



Torrington Solar One, LLC

[Torrington Solar One LLC Petition No. 1407](#)

236 East Pearl Road, Torrington, CT
41.829115, -73.074919

Torrington City Council Meeting

June 15th, 2020

TABLE OF CONTENTS

Attendees:

William Herchel, Verogy
Steven DeNino, Verogy
Bryan Fitzgerald, Verogy

Brad Parsons, All Points Technology
Corporation

Patrick McGloin, Gaffney Bennet
Public Relations

I. Torrington Solar One

i. Company and Project Overview

ii. Public Outreach

iii. Design Progression

iv. Project Specifics – Site Plan & Renderings

v. Project Benefits

i. Tax Revenue

ii. Permitting Fees

iii. Virtual Net Metering – *Potential savings benefit via State Program*



A vertically-integrated solar developer, delivers comprehensive solutions for commercial and utility-scale solar energy projects throughout the United States.

COMPANY PROFILE

Established:	2017
Staff:	6 co-founders, 15 team members
Industry Experience:	50+ years combined

Please visit verogy.com/torrington-solar-one for more information or to get in contact

OUR COMPANY

A light gray silhouette of the state of Connecticut serves as a background for the text in this section.

Verogy is a Hartford based company investing in Connecticut's clean economy, with dozens of projects and greater than 100 MWs of capacity under development.

We work with municipalities, small and large businesses as well as landowners throughout Connecticut to produce sustainable, comprehensive solar solutions.

PROJECT PROFILE

- 236 East Pearl Road, Torrington, CT
 - 41.829115, -73.074919
- Project Capacity
 - 1.9 MWac / 2.7 MWdc
 - 7,150 Solar Modules (Solar Panels)
 - Driven post, fixed tilt racking, string level inverters
 - Electricity production is remotely monitored, and the system can be de-energized remotely
- Total parcel acreage: 66.45 acres
 - Project acreage inside the fence: 9.0 acres
 - Project acreage outside the fence: 2.55 acres
 - Total acreage: 11.55 acres
- Site Selection
 - Gradual slopes 2% - 4% slopes – designed to CT DEEP Standards
 - No clearing of forest habitat
 - Close proximity to electrical infrastructure required for interconnecting the facility to the Eversource distribution network

PUBLIC NEED

- Torrington Solar One supports Connecticut's energy policies as set forth in CGS § 16a-35k,
 - Including the goal to “develop and utilize renewable energy resources, such as solar and wind energy, to the maximum practicable extent.”
 - The Project will provide clean, renewable, solar-powered electricity and assist the State in meeting its legislatively mandated obligations under the Renewable Portfolio Standard: **40% Class I by 2030**
- 100% Renewable Energy Generation with zero emissions
 - ~**3,560** Megawatt Hours of Class I renewable Energy per year without any air emissions, including greenhouse gas emissions
 - Equivalent offset of **2,517** Metric Tons of CO2 Emissions annually
 - Equivalent to powering **426** average homes annually
 - The Project will generate most of its power at peak times, when the demand for electricity is greatest

TORRINGTON SOLAR ONE PROJECT CHARACTERISTICS

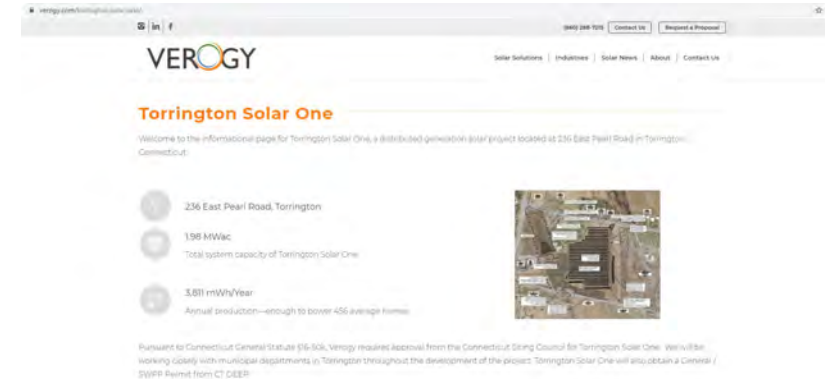
- Key Characteristics
 - Simple Construction, minor site work, limited (if any) tree removal
 - See design on following slides
 - Quiet neighbor, minimal onsite activity post construction
 - No emissions or odors
 - Effectively silent, inverter fans produce ambient hum
 - No requirement of city services needed
 - No traffic
 - No water consumption
 - No fuel consumption
 - Economic benefit to the City of Torrington
 - See detail on following slides
- Environmental
 - Environmental Assessment completed for Torrington Solar One determined that the project would not have an undue adverse environmental impact



PUBLIC OUTREACH

Verogy has enacted a comprehensive community outreach program

- Since April 21st interested parties have been able to access the most up to date information on the project's webpage: www.verogy.com/torrington-solar-one/



