STATE OF CONNECTICUT
CONNECTICUT SITING COUNCIL

IN RE:	:	
	:	
A PETITION OF SOLARCITY CORPORATION	:	PETITION NO. ____
TO APPROVE BY DECLARATORY RULING	:	
THE CONSTRUCTION AND OPERATION OF	:	
A SOLAR PHOTOVOLTAIC ELECTRIC	:	
GENERATING FACILITY OFF OLD FORGE	:	
ROAD, ROCKY HILL, CONNECTICUT	:	MARCH 24, 2016

PETITION FOR A DECLARATORY RULING:
INSTALLATION HAVING NO
SUBSTANTIAL ADVERSE ENVIRONMENTAL EFFECT

I. Introduction

Pursuant to Section 16-50k(a) of the Connecticut General Statutes ("C.G.S.") and Sections 16-50j-38 et seq. of the Regulations of Connecticut State Agencies ("R.C.S.A.), SolarCity Corporation ("SolarCity") hereby petitions the Connecticut Siting Council ("Council") to approve, by declaratory ruling, the proposed construction and operation of a 3.9 megawatt ("MW") solar photovoltaic electric generating facility (the "Facility") on property located off Old Forge Road in Rocky Hill, Connecticut.

Connecticut General Stat. § 16-50k(a) provides that:

> Notwithstanding the provisions of this chapter or title 16a, the council shall, in the exercise of its jurisdiction over the siting of generating facilities, approve by declaratory ruling...(B) the construction or location ... of any customer-side distributed resources project or facility or grid-side distributed resources project or facility with a capacity of not more than sixty-five megawatts, as long as such project meets air and water quality standards of the Department of Energy and Environmental Protection....

As discussed more fully below, SolarCity respectfully submits that the Facility constitutes a grid-side distributed resources facility, satisfies the criteria of C.G.S. Section 16-

50k(a) and will not have a substantial adverse environmental effect.

II. Petitioner

SolarCity is a Delaware Corporation with a local office at 714 Brook Street, Rocky Hill, Connecticut. SolarCity was established in 2006 and has quickly become the largest provider of solar power in the United States. SolarCity makes clean energy available to homeowners, businesses, schools and government organizations, like the Town of Rocky Hill, at lower cost. SolarCity has successfully secured Council approval for the development of grid-side solar generating facilities in Groton and Norwich, Connecticut[1].

Correspondence and/or communication regarding this petition should be addressed to:

Nichole Seidell, Director of Environmental Permitting
SolarCity Corporation
Two Logan Square
100 N. 18th Street, Suite 1900
Philadelphia, PA 19103
267-457-4412
nseidell@solarcity.com

A copy of all such correspondence and/or communications should also be sent to the petitioners' attorneys:

Robinson & Cole LLP
280 Trumbull Street
Hartford, CT 06103
860-275-8200
Kenneth C. Baldwin, Esq.
kbaldwin@rc.com
Joey Lee Miranda, Esq.
jmiranda@rc.com

III. Background

SolarCity has entered into a Solar Power Purchase Agreement ("PPA") with the Town of

[1] *See* generally Siting Council Petition Nos. 1181, 1192, 1195.

Rocky Hill. Under the terms of the PPA, SolarCity will construct, maintain and operate a 3.9 MW solar photovoltaic electric generating facility on the northerly portion of an undeveloped 61.38-acre parcel off Old Forge Road in Rocky Hill (the "Property").[2] The Property is owned by the Town of Rocky Hill ("Town"). All of the power generated by the Facility will be purchased by the Town. The Town will receive an annual site use payment from SolarCity. Environmental attributes and environmental incentives associated with the Facility will be retained by SolarCity.

IV. Property Description

The Property is located in the southerly portion of the Rocky Hill Industrial Park, in the Town's Office Park (OP) zone district. The Property is surrounded by existing commercial and light industrial uses to the north within the Industrial Park; Town-owned open space land including Dividend Pond and a portion of Dividend Brook to the west and north; an active rail line and undeveloped land to the east; and undeveloped land to the south. The Property and land of John Russo, Trustee to the south and southwest, were previously used as a part of a sand and gravel mining operation. Central portions of the Property are currently used by the Rocky Hill Department of Public Works ("DPW") for material storage (top soil, road millings, sand and gravel) and leaf composting. Access to these DPW use areas extends from Old Forge Road along an existing paved and gravel driveway. The remainder of the Property is undeveloped, maintaining some forested areas and early successional trees with a dense understory of mostly scrub/shrub and herbaceous growth.

Two (2) wetland areas proximate to the proposed Facility were evaluated by All-Points Technology Corp. ("APT") for potential impacts from the proposed development activities. Wetland 1 is located adjacent to Dividend Brook near the existing culvert that extends

[2] The Property is identified as Map 18, Lot 93 on the Rocky Hill Assessor's records and is also known and referred to as R013 Old Forge Road.

underneath the access driveway (Dividend Road) in the northerly portion of the Property. Dividend Brook extends further to the east, beyond the access drive and eventually discharges into the Connecticut River. A smaller, isolated wetland area, identified as Wetland 2, is located on an undeveloped parcel to the east of the Property on land owned by Gardiner Nursery Inc. The nearest residential area is located approximately 820 feet to the west, along Briarwood Court. (*See* Attachment 1 – Existing Conditions Map).

V. Project Description

The Facility and related improvements, including an access driveway, construction staging and laydown areas, will occupy an approximately twenty-four (24) acre area in the northerly portion of the Property (the "Project Area"). The Project Area is generally flat with a gentle grade sloping down from west to east toward the Connecticut River. Access to the Project Area will extend from Old Forge Road to the west of the Project Area, along a portion of an existing paved and gravel driveway used to access the Property and the DPW's materials storage areas. Project plans for the proposed Facility are included in Attachment 2.[3]

SolarCity intends to install approximately 9,460 – 275 Watt and 4,488 – 290 Watt Trina Solar TSM-PD14 photovoltaic modules; three (3) advanced Energy AE 500 TX 500 kW inverters; and three (3) electric transformers within the Project Area. A 23 kilo volt (kV) electric interconnect service line will extend, overhead, from the northerly portion of the Project Area to Old Forge Road and the existing Eversource electric distribution infrastructure. The Facility will utilize a post-driven RBI Solar Inc. panel racking system. The individual photovoltaic panels will be fixed at a 30 degree tilt to the south to promote maximum efficiency. The Facility will be

[3] Project plans for the Facility are a compilation of engineering plans prepared by Westson & Sampson (Plan Sheets T-1, 6-1, D-1, C-1, C-2 and C-3); Electrical Details prepared by SolarCity (Plan Sheets PV-5, PV-6 and PV-7); and Racking System Details prepared by RBI Solar Inc. (Plan Sheets S-201 and S-301).

surrounded by an eight (8) foot security fence. Two (2), sixteen (16) foot wide access gates will be installed along the west side of the fenced Project Area. (*See* Attachment 2, Plan Sheet C-2).

SolarCity expects construction of the Facility to take approximately three (3) to four (4) months. Construction will commence immediately after SolarCity receives all necessary permits and approvals.

APT, on behalf of SolarCity, has completed an exhaustive Environmental Assessment ("EA") of the Property and has evaluated the potential environmental effects that may occur following the development of the Facility. A copy of the EA is included in Attachment 3. Based on the conclusions in the EA, SolarCity respectfully submits that the Facility will comply with the DEEP's Air and Water Quality Standards and will not have a substantial adverse effect on the Property or its surrounding environment.

VI. The Facility Will Comply with the Department of Energy and Environmental Protection (DEEP) Air and Water Quality Standards and Will Not Have a Substantial Adverse Effect on the Environment

A. Air Quality Standards

Operation of the Facility will not produce emissions of any regulated air pollutants or greenhouse gases. No impacts to air quality are expected, and no DEEP air permit is required for the Facility. (*See* Attachment 3, p. 30).

B. Water Quality Standards

The Facility is unstaffed and does not require the use of potable water or any sanitary facilities in the production of electricity. Any water utilized during construction for dust control will be minimal and have no impact on water quality in the vicinity of the Property. No liquid fuels are associated with the operation of the Facility.

The Property is located in Flood Zone X, designated as an area outside both the 100-year and 500-year flood plain. The Property is also located in the Gardner Expansion Aquifer

Protection Area ("APA"). The closest water supply wells, however, are located more than 1,000 feet to the southwest of the Property in the Town of Cromwell. There are no water supply wells located on the Property. (*See* Attachment 3, pp. 14-15). To protect the APA, SolarCity will establish and implement protective measures in the form of an Aquifer Protection Plan. Protective measures in this plan include, but are not limited to, the monitoring of established sedimentation and erosion controls, the development of a detailed stormwater management plan and compliance with the filing requirements of the DEEP's General Permit for the Discharge of Stormwater and Dewatering Wastewater. A copy of a Stormwater Management Report "SWMP" for the Facility is included in Attachment 4. As demonstrated in the SWMP, there will be no negative stormwater impacts resulting from the development and operation of the Rocky Hill Facility.

No inland wetlands or watercourses will be directly impacted by the development of the Facility. All clearing and grading activity within the limits of the Project Area would maintain a setback of 370 feet to Wetland 1, located along the existing access drive, in the northern reaches of the Project Area.[4] Wetland 2 is an isolated wetland located approximately 260 feet to the east of the Project Area, east of the existing rail line. Any potential short term temporary impacts on Wetland 1 or Wetland 2 will be minimal and mitigated by the use and maintenance of proper soil erosion and sedimentation controls throughout the construction period. SolarCity does not, therefore, expect any adverse impacts to area wetland resources. Likewise, no areas supporting vernal pool habitat are located within 750 feet of the Project Area and no vernal pool habitat was identified in either Wetland 1 or Wetland 2. (*See* Attachment 3, pp. 3-6 and 24).

[4] The installation of a new utility pole, required for interconnection to the existing distribution system may occur within 160 feet of Wetland 1. The final location of new utility poles required for electric interconnection has not yet been determined.

C. Vegetation and Wildlife

As mentioned above, a majority of the Project Area has been previously cleared during sand and gravel mining operations. Portions of the Project Area support early successional tree and scrub growth. While the construction of the Facility will alter vegetation and wildlife habitat within the Project Area, habitat beyond the limits of the Project Area will not be impacted. (*See* Attachment 3, pp. 6-9 and 25-26).

D. Bird Habitat Impact Analysis

APT has completed a detailed Bird Habitat Impact Analysis for the Project Area. Habitat loss is an unavoidable consequence of any type of land development including that necessary for the Facility. While development of the Facility will result in some loss of habitat, it will not result in fragmentation of the overall habitat matrix of the area. (*See* Attachment 3, pp. 26-27).

E. Rare Species

According to the DEEP Natural Diversity Database ("NDDB"), the *Big Sand Tiger Beetle*, a Connecticut species of special concern, may occur in southwestern portions of the Property. In anticipation of the filing of this Petition, APT conducted a habitat-based survey of the Project Area, using known habitat requirements and determined that the Facility would not impact the *Big Sand Tiger Beetle*. Due to the potential presence of *Tiger Beetle* populations proximate to this Project Area, SolarCity has committed to the implementation of proactive protective measures to be utilized during construction. These protection measures have been developed and submitted to DEEP for review.

Further, APT determined that one federally listed "threatened" species, the *Northern Long Eared Bat* ("NLEB") may occur in the vicinity of the Property. The identified range of the NLEB encompasses the entire State of Connecticut. To assess the potential impact of the SolarCity project on the NLEB, APT evaluated the recently established U.S. Fish and Wildlife

Service (USFWS) NLEB impact criteria and determined that the facility would not result in an adverse effect on or incidental take of NLEB. (*See* Attachment 3, pp. 28-29).

F. Scenic Areas

No State designated scenic areas would be physically or visually impacted by the development of the Facility. (*See* Attachment 3, p. 30).

G. Historic and Archeological Resources

No historic resources listed on or eligible for listing on the National Register of Historic Places exist on or proximate to the Property. The nearest historic resource is located approximately one mile from the Project Area. There are reported archeological sites in the general vicinity of the Property. Due to the historic sand and gravel mining operations at the Property, it is unlikely that any of these resources, if they exist, would remain intact. The Project Area, therefore, no longer possesses any potential to yield intact archeological deposits. (*See* Attachment 3, pp. 15-16).

SolarCity has consulted with the Connecticut State Historic Preservation Office regarding seeking concurrence with its findings that the Facility and the potential that the project may impact historic or archeological resources of the State. The SHPO is currently reviewing the SolarCity findings. Based on research conducted by SolarCity's consultant team, it was determined that the Facility would not impact historic and archeological resources of the State. (*See* Attachment 3, pp. 15-16 and 30-31).

H. Recreational Resources

The Facility will not impact any existing or proposed recreational resources in the Town of Rocky Hill. (*See* Attachment 3, p. 16).

I. Carbon Debt Analysis

The Facility will result in a net improvement in carbon reduction compared to the loss of

approximately twenty-four (24) acres of the forest woodland portions of the Property. The Carbon Debt Analysis included in Attachment 5 accounts for the loss of trees on the Property and carbon associated with both the manufacturer of the solar panels and Facility construction activities. The results of this analysis demonstrate that the Facility would begin to have a measurable net improvement in carbon reduction in less than three (3) years.

J. Noise

The only equipment associated with the Facility that generates noise are the fans associated with the three (3) 500 kW inverters. According to a Noise Report prepared for the proposed installation, the Facility will comply with all State and local noise standards. (*See* Attachment 3, pp. 17 and 31).

K. Visibility

APT has completed a visual impact assessment for the proposed Facility. The Facility is setback sufficiently from all abutting properties and the nearest public roadways. Intervening vegetation between these adjacent points and the Facility provide adequate and complete visual screening. The Facility will, therefore, have minimal aesthetic impact on adjacent uses and/or properties. (*See* Attachment 3, p. 32).

L. Traffic

Traffic to the Facility, after the initial construction period, would be minimal. Unless there is a problem with a particular piece of equipment, SolarCity anticipates the need for annual maintenance visits by technicians. In addition, typical grounds maintenance involves mowing of the area between the solar panels approximately four (4) times during a typical calendar year.

M. Decommissioning Plan

SolarCity has developed a Decommissioning Plan to prepare for the eventual permanent closure of the Facility. The Decommissioning Plan describes the process for removal and

disposal or the recycling of all equipment and materials installed within the Project Area and the restoration of the land to its pre-development condition. A Decommissioning Plan is included in Attachment 6.

VII. Notice to the Government Officials and Abutting Landowners

Copies of this Petition have been sent by certificate of mailing to municipal, regional and State officials, pursuant to the requirements of C.G.S. Section 16-50*l*(b). A Certificate of Service, along with the lists of the officials who were sent a copy of the Petition, are included in Attachment 7. A Certificate of Service verifying that a copy of the Petition was also sent to all abutting landowners in accordance with R.C.S.A. Section 16-50j-40 along with a list of these abutters is included in Attachment 8.

VIII. Conclusion

For the reasons stated above, SolarCity respectfully requests that the Council approve the location and construction of the Facility by declaratory ruling.

Respectfully submitted,

CELLCO PARTNERSHIP d/b/a VERIZON WIRELESS

By _____

Kenneth C. Baldwin, Esq.
Joey Lee Miranda, Esq.
Robinson & Cole LLP
280 Trumbull Street
Hartford, CT 06103-3597
(860) 275-8200
Its Attorneys

List of Attachments

1. Existing Conditions Map
2. Project Plans
3. Environmental Assessment
4. Stormwater Management Report
5. Carbon Debt Analysis
6. Decommissioning Plan
7. Notice to the Government Officials
8. Notice to Abutting Landowners

ATTACHMENT 1

Legend

- Town of Rocky Hill Property (+/-61.4 acres)
- Existing Access Drive
- Existing Materials Pile
- 10' Contour Line
- 2' Contour Line
- Proposed Fenced Facility (+/-19 acres)
- Existing Treeline/Clearing Limit
- Project Area - Limit of Proposed Work (+/-24 acres)
- Start/End Wetland Flag
- Delineated Wetland Boundary
- Wetland Area
- CTDEEP Watercourse
- CTDEEP Waterbody
- Approximate Assessor Parcel Boundary (CTDEEP)
- Municipal Boundary

N W E S

400 200 0 400 Feet

Map Notes:
Base Map Source: 2012 Aerial Photograph (CTECO)
Map Scale: 1 inch = 400 feet
Map Date: March 2016

Attachment 1
Existing Conditions Map

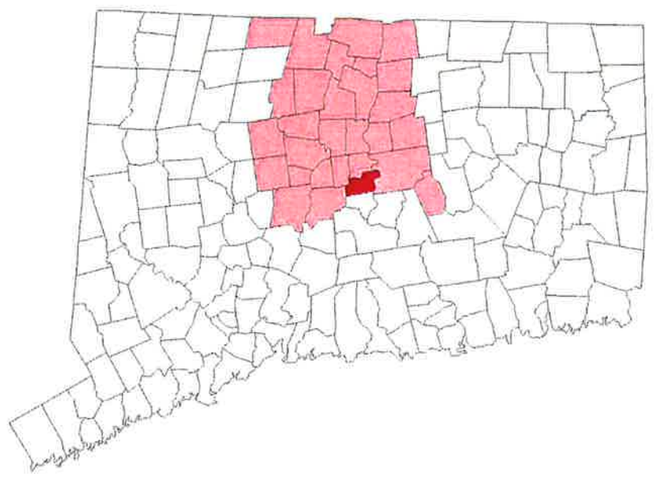
Proposed Solar PV Facility
Town of Rocky Hill
Old Forge Road
Rocky Hill, Connecticut

SolarCity
ALL-POINTS TECHNOLOGY CORPORATION

ATTACHMENT 2

ROCKY HILL, CONNECTICUT
SOLAR PHOTOVOLTAIC (PV) PROJECT

R013 OLD FORGE ROAD
ROCKY HILL, CONNECTICUT 06067



CONNECTICUT MUNICIPAL MAP
SCALE: N.T.S.

