conEdison
Clean Energy Businesses

March 12, 2021

John Tegeder, R. A.
Director of Planning
Town of Yorktown
Albert A. Capellini Community & Cultural Center
1974 Commerce Street
Yorktown Heights, NY 10598

Re: Proposed Foothill Street Solar Project
Comparison to Previously Proposed Residential Subdivisions

Dear Mr. Tegeder:

Con Edison Clean Energy Businesses, Inc. is proposing to develop a ground-mounted solar facility on approximately 16 acres of land at 3849 Foothill Street in Yorktown, New York under a Lease with the landowner, William Lockwood, whose family has owned the land for generations.

As you are aware, Mr. Lockwood has previously explored two other development projects with the Town for this same site. Each of those projects proposed a 20-lot residential subdivision, with access roads and appurtenant utility services. One of the developments was designed as a cluster subdivision with 2 proposed access roads. The other development was designed as a conventional subdivision with 3 proposed access roads.

Mr. Lockwood deferred consideration of the residential development of his land after we approached him with the proposal to lease the land for solar development. That decision was based upon his conviction that (i) solar development will have less impact on the site, the neighborhood and the community than a residential development; (ii) he can lease the property to us rather than selling it to others and giving up ownership of his family's land forever; and (iii) at the end of the Lease, the solar facility will be removed, the land restored, and it will again be available for his family's use. If, however, the Town does not approve the proposed solar development, Mr. Lockwood is committed to proceed with a residential development at the site.

Since introducing the proposed solar project to the Town, we have had considerable feedback relative to the impacts such development might have, particularly with regard to tree cutting and land disturbance. Recognizing that the property will likely be developed, whether for the currently proposed solar project or as one of the previously proposed 20-lot residential subdivisions, we have given careful consideration to the impacts each of those development types will have … during construction, upon completion, and long-term. After a discussion with, and at the suggestion of, Mr. Tegeder, we are submitting this comparison of the potential impacts of the three projects.

Obviously, the development of any of the three projects at the Lockwood site will have impacts, but the impacts for each will be different with regard to features, degree and length of term. An objective analysis clearly demonstrates that the proposed solar project will have significantly less impact on the site, the neighborhood and the community than the development of a residential subdivision … from the outset and long-term.

Land Cover and Disturbance

The table below compares the changes to the land cover that would result from the development of each of the three projects:

Feature	Existing Site (Vacant)	Yorktown A Solar Farm	Cluster Subdivision	Conventional Subdivision
Treed Area	34.23 Acres	18.33 +/- Acres	19.97 +/- Acres	18.12 +/- Acres
Grass/ Meadow	0.00 Acres	15.66± Acres	11.47 +/- Acres	13.50 +/- Acres
Impervious Materials Added	0.00 Acres	0.07± Acres	Roads/Driveways 1.63 +/- Acres Houses 1.16 +/- Acre Total 2.79+/- acres	Roads/Driveways 1.76 acres +/- Houses 0.85 +/-acres Total: 2.61± Acres
Pervious Gravel Added	0.00 Acres	0.17± Acres	0.00 Acres	0.00 Acres

While there has been much discussion about the tree area that would be cut to develop the solar project (15.90 acres), in fact, more tree area would be cut for the conventional subdivision (16.11 acres) and just slightly less would be cut for the cluster subdivision (14.26 acres). See the attached maps showing the roads and yard areas for each of the two residential subdivisions.

As can also be seen from the attached maps, tree cutting for the conventional subdivision would be far more impactful on the Foothill Street viewshed than the solar project as the land fronting on Foothill Street would be nearly clear-cut to a depth of at least 50 feet for the access road, the front yards for the five house lots and driveways in that subdivision. There would likely be no landscape screening required along Foothill Street and no plantings in mitigation for the trees removed. Similarly, the cluster subdivision would have an access road and three house lots and driveways on Foothill Road with likely no landscape screening required and no plantings in mitigation for the trees removed. The solar project, on the other hand, would leave undisturbed a 15-foot strip of existing vegetation along Foothill Street and further enhance that natural buffer with an additional 212 plantings, installed at a cost of $160,000, to enhance the natural screening and in mitigation for the trees removed for the project. See the Landscaping & Plantings in Mitigation Plan attached (and included in the Site Plan set as Sheet C006 at a larger scale). See also the Landscaping and Plantings for Mitigation Inventory and Cost Estimate attached.

Further, either of the two subdivisions will have a much greater impact on the environment, and stormwater in particular, as both would add over 2 ½ acres of impervious materials for roads, driveways, patios and roofs as compared to less than the 1/10th acre needed for the solar project.