Informational Materials and Project Visibility

Abutter Letter



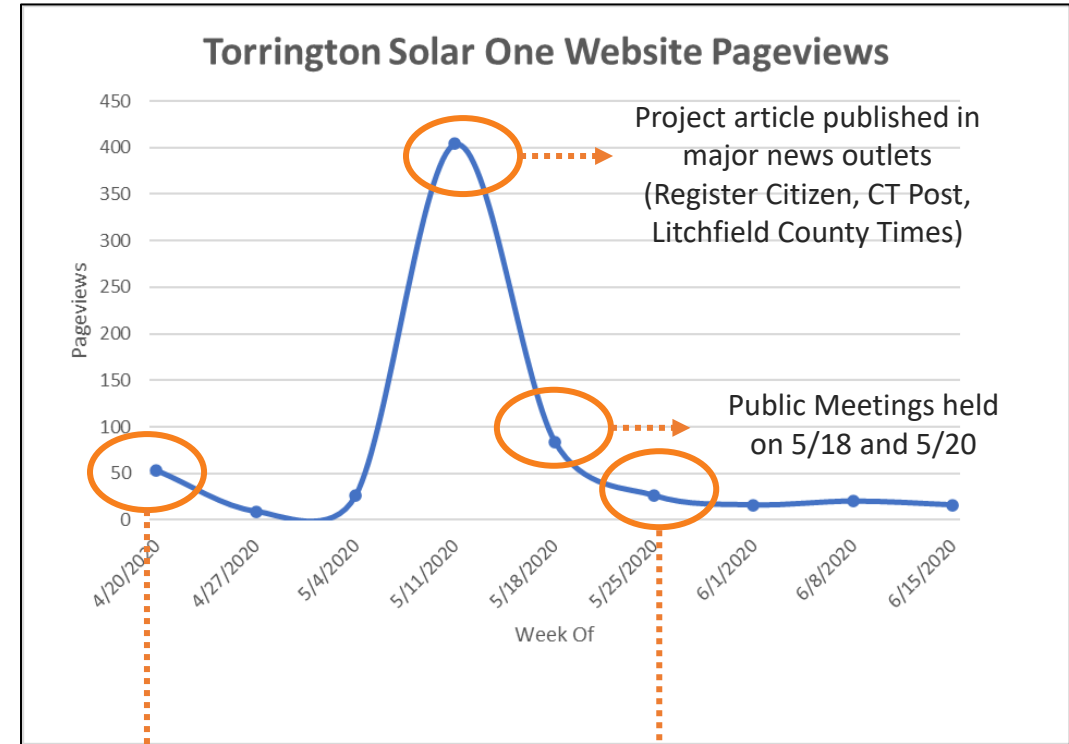
Fact Sheet



FAQ / Q&A Sheet



PUBLIC OUTREACH



Public Outreach initiated, Letters delivered, website live

Presentation made to Torrington Planning & Zoning Commission (5/27)
Petition filed with the Connecticut Siting Council (5/29)

VERSION I

- 3.5 MW / 12,096 Solar Modules
- ~17 Acre Project area
- 50' front yard setback (per zoning)
- Access from Tarringford Street

VERSION II

- 1.975 MW / 7,695 Solar Modules – **reduced by 36%** due to wetland habitats delineated on parcel
- ~12.5 Acre Project area – **reduced by 26.5%** due to wetlands habitats delineated on parcel
- 50' front yard setback (per zoning)
- Access from East Pearl, center of array area – moved from Tarringford Street due to wetland habitats delineated on parcel

ZONING INFORMATION

LOCATION: EAST PEARL ROAD, TORRINGTON				
ZONE: R-WP (WATERSHED PROTECTION ZONE) AND R-1SS (SINGLE FAMILY RESIDENCE ZONE)				
USE: PV SOLAR ARRAY				
ITEM #	ITEM	REQUIREMENTS	PROPOSED	VARIANCE
1	MINIMUM LOT AREA	87,000 S.F. 2 ACRE	±2,874,960 S.F. ±66 ACRE	NO
2	MINIMUM LOT WIDTH	200 FEET	900 FEET	NO
3	MINIMUM LOT FRONTAGE	N/A	193 FEET	NO
4	MINIMUM FRONT SETBACK	50 FEET	50 FEET	NO
5	MINIMUM SIDE SETBACK	25 FEET	25 FEET	NO
6	MINIMUM REAR SETBACK	100 FEET	100 FEET	NO
7	MAXIMUM BUILDING HEIGHT	35 FEET	N/A	NO
8	MAXIMUM IMPERVIOUS SURFACE RATIO	30 PERCENT	T.B.D.	NO

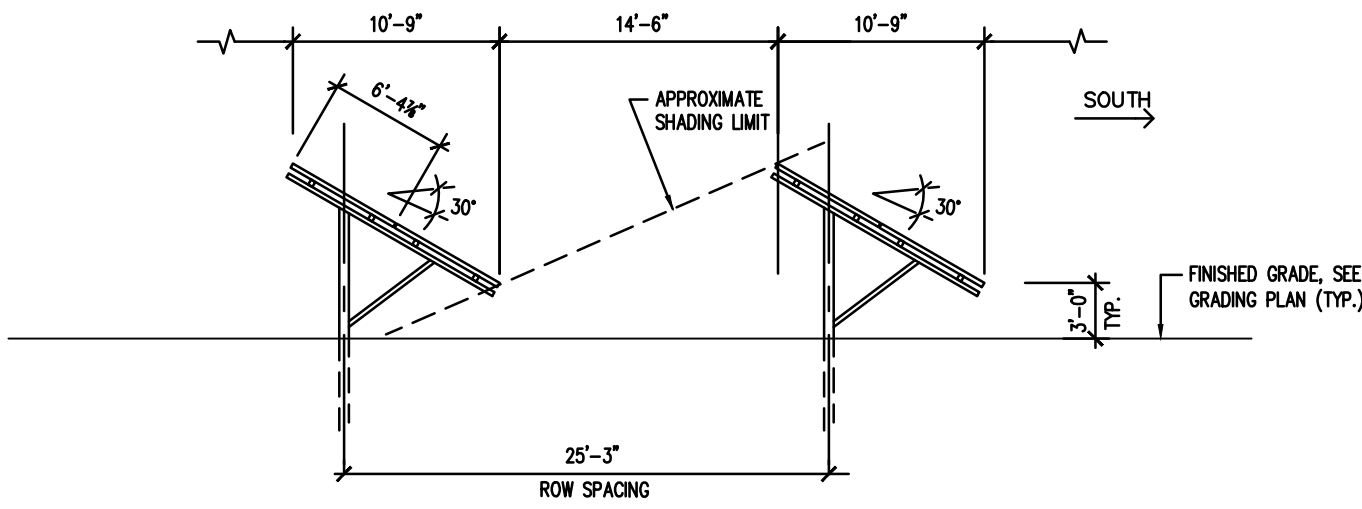
NOTES:
1. PROPERTY DATA AND WETLANDS BASED OFF INFORMATION OBTAINED FROM TOWN OF TORRINGTON ONLINE GIS DATA AND FROM ASSOCIATED MAPPING.