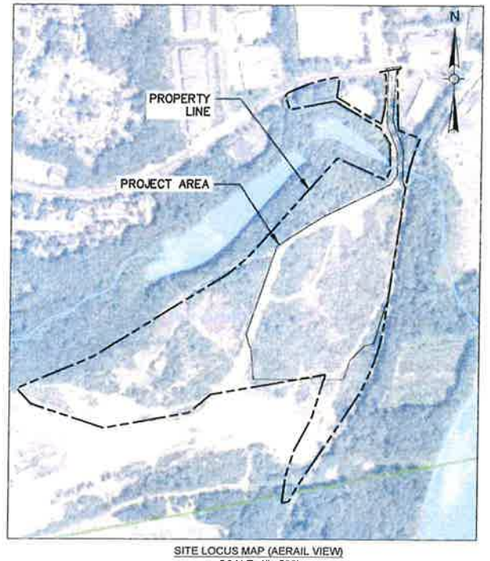
PROJECT DIRECTORY	
DEVELOPER(S): SOLAR CITY, INC. 1376 LEAD HILL BLVD. ROSEVILLE, CA 95661 CONTACT: JOSHUA TROGLIN (650) 332-0412	RACKING SYSTEM DESIGNER: RBI SOLAR 5513 VINE STREET CINCINNATI, OH 45217 CONTACT: LOUIS "PAT" HUDEPOHL 513-618-2183
HOST: TOWN OF ROCKY HILL R013 OLD FORGE ROAD ROCKY HILL, CONNECTICUT 06067	UTILITY: EVERSOURCE
ENGINEER: WESTON & SAMPSON ENGINEERS, INC. 273 DIVIDEND ROAD ROCKY HILL, CONNECTICUT 06067 CONTACT: JOHN FIGURELLI (860) 513-1473	
ELECTRICAL ENGINEER: PLUMP ENGINEERING, INC 914 E KATELLA AVENUE ANAHEIM, CA 92805 CONTACT: ANN D'ALESSANDRO (518) 796-1030	

DRAWING INDEX - WESTON & SAMPSON	
SHEET	SHEET TITLE
T-1	COVER SHEET
G-1	ABBREVIATIONS, NOTES, AND LEGEND
D-1	DETAILS
C-1	EXISTING CONDITIONS
C-2	LAYOUT PLAN
C-3	EROSION & SEDIMENTATION CONTROL PLAN

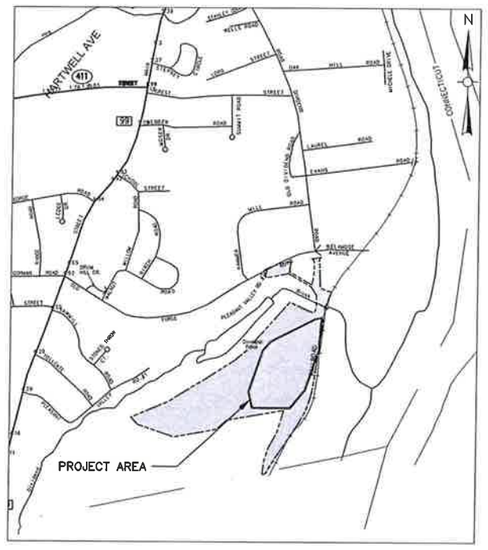
DRAWING INDEX - SOLAR CITY BLOCK 1 (JB: 0602328-00)	
SHEET	SHEET TITLE
PV-5	STRUCTURAL DETAILS & INVERTER PADS
PV-6	PV EQUIPMENT PLAN & ELEVATION
PV-7	EQUIPMENT DETAILS

DRAWING INDEX - RBI SOLAR	
SHEET	SHEET TITLE
S-201	ADDITIONAL POST SECTIONS & ELEVATIONS
S-301	RACK SECTION & BAY PLAN VIEWS

SOLAR PHOTOVOLTAIC (PV) SYSTEM DESCRIPTION			
SYSTEM	MOUNTING PLANE I.D. 1	MOUNTING PLANE I.D. 2	MOUNTING PLANE I.D. 3
SYSTEM SIZE	1,300,750 kW	1,300,750 kW	1,301,520 kW
MODULE	(4,730) TRINA SOLAR TSM-PD14 (275W)	(4,730) TRINA SOLAR TSM-PD14 (275W)	(4,488) TRINA SOLAR TSM-PD14 (290W)
TILT ANGLE	30 DEGREES	30 DEGREES	30 DEGREES
AZIMUTH	170 DEGREES	170 DEGREES	170 DEGREES
RACKING	RBI RACKING	RBI RACKING	RBI RACKING



SITE LOCUS MAP (AERAIL VIEW)
SCALE: 1"= 500'



SITE LOCATION MAP
SCALE: 1"=1000'

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Project:
ROCKY HILL SOLAR PROJECT

R013 OLD FORGE ROAD ROCKY HILL, CT 06067

SolarCity
3055 Clearview Way
San Mateo, CA 94402
(650) 638-1028
www.solarcity.com

Weston & Sampson
273 Dividend Road Rocky Hill, Connecticut
(860) 513-1483 (800) Sampson
www.westonandsampson.com

RBI SOLAR
5513 Vine Street
Cincinnati, OH 45217
(513) 618-2183

Revisions:

Rev	Date	Description

Seal:

STATE OF CONNECTICUT ROBERT G. TAUSCH No. 18795 LICENSED PROFESSIONAL ENGINEER

PERMIT PLANS

JOB NO. 2150769

Date:	03.16.2016
Scale:	AS SHOWN
Drawn By:	LEC
Reviewed By:	JSP
Checked By:	JSP
Approved By:	RGT

Drawing Title:

COVER SHEET

Sheet Number:

T-1

LEGEND

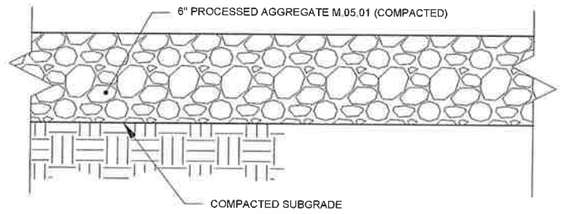
DESCRIPTION	EXISTING	PROPOSED
CATCH BASIN		CB
HYDRANT		
UTILITY POLE		
POLE-MOUNTED LIGHT FIXTURE		
EDGE OF PAVEMENT		
EDGE OF UNPAVED ROAD		
PROJECT AREA		
OVERHEAD WIRE (ELECTRICAL)	G	DIV
ELECTRICAL CONDUIT (SUBGRADE)	E	E
RAILROAD		
STONE WALL		
RETAINING WALL		
FENCE		
INDIVIDUAL DECIDUOUS TREE		
INDIVIDUAL EVERGREEN TREE		
EDGE OF WOODS/ CLEARING		
DEBRIS / SOIL PILE / RUBBLE		
ELECTRIC METER		
SURVEY MARKER		
PROPERTY BOUNDARY		
MOUNTING PLANE LIMIT		
SPOT ELEVATIONS	x	x 46
CONTOUR LINES		
RESOURCE FLAG	TOB/BVW	
GUY WIRE		
EROSION CONTROL MATTING		
RIP RAP		
SIGN		
BENCH MARK		
SEDIMENT/EROSION CONTROLS		
ROCK OUTCROP		
SEWER MANHOLE	S	
MANHOLE (MH) FOR UNDERDRAIN SYSTEM		
DRAIN MANHOLE (DMH)	D	
UTILITY MANHOLE	U	
GROUND-MOUNTED SOLAR PV MODULES (ELECTRICALLY CONNECTED)		
OVERHEAD WIRE	OH	
BORDERED VEGETATED WETLAND BUFFER		
WETLAND FLAG	WF	
IRON PIN		

ABBREVIATIONS

±	MORE OR LESS
TYP	TYPICAL
ACCMP	ASPHALT COATED CORRUGATED METAL PIPE
AC	ALTERNATING CURRENT
DC	DIRECT CURRENT
RCP	REINFORCED CONCRETE PIPE
INV	INVERT
FEU	FLARED END UNIT
W/	WITH
WF #1	WETLAND FLAG
REC	RECOVERED
N/F	NOW OR FORMERLY
CT	CONNECTICUT
DEEP	DEPARTMENT OF ENERGY AND ENVIRONMENTAL PROTECTION

CONSTRUCTION NOTES:

1. THE CONTRACTOR SHALL CALL BEFORE YOU DIG (CBYD) AT 811 OR 1-800-922-4455 AT LEAST 72 HOURS, SATURDAYS, SUNDAYS, AND HOLIDAYS EXCLUDED, PRIOR TO EXCAVATING AT ANY LOCATION. A COPY OF THE CALL BEFORE YOU DIG PROJECT REFERENCE NUMBER(S) SHALL BE GIVEN TO THE OWNER PRIOR TO EXCAVATION.
2. LOCATIONS OF EXISTING PIPES, CONDUITS, UTILITIES, FOUNDATIONS AND OTHER UNDERGROUND OBJECTS ARE NOT WARRANTED TO BE CORRECT AND THE CONTRACTOR SHALL HAVE NO CLAIM ON THAT ACCOUNT SHOULD THEY BE OTHER THAN SHOWN.
3. STONE WALLS, FENCES, CURBS, ETC. SHALL BE REMOVED AND REPLACED AS NECESSARY TO PERFORM THE WORK, UNLESS OTHERWISE INDICATED, ALL SUCH WORK SHALL BE INCIDENTAL TO CONSTRUCTION OF THE PROJECT.
4. ALL AREAS DISTURBED BY THE CONTRACTOR BEYOND THE PROJECT AREA SHALL BE RESTORED AT NO ADDITIONAL COST TO THE OWNER.



4 GRAVEL DRIVEWAY

SCALE: N.T.S.

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Seal:

PERMIT PLANS

JOB NO. 2150769

Date:	03.16.2016
Scale:	AS SHOWN
Drawn By:	LEC
Reviewed By:	JSP
Checked By:	JSP
Approved By:	DCH

Drawing Title:

ABBREVIATIONS, NOTES, LEGEND, AND DETAILS

Sheet Number:

G-1

GENERAL NOTES

ALL EROSION AND SEDIMENT CONTROL MEASURES SHALL BE PERFORMED IN ACCORDANCE WITH THE "CONNECTICUT GUIDELINES FOR SOIL EROSION AND SEDIMENT CONTROL" (MAY 2002). THE CONTRACTOR SHALL OWN AND MAINTAIN A COPY OF THE GUIDELINES ON-SITE DURING CONSTRUCTION.

ALL DISTURBED AREAS SHALL BE KEPT TO A MINIMUM. FINAL GRADING AND RESTORATION SHALL BE ACCOMPLISHED AS SOON AS PRACTICAL.

EROSION AND SEDIMENT CONTROL STRUCTURES SHALL BE INSTALLED PRIOR TO SITE WORK. IF IT IS NOT POSSIBLE TO DO SO, THE ENGINEER SHALL BE NOTIFIED IN ORDER TO MAINTAIN THE INTEGRITY OF DESIGN.

ALL CONTROL STRUCTURES SHALL BE MAINTAINED THROUGHOUT CONSTRUCTION AND REMOVED WHEN STABILIZATION HAS BEEN ATTAINED. IF THE PROPOSED CONTROL MEASURES ARE NOT SATISFACTORY, ADDITIONAL CONTROL MEASURES SHALL BE TAKEN.

ALL RUNOFF FROM THE DISTURBED AREA SHALL BE CONTROLLED AND FILTERED. NON-WOVEN SYNTHETIC FIBER FILTER FABRIC, STRAW BALES OR SILT SOCKS SHALL BE USED IN THE AREAS SHOWN ON THE SITE PLAN AND INSTALLED AS SHOWN ON THIS PLAN.

A CT DEEP GENERAL PERMIT FOR THE DISCHARGE OF STORMWATER AND DEWATERING WASTEWATERS FROM CONSTRUCTION ACTIVITIES WILL BE REQUIRED FOR THE PROPOSED PROJECT. THE CONTRACTOR SHALL BE RESPONSIBLE FOR IMPLEMENTATION AND COMPLIANCE WITH THE APPROVED STORMWATER POLLUTION CONTROL PLAN (SWPCP).

THE CONTRACTOR MUST OBTAIN COPIES OF THE ZONING, WETLANDS AND CTDEP STORMWATER PERMITS PRIOR TO THE START OF WORK.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR IMPLEMENTATION OF SEDIMENT AND EROSION CONTROL MEASURES. THIS RESPONSIBILITY INCLUDES THE ACQUISITION OF MATERIALS, INSTALLATION, AND MAINTENANCE OF EROSION AND SEDIMENT STRUCTURES, THE COMMUNICATION AND DETAILED EXPLANATION TO ALL PEOPLE INVOLVED IN THE SITE WORK OF THE REQUIREMENTS AND OBJECTIVE OF THE EROSION AND SEDIMENT CONTROL MEASURES.

TWO (2) WEEKS PRIOR TO THE START OF WORK THE CONTRACTOR SHALL PROVIDE THE NAME AND PHONE NUMBER OF THE INDIVIDUAL RESPONSIBLE FOR IMPLEMENTATION OF THIS PLAN.

IN THE EVENT THE APPLICANT IS NOT OWNER OF THE PROPERTY, THE CURRENT OWNER SHALL HAVE ALL THE RESPONSIBILITIES LISTED IN THIS PARAGRAPH AND SHALL SUBMIT A WORKING PHONE NUMBER FOR CONTACT AT TIME OF APPLICATION FOR PERMITS. ANY CHANGE IN ENGINEER SHALL BE NOTED AT THIS TIME.

THE ENGINEER, WESTON & SAMPSON ENGINEERS, INC. (860-513-1473) #273 DIVIDEND ROAD, ROCKY HILL, CT, 06067 SHALL BE NOTIFIED OF ANY PROPOSED ALTERATION TO THE EROSION AND SEDIMENT CONTROL PLAN, PRIOR TO ALTERING, IN ORDER TO ENSURE THE FEASIBILITY OF THE ADDITION, SUBTRACTION, OR CHANGE IN THE PLAN.

SEEDING WITHIN GROUND MOUNTED ARRAY AREA

NEW ENGLAND SEMI-SHADE GRASS AND FORBS MIX - THE NEW ENGLAND SEMI-SHADE GRASS AND FORB MIX CONTAINS A BROAD SPECTRUM OF NATIVE GRASSES AND FORBS THAT WILL TOLERATE SEMI-SHADE AND EDGE CONDITIONS. ALWAYS APPLY ON CLEAN BARE SOIL. THE MIX MAY BE APPLIED BY HYDRO-SEEDING, BY MECHANICAL SPREADER, OR ON SMALL SITES IT CAN BE SPREAD BY HAND. LIGHTLY RAKE, OR ROLL TO ENSURE PROPER SEED TO SOIL CONTACT. BEST RESULTS ARE OBTAINED WITH A SPRING SEEDING. LATE SPRING AND EARLY SUMMER SEEDING WILL BENEFIT WITH A LIGHT MULCHING OF WEED-FREE STRAW TO CONSERVE MOISTURE. IF CONDITIONS ARE DRIER THAN USUAL, WATERING WILL BE REQUIRED. LATE FALL AND WINTER DORMANT SEEDING REQUIRE AN INCREASE IN THE SEEDING RATE. FERTILIZER OR LIMING IS PROHIBITED, UNLESS PRIOR APPROVAL BY THE LOCAL CONSERVATION COMMISSION IS OBTAINED. PREPARATION OF A CLEAN WEED FREE SEED BED IS NECESSARY FOR OPTIMAL RESULTS. APPLICATION RATE 30 POUNDS PER ACRE.

MAINTENANCE

MAINTENANCE OF SEEDED AREAS SHALL BE THE SOLE RESPONSIBILITY OF CONTRACTOR AS DESCRIBED BELOW:

A. CONTRACTOR SHALL MAINTAIN THE ENTIRE SEEDED AREAS UNTIL FINAL ACCEPTANCE AT THE COMPLETION OF THE PROJECT OR FOR 90 DAY, WHICHEVER IS LONGER. MAINTENANCE SHALL INCLUDE WATERING AS SPECIFIED ,WEEDING, REMOVAL OF STONES WHICH MAY APPEAR AND REGULAR CUTTINGS OF THE GRASS NO CLOSER THAN 10 DAYS APART. THE FIRST CUTTING SHALL BE ACCOMPLISHED WHEN THE GRASS IS FROM 2-1/2 TO 3 INCHES HIGH. WEEKLY WATERING SHALL PROVIDE THE SEEDED AREAS WITH THE EQUIVALENT OF 1 INCH OF RAINFALL PER WEEK. IF THE SEEDED AREAS ARE WATERED BY NORMAL RAINFALL OR THE NORMAL WATERING IS INADEQUATE DUE TO WEATHER, THE CONTRACTOR MAY AT HIS/HER DISCRETION ELIMINATE OR INCREASE RESPECTIVELY, THE WATERING DURING A GIVEN WEEK. HOWEVER, SUCH ACTION BY CONTRACTOR SHALL IN NO WAY WAIVE CONTRACTOR'S RESPONSIBILITY FOR THE GROWTH AND HEALTH OF THE GRASS UNTIL FINAL ACCEPTANCE. CONTRACTOR SHALL FURNISH ALL TEMPORARY PIPE AND CONNECTIONS FOR SPRINKLING. CONTRACTOR SHALL FURNISH ALL REQUIRED WATER AT NO EXPENSE TO THE OWNER. GARDEN HOSE AND HAND SPRINKLING SHALL BE PERMITTED ONLY IN SPECIAL INSTANCES BY THE OWNER'S REPRESENTATIVE.

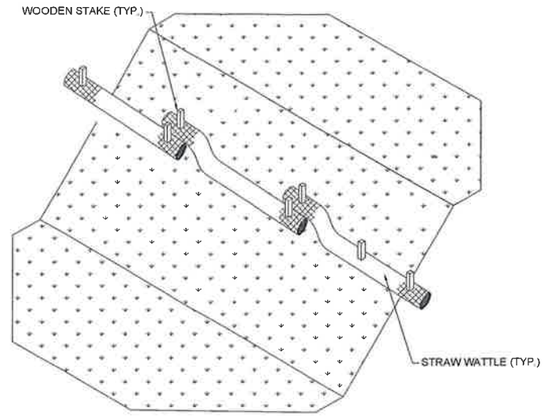
B. ALL BARE SPOTS, WHICH BECOME APPARENT AS THE GRASS GERMINATES, SHALL BE RESEEDED BY CONTRACTOR AT ITS OWN EXPENSE AS MANY TIMES AS NECESSARY TO SECURE A GOOD GROWTH AND THE ENTIRE AREA SHALL BE MAINTAINED AND CUT UNTIL ALL WORK HAS BEEN COMPLETED AND FINAL ACCEPTANCE HAS OCCURRED.

C. CONTRACTOR SHALL TAKE WHATEVER MEASURES ARE NECESSARY TO PROTECT THE GRASS WHILE IT IS GERMINATING. THESE MEASURES SHALL INCLUDE FURNISHING OF WARNING SIGNS, BARRIERS, TEMPORARY FENCE OR ANY OTHER NECESSARY MEASURES OF PROTECTION.

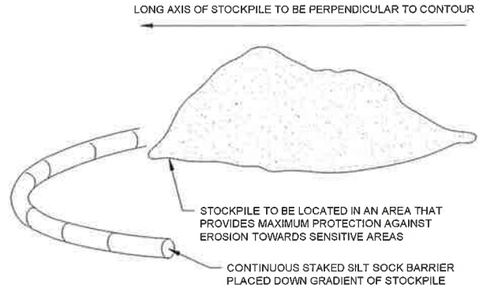
D. CONTRACTOR SHALL FURNISH, PROTECT, AND MAINTAIN ALL TEMPORARY BARRIERS UNTIL FINAL ACCEPTANCE OF THE SEEDED AREAS BY THE OWNER AND SHALL REMOVE THEM UPON SUCH FINAL ACCEPTANCE, THE BARRIERS SHALL REMAIN THE PROPERTY OF CONTRACTOR AT ALL TIMES.