The paved roads and driveways of the subdivisions would eliminate natural filters for watershed- bound pollutants and the vehicles using those roads and driveways would introduce fuel, oil, grease, road salt and other pollutants to the watershed. The solar project would have no paved surfaces and, with almost no vehicular traffic to or from the project site, introduce no pollutants to the watershed.

Most significant, however, is the fact that, at the end of the life of the solar project, the solar arrays and all appurtenances would be removed and the land restored as much as practicable to its original condition … with a financial surety posted with the Town to assure that those conditions are fulfilled. Either of the two subdivisions, with their roads, infrastructure, utilities, 20 homes and driveways, would be forever!

Construction Time

The site work necessary to and the construction of the solar project will take approximately 12 weeks. Upon completion, except for periodic visits to the site for inspections and maintenance, there will be no vehicular traffic to or from the project site.

The development of either of the 20-lot subdivisions will likely take three to five years, with the noise of construction and the traffic from construction vehicles a part of the Foothill Street and Lockwood Road neighborhoods throughout that period.

Visual Impact

With the solar panels set at an angle with a maximum height of 12 feet, the low-profile solar project would have virtually no visual impact in any direction. There is substantial natural screening which will be left untouched to the south between Lockwood Road and the project site. Similarly, to the south and west, a 15.7-acre area along the stream will be left undisturbed, providing more than ample natural screening from those directions to the project site. And, while there is some natural screening between the school campus to the north and the project site, the natural topography between the two properties will make any visual impact from that direction negligible.
Absent an extensive landscape screening and planting for mitigation plan, the solar project would, however, have some visual impact from the Foothill Street viewshed to the east. The project will be set back 55 feet from the roadway and there is natural screening in that setback, but it would not be sufficient to completely screen the project site from that direction. Accordingly, Con Edison CEB has worked with a registered landscape architect to develop a dense and extensive planting plan to enhance the natural screening already there. That plan, with a cost of $160,000, provides for an additional 212 plantings, averaging over six feet in height when installed on Day 1 and growing to an average height of nearly 14 feet in Year 5.

Again, see the Landscaping and Plantings for Mitigation Inventory and Cost Estimate attached, along with the Year 5 average growth rate chart developed on information from the Arbor Day Foundation annexed thereto.

Photo Simulations showing the screening of the solar project provided as a result of the Landscaping & Plantings in Mitigation Plan, with plantings averaging over six feet in height when installed on Day 1 and growing to an average height of nearly 14 feet in Year 5, have been provided to the Planning Board under separate cover. As demonstrated by those Photo Simulations, the solar project will be well-screened with negligible visual impact from Day 1, but, at Year 5, the project will be almost invisible from any direction.

Either of the two subdivisions will certainly be visible from the Foothill Street and Lockwood Road viewsheds. Compared to the low-profile 12-foot high solar panels, the subdivisions would each consist of 20 homes, likely to be 3,000 square feet in size and 25 to 30 feet in height. In the conventional subdivision, the land fronting on Foothill Street would be nearly clear-cut to a depth of at least 50 feet for the access road and five house lots and driveways in that subdivision. There would likely be no landscape screening required along Foothill Street and no plantings in mitigation for the trees removed. Similarly, the cluster subdivision would have an access road and three house lots and driveways on Foothill Road with likely no landscape screening required and no plantings in mitigation for the trees removed.

Traffic, Emissions and Greenhouse Gas Effect

Except for periodic visits by way of the single gravel driveway to the site for inspections and maintenance, once the solar project is completed, there will be no vehicular traffic to or from the project site.

On the other hand, either of the two residential subdivisions will result in a significant increase in motor vehicle traffic over Foothill Street and/or Lockwood Road and the resulting emissions therefrom. The 20 homes will likely add at least 40 automobiles to the neighborhood, along with the concomitant cars of visitors and guests, school buses, construction and service vehicles, and the ever-present UPS, Fedex and Amazon Prime delivery trucks.

Obviously, all of the vehicles making up this subdivision traffic burn fuel to power their engines. This is a process that yields harmful greenhouse gases that are very dangerous to the environment. The emission of these pollutants has several far-reaching effects, including global warming, smog and acid rain.

While the development of either subdivision and the traffic either would generate would yield harmful greenhouse gases, the solar project would not produce air pollution and would have a positive, indirect effect on the environment as solar energy replaces or reduces the use of other energy sources that have larger effects on the environment. This one 1.87 MW AC solar project would offset the equivalent of 478 passenger vehicles driven for one year or 5,494,911 miles driven by an average passenger vehicle. See the attached EPA Greenhouse Gas Equivalencies Calculator.

