0.183 /lb. of structural steel
			SUBTOTAL	**$598,504.02**	**$730,288.64**	
			TOTAL DEMOLITION COST	**$140,737.96**	**$230,615.53**	
			SALVAGE VALUE CREDIT	**$598,504.02**	**$730,288.64**	
			NET CREDIT =		**$499,673.12**	

Exhibit BB

STEEP SLOPE (CH. 259) AND TOPOGRAPHICAL ALTERATION (CH. 283-4) FINDINGS STATEMENT, REVISED AUGUST 2021

Introduction

This Findings Statement is presented to address Comment 5. From Michael Preziosi, P.E. Director of DOTS to Planning Board, dated November 18, 2020 requesting that CVE NA provide an integrated steep slope and topographical alteration findings statement. The specific Town Codes addressed by this Findings Statement include:

Steep Slopes

- § 259-2A - I Findings
- § 259-6A -H Standards for Approval
- § 259-6I. Burden of Proof

Topographical Alterations

- § 293-4 Topographical Alterations
- § 283-7C(1)-(10) Standards for Approval

The purpose of this statement is to provide clear and convincing evidence that the proposed activity is fully consistent the Town's findings and has fully and completely met the Town's standards. As described below and in the enclosed SEQR Supplemental Information Report, CVE NA has worked diligently with TRC to design a project that minimizes impacts during and after the proposed construction to key environmental areas, including wetlands, trees, steep slopes and adjacent properties. Additionally, it is noted that the Revised Permit Application is response to the steep slope and topographic alteration permit procedures at § 259-7A(1)-(6) and § 283-6 a (1) and (3), respectively.

Proposed Work and Purpose

The proposed project consists of developing and operating a 5.0 MW AC solar energy production facility, in conjunction with battery storage. This non-intensive use of the property will leave 7.7 acres of protected wetland area (wetlands and associated adjacent area) undisturbed. In addition, the site is proposed to incorporate pollinator-friendly native grasses, shrubs, and trees; enhanced habitats for birds and animals. The tables below summarize the area of disturbance by slope category:

March 2021 Layout		
Minimum Slope	Maximum Slope	Area (Acres)
15%	20%	2.58
20%	25%	1.14
25%	30%	0.49
30%	Vertical	0.46

June 2021 Layout		
Minimum Slope	Maximum Slope	Area (Acres)
15%	25%	3.73
25%	35%	0.71
35%	Vertical	0.26

This information is also repeated and depicted graphically on Sheet 4 (Site Plan).

Consistency with Steep Slope Findings

The Site of the Project consists of two parcels: the northern 4.45-acre parcel abutting Red Mill Road; and the larger, 38.67-acre parcel to its south. Both parcels are presently tree covered,with more significant steep slopes (as described below) on the south parcel.

The relatively slender configuration and limited size of the north parcel is such that it will be utilized exclusively for utility interconnection purposes. By routing the buried electrical interconnection along what may well be a former access way, disturbances of steep slopes have been largely eliminated within the northern parcel.

One important physical characteristic of the south parcel is a delineated NYSDEC wetland (7.7 acres in size, including the 100-foot wetland buffer area). The eastern third of the south parcel will not be developed to avoid all disturbance within the wetland and wetland adjacent area. The wetland adjacent areas will be protected by compost filter socks and orange safety fence to isolate the tree protection area.

The western portion of the south parcel thus represents the area of the Project Site that is conducive to the development of the Project. This area of the south parcel includes two primary steeply sloped areas (totaling approximately 6.1 acres) separated by a relatively flatter area of higher elevation. Setbacks were developed to control steep slope impacts while avoiding visual impacts. Approximately 2.3 acres of steep slopes in the development area west of the wetland adjacent area will be preserved with no grade change (approximately 1.5 acres outside the limits of disturbance and 0.8 acre in areas of tree clearing outside the limits of solar array where stumps will not be removed). To further minimize the amount of regrading in steep slope areas, foundations for the photovoltaic panel racking system will be selected to accommodate a slope of up to 20 percent. Finally, the stone-filled diaphragms, dry swales, and bioretention practice were selected, sited, and configured to also minimize regrading of steep slopes. In summary, of the total of approximately 10.0 acres of steep slopes on the Project Site, approximately 5.3 acres of steep slope areas will not be disturbed in any way and approximately 1.5 acres of steep slope areas will have trees cleared with no change in grades proposed.

The disturbance of steep slopes is required to accomplish the following objectives in accordance with good engineering practice:

- Achieve slopes of not greater than 20% to accommodate the placement of the anticipated PV panel racking system. (This slope is relatively steeper than is typical

for the construction of solar arrays and was selected to minimize the amount of regrading in steep slope areas and preserve financial viability.)

- Achieve nominal grades along the access road network of approximately 10% or less in compliance with the New York State Fire Code.
- Clear existing trees that would cause excessive shading on the solar panels, thus reducing energy production.
- Facilitate stormwater conveyance and management.

During construction, steep slope areas to be disturbed will be subject to erosion and sediment control measures consistent with the Town's steep slope standards. These standards include construction phasing and scheduling, prompt temporary and permanent stabilization, topsoil segregation and reuse, and controlled fill material. Mitigating measures include erosion and sediment controls more stringent than required by the NYSDEC Erosion and Sediment Control Standards and Specifications. For instance, for steep slope areas, the SWPPP mandates the use of more robust erosion control blankets to stabilize disturbed areas. These elements will be in addition to the requirements associated with the NYSDEC SPDES General Permit for Stormwater Discharges from Construction Activity - GP-0-20-001.

These management and engineering practices will lead to environmentally sound disturbance of steep slopes in the context of the project development. The use of the property for the purposes of generating environmentally-friendly renewable energy consistent with all applicable regulations and controls will not result in a significant loss or degradation of steep slopes or loss of the associated visual and open space benefits.

Of the total of approximately 10.0 acres of steep slopes on the site, approximately 5.3 acres will not be disturbed in any way (i.e., located outside the proposed limit of disturbance) and 1.5 acres will have trees cleared with no change in grades proposed.

Consistency with Standards for Approval of Steep Slope Disturbance

The consistency of the proposed activities associated with the Project with each of the § 259-6. Standards for Approval are presented below.

A. *Disturbance or alterations of trees and forests and topographical disturbances or alterations on steep slopes shall be in conformance with all provisions of this steep slopes ordinance as well as with all other applicable ordinances and regulations of the Town of Cortlandt, including, by way of example only, the requirements of Chapter 175 regarding flood damage control, Chapter 283 regarding trees, and Chapter 301 regarding diversion of watercourses.*

   CVE NA has diligently developed the Revised Permit Application to be responsive to all applicable ordinances and regulation of the Town of Cortlandt. CVE NA has also received and affirmatively responded to comments from the Town's Engineering, Planning, and Code Enforcement Divisions

B. *Activities within wetlands shall be in conformance with Chapter 179, Freshwater Wetlands, Water Bodies and Watercourses, and, whether within or outside of wetlands, will not adversely affect any wetlands, water bodies, or watercourses.*

No activities are anticipated within the regulated wetlands on the site. The solar array and associated *electrical equipment is proposed for the most part to be constructed to the west of the regulated wetlands, with only a very limited area of the northeastern portion of the solar arrays in relatively close proximity to the wetland adjacent area boundary. This wetland area will be isolated from the wetland adjacent area with compost filter socks and orange safety fence. Finally, the subgrade electrical interconnection will be constructed to the north in the general vicinity of the wetlands. This relatively shallow and narrow excavation will also be isolated from the wetland adjacent area with compost filer socks.*

C. *The proposed activity will not result in creep, sudden slope failure, or additional erosion.*

The Project has been designed and will be implemented to avoid creep, sudden slope failure, or additional erosion in accordance with the TRC Geotechnical Engineering Report dated December 22, 2020 (see Appendix E of the SWPPP).

D. *The proposed activity will not adversely affect existing or proposed wells or sewage disposal systems.*

See Exhibit H; the *Project will not impact wells or sewage disposal system.*

E. *The proposed activity will not adversely affect any endangered or threatened species of flora or fauna.*

The proposed activity will not adversely affect any endangered or threatened species of flora or fauna.

F. *The proposed activity is in accordance with the principles and recommendations of the most recent Master Plan of the Town.*

The provision of renewable energy and stabilizing the electrical utility supply is consistent with the Town of Cortlandt 2016 Sustainable Comprehensive Plan, final adopted March *15, 2016, including the following principles outlined therein: ecological harmony, economic vitality, energy efficiency,* and *resource management.*

G. *The proposed activity constitutes the minimum disturbance necessary to allow the property owner a reasonable use of the property.*

The Project has been designed to minimize disturbance in the steep slopes, maintain the *required setbacks to the extent practicable, and to avoid the adjacent wetlands.*

H. *Disturbance or alteration of areas with steep slopes shall additionally be in conformance with the following provisions:*

(1) *The planning, design and development of buildings shall provide the maximumin structural safety, slope stability and human enjoyment while adapting the affected site to, and taking advantage of, the best use of the natural terrain andaesthetic character.*

Not applicable since no buildings are proposed.

(2) The terracing of building sites, including the mounding of septic tile fields,shall be kept to an absolute minimum.

Not applicable; no buildings or septic tile fields are proposed.

(3) Roads and driveways shall follow the natural topography to the greatest extent possible in order to minimize the potential for erosion and shall be consistent with all other applicable ordinances and regulations of the Town of Cortlandt and current engineering practices.

See Exhibit H (Grading Plan, Sheet 4) and in the SEQR Supplemental Information Report dated March 2021; the Project has been designed to follow the natural topography to the extent feasible in the overall design.

(4) *Replanting* shall consist of indigenous vegetation and shall replicate the original vegetation on the site as much as possible.

The landscaping plan and reforestation plan for the Project emphasize replanting a diverse set of native plants. CVE NA will replant vegetation in accordance with plans developed after consultation with the Town's Tree Consultant, the Planning Board, and Town Board.

(5) *The natural elevations and vegetative cover of ridgelines shall be disturbed only if the crest of a ridge and the tree line at the ridge remain uninterrupted. This may be accomplished either by positioning buildings and areas of disturbance* below a ridgeline or by positioning buildings and areas of disturbance at a ridgeline so that the elevation of the roofline of the building is no greater than the elevation of the natural tree line. However, under no circumstances shall more than 100 feet along the ridgeline, to a width of 100 feet generally centered on the ridgeline, be disturbed.

Not applicable. The Project site does not include any ridgelines and no buildings are proposed to be constructed.

(6) *Any regrading shall blend in with the natural contours and undulations of the land.*

See Exhibit H (Grading Plan, Sheet 4); the Project so complies.

(7) *Cuts and fills shall be rounded off to eliminate sharp angles at the top, bottom and sides of regraded slopes. Visible construction cuts and permanent scarrings should be minimized.*

See Exhibit H (Grading Plan, Sheet 4); the Project so complies.

(8) *The angle of cut and fill slopes shall not exceed a slope of one vertical to two horizontal except where retaining walls, structural stabilization or other methods acceptable to the Director of Technical Services are used.*

See Exhibit H (Grading Plan, Sheet 4) and the SEQR Supplemental InformationReport dated March 2021; the Project so complies.

(9) *Tops and bottoms of cut and fill slopes shall be set back from structures a distance that will ensure the safety of the structure in the event of the collapse of the cut or fill slopes. Generally, such distance shall be considered to be six feet plus 1/2 the height of the cut or fill. Nevertheless, a structure built on a slope or at the toe of a slope is permitted if it is properly designed to retain the slope and withstand the forces exerted on it by the retained slope.*

Structures to be constructed are limited to the solar panel installations themselves and electrical equipment foundation pads. Cut and fill slopes will be graded to provide gradual transitions to the existing surrounding grades, such that the risk is mitigated.

(10) *Disturbance of rock outcrops shall be by means of explosive only if labor and machines are not effective and only if rock blasting is conducted in accordance with all applicable laws and regulations of the Town of Cortlandt, County of Westchester, and the State of New York.*

The Project does not anticipate the need for the use of explosives/rock blasting. If blasting becomes warranted, CVE NA will coordinate and perform such activities in accordance with Town, County, and State laws and regulations.

(11) *Disturbance of steep slopes shall be undertaken in workable units in which the disturbance can be completed and stabilized in one construction season so that areas are not left bare and exposed during the winter and spring thaw periods (December 15 through April 15).*

In accordance with the SWPPP, areas of disturbance will be temporarily or permanently stabilized prior to and through the stated winter and spring thaw periods.

(12) *Disturbance of existing vegetative ground cover shall not take place more than15 days prior to grading and construction.*

In accordance with the construction sequence contained in the SWPPP, existing vegetation ground cover shall not take place more than 15 days before the planned start of grading and construction.

(13) *Temporary soil stabilization, including, if appropriate, temporary stabilization measures such as netting or mulching to secure soil during the grow-in period,must he applied to an area of disturbance within two days of establishing the final grade, and permanent stabilization must be applied within 15 days of establishing the final grade.*

The Project requirements stated in the SWPPP are more stringent than this timeframe, in that areas where soil disturbance activity has temporarily or permanently ceased, the application of soil stabilization measures must be initiated by the end of the next business day if areas are not expected to be established within 14 days. This requirement which is consistent with the SPDES General Permit for Stormwater Discharges from Construction Activity, Permit No. GP- 0-20-001 (SPDES General Permit) is stated in the SWPPP.

(14) *Soil stabilization must be applied within two days of disturbance if the final grade is not expected to be established within 60 days.*

The Project requirements stated in the SWPPP are more stringent than this timeframe, in that areas where soil disturbance activity has temporarily or permanently ceased, the application of soil stabilization measures must be initiated by the end of the next business day if areas are not expected to be established within 14 days. This requirement which is consistent with the SPDES General Permit for Stormwater Discharges from Construction Activity, Permit No. GP- 0-20-001 (SPDES General Permit) is stated in the SWPPP.

(15) *Measures for the control of erosion and sedimentation shall be undertaken consistent with the Westchester County Soil and Water Conservation District's Best Management Practices Manual or Erosion and Sediment Control and New York State Guidelines or Urban Erosion and Sediment Control, as amended, or their equivalents satisfactory to the approval authority.*

The erosion and sediment control elements of the SWPPP have been developed in accordance with the New York State Standards and Specifications for Erosion and Sediment Control, in accordance with the SPDES General Permit.

(16) *All proposed disturbance of steep slopes shall he undertaken with consideration of the soils limitations characteristics contained in the Identification Legend, Westchester County Soils Survey, 1989, as prepared by the Westchester CountySoil and Water Conservation District, in terms of recognition of limitation of soils on steep slopes for development and application of all mitigating measures and as deemed necessary by the approval authority.*

The SWPPP presents information on the soils identified in the referenced Soils Survey. In turn, the SWPPP requirements were developed based on evaluation of the associated soil limitations and characteristic. The primary issue identified for the soils associated with the Project is for erosion of unstabilized soil. Erosion in steep slope areas will be mitigated in accordance with the SWPPP which requires prompt stabilization of disturbed soils, the use of vigorous erosion control mats, and frequent inspections followed by prompt corrective actions.

(17) *Topsoil shall be stripped from all areas of disturbance, stockpiled and stabilized in a manner to minimize erosion and sedimentation and replaced elsewhere on the site at the time of final grading. Stockpiling shall not be permitted on slopesof greater than 10%.*

In accordance with the SWPPP, topsoil in areas of proposed grading will be stripped, temporarily stockpiled, and replaced following grading. Since slopes on the site generally exceed 10%, it is anticipated that topsoil will be temporarily stockpiled on leveled timber mats with erosion and sediment controls.

(18) *No organic material or rock with, a size that will not allow appropriate compaction or cover by topsoil shall be used as fill material. Fill material shall be no less granular than the soil upon which, it is placed and shall drain readily.*

The use of rock within fills will be subject to the recommendations in the TRC Geotechnical Engineering Report dated December 22, 2020 (see Appendix E of the SWPPP). Significant amounts of organic materials will not be incorporated into fills.

(19) *Compaction of fill materials in fill areas shall be such to ensure support of proposed structures and stabilization for intended uses.*

Generally, loads from the structures and uses proposed for the site are relatively low. Placement and compaction of fills shall be performed in accordance with recommendations in the TRC Geotechnical Engineering Report dated December 22, 2020 (see Appendix E of the SWPPP).

Disturbance of areas with slopes of 30% or greater

Areas of project disturbance with slopes of 30% or greater are present in the relatively broad areas in the eastern portion and the western portion of the proposed facility. Generally, these steep slope areas are closely associated with other steep slope areas of lesser slope and often the existing stone walls. Because of the relatively broad distribution of the steep soil areas across the site, coupled with the extensive regulated wetland to the east of the proposed facility, it is not possible to develop the site without disturbing areas of slopes of 30% or greater. As described above, these areas with slopes of 30% or greater will in some cases require grading to facilitate the economically feasible construction of the racking system supporting the PV panels. Additionally, although access roads were located to avoid these and other steep slope areas to minimize the amount of steep slope grading, in limited instances steep slope areas having a grade of 30% or greater need to be disturbed to lessen the grades of the proposed access roads to address fire code guidance and engineer for safety. Finally, in other areas outside the extent of the facility footprint, disturbance will be largely limited to tree felling (with no regrading) to avoid excess shading on the PV panels that would result in a reduced energy generating capacity for the project that would render it economical unfeasible. The degree of soil disturbance is anticipated to be relatively minor in these areas. For the reasons explained herein there is no reasonable use of the site that is possible without disturbance to the steep slope areas having a grade of 30% or greater.

Consistency with Standards for Approval of Topographical Alterations

The consistency of the proposed activities associated with the Project with each of the § 283-7C. Standards for Approval, are presented below.

(1) *The planning, design and development of buildings shall provide the maximum in structural safety and human enjoyment while adapting the site to and taking advantage of the best use of the natural terrain.*

Not applicable since no buildings are being proposed.

(2) *Roads and driveways shall follow the natural topography to the greatest extent possible and shall be consistent with other applicable regulations of the Town of Cortlandt and current engineering practices.*

See Exhibit H (Grading Plan, Sheet 4) and in the enclosed SEQR Supplemental Information Report; the Project has been designed to follow the natural topography to the extent feasible in the overall design.

(3) *Any regrading shall blend in with the natural contours and undulations of the land.*

See Exhibit H (Grading Plan, Sheet 4) and in the enclosed SEQR Supplemental Information Report; the Project regrading has been designed to blend in with the natural contours and undulation of the land to the extent feasible.

(4) *Cuts and fills shall be rounded off to eliminate sharp angles at the top, bottom and sides of regraded slopes.*

See Exhibit H (Grading Plan, Sheet 4); the Project so complies.

(5) *The angle of cut and fill slopes shall not exceed a ratio of one vertical to two horizontal except where retaining walls, structural stabilization or other methods acceptable to the Director of Technical Services are used.*

See Exhibit H (Grading Plan, Sheet 4) and the enclosed SEQR Supplemental Information Report; the Project so complies.

(6) *Any lakes or ponds that are created shall have a sufficient depth and inflow of water to minimize the possibility of stagnation and excessive aquatic growth.*

Not applicable since no lakes or ponds are proposed.

(7) *Topsoil removed shall be replaced to a depth of at least four inches over all exposed ground surfaces except rock, and said restored surface shall be planted or seeded and mulched repeatedly as necessary until the area is stabilized.*

In accordance with the SWPPP, topsoil in areas of proposed grading will be stripped, temporarily stockpiled, and replaced following grading. Following replacement, these areas will be seeded and stabilized to achieve final stabilization as defined in the SPDES General Permit.

(8) *There shall be no processing of excavated materials by a rock crusher or similar equipment on the premises.*

No crushing of aggregate is proposed in association with the Project.

(9) *No excavation shall be made so as to undermine, weaken or deprive support of adjacent land.*

Proposed excavations are typically of less than 5 feet in depth, not localized, and not typically near property boundaries. As such undermining, weakening, or deprivation of support are not anticipated.

(10) *No removal of earth from the ground shall be made so as to prevent or interfere with the orderly development of residential, business, manufacturing or public purposes or other lands in the vicinity or as to unreasonably delay travel from one place to another or as to make unduly difficult or substantially increase the cost of the installation of public utilities or other public services or as to substantially depreciate the value of real property in the vicinity.*

The removal of earth from the ground will almost exclusively occur in areas isolated from existing utilities and property boundaries, so none of the referenced impacts is anticipated.

Exhibit CC

Landscaping Maintenance Plan

August 2021

CVE

North America

Proposed Cortlandt Mill Solar Farm

Cortlandt, Westchester County, New York

Prepared For:

CVE North America
Changing Visions of Energy

Prepared By:

TRC

TABLE OF CONTENTS

TABLES

1.0 Introduction

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The Landscaping Maintenance Plan will describe appropriate procedures, best management practices for the proposed vegetation and existing vegetation that is to remain, any clearing of vegetation necessary for maintenance safety reasons, and groundcover revegetation and/or pollinator strategies to be implemented. The Plan describes appropriate procedures and provides strategies for invasive plant management, noxious weed control, outlining maintenance and monitoring methods over the lifetime of the Project.

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The purpose and intent of this of this Plan is to outline directives regarding the management of existing and future vegetation found growing within the Project Area, as shown in the Land Development Plans, to ensure the safe and reliable production and delivery of electrical power consistent with responsible land use, minimal impacts, and increased benefit to the ecosystem in and around the Project Area. The Landscaping Plan and Landscaping Maintenance Plan specifically, describes the implementation, planting, and maintenance of pollinator-friendly, native, vegetative cover and/or plantings, including plans to control planted and invasive vegetation during construction and operation of the Project.

3.0 Existing Conditions

3.1 Characterization Methods

The site characterization to support the Plan was completed using various public sources including online databases, public literature and documents, reports, and geographic information systems data. Additional information was obtained by field scoping views, agency consultation, and through collaborative efforts with field specialists and/or other qualified professionals.

This Plan will serve as a useful tool in providing a consistent and predictable implementation of best management practices related to the existing and proposed vegetation on the site with the goal of improving the overall health and quality of the surrounding environment. Continued

maintenance and management of these areas will promote early successional growth to establish and mitigate invasive plant species encroachment.

4.0 Vegetation Planting and Revegetation Implementation

To the extent practicable, the Project should promote native vegetation habitats and vegetative cover implementation, management, and landscaping measures including:

- Planting of temporary vegetation and long-term vegetation;
- Planting of solar array groundcover and pollinator-specific groundcover;
- Invasive weed control;
- Protection of woody vegetation;
- Tree clearing; and
- Vegetation monitoring, maintenance and management.

4.1 Temporary Vegetative Cover

During construction and/or extensive maintenance activities, temporary stabilization practices must be implemented to reduce soil erosion during stormwater events and minimize damage to soils during the construction phase. Best management practices to address these concerns, including use of temporary (annual) seed mixes and winter cover crops, as outlined in the Project's Erosion and Sediment Control Plans and/or the Stormwater Pollution Prevention Plan (SWPPP) and should be implemented to ensure all land and water resources are protected during construction and operations.

4.2 Long-Term Vegetative Cover and Vegetation Plan

4.2.1 Solar Array Groundcover

Low-growing seed mixes specifically created for use under the solar arrays are recommended within the array footprint. This mix shall be composed of warm and cool season grasses that do not typically exceed heights of 3 feet thus, reducing shading impacts. Additionally, this seed mix should also include low-growing pollinator-friendly red and white clover (*Trifolium pratense* and *Trifolium repens* – respectively).

The recommended examples of various varieties of grass species for under the solar array panels include: fescue (*Festuca* spp.), bluegrass (*Poa pratense spp.*), and rough bentgrass (*Agrostis perennans spp.*) (see Tables 1 and 2 below).

As noted above, pollinator-friendly clover species will be sown under the arrays in addition to implementing cool and warm season grasses. As a result, "**pollinator pockets**" can be created by using other pollinator-specific seed mixes and sown everywhere else possible throughout the site (where the solar seed mix is not being sown) to promote a pollinator-friendly habitat, where possible. It could be advantageous to use a seed mix of shorter height varieties to reduce mowing

regimens and allow for the pollinator-friendly species to grow to their naturally occurring heights resulting in optimum flower production in these areas.

Seed mixtures for vegetative buffer strips and site vegetation under the solar arrays or elsewhere shall be composed of native cool season and/or warm season grasses and wildflowers. The following seed mix identified in Table 1 below, as specified in the Landscaping Plans, are presented based on site specific conditions for use primarily under the solar arrays. It is important to note, that switch grass (*Panicum virgatum*) and crown vetch (*Securigera varia*) should be avoided in seed mixes, as they are aggressive and can take over a site, outcompeting other native herbs. Switchgrass can grow to heights of 6 feet with thick rhizomes that will outcompete other vegetation growing around it. Crown vetch, while not tall, forms thick vegetative mats that out-competes other herbaceous vegetation.

Grass seed mixes should be comprised of native grasses that are indigenous to New York and/or the northeast and considered favorable for wildlife habitat and sustainable growth. Additionally, the solar farm seed mix is developed especially for native grass plantings around solar array fields and shall be used accordingly. Seed mixes made for solar arrays typically mature to a height of approximately 3 feet. There are usually little to no wildflower or pollinator-friendly seed species contained in solar farm grass seed mixes unless otherwise noted or specified. In this Project-specific instance, red and white clover are specified for inclusion and cited above. The solar farm mix is provided below for reference in Table 1. Please note that the species listed below in Table 1 are naturalized, but not necessarily native to New York.

Table 1. Native/Naturalized Solar Farm Seed Mix

NATIVE/NATURALIZED SOLAR FARM SEED MIX				
BOTANICAL NAME	**COMMON NAME**	**MIX CONCENTRATION**	**RATE (LBS/ACRE)**	**RATE (LBS/1000 FT^2)**
FESTUCA RUBRA	CREEPING RED FESCUE	34%	262	6
FESTUCA OVINA	SHEEP FESCUE	33%		
FESTUCA BREVIPILA 'BEACON'	HARD FESCUE 'BEACON'	10%		
FESTUCA OVINA VAR. DURIUSCULA 'RHINO'	HARD FESCUE 'RHINO'	5%		
FESTUCA OVINA VAR. GLAUCA (F. ARVERNENSIS) (F. GLAUCA), 'BLUE RAY'	BLUE FESCUE 'BLUE RAY'	5%		
POA PRATENSIS 'ARGYLE'	KENTUCKY BLUEGRASS 'ARGYLE'	5%		
POA PRATENSIS 'SHAMROCK'	KENTUCKY BLUEGRASS 'SHAMROCK'	5%		
AGROSTIS PERENNANS, ALBANY PINE BUSH-NY ECOTYPE	AUTUMN BENTGRASS, ALBANY PINE BUSH-NY ECOTYPE	3%		

4.2.2 Native Pollinator-Specific Groundcover and Native Vegetation Habitats

This section identifies strategies that foster native habitat for animals, plants, and pollinators to ensure the groundcover types are used and implemented to the best extent possible.

A pollinator-specific seed mix is recommended to be used and is designed to provide additional ecological benefits and enhance visual aesthetics of the Project and benefit wildlife habitat and pollinators. This seed mix can be sown in select areas along the fence line perimeters, access roads, and other places where pockets of space are created due to odd angles in the fence line perimeter, solar array configurations, or buffer areas ultimately creating **pollinator pockets** that contain pollinator-friendly species. **Pollinator pockets** limit locations of flowering herbs (that are often taller) to specified areas, and allow for seed mix that is appropriate for use under the arrays, in terms of panel shading, erosion, and year-round vegetative cover concerns.

Since pollinator pocket seed mix is intended for areas away from panel arrays, the species selected can be allowed to grow taller than the groundcover maintained within the solar array allowing for more varieties of species to be considered, sown, and/or implemented. Proper raking, tilling, and finish grading techniques should be performed prior to sowing the pollinator-specific seed mix. Some examples of native pollinator-friendly species include: purple coneflower (*Echinacea purpurea*); black-eyed susan (*Rudbeckia hirta*); closed gentian (*Gentiana virginiana*); blue vervain (*Verbena hastata);* sundial lupine (*Lupinus perennis*); wild bee-balm or wild bergamot (*Monarda fistulosa*); and zigzag aster (*Aster prenanthoides*). Below is a Northeast Wildflower/Pollinator Seed Mix available from Ernst Seeds (https://www.ernstseed.com/product/showy-northeast-native-wildflower-grass-mix/) for consideration (see Table 2).

Notes: Native pollinator seed mixes are intended to provide excellent wildlife food and shelter that will attract a variety of pollinators and songbirds. The native wildflowers and grasses in this mix provide an attractive display of color from spring to fall. Pollinator seed mixes are intended to provide nectar and food sources for a variety of pollinators and larvae. These mixes are composed of a fairly even mix of native and/or indigenous wildflowers and grasses. The pollinator seed mix is intended to be sown in the designated areas along of the solar array, within the Project fence line field, wherever possible.

Table 2. Northeast Native Wildflower & Grass Mix

NORTHEAST NATIVE WILDFLOWER & GRASS MIX				
BOTANICAL NAME	COMMON NAME	MIX CONCENTRATION	RATE (LBS/ACRE)	RATE (LBS/1000 FT^2)
SCHIZACHYRIUM SCOPARIUM	LITTLE BLUESTEM	40%		
BOUTELOUA CURTIPENDULA	SIDEOATS GRAMA	23.40%		
COSMOS BIPINNATUS	COSMOS	7.30%		
COREOPSIS LANCEOLATA	LANCELEAF COREOPSIS	3.50%		
ECHINACEA PURPUREA	PURPLE CONEFLOWER	3.50%		
ELYMUS VIRGINICUS	VIRGINIA WILDRYE	3%		
SORGHASTRUM NUTANS	INDIANGRASS	2.50%		
LUPINUS POLYPHYLLUS	BIGLEAF LUPINE	2.20%		
CHAMAECRISTA FASCICULATA	PARTRIDGE PEA	2%		
DELPHINIUM AJACIS	ROCKET LARKSPUR	2%		
RUDBECKIA HIRTA	BLACKEYED SUSAN	2%		
GAILLARDIA ARISTATA	BLANKET FLOWER	1.50%		
SENNA HEBECARPA	WILD SENNA	1%		
PENSTEMON DIGITALIS	TALL WHITE BEARDTONGUE	1%		
PAPAVER RHOEAS	SHIRLEY MIX (CORN POPPY, SHIRLEY MIX)	0.60%		
ANDROPOGON GERARDII	BIG BLUESTEM	0.50%	20	0.46
ELYMUS CANADENSIS	CANADA WILDRYE	0.50%		
COREOPSIS TINCTORIA	PLAINS COREOPSIS	0.50%		
LIATRIS SPICATA	BLAZING STAR	0.40%		
ASCLEPIAS SYRIACA	COMMON MILKWEED	0.40%		
ASCLEPIAS TUBEROSA	BUTTERFLY MILKWEED	0.40%		
ZIZIA AUREA	GOLDEN ALEXANDERS	0.30%		
ASCLEPIAS INCARNATA	SWAMP MILKWEED	0.30%		
MONARDA FISTULOSA	WILD BERGAMONT	0.20%		
PENSTEMON LAEVIGATUS	APPALACHIAN BEARDTONGUE	0.20%		
SENNA MARILANDICA	MARYLAND SENNA	0.20%		
SOLIDAGO NEMORALIS	GRAY GOLDENROD	0.10%		
TRADESCANTIA OHIENSIS	OHIO SPIDERWORT	0.10%		
ASTER LAEVIS	SMOOTH BLUE ASTER	0.10%		
ASTER NOVAE-ANGLIAE	NEW ENGLAND ASTER	0.10%		
ASTER PRENANTHOIDES	ZIGZAG ASTER	0.10%		
HELIOPSIS HELIANTHOIDES	OXEYE SUNFLOWER	0.10%		

4.2.3 Forested Areas – Replanting and/or Revegetation Efforts

The Town of Cortlandt has a Tree Preservation and Reforestation Strategy process in place, therefore, it is recommended that tree clearing of woodland/forested areas be replaced and/or revegetated with appropriate native natural cover to the best extent possible. A few important criteria realized in this effort are sustainability, threats, and opportunities. By replenishing forested areas in kind, or with appropriate vegetative cover substitutions to the best extent possible, wildlife habitats are more likely to stay intact, thrive at sustainable levels, and offer opportunities for other types of wildlife species in this area that may not have previously existed. Erosion issues are less likely to occur as well if these types of efforts are put forth providing appropriate buffers and continued protection of wetland and water resources. Successful implementation of replanting and/or revegetation strategies can also ensure that biodiversity and resiliency of forest-type ecosystems is maintained at optimal levels, natural resources for wildlife are abundant and flourish, and wildlife habitats are not only attainable but sustainable as well.

4.2.4 Long-Term Vegetative Cover and Operations & Maintenance Requirements

All labor, plants, approved seed mix, and materials should be provided in quantities sufficient to complete the revegetation work necessary prior to implementation, and all trees/shrubs being used for revegetation efforts should be acclimated by the supply nursery to the local hardiness zone, be certified that the planting material has been grown for a minimum of 2 years at the source, and obtained within 200 miles of the Project unless otherwise approved and agreed upon by the Project owner and/or authorized representative. The average frost-free growing season for the Project Area is early May through mid-October.

Plant material used for revegetation efforts within the Project Area should be guaranteed upon installation and plants, trees, and shrubs should be healthy and free of disease before, during, and after substantial completion and acceptance by the Project. Individual trees and shrubs should be typical of their species or variety, with normal habit of growth. In addition, trees and shrubs should be sound, healthy, vigorous, well-branched, and densely foliated when in leaf, free of disease, insect pests, eggs, or larvae and they should have healthy and well-developed root systems. Dead or unhealthy plants should be replaced following the guidelines and directives of guarantee(s) provided and agreed upon. Final acceptance of revegetation efforts should be made only if all plants meet the guaranteed requirements including the maintenance directives put forth in this Landscaping Maintenance Plan.

Additionally, all tree/shrub planting locations should be coordinated with Project utilities. A site layout, grading and/or utility plan will be referenced to locate storm, sanitary, gas, electric, telephone, and water lines whenever possible and care should always be exercised when digging in areas of potential conflict with underground or overhead utilities.

Although not anticipated due to minimal cuts and fills or grading, wherever necessary, topsoil should be installed at a minimum depth of 4 inches as needed to establish proper planting conditions. Although no soil samples are referenced in this Landscaping Maintenance Plan, soil samples are noted in the Landscaping Plan notes and can help confirm suitable seed mixes are chosen. If the seed provider determines this information is necessary to confirm seed selection, soil samples should be submitted to a certified testing laboratory to determine pH, fertility, organic content, and mechanical composition prior to planting or sowing of seed. Soil testing can be

completed at the Westchester County University of Cornell Cooperative Extension Office (or other qualified facility) and the resulting amendment recommendations for good plant growth and proper soil acidity should be incorporated into the existing soil prior to sowing of seed or planting that is to occur.

Additionally, no phosphorous should be used at the time of planting unless soil testing has been completed and tested by a horticultural testing lab and soil tests specifically indicate a phosphorous deficiency that is harmful or will prevent new grasses and plantings from establishing properly. If soil tests do indicate a phosphorous deficiency that will impact plant and grass establishment, then phosphorous should be applied at the minimum recommended level prescribed in the soil test following all applicable standards, requirements, and/or regulations.

5.0 Vegetative Cover Maintenance and Monitoring

At the discretion of the Project owner and operator, the implementation of a vegetation monitoring program and schedule combined with appropriate vegetation management practices can provide numerous benefits to the Project Area, as well as minimize overall maintenance costs over the Project life. Proper monitoring and maintenance techniques will help enhance the overall vitality of the existing or planted vegetation located within the Project Area and limit the spread of unwanted, invasive, or noxious plant species.

Some maintenance activities, like tree protection, may occur during both construction and operations phases of the Project, while others, like monitoring for invasive weeds, begin as the long-term groundcover is being planted. Monitoring of the Project Area for invasive weeds and areas requiring vegetation maintenance (e.g., pruning of dead limbs creating a safety hazard) should occur at a minimum in the spring and in the fall in the first two growing seasons following installation of the long-term groundcover. After the first 2 years, the vegetation within the Project Area will be monitored as needed.

Additionally, recommendations made by the Westchester County University of Cornell Cooperative Extension regarding invasive species management and comprehensive vegetation management may be incorporated into this Plan. The agency recommendations provide additional insight regarding invasive species management. Agency recommendations may also provide further guidance for successful pollinator processes with respect to establishment, monitoring, and structured goals.

5.1 Invasive Weed Control, Monitoring, and Management

Optional vegetation monitoring recommendations include identifying the presence of invasive or unwanted species. During the first two growing seasons following planting of the long-term groundcover, the Project is most vulnerable to invasive species establishment due to soil disturbance during the construction phase. Should invasive species be identified within the Project area, the invasive species should be removed according to methods most likely to be effective in controlling that species and, where necessary, facilitating its replacement with an approved seed mix. The Prohibited and Regulated Invasive Plant List DEC Prohibited and Regulated Invasive Plants (ny.gov) can be used as a reference for identifying species considered invasive in New York and is included in Appendix A of this Landscaping Maintenance Plan.

5.2 Protection of Woody Vegetation

Tree (or woody vegetation) protection best management practices are utilized to protect a tree crown and/or tree root zone from damage during construction activities. Damage can also occur throughout the life of the Project and it is far easier to protect a tree from damage than to repair or replace it. Tree protection methods typically include some sort of fencing barrier that is set up around the perimeter of the root zone, protecting this area from equipment compaction and/or damage to the trunk of trees located in or around construction activities. In addition to protecting individual tree and shrub species, tree protection best management practices can also be used for larger areas of vegetation located within the limits of construction. These larger areas of vegetation may include existing wood line edges, hedge rows, and shrubby growth areas such as old fields and successional growth that is to be preserved.

5.3 Maintenance of Vegetation

Maintenance responsibilities include approved cultivating, mowing, spraying (when necessary), weeding, watering, tightening of tree strap guys, pruning, fertilizing, mulching, and other operations necessary to maintain plant viability. Vegetation maintenance may begin immediately after planting and continue as needed throughout the lifetime of the Project to ensure that sustainable practices are met and healthy vegetation on Site is maintained.

Maintenance responsibilities may be implemented over the lifetime of the Project from the onset of construction through decommissioning. Maintenance services and practices will vary in need, type, and intensity during the lifecycle of the Project. Mowing regimens will vary depending on the time of year and rainfall intensity, though mowing will occur as infrequently as vegetation growth will allow. Additionally, pruning efforts should lessen over time if proper pruning practices and standards are implemented. All tree pruning shall conform to the Tree Care Industry Association (TCIA) ANSI A300 (Part 1) – 2017 Pruning Standards.

5.3.1 Mowing

The long-term groundcover should be selected to eliminate the need for frequent mowing. The primary objective of mowing is to keep the vegetation below 2 feet in height to avoid panel shading. It is recommended that at least one mowing occurs each year to maintain a healthy viable groundcover stand throughout the Project Area. Occasionally, a second or third mowing may be needed during wetter and hotter growing season conditions, however, no more than three mowing regimens shall occur annually. All mowing should be completed after the growing season. Mowing will be needed to control annual weeds that are typical after a ground disturbance. The purpose of the mowing is to prevent annual weeds and long-lasting perennial weeds from seeding out. To promote native plant growth, mowings should be reduced to once a year, after the growing season between November and late April, wherever and whenever feasibly possible.

Mowing heights can vary between 5 and 10 inches during the second mowing to achieve the goals of preferred height limitations and maximizing benefits to wildlife. It is recommended that a 10-inch mowing height be used whenever possible for the second mow to align with the guidelines

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regimens and allow for the pollinator-friendly species to grow to their naturally occurring heights resulting in optimum flower production in these areas.

Seed mixtures for vegetative buffer strips and site vegetation under the solar arrays or elsewhere shall be composed of native cool season and/or warm season grasses and wildflowers. The following seed mix identified in Table 1 below, as specified in the Landscaping Plans, are presented based on site specific conditions for use primarily under the solar arrays. It is important to note, that switch grass (*Panicum virgatum*) and crown vetch (*Securigera varia*) should be avoided in seed mixes, as they are aggressive and can take over a site, outcompeting other native herbs. Switchgrass can grow to heights of 6 feet with thick rhizomes that will outcompete other vegetation growing around it. Crown vetch, while not tall, forms thick vegetative mats that out-competes other herbaceous vegetation.

Grass seed mixes should be comprised of native grasses that are indigenous to New York and/or the northeast and considered favorable for wildlife habitat and sustainable growth. Additionally, the solar farm seed mix is developed especially for native grass plantings around solar array fields and shall be used accordingly. Seed mixes made for solar arrays typically mature to a height of approximately 3 feet. There are usually little to no wildflower or pollinator-friendly seed species contained in solar farm grass seed mixes unless otherwise noted or specified. In this Project-specific instance, red and white clover are specified for inclusion and cited above. The solar farm mix is provided below for reference in Table 1. Please note that the species listed below in Table 1 are naturalized, but not necessarily native to New York.