TEMPORARY EROSION CONTROL MEASURES:

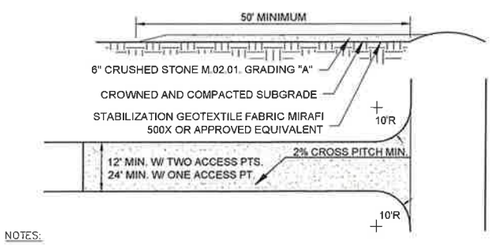
1. EROSION CONTROL MEASURES SHALL BE IMPLEMENTED AS INDICATED ON THESE PLANS OR AS REQUIRED BY THE ON-SITE ENGINEER.
2. THE SMALLEST PRACTICAL AREA OF LAND SHALL BE EXPOSED AT ANY ONE TIME.
3. EROSION/SEDIMENT CONTROL MEASURES SHALL BE INSTALLED AS SHOWN ON PLANS. EROSION CONTROL BARRIERS ARE TO BE MAINTAINED AND CLEANED UNTIL ALL AREAS HAVE BEEN ADEQUATELY STABILIZED.
4. THE TEMPORARY AND PERMANENT STORMWATER CONTROLS SHALL BE PERIODICALLY CLEANED OF SEDIMENT, OR AS REQUIRED BY THE ENGINEER. THE SEDIMENT WILL BE REMOVED TO A SECURE LOCATION SO AS TO PREVENT SILTATION OF NATURAL WATER WAYS.
5. SILT SOCK FILLED WITH COMPOST MUST BE A MINIMUM TUBE DIAMETER OF 12 INCHES (300mm) FOR SLOPES UP TO 50 FEET (15.24m) IN LENGTH WITH A SLOPE RATIO OF 3H:1V OR STEEPER. LONGER SLOPES OF 3H:1V MAY REQUIRE LARGER TUBE DIAMETER OR ADDITIONAL COURSING OF FILTER TUBES TO CREATE A FILTER BERM. SILT SOCK TO BE MADE OF BIODEGRADABLE BURLAP. SILT SOCK TO BE SEDIMENT FILTERMITT OR APPROVED EQUAL. OTHER REFER TO MANUFACTURER'S RECOMMENDATIONS FOR INSTALLATION INSTRUCTIONS.
6. INSTALL SOCK ALONG CONTOURS AND PERPENDICULAR TO SHEET OR CONCENTRATED FLOW.
7. CONFIGURE SOCKS AROUND EXISTING SITE FEATURES TO MINIMIZE SITE DISTURBANCE AND MAXIMIZE CAPTURE AREA OF STORMWATER RUN-OFF.
8. DISTURBED AREAS SHALL BE SEEDED IMMEDIATELY OR AS SOON AS PRACTICABLE.
9. EROSION CONTROL MEASURES SHALL BE REMOVED WHEN DISTURBED AREA IS STABILIZED. DISTURBED AREA RESULTING FROM THE MEASURE REMOVAL OPERATION SHALL BE SEEDED IN ACCORDANCE WITH THE SPECIFICATIONS.
10. A CHECK LIST (PROVIDED BY THE ENGINEER) SHALL BE FILLED OUT BY THE CONTRACTOR EVERY WEEK OR AFTER EACH RAINFALL EVENT OF 1/2" OR GREATER AS NOTED ABOVE.
11. STRIP AND STOCKPILE TOPSOIL WITHIN THE LIMITS OF THE PROPOSED DEVELOPMENT. PROTECT STOCKPILE PERIMETER WITH EROSION CONTROLS. LOCATE STOCKPILES WHERE INDICATED ON PLANS. TREE STUMPS SHALL EITHER BE REMOVED OR CHIPPED IN PLACE.
12. CUT TREES WITHIN THE DEFINED CLEARING LIMITS AND REMOVE CUT WOOD. CHIP BRUSH AND SLASH, STOCKPILE CHIPS FOR USE ONSITE OR REMOVE OFF-SITE.



1 EROSION CONTROL MEASURES
SCALE: N.T.S.



2 TEMPORARY STOCKPILE DETAIL
SCALE: N.T.S.



NOTES:

1. STABILIZATION FABRIC SHALL BE PLACED OVER THE ENTIRE ENTRANCE AREA PRIOR TO PLACING OF STONE. OVERLAP FABRIC PER MANUFACTURER'S SPECIFICATIONS.
2. ALL SURFACE WATER FLOWING OR DIVERTED TOWARDS THE CONSTRUCTION ENTRANCE SHALL BE PIPED BENEATH THE ENTRANCE ROAD.
3. WHEN EQUIPMENT WASHING IS REQUIRED IT SHALL BE DONE ON A SEPARATE AREA ADJACENT TO THE ENTRANCE ROAD AND STABILIZED WITH STONE. EQUIPMENT WASHING WILL BE REQUIRED IF ROAD RECEIVES SIGNIFICANT SOILS OR DEBRIS ACCORDING TO JUDGMENT BY OWNER OR OWNER'S REPRESENTATIVE.
4. KEEP ROADS CLEAR OF STONES, MUD, AND OTHER CONSTRUCTION DEBRIS. CLEAN PAVEMENT AS ACCUMULATIONS WARRANT AND AS ORDERED BY ENGINEER.
5. REMOVE SILT ACCUMULATIONS ROUTINELY AND DISPOSE OF PROPERLY SUCH THAT WATER QUALITY IS NOT IMPAIRED. DO NOT INTRODUCE SILT INTO DRAINAGE SYSTEM OR TOPSOIL/RESTORATION AREAS.

3 CONSTRUCTION ENTRANCE
SCALE: N.T.S.

Project:
ROCKY HILL SOLAR PROJECT

R013 OLD FORGE ROAD ROCKY HILL, CT 06067

SolarCity
3055 Clearview Way
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www.solarcity.com

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RBI SOLAR
5513 Vine Street
Cincinnati, OH 45217
(513) 618-2163

Revisions:

Rev	Date	Description

Seal:

STATE OF CONNECTICUT DEPARTMENT OF TRANSPORTATION No. 18756 LICENSED PROFESSIONAL ENGINEER

PERMIT PLANS

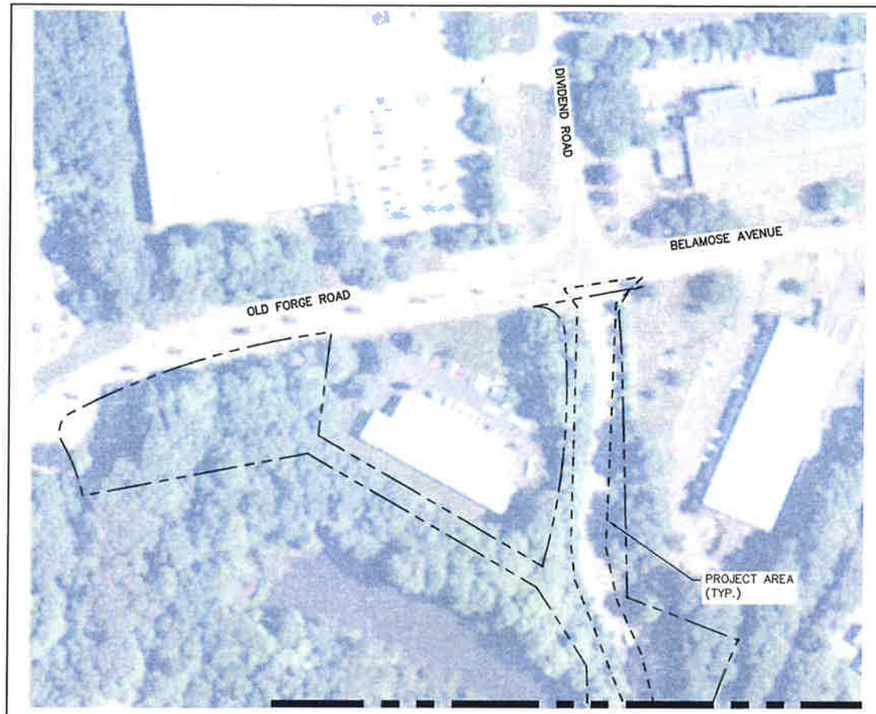
JOB NO. 2150769

Date:	03.16.2016
Scale:	AS SHOWN
Drawn By:	LEC
Reviewed By:	JSP
Checked By:	JSP
Approved By:	DCH

Drawing Title:
DETAILS

Sheet Number:
D-1

S:\2150769 - Rocky Hill\CAD\02 - G-1-NOTES.dwg



N

NOTES:

1. BASE MAP IS BASED ON A SURVEY CONFORMING TO HORIZONTAL CLASS B AND TOPOGRAPHIC CLASS T–2 ACCURACY STANDARDS, COMPLETED ON OCTOBER 28, 2015, PREPARED BY BOUNDARIES L.L.C., 179 PACHAUG RIVER DRIVE, GRISWOLD, CT.
2. NORTH ORIENTATION DEPICTED HEREON IS APPROXIMATE NORTH AMERICAN DATUM 1983 (NAD83) BASED UPON GLOBAL POSITIONING SYSTEM OBSERVATIONS, OBSERVED ON OCTOBER 20, 2015.
3. VERTICAL DATUM DEPICTED HERE ON IS APPROXIMATE NORTH AMERICAN VERTICAL DATUM 1988 (NAVD88) BASED GLOBAL POSITIONING SYSTEM OBSERVATIONS USING GEOIDE12A ON OCTOBER 20, 2015.

PLAN
SCALE: 1"=100'
0 100' 200' 300'

Project:
ROCKY HILL SOLAR PROJECT

R013 OLD FORGE ROAD
ROCKY HILL, CT 06067

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3055 Clearview Way
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Revisions:

Rev	Date	Description

Seal:

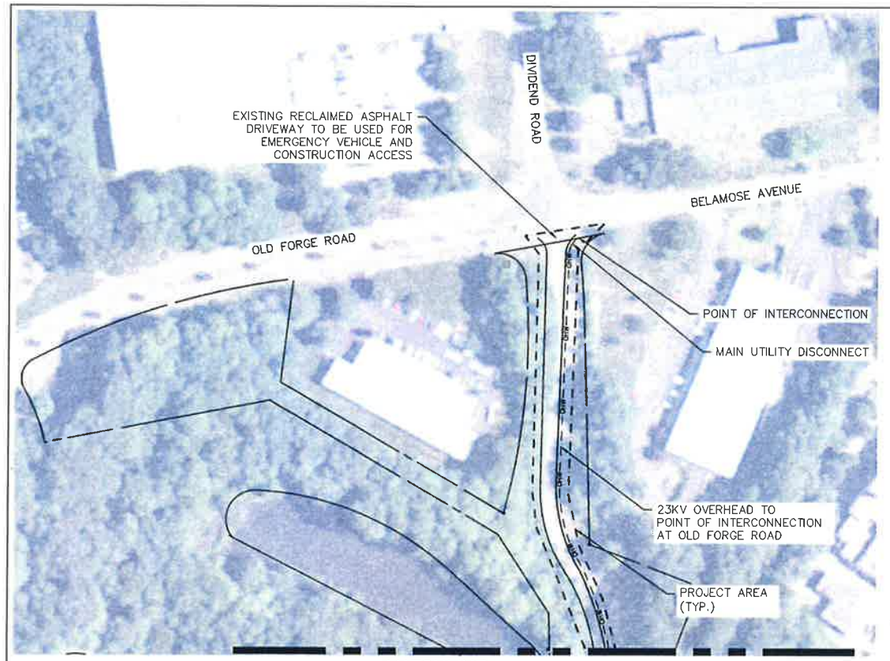
PERMIT PLANS

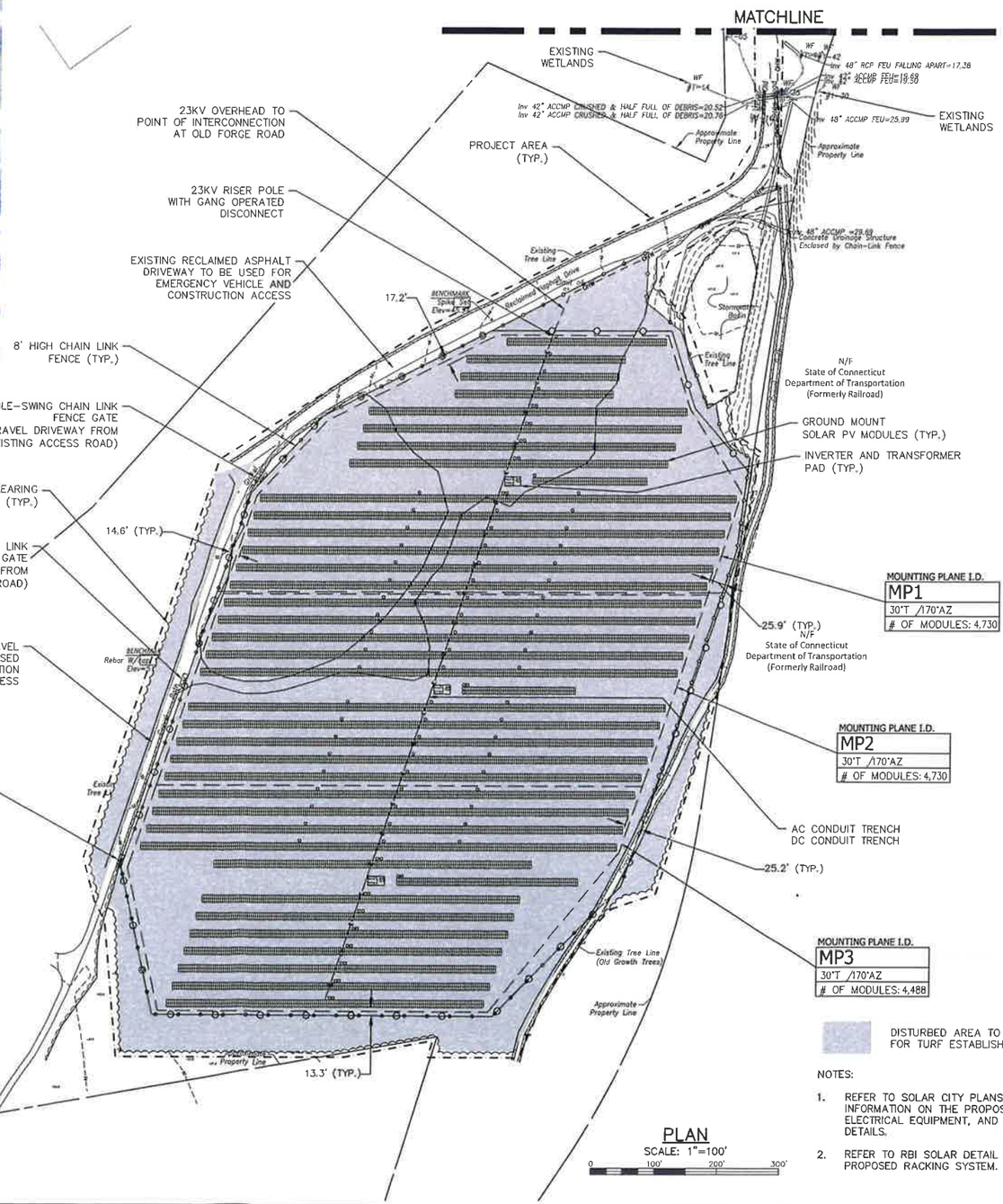
JOB NO. 2150769

Date:	03.16.2016
Scale:	1"=100'
Drawn By:	LEC
Reviewed By:	LEC
Checked By:	JSP
Approved By:	RGT

Drawing Title:
EXISTING CONDITIONS

Sheet Number:
C-1





NOTES:

1. REFER TO SOLAR CITY PLANS FOR SPECIFIC INFORMATION ON THE PROPOSED STRUCTURAL, ELECTRICAL EQUIPMENT, AND FENCING DETAILS.
2. REFER TO RBI SOLAR DETAIL SHEETS OF THE PROPOSED RACKING SYSTEM.

PLAN
SCALE: 1"=100'
0 100' 200' 300'

N

Project:
ROCKY HILL SOLAR PROJECT

R013 OLD FORGE ROAD
ROCKY HILL, CT 06067

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5513 Vine Street
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(513) 618-2183

Revisions:

Rev	Date	Description

Seal:
STATE OF CONNECTICUT ROBERT G. TROCCHIA No. 18763 LICENSED PROFESSIONAL ENGINEER

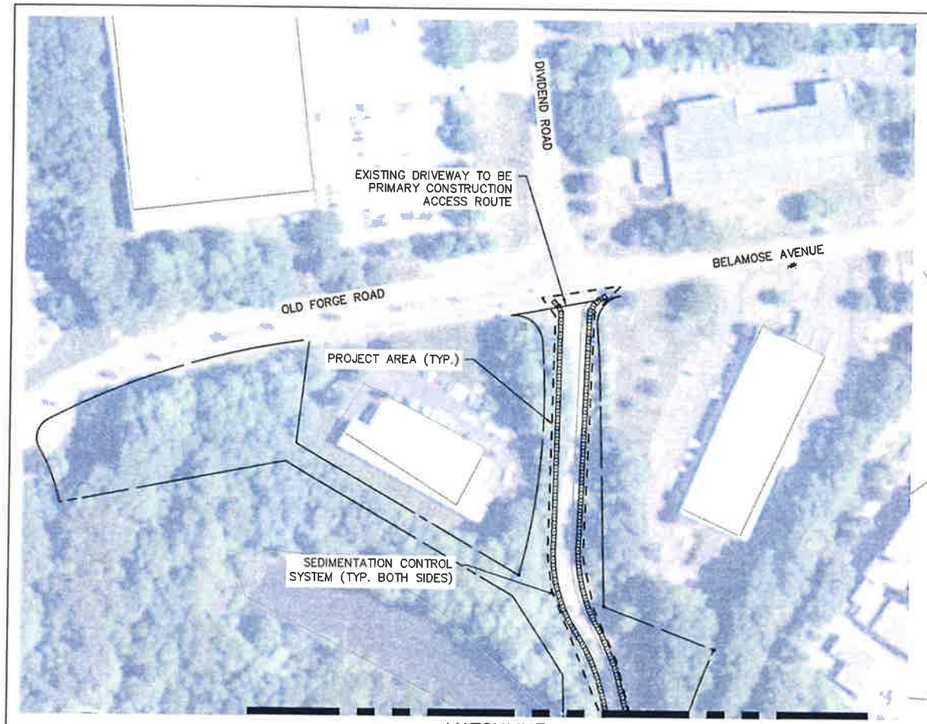
PERMIT PLANS

JOB NO. 2150769

Date:	03.16.2016
Scale:	1"=100'
Drawn By:	LEC
Reviewed By:	LEC
Checked By:	JSP
Approved By:	RGT

Drawing Title:
LAYOUT PLAN

Sheet Number:
C-2



Project:

ROCKY HILL SOLAR PROJECT

R013 OLD FORGE ROAD ROCKY HILL, CT 06067

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Revisions:

Rev	Date	Description

Seal:

STATE OF CONNECTICUT ROBERT G. TEDESCO No. 18788 LICENSED PROFESSIONAL ENGINEER

PERMIT PLANS

JOB NO. 2150769

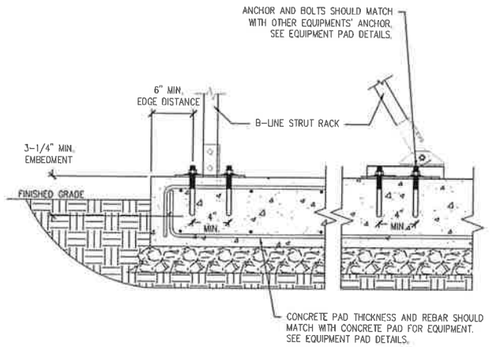
Date:	03.16.2016
Scale:	1"=100'
Drawn By:	LEC
Reviewed By:	LEC
Checked By:	JSP
Approved By:	RGT

Drawing Title:

SEDIMENTATION AND EROSION CONTROL PLAN

Sheet Number:

C-3



F CONCRETE PAD ANCHOR DETAIL STRUT

NTS

CONCRETE NOTES

1. **CONCRETE STRENGTH** -PROVIDE CONCRETE WITH THE FOLLOWING STRENGTHS AT THE LOCATIONS NOTED. MIX DESIGN, SLUMP, AIR ENTRAINMENT, AGGREGATE SIZE, ETC. SHALL BE IN CONFORMANCE WITH THE ACI CODE, LATEST EDITION.