Wildlife Habitat

While the tree removal necessary for any of the three projects is comparable, the completed projects would have a significantly different impact on the wildlife habitat.

The conventional subdivision would remove 16.11 acres and the cluster would remove 14.26 acres from the current 34.23-acre habitat, but the solar project would remove nearly no land area from the habitat.

The roads, infrastructure and stormwater treatment features, house lots and driveways, along with the residential activities that would come with 20 new homes in either subdivision would virtually eliminate the wildlife habitat in those developed areas. And there would likely be no prohibition on the homeowners from using pesticides and herbicides in their yards.

Over and above the 18.32 acres left wholly undisturbed and untouched by the solar project development, once the project is completed, almost all of the 15.90 acres disturbed to construct the project would be returned to grass and meadow, using a pollinator seed and/or plantings, as suggested by a Certified Ecological Restoration Practitioner with whom the Applicant has previously consulted. Further, with all of the solar panels approximately three feet off of the ground and the fence enclosing the solar array installed six inches above the ground, wildlife will be able to traverse the entire 34.23-acre site. Finally, except for periodic inspectional visits, the project site will be devoid of any human activities which might disturb the habitat. And, per company policy, pesticides and herbicides would be prohibited at the site throughout the life of the project.

Noise

The solar project would have no audible noise beyond the project boundaries. There are no motors, turbines, or ongoing deliveries.

The subdivisions would generate noise from the above-mentioned vehicular traffic, routine outdoor activities and even barking dogs.

Lighting

The solar project would have no lighting installed at the project site.

The 20 homes and related traffic in either of the subdivisions would obviously produce outdoor illumination.

Town Services

The solar project would have little, if any, need for Town-provided police, fire or emergency medical services … and would put no additional children in the school system.

The residents in the 20 homes will certainly need Town-provided police, fire and emergency medical services … and, with 20 4-bedroom homes, will definitely put another 40+ additional children in the school system.

For all of the reasons set forth above, the solar project will be far less impactful to the Lockwood site, the neighborhood and the Town of Yorktown than would be either of the subdivisions.