Table 1. Native/Naturalized Solar Farm Seed Mix

NATIVE/NATURALIZED SOLAR FARM SEED MIX				
BOTANICAL NAME	**COMMON NAME**	**MIX CONCENTRATION**	**RATE (LBS/ACRE)**	**RATE (LBS/1000 FT^2)**
FESTUCA RUBRA	CREEPING RED FESCUE	34%	262	6
FESTUCA OVINA	SHEEP FESCUE	33%		
FESTUCA BREVIPILA 'BEACON'	HARD FESCUE 'BEACON'	10%		
FESTUCA OVINA VAR. DURIUSCULA 'RHINO'	HARD FESCUE 'RHINO'	5%		
FESTUCA OVINA VAR. GLAUCA (F. ARVERNENSIS) (F. GLAUCA), 'BLUE RAY'	BLUE FESCUE 'BLUE RAY'	5%		
POA PRATENSIS 'ARGYLE'	KENTUCKY BLUEGRASS 'ARGYLE'	5%		
POA PRATENSIS 'SHAMROCK'	KENTUCKY BLUEGRASS 'SHAMROCK'	5%		
AGROSTIS PERENNANS, ALBANY PINE BUSH-NY ECOTYPE	AUTUMN BENTGRASS, ALBANY PINE BUSH-NY ECOTYPE	3%		

4.2.2 Native Pollinator-Specific Groundcover and Native Vegetation Habitats

This section identifies strategies that foster native habitat for animals, plants, and pollinators to ensure the groundcover types are used and implemented to the best extent possible.

A pollinator-specific seed mix is recommended to be used and is designed to provide additional ecological benefits and enhance visual aesthetics of the Project and benefit wildlife habitat and pollinators. This seed mix can be sown in select areas along the fence line perimeters, access roads, and other places where pockets of space are created due to odd angles in the fence line perimeter, solar array configurations, or buffer areas ultimately creating **pollinator pockets** that contain pollinator-friendly species. **Pollinator pockets** limit locations of flowering herbs (that are often taller) to specified areas, and allow for seed mix that is appropriate for use under the arrays, in terms of panel shading, erosion, and year-round vegetative cover concerns.

Since pollinator pocket seed mix is intended for areas away from panel arrays, the species selected can be allowed to grow taller than the groundcover maintained within the solar array allowing for more varieties of species to be considered, sown, and/or implemented. Proper raking, tilling, and finish grading techniques should be performed prior to sowing the pollinator-specific seed mix. Some examples of native pollinator-friendly species include: purple coneflower (*Echinacea purpurea*); black-eyed susan (*Rudbeckia hirta*); closed gentian (*Gentiana virginiana*); blue vervain (*Verbena hastata);* sundial lupine (*Lupinus perennis*); wild bee-balm or wild bergamot (*Monarda fistulosa*); and zigzag aster (*Aster prenanthoides*). Below is a Northeast Wildflower/Pollinator Seed Mix available from Ernst Seeds (https://www.ernstseed.com/product/showy-northeast-native-wildflower-grass-mix/) for consideration (see Table 2).

Notes: Native pollinator seed mixes are intended to provide excellent wildlife food and shelter that will attract a variety of pollinators and songbirds. The native wildflowers and grasses in this mix provide an attractive display of color from spring to fall. Pollinator seed mixes are intended to provide nectar and food sources for a variety of pollinators and larvae. These mixes are composed of a fairly even mix of native and/or indigenous wildflowers and grasses. The pollinator seed mix is intended to be sown in the designated areas along of the solar array, within the Project fence line field, wherever possible.

Table 2. Northeast Native Wildflower & Grass Mix

NORTHEAST NATIVE WILDFLOWER & GRASS MIX				
BOTANICAL NAME	COMMON NAME	MIX CONCENTRATION	RATE (LBS/ACRE)	RATE (LBS/1000 FT^2)
SCHIZACHYRIUM SCOPARIUM	LITTLE BLUESTEM	40%		
BOUTELOUA CURTIPENDULA	SIDEOATS GRAMA	23.40%		
COSMOS BIPINNATUS	COSMOS	7.30%		
COREOPSIS LANCEOLATA	LANCELEAF COREOPSIS	3.50%		
ECHINACEA PURPUREA	PURPLE CONEFLOWER	3.50%		
ELYMUS VIRGINICUS	VIRGINIA WILDRYE	3%		
SORGHASTRUM NUTANS	INDIANGRASS	2.50%		
LUPINUS POLYPHYLLUS	BIGLEAF LUPINE	2.20%		
CHAMAECRISTA FASCICULATA	PARTRIDGE PEA	2%		
DELPHINIUM AJACIS	ROCKET LARKSPUR	2%		
RUDBECKIA HIRTA	BLACKEYED SUSAN	2%		
GAILLARDIA ARISTATA	BLANKET FLOWER	1.50%		
SENNA HEBECARPA	WILD SENNA	1%		
PENSTEMON DIGITALIS	TALL WHITE BEARDTONGUE	1%		
PAPAVER RHOEAS	SHIRLEY MIX (CORN POPPY, SHIRLEY MIX)	0.60%		
ANDROPOGON GERARDII	BIG BLUESTEM	0.50%	20	0.46
ELYMUS CANADENSIS	CANADA WILDRYE	0.50%		
COREOPSIS TINCTORIA	PLAINS COREOPSIS	0.50%		
LIATRIS SPICATA	BLAZING STAR	0.40%		
ASCLEPIAS SYRIACA	COMMON MILKWEED	0.40%		
ASCLEPIAS TUBEROSA	BUTTERFLY MILKWEED	0.40%		
ZIZIA AUREA	GOLDEN ALEXANDERS	0.30%		
ASCLEPIAS INCARNATA	SWAMP MILKWEED	0.30%		
MONARDA FISTULOSA	WILD BERGAMONT	0.20%		
PENSTEMON LAEVIGATUS	APPALACHIAN BEARDTONGUE	0.20%		
SENNA MARILANDICA	MARYLAND SENNA	0.20%		
SOLIDAGO NEMORALIS	GRAY GOLDENROD	0.10%		
TRADESCANTIA OHIENSIS	OHIO SPIDERWORT	0.10%		
ASTER LAEVIS	SMOOTH BLUE ASTER	0.10%		
ASTER NOVAE-ANGLIAE	NEW ENGLAND ASTER	0.10%		
ASTER PRENANTHOIDES	ZIGZAG ASTER	0.10%		
HELIOPSIS HELIANTHOIDES	OXEYE SUNFLOWER	0.10%		

4.2.3 Forested Areas – Replanting and/or Revegetation Efforts

The Town of Cortlandt has a Tree Preservation and Reforestation Strategy process in place, therefore, it is recommended that tree clearing of woodland/forested areas be replaced and/or revegetated with appropriate native natural cover to the best extent possible. A few important criteria realized in this effort are sustainability, threats, and opportunities. By replenishing forested areas in kind, or with appropriate vegetative cover substitutions to the best extent possible, wildlife habitats are more likely to stay intact, thrive at sustainable levels, and offer opportunities for other types of wildlife species in this area that may not have previously existed. Erosion issues are less likely to occur as well if these types of efforts are put forth providing appropriate buffers and continued protection of wetland and water resources. Successful implementation of replanting and/or revegetation strategies can also ensure that biodiversity and resiliency of forest-type ecosystems is maintained at optimal levels, natural resources for wildlife are abundant and flourish, and wildlife habitats are not only attainable but sustainable as well.

4.2.4 Long-Term Vegetative Cover and Operations & Maintenance Requirements

All labor, plants, approved seed mix, and materials should be provided in quantities sufficient to complete the revegetation work necessary prior to implementation, and all trees/shrubs being used for revegetation efforts should be acclimated by the supply nursery to the local hardiness zone, be certified that the planting material has been grown for a minimum of 2 years at the source, and obtained within 200 miles of the Project unless otherwise approved and agreed upon by the Project owner and/or authorized representative. The average frost-free growing season for the Project Area is early May through mid-October.

Plant material used for revegetation efforts within the Project Area should be guaranteed upon installation and plants, trees, and shrubs should be healthy and free of disease before, during, and after substantial completion and acceptance by the Project. Individual trees and shrubs should be typical of their species or variety, with normal habit of growth. In addition, trees and shrubs should be sound, healthy, vigorous, well-branched, and densely foliated when in leaf, free of disease, insect pests, eggs, or larvae and they should have healthy and well-developed root systems. Dead or unhealthy plants should be replaced following the guidelines and directives of guarantee(s) provided and agreed upon. Final acceptance of revegetation efforts should be made only if all plants meet the guaranteed requirements including the maintenance directives put forth in this Landscaping Maintenance Plan.

Additionally, all tree/shrub planting locations should be coordinated with Project utilities. A site layout, grading and/or utility plan will be referenced to locate storm, sanitary, gas, electric, telephone, and water lines whenever possible and care should always be exercised when digging in areas of potential conflict with underground or overhead utilities.

Although not anticipated due to minimal cuts and fills or grading, wherever necessary, topsoil should be installed at a minimum depth of 4 inches as needed to establish proper planting conditions. Although no soil samples are referenced in this Landscaping Maintenance Plan, soil samples are noted in the Landscaping Plan notes and can help confirm suitable seed mixes are chosen. If the seed provider determines this information is necessary to confirm seed selection, soil samples should be submitted to a certified testing laboratory to determine pH, fertility, organic content, and mechanical composition prior to planting or sowing of seed. Soil testing can be

completed at the Westchester County University of Cornell Cooperative Extension Office (or other qualified facility) and the resulting amendment recommendations for good plant growth and proper soil acidity should be incorporated into the existing soil prior to sowing of seed or planting that is to occur.

Additionally, no phosphorous should be used at the time of planting unless soil testing has been completed and tested by a horticultural testing lab and soil tests specifically indicate a phosphorous deficiency that is harmful or will prevent new grasses and plantings from establishing properly. If soil tests do indicate a phosphorous deficiency that will impact plant and grass establishment, then phosphorous should be applied at the minimum recommended level prescribed in the soil test following all applicable standards, requirements, and/or regulations.

5.0 Vegetative Cover Maintenance and Monitoring

At the discretion of the Project owner and operator, the implementation of a vegetation monitoring program and schedule combined with appropriate vegetation management practices can provide numerous benefits to the Project Area, as well as minimize overall maintenance costs over the Project life. Proper monitoring and maintenance techniques will help enhance the overall vitality of the existing or planted vegetation located within the Project Area and limit the spread of unwanted, invasive, or noxious plant species.

Some maintenance activities, like tree protection, may occur during both construction and operations phases of the Project, while others, like monitoring for invasive weeds, begin as the long-term groundcover is being planted. Monitoring of the Project Area for invasive weeds and areas requiring vegetation maintenance (e.g., pruning of dead limbs creating a safety hazard) should occur at a minimum in the spring and in the fall in the first two growing seasons following installation of the long-term groundcover. After the first 2 years, the vegetation within the Project Area will be monitored as needed.

Additionally, recommendations made by the Westchester County University of Cornell Cooperative Extension regarding invasive species management and comprehensive vegetation management may be incorporated into this Plan. The agency recommendations provide additional insight regarding invasive species management. Agency recommendations may also provide further guidance for successful pollinator processes with respect to establishment, monitoring, and structured goals.

5.1 Invasive Weed Control, Monitoring, and Management

Optional vegetation monitoring recommendations include identifying the presence of invasive or unwanted species. During the first two growing seasons following planting of the long-term groundcover, the Project is most vulnerable to invasive species establishment due to soil disturbance during the construction phase. Should invasive species be identified within the Project area, the invasive species should be removed according to methods most likely to be effective in controlling that species and, where necessary, facilitating its replacement with an approved seed mix. The Prohibited and Regulated Invasive Plant List DEC Prohibited and Regulated Invasive Plants (ny.gov) can be used as a reference for identifying species considered invasive in New York and is included in Appendix A of this Landscaping Maintenance Plan.

5.2 Protection of Woody Vegetation

Tree (or woody vegetation) protection best management practices are utilized to protect a tree crown and/or tree root zone from damage during construction activities. Damage can also occur throughout the life of the Project and it is far easier to protect a tree from damage than to repair or replace it. Tree protection methods typically include some sort of fencing barrier that is set up around the perimeter of the root zone, protecting this area from equipment compaction and/or damage to the trunk of trees located in or around construction activities. In addition to protecting individual tree and shrub species, tree protection best management practices can also be used for larger areas of vegetation located within the limits of construction. These larger areas of vegetation may include existing wood line edges, hedge rows, and shrubby growth areas such as old fields and successional growth that is to be preserved.

5.3 Maintenance of Vegetation

Maintenance responsibilities include approved cultivating, mowing, spraying (when necessary), weeding, watering, tightening of tree strap guys, pruning, fertilizing, mulching, and other operations necessary to maintain plant viability. Vegetation maintenance may begin immediately after planting and continue as needed throughout the lifetime of the Project to ensure that sustainable practices are met and healthy vegetation on Site is maintained.

Maintenance responsibilities may be implemented over the lifetime of the Project from the onset of construction through decommissioning. Maintenance services and practices will vary in need, type, and intensity during the lifecycle of the Project. Mowing regimens will vary depending on the time of year and rainfall intensity, though mowing will occur as infrequently as vegetation growth will allow. Additionally, pruning efforts should lessen over time if proper pruning practices and standards are implemented. All tree pruning shall conform to the Tree Care Industry Association (TCIA) ANSI A300 (Part 1) – 2017 Pruning Standards.

5.3.1 Mowing

The long-term groundcover should be selected to eliminate the need for frequent mowing. The primary objective of mowing is to keep the vegetation below 2 feet in height to avoid panel shading. It is recommended that at least one mowing occurs each year to maintain a healthy viable groundcover stand throughout the Project Area. Occasionally, a second or third mowing may be needed during wetter and hotter growing season conditions, however, no more than three mowing regimens shall occur annually. All mowing should be completed after the growing season. Mowing will be needed to control annual weeds that are typical after a ground disturbance. The purpose of the mowing is to prevent annual weeds and long-lasting perennial weeds from seeding out. To promote native plant growth, mowings should be reduced to once a year, after the growing season between November and late April, wherever and whenever feasibly possible.

Mowing heights can vary between 5 and 10 inches during the second mowing to achieve the goals of preferred height limitations and maximizing benefits to wildlife. It is recommended that a 10-inch mowing height be used whenever possible for the second mow to align with the guidelines

of various pollinator initiatives; however, shorter mowing heights of 5 to 6 inches may be needed if panel shading issues become a concern.

5.3.2 Herbicides

Selective herbicide use may be necessary to control weeds and unwanted vegetation growth but other options and/or methods to control vegetation will be considered prior to herbicide use. Pollinator Habitat Initiatives provide additional guidelines on herbicide use in pollinator-friendly habitat management, which will be implemented where and when reasonably appropriate. Should herbicide use be necessary, an herbicide would need be applied by personnel qualified in its use to ensure proper selection and application, as treatment approach can vary depending on target species, time of year, extent of area, or other factors. In New York, certain rules apply where herbicides can be applied, especially if surface water is present so a qualified professional should be consulted for application purposes.

Where herbicides are deemed necessary, an effort should be made to minimize use and to only apply highly bio-degradable, Environmental Protection Agency (EPA)-registered and approved, organic solutions that are nontoxic to pets and wildlife. Under circumstances where herbicides are deemed necessary, an effort will be made to only apply herbicide according to EPA Regulations. To further avoid potential adverse effects associated with the use of herbicides on the surrounding environment, it is recommended that all precautionary measures and safety instructions be observed.

5.3.3 Pruning

Pruning activities should conform to the TCIA ANSI a300 (part 1) - 2017 pruning standards. Pruning standards performed on trees and shrubs within the Project Area should manage risk, manage health, develop structure, provide clearance, manage size or shape, improve aesthetics, manage production of fruit, flowers to benefit the existing pollinator habitat, and/or manage wildlife habitat. Developing structure through proper pruning practices will improve branch and trunk architecture, promote or subordinate certain leaders, stems, or branches. Proper pruning also promotes desirable branch spacing, promote or discourage growth in a particular direction (directional pruning), minimize future interference with vehicular traffic, lines of sight, infrastructure, or other plants.

Proper pruning methods also restore plants following damage incurred and can rejuvenate shrubs. Providing clearance should ensure safe and reliable utility services and minimize interference with traffic, lines of site, infrastructure, or other plants. Proper pruning practices can also raise crown(s) for movement of traffic or light penetration, ensure lines of sight or desired views, provide access to sites, buildings, or other structures; and/or comply with additional requirements, recommendation, and guidelines found within this Native Vegetation Habitat and Vegetative Cover Plan. Proper pruning practices and standards should also apply to tree clearing activities done within the Project and should adhere to all seasonal clearing restrictions mentioned above.

6.0 Conclusion

Native/indigenous trees, shrubs, grasses, and pollinator-friendly groundcovers are intended to provide excellent wildlife food and shelter that will attract a variety of wildlife including pollinators and songbirds. They may also serve as a foundation for the local community to support beekeeping initiatives. Native wildflowers and grasses in pollinator seed mixes provide an attractive display of color from spring to fall and the pollinator seed mixes are intended to provide nectar and food sources for a variety of pollinators and larva. These mixes are typically comprised of an even mix of native wildflowers and grasses. Native grasses and/or pollinator seed mixes can serve as permanent erosion and sediment best management practices within the Project Area. Furthermore, it is recommended that native wildflowers and grasses be sown throughout the Project in selected locations wherever possible. This Plan, as set forth, provides a simple framework to implement and maintain native groundcover in the Project throughout the life of the Project. Please see the additional Landscape Maintenance Recommendations in Appendix B.

APPENDIX A

New York State List of Prohibited and Regulated Invasive Plants
September 10, 2014

New York State
Prohibited and Regulated
Invasive Plants

September 10, 2014




NYS DEPARTMENT OF
ENVIRONMENTAL CONSERVATION

NYS DEPARTMENT OF
AGRICULTURE AND MARKETS

New York State Department of Environmental Conservation
NYCRR Part 575 Invasive Species Regulations
Questions and Answers

http://www.dec.ny.gov/regulations/2359.html

What are invasive species?

Invasive species means a species that is nonnative to a particular ecosystem, and whose introduction causes or is likely to cause economic or environmental harm or harm to human health.

Why are invasive species a problem?

Invasive species can harm natural communities and systems (plants and animals found in particular physical environments) by out-competing native species, reducing biological diversity, altering community structure and, in some cases, changing ecosystems. Invasive species threaten New York's food supply, not only agriculture but also harvested wildlife, fish and shellfish; our landscaping, parks, gardens, and pets; and our recreation resources and even animal and human health. All New Yorkers have a stake in the invasive species issue.

How will these regulations help?

These regulations are to help control invasive species by reducing the introduction and spread of them by limiting commerce in such species. By preventing introduction of new invasive species, New York will save time, effort, and money in the future.

How were the lists included in the regulations developed?

The lists of prohibited and regulated species were developed using the species assessment and listing process outlined in the 2010 report "A Regulatory System for Non-native Species," which can be found at http://www.dec.ny.gov/animals/63402.html.

When will the regulations be implemented?

The final regulations (or a summary) were published in the State Register September 10, 2014, they become effective 6 months thereafter.

What is the difference between prohibited and regulated invasive species?

Prohibited invasive species cannot be knowingly possessed with the intent to sell, import, purchase, transport or introduce. In addition, no person shall sell, import, purchase, transport, introduce or propagate prohibited invasive species. Regulated invasive species, on the other hand, are species which cannot be knowingly introduced into a free-living state, or introduced by a means that one should have known would lead to such an introduction, although such species shall be legal to possess, sell, buy, propagate and transport.

What species have grace periods established in the regulations?

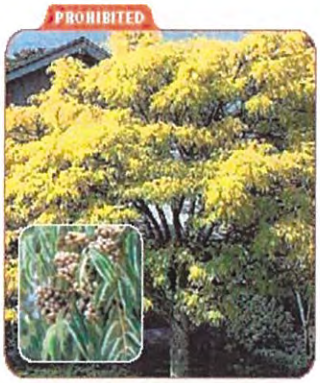
A one-year grace period is included in the regulations for Japanese Barberry (*Berberis thunbergii*), during which existing stock of this species may be sold.

Who will enforce the regulations?

The regulations will be enforced by the Department of Environmental Conservation, with assistance from the Department of Agriculture and Markets.

TERRESTRIAL PLANTS

PROHIBITED



Amur Cork Tree *Phellodendron amurense*

PROHIBITED

Amur Honeysuckle *Lonicera maackii*

PROHIBITED

Autumn Olive *Elaeagnus umbellata*

PROHIBITED

Beach Vitex *Vitex rotundifolia*

PROHIBITED

Black Swallow-wort *Cynanchum louiseae*
(C. nigrum, Vincetoxicum nigrum)

PROHIBITED

Bohemian Knotweed *Reynoutria x bohemica*
(Fallopia x bohemica, Polygonum x bohemica)

PROHIBITED

Border Privet *Ligustrum obtusifolium*

PROHIBITED

Broad-leaved Pepper-grass
Lepidium latifolium

PROHIBITED

Canada Thistle *Cirsium arvense*
(C. setosum, C. incanum, Serratula arvensis)

TERRESTRIAL PLANTS

PROHIBITED

Chinese Lespedeza *Lespedeza cuneata*

PROHIBITED

Chinese Yam *Dioscorea polystachya (D. batatas)*

PROHIBITED

Cogon Grass *Imperata cylindrica (I. arundinacea, Lagurus cylindricus)*

PROHIBITED

Common Buckthorn *Rhamnus cathartica*

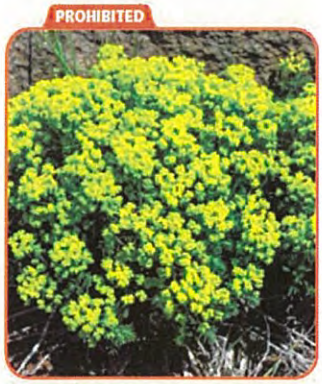
PROHIBITED

Cup-plant *Silphium perfoliatum*

PROHIBITED

Cut-leaf Teasel *Dipsacus laciniatus*

PROHIBITED



Cypress Spurge *Euphorbia cyparissias*

PROHIBITED

Fly Honeysuckle *Lonicera x bella*

PROHIBITED

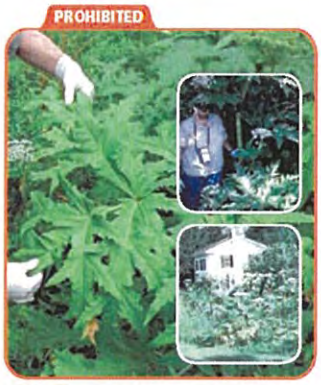
Garden Loosestrife *Lysimachia vulgaris*

TERRESTRIAL PLANTS

PROHIBITED

Garlic Mustard *Alliaria petiolata*

PROHIBITED



Giant Hogweed *Heracleum mantegazzianum*

PROHIBITED

Giant Knotweed *Reynoutria sachalinensis (Fallopia sachalinensis, Polygonum sachalinensis)*

PROHIBITED

Golden Bamboo *Phyllostachys aurea*

PROHIBITED

Gray Florist's Willow *Salix atrocinerea*

PROHIBITED

Japanese Angelica Tree *Aralia elata*

PROHIBITED

Japanese Barberry *Berberis thunbergii*

PROHIBITED

Japanese Chaff Flower *Achyranthes japonica*

PROHIBITED

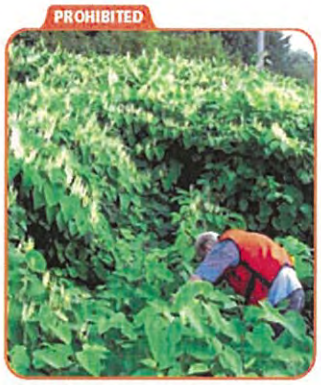
Japanese Honeysuckle *Lonicera japonica*

TERRESTRIAL PLANTS

PROHIBITED

Japanese Hops *Humulus japonicus*

PROHIBITED



Japanese Knotweed *Reynoutria japonica*
(Fallopia japonica, Polygonum cuspidatum)

PROHIBITED

Japanese Stilt Grass *Microstegium vimineum*

PROHIBITED

Kudzu *Pueraria montana*

PROHIBITED

Leafy Spurge *Euphorbia esula*

PROHIBITED

Lesser Celandine *Ficaria verna*
(Ranunculus ficaria)

PROHIBITED

Mile-a-minute Weed *Persicaria perfoliata*
(Polygonum perfoliatum)

PROHIBITED

Morrow's Honeysuckle
Lonicera morrowii

PROHIBITED

Mugwort *Artemisia vulgaris*

TERRESTRIAL PLANTS

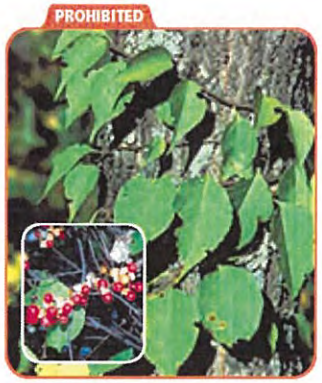
PROHIBITED

Multiflora Rose *Rosa multiflora*

PROHIBITED

Narrowleaf Bittercress *Cardamine impatiens*

PROHIBITED



Oriental Bittersweet *Celastrus orbiculatus*

PROHIBITED

Pale Swallow-wort *Cynanchum rossicum*
(C. medium, Vincetoxicum medium, V. rossicum)

PROHIBITED

Porcelain Berry *Ampelopsis brevipedunculata*

PROHIBITED

Slender False Brome
Brachypodium sylvaticum

PROHIBITED

Small Carpetgrass *Arthraxon hispidus*

PROHIBITED

Spotted Knapweed *Centaurea stoebe*
(C. biebersteinii, C. diffusa, C. maculosa misapplied, *C. xpsammogena)*

PROHIBITED

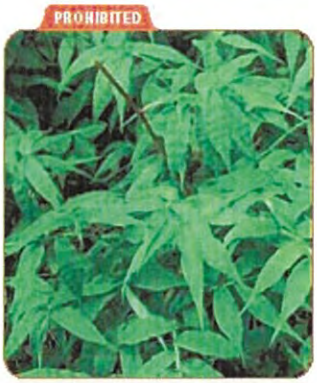
Sycamore Maple *Acer pseudoplatanus*

TERRESTRIAL PLANTS

PROHIBITED

Tartarian Honeysuckle *Lonicera tatarica*

PROHIBITED



Wavyleaf Basketgrass *Oplismenus hirtellus*

PROHIBITED

Wild Chervil *Anthriscus sylvestris*

PROHIBITED

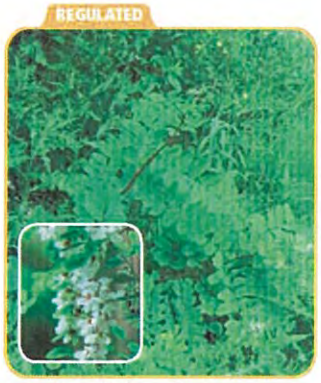
Wineberry *Rubus phoenicolasius*

PROHIBITED

Yellow Groove Bamboo
Phyllostachys aureosulcata

TERRESTRIAL PLANTS

REGULATED



Black Locust *Robinia pseudoacacia*

REGULATED

Burning Bush *Euonymus alatus*

REGULATED

Chinese Silver Grass *Miscanthus sinensis*

REGULATED

Japanese Virgin's Bower
Clematis terniflora

REGULATED

Norway Maple *Acer platanoides*

REGULATED

Winter Creeper *Euonymus fortunei*

WETLAND PLANTS

PROHIBITED

Common Reed Grass *Phragmites australis*

PROHIBITED

Marsh Dewflower *Murdannia keisak*

PROHIBITED

Purple Loosestrife *Lythrum salicaria*

PROHIBITED

Reed Manna Grass *Glyceria maxima*

PROHIBITED

Smooth Buckthorn *Frangula alnus* *(Rhamnus frangula)*

PROHIBITED

Yellow Iris *Iris pseudacorus*

AQUATIC PLANTS

PROHIBITED

Brazilian Waterweed *Egeria densa*

PROHIBITED

Broadleaf Water-milfoil Hybrid
Myriophyllum heterophyllum x M. laxum

PROHIBITED

Curly Pondweed *Potamogeton crispus*

PROHIBITED

Eurasian Water-milfoil
Myriophyllum spicatum

PROHIBITED

Fanwort *Cabomba caroliniana*

PROHIBITED

Floating Primrose Willow
Ludwigia peploides

PROHIBITED

Frogbit *Hydrocharis morsus-ranae*

PROHIBITED

Hydrilla/Water Thyme *Hydrilla verticillata*

PROHIBITED

Parrot-feather *Myriophyllum aquaticum*

- 11 -

AQUATIC PLANTS

PROHIBITED

Uruguayan Primrose Willow
Ludwigia hexapetala (L. grandiflora)

PROHIBITED

Water Chestnut *Trapa natans*

PROHIBITED

Yellow Floating Heart *Nymphoides peltata*

Photo Credits

TERRESTRIAL PLANTS, PROHIBITED: Amur Cork Tree: large photo and inset - *Patrick Breen*, Oregon State University, Bugwood org; **Amur Honeysuckle:** large photo - *John M. Randall*, The Nature Conservancy, Bugwood org, inset - *Chuck Bargeron*, University of Georgia, Bugwood org; **Autumn Olive:** *James R. Allison*, Georgia Department of Natural Resources, Bugwood org; **Beach Vitex:** *Forest and Kim Starr*, Starr Environmental, Bugwood org; **Black Swallow-wort:** *Leslie J. Mehrhoff*, University of Connecticut, Bugwood org; **Bohemian Knotweed:** *Robert Vidéki*, Doronicum Kft., Bugwood org; **Border Privet:** *Leslie J. Mehrhoff*, University of Connecticut, Bugwood org; **Broad-leaved Pepper-grass:** *Steve Dewey*, Utah State University, Bugwood org; **Canada Thistle:** *Steve Dewey*, Utah State University, Bugwood org; **Chinese Lespedeza:** *James H. Miller*, USDA Forest Service, Bugwood org; **Chinese Yam:** *Chris Evans*, Illinois Wildlife Action Plan, Bugwood org; **Cogon Grass:** *Nancy Loewenstein*, Auburn University, Bugwood org; **Common Buckthorn:** large photo - *Chris Evans*, Illinois Wildlife Action Plan, Bugwood org, inset - *Paul Wray*, Iowa State University, Bugwood org; **Cup-plant:** *Leslie J. Mehrhoff*, University of Connecticut, Bugwood org; **Cut-leaf Teasel:** *Chris Evans*, Illinois Wildlife Action Plan, Bugwood org; **Cypress Spurge:** *Todd Pfeiffer*, Klamath County Weed Control, Bugwood org; **Fly Honeysuckle:** *Leslie J. Mehrhoff*, University of Connecticut, Bugwood org; **Garden Loosestrife:** *Leslie J. Mehrhoff*, University of Connecticut, Bugwood org; **Garlic Mustard:** *Chris Evans*, Illinois Wildlife Action Plan, Bugwood org; **Giant Hogweed:** large photo - *Thomas B. Denholm*, New Jersey Department of Agriculture, www.forestryimages.org, top inset - *Terry English*, USDA APHIS PPQ, www.forestryimages.org, bottom inset - *Randy Westbrooks*, U.S. Geological Survey, www.forestryimages.org; **Giant Knotweed:** *Jan Samanek*, State Phytosanitary Administration, Bugwood org; **Golden Bamboo:** *James R. Allison*, Georgia Department of Natural Resources, Bugwood org; **Gray Florist's Willow:** *Leslie J. Mehrhoff*, University of Connecticut, Bugwood org; **Japanese Angelica Tree:** large photo - *T. Davis Sydnor*, The Ohio State University, Bugwood org, inset - *John M. Randall*, The Nature Conservancy, Bugwood org; **Japanese Barberry:** large photo and inset - *John Ruter*, University of Georgia, Bugwood org; **Japanese Chaff Flower:** *Chris Evans*, Illinois Wildlife Action Plan, Bugwood org; **Japanese Honeysuckle:** large photo and inset - *Chuck Bargeron*, University of Georgia, Bugwood org; **Japanese Hops:** *Leslie J. Mehrhoff*, University of Connecticut, Bugwood org; **Japanese Knotweed:** *Tom Heutte*, USDA Forest Service, Bugwood org; **Japanese Stilt Grass:** *Chuck Bargeron*, University of Georgia, Bugwood org; **Kudzu:** large photo - *James H. Miller*, USDA Forest Service, Bugwood org, top inset - *Forest and Kim Starr*, Starr Environmental, Bugwood org, bottom inset - *James H. Miller*, USDA Forest Service, Bugwood org; **Leafy Spurge:** *Norman E. Rees*, USDA Agricultural Research Service - Retired, Bugwood org; **Lesser Celandine:** *Leslie J. Mehrhoff*, University of Connecticut, Bugwood org; **Mile-a-minute Weed:** *Leslie J. Mehrhoff*, University of Connecticut, Bugwood org; **Morrow's Honeysuckle:** large photo - *Leslie J. Mehrhoff*, University of Connecticut, Bugwood org, inset - Stacey Leicht, University of Connecticut, Bugwood org; **Mugwort:** large photo - *Christian Fischer*, WikimediaCommons.org, inset - *Ohio State Weed Lab Archive*, The Ohio State University, Bugwood org; **Multiflora Rose:** *James R. Allison*, Georgia Department of Natural Resources, Bugwood org; **Narrowleaf Bittercress:** *Leslie J. Mehrhoff*, University of Connecticut, Bugwood org; **Oriental Bittersweet:** large photo - *James H. Miller*, USDA Forest Service, Bugwood org, inset - *James R. Allison*, Georgia Department of Natural Resources, Bugwood org; **Pale Swallow-wort:** *Leslie J. Mehrhoff*, University of Connecticut, Bugwood org; **Porcelain Berry:** *James H. Miller*, USDA Forest Service, Bugwood org; **Slender False Brome:** *Botanischer Garten*, Frankfurt, Germany - Creative Commons Universal Public Domain; **Small Carpetgrass:** *Leslie J. Mehrhoff*, University of Connecticut, Bugwood org; **Spotted Knapweed:** *Bruce Ackley*, The Ohio State University, Bugwood org; **Sycamore Maple:** large photo - *Leslie J. Mehrhoff*, University of Connecticut, Bugwood org, inset - *John Ruter*, University of Georgia, Bugwood org; **Tartarian Honeysuckle:** large photo - *Patrick Breen*, Oregon State University, Bugwood org, inset - *Ohio State Weed Lab Archive*, The Ohio State University, Bugwood org; **Wavyleaf Basketgrass:** *Kerrie L. Kyde*, Maryland Department of Natural Resources, Bugwood org; **Wild Chervil:** *Leslie J. Mehrhoff*, University of Connecticut, Bugwood org; **Wineberry:** *Leslie J. Mehrhoff*, University of Connecticut, Bugwood org; **Yellow Groove Bamboo:** *Caryn Rickel*, Institute of Invasive Bamboo Research, Bugwood org

TERRESTRIAL PLANTS, REGULATED: Black Locust: large photo - *Rob Routledge*, Sault College, Bugwood org, inset - *Vern Wilkins*, Indiana University, Bugwood org; **Burning Bush:** *Leslie J. Mehrhoff*, University of Connecticut, Bugwood org; **Chinese Silver Grass:** *James H. Miller*, USDA Forest Service, Bugwood org; **Japanese Virgin's Bower:** *Leslie J. Mehrhoff*, University of Connecticut, Bugwood org; **Norway Maple:** large photo - *Leslie J. Mehrhoff*, University of Connecticut, Bugwood org, inset - *Rob Routledge*, Sault College, Bugwood org; **Winter Creeper:** *James H. Miller*, USDA Forest Service, Bugwood org

WETLAND PLANTS, PROHIBITED: Common Reed Grass: *Joseph M. DiTomaso*, University of California - Davis, Bugwood org; **Marsh Dewflower:** *Linda Lee*, University of South Carolina, Bugwood org; **Purple Loosestrife:** *John D. Byrd*, Mississippi State University, Bugwood org; **Reed Manna Grass:** large photo - *WikimediaCommons.org*, top and bottom insets - *Leslie J. Mehrhoff*, University of Connecticut, Bugwood org; **Smooth Buckthorn:** *Leslie J. Mehrhoff*, University of Connecticut, Bugwood org; **Yellow Iris:** *Nancy Loewenstein*, Auburn University, Bugwood org

AQUATIC PLANTS, PROHIBITED: Brazilian Waterweed: *Robert Vidéki*, Doronicum Kft., Bugwood org; **Broadleaf Water-milfoil Hybrid:** *Donald Cameron*, gobotany.newenglandwild.org; **Curly Pondweed:** *Leslie J. Mehrhoff*, University of Connecticut, Bugwood org; **Eurasian Water-milfoil:** *Alison Fox*, University of Florida, www.forestryimages.org; **Fanwort:** large photo - *Robert Vidéki*, Doronicum Kft., Bugwood org, inset - *Leslie J. Mehrhoff*, University of Connecticut, Bugwood org; **Floating Primrose Willow:** *John M. Randall*, The Nature Conservancy, Bugwood org; **Frogbit:** large photo - *Mark Malchoff*, Lake Champlain Sea Grant Program, inset - *Leslie J. Mehrhoff*, University of Connecticut, Bugwood org; **Hydrilla/Water Thyme:** *Jon Rodgers*, http://www.galvbayinvasives.org/; **Parrot-feather:** *John M. Randall*, The Nature Conservancy, Bugwood org; **Uruguayan Primrose Willow:** *Karan A. Rawlins*, University of Georgia, Bugwood org; **Water Chestnut:** large photo - *John M. Randall*, The Nature Conservancy, Bugwood org, inset - *Steve Hurst*, USDA NRCS PLANTS Database, Bugwood org; **Yellow Floating Heart:** *Leslie J. Mehrhoff*, University of Connecticut, Bugwood org

Index by Common Name

Index by Scientific Name

Sea Grant New York

Cornell University Cooperative Extension

This publication, the Invasive Species Program, and the NY Invasive Species Clearinghouse are supported by the NYS Environmental Protection Fund through a contract with the NYS Department of Environmental Conservation.

APPENDIX B

Landscape Maintenance Recommendations

Landscape Maintenance Recommendations

The following should serve as a quick reference guide of the key components, steps, or sequences in addition to the Landscaping Maintenance Plan. The average frost-free growing season for the Project is early May through mid-October and all monitoring and maintenance activities listed below should take this growing season into consideration when performing or practicing related tasks, scheduling, or services.

- **Keep this Landscaping Maintenance Plan available for reference throughout construction and operations.**
- Implement appropriate erosion control and/or site construction Best Management Practices as outlined in the Land Development Plans, Erosion and Sediment Plans, and/or SWPPP.
- For best results, plant long-term groundcover during the dormant window, between late October until early May.
- Identify all areas of concern as they relates to vegetation management (soil erosion, lack of vegetation growth, etc.) and maintenance control needs (weed growth, re-seeding).
- Identify areas within the Project that will require monitoring and maintenance needs per the direction of this Landscaping Maintenance Plan (twice or more annually during construction and the first 2 years; as-needed thereafter).
- Prepare a monitoring/maintenance schedule and approach to address vegetation management and maintenance control needs, ensuring that the appropriate times, time frames, and/or time periods of all vegetation management practices are addressed and realized and do not cause overlap or conflict with other on-site activities or schedules that are pending. Mowing should be limited to less than two times per year whenever possible and should be done after the growing season to maintain pollinator habitat, and promote native plant propagation.
- Perform all maintenance activities as needed and/or required according to practice standards and/or guidelines, including this Plan.
- Have protocols in place for emergency situations (such as fallen vegetation on structures or utility lines, wind or storm damage, spillage of material, etc.), additional vegetation efforts, monitoring activities, and/or unexpected maintenance needs identified within the Project.
- Topsoil should be installed at a minimum depth of 4 inches. The contractor should submit topsoil to a certified testing laboratory to determine PH, fertility, organic content, and mechanical composition. The contractor should submit the test results from regional extension office of U.S. Department of Agriculture to the owner, certified landscape inspector, or landscape architect for review and approval. The contractor should

incorporate amendments for good plant growth and proper soil acidity recommended from the topsoil test.

- No phosphorous should be used at planting time unless soil testing has been completed and tested by a horticultural testing lab and soil tests specifically indicate a phosphorous deficiency that is harmful, or will prevent new lawns/grasses and plantings from establishing properly.

- If soil tests indicate a phosphorous deficiency that will impact plant and lawn establishment, phosphorous should be applied at the minimum recommended level prescribed in the soil test following all applicable standards, requirements, and/or regulations.

- All slopes greater than 3:1 receiving a wildflower, wetland, and/or grass seeding mixture should be covered with an erosion control blanket.

- All wildflowers, grasses, sedges, and/or rushes sowed should be allowed to grow to their naturally occurring heights whenever possible, to promote pollinator habitat, and propagate planned, native plantings. Native wildflowers and/or grasses can be mowed/maintained (within acceptable areas identified and/or approved by appropriate Authority Having Jurisdiction, regulatory agencies, or other) no more than two times per year whenever possible, preferably after the growing season, to keep the vegetation at a desired and/or manageable height.

Exhibit DD

For

Interconnection Customer: Delespaul, Thibaut

Applicant: Delespaul, Thibaut

Company: CVE North America, Inc.