LOCATION: ANY

STRENGTH AT 28 DAYS: 4500 PSI

A. ALL CONCRETE AGGREGATE IS HARD ROCK UON
B. DESIGN MIX SHALL CONTAIN 5-1/2 SACKS OF CEMENT, MIN.
C. TYPE I/II CEMENT TO MEET ASTM C150.
D. MAX AGGREGATE SIZE SHALL BE 3/4"
E. MAX WATER/CEMENT RATIO SHALL BE 0.45
F. MAX SLUMP SHALL BE 4"
G. PROVIDE 6% AIR ENTRAINMENT, ADD MIXTURE IN SNOW STATES ONLY (MIN 6% +/- 1.5%)

2. **REINFORCING STEEL** -ASTM A615 WITH THE FOLLOWING STRENGTHS:

SIZE	STRENGTH:
#4 AND SMALLER	GRADE 60 (fy = 60000 PSI)
#5 AND LARGER	GRADE 60 (fy = 60000 PSI)

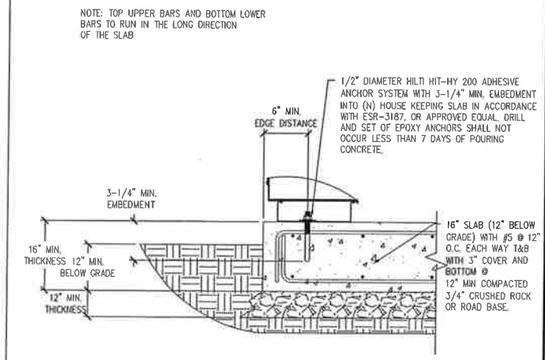
3. **FABRICATE AND PLACE REINFORCEMENT** IN ACCORDANCE WITH ACI PUBLICATION SP-66, ACI DETAILING MANUAL - LATEST EDITION.

4. **PLACE CONCRETE** IN COMPLIANCE WITH ACI 304. ALL CONCRETE SHALL BE MECHANICALLY VIBRATED.

5. **CONCRETE COVER** FOR REINFORCEMENT FOR NON-PRESTRESSED, CAST IN PLACE CONCRETE SHALL BE AS FOLLOWS:

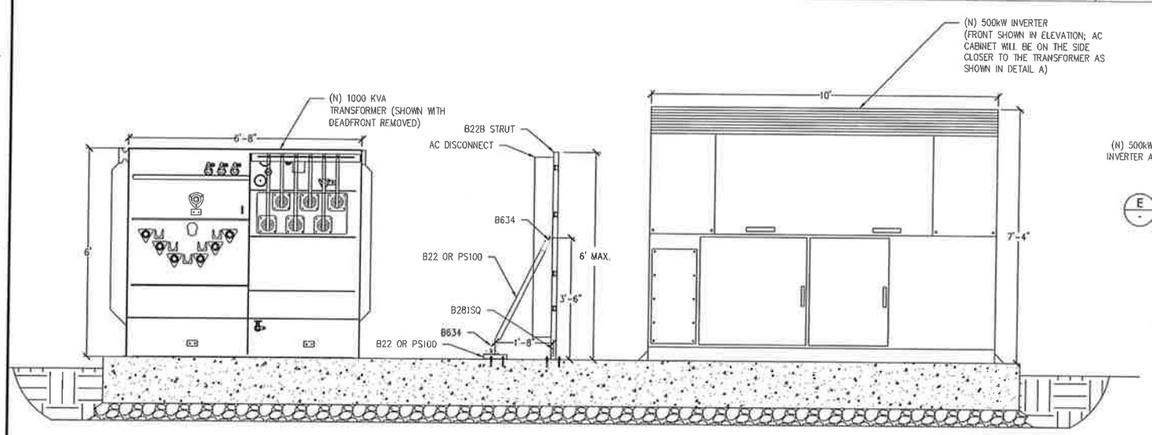
CONDITION	COVER
CAST AGAINST EARTH	3"
EXPOSED TO WEATHER	
#5 AND SMALLER	1-1/2"
#6 AND LARGER	2"
SLAB-ON-GRADE	2"

6. **EMBEDS** -ALL ITEMS TO BE CAST INTO CONCRETE SUCH AS REINFORCING DOWELS, BOLTS, ANCHORS, PIPES, SLEEVES, ETC., SHALL BE SECURELY AND ACCURATELY POSITIONED INTO THE FORMS PRIOR TO PLACING THE CONCRETE.



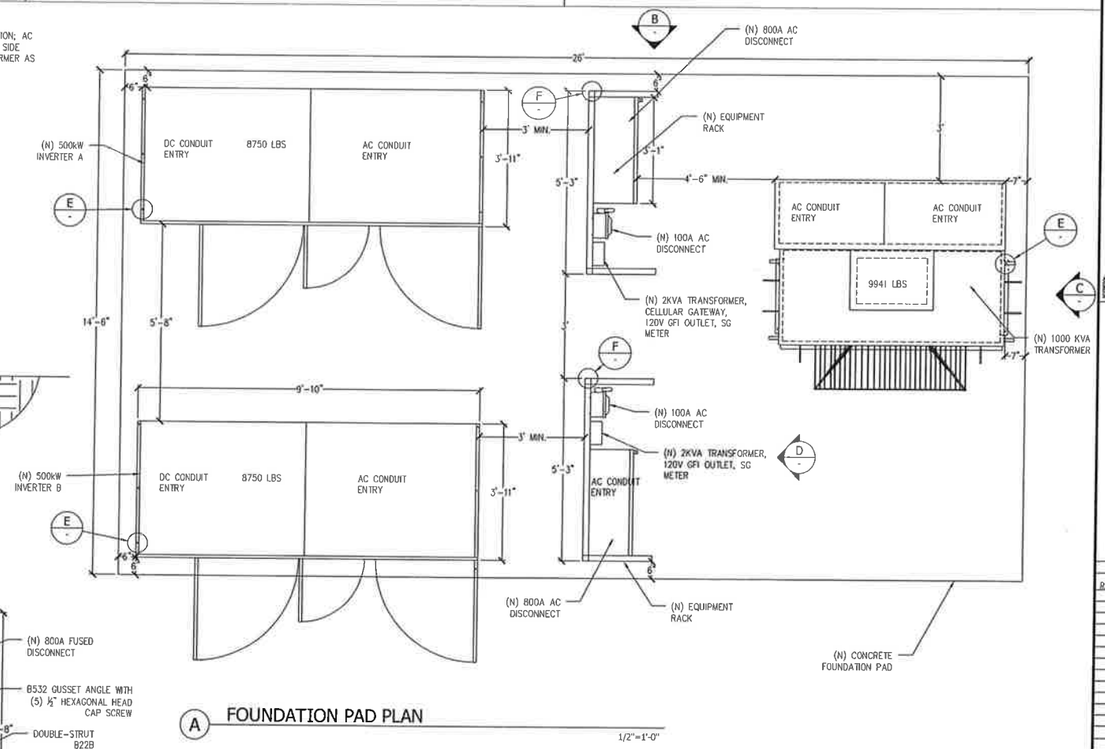
E ANCHOR DETAIL

NTS



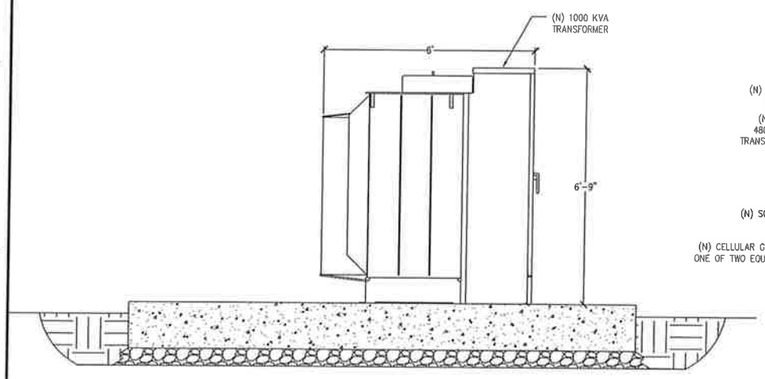
B FOUNDATION PAD FRONT

1/2"=1'-0"



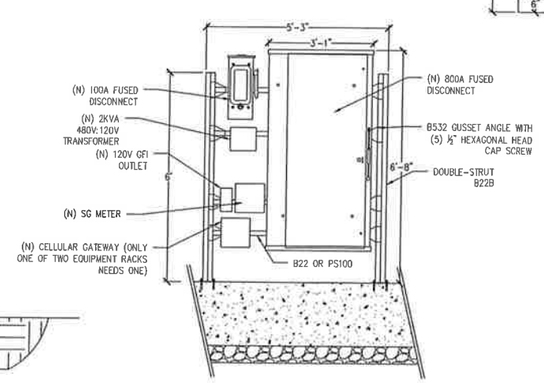
A FOUNDATION PAD PLAN

1/2"=1'-0"



C FOUNDATION PAD SIDE

1/2"=1'-0"



D EQUIPMENT RACK FRONT

1/2"=1'-0"

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Town of Rocky Hill – Block 1
1300.75 kW DC

Town of Rocky Hill – Block 1
R013 Old Forge Road
Rocky Hill, CT 06067
860-258-7717

Digitally signed by Andrew White
Date: 2016.01.28 13:49:58 -05'00'

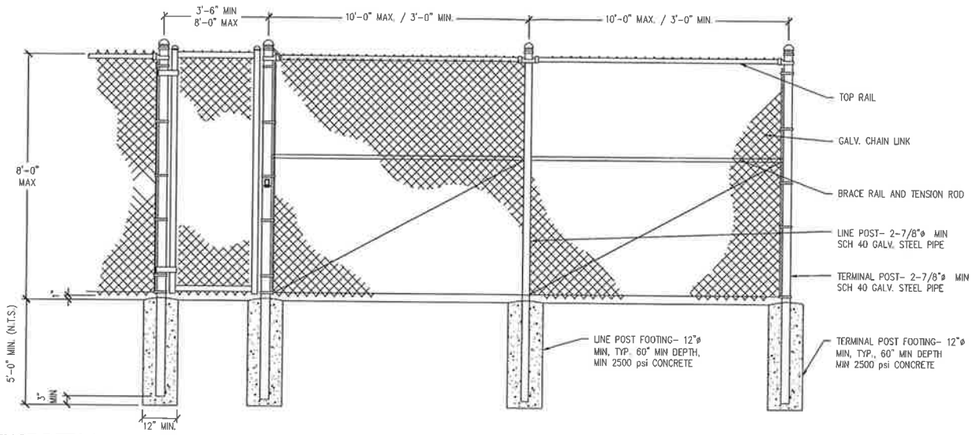
STAMPED & SIGNED FOR STRUCTURAL ONLY

REVISIONS

REV	BY	DATE	COMMENTS

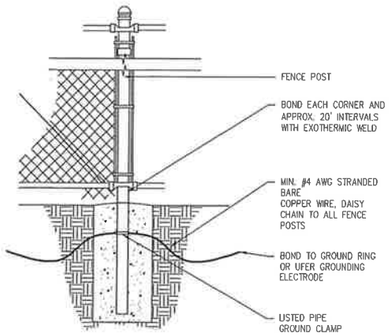
JOB DETAILS

AHJ: Hartford
MODULES: (4730) TRINA SOLAR # TSM-275PA14 1300.75 kW DC
MOUNTING SYSTEM: RBI
INVERTER: (2) Advanced Energy # AE 500TX (480)
DESIGN: JOSHUA TROGLIN
CHECKED BY: NP
MARKET: COMMERCIAL
PROJECT MANAGER: KEVIN ANGERS
DATE: 9/3/15
PERMIT TYPE: PPA
SHEET NAME: STRUCTURAL DETAILS & INVERTER PADS
JOB NUMBER: JB-0602328-00
SHEET: PV 5
REV: 0



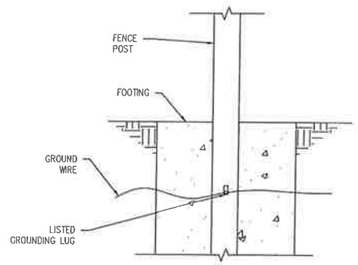
E FENCE DETAIL

NTS



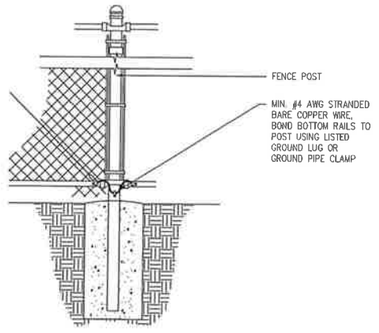
B FENCE POST GROUNDING DETAIL (NON-EXPOSED)

NTS



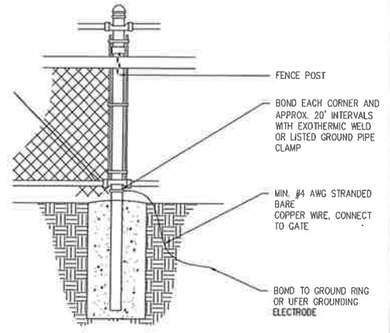
D FENCE POST GROUNDING DETAIL

NTS



C FENCE BRACING GROUNDING CONNECTION

NTS



A FENCE POST GROUNDING DETAIL (EXPOSED)

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1300.75 kW DC

Town of Rocky Hill - Block 1
R013 Old Forge Road
Rocky Hill, CT 06067
860-258-7717

STATE OF CONNECTICUT
PETER GOODHUE
LICENSED PROFESSIONAL ENGINEER

REVISIONS

REV	BY	DATE	COMMENTS

JOB DETAILS

AHJ: Hartford

MODULES: (4730) TRINA SOLAR # TSM-275PA14
1300.75 kW DC

MOUNTING SYSTEM: RBI

INVERTER: (2) Advanced Energy # AE 500TX (480)

DESIGN: JOSHUA TROCLIN

CHECKED BY: NP

MARKET: COMMERCIAL

PROJECT MANAGER: KEVIN ANGERS

DATE: 9/3/15

PAYMENT TYPE: PPA

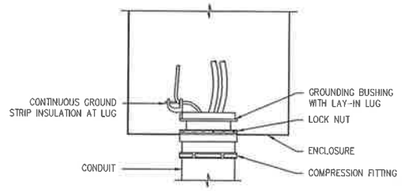
SHEET NAME: PV EQUIPMENT PLAN & ELEVATION

JOB NUMBER: JB-0602328-00

SHEET: PV 6

REV: 0

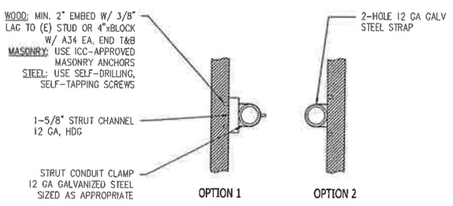
C:\Common\Installs\Customers\JB-0602328-00 Town Of Rocky Hill - Block 1\Drawings\AutoCAD\jb_0602328_00___acad_b_01.dwg



D CONDUIT GROUNDING DETAIL

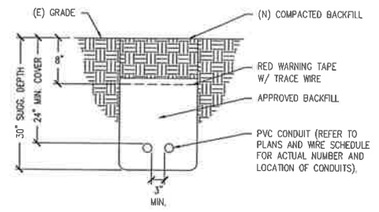
NTS

NOTE: ALL HOLES FOR CONDUIT SHALL BE PROVIDED WITH CONDUIT FITTINGS HAVING AN ENVIRONMENTAL RATING APPROVED TO MAINTAIN NEMA 3R ENCLOSURE RATING (UL508A, TABLE 19.2). IN GENERAL COMPONENTS MARKED "WEATHERPROOF" OR "RAINPROOF" SHALL BE INSTALLED ONLY BELOW THE LOWEST UNINSULATED LIVE PARTS WITHIN THE ENCLOSURE. CONDUIT OPENINGS ABOVE THE LOWEST UNINSULATED LIVE PARTS SHALL BE PROVIDED WITH CONDUIT FITTINGS MARKED "WET LOCATION" OR "RAINTIGHT".



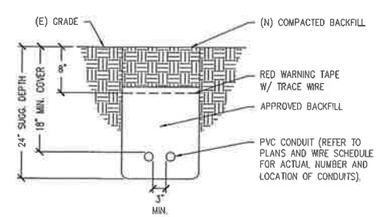
C CONDUIT SUPPORT - WALL

NTS



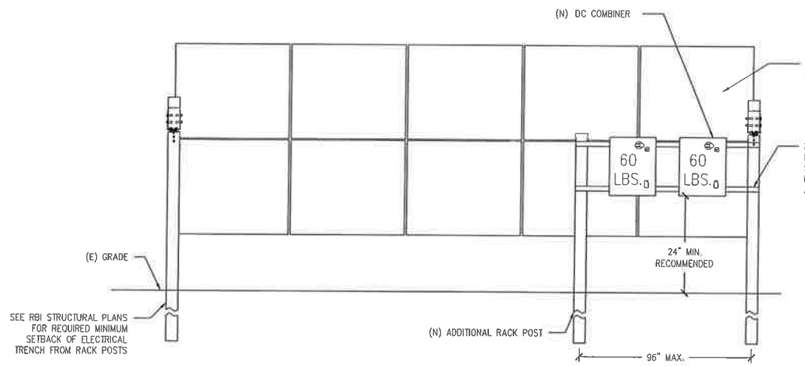
B TRENCH THROUGH SOIL TRAFFIC DETAIL

NTS



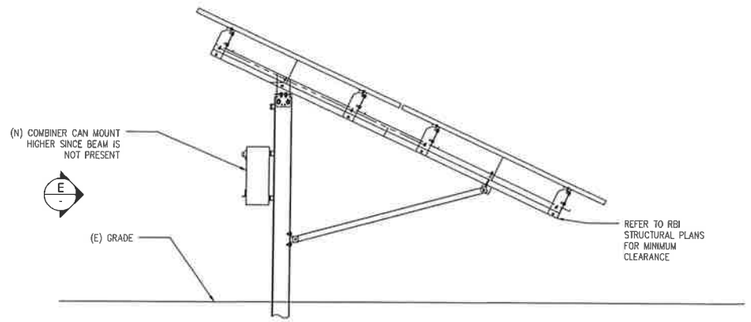
A TRENCH THROUGH SOIL NON-TRAFFIC DETAIL

NTS



E RBI EQUIPMENT RACK (REAR ELEVATION)

1/2"=1'-0"



F RBI EQUIPMENT RACK (SIDE ELEVATION)

1/2"=1'-0"

SolarCity
3055 Clearview Way, San Mateo, CA 94402
T:(650) 638-1028 | F:(650) 638-1029
(888)-SOL-CITY (765-2489) | www.solarcity.com

Town of Rocky Hill – Block 1
1300.75 kW DC

Town of Rocky Hill – Block 1
R013 Old Forge Road
Rocky Hill, CT 06067
860-258-7717