Sincerely,

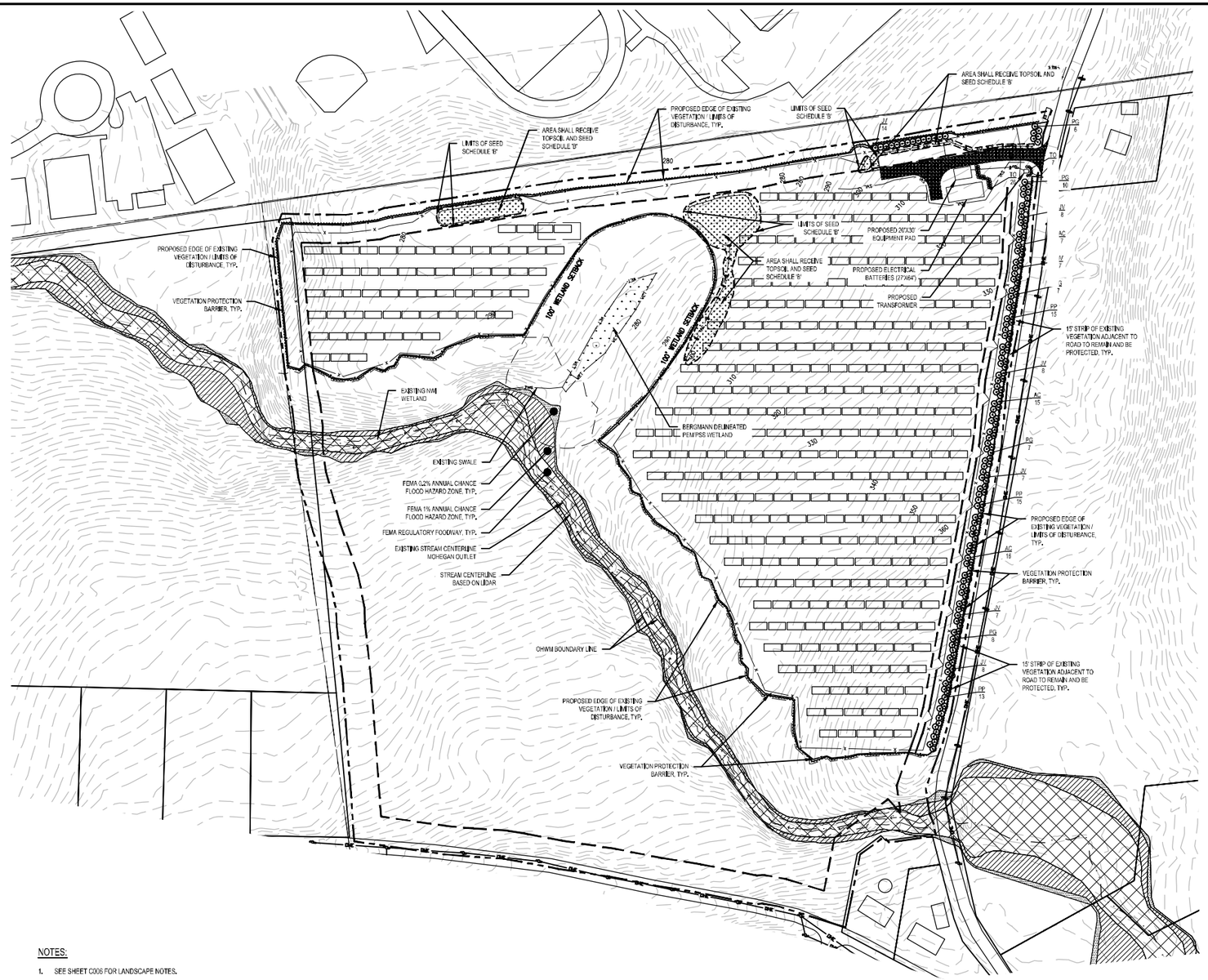
Joe Shanahan

Solar Developer

CLUSTER SUBDIVISION

SINGLE FAMILY HOME SUBDIVISION

LEGEND	CLUSTER SUBDIVISION (ACRES)	SINGLE FAMILY HOME SUBDIVISION (ACRES)
TREES	19.97±	18.12±
GRASS	11.47±	13.50±
DRIVEWAY	1.63±	1.76±
HOUSE	1.16±	0.85±



LEGEND:

- PROPOSED TREE PLANTING
- VEGETATION PROTECTION BARRIER
- SEED LIMIT LINE
- SEED SCHEDULE 'B'
- PROPOSED GRAVEL DRIVEWAY
- FEMA 1% ANNUAL CHANCE FLOOD HAZARD
- FEMA 0.2% ANNUAL CHANCE FLOOD HAZARD
- EXISTING FEMA REGULATORY FLOODWAY
- EXISTING ROAD
- ADJ. PROPERTY/R.O.W. LINE (SURVEYED)
- FENCE LINE
- EXISTING VEGETATION
- PROPOSED LIMITS OF TREE CLEARING
- BERGMANN DELINEATED PALUSTRINE EMERGENT WETLAND (PEM) / PALUSTRINE SCRUB SHRUB WETLAND (PSS)
- ℄ STREAM
- 100' WETLAND SETBACK

NOTES:

1. SEE SHEET C006 FOR LANDSCAPE NOTES.
2. SEE SHEET C007 FOR LANDSCAPE DETAILS.
3. SEE SHEET C009 FOR SEED SCHEDULES.

PLANT LIST

Key	Qty.	Botanical Name	Common Name	Mature Size Height	Mature Size Spread	Installed Size	Condition	Notes
Evergreen Trees								
AC	39	Abies concolor	White Fir	50-75' Ht.	20-30' Sprd.	6-7' Ht.	B&B	
JV	59	Juniperus virginiana	Eastern Red Cedar	30-60' Ht.	10-25' Sprd.	8' Ht.	B&B	
PG	38	Picea glauca	White Spruce	40-60' Ht.	10-20' Sprd.	8' Ht.	B&B	
PP	43	Picea pungens	Colorado Spruce	30-60' Ht.	10-20' Sprd.	7-8' Ht.	B&B	
Evergreen Shrubs								
TO	33	Thuja occidentalis 'Emerald Green'	Emerald Green Arborvitae	7-15 Ht.	3-4' Sprd.	5' Ht.	B&B	

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YORKTOWN A SOLAR FARM

FOOTHILL STREET

TOWN OF YORKTOWN
WESTCHESTER COUNTY
NEW YORK

CON EDISON CLEAN ENERGY BUSINESSES, INC.