5,000 kW Solar Generator System

2,500 kW Storage System

205 Red Mill Rd
Cortlandt Manor , NY 10567

Interconnection to Consolidated Edison Company of New York

Westchester Region

13W - Buchanan Load Area

Buchanan Area Substation

13 kV Feeder 13W81 Cortlandt - 1

TABLE OF CONTENTS

1.0 INTRODUCTION

This report presents the analysis results of the Consolidated Edison Company of New York ("Consolidated Edison" or the "Company") interconnection study based on the proposed interconnection and design submittal from the Interconnection Customer in accordance with the Company Engineering Standard EO-2115. The intent of this report is to assess this project's feasibility, determine its impact to the existing electric power system (EPS), determine interconnection scope and installation requirements, and determine costs associated with interconnecting the Interconnection Customer's generation to the Company's Electric Power System (EPS). This Coordinated Electric System Impact Review (CESIR) study; according to the New York State Standardized Interconnection Requirements (NYSSIR) Section I.C Step 6; identifies the scope, schedule, and costs specific to this Interconnection Customer's installation requirements.

2.0 EXECUTIVE SUMMARY

The interconnection was found to be feasible with modifications to the existing Company EPS and operating conditions, which are described in detail in the body of this Study.

The total estimated planning grade cost of the work associated with the interconnection of the Interconnection Customer is as follows:

- EO-10215 HTME - High Tension Equipment Installation-Install New Service and Voltage Regulation and Monitoring and Control - $1,849,268.99

If utility system or service upgrades are required, the applicant has 60 business days to pay at least 25% of the costs and 120 business days to provide full payment. Upon full payment the utility will commence construction of system modifications. If the Interconnection Solutions above are not amenable to you, you may choose to withdraw your application, in which case your interconnection request will not move forward and no further action on the part of the utility is required. In order to move forward, please log into the Power Clerk Portal within 10 business days to choose the Interconnection Solution that best fits your needs. By selecting an Interconnection Solution presented above, the applicant is committing to the utility upgrades described as well as the project design or document revisions described below.

3.0 COMPANY EPS PARAMETERS

Substation	**Buchanan Area**
Transformer Name (list multiple where normally tied to common bus)	TR1; TR2; TR3
Transformer Peak Load (kW)	126000
Contingency Condition Load, N-1 Criteria (kW) (as applicable)	126000
[Daytime, 24 hour] Light Load (kW)	51,244.40
Generation: Total (kW)	52,850.25
Generation: Connected (kW)	17,726.34
Generation: Queued Ahead (kW)	35,123.91
Contingency Condition Generation: Total (kW)	52,850.25
Contingency Condition Generation: Connected (kW)	17,726.34
Contingency Condition Generation: Queued Ahead (kW)	35,123.91
Supply Voltage (kV)	13
Transformer Maximum Nameplate Rating (kVA)	174900
Distribution Bus Voltage Regulation	NA
Transmission GFOV Status	NA
Bus Tie	Closed
Number of Feeders Served from this Bus	29

Connecting Feeder/Line	**13W81/ Cortlandt - 1**
Peak Load on feeder (kW)	3,826
[Daytime, 24 hour] Light Load on Feeder (kW)	1148
Feeder Primary Voltage at POI (kV)	13.6
Line Phasing at POI	3
Circuit distance from POI to substation	NA
Distance (miles) from POI to nearest 3-phase, (if applicable)	NA
Line Regulation	NA
Line/Source Grounding Configuration at POI	NA
Other Generation: Total (kW)	7.69189
Other Generation: Connected (kW)	0.113596
Other Generation: Queued Ahead (kW)	7.5783
System Fault Characteristics without Interconnection Customer DG at POI with System Upgrades described in Section 6	
Interconnection Customer POI Location	CON81:133AL_77
I 3-phase (3LLL)	3972.6
I Line to Ground (3I0)	2143.7
Z1 (100 MVA base)	0.8991
Z0 (100 MVA base)	1.7285

4.0 INTERCONNECTION CUSTOMER SITE

The Interconnection Customer is proposing a new service connection.

The proposed generating system consists of:

New DG Details include Photovoltaic (PV) Solar and Total Name Plate capacity 5000.0 kW with 40 Sungrow 125 kW inverters behind six (6) 750 kVA and one 500 kVA transformers. There is complementary Energy Storage Capacity <2500.0 kW> system behind another 125 kW inverters and same transformers as well per the 3 Line Diagram

5.0 SYSTEM IMPACT ANALYSIS

Additional Comments:

The immediate site's service is locally supported by the 13W81 side of the Cortlandt Auto Loop and appears to "fit" the 13kV auto loop system(s). A new service would need to adhere to the established Cortlandt special six (6) Recloser Loop Overhead System design with multiple feeds . Although the customer is seeking the nearby 13kV interconnection for the proposed EO-10215 HTME. Specifications for auto loop design limitations as per EO-2067 and EO-2116 recloser settings with existing DER projects on the queue have presented quite a balancing act of the diverse feeder selections to maintain other existing utility customer reliability schemes. Additionally, a customer overhead recloser switch's setting would need to be required as this location already sits behind an existing Spur STS switch with 320 Amp Pickup Settings, so a different setting for coordination after Pole 77 would need to be discussed and configured off the main run of the auto loop.

Additional notes:

1. Please review the EO-10215; MES-350 Con Edison Company Specifications to ensure that the 13 kV interconnection enclosure, metering can be built and
adhered to. Submit documentation to Distribution Engineering before formally moving forward with design for construction approval.
2. Please confirm the following concerning the Three Line Diagram

a. Please update the line diagram to show incoming 13kV stepped to the new EO-10215; MES-350 designed equipment leading to the customer's
downstream 277/480V equipment
b. The system shall utilize a disconnect switch labeled "Generator Disconnect Switch 89L" which is a visible break, load break, gang operated, accessible
and lockable in the open position. The operator, when opened, shall be able to see without obstruction air space between the moving and stationary
contacts. If the system is utilizing multiple disconnect switches, it shall be numbered accordingly.
c. Each inverter's circuit breaker shall be labeled as "52IT" with the associated number with respect to the inverter. For example, inverter 1 shall be labeled
as "52IT-1". The breaker panel shall be labeled as "52IT Panel". If there are multiple panels it shall be numbered accordingly.
d. Please label each inverter each inverter "inverter 1", "Inverter 2", etc.
e. Selected inverter shall be certified and in compliance to UL1741 and IEEE 1547 and relay protection active.
f. Diagram shall show all metering, meter/account numbers, and ancillary loads.
g. Please provide what the ancillary loads are and total power drawn from the system.
h. If utilizing an external relay, please show the sensing devices (PT's or CT's) along with it's ratio's.
i. If utilizing an external relay, please post a table of relay settings and actual pick values for each relay element along with time.
3. Certification was provided, but the selected inverter model numbers were not listed on the certification. Please clarify or correct
and resubmit.
Please include this to be set and demonstrated during verification testing.
4. Please note, sales tax has been excluded from the total provided in the CESIR and will be added to the invoice based upon the location of the work being performed
5. Appendix K – please clarify the time and rate the battery will charge/discharge.
6. Verification testing – During verification testing procedure shall include operation of all disconnects and breakers to verify connection to the appropriate
device and de-energization of the system. Inspect all labeling and placards installed. Check relay protection, set targets and verify appropriate operation.
Verify each inverter shall not start up sooner then 5 minutes once tripped. If the customer is utilizing an external relay, please provide a certified test report
prior to verification testing.

Category	Criteria	Limit	Description	Result
Voltage	Overvoltage	< 105% (ANSI C84.1 and EO2065)	With the addition of the subject generator the maximum voltage as modeled on the PVL Primary Loadflow is 102% of nominal.	Pass
		> 95% (ANSI C84.1 and	With the addition of the subject generator the minimum	

Voltage	Undervoltage	EO2065)	voltage as modeled on the PVL Primary Loadflow is 100% of nominal.	Pass
Voltage	Substation Regulation for Reverse Power	<NA% minimum load criteria	The total generation on FeedersNA is NA MW. The total minimum load on these Feeders is NA MW. Therefore, the generation to load ratio is NA%.	NA
Voltage	Feeder Regulation for Reverse Power	<NA% Minimum load to generation ratio	The total generation downstream of voltage regulator NA is NA MW. The minimum load downstream of the voltage regulator is NA MW. Therefore, the generation to load ratio is NA%.	NA
Voltage	Fluctuation	<3% steady state from proposed generation on feeder		NA
Voltage	Fluctuation	<5% steady state from aggregate DER on substation bus		NA
Voltage	Fluctuation	Regulator tap movement exceeds 1 position, generation change of 75% of nameplate rating does not result in voltage change > ½ the bandwidth of any feeder voltage regulating device.	The greatest voltage fluctuation on the feeder occurs at NA and substation bus occurs at NA. The resulting fluctuation at the feeder location is NA% due to the proposed generation and NA% on the substation bus due to the aggregate generation. Additional details for voltage regulators : NA	NA
Voltage	Flicker	Screen H Flicker	The Pst for the location with the greatest voltage fluctuation is NA and the emissions limit is NA.	NA
Equipment Ratings	Thermal (continuous current)	<NA% thermal limits assuming no load	The subject generator's full output current is NA A. The total full output current of all DER downstream of NA is NA A. NA thermal capabilities are NA A.	NA
Equipment Ratings	Withstand (fault current)	<90% withstand limits	The additional fault current contribution from the generation contributes to interrupting ratings in excess of existing EPS equipment.	NA
Protection	Unintentional Islanding	Unintentional Islanding Document & Company Guidelines		NA
Protection	Protective device coordination	Company Guidelines		NA
Protection	Fault Sensitivity	Rated capabilities of EPS equipment		NA
Protection	Ground Fault Detection	Reduction of reach > x% (by Utility)	The Interconnection Customer has proposed a grounding bank with an impedance of NA ohms and X/R ratio of NA. To be within Company guidelines the grounding bank shall have an impedance of NA ohms. The Interconnection Customer will contribute approximately NA A of 3I0 current to remote bolted line to ground faults and NA A to faults at the PCC.	NA
Protection	Overvoltage - Transmission System Fault	Company 3V0 criteria	The generation to load ratio on the serving distribution system has failed the Company's planning threshold in which transmission ground fault overvoltage become an electrical hazard due to the distribution source contribution. An evaluation of the existing EPS has been performed and it has been determined that protection mitigation methods are required.	NA
Protection	Overvoltage - Distribution System Fault	<NA% voltage rise	With subject generator interconnected the modeled voltage rise on the unfaulted phases of the system is NA%.	NA
Protection	Effective Grounding	NA	With subject generator interconnected the modeled R0/X1 is NA PU and the X0/X1 is NA PU.	NA

SCADA	Required EMS Visibility for Generation Sources	Monitoring & Control Requirements	The 5 MW subject generator triggers the requirement for SCADA reporting to the Utility.	Yes
Other				NA

Project Design/Document Revision Comments:

See below

6.0 MITIGATIONS FOR SYSTEM IMPACT ANALYSIS FAILURES

Detail below is intended to provide sufficient information and clarity to give the Interconnection Customer an understanding to the relationship of costs and scope associated with the DER interconnection and the system modifications due to the DER impact. This includes any required EPS equipment upgrades. Where scope items are identified, associated labor, equipment rentals and indirect project support functions (such as engineering and project management) are intended and implied.

Sl.No	Option	Description	Capacity	Cost
1	High Tension Equipment Installation-Install New Service and Voltage Regulation and Monitoring and Control	CUSTOMER TO INSTALL HIGH TENSION SERVICE UNDER EO-10215 HTME. CUSTOMER TO INSTALL HIGH TENSION METERING ENCLOSURE. REPLACE 59 POLES. INSTALL 58 SPANS OF 3-2/0 CU EPR NL AERIAL CABLE 7,243 FEET (CORTLANDT LOOP 13W81) FROM POLE 77 (E MAIN ST AND BAKER ST) TO POLE 37 (RED MILL RD AND MILL CT). INSTALL 2 TRANSITION RISERS, INSTALL 15 AERIAL SPLICES, 2 AIR SWITCHES AND 2 TERMINATORS. INSTALL A TIE STS SWITCH (CLASS AND STOCK 530 0562 FOR USE ON 15KV OH SYSTEM) ON NEW CUSTOMER POLE INSIDE CUSTOMER PROPERTY WHICH SHALL BE ACCESSIBLE TO COMPANY FORCES AT ALL TIMES. COMMENTS FROM REGIONAL ENGINEERING FEEDER CONCURRENCE ID 222: "Installing 5000kVA solar that could export 2500kVA from battery to Cortlandt loop (13W81) is not an issue. The battery could only export 1300kVA when the substation at its lowest load. This feeder worst section ratings includes previous 2021 feeder concurrences." JOB IS PENDING WAIVER FROM D.E. TO INSTALL 3 AERIAL CABLES ON ONE POLE LINE, WILL ALSO REQUIRE ENGINEERING STUDY FOR POLE LOADING IF APPROVED. FIELD INSPECTION MAY CHANGE COST. ORDER OF MAGNITUDE ESTIMATE BASED ON HISTORICAL COSTS OF EQUIVALENT FIELD WORK. COST IS CONTIGENT UPON REVIEW OF FIELD CONDITIONS, CONSTRUCTIBILITY REVIEW BY FIELD TECHNICAL SPECIALISTS, AND SUBJECT MATTER EXPERTS IN ENVIRONMENTAL HEALTH & SAFETY. NOT OFFICIAL COST ESTIMATE FOR PAYMENT. COST ESTIMATE IS ATTACHED TO CASE SOLAR GENERATION TO BE EXPORTED = 5000 KVA FEEDER/ NTWK CORTLANDT LOOP BUCHANAN	DER1 : 5,000 kW DER2 : 2,500kW	$1,849,268.99

Additional details on the scope of each option can be found below:

Interconnection Solution #1:	High Tension Equipment Installation-Install New Service and Voltage Regulation and Monitoring and Control

Our Distribution Engineering team would need to review the EO-10215 plans and associated inverter setup with the understanding of the unidirectional DC inverter setup of 5 MW of solar and 2.5 MW of battery. There would need to be further clarification of the energy storage battery discharge times to align with PV Solar charging of the battery times despite the uni-directional non-charging from the grid times.

Overhead system monitoring and control would be needed via the STS switch preferably on customer property in front of the EO-10215 HTME and property line manhole. Please confirm 24/7 accessibility to such pole on the driveway.

Distribution Engineering Cost Estimate - System Upgrades Cost

Activity	Material Cost	Field/Tech Labor Cost	Engineering Labor Cost	Sub Total
SCADA/ Anti-Islanding (E.g.Construction, Installation, Programming, Testing. Etc.)	$4,689.00	$3,974.40	$7,642.80	$16,306.20
Sub Total	$4,689.00	$3,974.40	$7,642.80	$16,306.20

Sub Total (Material & Labor Cost)	Material Handling Fee	Administrative OH Cost	Engineering OH Cost	Contingency Cost	Total Cost
$16,306.20	$515.79	$168.22	$1,376.88	$2,755.06	$21,122.15

Customer Engineering Cost Estimate - Service Cost

Activity	Labor	Material	Stores & Handling	Transportation	Outside Contract Work	Corporate Overhead	Contingency	Sub Total
INSTALL REPLACE OH COND AERIAL CABLE SPAN	$410,144.40	$119,433.00	$10,151.81	$41,014.44		$104,533.85	$87,111.55	$772,389.05
INSTALL REPLACE OH PRI COND OPEN WIRE SPAN	$64,569.60	$46,468.00	$3,949.78	$6,456.96		$21,859.98	$18,216.65	$161,520.97
INSTALL REPLACE OH POLES TOWERS FIXTURES	$474,714.00	$50,142.00	$4,262.07	$47,471.40		$103,786.11	$86,488.42	$766,864.00
INSTALL REPLACE OH TRANSF	$32,497.20		$0.00	$3,249.72		$6,434.45	$5,362.04	$47,543.41
REMOVE OH PRI COND OPEN WIRE	$4,460.40		$0.00	$446.04		$883.16	$735.97	$6,525.57
REMOVE OH POLES TOWERS FIXTURES	$46,855.44		$0.00	$4,685.54		$9,277.38	$7,731.15	$68,549.51
REMOVE OH TRANSF	$3,249.72		$0.00	$324.97		$643.44	$536.20	$4,754.33
							Total Cost	$1,828,146.84

The substation upgrades required to facilitate the proposed installation include the following:
NONE

The Distribution upgrades required to facilitate the proposed installation include the following:
SEE ABOVE

The ability to generate is contingent on this facility being served by the interconnecting circuit during normal Utility operating conditions. Therefore, if the interconnecting circuit is out of service, or if abnormal utility operating conditions of the area EPS are in effect, the Company reserves the right to disengage the facility.

Any change in system size and/or design is subject to the requirements of the NYSSIR, as well as supplemental documents developed by the Interconnection Technical Working Group and Interconnection Policy Working Group.

7.0 CONCEPTUAL COST ESTIMATE

The following items are a good faith estimate for the scope and work required to interconnect the project estimated under rates and schedules in effect at the time of this study in accordance with the most recent version of the NYSSIR.

Planning Grade Estimate

See cost estimates in Section 6

Notes:

- These estimated costs are based upon the results of this study and are subject to change. All costs anticipated to be incurred by the Company are listed.
- The Company will reconcile actual charges upon project completion and the Interconnection Customer will be responsible for all final charges, which may be higher or lower than estimated according to the NYSSIR I.C step 11.
- This estimate does not include the following:
    1. additional interconnection study costs, or study rework
    2. additional application fees,
    3. applicable surcharges,
    4. property taxes,
    5. sales tax,
    6. future operation and maintenance costs,
    7. adverse field conditions such as weather and Interconnection Customer equipment obstructions,
    8. extended construction hours to minimize outage time or Company's public duty to serve,
    9. the cost of any temporary construction service, or
    10. any required permits.
- Cost adders estimated for overtime would be based on 1.5 and 2 times labor rates if required for work beyond normal business hours. Per Diems are also extra costs potentially incurred for overtime labor.

8.0 GENERAL REQUIREMENTS FOR ALL DG INTERCONNECTIONS

A. Provide the load dispatcher name and phone number you wish to appear in the First Amendment (document to follow). Note that this contact is required to be available at this phone number 24 hours, 7 days a week. The contact will need to be available for communications regarding emergency operation of customer equipment and may need to provide access to their equipment if necessary.

B. The generator disconnect switch (intertie disconnect) shall provide a visible break, manual, gang-operated, loadbreak, lockable, and accessible isolating device.

C. At the location, and on the drawing, identify and clearly label the "GENERATOR DISCONNECT SWITCH 89L" with permanent 3/8 inch letters or larger.

D. The labeling of the "AC Panel" housing the inverter circuit breakers should have additional label that reads; "DEVICE 52IT PANEL" and the individual breakers labeled as 52IT-1, 52IT-2, et cetera, to correspond with the associated inverter (i.e. Inverter 1, Inverter 2...etc.).

E. Labeling of all inverters, junction boxes, combiner boxes, array strings, and fuses at the site is required and shall be consistent as to assist with identifying the circuit runs.

F. Field installation and one/three-line diagram should match 100%. All equipment concerning the DG installation at this site should be shown on this diagram. This includes the incoming service (with cable size and type), end-line-box, the main distribution panel (with all load takeoffs), and the existing electric meter.

G. Any revisions to the one/three-line diagram should include an updated revision number, date, and comments on the diagram that briefly indicate the changes made.

H. Per the NYS SIR, Section II.I., the verification testing procedure will need to be accurate enough to repeat without confusion in upcoming years for periodic performance retesting.

I. All documentation and proper drawings should be submitted and approved prior to the testing and commencement of operation of your equipment. This includes certified relay test reports where applicable.

J. Copies of the three-line circuit diagram shall be laminated and displayed on site within close vicinity of the Con Edison revenue meter and any other generator disconnects downstream. Signage at the revenue meter should include that the meter is fed from two sources. Additional signage shall also be included as to the location of the disconnect switch.

APPENDIX A

NEW YORK STATE STANDARDIZED CONTRACT FOR INTERCONNECTION OF NEW DISTRIBUTED GENERATION UNITS AND/OR ENERGY STORAGE SYSTEMS WITH CAPACITY OF 5 MW OR LESS CONNECTED IN PARALLEL WITH UTILITY DISTRIBUTION SYSTEMS

Interconnection Customer Information:

Name:
Thibaut Delespaul

Address:
205 Red Mill Road
Cortlandt, NY 10567

Telephone:
(914) 847-0043

Fax:

Email:
engineering.na@cvegroup.com

Unit Application/File No.:
LDG-02420

Utility Information:

Name:
Consolidated Edison Company of NY, Inc.

Address:
4 Irving Pl., New York, NY 10003

Telephone:
1-800-752-6633 (1-800-75-CONED)

Fax:

Email:
dgexpert@coned.com

Utility Account Number:
99999999999999

DEFINITIONS

Delivery Service means the services the Utility may provide to deliver capacity or energy generated by the Interconnection Customer to a buyer to a delivery point(s), including related ancillary services.

Energy Storage System (ESS) means a commercially available mechanical, electrical, or electrochemical means to store and release electrical energy, and its associated electrical inversion device and control functions that may be stand-alone or paired with a distributed generator at a point of common coupling.

Interconnection Customer means the owner of the Unit.

Interconnection Facilities means the equipment and facilities on the Utility's system necessary to permit operation of the Unit in parallel with the Utility's system.

Premises means the real property where the Unit is located.

SIR means the New York State Standardized Interconnection Requirements for new distributed generation units with a nameplate capacity of 5 MW or less connected in parallel with the Utility's distribution system.

Unit means the distributed generation, stand-alone ESS, or combined generation and ESS facilities approved by the Utility for operation in parallel with the Utility's system. This Agreement relates only to such Unit, but a new agreement shall not be required if the Interconnection Customer makes physical alterations to the Unit that do not result in an increase in its nameplate generating capacity. The nameplate generating capacity or inverter/converter rating of the Unit shall not exceed 5 MW.

Utility means Consolidated Edison of New York, Inc. (Con Edison)

I. TERM AND TERMINATION

1.1 Term: This Agreement shall become effective when executed by both Parties and shall continue in effect until terminated.

1.2 Termination: This Agreement may be terminated as follows:

a. The Interconnection Customer may terminate this Agreement at any time, by giving the Utility sixty (60) days' written notice.

b. Failure by the Interconnection Customer to seek final acceptance by the Utility within twelve (12) months after completion of the utility construction process described in the SIR shall automatically terminate this Agreement.

c. Either Party may, by giving the other Party at least sixty (60) days' prior written notice, terminate this Agreement in the event that the other Party is in default of any of the material terms and conditions of this Agreement. The terminating Party shall specify in the notice the basis for the termination and shall provide a reasonable opportunity to cure the default.

d. The Utility may, by giving the Interconnection Customer at least sixty (60) days' prior written notice, terminate this Agreement for cause. The Interconnection Customer's non-compliance with an upgrade to the SIR, unless the Interconnection Customer's installation is "grandfathered," shall constitute good cause.

1.3 Disconnection and Survival of Obligations: Upon termination of this Agreement the Unit will be disconnected from the Utility's electric system. The termination of this Agreement shall not relieve either Party of its liabilities and obligations, owed or continuing at the time of the termination.

1.4 Suspension: This Agreement will be suspended during any period in which the Interconnection Customer is not eligible for Delivery Service from the Utility

II. SCOPE OF AGREEMENT

2.1 Scope of Agreement: This Agreement relates solely to the conditions under which the Utility and the Interconnection Customer agree that the Unit may be interconnected to and operated in parallel with the Utility's system.

2.2 Electricity Not Covered: The Utility shall have no duty under this Agreement to account for, pay for, deliver, or return in kind any electricity produced by the Facility and delivered into the Utility's System unless the system is net metered as described in Public Service Law Section66-l.

III. INSTALLATION, OPERATION AND MAINTENANCE OF UNIT

3.1 Compliance with SIR: Subject to the provisions of this Agreement, the Utility shall be required to interconnect the Unit to the Utility's system, for purposes of parallel operation, if the Utility accepts the Unit as in compliance with the SIR. The Interconnection Customer shall have a continuing obligation to maintain and operate the Unit in compliance with the SIR.

3.2 Observation of the Unit: Construction Phase: The Utility may, in its discretion and upon reasonable notice, perform reasonable on-site verifications during the construction of the Unit. Whenever the Utility chooses to exercise its right to perform observations herein it shall specify to the Interconnection Customer its reasons for its decision to perform the observation. For purposes of this paragraph and paragraphs 3.3 through 3.5, the term "onsite verification" shall not include testing of the Unit, and verification tests shall not be required except as provided in paragraphs.

3.3 Observation of the Unit: Ten-day Period: The Utility may perform on-site verifications of the Unit and observe the execution of verification testing within a reasonable period of time, not exceeding ten (10) business days after system installation. The Unit will be allowed to commence parallel operation upon satisfactory completion of the verification test. The Interconnection Customer must have complied with and must continue to comply with all contractual and technical requirements.

3.4 Observation of the Unit: Post-Ten-day Period: If the Utility does not perform an onsite verification of the Unit and observe the execution of verification testing within the ten-day period, the Interconnection Customer will send the Utility within five (5) days of the verification testing a written notification certifying that the Unit has been installed and tested in compliance with the SIR, the utility-accepted design and the equipment manufacturer's instructions. The Interconnection Customer may begin to produce energy upon satisfactory completion of the verification test. After receiving the verification test notification, the Utility will either issue to the Interconnection Customer a formal letter of acceptance for interconnection, or may request that the applicant and utility set a date and time to perform an on-site verification of the Unit and make reasonable inquiries of the Interconnection Customer, but only for purposes of determining whether the verification tests were properly performed. The Interconnection Customer shall not be required to perform the verification tests a second time, unless irregularities appear in the verification test report or there are other objective indications that the tests were not properly performed in the first instance.

3.5 Observation of the Unit: Operations: The Utility may perform on-site verification of the operations of the Unit after it commences operations if the Utility has a reasonable basis for doing so based on its responsibility to provide continuous and reliable utility service or as authorized by the provisions of the Utility's Retail Electric Tariff relating to the verification of Interconnection Customer installations generally.

3.6 Costs of Interconnection Facilities: During the term of this Agreement, the Utility shall design, construct and install the Interconnection Facilities. The Interconnection Customer shall be responsible for paying the incremental capital cost of such Interconnection Facilities attributable to the Interconnection Customer's Unit. All costs associated with the operation and maintenance of the Dedicated Facilities after the Unit first produces energy shall be the responsibility of the Utility.

IV. DISCONNECTION OF THE UNIT

4.1 Emergency Disconnection: The Utility may disconnect the Unit, without prior notice to the Interconnection Customer (a) to eliminate conditions that constitute a potential hazard to Utility personnel or the general public; (b) if pre-emergency or emergency conditions exist on the Utility system; (c) if a hazardous condition relating to the Unit is observed by a Utility inspection; or (d) if the Interconnection Customer has tampered with any protective device. The Utility shall notify the Interconnection Customer of the emergency if circumstances permit. The Interconnection Customer shall notify the Utility promptly when it becomes aware of an emergency condition that affects the Unit that may reasonably be expected to affect the Utility EPS.

4.2 Non-Emergency Disconnection Due to Unit Performance: The Utility may disconnect the Unit, after notice to the responsible party has been provided and a reasonable time to correct, consistent with the conditions, has elapsed, if (a) the Interconnection Customer has failed to make available records of verification tests and maintenance of his protective devices; (b) the Unit system interferes with Utility equipment or equipment belonging to other customers of the Utility; (c) the Unit adversely affects the quality of service of adjoining customers; (d) the ESS does not operate in compliance with the operating parameters and limits described in Attachment 1 to this Agreement.

4.3 Non-Emergency Disconnection for Utility Work: The Utility may disconnect the Unit after notice to Interconnection Customer when necessary for routine maintenance, construction, and repairs on the Utility EPS. The Interconnection Customer may request to reconnect its service prior to the completion of the Utility's work. The Utility shall accommodate such requests, provided that the Interconnection Customer shall be responsible for the costs of the Utility's review and any system modifications required to reconnect the Unit ahead of schedule.

4.4 Disconnection by Interconnection Customer: The Interconnection Customer may disconnect a Unit with an AC nameplate rating above 300 kW upon 18 hours advance notice to the Utility if the planned shutdown will last 8 hours or more. For non-emergency forced outages lasting 8 hours or more, the Interconnection Customer shall notify the Utility within 24 hours of the commencement of the shutdown

4.5 Utility Obligation to Cure Adverse Effect: If, after the Interconnection Customer meets all interconnection requirements, the operations of the Utility are adversely affecting the performance of the Unit or the Customer's premises, the Utility shall immediately take appropriate action to eliminate the adverse effect. If the Utility determines that it needs to upgrade or reconfigure its system, the Interconnection Customer will not be responsible for the cost of new or additional equipment beyond the point of common coupling between the Interconnection Customer and the Utility.

V. ACCESS

5.1 Access to Premises: The Utility shall have access to the disconnect switch of the Unit at all times. At reasonable hours and upon reasonable notice consistent with Section III of this Agreement, or at any time without notice in the event of an emergency (as defined in paragraph 4.1), the Utility shall have access to the Premises.

5.2 Utility and Interconnection Customer Representatives: The Utility shall designate, and shall provide to the Interconnection Customer, the name and telephone number of a representative or representatives who can be reached at all times to allow the Interconnection Customer to report an emergency and obtain the assistance of the Utility. For the purpose of allowing access to the premises, the Interconnection Customer shall provide the Utility with the name and telephone number of a person who is responsible for providing access to the Premises.

5.3 Utility Right to Access Utility-Owned Facilities and Equipment: If necessary for the purposes of this Agreement, the Interconnection Customer shall allow the Utility access to the Utility's equipment and facilities located on the Premises. To the extent that the Interconnection Customer does not own all or any part of the property on which the Utility is required to locate its equipment or facilities to serve the Interconnection Customer under this Agreement, the Interconnection Customer shall secure and provide in favor of the Utility the necessary rights to obtain access to such equipment or facilities, including easements if the circumstances so require.

VI. DISPUTE RESOLUTION

6.1 Good Faith Resolution of Disputes: Each Party agrees to attempt to resolve all disputes arising hereunder promptly, equitably and in a good faith manner.

6.2 Mediation: If a dispute arises under this Agreement, and if it cannot be resolved by the Parties within ten (10) business days after written notice of the dispute, the parties agree to submit the dispute to mediation by a mutually acceptable mediator, in a mutually convenient location in New York State, in accordance with the then current International Institute for Conflict prevention & Resolution Procedure, or to mediation by a mediator provided by the New York Public Service Commission. The Parties agree to participate in good faith in the mediation for a period of up to 90 days. If the Parties are not successful in resolving their disputes through mediation, then the parties may refer the dispute for resolution to the New York Public Service Commission, which shall maintain continuing jurisdiction over this Agreement.

6.3 Escrow: If there are amounts in dispute of more than two thousand dollars ($2,000), the Interconnection Customer shall either place such disputed amounts into an independent escrow account pending final resolution of the dispute in question, or provide to the Utility an appropriate irrevocable standby letter of credit in lieu thereof.

VII. INSURANCE

7.1. Commercial General Liability: The Interconnection Customer shall, at its own expense, procure and maintain throughout the period of this Agreement the following minimum insurance coverage:

7.1.1. Commercial general liability insurance with limits not less than:

7.1.1.1. Five million dollars ($5,000,000) for each occurrence and in the aggregate if the AC Nameplate rating of the Interconnection Customer's Facility is greater than five (5) MWAC

7.1.1.2. Two million dollars ($2,000,000) for each occurrence and five million dollars ($5,000,000) in the aggregate if the AC Nameplate rating of the Interconnection Customer's Facility is greater than one (1) MWAC and less than or equal to five (5) MWAC

7.1.1.3. One million dollars ($1,000,000) for each occurrence and in the aggregate if the AC Nameplate rating of the Interconnection Customer's Facility is greater than or equal to 300 (kWAC) and less than or equal to one (1) MWAC

7.1.2. Any combination of general liability and umbrella/excess liability policy limits can be used to satisfy the limit requirements of Section 7.1.1 (a).

7.1.3. The general liability insurance required to be purchased in Section 7.1 (a) may be purchased for the direct benefit of the Utility and shall respond to third party claims asserted against the Utility (hereinafter known as "Owners Protective Liability"). Should this option be chosen, the requirement of Section 7.3(a) will not apply but the Owners Protective Liability policy will be purchased for the

direct benefit of the Utility and the Utility will be designated as the primary and "Named Insured" under the policy.

7.2. General Commercial Liability Insurance: The Interconnection Customer is not required to provide general commercial liability insurance for facilities with an AC nameplate rating of 300 kW or less. Due to the risk of incurring damages however, the New York State Public Service Commission ("Commission") recommends that the Interconnection Customer obtain adequate insurance. The inability of the Utility to require the Interconnection Customer to provide general commercial liability insurance coverage for operation of the Unit is not a waiver of any rights the Utility may have to pursue remedies at law against the Interconnection Customer to recover damages.

7.3. Insurer Requirements and Endorsements: All required insurance shall be written by reputable insurers authorized to conduct business in New York. In addition, all general liability insurance shall, (a) include the Utility as an additional insured; (b) contain a severability of interest clause or cross-liability clause; (c) provide that the Utility shall not incur liability to the insurance carrier for payment of premium for such insurance; and (d) provide for thirty (30) calendar days' written notice to the Utility prior to cancellation or termination of such insurance, with the exception of a ten (10) days' notice in the event of premium non-payment; provided that to the extent the Interconnection Customer is satisfying the requirements of subpart (d) of this paragraph by means of a presently existing insurance policy, the Interconnection Customer shall only be required to make good faith efforts to satisfy that requirement and will assume the responsibility for notifying the Utility as required above.

7.4. Evidence of Insurance: Evidence of the insurance required shall state that coverage provided is primary and is not in excess to or contributing with any insurance or self-insurance maintained by Interconnecting Customer. Prior to the Utility commencing work on System Modifications, and annually thereafter, the Interconnection Customer shall have its insurer furnish to the Utility certificates of insurance evidencing the insurance coverage required above.

7.4.1 If coverage is on a claims-made basis, the Interconnection Customer agrees that the policy effective date or retroactive date shall be no later than the effective date of this agreement, be continuously maintained throughout the life of this agreement, and remain in place for a minimum of three (3) years following the termination of this agreement or if policies are terminated will purchase a three-year extended reporting period. Evidence of such coverage will be provided on an annual basis.

7.4.2 In the event that an Owners Protective Liability policy is provided, the original policy shall be provided to the Utility.

7.5. Self-Insurance: If the Interconnection Customer has a self-insurance program established in accordance with commercially acceptable risk management practices, the Interconnection Customer may comply with the following in lieu of the above requirements as reasonably approved by the Utility:

7.5.1. The Interconnection Customer shall provide to the Utility, at least thirty (30) calendar days prior to the Date of Initial Operation, evidence of such program to self-insure to a level of coverage equivalent to that required.

7.5.2. If the Interconnection Customer ceases to self-insure to the standards required hereunder, or if the Interconnection Customer is unable to provide continuing evidence of the Interconnection Customer's financial ability to self-insure, the Interconnection Customer agrees to promptly obtain the coverage required under Section 7.1.

7.6. Utility Obligation to Maintain Insurance: The Utility agrees to maintain general liability insurance or self-insurance consistent with its existing commercial practice. Such insurance or self-insurance shall not exclude coverage for the Utility's liabilities undertaken pursuant to this Agreement.

7.7. Notification Obligations: The Parties further agree to notify each other whenever an accident or incident occurs resulting in any injuries or damages that are included within the scope of coverage of such insurance, whether or not such coverage is sought.

VIII. LIMITATION OF LIABILITY

8.1. Each Party's liability to the other Party for any loss, cost, claim, injury, liability, or expense, including reasonable attorney's fees, relating to or arising from any act or omission in its performance of this Agreement, shall be limited to the amount of direct damage actually incurred. In no event shall either Party be liable to the other Party for any indirect, special, consequential, or punitive damages of any kind whatsoever. Nothing herein is meant to limit the liability of a Party to an unaffiliated third-party claimant.

IX. INDEMNITY

9.1 This provision protects each Party from liability incurred to third parties arising from actions taken pursuant to the provisions of this Agreement. Liability under this provision is exempt from the general limitations on liability found in Section 7.

9.2 Each Party (the "Indemnifying Party") shall at all times indemnify, defend, and hold the other Party (the "Indemnified Party") harmless from any and all damages, losses, claims, including claims and actions relating to injury to or death of any person or damage to property, demands, suits, recoveries, costs and expenses, court costs, attorney fees, and all other obligations by or to third parties, to the extent arising out of or resulting from the Indemnifying Party's action or failure to meet its obligations under this Agreement, except in cases of negligence, gross negligence or intentional wrongdoing by the Indemnified Party.

9.3 If a Party is obligated to indemnify and hold the Indemnified Party harmless under this section, the amount owing to the Indemnified Party shall be the amount of such Indemnified Party's actual loss, as adjudicated by the Indemnifying Party's insurance carrier, net of any insurance or other recovery.

9.4 Promptly after receipt by an Indemnified Party of any claim or notice of the commencement of any action or administrative or legal proceeding or investigation as to which the indemnity provided for in this section may apply, the Indemnified Party shall notify the Indemnifying Party of such fact. Any unintentional failure of or delay in such notification shall not affect a Party's indemnification obligation unless such failure or delay is materially prejudicial to the Indemnifying Party.

X. CONSEQUENTIAL DAMAGES

10.1 Other than as expressly provided for in this Agreement or pursuant to the utility tariff, neither Party shall be liable to the other Party under any provision of this Agreement for any losses, damages, costs, or expenses for any special, indirect, incidental, consequential, or punitive damages, including but not limited to loss of profit or revenue, loss of the use of equipment, cost of capital, cost of temporary equipment or services, whether based in whole or in part in contract, in tort, including negligence, strict liability, or any other theory of liability; provided, however, that damages for which a Party may be liable to the other Party under another agreement will not be considered to be special, indirect, incidental, or consequential damages hereunder.

XI. MISCELLANEOUS PROVISIONS

11.1 Beneficiaries: This Agreement is intended solely for the benefit of the Parties hereto, and if a Party is an agent, it's principal. Nothing in this Agreement shall be construed to create any duty to, or standard of care with reference to, or any liability to, any other person.

11.2 Severability: If any provision or portion of this Agreement shall for any reason be held or adjudged to be invalid or illegal or unenforceable by any court of competent jurisdiction, such portion or provision shall be deemed separate and independent, and the remainder of this Agreement shall remain in full force and effect.

11.3 Entire Agreement: This Agreement constitutes the entire Agreement between the Parties and supersedes all prior agreements or understandings, whether verbal or written.

11.4 Waiver: No delay or omission in the exercise of any right under this Agreement shall impair any such right or shall be taken, construed or considered as a waiver or relinquishment thereof, but any such right may be exercised from time to time and as often as may be deemed expedient. In the event that any agreement or covenant herein shall be breached and thereafter waived, such waiver shall be limited to the particular breach so waived and shall not be deemed to waive any other breach hereunder.

11.5 Applicable Law: This Agreement shall be governed by and construed in accordance with the law of the State of New York.

11.6 Amendments: This Agreement shall not be amended unless the amendment is in writing and signed by the Utility and the Customer.

11.7 Force Majeure: For purposes of this Agreement, "Force Majeure Event" means any event: (a) that is beyond the reasonable control of the affected Party; and (b) that the affected Party is unable to prevent or provide against by exercising reasonable diligence, including the following events or circumstances, but only to the extent they satisfy the preceding requirements: acts of war, public disorder, insurrection, or rebellion; floods, hurricanes, earthquakes, lightning, storms, and other natural calamities; explosions or fires; strikes, work stoppages, or labor disputes; embargoes; and sabotage. If a Force Majeure Event prevents a Party from fulfilling any obligations under this Agreement, such Party will promptly notify the other Party in writing, and will keep the other Party informed on a continuing basis of the scope and duration of the Force Majeure Event. The affected Party will specify in reasonable detail the circumstances of the Force Majeure Event, its expected duration, and the steps that the affected Party is taking to mitigate the effects of the event on its performance. The affected Party will be entitled to suspend or modify its performance of obligations under this Agreement, other than the obligation to make payments then due or becoming due under this Agreement, but only to the extent that the effect of the Force Majeure Event cannot be mitigated by the use of reasonable efforts. The affected Party will use reasonable efforts to resume its performance as soon as possible.

11.8 Assignment to Corporate Party: At any time during the term, the Interconnection Customer may assign this Agreement to a corporation or other entity with limited liability, provided that the Interconnection Customer obtains the consent of the Utility. Such consent will not be withheld unless the Utility can demonstrate that the corporate entity is not reasonably capable of performing the obligations of the assigning Interconnection Customer under this Agreement.

11.9 Assignment to Individuals: At any time during the term, the Interconnection Customer may assign this Agreement to another person, other than a corporation or other entity with limited liability, provided that the assignee is the owner, lessee, or is otherwise responsible for the Unit.

11.10 Permits and Approvals: Interconnection Customer shall obtain all environmental and other permits lawfully required by governmental authorities prior to the construction and for the operation of the Unit during the term of this Agreement.