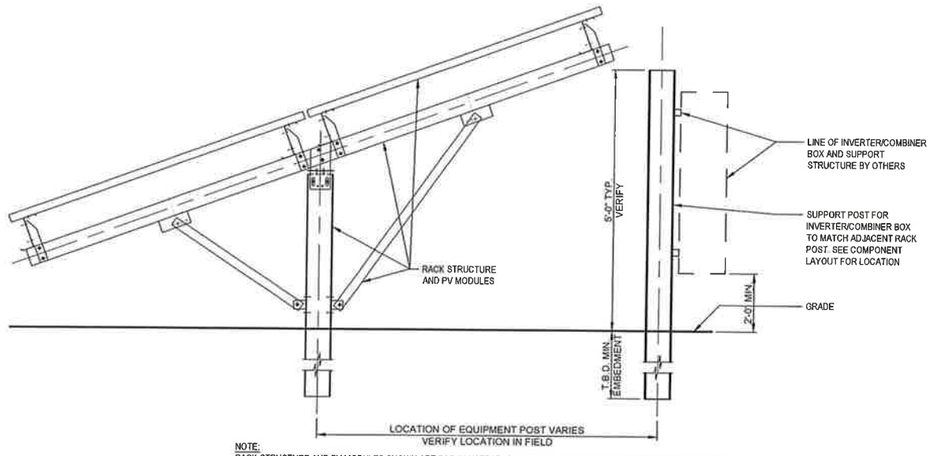
STATE OF CONNECTIVE
PRINCIPAL
P.E.N. 0030885
LICENSED
PROFESSIONAL ENGINEER

REVISIONS

REV	BY	DATE	COMMENTS

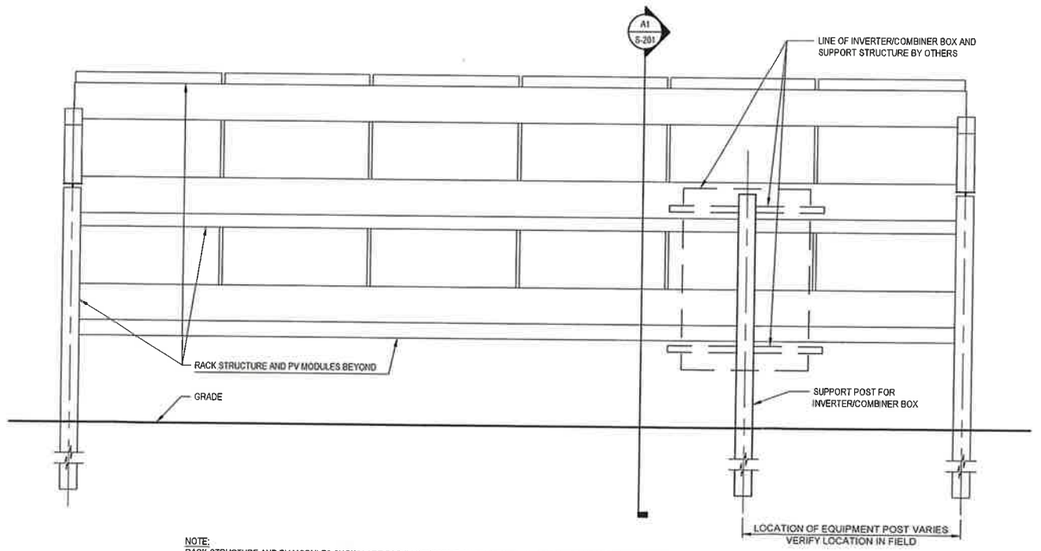
JOB DETAILS

AHJ: Hartford
MODULES: (4730) TRINA SOLAR # TSM-275PA14
1300.75 kW DC
MOUNTING SYSTEM: RBI
INVERTER: (2) Advanced Energy # AE 500TX (480)
DESIGN: JOSHUA TROGLIN
CHECKED BY: NP
MARKET: COMMERCIAL
PROJECT MANAGER: KEVIN ANGERS
DATE: 9/3/15
PAYMENT TERM: PPA
SHEET NAME: EQUIPMENT DETAILS
JOB NUMBER: JB-0602328-00
SHEET: PV 7
REV: 0



NOTE:
RACK STRUCTURE AND PV MODULES SHOWN ARE FOR ILLUSTRATIVE PURPOSES ONLY. ACTUAL COMPONENTS MAY VARY.

A1 — STAND-ALONE ADDITIONAL POST SECTION
SCALE: 3/4" = 1'-0"



NOTE:
RACK STRUCTURE AND PV MODULES SHOWN ARE FOR ILLUSTRATIVE PURPOSES ONLY. ACTUAL COMPONENTS MAY VARY.

A6 — STAND-ALONE ADDITIONAL POST ELEVATION
SCALE: 3/4" = 1'-0"

RBI SOLAR
Total Solar Service: Design * Fabrication Installation * Parts * Repair Service
5513 VINE STREET
CINCINNATI, OH 45217
513.242.2051
FAX: 513.242.0816

PROFESSIONAL SEAL

ENGINEER'S SEAL APPLIES TO DESIGN OF STRUCTURAL COMPONENTS ONLY

STATE OF CONNECTICUT · MOHAMED A. ALY · No. 23561 · REGISTERED PROFESSIONAL ENGINEER

GROUND MOUNT

FOR SolarCity

RELEASE RECORD

MARK	DATE	DESCRIPTION
02	02/05/16	PERMIT SET
01	02/02/16	PRELIMINARY SET

PROJECT INFORMATION

TITLE & ADDRESS:
TOWN OF ROCKY HILL

R013 OLD FORGE ROAD
ROCKY HILL, CT 06067

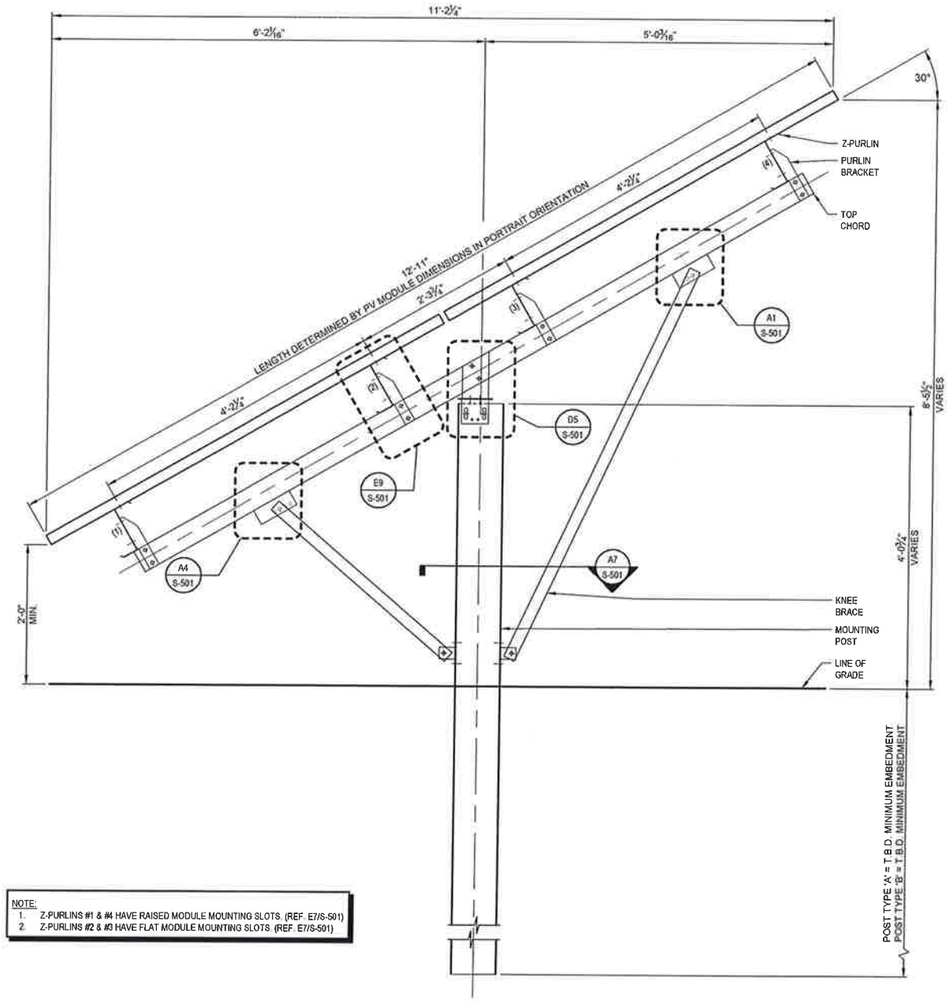
RBI SOLAR PROJECT No.:
163041

DRAWN BY: EW
REVIEWED BY: BDS/JAB

SHEET TITLE:
ADDITIONAL POST SECTIONS & ELEVATIONS

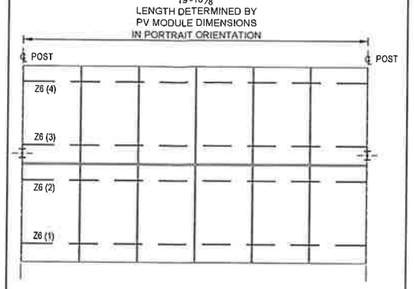
SHEET No.:
S-201

USER: KDUNCANSON PLOTTED: 2/5/2016 - 8:55 AM S:\RBI Solar\Design\2016 Jobs\163041-Solar\City-Town of Rocky Hill-Rocky Hill CT\Drawings\163041 Rocky Hill REV 2.dwg LAYOUT: S-201

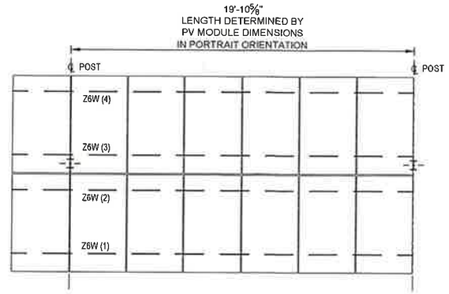


NOTE:
1. Z-PURLINS #1 & #4 HAVE RAISED MODULE MOUNTING SLOTS. (REF. E7/S-501)
2. Z-PURLINS #2 & #3 HAVE FLAT MODULE MOUNTING SLOTS. (REF. E7/S-501)

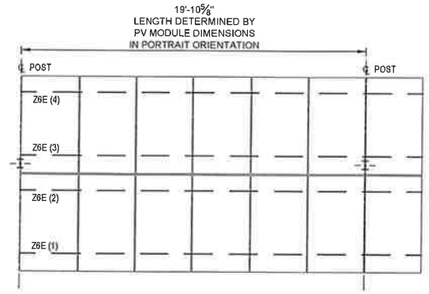
A1 SCALE: 1" = 1'-0" — **RACK SECTION**



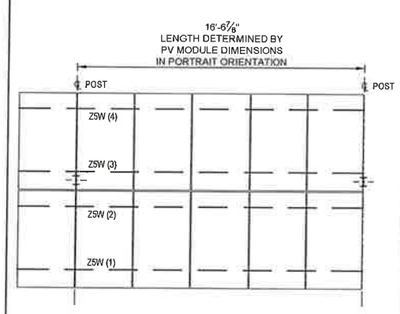
G6 SCALE: 1/4" = 1'-0" — **6P2 & 6P2T BAY PLAN VIEW**



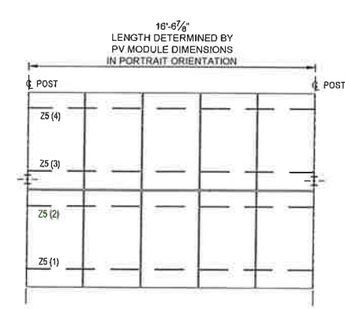
G8 SCALE: 1/4" = 1'-0" — **6WP2 & 6WP2T BAY PLAN VIEW**



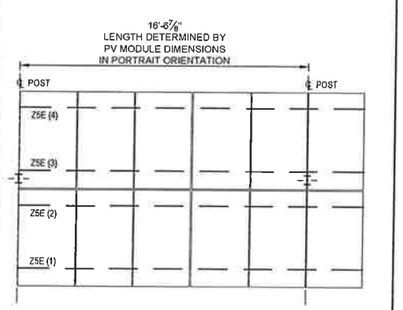
E8 SCALE: 1/4" = 1'-0" — **6EP2 & 6EP2T BAY PLAN VIEW**



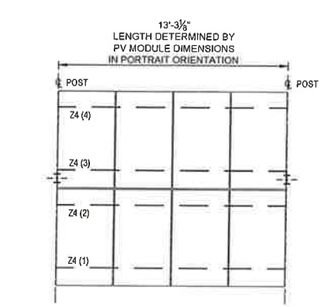
C8 SCALE: 1/4" = 1'-0" — **5WP2 & 5WP2T BAY PLAN VIEW**



C10 SCALE: 1/4" = 1'-0" — **5P2 & 5P2T BAY PLAN VIEW**



A8 SCALE: 1/4" = 1'-0" — **5EP2 & 5EP2T BAY PLAN VIEW**



A10 SCALE: 1/4" = 1'-0" — **4P2 & 4P2T BAY PLAN VIEW**

RBI SOLAR
Total Solar Service: Design * Fabrication
Installation * Parts * Repair Service
5513 VINE STREET
CINCINNATI, OH 45217
513.242.2051
FAX: 513.242.0816

PROFESSIONAL SEAL

ENGINEER'S SEAL APPLIES TO DESIGN OF STRUCTURAL COMPONENTS ONLY

STATE OF CONNECTICUT · MOHAMED A. FAYE · No. 23581 · REGISTERED PROFESSIONAL ENGINEER

GROUND MOUNT FOR SolarCity

RELEASE RECORD

MARK	DATE	DESCRIPTION
02	02/05/16	PERMIT SET
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PROJECT INFORMATION

TITLE & ADDRESS:
TOWN OF ROCKY HILL

R013 OLD FORGE ROAD
ROCKY HILL, CT 06067

RBI SOLAR PROJECT No.: 163041

DRAWN BY: EW
REVIEWED BY: BDS/JAB

SHEET TITLE: RACK SECTION & BAY PLAN VIEWS

SHEET No.: **S-301**

USER: RDUNCANSON PLOTTED: 2/5/2016 - 6:55 AM S:\RBI Solar\Design\2016 Jobs\163041-SolarCity-Town of Rocky Hill-Rocky Hill CT\Drawings\163041 Rocky Hill REV 2.dwg LAYOUT: S-301

ATTACHMENT 3

ATTACHMENT 4

Weston&Sampson®
environmental/infrastructure consultants

273 Dividend Road, Rocky Hill, CT 06067
tel: 860-513-1473 fax: 860-513-1483

report

Storm Water Management Report

Prepared for:
SolarCity

Site Location:
13 Old Forge Road
Rocky Hill, Connecticut

March 15, 2016

TABLE OF CONTENTS

LIST OF TABLES

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APPENDIX

INTRODUCTION

Weston & Sampson Engineers, Inc. (Weston & Sampson) was retained by Solar City to provide professional engineering services related to the proposed Rocky Hill Solar Project located on the Town of Rocky Hill owned property having driveway access from the intersection of Old Forge Road, Belamose Avenue, and Dividend Road. (See Location Map in the Appendix). This Stormwater Management Report has been prepared as part of the submittal to the Siting Council for a Certificate of Environmental Compatibility and Public Need (Declaratory Ruling).

1.0 DESIGN METHODOLOGIES

Weston & Sampson estimated pre and post-development hydrographs using the hydrologic computer modeling program Hydraflow Hydrographs. The hydrologic methodology selected was the NRCS Method as detailed in Technical Release 55 (TR-55). Hydrographs were developed to determine peak rates of runoff for the 100-year design storm using a Type III (24-hour) distribution. The TR-55 method was used to develop times of concentration for multiple segment flow paths. Rainfall totals for Hartford County were taken from Appendix 6.B from the 2000 Connecticut DOT Drainage Manual.

According to NRCS Soils Mapping, the site is classified as "305 Udorthents- Pits complex, gravelly." The Udorthents was identified as Hydrologic Soil Group C by NRCS.

Runoff Curve Numbers (CN) used for pre-development analysis are as follows: 72 (cultivated fields), 89 (dirt/gravel pathways), 73 (woods), 79 (lawn), 71 (meadow), and 98 (reclaimed pavement). A weighted CN number was calculated based on these curve numbers and their associated drainage area.

Runoff Curve Numbers (CN) used for post-development analysis are as follows: 72 (cultivated fields), 89 (dirt/gravel pathways), 73 (woods), 79 (lawn), 71 (meadow), and 98 (impervious areas: reclaimed pavement and concrete utility pads). A weighted CN number was calculated based on these curve numbers and their associated drainage area. A tabulation of Runoff Curve Numbers and their associated subarea can be found in the Pre and Post Development Data Sheet in the Appendix section of this Stormwater Management Report.

An important aspect of this stormwater analysis is how the post-development peak flows are to be analyzed. The proposed development is for a raised solar panel system in which the lowest end of the panel is located approximately 3' off of existing grade. There is little to no grading proposed for this project. Solar panels shall be mounted to a racking system supported by posts driven into existing soil. Posts are to be designed by the manufacturer and will likely be steel H piles. Each array will be supported by a post at each end. The number panels per array and dimension between posts shall be designed by the manufacturer. The footprint of each post is negligible and will not be considered for impervious coverage.

The areas below and between the solar panels shall be seeded for turf establishment. This also shall be apply to the development areas beyond the solar arrays within the proposed security fence enclosure. Under this proposed design, stormwater runoff flow paths shall remain unchanged from pre to post-development conditions. This post-development analysis is also consistent with other analyses performed for similar raised panel photovoltaic systems throughout the country in which the post-development flow path(s) remain essentially unchanged from that of pre-development.

2.0 PRE-DEVELOPMENT SITE CONDITIONS

The project site has a total area of approximately 98.0 acres. The Pre-Developed Drainage Area can be seen on the Pre-Developed Drainage Area Plan (DA-1). This area consists of a combination of wooded areas, cultivated fields, bare earth/dirt areas, gravel driveways, reclaimed pavement driveways, and a high grass meadow area where an existing stormwater basin is located at the lowest elevation of the watershed. There is an outlet control structure which mitigates the peak rate of runoff from the watershed area and ultimately discharges to an existing wetland area further north via a 48" RC pipe. The discharge point used in this analysis will be located in front of the existing outlet control structure. A time of concentration was calculated for the drainage area and used for calculation of a pre-development hydrograph.

A summary of the pre-development characteristics and peak runoff estimates can be seen in Tables 1 and 2. (Refer to the Appendix for detailed Hydrograph Reports)

3.0 POST-DEVELOPMENT SITE CONDITIONS

For the proposed development, access to the development will be made using existing reclaimed pavement and gravel roadways. No additional roadways or improvements to existing roadways are proposed at this time. As mentioned previously, the entire PV development area within the proposed fencing will be seeded for turf establishment to control erosion and sediment transport as well as maintain the peak rate of runoff as close to existing as possible. Tree clearing will be performed only to the minimum extent required to prevent shading of the solar arrays. There is no regrading proposed for the solar development, only as required to prevent localized ponding of stormwater runoff and ensure that existing drainage patterns are maintained . All electrical conduits shall be constructed below grade and the interconnection to the existing distribution system shall be made at the intersection of Old Forge Road, Belamose Avenue, and Dividend Road.

Table 1
Drainage Area Characteristics

Area (Acres)	% Impervious (Pre)	% Impervious (Post)	CN (Pre)	CN (Post)
97.9	3.06	0.7	81	81

Stormwater runoff generally travels from the southwestern corner to the existing stormwater basin in the northeastern corner of the site. The runoff initially flows as sheet flow and then becomes shallow concentrated flow for the remainder of the distance. The stormwater eventually makes its way to the existing outlet control structure at the low point of the basin and it is at this point that the peak rate of runoff is determined and compared with that of pre-development. FEMA flood mapping has been reviewed and the proposed project does not fall within a 100-year flood zone boundary.

The capacity of the existing stormwater basin and 48" discharge pipe have not been evaluated as part of this stormwater evaluation. It is presumed that these stormwater management features have been sufficiently designed to manage the applicable design storms for the current watershed configuration, groundcover, and resulting peak rates of runoff.