ARRAY SYSTEM INFORMATION

ITEM #	ITEM	PROPOSED
1	TOTAL WATTAGE	4.48 MW DC 3.5 MW AC
2	PANEL TYPE	370 W
3	TOTAL PANELS	12,096
4	TOTAL INVERTERS	28
5	PANEL TILT	30°

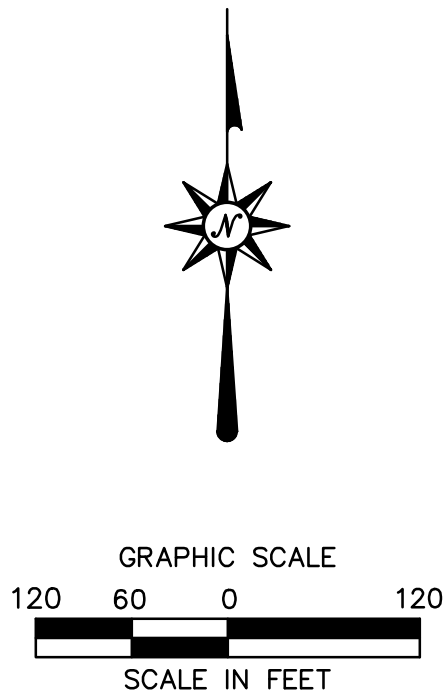
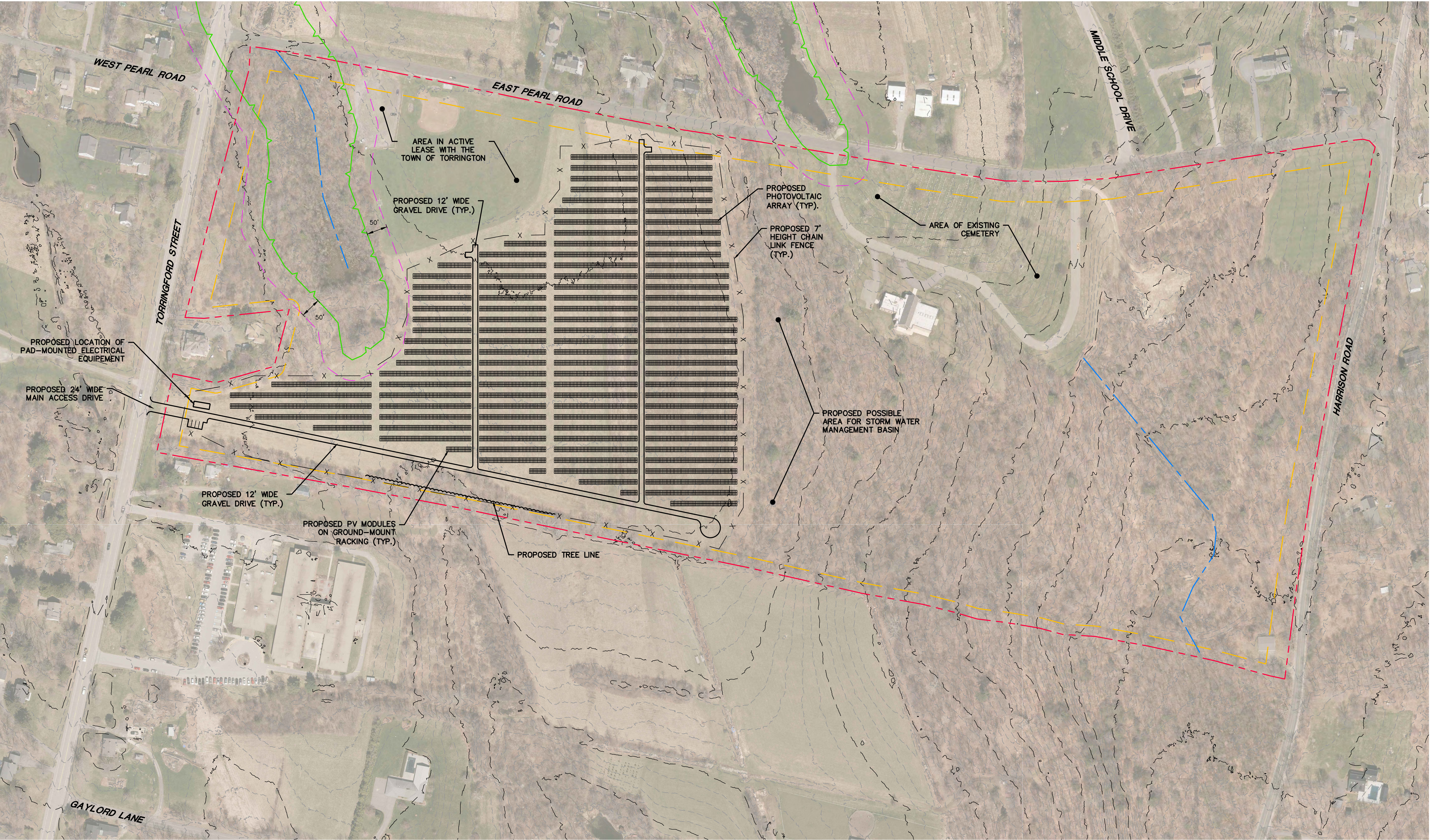
LEGEND

- PROPERTY LINE
- BUILDING SETBACK LINE
- APPROXIMATE WETLAND LINE
- WETLAND SETBACK LINE
- STREAM LINE



RACKING SECTION (DRIVEN POST)

N.T.S.