11.11 Limitation of Liability: Neither by inspection, if any, or non-rejection, nor in any other way, does the Utility give any warranty, express or implied, as to the adequacy, safety, or other characteristics of any structures, equipment, wires, appliances or devices owned, installed or maintained by the Interconnection Customer or leased by the Interconnection Customer from third parties, including without limitation the Unit and any structures, equipment, wires, appliances or devices appurtenant thereto.

ACCEPTED AND AGREED:

Interconnection Customer

Signature: Thibaut Delespaul Digitally signed by Thibaut Delespaul Date: 2021.07.08 11:21:27 -04'00'

Printed Name: Thibaut Delespaul

Title: President

Date: 7/8/2021

Utility Signature:

Printed Name: Christopher Jones

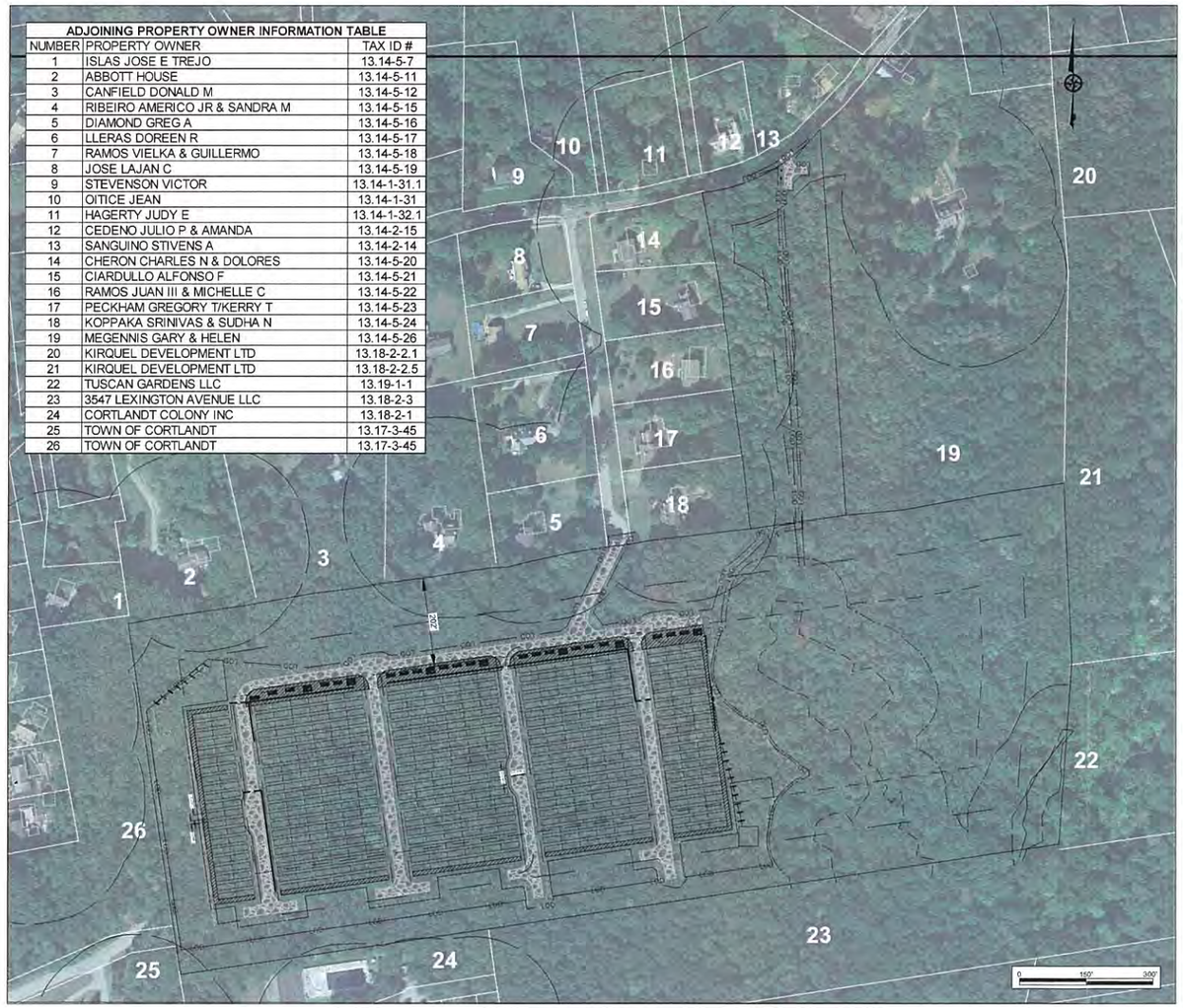
Title: Chief Engineer

Date: 3/3/2021

Exhibit EE

ADJOINING PROPERTY OWNER KEY MAP

ADJOINING PROPERTY OWNER INFORMATION TABLE		
NUMBER	PROPERTY OWNER	TAX ID #
1	ISLAS JOSE E TREJO	13.14-5-7
2	ABBOTT HOUSE	13.14-5-11
3	CANFIELD DONALD M	13.14-5-12
4	RIBEIRO AMERICO JR & SANDRA M	13.14-5-15
5	DIAMOND GREG A	13.14-5-16
6	LLERAS DOREEN R	13.14-5-17
7	RAMOS VIELKA & GUILLERMO	13.14-5-18
8	JOSE LAJAN C	13.14-5-19
9	STEVENSON VICTOR	13.14-1-31.1
10	OITICE JEAN	13.14-1-31
11	HAGERTY JUDY E	13.14-1-32.1
12	CEDENO JULIO P & AMANDA	13.14-2-15
13	SANGUINO STIVENS A	13.14-2-14
14	CHERON CHARLES N & DOLORES	13.14-5-20
15	CIARDULLO ALFONSO F	13.14-5-21
16	RAMOS JUAN III & MICHELLE C	13.14-5-22
17	PECKHAM GREGORY T/KERRY T	13.14-5-23
18	KOPPAKA SRINIVAS & SUDHA N	13.14-5-24
19	MEGENNIS GARY & HELEN	13.14-5-26
20	KIRQUEL DEVELOPMENT LTD	13.18-2-2.1
21	KIRQUEL DEVELOPMENT LTD	13.18-2-2.5
22	TUSCAN GARDENS LLC	13.19-1-1
23	3547 LEXINGTON AVENUE LLC	13.18-2-3
24	CORTLANDT COLONY INC	13.18-2-1
25	TOWN OF CORTLANDT	13.17-3-45
26	TOWN OF CORTLANDT	13.17-3-45



SITE DATA		
TAX ID #	PROPERTY OWNER	SITE ADDRESS
13.18-2-2.4 13.14-5-25	KIRQUEL DEVELOPMENT LTD PARR PATRICK J & SHARON	0 MILL COURT ROAD CORTLANDT, NY, 10520

SYSTEM SUMMARY
DC SYSTEM SIZE: 4,984.56 KW
AC SYSTEM SIZE: 5,000.00 KW
MODULE: HANWHA Q CELLS QPEAK DUO (430W)
MODULE QUANTITY: 11,592
INVERTER: SUNGROW SG125HV (LIMITED TO 50% OUTPUT POWER)
INVERTER QUANTITY: 80

LAND USE INFORMATION			
LAND USE	UNIT	EXISTING	PROPOSED
DISTURBED AREA	ACRES	N/A	19.30
SOLAR AREA	ACRES	N/A	9.06
WETLAND AREA	ACRES	2.18	2.18

ZONING DATA CHART - R-40
(ONE-FAMILY RESIDENCE DISTRICT)

LOT DESCRIPTION	LOT AREA (SF)	LOT WIDTH (FT)	FRONT YARD SETBACK (FT)	SIDE YARD SETBACK (FT)	REAR YARD SETBACK (FT)	BUILDING COVERAGE (SF)	LANDSCAPE COVERAGE (%)	BUILDING HEIGHT (FT)	BUILDING FLOOR AREA (SF)	FLOOR AREA RATIO
REQUIRED/ PERMITTED	40,000 MIN.	150 MIN.	50 MIN.	30' MAX. OR 20% OF WIDTH	30 MIN	122,494 MAX. *	50% MIN.	2 1/2 STORIES OR 35' MAX.	187,548 MAX. **	0.1 MAX. ***
PROPOSED	1,883,099	811.8 / 2,073.1	202	109.8 / 763.3	150.1	---	70%	---	---	---

* BUILDING COVERAGE = 65% OF ALLOWED FLOOR AREA RATIO = (0.65 * (188,453 / 1,883,099)) * 1,883,099 = 122,494 S.F.

** MAXIMUM FLOOR AREA (MFA) = 7,675 + ((1,883,099) / 1,000) x 96) = 188,453 SF PER ZONING REGULATIONS (SEE TABLE OF DIMENSIONAL REGULATIONS, MAXIMUM FLOOR AREA IN RESIDENTIAL DISTRICTS, SECTION 307-17, ATTACHMENT 4, NOTE **)

*** FLOOR AREA RATIO = MAXIMUM BUILDING FLOOR AREA / LOT AREA = 188,453 SF / 1,883,099 SF = 0.1

LOCAL LAW NO.8-2018
REGULATION OF SOLAR ENERGY SYSTEMS WITHIN THE TOWN OF CORTLANDT

LOT DESCRIPTION	LOT SIZE (SF/AC)	FRONT YARD SETBACK (FT)	SIDE YARD SETBACK (FT)	REAR YARD SETBACK (FT)	STRUTURE HEIGHT (FT)	LANDSCAPE COVERAGE (%)	FENCE HEIGHT (FT)
MINIMUM REQUIRED	435,600 / 10	200	200	200	25' / 2 STORIES	50%	8
PROPOSED	1,883,099 / 43.12	202 (N)	109.8* (W) / 763.3 (E)	150.1* (S)	9'	70%	8.5

* - CHAPTER 255-8.A.10.B.2 STATES THE APPROVING AUTHORITY AT ITS DISCRETION MAY VARY THE TIER 3 SOLAR ENERGY SYSTEM SETBACK TO NOT LESS THAN 100 FEET, IN CASES SUCH AS PLANNED HERE WHERE THE SYSTEM IS LOCATED MORE THAN 200 FEET FROM THE NEAREST HABITABLE BUILDING.

GENERAL NOTES

1. THE PROJECT HORIZONTAL COORDINATES SYSTEM IS BASED ON NAD83 NEW YORK STATE PLANE (US SURVEY FEET, EAST ZONE, NY83-E). ELEVATIONS ARE BASED ON NAVD88 (US SURVEY FEET).
2. TOPOGRAPHY SHOWN ON THESE PLANS WAS COMPLETED BY LAND DESIGN ASSOCIATES ENGINEERING, SURVEYING AND LAND ARCHITECTURE D.P.C. USING A BASE & ROVER RTKGPS SYSTEM TO DEVELOP CONTOURS AT A 2 FOOT INTERVAL.
3. PROJECT PROPERTY BOUNDARIES ARE BASED ON INFORMATION PROVIDED BY LAND DESIGN ASSOCIATES ENGINEERING, SURVEYING AND LAND ARCHITECTURE D.P.C. LAND SURVEYING FROM A SURVEY COMPLETED IN OCTOBER 2019.
4. EXISTING UTILITIES ARE APPROXIMATE AND SHOULD BE VERIFIED BY CONTRACTOR. DIG SAFELY NEW YORK (811) SHALL BE NOTIFIED A MINIMUM OF 72-HOURS PRIOR TO COMMENCING ANY EXCAVATION.
5. THIS IS A PRELIMINARY DESIGN PLAN PROVIDED FOR PERMITTING ONLY. FINAL DESIGN SHALL BE MODIFIED TO SUPPORT CONSTRUCTION, MATCH FINAL ELECTRICAL INTERCONNECTION STUDIES, EQUIPMENT PURCHASED, AND POSSIBLE PERMIT CONSTRAINTS REVEALED DURING PROJECT'S REVIEW.
6. ALL WORK DETAILED ON THESE PLANS SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS, AND ANY OTHER APPLICABLE TECHNICAL REPORTS. WHERE INDICATED, STATE AND/OR LOCAL CODES AND STANDARD SPECIFICATIONS SHALL APPLY.
7. THE CONTRACTOR SHALL ABIDE BY ALL LOCAL, STATE, AND FEDERAL LAWS, RULES AND REGULATIONS WHICH APPLY TO THE CONSTRUCTION OF THESE IMPROVEMENTS, INCLUDING STATE AND FEDERAL REQUIREMENTS.
8. THE CONTRACTOR IS RESPONSIBLE FOR PROTECTING ALL EXISTING UTILITY LINES WITHIN OR ADJACENT TO THE CONSTRUCTION AREA. ANY DAMAGE TO EXISTING FACILITIES CAUSED BY CONSTRUCTION ACTIVITY SHALL BE REPAIRED OR REPLACED AT THE CONTRACTOR'S EXPENSE.
9. CONSTRUCTION SHALL NOT OCCUR IN ANY PUBLIC RIGHTS OF WAY, PUBLIC OR PRIVATE EASEMENTS, BEYOND THE LIMITS OF DISTURBANCE, OR OUTSIDE THE PROPERTY LIMITS WITHOUT NECESSARY PERMITS AND APPROVALS. ANY PUBLIC OR PRIVATE PROPERTY OR IMPROVEMENTS DAMAGED DURING CONSTRUCTION SHALL BE REPAIRED TO THE SATISFACTION OF THE OWNER AT THE COST OF THE CONTRACTOR.
10. OVERNIGHT PARKING OF CONSTRUCTION EQUIPMENT SHALL NOT OBSTRUCT DRIVEWAYS OR DESIGNATED TRAFFIC LANES. THE CONTRACTOR SHALL NOT STORE ANY EQUIPMENT OR MATERIAL WITHIN THE PUBLIC RIGHT OF WAY. OVERNIGHT PARKING OF CONSTRUCTION VEHICLES ON PRIVATE PROPERTY IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR.
11. ALL PROPERTY CORNERS OR MONUMENTS DESTROYED DURING CONSTRUCTION SHALL BE REPLACED AT THE CONTRACTOR'S EXPENSE. ALL PROPERTY CORNERS MUST BE RESET BY A PROFESSIONAL LAND SURVEYOR LICENSED IN THE STATE OF NEW YORK.
12. CONTRACTOR IS RESPONSIBLE FOR MAINTAINING DRAINAGE THROUGHOUT THE CONSTRUCTION OF THE PROJECT.
13. CONTRACTOR SHALL FIELD FIT ALL PROPOSED CULVERT INVERTS TO PROVIDE POSITIVE DRAINAGE IN THE DIRECTION OF EXISTING SLOPES. ALL CULVERTS TO BE INSTALLED AT ADEQUATE DEPTHS AND TO DAYLIGHT. INLETS AND OUTLETS OF ALL CULVERTS TO BE STABILIZED WITH RIP RAP IN ACCORDANCE WITH EROSION CONTROL PLAN.
14. THE CONTRACTOR SHALL SECURE PERMITS FROM THE STATE, COUNTY, AND TOWN AUTHORITIES AS NECESSARY BEFORE DRIVING CONSTRUCTION EQUIPMENT OVER AND ACROSS STATE, COUNTY OR TOWN MAINTAINED ROADS.
15. ALL WORK IN THE PUBLIC RIGHT OF WAYS SHALL CONFORM WITH THE NEW YORK DEPARTMENT OF TRANSPORTATION "STANDARD SPECIFICATIONS, CONSTRUCTION AND MATERIALS", DATED JANUARY 1, 2019 OR CURRENT EDITION.
16. WETLANDS AND WATERCOURSES SHOWN IN THIS PLAN ARE SUBJECT TO FUTURE CONFIRMATION BY NYSDEC.
17. THE EROSION AND SEDIMENTATION CONTROL MEASURES FOR THIS PROJECT SHALL BE IN COMPLIANCE WITH THE STORMWATER POLLUTION PREVENTION PLAN (SWPPP) PREPARED FOR THE PROJECT.
18. TREES AND OTHER VEGETATION IN AREAS OF IDENTIFIED CLEARING AND GRUBBING MAY BE REDUCED TO CHIPS BY THE USE OF CHIPPING MACHINES OR STUMP GRINDER AND BE PREPARED FOR USE AS EROSION CONTROL MIX. ALL OTHER CHIPS AND WOOD WASTE RESULTING FROM CLEARING AND GRUBBING OPERATIONS SHALL BE DISPOSED OF OFF-SITE AT AN APPROPRIATELY LICENSED FACILITY AND IN A MANNER AS APPROVED BY THE OWNER.
19. CONTRACTOR SHALL TAKE NECESSARY PRECAUTIONS TO AVOID DAMAGE TO EXISTING IMPROVEMENTS AND FACILITIES TO REMAIN IN PLACE. THE CONTRACTOR IS RESPONSIBLE FOR REPAIR AND REPLACEMENT OF DAMAGED ITEMS AS A RESULT OF CONSTRUCTION OF THE PROPOSED FACILITY.
20. THE WORK SHALL BE CARRIED OUT NEAR AND UNDER ENERGIZED EQUIPMENT. EXTREME CAUTION IS REQUIRED AT ALL TIMES. THE CONTRACTOR SHALL STRICTLY FOLLOW ALL APPLICABLE SAFETY REQUIREMENTS.
21. EARTHWORK: UNLESS EXPLICITLY STATED OTHERWISE, REFER TO THE LATEST EDITION OF THE STATE OF NEW YORK, DEPARTMENT OF TRANSPORTATION, STANDARDS SPECIFICATIONS, CONSTRUCTION AND MATERIALS, FOR GENERAL REQUIREMENTS, PRODUCTS, AND EXECUTION RELATED TO THE COMPLETION OF PROPOSED WORK.
22. THE LIMITS OF DISTURBANCE SHALL BE FIELD STAKED BY A LICENSED LAND SURVEYOR PRIOR TO THE START OF WORK. A COPY OF THE STAKEOUT SKETCH SHALL BE PROVIDED TO THE TOWN OF CORTLANDT.
23. PRIOR TO THE ISSUANCE OF A BUILDING PERMIT, THE APPLICANT SHALL SUBMIT A NOTICE OF INTENT (N.O.I.) TO THE NYSDEC AND PROVIDE PROOF OF COVERAGE UNDER THE SPDES GENERAL PERMIT FOR CONSTRUCTION ACTIVITIES TO THE TOWN OF CORTLANDT.
24. ANY IMPORTED SOIL SHALL MEET THE NYSDEC STANDARDS OF UNRESTRICTED FILL AND BE SUITABLE FOR RESIDENTIAL USE. CONSTRUCTION DEBRIS IS NOT PERMITTED TO BE IMPORTED. ANY MATERIAL MEETING THE NYSDEC DEFINITION OF BENEFICIAL USE SHALL BE CERTIFIED AS SUCH BY THE DESIGN PROFESSIONAL OF RECORD. NOTIFY THE TOWN OF CORTLANDT PRIOR TO IMPORT. SOIL TESTING MAY STILL BE REQUIRED.
25. PRIOR TO THE BACKFILLING OF ANY STORM WATER BEST MANAGEMENT PRACTICE, DOTS-ENGINEERING SHALL BE NOTIFIED TO PERFORM AN INSPECTION. CONTACT ENGINEERING AT 914-734-1060 TO SCHEDULE AN INSPECTION.
26. PRIOR TO THE ISSUANCE OF A CERTIFICATE OF OCCUPANCY, THE ENGINEER/ARCHITECT SHALL SUBMIT A CERTIFICATION ADDRESSED TO "THE TOWN OF CORTLANDT DEPARTMENT OF TECHNICAL SERVICES" THAT THE SITE WORK HAS BEEN COMPLETED IN ACCORDANCE WITH THE APPROVED PLANS ON FILE WITH THE TOWN AND THAT THERE IS NO ADVERSE IMPACTS TO ADJACENT AND ADJOINING NEIGHBORS AS IT PERTAINS TO DRAINAGE AND RUNOFF.
27. THE APPLICANT IS AWARE THAT THE ENTIRE SITE MUST BE 100% STABILIZED PRIOR TO THE ISSUANCE OF A CERTIFICATE OF OCCUPANCY. DISTURBED AREAS SHALL BE RESTORED AND STABILIZED APPROPRIATELY AND IN A TIMELY MANNER. APPLICANT SHALL SUBMIT A NOTICE OF TERMINATION FOR THE SPDES GENERAL PERMIT.
28. PRIOR TO THE ISSUANCE OF A CERTIFICATE OF OCCUPANCY, AN "AS-BUILT" SURVEY PREPARED BY A LICENSED PROFESSIONAL LAND SURVEYOR OF THE PROPERTY SHALL BE SUBMITTED TO THE DEPARTMENT OF TECHNICAL SERVICES.
29. ALL DEMOLITION DEBRIS INCLUDING FOUNDATIONS AND SLABS SHALL BE LAWFULLY DISPOSED OF OFF-SITE.
30. ELECTRICAL DESIGN PROVIDED HEREON WAS PREPARED BY CVE NA.
31. ABSOLUTELY NO RECYCLED MATERIAL SHALL BE PERMITTED ONSITE. ONLY EARTHEN MATERIAL OR NATURAL STONE IS PERMITTED TO BE USED AS FILL. ALL FILL SHALL BE TESTED IN ACCORDANCE WITH APPLICABLE NYSDEC RULES AND REGULATIONS AND SHALL BE CERTIFIED AS UNRESTRICTED FOR RESIDENTIAL USE, CERTIFIED BY A PROFESSIONAL ENGINEER PRIOR TO IMPORTATION ON SITE, AND SHALL BE FROM A CERTIFIED VIRGIN SOURCE.

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0 100' 200'

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TRC
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New York, NY 10018
Phone: 212.221.7822
TRC Project No.: 360551.0000.0000

CVE
Changing Visions of Energy

Revisions	
No.	Date
1	08/13/2021

Drawn by: A. REXROAT
Design by: A. REXROAT
Checked by: S. MEERSMA

CVE NORTH AMERICA, INC.
CORTLANDT MILL SOLAR FARM
5.0 MW GROUND MOUNT SOLAR SYSTEM
0 MILL COURT
CORTLANDT, NEW YORK 10520

Contract No: 360551
Scale: AS NOTED
Date: MARCH 2021
Sheet: GENERAL NOTES
Drawing No: 2

LEGEND

418	EXISTING MINOR CONTOUR (FEET)
420	EXISTING MAJOR CONTOUR (FEET)
	PROPOSED FENCE LINE
	PROPERTY LINE SETBACK (100 FT)
	PROPERTY LINE SETBACK (200 FT)
	PARCEL LINE
	PROPOSED UNDERGROUND ELECTRIC
	WETLAND DELINEATION
	100-FOOT NYSDEC ADJACENT AREA
	STREAM
	HABITABLE BUILDING SETBACK (200 FT)
	STONE WALL
	STONE WALL
ROCK	ROCKS
	TREE LINE
	ACCESS DRIVEWAY 7' EQUIPMENT SETBACK
	PERMANENT CHECK DAM
	10' MIN. BRUSH CUT AREA
	20' WIDE ACCESS ROAD
	150' MAX. HOSE PULL DISTANCE
LOD	LIMIT OF DISTURBANCE
	REVISION CLOUD

THE PROJECT SHALL BE DESIGNED IN COMPLIANCE WITH ALL APPLICABLE CODES, STANDARDS, AND REQUIREMENTS, INCLUDING BUT NOT LIMITED TO:

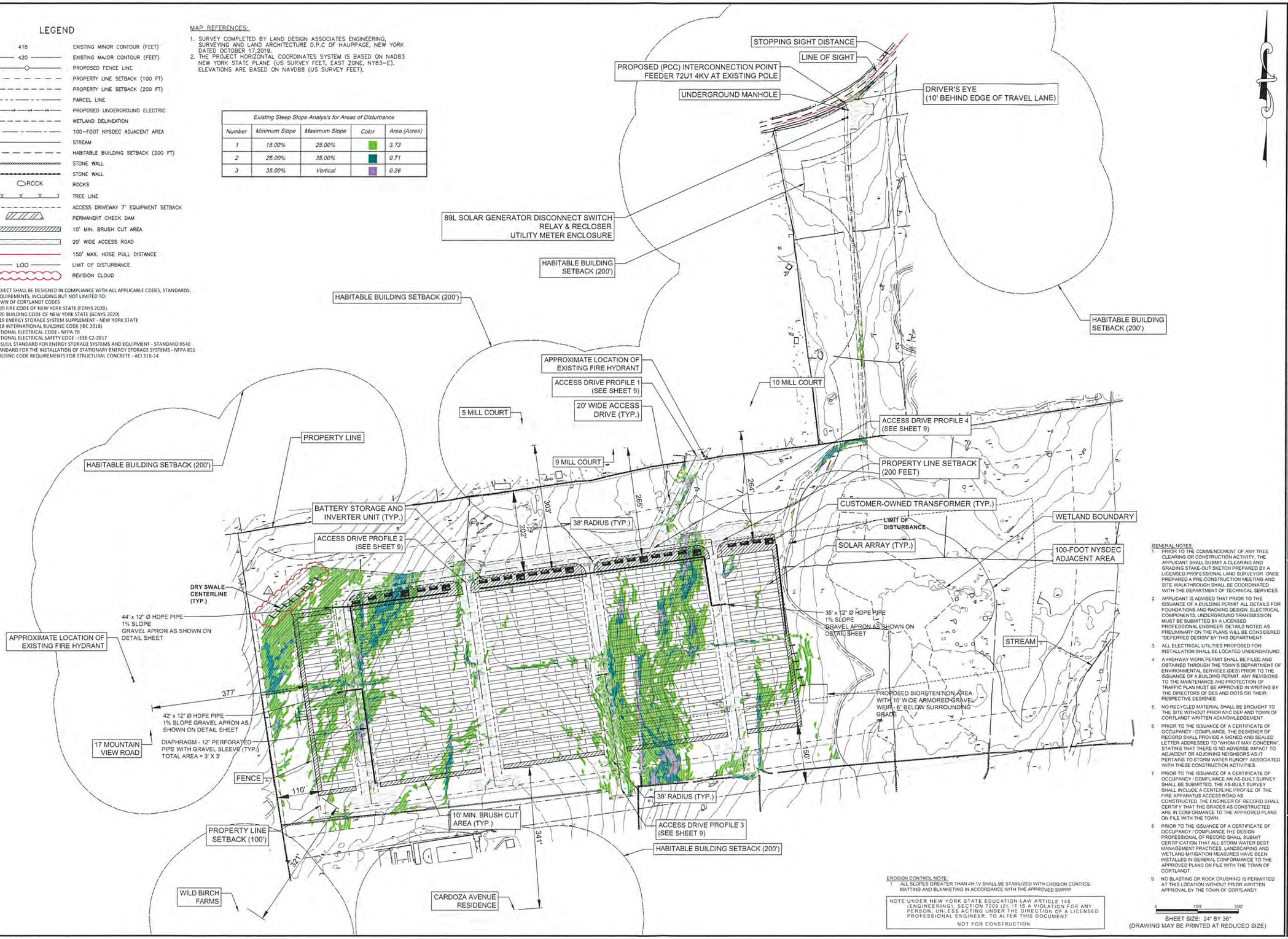
- TOWN OF CORTLANDT CODES
- 2020 FIRE CODE OF NEW YORK STATE (FCNYS 2020)
- 2020 BUILDING CODE OF NEW YORK STATE (BCNYS 2020)
- 2019 ENERGY STORAGE SYSTEM SUPPLEMENT - NEW YORK STATE
- 2018 INTERNATIONAL BUILDING CODE (IBC 2018)
- NATIONAL ELECTRICAL CODE - NFPA 70
- NATIONAL ELECTRICAL SAFETY CODE - IEEE C2-2017
- ANSI/UL STANDARD FOR ENERGY STORAGE SYSTEMS AND EQUIPMENT - STANDARD 9540
- STANDARD FOR THE INSTALLATION OF STATIONARY ENERGY STORAGE SYSTEMS - NFPA 855
- BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE - ACI 318-14

MAP REFERENCES:

1. SURVEY COMPLETED BY LAND DESIGN ASSOCIATES ENGINEERING, SURVEYING AND LAND ARCHITECTURE D.P.C OF HAUPPAGE, NEW YORK DATED OCTOBER 17,2019.
2. THE PROJECT HORIZONTAL COORDINATES SYSTEM IS BASED ON NAD83 NEW YORK STATE PLANE (US SURVEY FEET, EAST ZONE, NYB3-E). ELEVATIONS ARE BASED ON NAVD88 (US SURVEY FEET).

Existing Steep Slope Analysis for Areas of Disturbance

Number	Minimum Slope	Maximum Slope	Color	Area (Acres)
1	15.00%	25.00%		3.73
2	25.00%	35.00%		0.71
3	35.00%	Vertical		0.26



EROSION CONTROL NOTE:

1 ALL SLOPES GREATER THAN 4H:1V SHALL BE STABILIZED WITH EROSION CONTROL MATTING AND BLANKETING IN ACCORDANCE WITH THE APPROVED SWPPP

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GENERAL NOTES:

1. PRIOR TO THE COMMENCEMENT OF ANY TREE CLEARING OR CONSTRUCTION ACTIVITY, THE APPLICANT SHALL SUBMIT A CLEARING AND GRADING STAKE-OUT SKETCH PREPARED BY A LICENSED PROFESSIONAL LAND SURVEYOR. ONCE PREPARED A PRE-CONSTRUCTION MEETING AND SITE WALKTHROUGH SHALL BE COORDINATED WITH THE DEPARTMENT OF TECHNICAL SERVICES.
2. APPLICANT IS ADVISED THAT PRIOR TO THE ISSUANCE OF A BUILDING PERMIT ALL DETAILS FOR FOUNDATIONS AND RACKING DESIGN, ELECTRICAL COMPONENTS, UNDERGROUND TRANSMISSION MUST BE SUBMITTED BY A LICENSED PROFESSIONAL ENGINEER. DETAILS NOTED AS PRELIMINARY ON THE PLANS WILL BE CONSIDERED "DEFERRED DESIGN" BY THIS DEPARTMENT.
3. ALL ELECTRICAL UTILITIES PROPOSED FOR INSTALLATION SHALL BE LOCATED UNDERGROUND.
4. A HIGHWAY WORK PERMIT SHALL BE FILED AND OBTAINED THROUGH THE TOWN'S DEPARTMENT OF ENVIRONMENTAL SERVICES (DES) PRIOR TO THE ISSUANCE OF A BUILDING PERMIT. ANY REVISIONS TO THE MAINTENANCE AND PROTECTION OF TRAFFIC PLAN MUST BE APPROVED IN WRITING BY THE DIRECTORS OF DES AND DOTS OR THEIR RESPECTIVE DESIGNEE.
5. NO RECYCLED MATERIAL SHALL BE BROUGHT TO THE SITE WITHOUT PRIOR NYC DEP AND TOWN OF CORTLANDT WRITTEN ACKNOWLEDGEMENT.
6. PRIOR TO THE ISSUANCE OF A CERTIFICATE OF OCCUPANCY / COMPLIANCE, THE DESIGNER OF RECORD SHALL PROVIDE A SIGNED AND SEALED LETTER ADDRESSED TO "WHOM IT MAY CONCERN", STATING THAT THERE IS NO ADVERSE IMPACT TO ADJACENT OR ADJOINING NEIGHBORS AS IT PERTAINS TO STORM WATER RUNOFF ASSOCIATED WITH THESE CONSTRUCTION ACTIVITIES.
7. PRIOR TO THE ISSUANCE OF A CERTIFICATE OF OCCUPANCY / COMPLIANCE AN AS-BUILT SURVEY SHALL BE SUBMITTED. THE AS-BUILT SURVEY SHALL INCLUDE A CENTERLINE PROFILE OF THE FIRE APPARATUS ACCESS ROAD AS CONSTRUCTED. THE ENGINEER OF RECORD SHALL CERTIFY THAT THE GRADES AS CONSTRUCTED ARE IN CONFORMANCE TO THE APPROVED PLANS ON FILE WITH THE TOWN.
8. PRIOR TO THE ISSUANCE OF A CERTIFICATE OF OCCUPANCY / COMPLIANCE THE DESIGN PROFESSIONAL OF RECORD SHALL SUBMIT CERTIFICATION THAT ALL STORM WATER BEST MANAGEMENT PRACTICES, LANDSCAPING AND WETLAND MITIGATION MEASURES HAVE BEEN INSTALLED IN GENERAL CONFORMANCE TO THE APPROVED PLANS ON FILE WITH THE TOWN OF CORTLANDT.
9. NO BLASTING OR ROCK CRUSHING IS PERMITTED AT THIS LOCATION WITHOUT PRIOR WRITTEN APPROVAL BY THE TOWN OF CORTLANDT.

0 100' 200'

SHEET SIZE: 24" BY 36"
(DRAWING MAY BE PRINTED AT REDUCED SIZE)

TRC
1430 Broadway
10th Floor
New York, NY 10018
Phone 212.221.7822

TRC Project No: 360551.0000.0000

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Revisions:	
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1	06/17/2021
2	08/13/2021

Drawn by: A. REXROAT
Design by: A. REXROAT
Checked by: S. MEERSMA

CVE NORTH AMERICA, INC.
CORTLANDT MILL SOLAR FARM
5.0 MW GROUND MOUNT SOLAR SYSTEM
0 MILL COURT
CORTLANDT, NEW YORK 10520

Contract No: 360551
Scale: AS NOTED
Date: MARCH 2021
Sheet: SITE PLAN
Drawing No: 4

LEGEND

100 100 100	LIMIT OF DISTURBANCE
418	EXISTING MINOR CONTOUR (FEET)
420	EXISTING MAJOR CONTOUR (FEET)
	PARCEL LINE
	WETLAND DELINEATION
	100-FOOT NYSDEC ADJACENT AREA
	STREAM
ROCK	ROCKS
	TRAIL
	STONE WALL
	STONE WALL
	TREE LINE
	TREES TO BE REMOVED
	STONE WALLS TO BE REMOVED
	STONE WALLS TO BE REMOVED
ROCK	ROCKS TO BE REMOVED
	REMOVED TRAIL
	AREAS OF DISTURBANCE NOT INCLUDED IN PREVIOUS TREE SURVEY
	AREA OF 25% OR GREATER EXISTING SLOPE WITHIN AREAS OF DISTURBANCE

MAP REFERENCES:

1. SURVEY COMPLETED BY LAND DESIGN ASSOCIATES ENGINEERING, SURVEYING AND LAND ARCHITECTURE D.P.C OF HAUPPAGE, NEW YORK DATED OCTOBER 17,2019.
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CVE Cortlandt Mill Solar Farm - Tree Inventory Estimates Within Revised LOD		
Total Acreage of Revised LOD	19.3	Acres
Acreage of June LOD in Bartlett Tree Survey	19.5	Acres
Number of Trees in June LOD surveyed	4208	Trees
Acreage of June LOD in Bartlett Survey with slopes greater than 25%	0.92	Acres
Number of Trees on slopes greater than 25%	156	Trees
Acreage of Revised LOD not in Bartlett Tree Survey	1.3	Acres
Estimated number of Trees not in Bartlett Tree Survey	281	Trees
Acreage of Revised LOD not in Bartlett Tree Survey on slopes greater than 25%	0.06	Acres
Estimated number of trees on slopes greater than 25% not in Bartlett Tree Survey	10	Trees
TOTAL Number Trees within Revised LOD – surveyed and estimated	3396	Trees
TOTAL number of trees within Revised LOD – on slopes greater than 25% (surveyed and estimated)	166	Trees

NOTE:
NUMBERS ON TREE PLAN REFERENCE A TREE IDENTIFICATION NUMBER IN BARTLETT SURVEY.

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10th Floor
New York, NY 10018
Phone: 212.221.7822

TRC Project No: 360551.0000.0000

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No.	Date:
1	08/16/2021

Drawn by: R. SANTINI
Design by: R. SANTINI
Checked by: S. MEERSMA

CVE NORTH AMERICA, INC.
CORTLANDT MILL SOLAR FARM
5.0 MW GROUND MOUNT SOLAR SYSTEM
0 MILL COURT
CORTLANDT, NEW YORK 10520

Contract No: 360551
Scale: AS NOTED
Date: MARCH 2021
Sheet: TREE PLAN
Drawing No: 4

LEGEND

- PROPOSED CONTOUR (FEET)
- LIMIT OF DISTURBANCE
- 418 EXISTING MINOR CONTOUR (FEET)
- 420 EXISTING MAJOR CONTOUR (FEET)
- PROPOSED FENCE LINE
- PROPERTY LINE SETBACK (100 FT)
- PROPERTY LINE SETBACK (200 FT)
- PARCEL LINE
- PROPOSED UNDERGROUND ELECTRIC
- WETLAND DELINEATION
- 100-FOOT NYSDEC ADJACENT AREA
- STREAM
- TRAIL
- STONE WALL
- STONE WALL
- HABITABLE BUILDING SETBACK (200 FT)
- WOOD LIMIT
- ACCESS DRIVEWAY 7' EQUIPMENT SETBACK
- STABILIZED ROCK CONSTRUCTION ENTRANCE
- SOIL MATERIAL STOCKPILE
- SS COMPOST FILTER SOCKS
- 10' MIN. BRUSH CUT AREA
- 20' WIDE ACCESS ROAD

MAP REFERENCES:

1. SURVEY COMPLETED BY LAND DESIGN ASSOCIATES ENGINEERING, SURVEYING AND LAND ARCHITECTURE D.P.C OF HAUPPAGE, NEW YORK DATED OCTOBER 17,2019.
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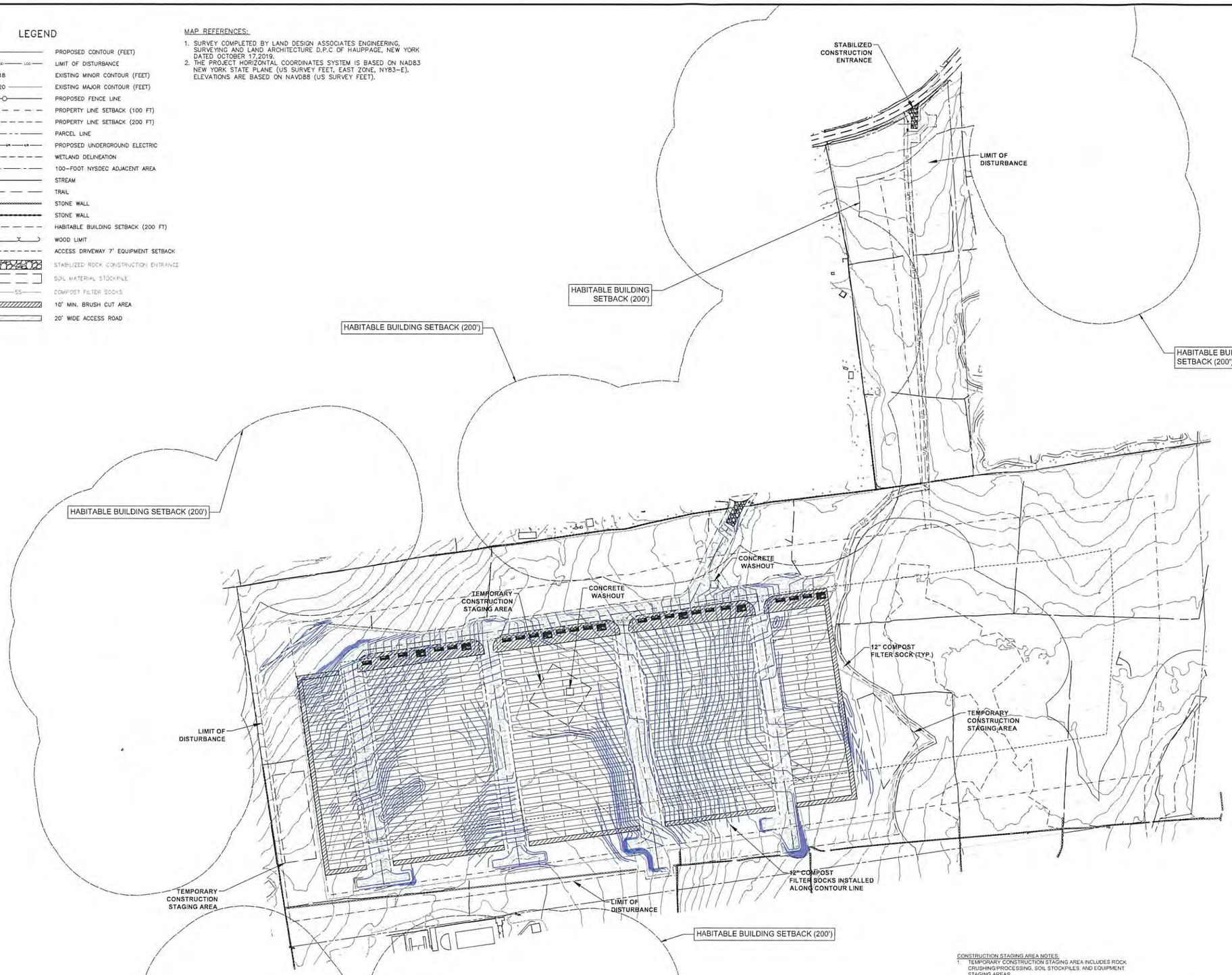

CONSTRUCTION STAGING AREA NOTES:

1. TEMPORARY CONSTRUCTION STAGING AREA INCLUDES ROCK CRUSHING/PROCESSING, SOIL STOCKPILES, AND EQUIPMENT STAGING AREAS.
2. VEHICLES SHALL BE PARKED WITHIN THE SITE AT ALL TIMES.