A summary of the post-development peak flow rates for each Subarea is shown below in Table 2 along with a summary of pre-development peak flow rates. (Refer to the Appendix for detailed Hydrograph Reports)

Table 2
Pre and Post-Development Peak Flows

2-year, 24-hour storm		10-year, 24-hour storm		25-year, 24-hour storm		50-year, 24-hour storm		100-year, 24-hour storm	
Peak Flow (cfs) (Pre)	Peak Flow (cfs) (Post)	Peak Flow (cfs) (Pre)	Peak Flow (cfs) (Post)	Peak Flow (cfs) (Pre)	Peak Flow (cfs) (Post)	Peak Flow (cfs) (Pre)	Peak Flow (cfs) (Post)	Peak Flow (cfs) (Pre)	Peak Flow (cfs) (Post)
47.5	45.4	158.8	151.99	249.4	239.0	311.9	299.1	381.9	366.4

4.0 SUMMARY

Tables 1 and 2 demonstrate that there will be no negative stormwater impacts associated with the proposed solar PV development. The reduction in the percent of impervious area due to the reduction of reclaimed pavement combined with the addition of turf establishment within the solar PV development area and the resulting change in time of concentration results in a net decrease in the peak rate of runoff for post-development when compared with that of pre-development.

APPENDIX:

Location Map
Pre and Post Development Drainage Area Maps (DA-1 and DA-2)
TR-55 Data Sheet
Hydraflow Hydrograph Return Period Recap and Summary Reports
Hydraflow Hydrograph Reports

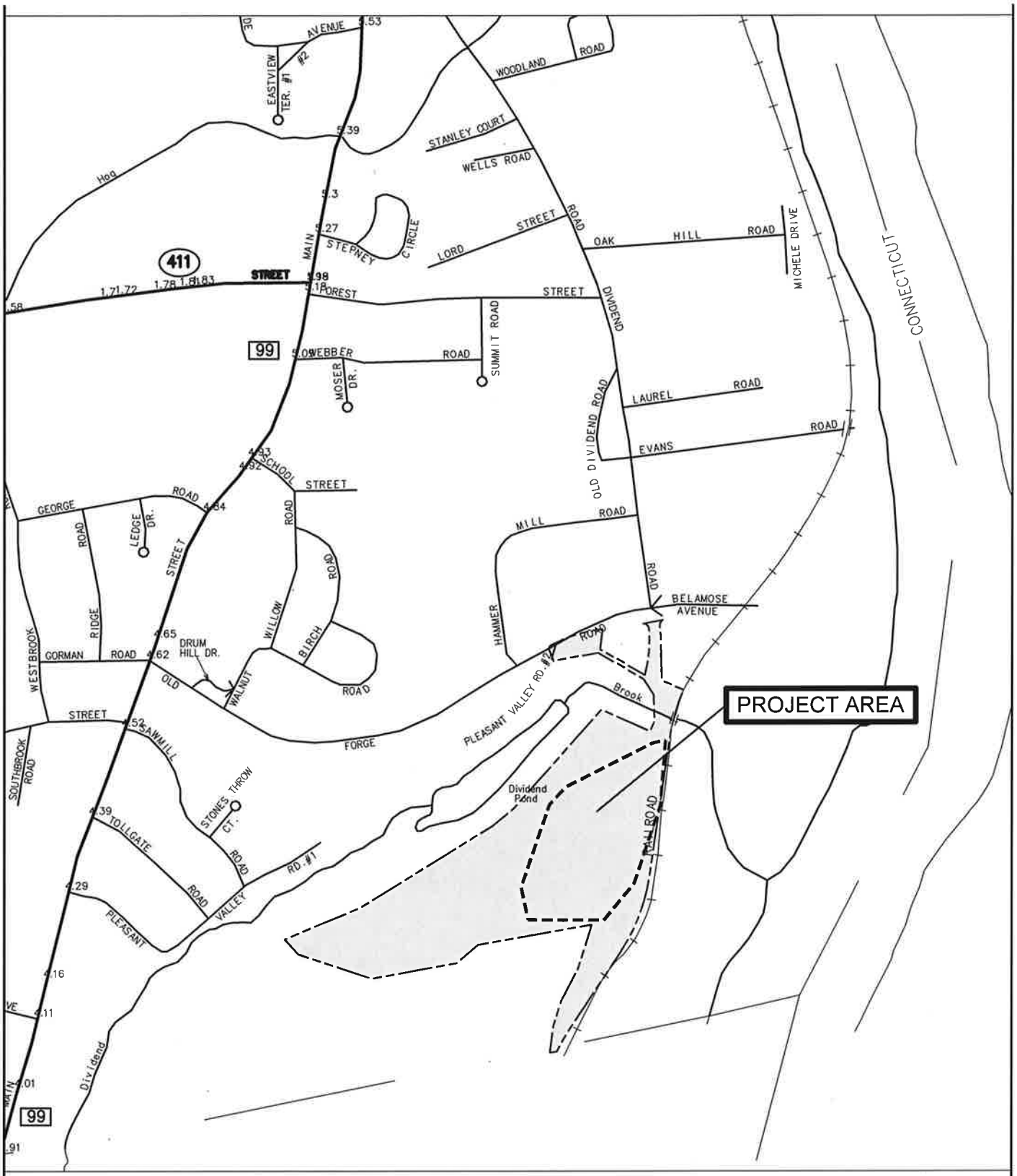


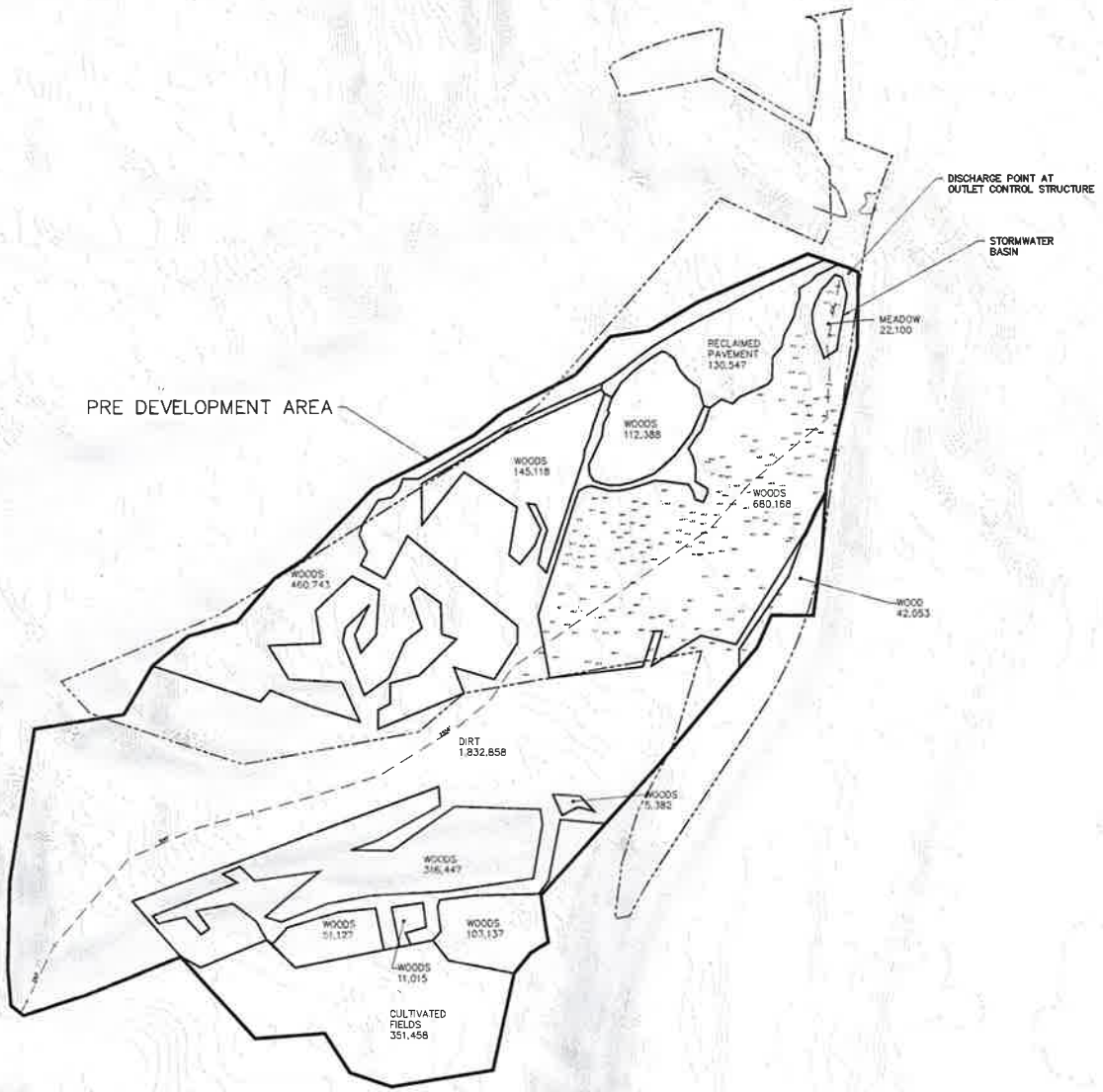
FIGURE 1: LOCATION MAP

13 OLD FORGE ROAD, ROCKY HILL, CONNECTICUT

SCALE: 1"=1000'

0 1000' 2000'

SOURCE:
CONN DOT TRU MAP



PLAN
SCALE: 1"=200'

Project:
ROCKY HILL SOLAR PROJECT

13 OLD FORGE ROAD
ROCKY HILL, CT 06067

SolarCity
3055 Clearview Way
San Mateo, CA 94402
(650) 638-1028
www.solarcity.com

Weston & Sampson
273 Dividend Road Rocky Hill, Connecticut
(860) 513-1483 (800) Sampson
www.westonandsampson.com

Revisions

Rev	Date	Description

Seal

PERMIT SET
DRAFT

JOB NO. 2150789

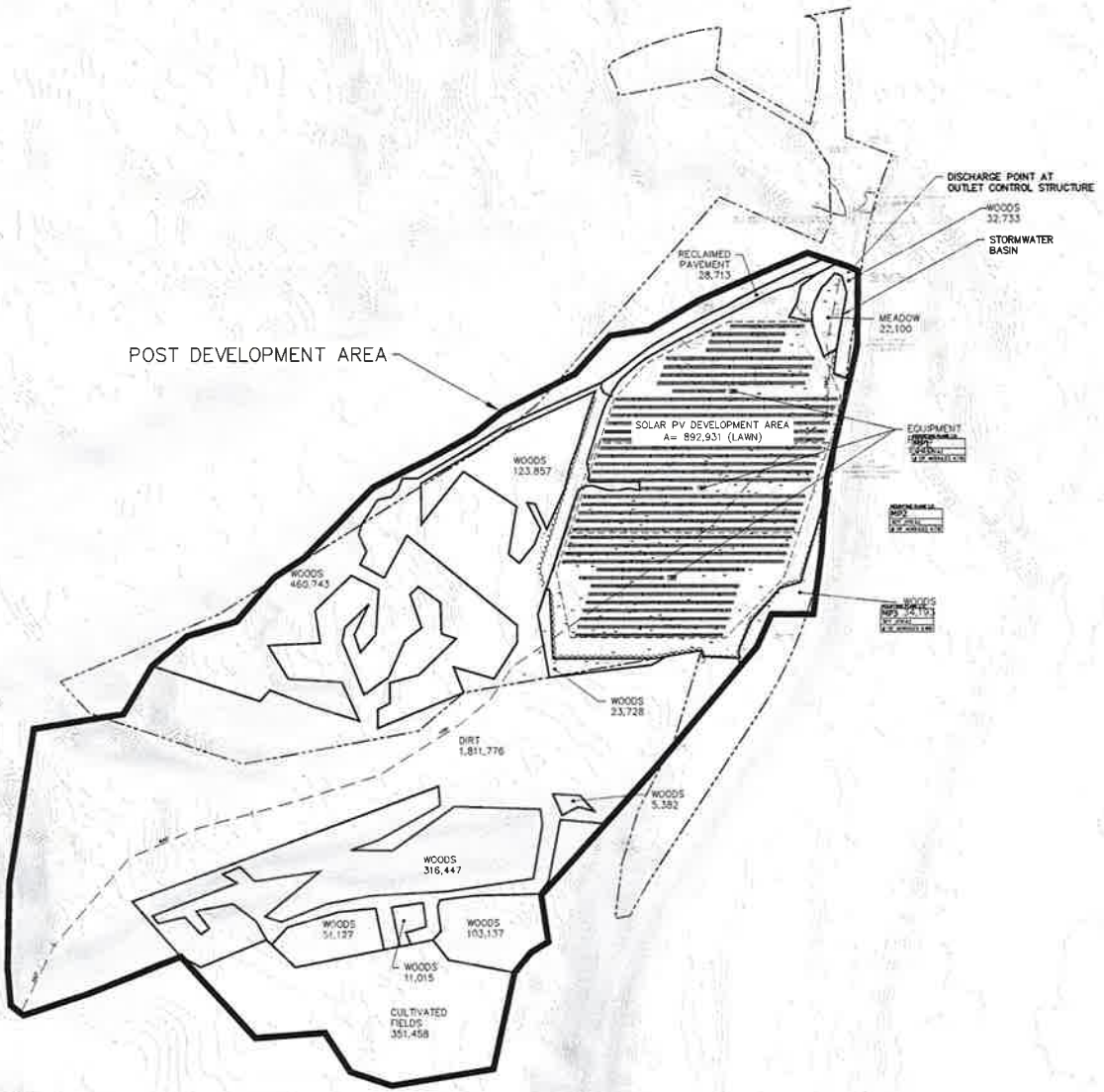
Date	01.29.2016
Scale	1"=200'
Drawn By:	LEC
Reviewed By	LEC
Checked By	JSP
Approved By	JSP

Drawing Title

PRE-DEVELOPED DRAINAGE AREA PLAN

Sheet Number

DA-1



PLAN
SCALE: 1"=200'

Project:
ROCKY HILL SOLAR PROJECT

13 OLD FORGE ROAD
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SolarCity
3055 Clearview Way
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272 Bolland Road Rocky Hill, Connecticut
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Revisions

Rev	Date	Description

Seal

PERMIT SET
DRAFT

JOB NO. 2150769

Date	01.29.2016
Scale	1"=200'
Drawn By	LEC
Reviewed By	LEC
Checked By	JSP
Approved By	JSP

Drawing Title

POST DEVELOPMENT DRAINAGE AREAS

Sheet Number

DA-2

SUBJECT	Solar City- Rocky Hill, CT	Weston&Sampson	SHEET NO.	1	OF 1
	Pre & Post Drainage Areas		COMPUTED BY	LEC	DATE 1/26/2016
JOB NO.	2150769		CHECKED BY	JSP	DATE 1/26/2016

DATA SHEET FOR TR-55 METHOD STORM DRAINAGE DESIGN

NODE		AREA	RUNOFF COEFFICIENT			TIME OF CONCENTRATION- TR55					
AREA I.D.	AREA (S.F.)	ACRES	DESCRIPTION	CN No.	CN x Area	ELEV. DIFF. FT	LENGTH FT	SLOPE %	COVER	n value	Flow Type
PRE-DEVELOPMENT											
Pre_Dev	1,927,578	44.251	Woods	73	3230	55	260	21.15	Dirt	0.011	sheet
	351,458	8.068	Cultivated Fields	72	581	36	849	4.24	unpaved	-	conc
	1,832,858	42.077	Dirt/Gravel	89	3745	30	2559	1.17	paved	-	conc
	130,547	2.997	Reclaim Pave.	98	294	10	414	2.42	unpaved	-	conc
	0	0.000	Lawn	79	0						
	22,100	0.507	Meadow	71	36						
Total	4,264,541	97.900			81						0
POST-DEVELOPMENT											
Post_Dev	1,162,362	26.684	Woods	73	1948	55	260	21.15	Dirt	0.011	sheet
	351,458	8.068	Cultivated Fields	72	581	36	849	4.24	unpaved	-	conc
	1,806,395	41.469	Dirt/Gravel	89	3691	15	1091	1.37	paved	-	conc
	29,853	0.685	Reclaim Pave/Equipment Pads	98	67	23.31	1882	1.24	unpaved	-	conc
	892,931	20.499	Lawn (good C)	79	1619						
	22,100	0.507	Meadow	71	36						
Total	4,265,099	97.913			81						

Hydraflow Table of Contents

Hydraflow Hydrographs Extension for AutoCAD® Civil 3D® 2015 by Autodesk, Inc. v10.4

Friday, 01 / 29 / 2016

Hydrograph Return Period Recap

Hydraflow Hydrographs Extension for AutoCAD® Civil 3D® 2015 by Autodesk, Inc. v10.4

Hyd. No.	Hydrograph type (origin)	Inflow hyd(s)	Peak Outflow (cfs)							Hydrograph Description
			1-yr	2-yr	3-yr	5-yr	10-yr	25-yr	50-yr	100-yr	
1	SCS Runoff	------	-------	47.49	-------	-------	158.76	249.42	311.90	381.94	Pre Development
2	SCS Runoff	------	-------	45.44	-------	-------	151.99	239.04	299.07	366.39	Post Development

Hydrograph Summary Report

Hydraflow Hydrographs Extension for AutoCAD® Civil 3D® 2015 by Autodesk, Inc. v10.4

Hyd. No.	Hydrograph type (origin)	Peak flow (cfs)	Time interval (min)	Time to Peak (min)	Hyd. volume (cuft)	Inflow hyd(s)	Maximum elevation (ft)	Total strge used (cuft)	Hydrograph Description
1	SCS Runoff	47.49	2	742	261,196	------	------	------	Pre Development
2	SCS Runoff	45.44	2	746	264,461	------	------	------	Post Development

Hydrograph Summary Report

Hydraflow Hydrographs Extension for AutoCAD® Civil 3D® 2015 by Autodesk, Inc. v10.4

Hyd. No.	Hydrograph type (origin)	Peak flow (cfs)	Time interval (min)	Time to Peak (min)	Hyd. volume (cuft)	Inflow hyd(s)	Maximum elevation (ft)	Total strge used (cuft)	Hydrograph Description
1	SCS Runoff	158.76	2	740	829,278	------	------	------	Pre Development
2	SCS Runoff	151.99	2	742	839,644	------	------	------	Post Development

Hydrograph Summary Report

Hydraflow Hydrographs Extension for AutoCAD® Civil 3D® 2015 by Autodesk, Inc. v10.4

Hyd. No.	Hydrograph type (origin)	Peak flow (cfs)	Time interval (min)	Time to Peak (min)	Hyd. volume (cuft)	Inflow hyd(s)	Maximum elevation (ft)	Total strge used (cuft)	Hydrograph Description
1	SCS Runoff	249.42	2	740	1,306,057	------	------	------	Pre Development
2	SCS Runoff	239.04	2	742	1,322,382	------	------	------	Post Development

Hydrograph Summary Report

Hydraflow Hydrographs Extension for AutoCAD® Civil 3D® 2015 by Autodesk, Inc. v10.4

Hyd. No.	Hydrograph type (origin)	Peak flow (cfs)	Time interval (min)	Time to Peak (min)	Hyd. volume (cuft)	Inflow hyd(s)	Maximum elevation (ft)	Total strge used (cuft)	Hydrograph Description
1	SCS Runoff	311.90	2	740	1,641,771	------	------	------	Pre Development
2	SCS Runoff	299.07	2	742	1,662,294	------	------	------	Post Development

Hydrograph Summary Report

Hydraflow Hydrographs Extension for AutoCAD® Civil 3D® 2015 by Autodesk, Inc. v10.4

Hyd. No.	Hydrograph type (origin)	Peak flow (cfs)	Time interval (min)	Time to Peak (min)	Hyd. volume (cuft)	Inflow hyd(s)	Maximum elevation (ft)	Total strge used (cuft)	Hydrograph Description
1	SCS Runoff	381.94	2	740	2,024,122	------	------	------	Pre Development
2	SCS Runoff	366.39	2	742	2,049,422	------	------	------	Post Development

Hydraflow Table of Contents

Hydrograph Report

Hyd. No. 1

Pre Development

Hydrograph type	= SCS Runoff	Peak discharge	= 47.49 cfs
Storm frequency	= 2 yrs	Time to peak	= 12.37 hrs
Time interval	= 2 min	Hyd. volume	= 261,196 cuft
Drainage area	= 97.910 ac	Curve number	= 81.000*
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= TR55	Time of conc. (Tc)	= 27.4 min
Total precip.	= 2.20 in	Distribution	= Type III
Storm duration	= 24 hrs	Shape factor	= 484

* Composite (Area/CN) = [(44.250 x 73) + (8.070 x 72) + (42.080 x 89) + (3.000 x 98) + (0.510 x 71)] / 97.910

Hydrograph Discharge Table

(Printed values >= 1.00% of Qp.)