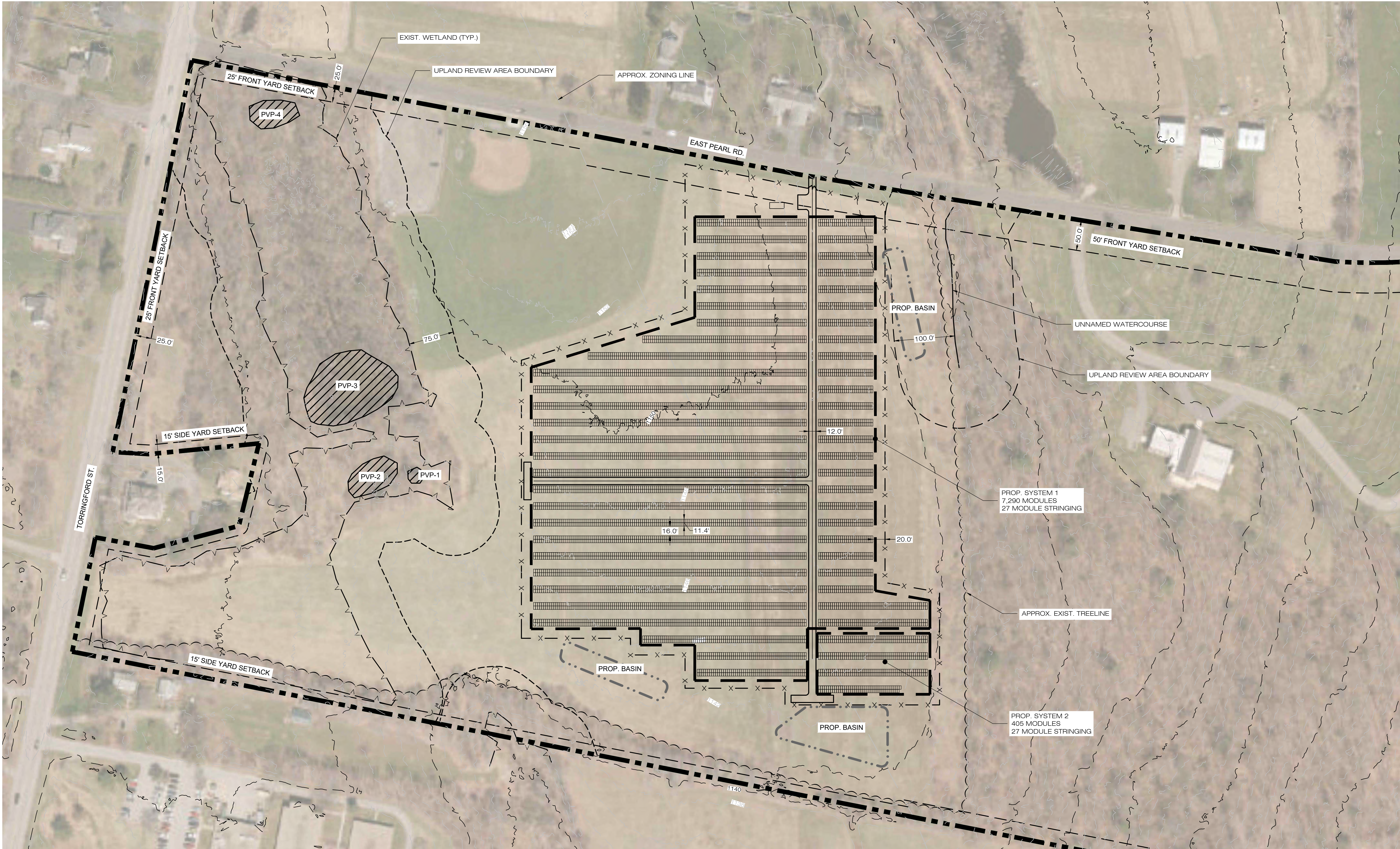
REVISIONS		Desc.
No.	Date	

Designed	T.A.M.
Drawn	T.A.M.
Reviewed	
Scale	1"=120'
Project No.	18C6674
Date	08/20/18
CAD File	SK18C667402

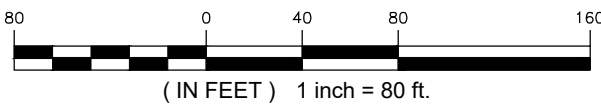
Title
**SKETCH
PLAN**

Sheet No.

SK-2



1
OP-1
CONCEPT PLAN
SCALE : 1" = 80'-0"



VEROGY



3 SADDLEBROOK DRIVE PHONE: (860)-663-1697
KILLINGWORTH, CT 06419 FAX: (860)-663-0935
WWW.ALLPOINTSTECH.COM

CONCEPT

NO	DATE	REVISION
0	11/20/19	FOR REVIEW: BJP
1	12/09/19	FOR REVIEW: BJP
2		
3		
4		
5		
6		

DESIGN PROFESSIONAL OF RECORD

PROF: BRADLEY J. PARSONS P.E.
COMP: ALL-POINTS TECHNOLOGY CORPORATION
ADD: 3 SADDLEBROOK DRIVE
KILLINGWORTH, CT 06419

OWNER: ---

ADDRESS: ---

TORRINGTON SOLAR ONE

SITE EAST PEARL ROAD
ADDRESS: TORRINGTON, CT

APT FILING NUMBER: CT590190

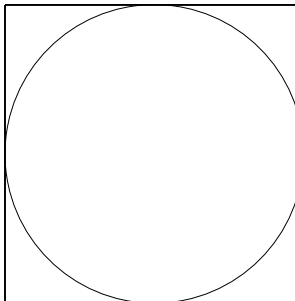
DATE: 11/20/19	DRAWN BY: JT
	CHECKED BY: BJP

SHEET TITLE:

CONCEPT PLAN

SHEET NUMBER:

CP-1



NOTES ON KEY DESIGN CHANGES

- Design changes from Version II to Version III we're made after consultation with neighboring property owners
- Specifically:
 - Increased front yard setback
 - Reduction in modules and project area from increased front yard setback
 - Relocated access road to soften views
 - Increased landscaping efforts to soften views

VERSION III

- 1.975 MW / 7,150 Solar Modules – **reduced by 7%** from version II, removed modules closest to East Pearl to create larger setback from northern property line,
- ~11.55 Acre Project area – **reduced by 7%** from version II, reduced project area closest to East Pearl to create larger setback from northern property line
- 75' front yard - setback **increased by 50%**
- Relocated access road to north eastern corner to soften neighboring views
- Increased landscaping design to soften neighboring views

VAUXHAUL STREET EXTENSION - SUITE 311
TERFORD, CT 06385 PHONE: (860)-663-1697
WWW.ALLPOINTSTECH.COM FAX: (860)-663-0935

CSC PERMIT SET	
DATE	REVISION
06/15/20	INTERCONNECT SCREENING

NOT FOR CONSTRUCTION

TO: BRADLEY J. PARSONS P.E.
FROM: ALL-POINTS TECHNOLOGY
CORPORATION
ADD: 567 VAUXHALL ST EXT - STE 311
WATERFORD, CT 06385