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Third Floor
New York, NY 10018
Phone: 212.221.7822

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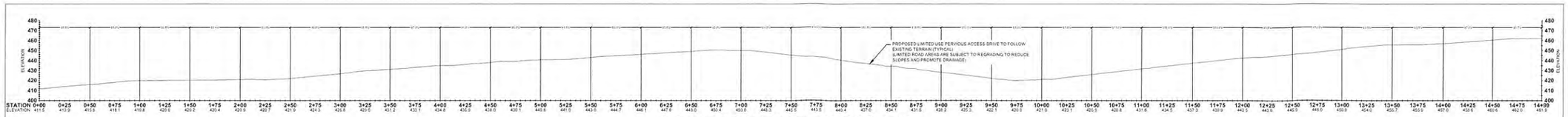
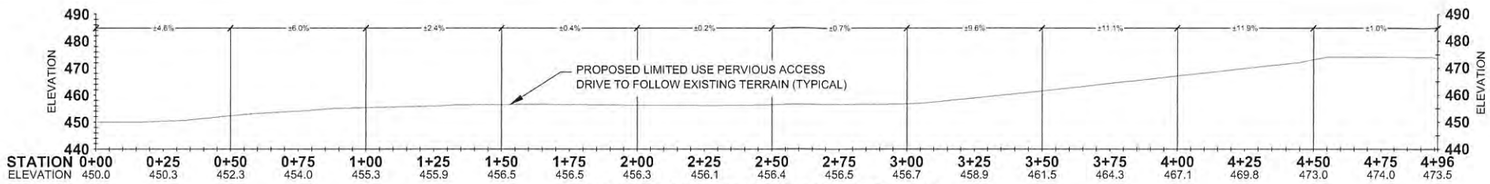
Drawn by: A. REXROAT
Design by: A. REXROAT
Checked by: S. MEERSMA

CVE NORTH AMERICA, INC.
CORTLANDT MILL SOLAR FARM
5.0 MW GROUND MOUNT SOLAR SYSTEM
0 MILL COURT
CORTLANDT, NEW YORK 10520

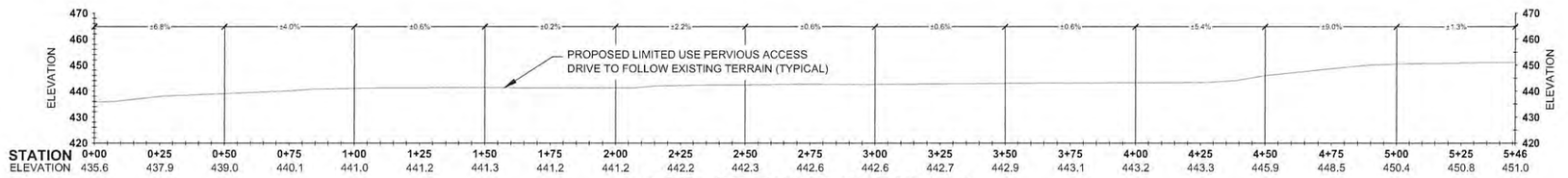
Contract No: 360551
Scale: AS NOTED
Date: MARCH 2021
Sheet: ESC PLAN
Drawing No: 8



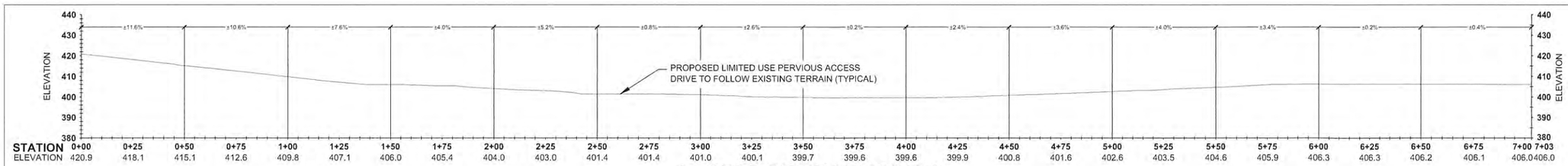
ACCESS DRIVE PROFILE 1
SCALES: 1"=50' (H), 1"=50' (V)



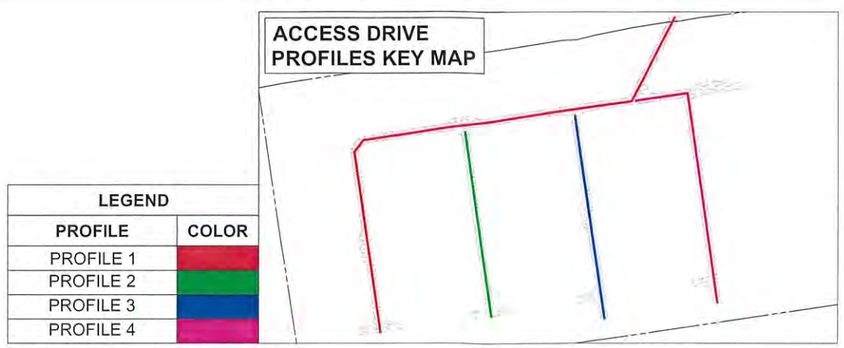
ACCESS DRIVE PROFILE 2
SCALE: 1"=25' (H), 1"=25' (V)



ACCESS DRIVE PROFILE 3
SCALE: 1"=25' (H), 1"=25' (V)



ACCESS DRIVE PROFILE 4
SCALE: 1"=25' (H), 1"=25' (V)



LEGEND	
PROFILE	COLOR
PROFILE 1	
PROFILE 2	
PROFILE 3	
PROFILE 4	

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TRC
1430 Broadway
Suite 1604
New York, NY 10018
Phone: 212.221.7822

TRC Project No.: 360551.0000.0000

CVE Changing Visions of Energy

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1	08/13/2021

Drawn by: A. REXROAT
Design by: A. REXROAT
Checked by: S. MEERSMA

CVE NORTH AMERICA, INC.
CORTLANDT MILL SOLAR FARM
5.0 MW GROUND MOUNT SOLAR SYSTEM
0 MILL COURT
CORTLANDT, NEW YORK 10520

Contract No: 360551
Scale: AS NOTED
Date: MARCH 2021
Sheet: ACCESS DRIVE PROFILES
Drawing No: 9

DECIDUOUS AND EVERGREEN TREES

SYMBOL	BOTANICAL NAME/ COMMON PLANT NAME	QUANTITY	SIZE	ROOT
AA	AMELANCHIER ARBOREA SHADBLOW SERVICEBERRY	24	6'-8' HT. CLUMP	B&B
AB	ABIES BALSAMEA BALSAM FIR	89	6'-7' HT.	B&B
AS	ACER SACCHARUM SUGAR MAPLE	3	2" CAL. MIN.	B&B
CF	CORNUS FLORIDA FLOWERING DOGWOOD	30	1" CAL. MIN.	B&B
IO	ILEX OPACA AMERICAN HOLLY	56	6'-7' HT.	B&B
NS	NYSSA SYLVATICA BLACK GUM	4	2" CAL. MIN.	B&B
TO	THUJA OCCIDENATALIS NORTHERN WHITE CEDAR	160	6'-7' HT.	B&B
QR	QUERCUS RUBRA RED OAK	4	2" CAL. MIN.	B&B

DECIDUOUS SHRUBS AND POLLINATORS

SYMBOL	BOTANICAL NAME/ COMMON PLANT NAME	QUANTITY	SIZE	ROOT
AR	ARONIA ARBUTIFOLIA RED CHOKEBERRY	84	30"-36" HT.	#3/5 CONT.
CS	CORNUS SERICEA RED TWIG DOGWOOD	25	30"-36" HT.	#3/5 CONT.
HV	HAMAMELIS VIRGINIANA COMMON WITCH HAZEL	37	3'-4' HT.	#5/7 CONT.
IV	ILEX VERTICILLATA WINTERBERRY	67	30"-36" HT.	#3/5 CONT.
VC	VACCINUM CORYMBOSUM HIGHBUSH BLUEBERRY	29	30"-36" HT.	#3/5 CONT.
VT	VIBURNUM TRILOBUM AMERICAN CRANBERRY	74	30"-36" HT.	#3/5 CONT.

STRATEGIC EVERGREEN TREE AND DECIDUOUS TREE PLANTING RECOMMENDATIONS AND PRESCRIPTIONS:

- APPROXIMATELY 50 - 60 ADDITIONAL EVERGREEN TREES AND APPROXIMATELY 20-30 DECIDUOUS TREES (70-90 TREES TOTAL) SHALL BE STRATEGICALLY LOCATED AND INSTALLED IN THE WOODED AREAS NORTH OF THE PROJECT SITE TO FURTHER MITIGATE VIEWS OCCURRING FROM THE ADJACENT LANDOWNER PROPERTIES.
- EVERGREEN TREE SPECIES TO BE USED SHALL INCLUDE AMERICAN HOLLY AND BALSAM FIR TREES. THE TOTAL NUMBER OF TREES USED SHALL BE EVENLY DIVIDED BETWEEN THE TWO SPECIES TO THE BEST EXTENT POSSIBLE.
- DECIDUOUS TREE SPECIES TO BE USED SHALL INCLUDE RED OAK, SUGAR MAPLE, AND BLACK GUM TREES. THE TOTAL NUMBER OF TREES USED SHALL BE EVENLY DIVIDED BETWEEN THE THREE SPECIES TO THE BEST EXTENT POSSIBLE.
- A BALL CART OR TREE CART SHALL BE USED TO FACILITATE AND DELIVER THE TREES THROUGH THE WOODED AREA TO THE LOCATIONS IDENTIFIED IN NEED OF ADDITIONAL VISUAL MITIGATION.
- TREES SHALL BE STAKED OUT AHEAD OF TIME AND APPROVED BY THE PROJECT OWNER OR OTHER QUALIFIED PROFESSIONAL PRIOR TO INSTALLATION.
- ALL EXCAVATION WORK FOR TREE PLANTING SHALL BE DONE BY HAND. NO MACHINES OR EXCAVATION EQUIPMENT SHALL BE USED IN THE WOODED AREA FOR THE STRATEGIC PLANTINGS OF TREES.
- STRATEGICALLY LOCATED TREES THAT ENCOUNTER ROOT, ROCK OUTCROPPING, OR OTHER UNKNOWN OR UNFORESEEN OBSTACLES THAT PROHIBIT PLANTING IN THE LOCATION PREDETERMINED, SHALL BE RELOCATED ACCORDINGLY. ADDITIONAL TREES MAY BE USED TO SUPPLEMENT THE ORIGINAL TREE PLANTING LOCATION AS NEEDED TO MITIGATE THE VIEWS IDENTIFIED.
- THE GENERAL LANDSCAPE AND SEEDING NOTES ON THE DETAIL SHEET (L-101) SHALL BE REFERENCED FOR THE STRATEGIC TREE PLANTINGS IN THE WOODED AREA.

INTERCONNECTION ACCESS PLANTINGS

TRC
1430 Broadway
Suite 1604
New York, NY 10018
Phone: 212.221.7822

TRC Project No.: 398683.0000.0000

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Revisions:	
No.	Date:

Drawn by: MJR
Design by: MJR
Checked by: MJR

CVE NORTH AMERICA, INC.
CORTLANDT MILL SOLAR FARM
4.7 MW GROUND MOUNT SOLAR SYSTEM
0 MILL COURT
CORTLANDT, NEW YORK 10520

Contract No: 360551
Scale: AS NOTED
Date: MARCH 2021
Sheet: LANDSCAPE PLAN
Drawing No: L-100

GENERAL LANDSCAPE AND SEEDING NOTES

1. THE LANDSCAPE PLAN AND DETAILS ARE FOR LANDSCAPING INFORMATION ONLY. PLEASE REFER TO THE SITE LAYOUT PLAN, GRADING PLAN AND/OR UTILITIES PLAN FOR ALL OTHER INFORMATION.

2. THE CONTRACTOR SHALL MONITOR AND GUARANTEE THAT ALL PLANTS, TREES, AND SHRUBS SHALL BE HEALTHY AND FREE OF DISEASE FOR THE LIFETIME OF THE PROJECT AFTER SUBSTANTIAL COMPLETION AND ACCEPTANCE BY THE OWNER. CONTRACTOR SHALL REPLACE ANY DEAD OR UNHEALTHY PLANTS AT CONTRACTOR'S EXPENSE. FINAL ACCEPTANCE SHALL BE MADE IF ALL PLANTS MEET THE GUARANTEE REQUIREMENTS INCLUDING MAINTENANCE. MAINTENANCE RESPONSIBILITIES INCLUDE INVASIVE SPECIES MONITORING, REMOVAL, AND SUPPLEMENTATION. MONITORING OF THE PROJECT SITE SHALL OCCUR IN THE SPRING AND THE FALL TO DETERMINE THE PRESENCE OF INVASIVE SPECIES. SHOULD ANY INVASIVE SPECIES BE IDENTIFIED WITHIN THE PROJECT SITE, THE INVASIVE SPECIES SHALL BE REMOVED ACCORDING TO METHODS MOST LIKELY TO BE EFFECTIVE IN CONTROLLING THAT SPECIES AND SUPPLEMENTING ITS REPLACEMENT WITH APPROPRIATE VEGETATION AND SEED MIX IDENTIFIED (AND APPROVED) ON THIS PLAN AND/OR AN APPROVED EQUAL. ADDITIONAL MAINTENANCE RESPONSIBILITIES INCLUDE: APPROVED CULTIVATING, SPRAYING, WEEDING, WATERING, TIGHTENING OF TREE STRAP GUYS, PRUNING, FERTILIZING, MULCHING, AND ANY OTHER OPERATIONS NECESSARY TO MAINTAIN PLANT VIABILITY. MAINTENANCE SHALL BEGIN IMMEDIATELY AFTER PLANTING AND CONTINUE FOR THE DURATION OF SOLAR ARRAY USE BY THE OWNER/OPERATOR AFTER FINAL ACCEPTANCE. WATERING OF THE LANDSCAPE BUFFER AREAS SHALL BE IMPLEMENTED BY THE USE OF A WATERING TRUCK.

3. THE CONTRACTOR SHALL SUPPLY ALL LABOR, PLANTS, APPROVED SEEDING MIX, AND MATERIALS IN QUANTITIES SUFFICIENT TO COMPLETE THE WORK SHOWN ON THE DRAWING(S) AND LISTED IN THE PLANT SCHEDULE(S) AND/OR SEEDING TABLE(S). IN THE EVENT OF A DISCREPANCY BETWEEN QUANTITIES SHOWN IN THE PLANT SCHEDULE AND/OR SEEDING TABLE AND THOSE REQUIRED BY THE DRAWINGS, THE LARGER SHALL APPLY. ALL PLANTS SHALL BE ACCLIMATED BY THE SUPPLY NURSERY TO THE LOCAL HARDINESS ZONE AND BE CERTIFIED THAT THE PLANTING MATERIAL HAS BEEN GROWN FOR A MINIMUM OF (2) TWO YEARS AT THE SOURCE AND OBTAINED WITHIN 200 MILES OF PROJECT SITE UNLESS OTHERWISE APPROVED BY OWNER, CERTIFIED LANDSCAPE INSPECTOR, OR LANDSCAPE ARCHITECT.

4. THE LOCATIONS FOR PLANT MATERIAL ARE APPROXIMATE AND ARE SUBJECT TO FIELD ADJUSTMENT DUE TO SLOPE, VEGETATION, AND SITE FACTORS SUCH AS THE LOCATION OF ROCK OUTCROPS. PRIOR TO PLANTING THE CONTRACTOR SHALL ACCURATELY STAKE OUT THE LOCATIONS FOR ALL PLANTS. THE OWNER, CERTIFIED LANDSCAPE INSPECTOR, OR LANDSCAPE ARCHITECT SHALL APPROVE THE FIELD LOCATIONS OR ADJUSTMENTS OF THE PLANT MATERIAL.

5. ALL SHRUB MASSING SHALL BE MULCHED TO A DEPTH OF 2" AND SHREDDED HARDWOOD BARK MULCH SHALL BE USED FOR SHRUB MASSING AREAS.

6. NO PLANT SHALL BE PLACED IN THE GROUND BEFORE ROUGH GRADING HAS BEEN COMPLETED AND APPROVED BY THE OWNER, CERTIFIED LANDSCAPE INSPECTOR, OR LANDSCAPE CONTRACTOR. STAKING THE LOCATION OF ALL TREES AND SHRUBS SHALL BE COMPLETED PRIOR TO PLANTING FOR APPROVAL BY THE OWNER, CERTIFIED LANDSCAPE INSPECTOR, OR LANDSCAPE ARCHITECT. STAKING OF THE INSTALLED TREE MUST BE COMPLETED THE SAME DAY AS IT IS INSTALLED. ALL TREES SHALL BE STAKED OR GUYED AS PER THE DETAIL. SEE LANDSCAPING PLAN(S) FOR PLANTING DETAILS.

7. COORDINATE PLANT MATERIAL LOCATIONS WITH SITE UTILITIES. SEE SITE LAYOUT, GRADING AND/OR UTILITY PLANS FOR STORM, SANITARY, GAS, ELECTRIC, TELEPHONE AND WATER LINES. UTILITY LOCATIONS ARE APPROXIMATE. EXERCISE CARE WHEN DIGGING IN AREAS OF POTENTIAL CONFLICT WITH UNDERGROUND OR OVERHEAD UTILITIES. THE CONTRACTOR IS RESPONSIBLE FOR ANY DAMAGE DUE TO CONTRACTOR'S NEGLIGENCE AND SHALL REPLACE OR REPAIR ANY DAMAGE AT CONTRACTOR'S EXPENSE.

8. LANDSCAPE PLANTING PITS MUST BE FREE DRAINING. PAVEMENT, COMPACTED SUBGRADE, AND BLASTED ROCK SHALL BE REMOVED TO A DEPTH OF 2' OR TO A GREATER DEPTH IF REQUIRED BY PLANTING DETAILS OR SPECIFICATIONS. REPLACE SOIL WITH MODERATELY COMPACTED LOAM OR SANDY LOAM FREE FROM STONES AND RUBBISH 1" OR GREATER IN DIAMETER AND ANY OTHER MATERIAL HARMFUL TO PLANT GROWTH AND DEVELOPMENT. PLANTING INSTALLATION SHALL BE AS DETAILED AND CONTAIN PLANTING MIX AS SPECIFIED UNLESS RECOMMENDED OTHERWISE BY SOIL ANALYSIS.

   PLANTING SOIL MIXTURE:
   2 PARTS PEAT MOSS
   5 PARTS TOPSOIL
   MYCORHIZA INOCULANT - "TRANSPLANT 1-STEP" AS MANUFACTURED BY ROOTS, INC. OR APPROVED EQUAL. USE PER MANUFACTURER'S RECOMMENDATIONS FOR TREES AND SHRUBS. FERTILIZER/LIME APPLY AS RECOMMENDED BY SOIL ANAYLSIS

   - TREES, AND SHRUBS: TREES AND SHRUBS SHALL BE NURSERY GROWN UNLESS OTHERWISE NOTED AND HARDY UNDER CLIMATIC CONDITIONS SIMILAR TO THOSE IN THE LOCATION OF THE PROJECT. THEY SHALL BE TYPICAL OF THEIR SPECIES OR VARIETY, WITH NORMAL HABIT OF GROWTH. THEY SHALL BE SOUND, HEALTHY, VIGOROUS, WELL-BRANCHED AND DENSELY FOLIATED WHEN IN LEAF. THEY SHALL BE FREE OF DISEASE, INSECT PESTS, EGGS OR LARVAE. THEY SHALL HAVE HEALTHY AND WELL-DEVELOPED ROOT SYSTEMS. ALL TREES SHALL HAVE STRAIGHT SINGLE TRUNKS WITH THEIR MAIN LEADER INTACT UNLESS OTHERWISE STATED. THE OWNER, CERTIFIED LANDSCAPE INSPECTOR, LANDSCAPE ARCHITECT SHALL ONLY PERMIT SUBSTITUTIONS UPON WRITTEN APPROVAL. THEIR SIZES SHALL CONFORM TO THE MEASUREMENT SPECIFIED ON THE DRAWINGS. PLANTS LARGER THAN SPECIFIED ON THE DRAWINGS MAY BE USED IF APPROVED. THE USE OF SUCH PLANTS SHALL NOT INCREASE THE CONTRACT PRICE. ALL TREES AND SHRUBS SHALL BE MULCHED IN ACCORDANCE WITH THE RESPECTIVE PLANTING DETAIL(S) PROVIDED IN THE LANDSCAPING PLAN.
   - ALL PRUNING SHALL CONFORM TO THE TREE CARE INDUSTRY ASSOCIATION (TCIA) ANSI A300 (PART 1) - 2017 PRUNING STANDARDS. PRUNING STANDARDS SHALL RECOGNIZE BUT, ARE NOT LIMITED TO, THE FOLLOWING PRUNING OBJECTIVES: MANAGE RISK, MANAGE HEALTH, DEVELOP STRUCTURE, PROVIDE CLEARANCE, MANAGE SIZE OR SHAPE, IMPROVE AESTHETICS, MANAGE PRODUCTION OF FRUIT, FLOWERS, OR OTHER PRODUCTS, AND/OR MANAGE WILDLIFE HABITAT. DEVELOPING STRUCTURE SHALL IMPROVE BRANCH AND TRUNK ARCHITECTURE, PROMOTE OR SUBORDINATE CERTAIN LEADERS, STEMS, OR BRANCHES; PROMOTE DESIRABLE BRANCH SPACING; PROMOTE OR DISCOURAGE GROWTH IN A PARTICULAR DIRECTION (DIRECTIONAL PRUNING); MINIMIZE FUTURE INTERFERENCE WITH TRAFFIC, LINES OF SIGHT, INFRASTRUCTURE, OR OTHER PLANTS; RESTORE PLANTS FOLLOWING DAMAGE; AND/OR REJUVENATE SHRUBS. PROVIDING CLEARANCE SHALL ENSURE SAFE AND RELIABLE UTILITY SERVICES; MINIMIZE CURRENT INTERFERENCE WITH TRAFFIC, LINES OF SITE, INFRASTRUCTURE, OR OTHER PLANTS; RAISE CROWN(S) FOR MOVEMENT OF TRAFFIC OR LIGHT PENETRATION; ENSURE LINES OF SIGHT OR DESIRED VIEWS; PROVIDE ACCESS TO SITES, BUILDINGS, OR OTHER STRUCTURES; AND/OR COMPLY WITH REGULATIONS.
   - TOPSOIL SHALL BE INSTALLED AT A MINIMUM DEPTH OF 4 INCHES. CONTRACTOR SHALL SUBMIT TOPSOIL TO A CERTIFIED TESTING LABORATORY TO DETERMINE PH, FERTILITY, ORGANIC CONTENT AND MECHANICAL COMPOSITION. THE CONTRACTOR SHALL SUBMIT THE TEST RESULTS FROM REGIONAL EXTENSION OFFICE OF USDA TO THE OWNER, CERTIFIED LANDSCAPE INSPECTOR, OR LANDSCAPE ARCHITECT FOR REVIEW AND APPROVAL. CONTRACTOR SHALL INCORPORATE AMENDMENTS FOR GOOD PLANT GROWTH AND PROPER SOIL ACIDITY RECOMMENDED FROM THE TOPSOIL TEST.
   - NO PHOSPHOROUS SHALL BE USED AT PLANTING TIME UNLESS SOIL TESTING HAS BEEN COMPLETED AND TESTED BY A HORTICULTURAL TESTING LAB AND SOIL TESTS SPECIFICALLY INDICATE A PHOSPHOROUS DEFICIENCY THAT IS HARMFUL, OR WILL PREVENT NEW LAWNS/GRASSES AND PLANTINGS FROM ESTABLISHING PROPERLY.
   - IF SOIL TESTS INDICATE A PHOSPHOROUS DEFICIENCY THAT WILL IMPACT PLANT AND LAWN ESTABLISHMENT, PHOSPHOROUS SHALL BE APPLIED AT THE MINIMUM RECOMMENDED LEVEL PRESCRIBED IN THE SOIL TEST FOLLOWING ALL APPLICABLE STANDARDS, REQUIREMENTS, AND/OR REGULATIONS.
   - ALL SLOPES GREATER THAN 3:1 RECEIVING A WILDFLOWER, WETLAND, AND/OR GRASS SEEDING MIXTURE SHALL BE COVERED WITH AN EROSION CONTROL BLANKET.
   - ALL WILDFLOWERS AND GRASSES SOWED SHALL BE ALLOWED TO GROW TO THEIR NATURALLY OCCURRING HEIGHTS WHENEVER POSSIBLE. NATIVE WILDFLOWERS AND/OR GRASSES CAN BE MOWED/MAINTAINED (WITHIN ACCEPTABLE AREAS IDENTIFIED AND/OR APPROVED BY APPROPRIATE REGULATORY AGENCIES) AS OFTEN AS NEEDED TO KEEP THE VEGETATION AT A DESIRED AND/OR MANAGEABLE/MANICURED HEIGHT.

9. INVASIVE SPECIES SHALL NOT BE PERMITTED.

10. ALL PLANT MATERIAL SHALL CONFORM TO THE PLAN SIZE SPECIFICATIONS AS ESTABLISHED BY THE AMERICAN STANDARD FOR NURSERY STOCK LATEST EDITION.

TREE REMOVAL, PRESERVATION, AND REFORESTATION PLANTING CALCULATIONS

THE EXISTING TREES PROPOSED TO BE REMOVED WITHIN THE PROJECT SITE LIMITS OF DISTURBANCE REQUIRE REPLACEMENT EFFORTS TO SATISFY THE FOLLOWING CALCULATIONS:

- TREES SHALL BE REPLANTED AT A MINIMUM RATIO OF 1 TREE PER 1,000 SF OF DISTURBANCE
- FOR EVERY TREE PROPOSED FOR REMOVAL ON A REGULATED STEEP SLOPE (>25%), TWO TREES SHALL BE PLANTED
- FOR EVERY ONE TREE ON PROTECTED SPECIAL LIST PROPOSED FOR REMOVAL, ONE AND A HALF TREES SHALL BE PLANTED

GIVENS:

- 3,347 TOTAL TREES TO BE REMOVED WITHIN THE PROPOSED PROJECT SITE LIMITS OF DISTURBANCE
- AREA OF PROJECT NOT ON STEEP SLOPES (25% OR GREATER) = 787,550 SF
  787,550 x 1 TREE PER 1,000 SF = 788 TREES
- AREA OF PROJECT ON STEEP SLOPES OVER 25% = 40,637 SF
  165 TREES TO BE REMOVED ON SLOPES GREATER THAN 25% X 2 TREES = 330 TREES
- 1 TREE ON PROTECTED SPECIAL LIST (NOT IN GOOD CONDITION) X 1.5 - 2 TREES

THEREFORE:

THE TOTAL TREE PLANTING REPLACEMENT CALCULATIONS ARE AS FOLLOWS:

788 + 330 + 2 = 1,120 TREES

CONCLUSION:

THE TOTAL NUMBER/QUANTITY OF TREES BASED ON THE REQUIREMENTS ABOVE = 1,120 TREES

ADDITIONAL GIVENS AND CALCULATIONS AND CONCLUSIONS:

GIVENS:

- THE LANDSCAPING PLAN PROVIDES PROPOSED TREE PLANTINGS THAT PROVIDE MITIGATION TO POTENTIAL VIEWS INTO THE PROJECT SITE TO THE BEST EXTENT POSSIBLE
- THE LANDSCAPING PLAN PROVIDES ADDITIONAL PROPOSED TREE AND SHRUB PLANTINGS THAT ARE POLLINATOR-FRIENDLY AND A BENEFICIAL ENHANCEMENT TO WILDLIFE HABITAT INCREASING BIODIVERSITY IN AND AROUND THE PROJECT SITE
- 307 EVERGREEN TREES (6'-7' MIN. HT.) ARE PROPOSED ON THE LANDSCAPING PLAN
  CREDIT = 1:1 = 307 TREE TOTAL CREDIT
- 11 DECIDUOUS TREES (2" CAL. MIN.) ARE PROPOSED ON THE LANDSCAPING PLAN
  CREDIT = 1:1 = 11 TREE TOTAL CREDIT
- 54 ORNAMENTAL TREES (6'-8' CLUMP/1" CAL. MIN.) ARE PROPOSED ON THE LANDSCAPING PLAN
  CREDIT = 3:1 = 18 TREE TOTAL CREDIT
- 316 SHRUBS (3/5 GALLON CONTAINERS MIN.) ARE PROPOSED ON THE LANDSCAPING PLAN
  CREDIT = 10:1 = 31 TREE TOTAL CREDIT

THEREFORE:

THE TOTAL TREE CREDIT FOR THE PROPOSED TREE AND SHRUB PLANTINGS ON THE LANDSCAPING PLAN = 307 + 11 + 18 + 31 = 367 TREES TOTAL CREDIT

1,120 TREES ARE REQUIRED TO BE REPLANTED TO SATISFY THE MOST STRINGENT TREE REPLACEMENT REQUIREMENT

367 TREES CAN BE USED AS CREDIT BASED ON THE PROPOSED PLANTINGS ON THE LANDSCAPING PLAN

1,120 - 367 = 753 TREE REPLACEMENT PLANTINGS REMAIN
*THIS DOES NOT INCLUDE THE PLANTINGS IN THE WOODED AREAS TO THE NORTH OF THE PROJECT SITE.

APPROXIMATELY 50-60 EVERGREEN TREES AND 20-30 DECIDUOUS TREES (70-90 TREES TOTAL) WILL BE STRATEGICALLY LOCATED AND INSTALLED IN THE WOODED AREAS NORTH OF THE PROJECT SITE TO FURTHER MITIGATE VIEWS OCCURRING FROM THE ADJACENT LANDOWNERS. AN AVERAGE OF 80 TREES TOTAL ARE ALSO INCLUDED IN THE TREE CREDIT CALCULATIONS AT A 1:1 RATIO CREDIT FOR ADDITIONAL MITIGATION EFFORTS.

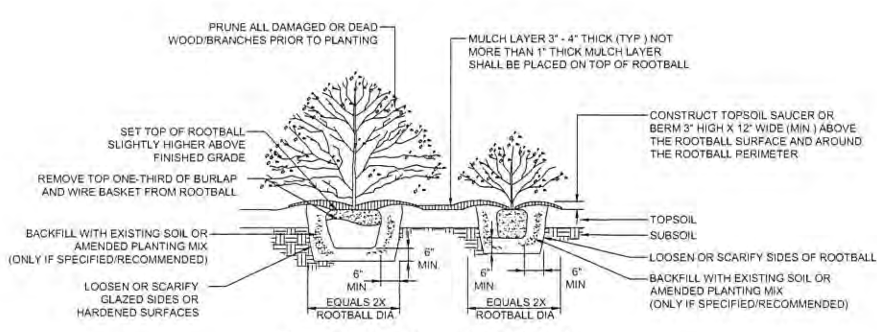
THEREFORE: THE TOTAL NUMBER OF TREES REMAINING TO BE MITIGATED THROUGH THE TOWN'S TREE MITIGATION FUND = 673 TREES (1,120 - 367 - 80)

FINAL CONCLUSIONS:

THE TREE SPECIES TO BE PLANTED AFTER DECOMMISSIONING WILL BE LIKE OR SIMILAR TO THE ORIGINAL SPECIES THAT EXISTED ON THE PROJECT SITE PRIOR TO CONSTRUCTION AND THE TREE SURVEY PREPARED BY BARTLETT TREE EXPERTS (DATED NOVEMBER 2, 2020) WILL BE REFERENCED TO ENSURE THAT THE PROPER TREE SPECIES ARE PROCURED AND INSTALLED IN THE SAME LOCATIONS AS THAT OF THE ORIGINAL TREE SPECIES THAT ORIGINALLY EXISTED ON THE SITE PRIOR TO CONSTRUCTION TO THE BEST EXTENT POSSIBLE.

ANY REMAINING TREES THAT CANNOT BE PLANTED DUE TO SPACING, AVAILABILITY, LAYOUT LIMITATIONS, AND/OR ANY OTHER REASONABLE RESTRICTIONS WILL BE ACCOUNTED FOR VIA MONETARY PAYMENT FEE-IN LIEU OF TO COMPENSATE FOR ANY REMAINING DEFICIENCIES IN TREE QUANTITY TOTALS REQUIRED.

THE ADDITIONAL REMAINING TREES WILL BE PLANTED ONCE THE PROJECT HAS BEEN DECOMMISSIONED. THE TREES WILL BE PLANTED IN THE AREA WHERE THE SOLAR ARRAY SYSTEM WAS SITED AND WILL BE REMOVED.

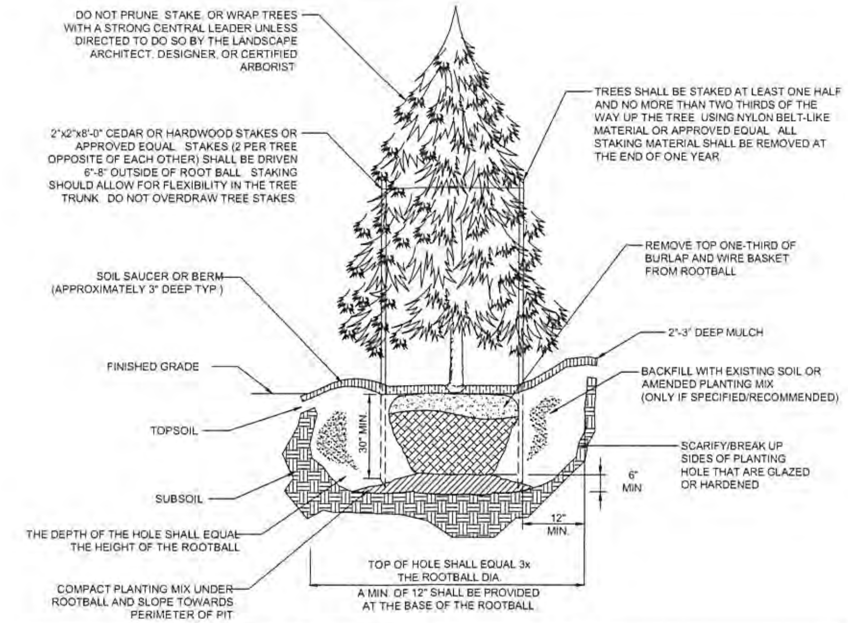


SHRUB PLANTING DETAIL

N.T.S.

NOTE:

- IN AREAS WITH MASS PLANTINGS, CONTINUOUS EXCAVATION AND MULCHING PRACTICES SHALL BE IMPLEMENTED WHENEVER POSSIBLE
- IT IS NOT RECOMMENDED TO AMEND THE EXISTING SOIL BEFORE BACKFILLING THE HOLE UNLESS SOIL CONDITIONS ARE POOR FOR PLANTING.
- WATER THOROUGHLY TO HELP ENSURE THE REMOVAL OF AIR POCKETS

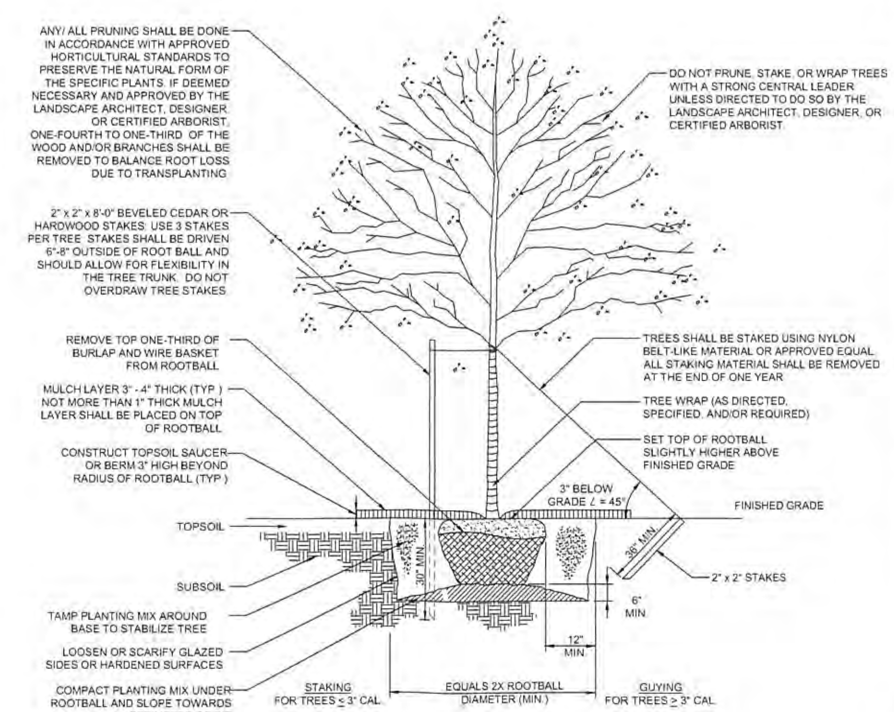


EVERGREEN TREE PLANTING DETAIL

N.T.S.

NOTES:

- TREE PLANTING SHALL BEAR SAME RELATIONSHIP TO FINISH GRADE AS IT WAS PRE-DUG IN THE NURSERY
- NEVER CUT THE PRIMARY LEADER
- IT IS NOT RECOMMENDED TO AMEND THE EXISTING SOIL BEFORE BACKFILLING THE HOLE UNLESS SOIL CONDITIONS ARE POOR FOR PLANTING
- WATER THOROUGHLY TO HELP ENSURE THE REMOVAL OF AIR POCKETS AND PROPERLY SET THE TREE



NATIVE/DECIDUOUS TREE PLANTING DETAIL

N.T.S.