Time (hrs)	Outflow (cfs)	Time (hrs)	Outflow (cfs)	Time (hrs)	Outflow (cfs)	Time (hrs)	Outflow (cfs)
11.07	0.475	11.67	2.825	12.27	43.47	12.87	18.52
11.10	0.537	11.70	3.204	12.30	45.81	12.90	17.15
11.13	0.604	11.73	3.671	12.33	47.07	12.93	15.93
11.17	0.675	11.77	4.245	12.37	47.49	12.97	14.86
11.20	0.750	11.80	4.947	12.40	47.32	13.00	13.92
11.23	0.831	11.83	5.795	12.43	46.73	13.03	13.10
11.27	0.917	11.87	6.799	12.47	45.73	13.07	12.40
11.30	1.010	11.90	7.974	12.50	44.33	13.10	11.80
11.33	1.110	11.93	9.400	12.53	42.56	13.13	11.29
11.37	1.217	11.97	11.24	12.57	40.46	13.17	10.86
11.40	1.333	12.00	13.72	12.60	38.09	13.20	10.50
11.43	1.456	12.03	16.85	12.63	35.50	13.23	10.19
11.47	1.588	12.07	20.47	12.67	32.75	13.27	9.930
11.50	1.730	12.10	24.36	12.70	29.90	13.30	9.692
11.53	1.883	12.13	28.35	12.73	27.05	13.33	9.475
11.57	2.059	12.17	32.38	12.77	24.37	13.37	9.275
11.60	2.267	12.20	36.40	12.80	22.03	13.40	9.093
11.63	2.518	12.23	40.20	12.83	20.11	13.43	8.927

Continues on next page...

Pre Development

Hydrograph Discharge Table

Time (hrs)	Outflow (cfs)	Time (hrs)	Outflow (cfs)	Time (hrs)	Outflow (cfs)	Time (hrs)	Outflow (cfs)
13.47	8.775	14.37	6.345	15.27	5.081	16.17	3.803
13.50	8.636	14.40	6.283	15.30	5.035	16.20	3.759
13.53	8.509	14.43	6.225	15.33	4.989	16.23	3.716
13.57	8.393	14.47	6.169	15.37	4.943	16.27	3.675
13.60	8.285	14.50	6.116	15.40	4.897	16.30	3.637
13.63	8.185	14.53	6.065	15.43	4.850	16.33	3.600
13.67	8.091	14.57	6.016	15.47	4.804	16.37	3.566
13.70	8.001	14.60	5.969	15.50	4.757	16.40	3.534
13.73	7.915	14.63	5.923	15.53	4.710	16.43	3.504
13.77	7.830	14.67	5.878	15.57	4.663	16.47	3.475
13.80	7.746	14.70	5.834	15.60	4.616	16.50	3.448
13.83	7.660	14.73	5.791	15.63	4.569	16.53	3.422
13.87	7.574	14.77	5.748	15.67	4.522	16.57	3.397
13.90	7.488	14.80	5.704	15.70	4.474	16.60	3.373
13.93	7.401	14.83	5.661	15.73	4.426	16.63	3.351
13.97	7.313	14.87	5.618	15.77	4.379	16.67	3.328
14.00	7.225	14.90	5.574	15.80	4.331	16.70	3.307
14.03	7.136	14.93	5.530	15.83	4.283	16.73	3.286
14.07	7.048	14.97	5.486	15.87	4.234	16.77	3.264
14.10	6.961	15.00	5.441	15.90	4.186	16.80	3.243
14.13	6.874	15.03	5.397	15.93	4.138	16.83	3.222
14.17	6.790	15.07	5.352	15.97	4.089	16.87	3.201
14.20	6.707	15.10	5.307	16.00	4.040	16.90	3.180
14.23	6.628	15.13	5.263	16.03	3.992	16.93	3.159
14.27	6.551	15.17	5.217	16.07	3.944	16.97	3.138
14.30	6.479	15.20	5.172	16.10	3.896	17.00	3.117
14.33	6.410	15.23	5.127	16.13	3.849	17.03	3.095

Continues on next page

Pre Development

Hydrograph Discharge Table

Time (hrs)	Outflow (cfs)	Time (hrs)	Outflow (cfs)	Time (hrs)	Outflow (cfs)	Time (hrs)	Outflow (cfs)
17.07	3.074	17.97	2.486	18.87	2.132	19.77	1.959
17.10	3.053	18.00	2.464	18.90	2.126	19.80	1.952
17.13	3.031	18.03	2.442	18.93	2.120	19.83	1.946
17.17	3.010	18.07	2.420	18.97	2.113	19.87	1.939
17.20	2.988	18.10	2.398	19.00	2.107	19.90	1.933
17.23	2.967	18.13	2.377	19.03	2.100	19.93	1.926
17.27	2.945	18.17	2.357	19.07	2.094	19.97	1.919
17.30	2.924	18.20	2.337	19.10	2.088	20.00	1.913
17.33	2.902	18.23	2.318	19.13	2.081	20.03	1.906
17.37	2.881	18.27	2.301	19.17	2.075	20.07	1.900
17.40	2.859	18.30	2.285	19.20	2.068	20.10	1.893
17.43	2.837	18.33	2.270	19.23	2.062	20.13	1.887
17.47	2.816	18.37	2.256	19.27	2.056	20.17	1.880
17.50	2.794	18.40	2.243	19.30	2.049	20.20	1.873
17.53	2.772	18.43	2.231	19.33	2.043	20.23	1.867
17.57	2.750	18.47	2.221	19.37	2.036	20.27	1.860
17.60	2.728	18.50	2.211	19.40	2.030	20.30	1.854
17.63	2.707	18.53	2.202	19.43	2.023	20.33	1.847
17.67	2.685	18.57	2.193	19.47	2.017	20.37	1.840
17.70	2.663	18.60	2.185	19.50	2.011	20.40	1.834
17.73	2.641	18.63	2.178	19.53	2.004	20.43	1.827
17.77	2.619	18.67	2.171	19.57	1.998	20.47	1.820
17.80	2.597	18.70	2.164	19.60	1.991	20.50	1.814
17.83	2.575	18.73	2.158	19.63	1.985	20.53	1.807
17.87	2.553	18.77	2.151	19.67	1.978	20.57	1.801
17.90	2.530	18.80	2.145	19.70	1.972	20.60	1.794
17.93	2.508	18.83	2.139	19.73	1.965	20.63	1.787

Continues on next page

Pre Development

Hydrograph Discharge Table

Time (hrs)	Outflow (cfs)	Time (hrs)	Outflow (cfs)	Time (hrs)	Outflow (cfs)	Time (hrs)	Outflow (cfs)
20.67	1.781	21.57	1.598	22.47	1.682	23.37	1.389
20.70	1.774	21.60	1.592	22.50	1.664	23.40	1.384
20.73	1.767	21.63	1.585	22.53	1.645	23.43	1.379
20.77	1.760	21.67	1.578	22.57	1.626	23.47	1.373
20.80	1.754	21.70	1.571	22.60	1.606	23.50	1.368
20.83	1.747	21.73	1.564	22.63	1.586	23.53	1.363
20.87	1.740	21.77	1.557	22.67	1.565	23.57	1.358
20.90	1.734	21.80	1.551	22.70	1.544	23.60	1.353
20.93	1.727	21.83	1.544	22.73	1.522	23.63	1.347
20.97	1.720	21.87	1.537	22.77	1.500	23.67	1.342
21.00	1.713	21.90	1.530	22.80	1.477	23.70	1.337
21.03	1.707	21.93	1.523	22.83	1.471	23.73	1.332
21.07	1.700	21.97	1.516	22.87	1.466	23.77	1.327
21.10	1.693	22.00	1.509	22.90	1.461	23.80	1.321
21.13	1.687	22.03	1.533	22.93	1.456	23.83	1.316
21.17	1.680	22.07	1.559	22.97	1.451	23.87	1.311
21.20	1.673	22.10	1.585	23.00	1.446	23.90	1.306
21.23	1.666	22.13	1.612	23.03	1.441	23.93	1.300
21.27	1.659	22.17	1.640	23.07	1.435	23.97	1.295
21.30	1.653	22.20	1.670	23.10	1.430	24.00	1.290
21.33	1.646	22.23	1.700	23.13	1.425	24.03	1.273
21.37	1.639	22.27	1.732	23.17	1.420	24.07	1.245
21.40	1.632	22.30	1.764	23.20	1.415	24.10	1.206
21.43	1.626	22.33	1.749	23.23	1.410	24.13	1.155
21.47	1.619	22.37	1.733	23.27	1.404	24.17	1.094
21.50	1.612	22.40	1.716	23.30	1.399	24.20	1.021
21.53	1.605	22.43	1.699	23.33	1.394	24.23	0.937

Continues on next page

Pre Development

Hydrograph Discharge Table

Time -- Outflow (hrs cfs)	
24.27	0.841
24.30	0.735
24.33	0.636
24.37	0.545

...End

TR55 Tc Worksheet

Hydraflow Hydrographs Extension for AutoCAD® Civil 3D® 2015 by Autodesk, Inc. v10.4

Hyd. No. 1

Pre Development

Description	A		B		C		Totals
Sheet Flow							
Manning's n-value	= 0.011		0.011		0.011		
Flow length (ft)	= 260.0		0.0		0.0		
Two-year 24-hr precip. (in)	= 3.20		0.00		0.00		
Land slope (%)	= 21.15		0.00		0.00		
Travel Time (min)	**= 1.01**	**+**	**0.00**	**+**	**0.00**	**=**	**1.01**
Shallow Concentrated Flow							
Flow length (ft)	= 849.00		2559.00		414.00		
Watercourse slope (%)	= 4.24		1.17		2.42		
Surface description	= Unpaved		Paved		Unpaved		
Average velocity (ft/s)	=3.32		2.20		2.51		
Travel Time (min)	**= 4.26**	**+**	**19.40**	**+**	**2.75**	**=**	**26.40**
Channel Flow							
X sectional flow area (sqft)	= 0.00		0.00		0.00		
Wetted perimeter (ft)	= 0.00		0.00		0.00		
Channel slope (%)	= 0.00		0.00		0.00		
Manning's n-value	= 0.015		0.015		0.015		
Velocity (ft/s)	=0.00						
			0.00				
					0.00		
Flow length (ft)	({0})0.0		0.0		0.0		
Travel Time (min)	**= 0.00**	**+**	**0.00**	**+**	**0.00**	**=**	**0.00**

Total Travel Time, Tc ..... **27.42 min**

Hydrograph Report

Hyd. No. 2

Post Development

Hydrograph type	= SCS Runoff	Peak discharge	= 45.44 cfs
Storm frequency	= 2 yrs	Time to peak	= 12.43 hrs
Time interval	= 2 min	Hyd. volume	= 264,461 cuft
Drainage area	= 97.910 ac	Curve number	= 81.000*
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= TR55	Time of conc. (Tc)	= 30.4 min
Total precip.	= 2.20 in	Distribution	= Type III
Storm duration	= 24 hrs	Shape factor	= 484

* Composite (Area/CN) = [(26.680 x 73) + (8.070 x 72) + (41.470 x 89) + (0.685 x 98) + (20.499 x 79) + (0.510 x 71)] / 97.910

Hydrograph Discharge Table

(Printed values >= 1.00% of Qp.)

Time (hrs)	Outflow (cfs)	Time (hrs)	Outflow (cfs)	Time (hrs)	Outflow (cfs)	Time (hrs)	Outflow (cfs)
11.10	0.473	11.70	2.924	12.30	41.53	12.90	20.07
11.13	0.535	11.73	3.331	12.33	43.65	12.93	18.47
11.17	0.601	11.77	3.827	12.37	44.89	12.97	17.14
11.20	0.672	11.80	4.428	12.40	45.42	13.00	15.98
11.23	0.748	11.83	5.155	12.43	45.44	13.03	14.94
11.27	0.829	11.87	6.022	12.47	45.09	13.07	14.02
11.30	0.917	11.90	7.041	12.50	44.37	13.10	13.20
11.33	1.011	11.93	8.281	12.53	43.30	13.13	12.50
11.37	1.112	11.97	9.879	12.57	41.91	13.17	11.88
11.40	1.220	12.00	12.01	12.60	40.24	13.20	11.36
11.43	1.336	12.03	14.70	12.63	38.33	13.23	10.91
11.47	1.460	12.07	17.81	12.67	36.21	13.27	10.54
11.50	1.592	12.10	21.16	12.70	33.93	13.30	10.22
11.53	1.736	12.13	24.63	12.73	31.53	13.33	9.956
11.57	1.899	12.17	28.18	12.77	29.08	13.37	9.727
11.60	2.089	12.20	31.75	12.80	26.61	13.40	9.521
11.63	2.316	12.23	35.28	12.83	24.21	13.43	9.330
11.67	2.590	12.27	38.63	12.87	21.99	13.47	9.154

Continues on next page...

Post Development

Hydrograph Discharge Table

Time (hrs)	Outflow cfs)	Time (hrs)	Outflow cfs)	Time (hrs)	Outflow cfs)	Time (hrs)	Outflow cfs)
13.50	8.992	14.40	6.459	15.30	5.159	16.20	3.869
13.53	8.842	14.43	6.395	15.33	5.113	16.23	3.825
13.57	8.703	14.47	6.334	15.37	5.067	16.27	3.782
13.60	8.574	14.50	6.276	15.40	5.020	16.30	3.741
13.63	8.455	14.53	6.220	15.43	4.973	16.33	3.702
13.67	8.344	14.57	6.166	15.47	4.926	16.37	3.665
13.70	8.240	14.60	6.115	15.50	4.879	16.40	3.629
13.73	8.141	14.63	6.065	15.53	4.832	16.43	3.596
13.77	8.048	14.67	6.017	15.57	4.785	16.47	3.564
13.80	7.957	14.70	5.970	15.60	4.737	16.50	3.534
13.83	7.869	14.73	5.924	15.63	4.689	16.53	3.506
13.87	7.783	14.77	5.878	15.67	4.642	16.57	3.478
13.90	7.696	14.80	5.834	15.70	4.594	16.60	3.452
13.93	7.609	14.83	5.790	15.73	4.546	16.63	3.427
13.97	7.521	14.87	5.746	15.77	4.497	16.67	3.403
14.00	7.432	14.90	5.702	15.80	4.449	16.70	3.379
14.03	7.343	14.93	5.658	15.83	4.401	16.73	3.357
14.07	7.255	14.97	5.613	15.87	4.352	16.77	3.334
14.10	7.166	15.00	5.569	15.90	4.303	16.80	3.313
14.13	7.079	15.03	5.524	15.93	4.254	16.83	3.291
14.17	6.993	15.07	5.479	15.97	4.205	16.87	3.270
14.20	6.908	15.10	5.434	16.00	4.156	16.90	3.248
14.23	6.826	15.13	5.388	16.03	4.107	16.93	3.227
14.27	6.746	15.17	5.343	16.07	4.058	16.97	3.206
14.30	6.669	15.20	5.297	16.10	4.010	17.00	3.184
14.33	6.595	15.23	5.251	16.13	3.962	17.03	3.163
14.37	6.525	15.27	5.206	16.17	3.915	17.07	3.141

Continues on next page

Post Development

Hydrograph Discharge Table

Time (hrs)	Outflow (cfs)	Time (hrs)	Outflow (cfs)	Time (hrs)	Outflow (cfs)	Time (hrs)	Outflow (cfs)
17.10	3.120	18.00	2.525	18.90	2.161	19.80	1.985
17.13	3.098	18.03	2.502	18.93	2.155	19.83	1.979
17.17	3.076	18.07	2.480	18.97	2.148	19.87	1.972
17.20	3.055	18.10	2.458	19.00	2.142	19.90	1.965
17.23	3.033	18.13	2.436	19.03	2.135	19.93	1.959
17.27	3.011	18.17	2.415	19.07	2.129	19.97	1.952
17.30	2.989	18.20	2.395	19.10	2.122	20.00	1.946
17.33	2.968	18.23	2.375	19.13	2.116	20.03	1.939
17.37	2.946	18.27	2.357	19.17	2.109	20.07	1.932
17.40	2.924	18.30	2.339	19.20	2.103	20.10	1.926
17.43	2.902	18.33	2.322	19.23	2.096	20.13	1.919
17.47	2.880	18.37	2.307	19.27	2.090	20.17	1.912
17.50	2.858	18.40	2.293	19.30	2.084	20.20	1.906
17.53	2.836	18.43	2.279	19.33	2.077	20.23	1.899
17.57	2.814	18.47	2.267	19.37	2.071	20.27	1.892
17.60	2.792	18.50	2.255	19.40	2.064	20.30	1.886
17.63	2.770	18.53	2.245	19.43	2.057	20.33	1.879
17.67	2.748	18.57	2.235	19.47	2.051	20.37	1.872
17.70	2.725	18.60	2.226	19.50	2.044	20.40	1.866
17.73	2.703	18.63	2.217	19.53	2.038	20.43	1.859
17.77	2.681	18.67	2.209	19.57	2.031	20.47	1.852
17.80	2.659	18.70	2.201	19.60	2.025	20.50	1.845
17.83	2.637	18.73	2.194	19.63	2.018	20.53	1.839
17.87	2.614	18.77	2.187	19.67	2.012	20.57	1.832
17.90	2.592	18.80	2.180	19.70	2.005	20.60	1.825
17.93	2.569	18.83	2.174	19.73	1.998	20.63	1.819
17.97	2.547	18.87	2.167	19.77	1.992	20.67	1.812