OWNER: CATHOLIC CEMETERIES OF
ARCHDIOCESE OF HARTFORD
ADDRESS: 700 MIDDLETOWN AVENUE
NORTH HAVEN, CT 06473

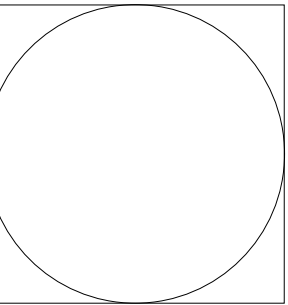
TE EAST PEARL ROAD
ADDRESS: TORRINGTON, CT

RAWN BY: KAM

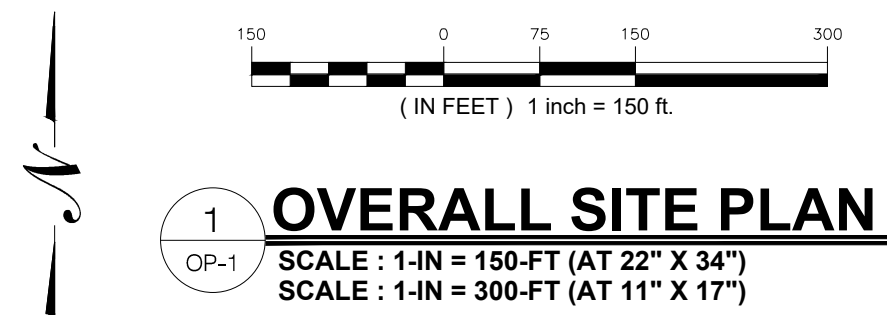
TE: 05/28/2020	CHECKED BY: BJP
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OVERALL SITE PLAN

OP-1



DESIGN TABLE:
MODULE MODEL - TRINA TSM-DE15MC (390W) & RISEN RSM144-6 (380W)
PROP. TILT - 30 DEGREES
INTER-ROW SPACING - 16.0 FEET
PROP. AZIMUTH - ± 0 DEGREES