100 SUMMIT LAKE DRIVE
VALHALLA, NY 10595

BERGMANN
ARCHITECTS ENGINEERS PLANNERS

Bergmann Associates, Architects, Engineers, Landscape Architects & Surveyors, D.P.C.
2 Winners Circle, Suite 102
Albany, NY 12205

office: 518.862.0325

www.bergmannpc.com

REVISIONS

NO.	DATE	DESCRIPTION	REV.	CK'D
1	1/28/2021	PLAN REVISIONS	WD	ECR

PRELIMINARY
NOT FOR CONSTRUCTION

Project Manager:	Checked By:
ECR	ECR
Designed By:	Drawn By:
WD	WD
Date Issued:	Scale:
OCTOBER 27, 2020	1"=100'

Project Number:
14847.00

LANDSCAPING & PLANTING FOR MITIGATION PLAN

Drawing Number:
C006

Yorktown A Solar Farm

Town of Yorktown, Westchester County, NY

BERGMANN
ARCHITECTS ENGINEERS PLANNERS

Landscaping & Planting for Mitigation Budget Cost Estimate

February 5, 2021

Item Description	Unit	Quantity	Unit Price (2020 $)	Cost
Tree Plantings				
AC - Abies concolor - White Fir (6-7' Height)	EA	39	$600	$23,400
JV - Juniperus virginiana - Eastern Red Cedar (8' Height)	EA	59	$700	$41,300
PG - Picea glauca - White Spruce (8' Height)	EA	38	$700	$26,600
PP - Picea pungens - Colorado Spruce (8' Height)	EA	43	$650	$27,950
TO - Thuja occidentalis 'Emerald Green' - Emerald Green Arborvitae (5' Height)	EA	33	$450	$14,850
			SUB-TOTAL	**$134,100**
Basic Work Zone traffic Control (5%)	LS	1		$6,705
Mobilization (4%)	LS	1		$5,364
Survey Operations (2%)	LS	1		$2,682
Erosion and Sediment Control (0.5%)	LS	1		$671
			TOTAL	**$149,522**
			Construction Contingency (5%)	**$7,476**
			GRAND TOTAL	**$156,998**
			SAY	**$160,000**

Assumptions:

1. Unit cost includes installation.

PLANT LIST

Key	Qty.	Botanical Name	Common Name	Mature Size Height	Mature Size Spread	Installed Size	Condition	Approximate Size in 5 Years
Evergreen Trees								
AC	39	Abies concolor	White Fir	50-75' Ht.	20-30' Sprd.	6-7' Ht.	B&B	14-15' Ht. /10-12' Sprd.
JV	59	Juniperus virginiana	Eastern Red Cedar	30-60' Ht.	10-25' Sprd.	8' Ht.	B&B	15-16' Ht. /8-9' Sprd.
PG	38	Picea glauca	White Spruce	40-60' Ht.	10-20' Sprd.	8' Ht.	B&B	15-16' Ht. /8-9' Sprd.
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Evergreen Shrubs								
TO	33	Thuja occidentalis 'Emerald Green'	Emerald Green Arborvitae	7-15 Ht.	3-4' Sprd.	5' Ht.	B&B	7-8' Ht. /2-3' Sprd.

1. Average growth rates were based on information from the Arbor Day Foundation.
2. Size in 5 years represented on this table are approximate and do not take into account exact site conditions the trees will be planted in.
3. Individual trees grow at different rates depending on their condition at installation and watering/maintenance during the period of establishment. Growth rates will vary.

United States Environmental Protection Agency

Greenhouse Gas Equivalencies Calculator

1.87 MW AC Solar Project

3,132,000 kilowatt-hours of electricity

Equivalency Results

How are they calculated?

The sum of the greenhouse gas emissions you entered above is of Carbon Dioxide Equivalent. This is equivalent to:

2,214 Metric Tons

Greenhouse gas emissions from

478

Passenger vehicles driven for one year

-or-

5,494,911

Miles driven by an average passenger vehicle

CO_2 emissions from

249,178

gallons of gasoline consumed

-or-

217,529

gallons of diesel consumed

-or-

2,440,019

Pounds of coal burned

-or-

29.3

tanker trucks' worth of gasoline

-or-

256

homes' energy use for one year

-or-

375

homes' electricity use for one year

-or-

12.2

railcars' worth of coal burned

-or-

5,127

barrels of oil consumed

-or-

90,526

propane cylinders used for home barbeques

-or-

0.0006

coal-fired power plants in one year

-or-

282,413,637

number of smartphones charged

Greenhouse gas emissions avoided by

753

Tons of waste recycled instead of landfilled

-or-

108

Garbage trucks of waste recycled instead of landfilled

-or-

94,224

trash bags of waste recycled instead of landfilled

-or-

0.478

84,126

0.478

Wind turbines running for a year

-or-

84,120

Incandescent lamps switched to LEDs

Carbon sequestered by

36,616

tree seedlings grown for 10 years

-or-

2,892

acres of U.S. forests in one year

-or-

15

acres of U.S. forests preserved from conversion to cropland in one year