NOTES:

- TREE PLANTING SHALL BEAR SAME RELATIONSHIP TO FINISH GRADE AS IT WAS PRE-DUG IN THE NURSERY
- NEVER CUT THE PRIMARY LEADER
- IT IS NOT RECOMMENDED TO AMEND THE EXISTING SOIL BEFORE BACKFILLING THE HOLE UNLESS SOIL CONDITIONS ARE POOR FOR PLANTING
- WATER THOROUGHLY TO HELP ENSURE THE REMOVAL OF AIR POCKETS AND PROPERLY SET THE TREE

1430 Broadway
10th Floor
New York, NY 10018
Phone: 212 221 7822
TRC
TRC Project No: 398683.0000.0000
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Sheet: TREE PRESERVATION AND REFORESTATION PLAN
Drawing No: L-101

POLLINATOR-FRIENDLY WILDLIFE ENHANCEMENT PURPOSE AND INTENT

THE PURPOSE AND INTENT OF THIS POLLINATOR-FRIENDLY WILDLIFE EXHIBIT IS TO PROVIDE AN EXPLANATION OF CONCEPT IN APPROACH FOR SUPPLEMENTING AND ENHANCING THE EXISTING VEGETATION AND LANDSCAPE ELEMENTS WITHIN THE PROJECT SITE. LEGITIMATE CONCERTED EFFORTS TO IMPLEMENT BEST MANAGEMENT PRACTICES THAT ARE POLLINATOR-FRIENDLY AND A BENEFIT WILDLIFE ARE CITED BELOW. THE IMPLEMENTATION OF THESE BEST MANAGEMENT PRACTICES CAN INCREASE VARIETIES IN WILDLIFE AND PLANT SPECIES RESULTING IN AN INCREASE OF BIODIVERSITY WITHIN THE PROJECT SITE AND BEYOND. THE BEST MANAGEMENT PRACTICES ARE AS FOLLOWS:

- PROVIDE A PLANTING SCHEME THROUGHOUT THE PROJECT SITE USING PLANT SPECIES THAT ARE NATIVE AND/OR INDIGENOUS TO THE AREA AND ARE POLLINATOR-FRIENDLY. POLLINATOR-FRIENDLY ORNAMENTAL TREES AND SHRUBS MAY INCLUDE DOWNY SHADBUSH (AMELANCHIER ARBOREA), RED CHOKEBERRY (ARONIA ARBUTIFOLIA), COMMON WITCH HAZEL (HAMAMELIS VIRGINIANA), COMMON WINTERBERRY (ILEX VERTICILLATE), AMERICAN CRANBERRY (VIBURNUM TRILOBUM), AND/OR HIGHBUSH BLUEBERRIES (VACCINIUM CORYMBOSUM).
- WITHIN THE PROJECT SITE, A LOW-GROWING PERMANENT SEED MIX WILL MOST LIKELY BE PROPOSED THROUGHOUT MOST OF THE AREA TO MINIMIZE EROSION CONCERNS. IT IS ANTICIPATED THAT THIS SEED MIX WILL BE COMPRISED OF NATIVE/INDIGENOUS WARM AND COOL SEASON GRASSES WITH RED AND WHITE CLOVER POLLINATORS. IT IS IMPORTANT TO NOTE, THAT THIS TYPE OF LONG-TERM PERMANENT GROUND COVER HELPS TO MINIMIZE THE NEED FOR FREQUENT MOWING.
- A NATIVE POLLINATOR-FRIENDLY SEED MIX GROUND COVER IS INTENDED TO BE SOWN WHEREVER POSSIBLE IN AREAS WHERE MOWING IS NOT OF CONCERN. THESE MIXES ARE TYPICALLY COMPRISED OF AN EVEN MIX OF NATIVE WILDFLOWERS AND WARM AND COOL SEASON GRASSES. THE POLLINATOR SEED MIXES THAT MAY BE PROPOSED ARE INTENDED TO SERVE AS PERMANENT EROSION AND SEDIMENT BMPS WITHIN THE PROJECT AREA AS WELL. FURTHERMORE, IT IS RECOMMENDED THAT NATIVE WILDFLOWERS AND GRASSES BE SOWN IN SELECTED LOCATIONS THAT WILL ALLOW THE POLLINATOR-FRIENDLY FLOWER SPECIES TO DEVELOP TO THE BEST EXTENT POSSIBLE. THEY MAY ALSO SERVE AS A FOUNDATION FOR THE LOCAL COMMUNITY TO SUPPORT BEEKEEPING INITIATIVES.
- THE NATIVE POLLINATOR-FRIENDLY PLANT SPECIES THAT ARE LISTED ABOVE ARE WOODY-TYPE (TYPICALLY DECIDUOUS IN NATURE) AND CAN PROVIDE EVEN MORE BENEFITS WHEN PLANTED TOGETHER WITH POLLINATOR GROUNDCOVER SPECIES BY CREATING WILDLIFE HABITAT AREAS, SHELTER, AND FOOD SOURCES THAT DIFFER FROM THE GROUNDCOVERS. IMPLEMENTING THE VARIOUS TYPES OF PLANTS CAN ATTRACT DIFFERENT VARIETIES OF WILDLIFE AND THEREFORE, INCREASE AND ENHANCE BIODIVERSITY.
- WILDLIFE-FRIENDLY CHAIN LINK FENCING IS RECOMMENDED IN SPECIFIC DESIGNATED AREAS WITHIN THE PROJECT SITE TO ALLOW FOR CONTINUED USE OF THE EXISTING WILDLIFE CORRIDORS AND ACCESS TO EXISTING VERNAL POOLS FOUND WITHIN THE PROJECT SITE. THESE VERNAL POOLS PROVIDE ADDITIONAL WILDLIFE BENEFITS AND PROVIDING ACCESS WITHOUT LIMITATION FURTHER ENHANCES AND INCREASES BIODIVERSITY.
- EARLY SUCCESSION WILL OCCUR AS A RESULT OF THE CONSTRUCTION OF THE PROJECT SITE. MANY WILDLIFE SPECIES RELY ON EARLY SUCCESSION HABITATS WHICH REQUIRE OPEN SPACE AND LAND AREAS TO BE MOST EFFECTIVE AND BENEFICIAL. VARIOUS TYPES OF GRASSLAND AND SHRUBLAND BIRDS ALONG WITH OTHER VARIETIES OF WILDLIFE PREFER EARLY SUCCESSION HABITATS FOR THE EXCELLENT COVER AND QUALITY OF FOOD AVAILABLE MAKING THIS TYPE OF HABITAT AN IMPORTANT COMPONENT FOR INCREASING BIODIVERSITY OPPORTUNITIES OF THE PROJECT SITE.
- PROVIDE A VARIETY OF POLLINATOR-FRIENDLY (WOODY-TYPE AND PERENNIAL) PLANTINGS IN THE LAYDOWN AREA AFTER CONSTRUCTION OF THE PROJECT IS COMPLETE TO TAKE ADVANTAGE OF THIS UNIQUE OPEN AREA AND TREAT IT AS ANOTHER OPPORTUNITY TO FURTHER ENHANCE AND INCREASE BIODIVERSITY.
- UTILIZE FELLED TREES TO CONSTRUCT WILDLIFE HABITAT PILES AND STRATEGICALLY LOCATE IN DESIGNATED AREAS - NOTING THE BENEFITS THAT ARE CITED IN THIS EXHIBIT.
- INCORPORATE BIRD AND NEST BOXES THROUGHOUT THE PROJECT SITE - NOTING THE BENEFITS THAT ARE CITED IN THIS EXHIBIT.

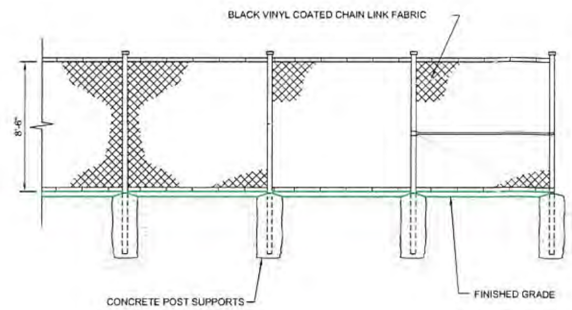
REFERENCES AND RESOURCES

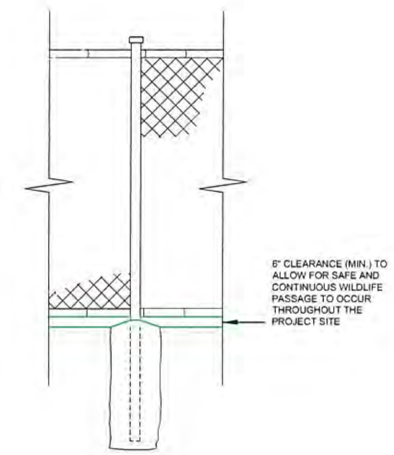
- MASSACHUSETTS DEPARTMENT OF ENVIRONMENTAL PROTECTION - THE MASSACHUSETTS BUFFER MANUAL
- UMASS CLEAN ENERGY EXTENSION - BEST MANAGEMENT PRACTICES FOR POLLINATOR-FRIENDLY SOLAR ARRAYS
- THE PENNSYLVANIA STATE EXTENSION - DEAD WOOD FOR WILD LIFE
- AUDUBON SOCIETY - WHY SOLAR POWER IS GOOD FOR BIRDS
- ERNST SEED COMPANY - SOLAR SPECIFIC AND POLLINATOR-FRIENDLY SEED MIXES
- GOOGLE IMAGES - VARIOUS ONLINE PHOTO IMAGES
- MAINE DEPARTMENT OF ENVIRONMENTAL PROTECTION - VERNAL POOLS: A SIGNIFICANT WILDLIFE HABITAT
- NATURAL RESOURCE CONSERVATION SERVICE (VERMONT) - EARLY SUCCESSION BENEFITS
- NEW YORK STATE DEPARTMENT OF AGRICULTURE AND MARKETS - NYS UTILITY CORRIDOR POLLINATOR HABIT GUIDELINES - POLLINATOR HABITAT SEED MIX: WET AND DRY MESIC SITES

NOTE: THE LANDSCAPING PLAN IS ALSO AN IMPORTANT ELEMENT OF THE BIODIVERSITY PLAN. PLEASE REFERENCE THE LANDSCAPING PLAN (SHEET L-100) FOR PLANTING DESIGN, PLANT SCHEDULE, NOTES, AND DETAILS

WILDLIFE-FRIENDLY CHAIN LINK FENCE DETAIL

NOT TO SCALE





FELLED TREES AND WILDLIFE HABITAT PILES




USING FELLED TREES TO CREATE WILDLIFE HABITAT PILES WITHIN THE PROJECT SITE IS A GREAT WAY TO ATTRACT A VARIETY OF WILDLIFE SPECIES. WILDLIFE HABITAT PILES CAN BE IMPLEMENTED IN STRATEGIC LOCATIONS ALONG THE DESIGNATED WILDLIFE CORRIDOR AREAS TO MAXIMIZE THEIR EFFECTIVENESS WITHIN THE PROJECT SITE AND BEYOND.

BENEFITS FROM WILDLIFE HABITATS PILES CONSTRUCTED OUT OF FELLED/DEAD TREES INCLUDE PROVIDING SHELTER AND FOOD TO MANY WILDLIFE SPECIES MAKING THEM A VALUABLE RESOURCE AND EFFECT NATURAL TOOL THAT CAN EASILY BE IMPLEMENTED TO CREATE INCREASED BIODIVERSITY WITHING THE PROJECT SITE AREA.

BIRD BOXES AND NEST BOXES

BIRD BOXES AND NEST BOXES CAN BE ERECTED IN MANY LOCATIONS THROUGHOUT THE PROJECT SITE, ATTRACTING A VARIETY OF BIRD SPECIES THAT MAY INCLUDE BLUE BIRDS, KESTRELS, OWLS, AND SPARROWS TO NAME A FEW. IT IS RECOMMENDED THAT THE BOXES BE FENCE OR POLE-MOUNTED WHENEVER POSSIBLE AND ADDITIONAL PROTECTIVE MEASURES SUCH AS SHIELDING BE IMPLEMENTED TO PREVENT UNWANTED PREDATORS FROM INVADING THE NESTS.



SOLAR FARM GRASS SEED MIXES

NATIVE/NATURALIZED SOLAR FARM SEED MIX				
BOTANICAL NAME	COMMON NAME	MIX CONCENTRATION	RATE (LBS/ACRE)	RATE (LBS/1000 FT^2)
FESTUCA RUBRA	CREEPING RED FESCUE	34%		
FESTUCA OVINA	SHEEP FESCUE	33%		
FESTUCA BREVIPILA 'BEACON'	HARD FESCUE 'BEACON'	10%		
FESTUCA OVINA VAR. DURIUSCULA 'RHINO'	HARD FESCUE 'RHINO'	5%		
FESTUCA OVINA VAR. GLAUCA (F. ARVERNENSIS) (F. GLAUCA), 'BLUE RAY'	BLUE FESCUE 'BLUE RAY'	5%	262	6
POA PRATENSIS 'ARGYLE'	KENTUCKY BLUEGRASS 'ARGYLE'	5%		
POA PRATENSIS 'SHAMROCK'	KENTUCKY BLUEGRASS 'SHAMROCK'	5%		
AGROSTIS PERENNANS, ALBANY PINE BUSH-NY ECOTYPE	AUTUMN BENTGRASS, ALBANY PINE BUSH-NY ECOTYPE	3%		

NOTES:

GRASS SEED MIXES ARE COMPRISED OF GRASSES THAT ARE NATIVE AND/OR INDIGENOUS TO THE AREA AND/OR CONSIDERED FAVORABLE FOR WILDLIFE HABITAT AND SUSTAINABLE GROWTH. ADDITIONALLY, THE SOLAR FARM SEED MIX WAS DEVELOPED ESPECIALLY FOR THE USE OF WARM AND COOL SEASON NATIVE GRASS PLANTINGS AROUND SOLAR ARRAY FIELDS AND SHALL BE UTILIZED ACCORDINGLY. THE WARM AND COOL SEASON GRASSES WILL MINIMIZE EROSION CONCERNS BY PROVIDING A CONSISTENT GROUNDCOVER THROUGHOUT THE YEAR AND MATURE OUT TO A HEIGHT OF APPROXIMATELY 2 1/2 FEET HIGH MINIMIZING MOWING AND SHADING CONCERNS AS WELL.

THE SEED MIX ABOVE IS A SPECIFICALLY DEVELOPED MIX HOWEVER, POLLINATOR-FRIENDLY SPECIES SUCH AS RED AND WHITE CLOVER (TRIFOLIUM PRATENSE AND TRIFOLIUM REPENS - RESPECTIVELY) WILL ALSO BE ADDED TO THIS MIX TO ENSURE THAT POLLINATOR SPECIES ARE AVAILABLE THROUGHOUT THE SOLAR ARRAY FIELDS WITHOUT INCREASING CONCERNS FOR EROSION, MOWING, AND/OR SHADING OF THE ARRAYS.

FLOWERING HERBACEOUS LAYER/NORTHEAST NATIVE POLLINATOR SEED MIXES

NORTHEAST NATIVE WILDFLOWER & GRASS MIX				
BOTANICAL NAME	COMMON NAME	MIX CONCENTRATION	RATE (LBS/ACRE)	RATE (LBS/1000 FT^2)
SCHIZACHYRIUM SCOPARIUM	LITTLE BLUESTEM	40%		
BOUTELOUA CURTIPENDULA	SIDEOATS GRAMA	23.40%		
COSMOS BIPINNATUS	COSMOS	7.30%		
COREOPSIS LANCEOLATA	LANCELEAF COREOPSIS	3.50%		
ECHINACEA PURPUREA	PURPLE CONEFLOWER	3.50%		
ELYMUS VIRGINICUS	VIRGINIA WILDRYE	3%		
SORGHASTRUM NUTANS	INDIANGRASS	2.50%		
LUPINUS POLYPHYLLUS	BIGLEAF LUPINE	2.20%		
CHAMAECRISTA FASCICULATA	PARTRIDGE PEA	2%		
DELPHINIUM AJACIS	ROCKET LARKSPUR	2%		
RUDBECKIA HIRTA	BLACKEYED SUSAN	2%		
GAILLARDIA ARISTATA	BLANKET FLOWER	1.50%		
SENNA HEBECARPA	WILD SENNA	1%		
PENSTEMON DIGITALIS	TALL WHITE BEARDTONGUE	1%		
PAPAVER RHOEAS	SHIRLEY MIX (CORN POPPY, SHIRLEY MIX)	0.60%		
ANDROPOGON GERARDII	BIG BLUESTEM	0.50%	20	0.46
ELYMUS CANADENSIS	CANADA WILDRYE	0.50%		
COREOPSIS TINCTORIA	PLAINS COREOPSIS	0.50%		
LIATRIS SPICATA	BLAZING STAR	0.40%		
ASCLEPIAS SYRIACA	COMMON MILKWEED	0.40%		
ASCLEPIAS TUBEROSA	BUTTERFLY MILKWEED	0.40%		
ZIZIA AUREA	GOLDEN ALEXANDERS	0.30%		
ASCLEPIAS INCARNATA	SWAMP MILKWEED	0.30%		
MONARDA FISTULOSA	WILD BERGAMONT	0.20%		
PENSTEMON LAEVIGATUS	APPALACHIAN BEARDTONGUE	0.20%		
SENNA MARILANDICA	MARYLAND SENNA	0.20%		
SOLIDAGO NEMORALIS	GRAY GOLDENROD	0.10%		
TRADESCANTIA OHIENSIS	OHIO SPIDERWORT	0.10%		
ASTER LAEVIS	SMOOTH BLUE ASTER	0.10%		
ASTER NOVAE-ANGLIAE	NEW ENGLAND ASTER	0.10%		
ASTER PRENANTHOIDES	ZIGZAG ASTER	0.10%		
HELIOPSIS HELIANTHOIDES	OXEYE SUNFLOWER	0.10%		

NOTES:

NATIVE POLLINATOR SEED MIXES ARE INTENDED TO PROVIDE AN EXCELLENT WILDLIFE FOOD AND SHELTER THAT WILL ATTRACT A VARIETY OF POLLINATORS AND SONGBIRDS. THE NATIVE WILDFLOWERS AND GRASSES IN THIS MIX PROVIDE AN ATTRACTIVE DISPLAY OF COLOR FROM SPRING TO FALL. POLLINATOR SEED MIXES ARE INTENDED TO PROVIDE NECTAR AND FOOD SOURCES FOR A VARIETY OF POLLINATORS AND LARVA. THESE MIXES ARE COMPRISED OF A FAIRLY EVEN MIX OF NATIVE AND/OR INDIGENOUS WILDFLOWERS AND GRASSES.

THE POLLINATOR SEED MIX IS INTENDED TO BE SOWN EVERYWHERE ELSE POSSIBLE WITHIN THE PROJECT SITE - IN AREAS WHERE MOWING IS NOT NECESSARY AND THE POLLINATOR-FRIENDLY PLANT SPECIES ARE ABLE TO GROW TO THEIR NATURALLY OCCURRING HEIGHTS AND DEVELOP FLOWER. AREAS WITHIN THE PROJECT SITE THAT MAY BE CONSIDERED TO SOW THIS SEED MIX ARE IN DESIGNATED PLANTING STRIPS OUTSIDE OF THE SOLAR ARRAY FIELD, OTHER AREAS AROUND THE OUTER PERIMETER OF THE VEGETATIVE PLANTING BUFFER, AND IN AREAS WHERE THE FENCING MAY HAVE ODD ANGLES CREATING PLANTING "POCKETS" FOR THE POLLINATOR-FRIENDLY PLANTINGS.

1430 Broadway
10th Floor
New York, NY 10018
Phone: 212 221 7822

TRC

TRC Project No: 396683.0000.0000

cve Changing Visions of Energy

Revisions:

No.	Date

Drawn by: MJR
Design by: MJR
Checked by: MJR

CVE NORTH AMERICA, INC.
CORTLANDT MILL SOLAR FARM
4.7 MW GROUND MOUNT SOLAR SYSTEM
0 MILL COURT
CORTLANDT, NEW YORK 10520

Contract No: 360551
Scale: AS NOTED
Date: MARCH 2021
Sheet: BIODIVERSITY ENHANCEMENT FEATURES
Drawing No: L-102

GENERAL NOTES:

1. USE OF THIS DETAIL/CRITERION IS LIMITED TO ACCESS ROADS USED ON AN OCCASIONAL BASIS ONLY (I.E. PROVIDE ACCESS FOR MOWING, EQUIPMENT REPAIR OR MAINTENANCE, ETC.).
2. LIMITED USE PERVIOUS ACCESS ROAD IS LIMITED TO LOW IMPACT IRREGULAR MAINTENANCE ACCESS ASSOCIATED WITH RENEWABLE ENERGY PROJECTS IN NEW YORK STATE.
3. REMOVE STUMPS, ROCKS AND DEBRIS AS NECESSARY. FILL VOIDS TO MATCH EXISTING NATIVE SOILS AND COMPACTION LEVEL.
4. REMOVED TOPSOIL MAY BE SPREAD IN ADJACENT AREAS AS DIRECTED BY THE PROJECT ENGINEER. COMPACT TO THE DEGREE OF THE NATIVE INSITU SOIL. DO NOT PLACE IN AN AREA THAT IMPEDES STORMWATER DRAINAGE.
5. GRADE ROADWAY, WHERE NECESSARY, TO NATIVE SOIL AND DESIRED ELEVATION. MINOR GRADING FOR CROSS SLOPE CUT AND FILL MAY BE REQUIRED.
6. REMOVE REFUSE SOILS AS DIRECTED BY THE PROJECT ENGINEER. DO NOT PLACE IN AN AREA THAT IMPEDES STORMWATER DRAINAGE.
7. ROADWAY WIDTH ABOVE MINIMUM TO BE DETERMINED BY CLIENT.
8. THE LIMITED USE PERVIOUS ACCESS ROAD CROSS SLOPE SHALL BE 2% IN MOST CASES AND SHOULD NOT EXCEED 6%. THE LONGITUDINAL SLOPE OF THE ACCESS DRIVE SHOULD NOT EXCEED 15%.
9. THE LIMITED USE PERVIOUS ACCESS ROAD IS NOT INTENDED TO BE UTILIZED FOR CONSTRUCTION WHICH MAY SUBJECT THE ACCESS TO SEDIMENT TRACKING. THIS SPECIFICATION IS TO BE DEVELOPED FOR POST-CONSTRUCTION USE. SOIL RESTORATION PRACTICES MAY BE APPLICABLE TO RESTORE CONSTRUCTION RELATED COMPACTION TO PRE-EXISTING CONDITIONS AND SHOULD BE VERIFIED BY SOIL PENETROMETER READINGS. THE PENETROMETER READINGS SHALL BE COMPARED TO THE RESPECTIVE RECORDED READINGS TAKEN PRIOR TO CONSTRUCTION, EVERY 100 LINEAR FEET ALONG THE PROPOSED ROADWAY.
10. TO ENSURE THAT SOIL IS NOT TRACKED ONTO THE LIMITED USE PERVIOUS ACCESS ROAD, IT SHALL NOT BE USED BY CONSTRUCTION VEHICLES TRANSPORTING SOIL, FILL MATERIAL, ETC. IF THE LIMITED USE PERVIOUS ACCESS IS COMPLETED DURING THE INITIAL PHASES OF CONSTRUCTION, A STANDARD NEW YORK STATE STABILIZED CONSTRUCTION ACCESS SHALL BE CONSTRUCTED AND UTILIZED TO REMOVE SEDIMENT FROM CONSTRUCTION VEHICLES AND EQUIPMENT PRIOR TO ENTERING THE LIMITED USE PERVIOUS ACCESS ROAD FROM ANY LOCATION ON, OR OFF SITE. MAINTENANCE OF THE PERVIOUS ACCESS ROAD WILL BE REQUIRED IF SEDIMENT IS OBSERVED WITHIN THE CLEAN STONE.
11. THE LIMITED USE PERVIOUS ACCESS ROAD SHALL NOT BE CONSTRUCTED OR USED UNTIL ALL AREAS SUBJECT TO RUNOFF ONTO THE PERVIOUS ACCESS HAVE ACHIEVED FINAL STABILIZATION.
12. PROJECTS SHOULD AVOID INSTALLATION OF THE LIMITED USE PERVIOUS ACCESS ROAD IN POORLY DRAINED AREAS, HOWEVER IF NO ALTERNATIVE LOCATION IS AVAILABLE, THE PROJECT SHALL UTILIZE WOVEN GEOTEXTILE MATERIAL AS DETAILED IN FOLLOWING NOTES.
13. THE DRAINAGE DITCH IS OFFERED IN THE DETAIL FOR CIRCUMSTANCES WHEN CONCENTRATED FLOW COULD NOT BE AVOIDED. THE INTENTION OF THIS DESIGN IS TO MINIMIZE ALTERATIONS TO HYDROLOGY, HOWEVER WHEN DEALING WITH 5%-15% GRADES NOT PARALLEL TO THE CONTOUR, A ROADSIDE DITCH MAY BE REQUIRED. THE NYS STANDARDS AND SPECIFICATIONS FOR EROSION AND SEDIMENT CONTROLS FOR GRASSED WATERWAYS AND VEGETATED WATERWAYS ARE APPLICABLE FOR SIZING AND STABILIZATION. DIMENSIONS FOR THE GRASSED WATERWAY SPECIFICATION WOULD BE DESIGNED FOR PROJECT SPECIFIC HYDROLOGIC RUNOFF CALCULATIONS, AND A SEPARATE DETAIL FOR THE SPECIFIC GRASSED WATERWAY WOULD BE INCLUDED IN THIS PRACTICE. RUNOFF DISCHARGES WILL BE SUBJECT TO THE OUTLET REQUIREMENTS OF THE REFERENCED STANDARD. INCREASED POST-DEVELOPMENT RUNOFF FROM THE ASSOCIATED ROADSIDE DITCH MAY REQUIRE ADDITIONAL PRACTICES TO ATTENUATE RUNOFF TO PRE-DEVELOPMENT CONDITIONS.
14. IF A ROADSIDE DITCH IS NOT UTILIZED TO CAPTURE RUNOFF FROM THE ACCESS ROAD, THE PERVIOUS ACCESS ROAD WILL HAVE A WELL-ESTABLISHED PERENNIAL VEGETATIVE COVER, WHICH SHALL CONSIST OF UNIFORM VEGETATION (I.E. BUFFER), 20 FEET WIDE AND PARALLEL TO THE DOWN GRADIENT SIDE OF THE ACCESS ROAD. POST-CONSTRUCTION OPERATION AND MAINTENANCE PRACTICES WILL MAINTAIN THIS VEGETATIVE COVER TO ENSURE FINAL STABILIZATION FOR THE LIFE OF THE ACCESS ROAD.
15. THE DESIGN PROFESSIONAL MUST ACCOUNT FOR THE LIMITED USE PERVIOUS ACCESS ROAD IN THEIR SITE ASSESSMENT/HYDROLOGY ANALYSIS. IF THE HYDROLOGY ANALYSIS SHOWS THAT THE HYDROLOGY HAS BEEN ALTERED FROM PRE- TO POST-DEVELOPMENT CONDITIONS (SEE APPENDIX A OF GP-0-20-001 FOR THE DEFINITION OF "ALTER THE HYDROLOGY..."), THE DESIGN MUST INCLUDE THE NECESSARY DETENTION/RETENTION PRACTICES TO ATTENUATE THE RATES (10 AND 100 YEAR EVENTS) TO PRE-DEVELOPMENT CONDITIONS.

GEOGRID MATERIAL NOTES:

1. THE GEOGRID, OR COMPARABLE PRODUCT, IS INTENDED FOR USE FOR ALL CONDITIONS, IN ORDER TO ASSIST IN MATERIAL SEPARATION FROM NATIVE SOILS AND PRESERVE ACCESS LOADS.
2. GRAVEL FILL MATERIAL SHALL CONSIST OF 1-2" CLEAN, DURABLE, SHARP-ANGLED CRUSHED STONE OF UNIFORM QUALITY, MEETING THE SPECIFICATIONS OF NYSDOT ITEM 703-02, SIZE DESIGNATION 3-5 OF TABLE 703-4. STONE MAY BE PLACED IN FRONT OF, AND SPREAD WITH, A TRACKED VEHICLE. GRAVEL SHALL NOT BE COMPACTED.
3. GEOGRID SHALL BE MIRAFI BXG110 OR APPROVED EQUAL. GEOGRID SHALL BE DESIGNED BASED ON EXISTING SOIL CONDITIONS AND PROPOSED HAUL ROAD SLOPES.
4. IF MORE THAN ONE ROLL WIDTH IS REQUIRED, ROLLS SHOULD OVERLAP A MINIMUM OF NINE INCHES.
5. REFER TO MANUFACTURER'S SPECIFICATION FOR PROPER TYING AND CONNECTIONS.
6. LIMITED USE PERVIOUS ACCESS ROAD SHALL BE TOP DRESSED AS REQUIRED WITH ONLY 1-2" CRUSHED STONE MEETING NYSDOT ITEM 703-02 SPECIFICATIONS.

BASIS OF DESIGN: TENCATE MIRAFI BXG110 GEOGRIDS; 365 SOUTH HOLLAND DRIVE, PENDERGRASS, GA;800-685-9990 OR 706-693-2226; WWW.MIRAFI.COM

GEOWEB MATERIAL NOTES:

1. THE GEOWEB, OR COMPARABLE PRODUCT, IS SUGGESTED FOR USE ON ROAD PROFILES EXCEEDING 10%. THE GEOWEB PRODUCT IS INTENDED TO LIMIT SHIFTING STONE MATERIAL DURING USE.
2. INSTALLATION TO BE COMPLETED IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS.
3. WHERE REQUIRED, A NATIVE SOIL WEDGE SHALL BE PLACED TO ACCOMMODATE ROAD CROSS SLOPE OF 2%. NATIVE SOIL SHALL BE COMPACTED TO MATCH EXISTING SOIL CONDITIONS.
4. GRAVEL FILL MATERIAL SHALL CONSIST OF 1-2" CLEAN, DURABLE, SHARP-ANGLED CRUSHED STONE OF UNIFORM QUALITY, MEETING THE SPECIFICATIONS OF NYSDOT ITEM 703-02, SIZE DESIGNATION 3-5 OF TABLE 703-4. STONE MAY BE PLACED IN FRONT OF, AND SPREAD WITH, A TRACKED VEHICLE. GRAVEL SHALL NOT BE COMPACTED.
5. GEOWEB SYSTEM SHALL BE PRESTO GEOSYSTEM GEOWEB OR APPROVED EQUAL. GEOWEB SHALL BE DESIGNED BASED ON EXISTING SOIL CONDITIONS AND PROPOSED HAUL ROAD SLOPES.
6. LIMITED USE PERVIOUS ACCESS ROAD SHALL BE TOP DRESSED AS REQUIRED WITH ONLY 1-2" CRUSHED STONE, SIZE 3A, MEETING NYSDOT ITEM 703-02 SPECIFICATIONS.
7. THE TOP EDGES OF ADJACENT CELL WALLS SHALL BE FLUSH WHEN CONNECTING. ALIGN THE I-SLOTS FOR INTERLEAF AND END TO END CONNECTIONS. THE GEOWEB PANELS SHALL BE CONNECTED WITH ATRA KEYS AT EACH INTERLEAD AND END TO END CONNECTIONS. REFER TO MANUFACTURER'S SPECIFICATION FOR PROPER INSTALLATION, TYING, ANCHORING, AND CONNECTIONS.

BASIS OF DESIGN: PRESTO GEOSYSTEMS GEOWEB; 670 NORTH PERKINS STREET, APPLETON, WI; 800-548-3424 OR 920-738-1222; INFO@PRESTOGEO.COM; WWW.PRESTOGEO.COM

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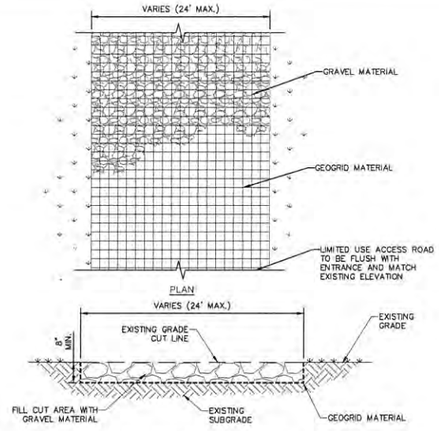
WOVEN GEOTEXTILE MATERIAL NOTES:

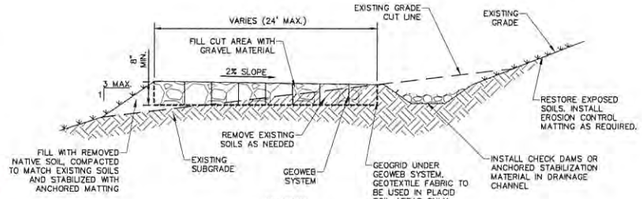
1. SPECIFIED GEOTEXTILE WILL ONLY BE UTILIZED IN PLACID SOILS. PLACID SOILS CONSIST OF POORLY DRAINED SOILS COMPOSED OF FINELY TEXTURED PARTICLES AND ARE PRONE TO RUTTING. PLACID SOILS ARE TYPICALLY PRESENT IN LOW-LYING AREAS WITH HYDROLOGIC SOILS GROUP (HSG) OF C OR D, OR AS SPECIFIED BY AN ENGINEER, ENVIRONMENTAL SCIENTIST, SOIL SCIENTIST, OR GEOTECHNICAL DATA.
2. THE CONCERN FOR POTENTIAL REDUCTION OF NATIVE INFILTRATION RATES DUE TO THE GEOTEXTILE MATERIAL WOULD NOT BE A SIGNIFICANT CONCERN IN POORLY DRAINED SOILS WHERE SEGREGATION OF PERVIOUS STONE AND NATIVE MATERIALS IS CRUCIAL FOR LONG TERM OPERATION AND MAINTENANCE.

BASIS OF DESIGN: TENCATE MIRAFI RSI-SERIES WOVEN GEOSYNTHETICS; 365 SOUTH HOLLAND DRIVE, PENDERGRASS, GA;800-685-9990 OR 706-693-2226; WWW.MIRAFI.COM



LIMITED USE PERVIOUS ACCESS ROAD – 0% TO 10% SLOPES

NOT TO SCALE



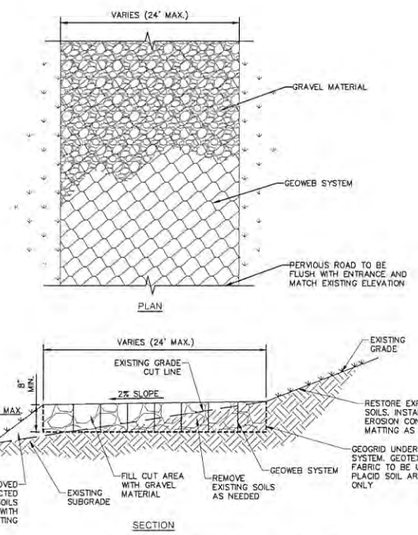
SECTION

NOTE:

1. THE ROADSIDE DITCH SHALL BE DESIGNED IN ACCORDANCE WITH THE NEW YORK STATE STANDARDS AND SPECIFICATIONS FOR EROSION AND SEDIMENT CONTROLS FOR GRASSED AND VEGETATED WATERWAYS. ADDITIONAL DETAILS WILL BE PROVIDED SPECIFIC TO THE SITE DESIGN.

LIMITED USE PERVIOUS ACCESS ROAD – 10% AND GREATER SLOPES WITH DITCH

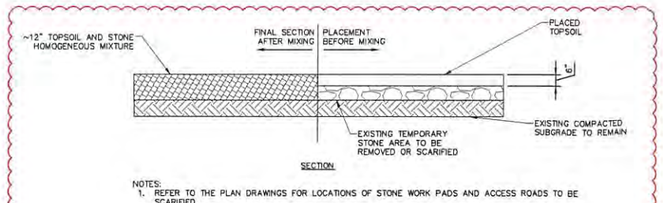
NOT TO SCALE



SECTION

LIMITED USE PERVIOUS ACCESS ROAD – 10% AND GREATER SLOPES

NOT TO SCALE



SECTION

NOTES:

1. REFER TO THE PLAN DRAWINGS FOR LOCATIONS OF STONE WORK PADS AND ACCESS ROADS TO BE SCARIFIED.
2. FINISHED ROAD AND PAD ELEVATIONS SHALL REMAIN AFTER CONSTRUCTION UNLESS OTHERWISE INDICATED ON THE PLANS.
3. IN GENERAL, STONE SHALE MATERIAL SHALL REMAIN AFTER CONSTRUCTION AND BE MIXED WITH 6 INCHES OF TOPSOIL. HOWEVER, IN SOME CASES THE STONE MAY BE ENTIRELY REMOVED FROM THE SITE. REFER TO THE PLAN DRAWINGS FOR SPECIFIC LOCATIONS.
4. STONED AREAS SHALL BE SCARIFIED OR OTHERWISE LOOSENED TO A MINIMUM DEPTH OF 12 INCHES TO PERMIT BONDING OF THE TOPSOIL. TOPSOIL SHOULD BE UNIFORMLY DISTRIBUTED ACROSS THE AREA TO BE RESTORED TO A DEPTH OF 6 INCHES (MINIMUM OF 2 INCHES ON FILL OUTSLOPES) AND INCORPORATED OR TILLED INTO SCARIFIED STONE AREA. REFER TO TOPSOIL APPLICATION NOTES.
5. SPREADING SHALL BE DONE IN A MANNER SUCH THAT SEEDING AN BE COMPLETED WITH A MINIMUM OF ADDITIONAL TILLAGE. IRREGULARITIES OF THE SURFACE RESULTING FROM THE PLACEMENT SHALL BE CORRECTED IN ORDER TO PREVENT FORMATION OF DEPRESSIONS. REFER TO TOPSOIL APPLICATION NOTES.
6. PRE-PLANTING FERTILIZERS AND PH ADJUSTING AGENTS MAY BE APPLIED PRIOR TO INCORPORATING.
7. RESTORATION AREA TO BE SEEDED IN ACCORDANCE WITH PERMANENT SEEDING SPECIFICATIONS INCLUDING WITHIN THIS PLAN. SEED SHALL BE APPLIED VIA DRILL SEEDER, HYDROSEEDER OR BROADCAST SPREADER ALONG WITH A CARRIER. RAKE SEEDED AREA TO ENSURE PROPER SOIL-SEED CONTACT AND APPLY STRAW MULCH AT 3 TONS/ACRE TO PRESERVE MOISTURE.
8. ESTABLISHMENT OF VEGETATION ON THE RESTORED ACCESS ROAD WILL MEET THE FINAL STABILIZATION CRITERIA (DENSITY OF 80%).
9. UPON FINAL RESTORATION, THE SCARIFICATION AREAS SHALL BE REVIEWED BY THE DESIGN PROFESSIONAL, TO CONFIRM THAT SITE HYDROLOGY HAS NOT BEEN ALTERED PER APPENDIX C OF THE CONSTRUCTION GENERAL PERMIT. IF IT IS DETERMINED THAT THE HYDROLOGY HAS BEEN ALTERED, APPROPRIATE NECESSARY/RETENTION PRACTICES WILL NEED TO BE DESIGNED AND IMPLEMENTED TO RESTORE PRE-CONSTRUCTION HYDROLOGIC CONDITIONS.

REVEGETATED GRAVEL ROAD DETAIL

NOT TO SCALE

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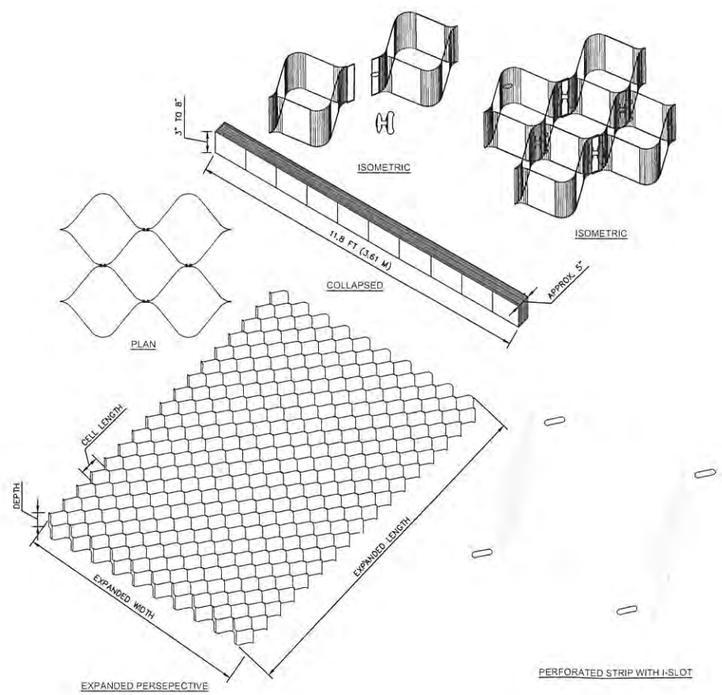


GEOWEB SYSTEM

NOT TO SCALE

TRC
1430 Broadway
Suite 1604
New York, NY 10018
Phone: 212.221.7822
TRC Project No: 360551.0000.0000

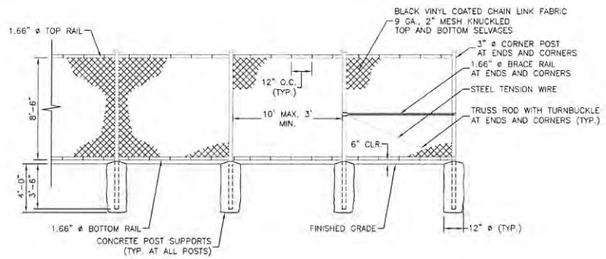
CVE
Changing Visions of Energy

Revisions	
No.	Date:
1	08/13/2021

Drawn by: T. MILL
Design by: C. CONNELLY
Checked by: S. MEERSMA

CVE NORTH AMERICA, INC.
CORTLANDT MILL SOLAR FARM
5.0 MW GROUND MOUNT SOLAR SYSTEM
0 MILL COURT
CORTLANDT, NEW YORK 10520

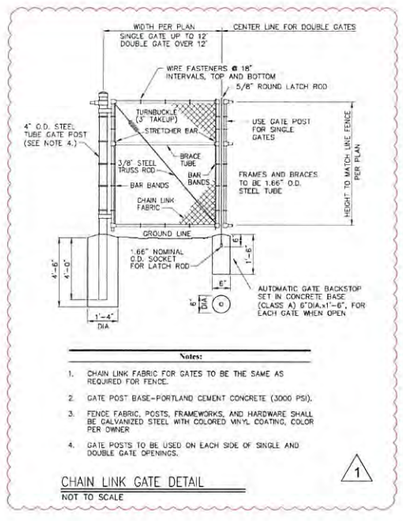
Contract No: 360551
Scale: AS NOTED
Date: MARCH 2021
Sheet: DETAIL SHEET 1
Drawing No: 10



FENCE INSTALLATION NOTES

- **THE OPENINGS IN THE LINKS SHALL BE A MAXIMUM OF 2"**
- **CHAIN LINK FENCE IS TO BE FINISHED WITH BLACK VINYL COATING**
- **TERMINAL POSTS TO BE 2½"ø SCHEDULE 40 PIPING.**

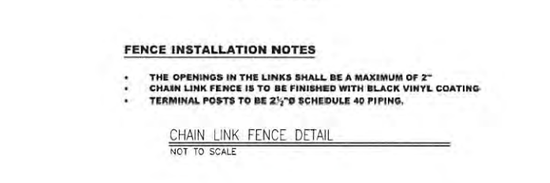
CHAIN LINK FENCE DETAIL
NOT TO SCALE



Notes:

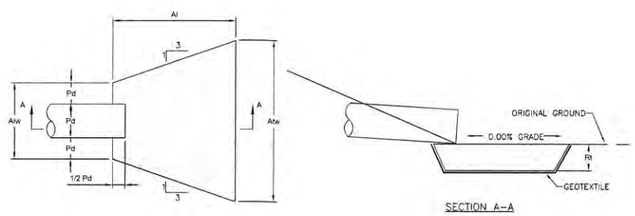
1. CHAIN LINK FABRIC FOR GATES TO BE THE SAME AS REQUIRED FOR FENCE.
2. GATE POST BASE–PORTLAND CEMENT CONCRETE (3000 PSI).
3. FENCE FABRIC, POSTS, FRAMEWORKS, AND HARDWARE SHALL BE GALVANIZED STEEL WITH COLORED VINYL COATING, COLOR PER OWNER
4. GATE POSTS TO BE USED ON EACH SIDE OF SINGLE AND DOUBLE GATE OPENINGS.