SITE PLAN

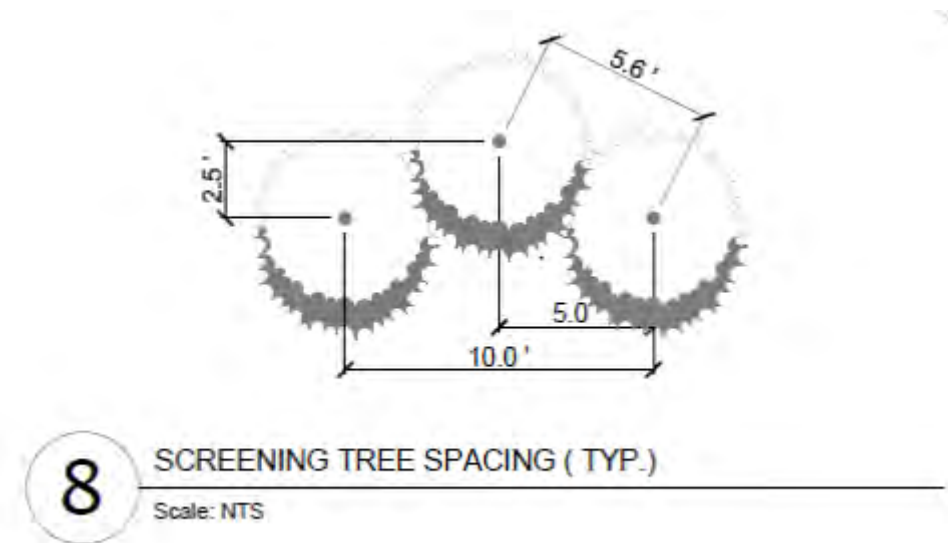
Visual Renderings

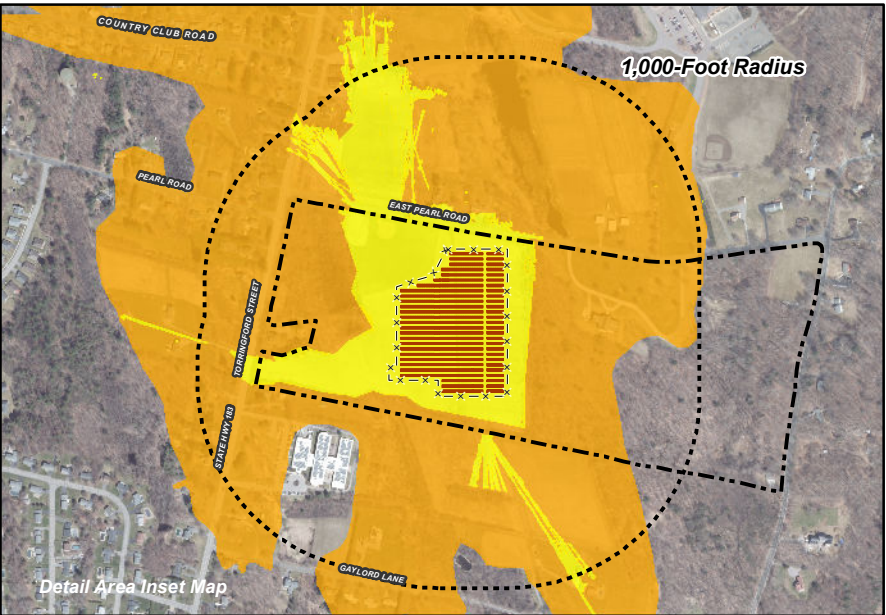
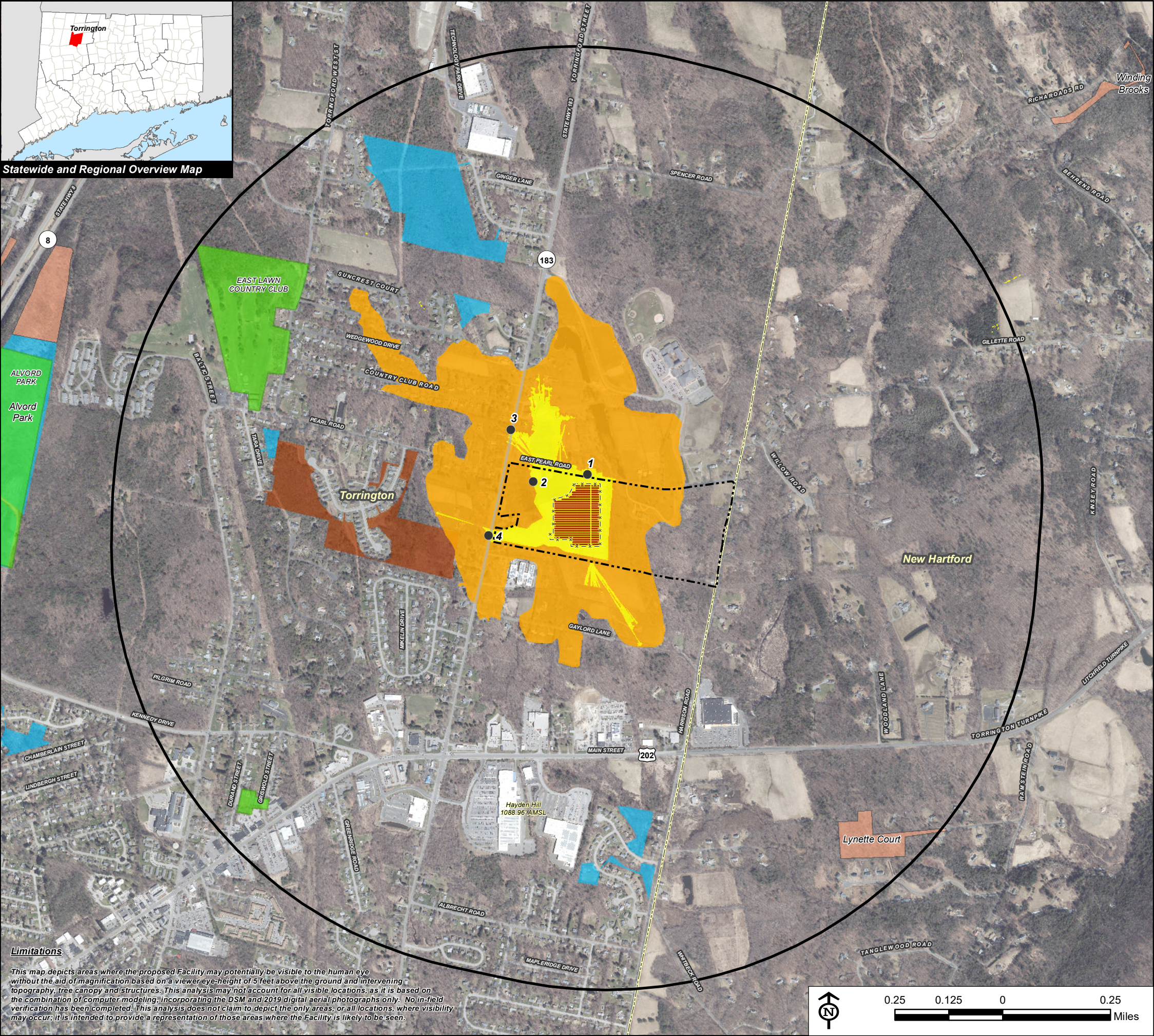
Modifications to the project design as a result of public meetings held with neighbors and community members:

- Moving the array farther from the parcel boundary on East Pearl Road
- Increasing the installation of landscape/vegetative visual screening
- New options for the access road including its location and extending vegetative screening

LANDSCAPING PROTOCOL

This protocol will be followed along the northern fence line where landscaping is necessary to improve the aesthetics and site lines of neighbors





Viewshed Analysis Map

Proposed Solar Facility
Torrington Solar One
East Pearl Road
Torrington, Connecticut

Proposed solar panels to be mounted on approximate 10' AGL support structures.
Forest canopy height and topographic contours are derived from LiDAR data.
Study area encompasses a 1-mile radius and includes 2,411 acres.
Base Map Source: 2019 Aerial Photograph (CTECO)
Map Date: May 2020

Legend

- | | |
|--|--|
| Site | Photographic Locations (Taken on April 10, 2020) |
| Study Area (1-Mile Radius) | Trail |
| Proposed Perimeter Fence | Scenic Highway |
| Proposed Solar Panel | DEEP Boat Launches |
| Predicted Year-Round Visibility (31 Acres) | Municipal and Private Open Space Property |
| Areas of Potential Seasonal Visibility (190 Acres) | State Forest/Park |
| Municipal Boundary | Protected Open Space Property |
| | Federal |
| | Land Trust |
| | Municipal |
| | Private |
| | State |

Data Sources:

Physical Geography / Background Data

A digital surface model (DSM) was created from the State of Connecticut 2016 LiDAR LAS data points. The first return LiDAR LAS values, associated with the highest feature in the landscape (such as a treetop or top of building), were used to capture the natural and built features on the Earth's surface beyond the approximate limits of clearing associated with the proposed solar facility. The "bare-earth" return values were utilized to reflect proposed conditions where vegetative clearing associated with the proposed solar facility would occur.

Municipal Open Space, State Recreation Areas, Trails, County Recreation Areas, and Town Boundary data obtained from CT DEEP. Scenic Roads: CTDOT State Scenic Highways (2015); Municipal Scenic Roads (compiled by APT)

Dedicated Open Space & Recreation Areas

Connecticut Department of Energy and Environmental Protection (DEEP): DEEP Property (May 2007; Federal Open Space (1997); Municipal and Private Open Space (1997); DEEP Boat Launches (1994)

Connecticut Forest & Parks Association, Connecticut Walk Books East & West

Other

CTDOT Scenic Strips (based on Department of Transportation data)

Notes

**Not all the sources listed above appear on the Viewshed Maps. Only those features within the scale of the graphic are shown.

Torrington Solar One, LLC



24mm focal length
PHOTOGRAPHED ON 4/10/2020

EXISTING

PHOTO

1

LOCATION

EAST PEARL ROAD

ORIENTATION

SOUTH

DISTANCE TO SITE

+/- 120 FEET



PROPOSED

PHOTO

1

LOCATION

EAST PEARL ROAD

ORIENTATION

SOUTH

DISTANCE TO SITE

+/- 120 FEET



24mm focal length
PHOTOGRAPHED ON 4/10/2020

EXISTING

PHOTO

2

LOCATION

BISHOP DONNELLY FIELD

ORIENTATION

EAST

DISTANCE TO SITE

+/- 500 FEET



PROPOSED

PHOTO

2

LOCATION

BISHOP DONNELLY FIELD

ORIENTATION

EAST

DISTANCE TO SITE

+/- 500 FEET



50mm focal length
PHOTOGRAPHED ON 4/10/2020

EXISTING

PHOTO	LOCATION	ORIENTATION	DISTANCE TO SITE
3	TORRINGFORD STREET	SOUTHEAST	+/- 0.18 MILE



PROPOSED

PHOTO

3

LOCATION

TORRINGFORD STREET

ORIENTATION

SOUTHEAST

DISTANCE TO SITE

+/- 0.18 MILE



Torrington Solar One, LLC



50mm focal length

PHOTOGRAPHED ON 4/10/2020

EXISTING

PHOTO	LOCATION	ORIENTATION	DISTANCE TO SITE
4	TORRINGFORD STREET	EAST	+/- 0.13 MILE



Torrington Solar One, LLC



PROPOSED

PHOTO

4

LOCATION

TORRINGFORD STREET

ORIENTATION

EAST

DISTANCE TO SITE

+/- 0.13 MILE

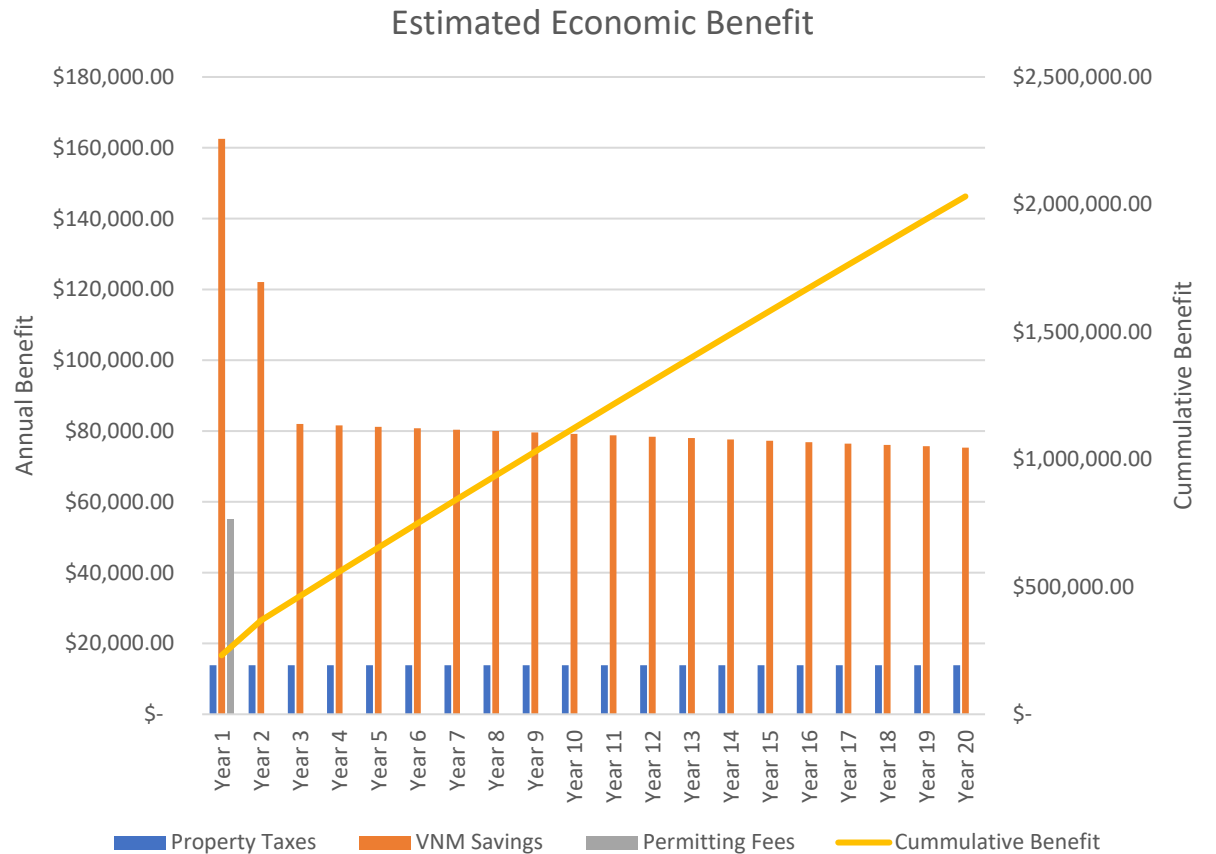
PROJECT BENEFITS SUMMARY

1. Economic Benefits to Torrington

- a) New taxpayer
- b) Building & Electrical permit fees
- c) Opportunities to provide electricity savings through participation in state level programs

2. New economic development in clean energy infrastructure helping Connecticut meet legislatively mandated Clean Energy Goals set forth in the Renewable Portfolio Standard

- a) Enough Clean Energy to power 426 homes annually
- b) The equivalent of offsetting 2,517 metric tons of CO2 emissions each year
- c) No local emissions
- d) No water use, no impact to ground water resources