CHAIN LINK GATE DETAIL
NOT TO SCALE



LEVEL SPREADER	BOTTOM ELEV.	TOP STONE	WIDTH	LEVEL SPREADER LENGTH
BASIN 1	820'	822'	5'	50'
BASIN 2	696'	698'	5'	50'

LEVEL SPREADER TOE OF SLOPE
NOT TO SCALE



NOTES:

ALL APRONS SHALL BE CONSTRUCTED TO THE DIMENSIONS SHOWN. TERMINAL WIDTHS SHALL BE ADJUSTED AS NECESSARY TO MATCH RECEIVING CHANNELS.

ALL APRONS SHALL BE INSPECTED AT LEAST WEEKLY AND AFTER EACH RUNOFF EVENT. DISPLACED RIPRAP WITHIN THE APRON SHALL BE REPLACED IMMEDIATELY.

EXTEND RIPRAP ON BACK SIDE OF APRON TO AT LEAST 1/2 DEPTH OF PIPE ON BOTH SIDES TO PREVENT SCOUR AROUND THE PIPE.

PIPE DIA Pd (IN)	RIPRAP SIZE D_{50} (IN)	RIPRAP THICK. Rt (IN)	APRON LENGTH Al (FT)	APRON INITIAL WIDTH Aiw (FT)	APRON TERMINAL WIDTH Atw (FT)
12	9	18	12	4	10

RIP RAP OUTLET PROTECTION
NOT TO SCALE

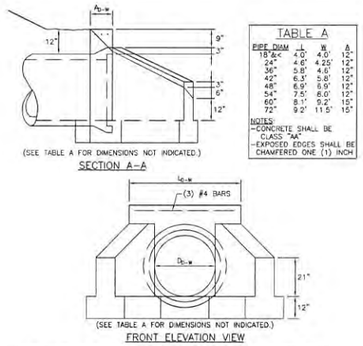
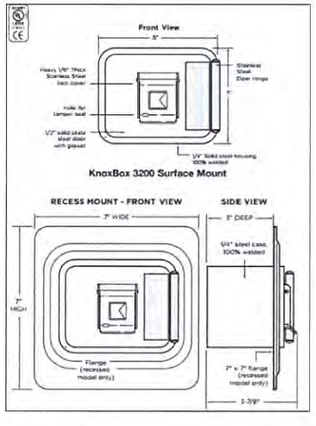


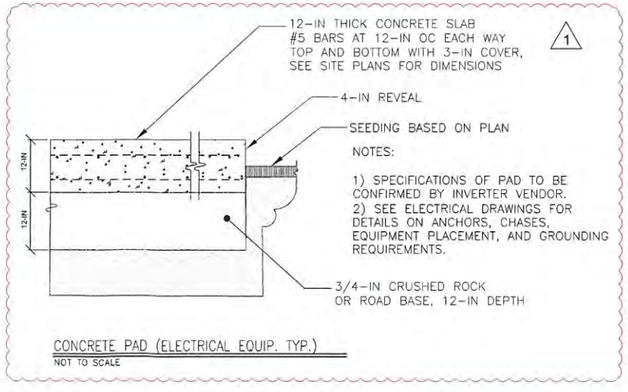
TABLE A			
PIPE DIAM	L	W	A
18"&<	4.0'	4.0'	12"
24"	4.6'	4.25'	12"
36"	5.8'	4.6'	12"
42"	6.3'	5.8'	12"
48"	6.9'	6.9'	12"
54"	7.5'	6.0'	12"
60"	8.1'	9.2'	15"
72"	9.2'	11.5'	15"

NOTES:
–CONCRETE SHALL BE CLASS "AA"
–EXPOSED EDGES SHALL BE CHAMFERED ONE (1) INCH

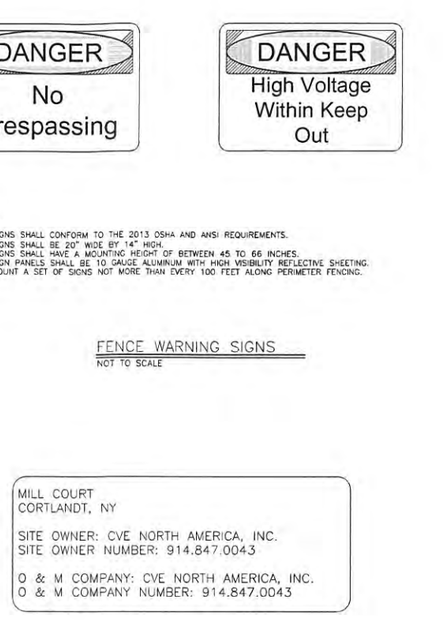
NOTE: ALL ENDWALLS AND HEADWALLS SHALL HAVE A TRASH SCREEN (SEE DETAIL)



KNOX BOX
NOT TO SCALE



CONCRETE PAD (ELECTRICAL EQUIP. TYP.)
NOT TO SCALE



NOTES

1. SIGNS SHALL CONFORM TO THE 2013 OSHA AND ANSI REQUIREMENTS.
2. SIGNS SHALL BE 20" WIDE BY 14" HIGH.
3. SIGNS SHALL HAVE A MOUNTING HEIGHT OF BETWEEN 45 TO 66 INCHES.
4. SIGN PANELS SHALL BE 10 GAUGE ALUMINUM WITH HIGH VISIBILITY REFLECTIVE SHEETING.
5. MOUNT A SET OF SIGNS NOT MORE THAN EVERY 100 FEET ALONG PERIMETER FENCING.

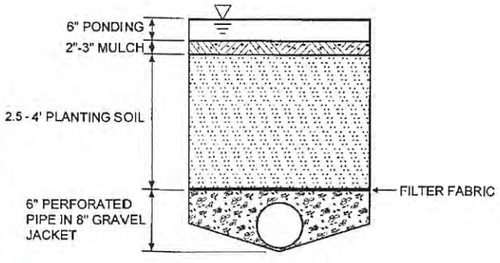
FENCE WARNING SIGNS
NOT TO SCALE

MILL COURT
CORTLANDT, NY

SITE OWNER: CVE NORTH AMERICA, INC.
SITE OWNER NUMBER: 914.847.0043

O & M COMPANY: CVE NORTH AMERICA, INC.
O & M COMPANY NUMBER: 914.847.0043

CONTACT PLAQUE
NOT TO SCALE



BIORETENTION PROFILE
NOT TO SCALE

BIORETENTION – SOIL SPECIFICATIONS

1. SOIL MEDIA COMPOSITION SHALL BE A UNIFORM MIXTURE OF 50% TO 70% SAND (ASTM C–33) AND 50% TO 30% ORGANIC MATERIAL (TOPSOIL) BY VOLUME. THE MEDIA BLEND SHALL CONTAIN SHALL AVERAGE OF 5% ORGANIC MATTER SUCH AS COMPOST OR PEAT, AND BE FREE OF STONES, STUMPS, ROOTS, WOODY MATERIAL OVER 2" IN DIAMETER, ANIMAL WASTE, BRUSH, OR SEEDS FROM NOXIOUS WEEDS.
2. THE SOIL MEDIA SHALL CONTAIN LESS THAN 5% CLAY, HAVE A pH RANGE OF 5.2 TO 7.6, AND A LOW PHOSPHORUS INDEX (BETWEEN 0 AND 25). A PERMEABILITY OF AT LEAST 1.0 FEET PER DAY (0.5"/HR) IS REQUIRED. ONLY COMPOST OR PEAT SHALL BE USED AS A SOIL AMENDMENT TO INCREASE ORGANIC CONTENT AS REQUIRED.
3. THE SOIL MEDIA SHALL BE TESTED FOR TOTAL PHOSPHORUS CONTENT AT A QUALIFIED LABORATORY, ONE THAT IS CERTIFIED BY THE NEW YORK STATE DEPARTMENT OF HEALTH (NYSDOH) ENVIRONMENTAL LABORATORY APPROVAL PROGRAM (ELAP) TO TEST SOIL FOR TOTAL PHOSPHORUS.
4. ACCEPTANCE OF THE SOIL MEDIA SHALL BE BASED UPON THE CONTRACTOR OR SUPPLIER PROVIDING TO THE ENGINEER COPIES OF TESTING RESULTS CERTIFYING THAT THE SAND GRADATION, TOPSOIL GRADATION, ORGANIC MATTER CONTENT, pH, PERMEABILITY, AND TOTAL PHOSPHORUS CONTENT ALL CONFORM TO THE STATED REQUIREMENTS.

NOTE: UNDER NEW YORK STATE EDUCATION LAW ARTICLE 145 (ENGINEERING), SECTION 7209 (2), IT IS A VIOLATION FOR ANY PERSON, UNLESS ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, TO ALTER THIS DOCUMENT
NOT FOR CONSTRUCTION

TRC
1430 Broadway
Suite 1504
New York, NY 10018
Phone: 212.221.7822
TRC Project No: 360551.0000.0000

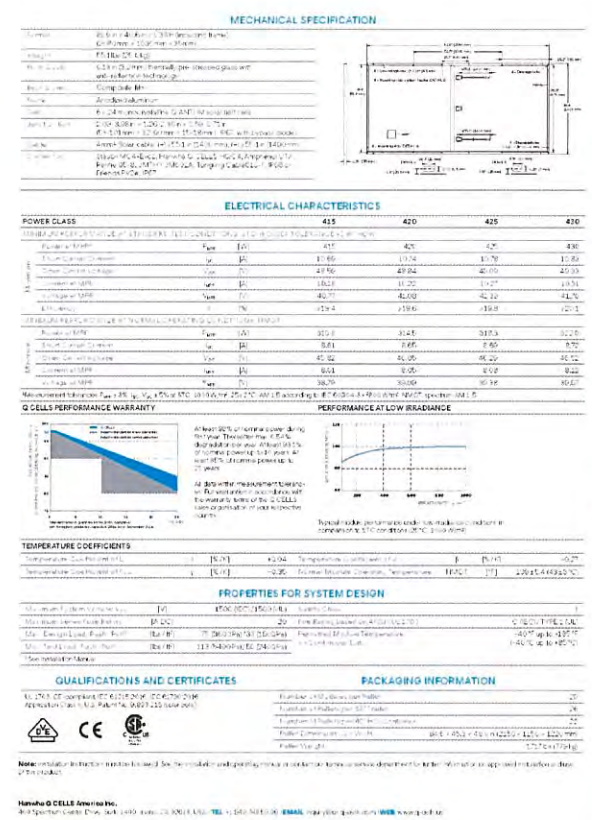
cve
Changing Visions of Energy

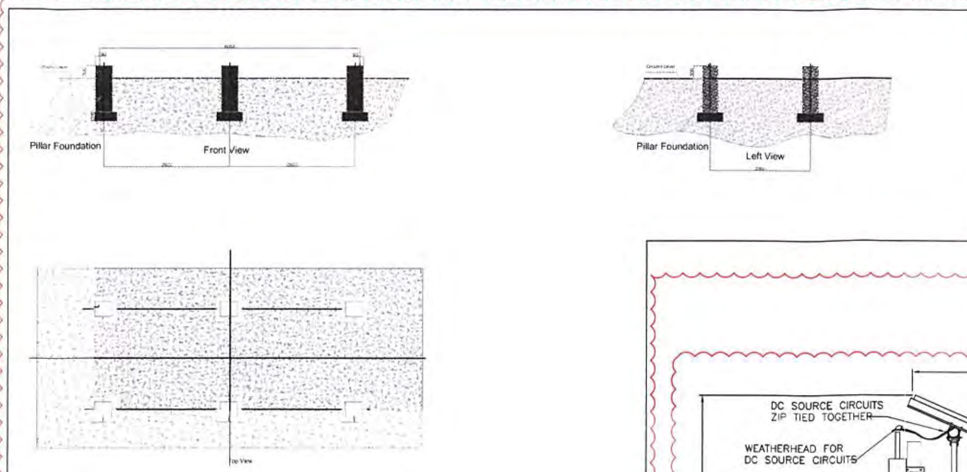
Revisions	
No.	Date
1	08/13/2021

Drawn by: T. MILL
Design by: C. CONNELLY
Checked by: S. MEERSMA

CVE NORTH AMERICA, INC.
CORTLANDT MILL SOLAR FARM
5.0 MW GROUND MOUNT SOLAR SYSTEM
0 MILL COURT
CORTLANDT, NEW YORK 10520

Contract No: 360551
Scale: AS NOTED
Date: MARCH 2021
Sheet: DETAIL SHEET 2
Drawing No: 11





Notes:

1) The total weight of the turnkey station is about 11 tons.The turnkey station is installed on the 6 pillar foundations, the foundation size must meet the requirements of the bearing capacity of the bearing stratum.the ground surface must be solid and flat, with no risk of collapse or sliding.

2) The turnkey station is recommended to be placed 300mm above the ground level. the final height above the ground level should be designed according to the actual situation . The platform is not in the scope of delivery.You can Increase the platform at the openings outside door according to the actual situation .

3) The upper surfaces of the foundations should be at the same level (unevenness shall be less then 5mm)

4) After the Unit enclosure stacked on the bottom of the pier, adjust the position of the Unit base, fix the Unit base with screws and L angle;The final fixed mode must be prepared by professional personal.

5) Reserved for inlet and outlet pipe threading, size and number of outlet conduit should be selected according to the cable type and number of the line is determined.

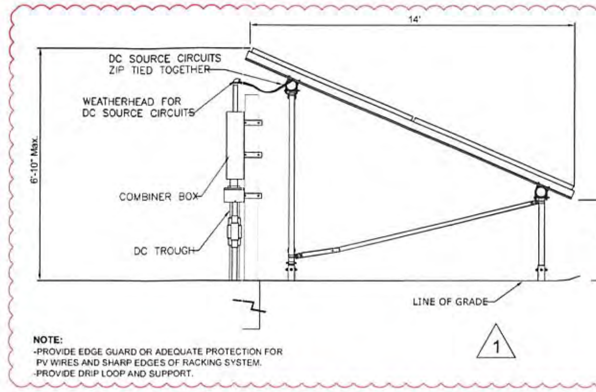
6) Ground points should be reserved for foundation, and the contact points of energy storage containers should be firmly and reliably connected.

7) All of the buried pipe at both ends of the temporary plug, so as not to enter the debris, to facilitate the construction of the cables.

8) Not for construction. These drawings are for information purpose, showing the factors to be considered when designing the foundations; the final engineering drawings must be prepared by professional personal.

SUNGROW TURNKEY FOUNDATION DETAIL

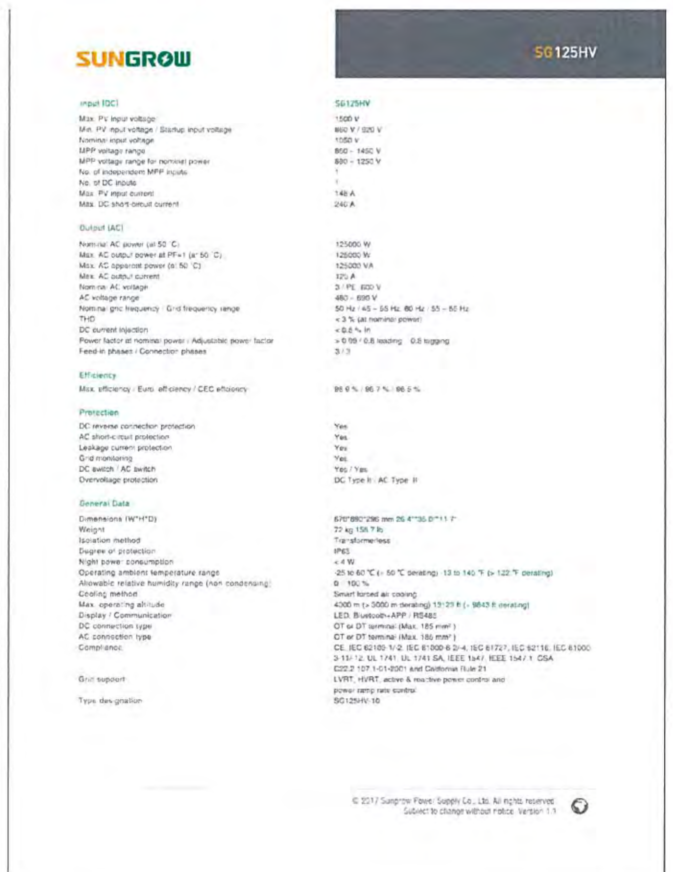
NOT TO SCALE



NOTE:
-PROVIDE EDGE GUARD OR ADEQUATE PROTECTION FOR PV WIRES AND SHARP EDGES OF RACKING SYSTEM.
-PROVIDE DRIP LOOP AND SUPPORT.

SOLAR PANEL DETAIL

NOT TO SCALE



NOTE: UNDER NEW YORK STATE EDUCATION LAW ARTICLE 145 (ENGINEERING), SECTION 7209 (2), IT IS A VIOLATION FOR ANY PERSON, UNLESS ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, TO ALTER THIS DOCUMENT

NOT FOR CONSTRUCTION

1430 Broadway
10th Floor
New York, NY 10018
Phone: 212.221.7822

TRC

TRC Project No: 360551.0000.0000

cve
Changing Visions of Energy

Revisions:	
No.	Date:
1	06/17/2021
2	08/13/2021

Drawn by: T. MILL

Design by: C. CONNELLY

Checked by: S. MEERSMA

CVE NORTH AMERICA, INC.
CORTLANDT MILL SOLAR FARM
5.0 MW GROUND MOUNT SOLAR SYSTEM
0 MILL COURT
CORTLANDT, NEW YORK 10520

Contract No: 360551

Scale: AS NOTED

Date: MARCH 2021

Sheet: DETAIL SHEET 3

Drawing No: 12

EROSION CONTROL MEASURES

EROSION AND SEDIMENT CONTROL MEASURES SHALL CONSIST OF NON-WOVEN FILTER FABRIC MATERIAL WITH A WIRE MESH BACKING, OR A WOVEN FABRIC (SILT FENCE). ALL MATERIAL SHALL BE NEW AND FREE FROM DEFECTS THAT WOULD COMPROMISE THE EFFECTIVENESS OF THE CONTROL MEASURES. AFTER COMPLETION, ALL MATERIAL SHALL BE DISPOSED PROPERLY. LOCATION OF EROSION AND SEDIMENT CONTROL STRUCTURES CAN BE SEEN ON THE SITE PLAN. NOTE: ALL WATER CONTROL MEASURES ARE LOCATED DOWN-GRADIENT FROM DISTRIBUTED STREET. IF TOPSOIL IS TO BE STORED IN AN AREA NOT SHOWN ON THE SITE PLAN, DUE TO UNFORESEEN EVENTS, PRIOR TO STORING, THE DOWN-GRADIENT PERIMETER OF THE STORAGE AREA SHALL BE PROPERLY PROTECTED PER THE SPECIFICATIONS DETAILED ON THIS PLAN.

CONSTRUCTION HOUSEKEEPING

CONTRACTOR SHALL MAINTAIN THE PROJECT SITES IN ACCORDANCE WITH THE FOLLOWING PERFORMANCE STANDARDS:

MATERIAL STOCKPILING: MATERIAL RESULTING FROM CLEARING AND GRUBBING, GRADING, AND OTHER CONSTRUCTION ACTIVITIES, OR NEW MATERIAL DELIVERED TO THE SITE, SHALL BE STOCKPILED UPSLOPE OF DISTURBED AREAS. THE STOCKPILE AREAS SHALL HAVE THE PROPER EROSION AND SEDIMENT CONTROLS INSTALLED TO PREVENT MIGRATION OF SEDIMENTS AND MATERIALS.

STAGING, STORAGE, AND MARSHALLING AREAS: CONSTRUCTION MATERIALS AND EQUIPMENT SHALL BE STORED IN DESIGNATED STAGING AREAS AS INDICATED ON THE CONSTRUCTION DRAWINGS OR AS DIRECTED BY THE OWNER OR OWNER'S REPRESENTATIVE, OR ENGINEER. STAGING, STORAGE, AND MARSHALLING AREAS SHALL BE LOCATED IN AN AREA THAT MINIMIZES IMPACTS TO STORMWATER QUALITY. CHEMICALS, SOLVENTS FERTILIZERS, AND OTHER TOXIC MATERIALS SHALL BE COLLECTED AND DISPOSED OF AT AN APPROVED SOLID WASTE OR CHEMICAL DISPOSAL FACILITY. BULK STORAGE OF FUEL MATERIALS WILL BE STAGED AT THE PROJECT MARSHALLING YARD PER SAFETY DATA SHEET (SDS) SPECIFICATION AND ENVIRONMENTAL HEALTH AND SAFETY STANDARDS, WHICHEVER IS MORE RESTRICTIVE.

EQUIPMENT CLEANING AND MAINTENANCE: ALL ONSITE CONSTRUCTION VEHICLES SHALL BE MONITORED FOR LEAKS AND SHALL RECEIVE REGULAR PREVENTATIVE MAINTENANCE TO REDUCE THE RISK OF LEAKAGE. ANY EQUIPMENT LEAKING OIL, FUEL, OR HYDRAULIC OIL SHALL BE REPAIRED OR REMOVED FROM THE PROJECT SITE IMMEDIATELY. STORAGE, PARKING, MAINTENANCE, AND SERVICING OF CONSTRUCTION VEHICLES SHALL BE A MINIMUM OF 200-FEET FROM A WETLAND , WATERBODY, OR OTHER ECOLOGICALLY SENSITIVE AREA OR CONVEYANCE FEATURES OR WATER QUALITY TREATMENT BMPS. PETROLEUM PRODUCTS AND HYDRAULIC FLUIDS THAT ARE NOT IN VEHICLES SHALL BE STORED IN TIGHTLY SEALED CONTAINERS THAT ARE CLEARLY LABELED. ALL GASOLINE, DIESEL FUEL, OR OTHER FUEL STORAGE VESSELS WITH GREATER THAN 25-GALLON SHELL CAPACITY MUST HAVE SECONDARY CONTAINMENT CONSTRUCTED OF AN IMPERVIOUS MATERIAL CAPABLE OF CONTAINING A MINIMUM OF 110% OF THE SHELL CAPACITY.

DEBRIS AND OTHER MATERIALS: CONTRACTOR SHALL MANAGE ALL LITTER, CONSTRUCTION DEBRIS, AND CONSTRUCTION CHEMICALS EXPOSED TO STORMWATER TO PREVENT MATERIALS FROM BECOMING A SOURCE OF POLLUTION. ALL DEMOLITION WASTE, DEBRIS, AND RUBBISH GENERATED DURING CONSTRUCTION OF THE PROJECT SHALL BE PROPERLY REMOVED FROM THE SITE AS IT OCCURS. ALL MATERIALS SHALL BE PROPERLY DISPOSED OF OFF-SITE IN STRICT ACCORDANCE WITH ALL APPLICABLE LOCAL, STATE, AND FEDERAL REGULATIONS.THE CONTRACTOR SHALL PAY PARTICULAR ATTENTION TO THE PROPER HANDLING, STORAGE, AND DISPOSAL OF HAZARDOUS SUBSTANCES.

TRENCH OR FOUNDATION DEWATERING: TRENCH DEWATERING IS THE REMOVAL OF WATER FROM TRENCHES, FOUNDATIONS, COFFER DAMS, PONDS, SUMPS, BASINS, AND OTHER AREAS WITHIN THE CONSTRUCTION AREA THAT RETAIN WATER AFTER EXCAVATION. IN MOST CASES THE COLLECTED WATER IS HEAVILY SILTED AND HINDERS CORRECT AND SAFE CONSTRUCTION PRACTICES. THE CONTRACTOR SHALL REMOVE COLLECTED WATER FROM THE PONDED AREAS, EITHER THROUGH GRAVITY OR PUMPING, IN A MANNER THAT SPREADS IT THROUGH NATURAL WOODED OR VEGETATED BUFFERS OR TO AREAS THAT ARE SPECIFICALLY DESIGNED TO COLLECT THE MAXIMUM AMOUNT OF SEDIMENT LADEN WATER FROM DEWATERING TO FLOW OVER DISTURBED AREAS OF THE PROJECT SITES. OTHER MEASURES OR METHODS MAY BE UTILIZED AS REVIEWED AND APPROVED BY THE ENGINEER.

NON-STORMWATER DISCHARGES: CONTRACTOR SHALL IDENTIFY AND PREVENT CONTAMINATION BY NON-STORMWATER DISCHARGES.

CONCRETE WASHOUT AREAS: DESIGNATED CONCRETE WASHOUT AREAS SHALL BE PROVIDED AS NEEDED TO ALLOW CONCRETE TRUCKS TO WASHOUT OR DISCHARGE SURPLUS CONCRETE AND WASH WATER ONSITE. CONCRETE WASHOUT AREAS SHALL BE A DIKED IMPERVIOUS AREA LOCATED A MINIMUM OF 100-FEET FROM A DRAINAGE WAY, WATERBODY, WETLAND AREA, OR INFILTRATION BMP. CONCRETE WASHOUT AREAS SHALL HAVE PROPER SIGNAGE AND BE CONSTRUCTED TO PREVENT CONTACT BETWEEN WASHWATER AND STORMWATER. THE CONTRACTOR IS RESPONSIBLE FOR IMPLEMENTATION AND MAINTENANCE OF CONCRETE WASHOUT AREAS. CONCRETE WASHOUT AREAS SHALL NOT BE FILLED BEYOND 95 OF DESIGN CAPACITY AND SHALL BE CLEANED OUT ONCE 75% CAPACITY HAS BEEN MET UNLESS A NEW FACILITY HAS BEEN CONSTRUCTED.

ADDITIONAL REQUIREMENTS: COMPLETION OF THE WORK WILL REQUIRE FREQUENT ACCESS TO VARIOUS PORTIONS OF THE PROJECT AREA FROM STATE AND LOCAL ROADWAYS. CONTRACTOR SHALL MONITOR PUBLIC ROADWAYS AND SHALL CLEAN PAVEMENT BY MEANS NECESSARY IN THE EVENT THAT SEDIMENT OR TRACKING IS OBSERVED. SIGNAGE SHALL BE POSTED AT INTERSECTIONS OF PROJECT ACCESS ROADS AND PUBLIC WAYS, STATING COMPANY NAME AND 24-HOUR CONTACT PHONE NUMBER.

TEMPORARY STABILIZATION FOR FROZEN CONDITIONS

SITE STABILIZATION: MULCHING SHOULD BE TRACKED INTO SOIL PRIOR TO FROZEN CONDITIONS, OR ANCHORED WITH NATURAL FIBER NETTING. APPLICATION OF MULCHING SHOULD BE PERFORMED PRIOR TO SIGNIFICANT SNOW FALL. IF STRAW MULCH ALONE IS USED FOR TEMPORARY STABILIZATION, IT SHALL BE APPLIED AT DOUBLE THE STANDARD RATE OF 2 TONS PER ACRE, MAKING THE APPLICATION RATE 4 TONS PER ACRE. OTHER MANUFACTURED MULCHES SHOULD BE APPLIED AT DOUBLE THE MANUFACTURER'S RECOMMENDED RATE. IN AREAS WHERE SOIL DISTURBANCE ACTIVITY HAS TEMPORARILY OR PERMANENTS CEASED, THE APPLICATION OF SOIL STABILIZATION MEASURES SHOULD BE INITIATED BY THE END OF NEXT BUSINESS DAY AND COMPLETED WITHIN THREE DAYS. ACCUMULATED SNOW AND FROZEN CONDITIONS ALONE ARE NOT CONSIDERED STABILIZATION.

SLOPES: ALL SLOPES AND GRADES MUST BE PROPERLY STABILIZED WITH APPROVED METHODS. ROLLED EROSION CONTROL PRODUCTS MUST BE USED ON ALL SLOPES GREATER THAN 3H:1V, OR WHERE CONDITIONS FOR EROSION DICTATE SUCH MEASURES.

SETBACKS: A MINIMUM 25-FOOT BUFFER SHALL BE MAINTAINED FROM ALL PERIMETER CONTROLS SUCH AS SILT FENCE. MARK SILT FENCE WITH TALL STAKES THAT ARE VISIBLE ABOVE THE SNOW PACK. EDGES OF DISTURBED AREAS THAT DRAIN TO A WATERBODY WITHIN 100-FEET WILL HAVE 2 ROWS OF SILT FENCE, 5-FEET APART, INSTALLED ALONG THE CONTOUR.

SOIL STOCKPILES: STOCKPILED SOILS MUST BE PROTECTED BY THE USE OF ESTABLISHED VEGETATION, ANCHORED -DOWN MULCH, ROLLED EROSION CONTROL PRODUCTS, OR OTHER DURABLE COVERING. SEDIMENT CONTROLS MUST BE INSTALLED DOWNSLOPE OF THE PILE TO CONTROL SEDIMENTATION TO UNDISTURBED LOCATIONS.

CONSTRUCTION ENTRANCE: ALL ENTRANCE AND EXIT LOCATIONS TO THE SITE MUST BE PROPERLY STABILIZED AND MUST BE MAINTAINED TO ACCOMMODATE SNOW MANAGEMENT AS SET FORTH IN THE NEW YORK SSESC.

SNOW MANAGEMENT: SNOW MANAGEMENT SHALL NOT DESTROY OR DEGRADE EROSION AND SEDIMENT CONTROL PRACTICES. PLOWING PERFORMED SHOULD NOT MIGRATE PLACED CRUSHED STONE OR ACCUMULATED MATTING DEBRIS WITHIN WATERBODIES, CONVEYANCES OR PROTECTED AREAS. PREPARE A SNOW MANAGEMENT PLAN WITH ADEQUATE STORAGE FOR SNOW AND CONTROL OF MELT WATER, REQUIRING CLEARED SNOW TO BE STORED IN A MANNER NOT AFFECTING ONGOING CONSTRUCTION ACTIVITIES. ENLARGE AND STABILIZE ACCESS POINTS TO PROVIDE FOR SNOW MANAGEMENT AND STOCKPILING. DRAINAGE STRUCTURES MUST BE KEPT OPEN AND FREE OF SNOW AND ICE DAMS. ALL DEBRIS OR ICE DAMS FROM PLOWING OPERATIONS THAT RESTRICT FLOW OF RUNOFF AND MELT WATER SHALL BE REMOVED.

FROST HEAVES: HEAVING FROST, FROZEN GROUND, WINTER CONDITIONS AND EQUIPMENT CAN AFFECT EROSION AND SEDIMENTATION CONTROL PRACTICES. EROSION AND SEDIMENTATION CONTROL DEVICES SHALL BE CHECKED FOR DAMAGE BY TRAINED CONTRACTOR AND QUALIFIED INSPECTORS. DEFICIENCIES SHALL BE REPAIRED AND OR INSTALLED MEASURES SHALL BE REPLACED AS DEEMED NECESSARY. THIS IS ESPECIALLY IMPORTANT DURING THAWING PERIODS AND PRIOR TO SPRING RAIN EVENTS.

WINTER SHUTDOWN: IN THE EVENT OF TEMPORARY SHUTDOWN TO SOIL DISTURBING ACTIVITIES UNDER WINTER CONDITIONS, TEMPORARY STABILIZATION MEASURES SHALL BE IMPLEMENTED TO ALL DISTURBED AREAS AND SWPPP INSPECTIONS CAN BE REDUCED TO A MONTHLY FREQUENCY. THE CONTRACTOR SHALL REFER TO SOIL STABILIZATION MEASURES IN ACCORDANCE WITH THE NEW YORK STATE STANDARDS AND SPECIFICATIONS FOR EROSION AND SEDIMENT CONTROL (NOVEMBER 2016) AND SPDES GENERAL PERMIT GP-0-20-001.

PERMANENT CONSTRUCTION AREA SEEDING

FINAL STABILIZATION SHOULD BE IMPLEMENTED AT THE COMPLETION OF EACH PHASE. ONCE CONSTRUCTION IS COMPLETE, EXPOSED SOILS REQUIRE FINAL AND PERMANENT STABILIZATION. SOILS SHOULD BE GRADED SMOOTH AND LEVEL TO ELIMINATE RUTTING AND CONCENTRATED FLOWS, PONDING AND UNEVEN SURFACES FOR FUTURE MAINTENANCE ACTIVITIES. UNIMPROVED AREAS SHOULD BE RESTORED TO ORIGINAL GRADE UNLESS PERMITTED AND PLANNED FOR REQUIRED FUTURE MAINTENANCE. CONSERVED STOCKPILED TOPSOIL SHOULD BE UTILIZED FOR TOPDRESSING GRADED SUB-SOILS AT EXCAVATION LOCATIONS. ANY SEVERELY COMPACTED SECTIONS WILL REQUIRE TILLING OR DISKING TO PROVIDE AN ADEQUATE ROOTING ZONE, TO A MINIMUM DEPTH OF 12". THE SEEDBED MUST BE PREPARED TO ALLOW GOOD SOIL TO SEED CONTACT, WITH THE SOIL NOT TOO SOFT AND NOT TOO COMPACT. ADEQUATE SOIL MOISTURE MUST BE PRESENT TO ACCOMPLISH THIS. IF SURFACE IS POWDER DRY OR STICKY WET, POSTPONE OPERATIONS UNTIL MOISTURE CHANGES TO A FAVORABLE CONDITION. REMOVE ALL STONES AND OTHER DEBRIS FROM THE SURFACE THAT ARE GREATER THAN 4 INCHES, OR THAT WILL INTERFERE WITH FUTURE MOWING OR MAINTENANCE.

SOIL AMENDMENTS SHOULD BE INCORPORATED INTO THE UPPER 2 INCHES OF SOIL WHEN FEASIBLE. THE SOIL SHOULD BE TESTED TO DETERMINE THE AMOUNTS OF AMENDMENTS NEEDED. APPLY GROUND AGRICULTURAL LIMESTONE TO ATTAIN A PH OF 6.0 IN THE UPPER 2 INCHES OF SOIL. IF SOIL MUST BE FERTILIZED BEFORE RESULTS OF A SOIL TEST CAN BE OBTAINED TO DETERMINE FERTILIZER NEEDS, APPLY COMMERCIAL FERTILIZER AT 600 LBS. PER ACRE OF 5-5 -10 OR EQUIVALENT.

IF SOILS ARE SOFT, MECHANICAL MULCHING MAY NOT BE AVAILABLE DUE TO THE INEVITABLE RUTTING WITH MULCHING EQUIPMENT.

ANY UPLAND AREAS THAT ARE DISTURBED SHALL BE STABILIZED USING PERMANENT SEED MIX AS SPECIFIED IN THE NEW YORK STATE STANDARDS AND SPECIFICATIONS FOR EROSION AND SEDIMENT CONTROL (SSESC), UNLESS DIRECTED OTHERWISE IN ASSOCIATED PERMITTING DOCUMENTS.

PROJECT CONSTRUCTION SEQUENCING NOTES

THE CONTRACTOR SHALL SUBMIT A CONSTRUCTION SEQUENCING OR CONSTRUCTION PHASING PLAN FOR OWNER APPROVAL THAT COMPLIES WITH THE PERMITTING REQUIREMENTS, THE PROJECT SWPPP, AND OTHER REQUIREMENTS AS IDENTIFIED BY LOCAL AND STATE AUTHORITIES. THE PLAN SHALL SHOW THAT ACTIVE LAND DISTURBANCE WILL BE LIMITED TO LESS THAN FIVE (5) CONTIGUOUS ACRES AND SHALL ADEQUATELY DISCUSS, BUT NOT BE LIMITED TO, THE FOLLOWING ITEMS:

1. THE CONTRACTOR SHALL COMPLY WITH THE REQUIREMENTS FOR TEMPORARY AND PERMANENT EROSION AND SEDIMENTATION CONTROL MEASURES AS OUTLINED IN THE PROJECT SWPPP OR AS DIRECTED BY THE OWNER.
2. PRIOR TO STARTING ANY WORK ON THE SITE, THE CONTRACTOR SHALL NOTIFY APPROPRIATE AGENCIES AND SHALL INSTALL EROSION CONTROL MEASURES AS SHOWN ON THE PLANS. THE CONTRACTOR SHALL OBTAIN ALL PERMITS, NOTIFY CITY OFFICIALS OF CONSTRUCTION COMMENCEMENT, AND SUBMIT CONSTRUCTION TIMETABLE.
3. PRIOR TO COMMENCING ONSITE EARTHWORK ACTIVITIES, THE CONTRACTOR SHALL ESTABLISH THE CONSTRUCTION WORKSPACE LIMITS AND IDENTIFY AND MARK SENSITIVE RESOURCES.
4. THE CONTRACTOR SHALL INSTALL ALL TEMPORARY EROSION AND SEDIMENTATION CONTROL BEST MANAGEMENT PRACTICES (BMPs) IN ORDER TO PROTECT DOWN GRADIENT AREAS. WHERE APPROPRIATE, DIVERSION BMPs SHALL BE IMPLEMENTED TO DIRECT RUNOFF FROM UPGRADIENT AREAS AROUND THE PROJECT SITE.
5. ON-SITE CONSTRUCTION SEQUENCE SHALL START WITH THE MINIMUM AMOUNT OF CLEARING REQUIRED TO INSTALL EROSION CONTROL MEASURES. THIS INCLUDES, SILTATION FENCING, ANTI-TRACK PADS (STABILIZED CONSTRUCTION ENTRANCE), AND OTHER MEASURES NOTED ON THE PLAN. NO WORK SHALL TAKE PLACE UNTIL THE OWNER'S REPRESENTATIVE HAS INSPECTED AND APPROVED INSTALLED MEASURES.
6. AFTER PERMANENT EROSION AND SEDIMENTATION CONTROL MEASURES WITHIN THE CURRENT PHASE OF WORK ARE INSTALLED AND FUNCTIONING, THE CONTRACTOR SHALL OBTAIN OWNER APPROVAL BEFORE BEGINNING EARTHWORK IN THE SUBSEQUENT PHASE.
7. AFTER EROSION CONTROL MEASURES ARE INSTALLED THE TYPICAL SEQUENCE SHALL BE AS FOLLOWS:

a. REMOVE VEGETATION FROM PROPOSED DEVELOPMENT AREA. ALL STUMPS AND WOOD SHALL BE TAKEN OFF-SITE AND DISPOSED ACCORDINGLY.
b. REMOVE AND STOCKPILE TOPSOIL AFTER EROSION AND SEDIMENT CONTROL MEASURES HAVE BEEN INSTALLED. THE TOPSOIL SHALL BE SEEDED IMMEDIATELY AFTER STOCKPILING IN ORDER TO STABILIZE THE SLOPE AND LIMIT SEDIMENT RUNOFF. STOCKPILED TOPSOIL SHALL BE SEEDED AND MULCHED WHEN IT IS TO BE STORED MORE THAN 30 DAYS FROM TIME OF STOCKPILING. THE SITE CAN NOW BE REFORMED TO PROPOSED FINAL ELEVATIONS (LESS TOPSOIL DEPTH).
c. PROCEED WITH ALL WORK DEPICTED ON THE DEMOLITION PLAN, IF ANY.
d. PREPARE AND COMPACT SUBGRADE (IF AND AS DIRECTED) AND INSTALL DRAINAGE AND STORMWATER BMP'S IN ACCORDANCE WITH "GRADING AND STORMWATER MANAGEMENT PLAN".
e. EXCAVATE SOIL TO THE DEPTH NECESSARY TO CONSTRUCT GRAVEL ACCESS ROAD AND POROUS ASPHALT PAVEMENT. ALL REMOVED TOPSOIL SHALL BE UTILIZE ON SITE AS LOAM FOR GRASS AREAS. NO SOILS SHALL BE REMOVED FROM THE SUBJECT PROPERTY.
f. COMPLETE REMAINING GRADING REQUIRED AS SHOWN ON THE GRADING PLANS. INSTALL EROSION CONTROL MATTING ON ALL SLOPES OF 3H:1V OR GREATER (IF ANY), THEN SEED AND MULCH THE AREA.
g. INSTALL CONCRETE UTILITY PADS, FOOTINGS, PHOTOVOLTAIC PANELS, UTILITY POLES, FENCE AND GATES AND OTHER IMPROVEMENTS PER THE PLAN.
h. LOAM AND SEED FRONT YARD AND ALL REMAINING DISTURBED AREAS. UTILIZE EXISTING SITE SOIL WHERE POSSIBLE.
i. REMOVE ALL EROSION AND SEDIMENT STRUCTURES AFTER FINAL STABILIZATION AND ACCEPTANCE. IF STABILIZATION DOES NOT OCCUR (INCLUDING DUE TO SEASONAL CONDITIONS) IN ALL AREAS BEFORE CONTRACTOR HAS SATISFIED ALL OTHER CONDITIONS TO FINAL ACCEPTANCE, CONTRACTOR SHALL PROVIDE A PLAN (INCLUDING APPROPRIATE PERFORMANCE ASSURANCES) TO THE OWNER'S REPRESENTATIVE TO REMOVE SUCH EROSION CONTROL MEASURES AFTER STABILIZATION (AND ALLOWING CONTRACTOR TO ACHIEVE FINAL ACCEPTANCE), FOR ACCEPTANCE IN THE SOLE AND ABSOLUTE DISCRETION BY THE OWNER'S REPRESENTATIVE.
j. DURING THIS TIME ALL EROSION AND SEDIMENT STRUCTURES SHALL BE MAINTAINED IN PROPER WORKING ORDER. DISTURBED AREAS SHALL BE KEPT TO A MINIMUM AND SHALL ONLY TAKE PLACE WHERE IMMEDIATELY REQUIRED TO FURTHER CONSTRUCTION, IT IS DESIRABLE FOR AN EROSION PREVENTION TO MINIMIZE DISTURBED AREAS. FINAL GRADING AND SEEDING SHALL TAKE PLACE AS SOON AS PRACTICAL.