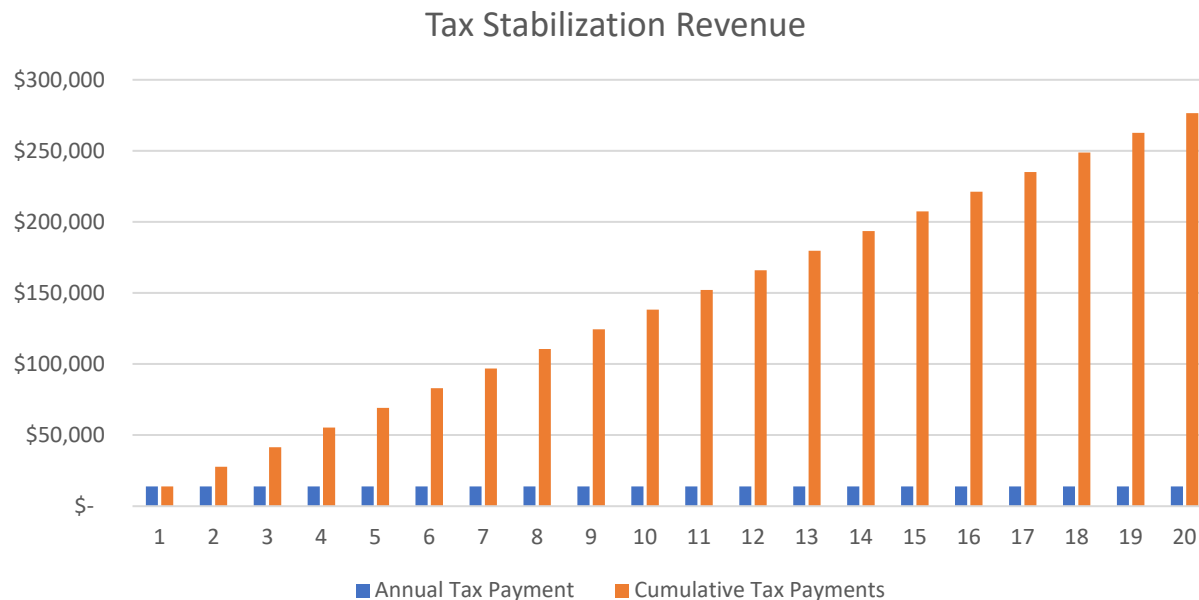
TAX STABILIZATION

Increase Torrington Tax Revenue with Little to No Draw on Existing Town Resources

- Property Currently Un-taxed
- No Traffic Congestion Concerns
- No Burden on Public School System
- No use of other Torrington Public Resources or Facilities

Tax Stabilization

- Verogy has requested a fixed TSA for the Project (Conn. Gen. Stat. 32-71a enables City and Project to enter this agreement)
- Verogy has based TSA rate at \$7,000 per MW AC (\$13,825 per year)
- Current CT proposed legislation fixes taxes at \$5,000 per MW AC



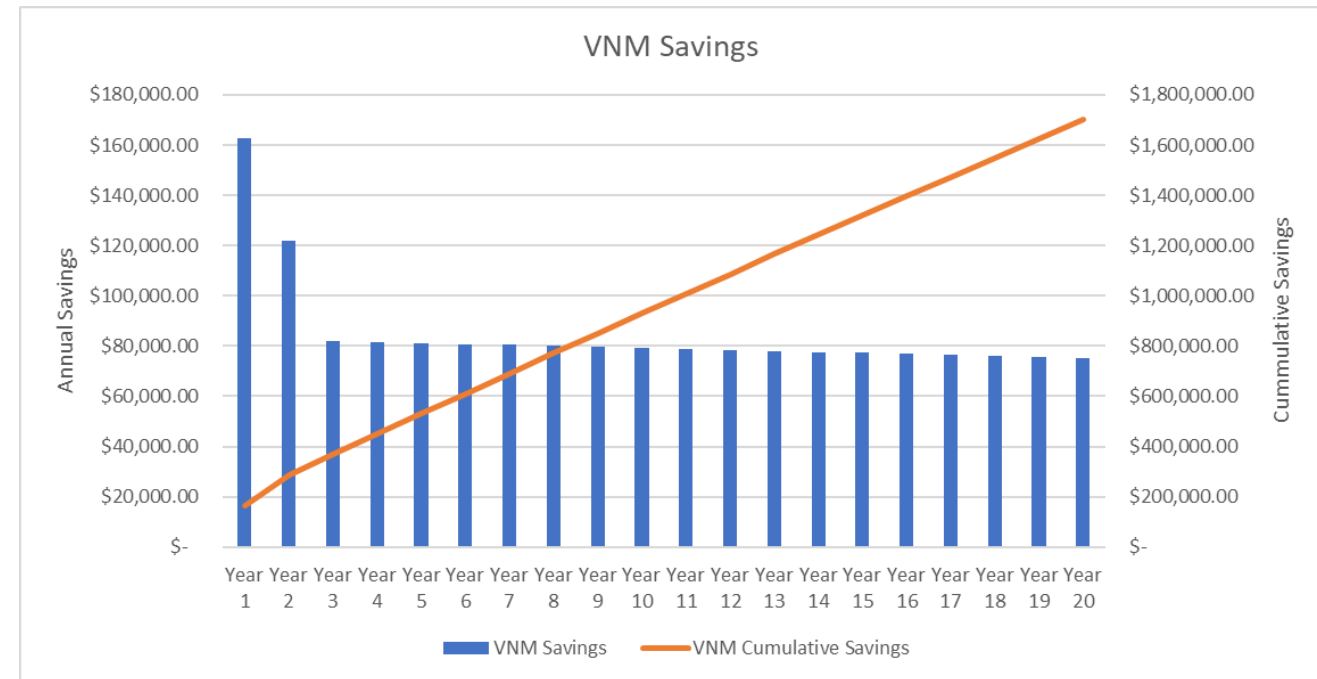
VIRTUAL NET METERING

Participate in State Level Programs such as Virtual Net Metering

- Torrington can purchase electricity produced by the solar energy array at a discount
- Offset electricity usage at five (5) City Facilities
- Procure renewable energy at discount for a fixed term

Municipal Virtual Net Metering

- Funding for Connecticut's Virtual Net metering program is currently capped. Proposed legislation is expected to increase funding this year (2020)
- Torrington Solar One has proposed participation in this program to City Officials
- Submission onto the waitlist would require the execution of a Letter of Intent (LOI) and access to five (5) city accounts for purposes of the completing the application to Eversource Energy
- Financial benefits include estimated savings in excess of \$1,600,000 over a 20-year period



QUESTIONS

Please visit verogy.com/torrington-solar-one for more information
Or to get in touch development@verogy.com



VCP, LLC d / b / a Verogy

VEROGY • 150 TRUMBULL ST. • FL 4 • HARTFORD, CT 06103 • 860.288.7215