MULCH ANCHORING REQUIREMENTS

ON SLOPES GREATER THEN 3 PERCENT, STRAW MULCH WILL BE FIRMLY ANCHORED INTO SOIL UTILIZING ONE OF THE FOLLOWING METHODS:

- CRIMPING WITH A STRAIGHT OR NOTCHED MULCH CRIMPING TOOL;
- TRACK WALKING WITH DEEP-CLEATED EQUIPMENT OPERATING UP AND DOWN THE SLOPE (MULCH CRIMPED PERPENDICULAR TO THE SLOPE) ON SLOPES <25 PERCENT;
- APPLICATION OF MULCH NETTING;
- APPLICATION OF 500 LB./ACRE OF WOOD FIBER MULCH OVER STRAW/HAY MULCH; AND
- COMMERCIALLY AVAILABLE TACKIFIERS (EXCEPT WITHIN 100 FEET OF WATERBODIES OR WETLANDS).

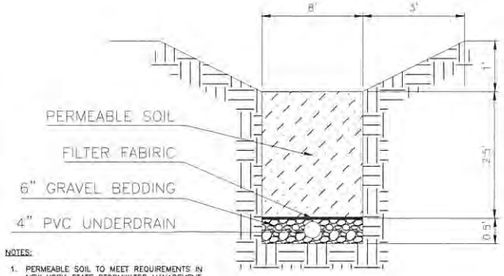
CONSTRUCTION LITTER CONTROL

DURING CONSTRUCTION, ALL WRAPPING, BOXES, SCRAPS OF BUILDING MATERIAL, AND OTHER LITTER ITEMS SHALL BE DISPOSED OF PROPERLY BY USE OF DUMPSTER OR CARTED AWAY. THE SITE SHALL BE INSPECTED AND CLEANED DAILY DURING CONSTRUCTION.

PROTECTION OF POST-CONSTRUCTION STORMWATER BMPs

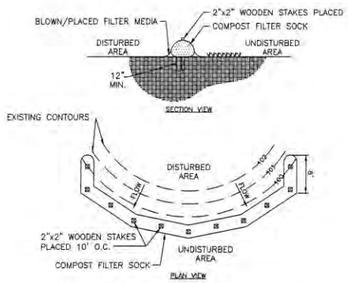
POST-CONSTRUCTION STORMWATER BMPs DESIGNED FOR WATER QUALITY TREATMENT SHALL NOT BE USED AS A SEDIMENT CONTROL DEVICES DURING CONSTRUCTION PHASE OF THE PROJECT. WHEN POSSIBLE, POST CONSTRUCTION STORMWATER BMP INSTALLATION SHALL OCCUR AFTER FINAL STABILIZATION IS ACHIEVED IN UPGRADIENT AREAS.

CONSTRUCTION PHASE STORMWATER SHALL BE DIVERTED AROUND POST-CONSTRUCTION STORMWATER QUALITY BMPs UNTIL FINAL STABILIZATION IS ACHIEVED IN UPGRADIENT AREAS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REPAIR OR REPLACEMENT OF BMP FILTER MATERIAL IN THE EVENT CONSTRUCTION PHASE STORMWATER IS DISCHARGED TO CONSTRUCTED BMPs. NATURE AND DEGREE OF REPAIR SHALL BE AS DIRECTED BY THE OWNER.

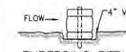


NOTES:
1. PERMEABLE SOIL TO MEET REQUIREMENTS IN NEW YORK STATE STORMWATER MANAGEMENT DESIGN MANUAL APPENDIX H.
2. MAINTAIN GRASS HEIGHT OF 4" TO 6" WITHIN DRY SWALE.
3. GRAVEL BEDDING TO CONSIST OF AASHTO NO. 2 STONE.
4. FILTER FABRIC TO BE MIRAFI 140N OR EQUAL.

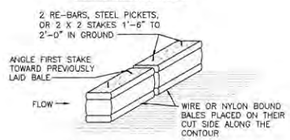
DRY SWALE SECTION
NOT TO SCALE



COMPOST FILTER SOCK
NOT TO SCALE

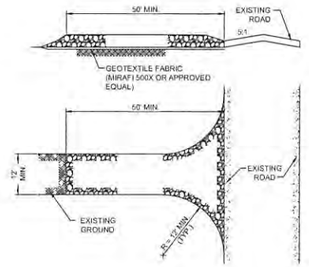


EMBEDDING DETAIL



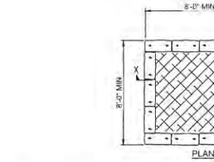
ANCHORING DETAIL

STRAW BALE BARRIER
NOT TO SCALE



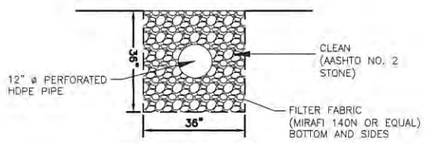
1. WIDTH OF STABILIZED CONSTRUCTION ENTRANCE VARIES PER LOCATION. PROVIDE WIDTHS AS INDICATED ON PLAN SET.
2. STONE SIZE - USE 1" - 4" STONE, OR RECLAIMED OR RECYCLED CONCRETE EQUIVALENT
3. LENGTH - NOT LESS THAN 50 FEET.
4. THICKNESS - NOT LESS THAN SIX (6) INCHES.
5. WIDTH - TWELVE (12) FOOT MIN BUT NOT LESS THAN THE FULL ROAD WIDTH AT POINTS WHERE INGRESS OR EGRESS OCCURS. PROVIDE TWENTY-FOUR (24) FOOT WIDTH IF THERE IS ONLY A SINGLE ENTRANCE TO SITE.
6. GEOTEXTILE - SHALL BE PLACED OVER THE ENTIRE AREA PRIOR TO PLACING THE STONE.
7. SURFACE WATER - ALL SURFACE WATER FLOWING OR DIVERTED TOWARD CONSTRUCTION ENTRANCE SHALL BE PIPED BENEATH THE ENTRANCE. IF PIPING IS IMPRACTICAL, A MOUNTABLE BERM WITH 5:1 SLOPES WILL BE PERMITTED.
8. MAINTENANCE - THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHTS-OF-WAY. ALL SEDIMENT SPILLED, DROPPED, WASHED OR TRACKED ONTO PUBLIC RIGHTS-OF-WAY MUST BE REMOVED IMMEDIATELY
9. WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA STABILIZED WITH STONE THAT DRAINS INTO AN APPROVED SEDIMENT TRAPPING DEVICE

STABILIZED CONSTRUCTION ENTRANCE
NOT TO SCALE

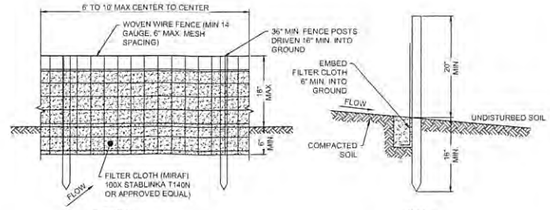


NOTES:
1. SUMP(S) SHALL BE LOCATED NEAR WORK SITES BUT SHALL BE PLACED AS FAR AWAY FROM WETLANDS, BUFFERS AND DRAINAGE SWALES AS PRACTICAL.
2. SUMP(S) SHALL BE CLEANED AND WASTE CONCRETE REMOVED AND PROPERLY DISPOSED OF PERIODICALLY AND UPON COMPLETION OF WORK.
3. A SIGN SHALL BE INSTALLED INDICATING "CONCRETE WASHOUT"

CONCRETE WASHOUT AREA
NOT TO SCALE



STORMWATER DIAPHRAGM
NOT TO SCALE



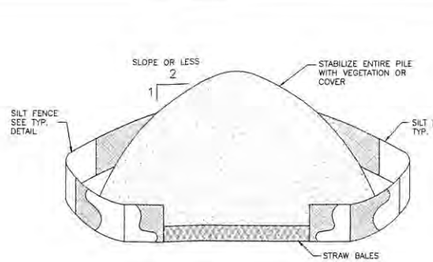
ELEVATION

1. WOVEN WIRE FENCE SHALL BE FASTENED TO FENCE POSTS WITH WIRE TIES OR STAPLES.
2. FILTER CLOTH SHALL BE FASTENED SECURELY TO WOVEN WIRE FENCE WITH TIES SPACED EVERY 24" AT TOP AND MIDSECTION.
3. WHEN TWO SECTIONS OF FILTER CLOTH ADJOIN EACH OTHER THEY SHALL BE OVERLAPPED BY 6" AND FOLDED.
4. MAINTENANCE SHALL BE PERFORMED AS NEEDED AND MATERIAL REMOVED WHEN BUILD-UP REACHES ½ THE HEIGHT OF THE FENCE

SECTION

POSTS:	STEEL "T" OR "U" TYPE OR 2" HARDWOOD
FENCE	WOVEN WIRE, 14½ GA 6" MAX MESH OPENING.
FILTER CLOTH	FILTER X: MIRAFI 100X STABLINKA T140N OR APPROVED EQUAL
PREFABRICATED UNIT:	ENVIROFENCE OR APPROVED EQUAL

SILT FENCE DETAILS
NOT TO SCALE



INSTALLATION NOTES:
1. AREA CHOSEN FOR STOCKPILING OPERATIONS SHALL BE DRY AND STABLE.
2. MAXIMUM SLOPE OF STOCKPILE SHALL BE 2H:1V.
3. UPON COMPLETION OF SOIL STOCKPILING, EACH PILE SHALL BE SURROUNDED WITH EITHER SILT FENCING OR STRAW BALES, THEN STABILIZED WITH VEGETATION OR COVERED.

TYPICAL SOIL STOCKPILE
NOT TO SCALE

NOTE: UNDER NEW YORK STATE EDUCATION LAW ARTICLE 145 (ENGINEERING), SECTION 7209 (2), IT IS A VIOLATION FOR ANY PERSON, UNLESS ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, TO ALTER THIS DOCUMENT.
NOT FOR CONSTRUCTION

TRC
143 Broadway
Albany, NY 12204
New York, NY 10018
Phone: 212 221 7822
TRC Project No: 360551.0000.0000

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Revisions:	
No.	Date
1	08/13/2021

Drawn by: T. MILL
Design by: C. CONNELLY
Checked by: S. MEERSMA

CVE NORTH AMERICA, INC.
CORTLANDT MILL SOLAR FARM
5.0 MW GROUND MOUNT SOLAR SYSTEM
0 MILL COURT
CORTLANDT, NEW YORK 10520

Contract No: 360551
Scale: AS NOTED
Date: MARCH 2021
Sheet: DETAIL SHEET 4
Drawing No: 13

LEGEND

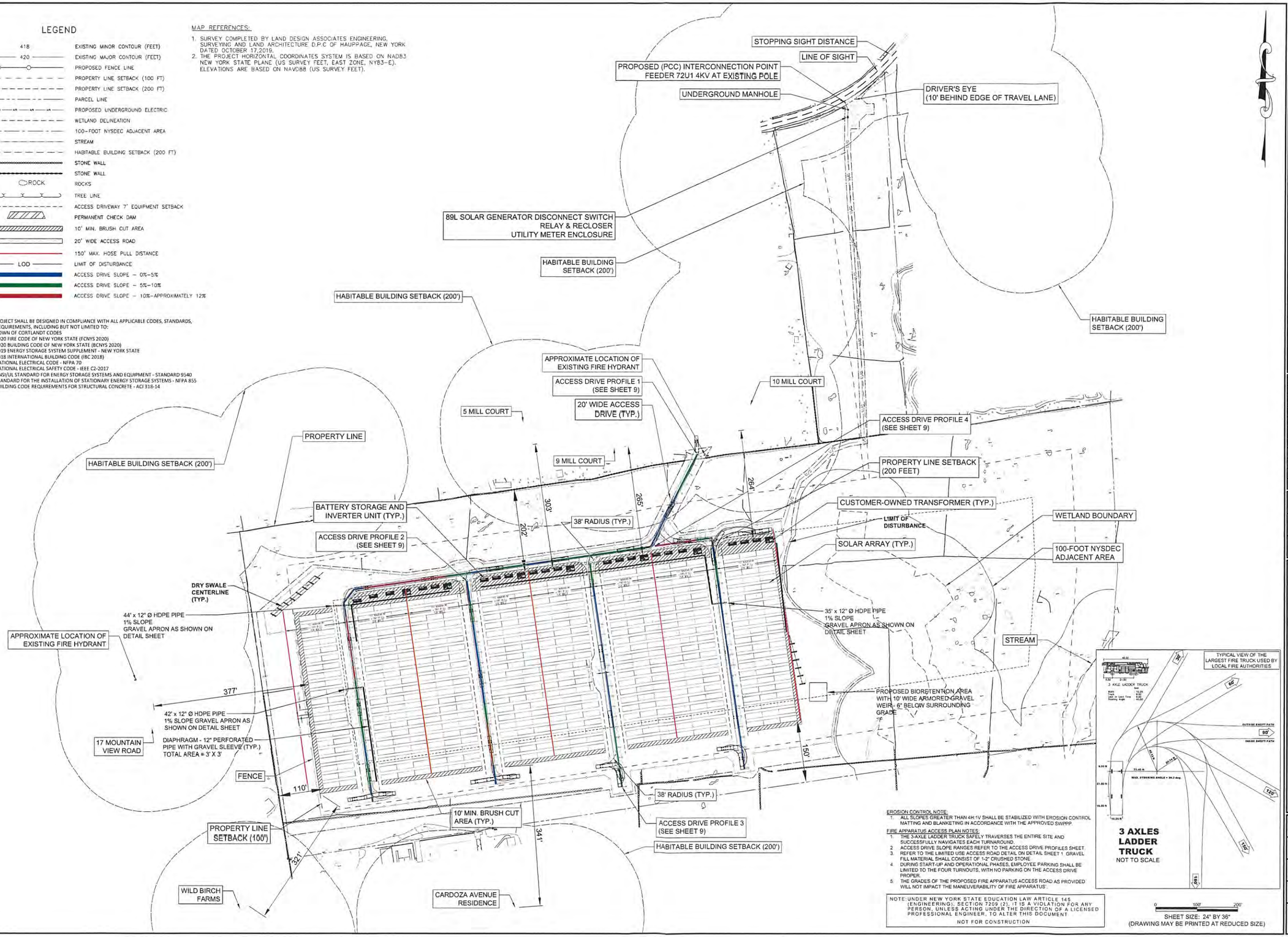
418	EXISTING MINOR CONTOUR (FEET)
420	EXISTING MAJOR CONTOUR (FEET)
	PROPOSED FENCE LINE
	PROPERTY LINE SETBACK (100 FT)
	PROPERTY LINE SETBACK (200 FT)
	PARCEL LINE
UG UG UG UG	PROPOSED UNDERGROUND ELECTRIC
	WETLAND DELINEATION
	100-FOOT NYSDEC ADJACENT AREA
	STREAM
	HABITABLE BUILDING SETBACK (200 FT)
	STONE WALL
	STONE WALL
ROCK	ROCKS
	TREE LINE
	ACCESS DRIVEWAY 7' EQUIPMENT SETBACK
	PERMANENT CHECK DAM
	10' MIN. BRUSH CUT AREA
	20' WIDE ACCESS ROAD
	150' MAX. HOSE PULL DISTANCE
LOD	LIMIT OF DISTURBANCE
	ACCESS DRIVE SLOPE – 0%–5%
	ACCESS DRIVE SLOPE – 5%–10%
	ACCESS DRIVE SLOPE – 10%–APPROXIMATELY 12%

THE PROJECT SHALL BE DESIGNED IN COMPLIANCE WITH ALL APPLICABLE CODES, STANDARDS, AND REQUIREMENTS, INCLUDING BUT NOT LIMITED TO:

- TOWN OF CORTLANDT CODES
- 2020 FIRE CODE OF NEW YORK STATE (FCNYS 2020)
- 2020 BUILDING CODE OF NEW YORK STATE (BCNYS 2020)
- 2019 ENERGY STORAGE SYSTEM SUPPLEMENT - NEW YORK STATE
- 2018 INTERNATIONAL BUILDING CODE (IBC 2018)
- NATIONAL ELECTRICAL CODE - NFPA 70
- NATIONAL ELECTRICAL SAFETY CODE - IEEE C2-2017
- ANSI/UL STANDARD FOR ENERGY STORAGE SYSTEMS AND EQUIPMENT - STANDARD 9540
- STANDARD FOR THE INSTALLATION OF STATIONARY ENERGY STORAGE SYSTEMS - NFPA 855
- BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE - ACI 318-14

MAP REFERENCES:

1. SURVEY COMPLETED BY LAND DESIGN ASSOCIATES ENGINEERING, SURVEYING AND LAND ARCHITECTURE D.P.C OF HAUPPAGE, NEW YORK DATED OCTOBER 17,2019.
2. THE PROJECT HORIZONTAL COORDINATES SYSTEM IS BASED ON NAD83 NEW YORK STATE PLANE (US SURVEY FEET, EAST ZONE, NYB3–E). ELEVATIONS ARE BASED ON NAVD88 (US SURVEY FEET).



EROSION CONTROL NOTE:

1. ALL SLOPES GREATER THAN 4H:1V SHALL BE STABILIZED WITH EROSION CONTROL MATTING AND BLANKETING IN ACCORDANCE WITH THE APPROVED SWPPP.

FIRE APPARATUS ACCESS PLAN NOTES:

1. THE 3-AXLE LADDER TRUCK SAFELY TRAVERSES THE ENTIRE SITE AND SUCCESSFULLY NAVIGATES EACH TURNAROUND.
2. ACCESS DRIVE SLOPE RANGES REFER TO THE ACCESS DRIVE PROFILES SHEET.
3. REFER TO THE LIMITED USE ACCESS ROAD DETAIL ON DETAIL SHEET 1. GRAVEL FILL MATERIAL SHALL CONSIST OF 1-2" CRUSHED STONE.
4. DURING START-UP AND OPERATIONAL PHASES, EMPLOYEE PARKING SHALL BE LIMITED TO THE FOUR TURNOUTS, WITH NO PARKING ON THE ACCESS DRIVE PROPER.
5. THE GRADES OF THE PROPOSED FIRE APPARATUS ACCESS ROAD AS PROVIDED WILL NOT IMPACT THE MANEUVERABILITY OF FIRE APPARATUS'.

SHEET SIZE: 24" BY 36"
(DRAWING MAY BE PRINTED AT REDUCED SIZE)

TRC
1430 Broadway
20th Floor
New York, NY 10018
Phone: 212.221.7822

TRC Project No: 360551.0000.0000

CVE
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Revisions:

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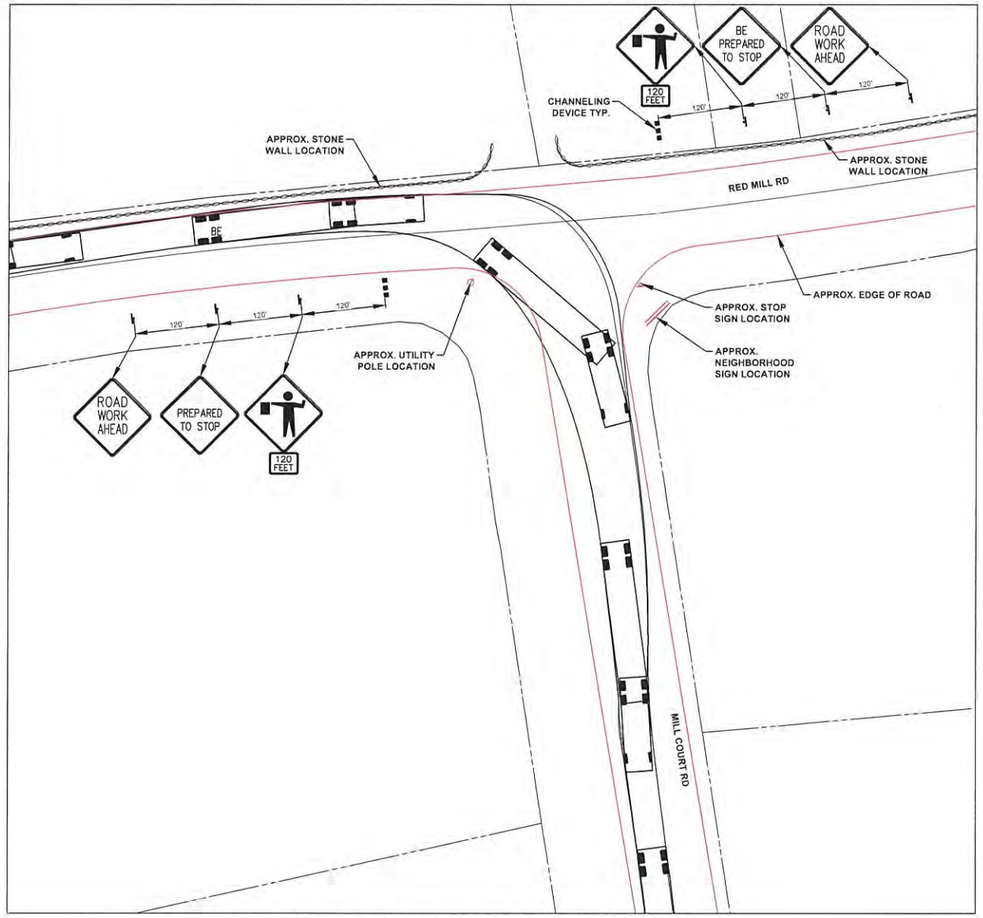
Drawn by: A. REXROAT
Design by: A. REXROAT
Checked by: S. MEERSMA

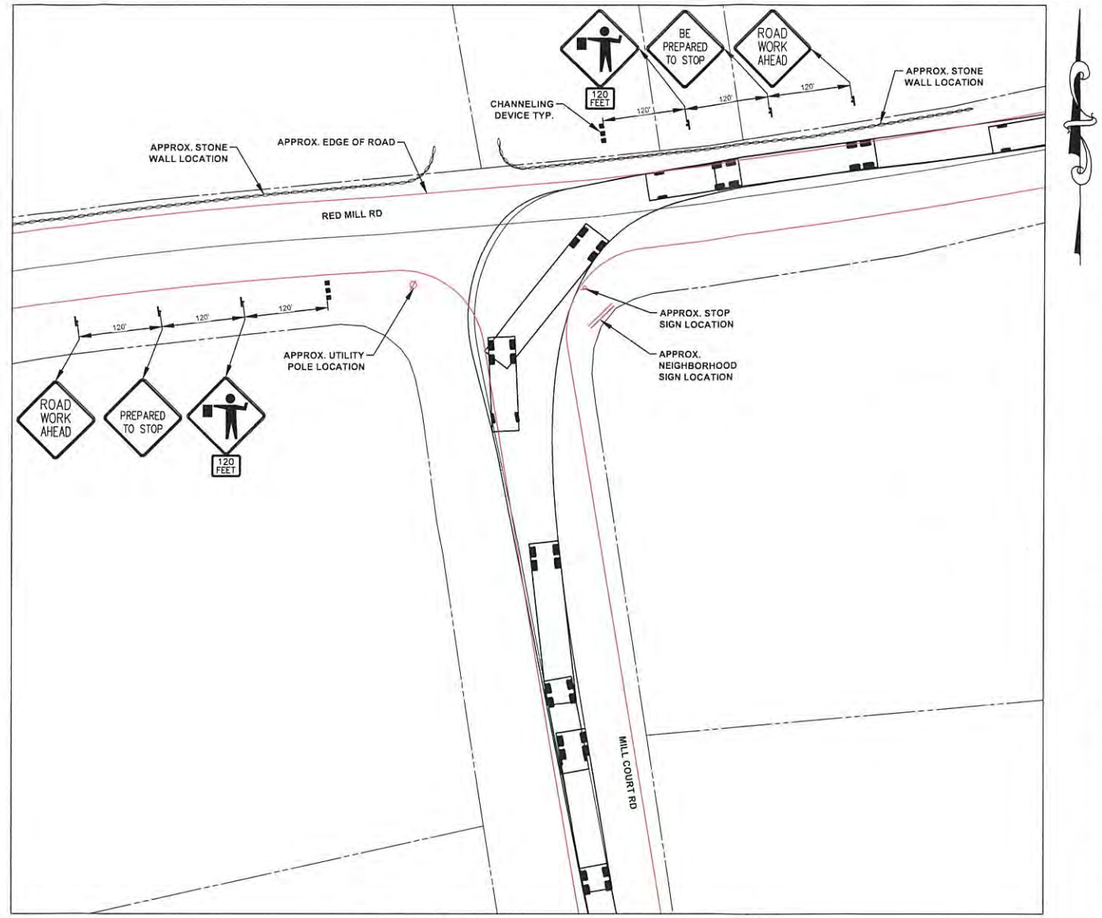
CVE NORTH AMERICA, INC.
CORTLANDT MILL SOLAR FARM
5.0 MW GROUND MOUNT SOLAR SYSTEM
0 MILL COURT
CORTLANDT, NEW YORK 10520

Contract No: 360551
Scale: AS NOTED
Date: AUGUST 2021
Sheet: EXHIBIT A
Drawing No: 1 OF 1



WB-62 RIGHT-TURN (RED MILL RD TO MILL COURT RD)

SCALE: 1" = 20'



WB-62 LEFT-TURN (RED MILL RD TO MILL COURT RD)

SCALE: 1" = 20'

Posted Speed *	Formula	Minimum Desirable Taper Lengths ** 10' Offset	11' Offset	12' Offset	Suggested Maximum Spacing of Channelizing Devices On a Taper	On a Tangent	Minimum Sign Spacing *,+ Distance	Suggested Longitudinal Buffer Space "B"	Stopping Sight Distance
30	$L=\frac{WS^2}{60}$	150'	165'	180'	30'	60'	120'	90'	200'
35		205'	225'	245'	35'	70'	160'	120'	250'
40		265'	295'	320'	40'	80'	240'	155'	305'
45	L=WS	450'	495'	540'	45'	90'	320'	195'	360'
50		500'	550'	600'	50'	100'	400'	240'	425'
55		550'	605'	660'	55'	110'	500'	295'	495'
60		600'	660'	720'	60'	120'	600'	350'	570'
65		650'	715'	780	65'	130'	700'	410'	645'
70		700'	770'	840'	70'	140'	800'	475'	730'
75		750'	825'	900'	75'	150'	900'	540'	820'

* Conventional Roads Only

** Taper lengths have been rounded off.
L=Length of Taper(FT) W=Width of Offset(FT) S=Posted Speed(MPH)

TYPICAL USAGE				
MOBILE	SHORT DURATION	SHORT TERM STATIONARY	INTERMEDIATE TERM STATIONARY	LONG TERM STATIONARY
	✓	✓		

GENERAL NOTES

1. FLAGS ATTACHED TO SIGNS WHERE SHOWN ARE REQUIRED.
2. ALL TRAFFIC CONTROL DEVICES ILLUSTRATED ARE REQUIRED, EXCEPT THOSE DENOTED WITH THE TRIANGLE SYMBOL MAY BE OMITTED WHEN STATED ELSEWHERE IN THE PLANS, OR FOR ROUTINE MAINTENANCE WORK, WHEN APPROVED BY THE ENGINEER.
3. SIGN SPACING MAY BE INCREASED OR AN ADDITIONAL W20-1 "ROAD WORK AHEAD" SIGN MAY BE USED IF ADVANCE WARNING AHEAD OF THE FLAGGER OR R1-2 "YIELD" SIGN IS LESS THAN 1500 FEET.
4. FLAGGERS SHOULD USE TWO-WAY RADIOS OR OTHER METHODS OF COMMUNICATION TO CONTROL TRAFFIC.
5. LENGTH OF WORK SPACE SHOULD BE BASED ON THE ABILITY OF FLAGGERS TO COMMUNICATE.
6. IF THE WORK SPACE IS LOCATED NEAR A HORIZONTAL OR VERTICAL CURVE, THE BUFFER DISTANCES SHOULD BE INCREASED IN ORDER TO MAINTAIN ADEQUATE STOPPING SIGHT DISTANCE TO THE FLAGGER AND A QUEUE OF STOPPED VEHICLES (SEE TABLE ABOVE).
7. FLAGGERS SHOULD USE 24" STOP/SLOW PADDLES TO CONTROL TRAFFIC. FLAGS SHOULD BE LIMITED TO EMERGENCY SITUATIONS.

Table 1. Estimated Vehicles During Construction Activities

Approximate Period	Construction Activity	Estimated Increase in Vehicle Trips
Month 1	Mobilization, Site Clearing, Erosion Control, Access Drive Improvements	• 8 - 10 personal vehicles per day, • 3 - 6 contractor vehicles per day, • 1 - 2 material delivery (tractor-trailer trucks) per day, • 1 - 2 equipment delivery (30-foot bed, box trucks, dump trucks, concrete trucks) per week, and • 6 - 8 hauling trucks per day removing timber and organic material from the Site.
Month 2 - 5	Fence, Solar Array, and Energy Storage Installation	• 20 - 30 personal vehicles per day, • 6 - 8 contractor vehicles per day, • 3 - 4 material deliveries (tractor-trailer truck) per day, and • 1 - 2 equipment delivery (30-foot bed, box trucks, dump trucks, concrete trucks) per day.
Month 6	Commissioning and Demobilization	• 6 - 8 personal vehicles per day, • 3 - 6 contractor vehicles per day, and • Approximately 1 equipment removal (tractor-trailer truck) per week.

0 20' 40'

SHEET SIZE: 24" BY 36"
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TRC
1430 Broadway
Suite 1504
New York, NY 10018
Phone: 212.221.7822

TRC Project No: 360551.0000.0000

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Revisions:

No.	Date

Drawn by: J. VESELKA

Design by: D. GEREMEW

Checked by: S. MEERSMA

CVE NORTH AMERICA, INC.
CORTLANDT MILL SOLAR FARM
5.0 MW GROUND MOUNT SOLAR SYSTEM
0 MILL COURT
CORTLANDT, NEW YORK 10520

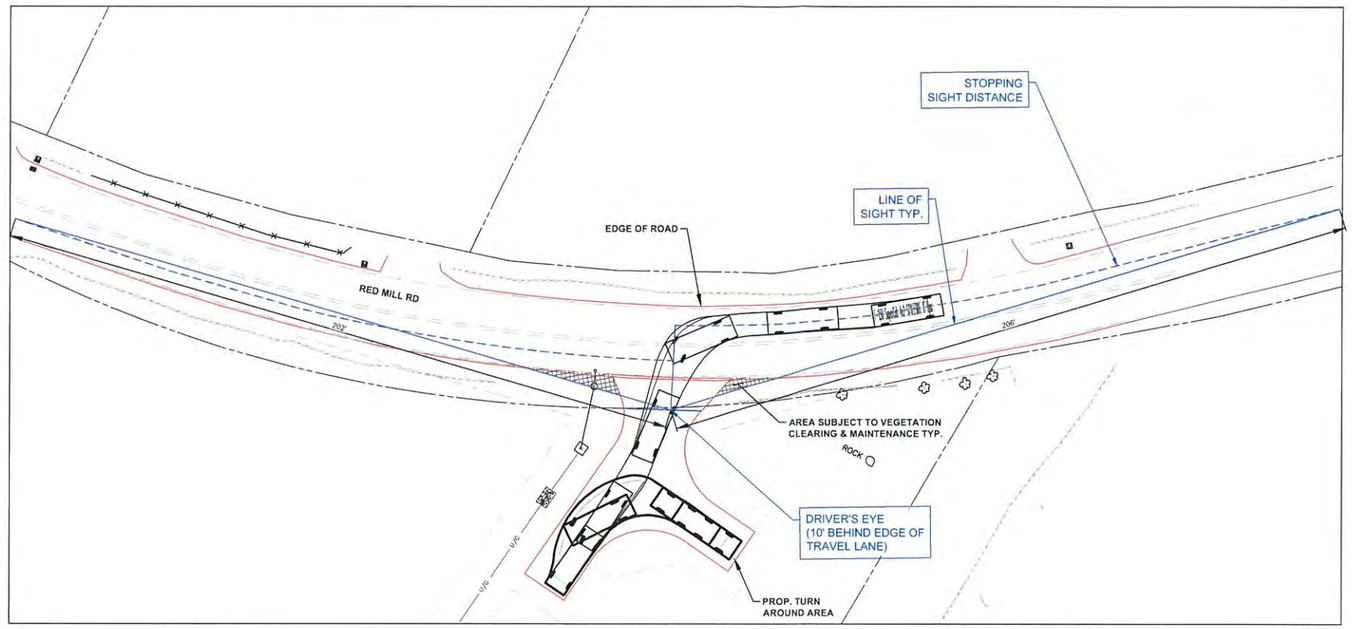
Contract No: 360551

Scale: AS NOTED

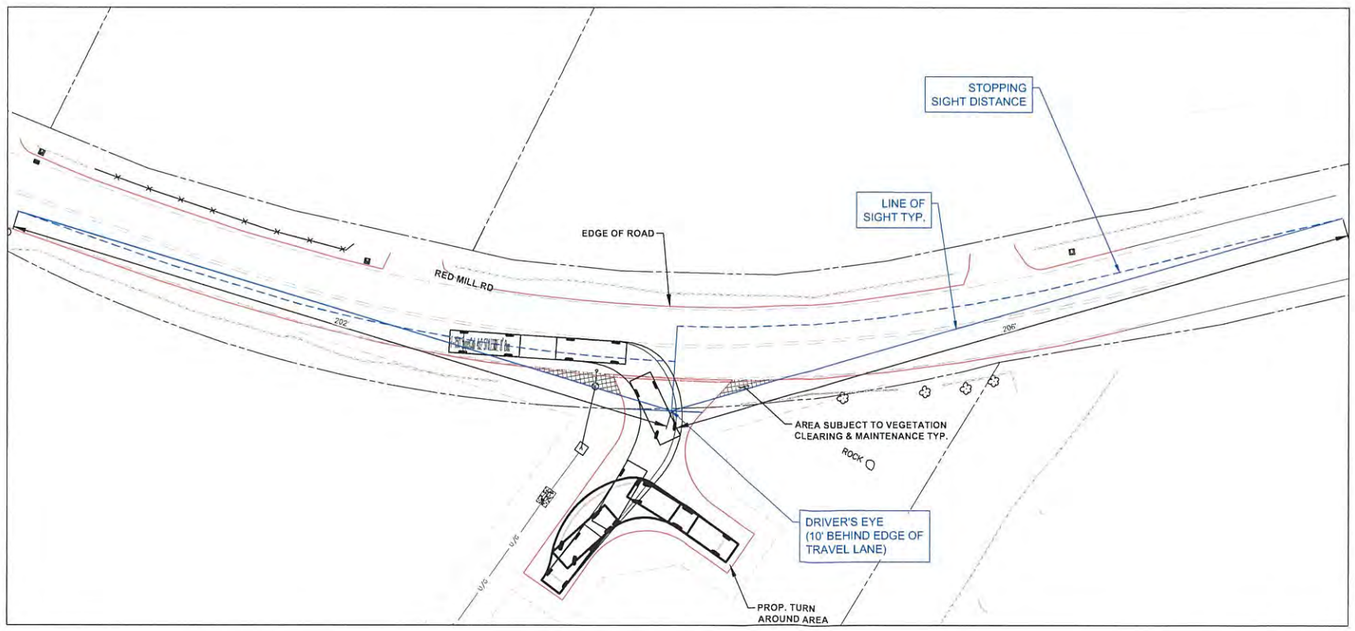
Date: MARCH 2021

Sheet: EXHIBIT B

Drawing No: 1 OF 3



PICKUP TRUCK LEFT-TURN (RED MILL RD TO PARKING)
SCALE: 1" = 20'



PICKUP TRUCK RIGHT-TURN (RED MILL RD TO PARKING)
SCALE: 1" = 20'

0 20' 40'
SHEET SIZE: 24" BY 36"
(DRAWING MAY BE PRINTED AT REDUCED SIZE)

TRC
1430 Broadway
Suite 1702
New York, NY 10018
Phone: 212.221.7822

TRC Project No: 360551.0000.0000

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Revisions:

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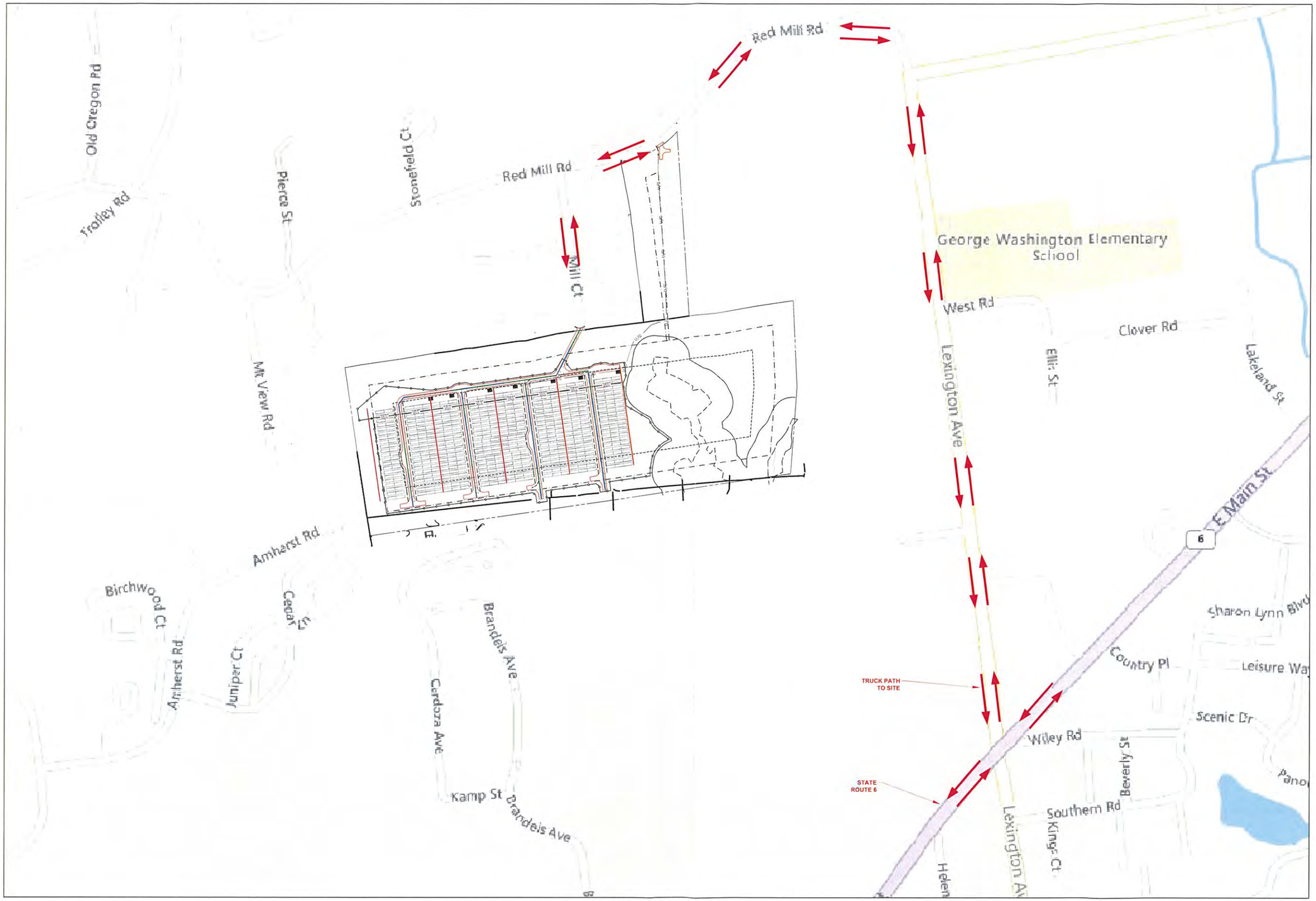
Drawn by: J. VESELKA
Design by: D. GEREMEW
Checked by: S. MEERSMA

CVE NORTH AMERICA, INC.
CORTLANDT MILL SOLAR FARM
5.0 MW GROUND MOUNT SOLAR SYSTEM
0 MILL COURT
CORTLANDT, NEW YORK 10520

Contract No: 360551
Scale: AS NOTED
Date: MARCH 2021
Sheet: EXHIBIT B
Drawing No: 2 OF 3



TRUCK PATH TO SITE
SCALE: 1" = 200'

SHEET SIZE: 24" BY 36"
(DRAWING MAY BE PRINTED AT REDUCED SIZE)

TRC
1430 Broadway
Suite 1604
New York, NY 10018
Phone: 212.221.7822

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CVE
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Design by:
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5.0 MW GROUND MOUNT SOLAR SYSTEM
0 MILL COURT
CORTLANDT, NEW YORK 10520

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360551

Scale:
AS NOTED

Date:
MARCH 2021

Sheet:
EXHIBIT B

Drawing No:
3 OF 3