Continues on next page

Post Development

Hydrograph Discharge Table

Time (hrs)	Outflow (cfs)	Time (hrs)	Outflow (cfs)	Time (hrs)	Outflow (cfs)	Time (hrs)	Outflow (cfs)
20.70	1.805	21.60	1.621	22.50	1.690	23.40	1.408
20.73	1.798	21.63	1.614	22.53	1.675	23.43	1.403
20.77	1.791	21.67	1.607	22.57	1.660	23.47	1.398
20.80	1.785	21.70	1.600	22.60	1.645	23.50	1.392
20.83	1.778	21.73	1.593	22.63	1.629	23.53	1.387
20.87	1.771	21.77	1.586	22.67	1.613	23.57	1.382
20.90	1.764	21.80	1.579	22.70	1.596	23.60	1.376
20.93	1.758	21.83	1.572	22.73	1.579	23.63	1.371
20.97	1.751	21.87	1.565	22.77	1.561	23.67	1.366
21.00	1.744	21.90	1.558	22.80	1.543	23.70	1.361
21.03	1.737	21.93	1.551	22.83	1.525	23.73	1.355
21.07	1.730	21.97	1.544	22.87	1.506	23.77	1.350
21.10	1.724	22.00	1.538	22.90	1.486	23.80	1.345
21.13	1.717	22.03	1.556	22.93	1.481	23.83	1.340
21.17	1.710	22.07	1.575	22.97	1.476	23.87	1.334
21.20	1.703	22.10	1.594	23.00	1.471	23.90	1.329
21.23	1.696	22.13	1.615	23.03	1.466	23.93	1.324
21.27	1.689	22.17	1.637	23.07	1.460	23.97	1.318
21.30	1.683	22.20	1.659	23.10	1.455	24.00	1.313
21.33	1.676	22.23	1.682	23.13	1.450	24.03	1.299
21.37	1.669	22.27	1.707	23.17	1.445	24.07	1.275
21.40	1.662	22.30	1.732	23.20	1.439	24.10	1.242
21.43	1.655	22.33	1.758	23.23	1.434	24.13	1.200
21.47	1.648	22.37	1.745	23.27	1.429	24.17	1.149
21.50	1.641	22.40	1.732	23.30	1.424	24.20	1.089
21.53	1.634	22.43	1.718	23.33	1.418	24.23	1.019
21.57	1.628	22.47	1.704	23.37	1.413	24.27	0.941

Continues on next page

Post Development

Hydrograph Discharge Table

Time -- (hrs	Outflow cfs)
24.30	0.854
24.33	0.758
24.37	0.668
24.40	0.584
24.43	0.505

...End

TR55 Tc Worksheet

Hyd. No. 2

Post Development

Description	A		B		C		Totals
Sheet Flow							
Manning's n-value	= 0.011		0.011		0.011		
Flow length (ft)	= 260.0		0.0		0.0		
Two-year 24-hr precip. (in)	= 3.20		0.00		0.00		
Land slope (%)	= 21.15		0.00		0.00		
Travel Time (min)	**= 1.01**	**+**	**0.00**	**+**	**0.00**	**=**	**1.01**
Shallow Concentrated Flow							
Flow length (ft)	= 849.00		1091.00		1882.00		
Watercourse slope (%)	= 4.24		1.37		1.24		
Surface description	= Unpaved		Paved		Unpaved		
Average velocity (ft/s)	=3.32		2.38		1.80		
Travel Time (min)	**= 4.26**	**+**	**7.64**	**+**	**17.46**	**=**	**29.36**
Channel Flow							
X sectional flow area (sqft)	= 0.00		0.00		0.00		
Wetted perimeter (ft)	= 0.00		0.00		0.00		
Channel slope (%)	= 0.00		0.00		0.00		
Manning's n-value	= 0.015		0.015		0.015		
Velocity (ft/s)	=0.00						
			0.00				
					0.00		
Flow length (ft)	({0})0.0		0.0		0.0		
Travel Time (min)	**= 0.00**	**+**	**0.00**	**+**	**0.00**	**=**	**0.00**

Total Travel Time, Tc ..... **30.37 min**

Hydrograph Report

Hyd. No. 1

Pre Development

Hydrograph type	= SCS Runoff	Peak discharge	= 158.76 cfs
Storm frequency	= 10 yrs	Time to peak	= 12.33 hrs
Time interval	= 2 min	Hyd. volume	= 829,278 cuft
Drainage area	= 97.910 ac	Curve number	= 81.000*
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= TR55	Time of conc. (Tc)	= 27.4 min
Total precip.	= 4.25 in	Distribution	= Type III
Storm duration	= 24 hrs	Shape factor	= 484

* Composite (Area/CN) = [(44.250 x 73) + (8.070 x 72) + (42.080 x 89) + (3.000 x 98) + (0.510 x 71)] / 97.910

Hydrograph Discharge Table

(Printed values >= 1.00% of Qp.)

Time -- Outflow (hrs cfs)		Time -- Outflow (hrs cfs)		Time -- Outflow (hrs cfs)		Time -- Outflow (hrs cfs)	
9.23	1.591	9.83	3.135	10.43	5.297	11.03	8.840
9.27	1.665	9.87	3.234	10.47	5.458	11.07	9.077
9.30	1.740	9.90	3.334	10.50	5.624	11.10	9.326
9.33	1.817	9.93	3.436	10.53	5.794	11.13	9.590
9.37	1.895	9.97	3.539	10.57	5.970	11.17	9.872
9.40	1.974	10.00	3.644	10.60	6.150	11.20	10.18
9.43	2.055	10.03	3.750	10.63	6.335	11.23	10.51
9.47	2.137	10.07	3.858	10.67	6.523	11.27	10.87
9.50	2.221	10.10	3.969	10.70	6.716	11.30	11.27
9.53	2.306	10.13	4.082	10.73	6.913	11.33	11.70
9.57	2.392	10.17	4.198	10.77	7.114	11.37	12.17
9.60	2.480	10.20	4.318	10.80	7.318	11.40	12.68
9.63	2.569	10.23	4.443	10.83	7.525	11.43	13.22
9.67	2.660	10.27	4.572	10.87	7.736	11.47	13.79
9.70	2.752	10.30	4.706	10.90	7.950	11.50	14.39
9.73	2.846	10.33	4.846	10.93	8.167	11.53	15.05
9.77	2.941	10.37	4.991	10.97	8.388	11.57	15.81
9.80	3.037	10.40	5.141	11.00	8.612	11.60	16.71

Continues on next page...

Pre Development

Hydrograph Discharge Table

Time (hrs)	Outflow (cfs)	Time (hrs)	Outflow (cfs)	Time (hrs)	Outflow (cfs)	Time (hrs)	Outflow (cfs)
11.63	17.82	12.50	139.88	13.40	24.73	14.30	17.14
11.67	19.18	12.53	132.74	13.43	24.24	14.33	16.94
11.70	20.85	12.57	124.80	13.47	23.80	14.37	16.76
11.73	22.89	12.60	116.20	13.50	23.39	14.40	16.58
11.77	25.37	12.63	107.13	13.53	23.02	14.43	16.42
11.80	28.35	12.67	97.76	13.57	22.67	14.47	16.26
11.83	31.87	12.70	88.27	13.60	22.36	14.50	16.10
11.87	35.94	12.73	78.99	13.63	22.06	14.53	15.96
11.90	40.55	12.77	70.44	13.67	21.78	14.57	15.82
11.93	45.95	12.80	63.15	13.70	21.52	14.60	15.68
11.97	52.69	12.83	57.27	13.73	21.26	14.63	15.55
12.00	61.37	12.87	52.46	13.77	21.01	14.67	15.43
12.03	71.98	12.90	48.35	13.80	20.76	14.70	15.30
12.07	83.83	12.93	44.72	13.83	20.51	14.73	15.18
12.10	96.18	12.97	41.54	13.87	20.26	14.77	15.05
12.13	108.53	13.00	38.77	13.90	20.01	14.80	14.93
12.17	120.70	13.03	36.38	13.93	19.76	14.83	14.81
12.20	132.46	13.07	34.33	13.97	19.51	14.87	14.69
12.23	143.17	13.10	32.58	14.00	19.26	14.90	14.56
12.27	151.77	13.13	31.11	14.03	19.00	14.93	14.44
12.30	157.04	13.17	29.87	14.07	18.75	14.97	14.32
12.33	158.76	13.20	28.82	14.10	18.50	15.00	14.19
12.37	157.79	13.23	27.93	14.13	18.26	15.03	14.07
12.40	155.07	13.27	27.16	14.17	18.02	15.07	13.94
12.43	151.13	13.30	26.47	14.20	17.78	15.10	13.82
12.47	146.05	13.33	25.84	14.23	17.56	15.13	13.69
		13.37	25.26	14.27	17.34	15.17	13.57

Continues on next page

Pre Development

Hydrograph Discharge Table

Time -- Outflow (hrs cfs)		Time -- Outflow (hrs cfs)		Time -- Outflow (hrs cfs)		Time -- Outflow (hrs cfs)	
15.20	13.44	16.10	10.00	17.00	7.934	17.90	6.399
15.23	13.32	16.13	9.879	17.03	7.877	17.93	6.342
15.27	13.19	16.17	9.758	17.07	7.821	17.97	6.285
15.30	13.07	16.20	9.640	17.10	7.765	18.00	6.227
15.33	12.94	16.23	9.527	17.13	7.708	18.03	6.170
15.37	12.81	16.27	9.419	17.17	7.652	18.07	6.113
15.40	12.69	16.30	9.317	17.20	7.595	18.10	6.057
15.43	12.56	16.33	9.221	17.23	7.539	18.13	6.003
15.47	12.44	16.37	9.131	17.27	7.482	18.17	5.950
15.50	12.31	16.40	9.045	17.30	7.425	18.20	5.899
15.53	12.18	16.43	8.965	17.33	7.369	18.23	5.851
15.57	12.05	16.47	8.888	17.37	7.312	18.27	5.806
15.60	11.93	16.50	8.816	17.40	7.255	18.30	5.763
15.63	11.80	16.53	8.747	17.43	7.198	18.33	5.724
15.67	11.67	16.57	8.681	17.47	7.141	18.37	5.688
15.70	11.54	16.60	8.618	17.50	7.085	18.40	5.655
15.73	11.42	16.63	8.557	17.53	7.028	18.43	5.625
15.77	11.29	16.67	8.498	17.57	6.971	18.47	5.597
15.80	11.16	16.70	8.440	17.60	6.914	18.50	5.571
15.83	11.03	16.73	8.383	17.63	6.857	18.53	5.547
15.87	10.90	16.77	8.327	17.67	6.800	18.57	5.524
15.90	10.77	16.80	8.271	17.70	6.743	18.60	5.504
15.93	10.64	16.83	8.215	17.73	6.685	18.63	5.484
15.97	10.52	16.87	8.159	17.77	6.628	18.67	5.465
16.00	10.39	16.90	8.103	17.80	6.571	18.70	5.447
16.03	10.26	16.93	8.046	17.83	6.514	18.73	5.430
16.07	10.13	16.97	7.990	17.87	6.457	18.77	5.413

Continues on next page

Pre Development

Hydrograph Discharge Table

Time (hrs)	Outflow (cfs)	Time (hrs)	Outflow (cfs)	Time (hrs)	Outflow (cfs)	Time (hrs)	Outflow (cfs)
18.80	5.396	19.70	4.939	20.60	4.476	21.50	4.008
18.83	5.380	19.73	4.922	20.63	4.459	21.53	3.991
18.87	5.363	19.77	4.905	20.67	4.441	21.57	3.974
18.90	5.346	19.80	4.888	20.70	4.424	21.60	3.956
18.93	5.329	19.83	4.871	20.73	4.407	21.63	3.939
18.97	5.312	19.87	4.853	20.77	4.390	21.67	3.921
19.00	5.295	19.90	4.836	20.80	4.372	21.70	3.904
19.03	5.278	19.93	4.819	20.83	4.355	21.73	3.887
19.07	5.261	19.97	4.802	20.87	4.338	21.77	3.869
19.10	5.245	20.00	4.785	20.90	4.321	21.80	3.852
19.13	5.228	20.03	4.768	20.93	4.303	21.83	3.834
19.17	5.211	20.07	4.751	20.97	4.286	21.87	3.817
19.20	5.194	20.10	4.734	21.00	4.269	21.90	3.799
19.23	5.177	20.13	4.717	21.03	4.251	21.93	3.782
19.27	5.160	20.17	4.699	21.07	4.234	21.97	3.764
19.30	5.143	20.20	4.682	21.10	4.217	22.00	3.747
19.33	5.126	20.23	4.665	21.13	4.199	22.03	3.806
19.37	5.109	20.27	4.648	21.17	4.182	22.07	3.868
19.40	5.092	20.30	4.631	21.20	4.165	22.10	3.933
19.43	5.075	20.33	4.614	21.23	4.147	22.13	4.000
19.47	5.058	20.37	4.596	21.27	4.130	22.17	4.069
19.50	5.041	20.40	4.579	21.30	4.113	22.20	4.142
19.53	5.024	20.43	4.562	21.33	4.095	22.23	4.217
19.57	5.007	20.47	4.545	21.37	4.078	22.27	4.295
19.60	4.990	20.50	4.528	21.40	4.061	22.30	4.375
19.63	4.973	20.53	4.510	21.43	4.043	22.33	4.336
19.67	4.956	20.57	4.493	21.47	4.026	22.37	4.296

Continues on next page

Pre Development

Hydrograph Discharge Table

Time (hrs)	Outflow (cfs)	Time (hrs)	Outflow (cfs)	Time (hrs)	Outflow (cfs)
22.40	4.254	23.30	3.459	24.20	2.517
22.43	4.212	23.33	3.446	24.23	2.309
22.47	4.168	23.37	3.432	24.27	2.075
22.50	4.122	23.40	3.419	24.30	1.813
22.53	4.076	23.43	3.406		
22.57	4.028	23.47	3.393	*...End*	
22.60	3.979	23.50	3.380		
22.63	3.929	23.53	3.367		
22.67	3.877	23.57	3.354		
22.70	3.824	23.60	3.340		
22.73	3.769	23.63	3.327		
22.77	3.713	23.67	3.314		
22.80	3.655	23.70	3.301		
22.83	3.642	23.73	3.288		
22.87	3.629	23.77	3.275		
22.90	3.616	23.80	3.261		
22.93	3.603	23.83	3.248		
22.97	3.590	23.87	3.235		
23.00	3.577	23.90	3.222		
23.03	3.564	23.93	3.209		
23.07	3.550	23.97	3.196		
23.10	3.537	24.00	3.182		
23.13	3.524	24.03	3.141		
23.17	3.511	24.07	3.072		
23.20	3.498	24.10	2.974		
23.23	3.485	24.13	2.849		
23.27	3.472	24.17	2.697		

Hydrograph Report

Hyd. No. 2

Post Development

Hydrograph type	= SCS Runoff	Peak discharge	= 151.99 cfs
Storm frequency	= 10 yrs	Time to peak	= 12.37 hrs
Time interval	= 2 min	Hyd. volume	= 839,644 cuft
Drainage area	= 97.910 ac	Curve number	= 81.000*
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= TR55	Time of conc. (Tc)	= 30.4 min
Total precip.	= 4.25 in	Distribution	= Type III
Storm duration	= 24 hrs	Shape factor	= 484

* Composite (Area/CN) = [(26.680 x 73) + (8.070 x 72) + (41.470 x 89) + (0.685 x 98) + (20.499 x 79) + (0.510 x 71)] / 97.910

Hydrograph Discharge Table

(Printed values >= 1.00% of Qp.)

Time (hrs)	Outflow (cfs)	Time (hrs)	Outflow (cfs)	Time (hrs)	Outflow (cfs)	Time (hrs)	Outflow (cfs)
9.27	1.592	9.87	3.145	10.47	5.329	11.07	8.890
9.30	1.666	9.90	3.245	10.50	5.490	11.10	9.134
9.33	1.741	9.93	3.347	10.53	5.655	11.13	9.391
9.37	1.818	9.97	3.449	10.57	5.826	11.17	9.664
9.40	1.897	10.00	3.553	10.60	6.001	11.20	9.957
9.43	1.976	10.03	3.659	10.63	6.181	11.23	10.27
9.47	2.058	10.07	3.766	10.67	6.366	11.27	10.61
9.50	2.141	10.10	3.876	10.70	6.555	11.30	10.98
9.53	2.225	10.13	3.988	10.73	6.748	11.33	11.38
9.57	2.310	10.17	4.103	10.77	6.945	11.37	11.82
9.60	2.397	10.20	4.221	10.80	7.146	11.40	12.28
9.63	2.486	10.23	4.343	10.83	7.351	11.43	12.79
9.67	2.576	10.27	4.469	10.87	7.560	11.47	13.32
9.70	2.667	10.30	4.600	10.90	7.772	11.50	13.89
9.73	2.760	10.33	4.735	10.93	7.988	11.53	14.50
9.77	2.854	10.37	4.876	10.97	8.206	11.57	15.20
9.80	2.950	10.40	5.022	11.00	8.429	11.60	16.03
9.83	3.047	10.43	5.173	11.03	8.656	11.63	17.03

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Post Development

Hydrograph Discharge Table

Time (hrs)	Outflow (cfs)	Time (hrs)	Outflow (cfs)	Time (hrs)	Outflow (cfs)	Time (hrs)	Outflow (cfs)
11.67	18.24	12.53	137.82	13.43	25.39	14.33	17.45
11.70	19.71	12.57	131.97	13.47	24.88	14.37	17.25
11.73	21.48	12.60	125.40	13.50	24.40	14.40	17.06
11.77	23.62	12.63	118.22	13.53	23.96	14.43	16.88
11.80	26.17	12.67	110.57	13.57	23.56	14.47	16.71
11.83	29.20	12.70	102.59	13.60	23.18	14.50	16.54
11.87	32.73	12.73	94.42	13.63	22.83	14.53	16.38
11.90	36.78	12.77	86.19	13.67	22.50	14.57	16.23
11.93	41.54	12.80	78.06	13.70	22.20	14.60	16.08
11.97	47.46	12.83	70.29	13.73	21.91	14.63	15.94
12.00	55.04	12.87	63.24	13.77	21.63	14.67	15.80
12.03	64.26	12.90	57.25	13.80	21.36	14.70	15.67
12.07	74.58	12.93	52.38	13.83	21.11	14.73	15.54
12.10	85.41	12.97	48.34	13.87	20.85	14.77	15.41
12.13	96.34	13.00	44.87	13.90	20.60	14.80	15.28
12.17	107.23	13.03	41.78	13.93	20.35	14.83	15.16
12.20	117.90	13.07	39.05	13.97	20.09	14.87	15.03
12.23	128.18	13.10	36.67	14.00	19.84	14.90	14.91
12.27	137.57	13.13	34.60	14.03	19.58	14.93	14.79
12.30	145.18	13.17	32.82	14.07	19.33	14.97	14.66
12.33	150.05	13.20	31.29	14.10	19.07	15.00	14.53
12.37	151.99	13.23	30.00	14.13	18.82	15.03	14.41
12.40	151.65	13.27	28.91	14.17	18.58	15.07	14.28
12.43	149.79	13.30	27.99	14.20	18.34	15.10	14.16
12.47	146.83	13.33	27.22	14.23	18.11	15.13	14.03
12.50	142.81	13.37	26.55	14.27	17.88	15.17	13.91
		13.40	25.95	14.30	17.66	15.20	13.78

Continues on next page

Post Development

Hydrograph Discharge Table

Time (hrs)	Outflow (cfs)	Time (hrs)	Outflow (cfs)	Time (hrs)	Outflow (cfs)	Time (hrs)	Outflow (cfs)
15.23	13.65	16.13	10.17	17.03	8.052	17.93	6.499
15.27	13.53	16.17	10.05	17.07	7.995	17.97	6.440
15.30	13.40	16.20	9.929	17.10	7.938	18.00	6.382
15.33	13.27	16.23	9.812	17.13	7.881	18.03	6.324
15.37	13.14	16.27	9.698	17.17	7.824	18.07	6.267
15.40	13.02	16.30	9.589	17.20	7.766	18.10	6.210
15.43	12.89	16.33	9.486	17.23	7.709	18.13	6.154
15.47	12.76	16.37	9.387	17.27	7.652	18.17	6.100
15.50	12.63	16.40	9.294	17.30	7.595	18.20	6.047
15.53	12.50	16.43	9.206	17.33	7.537	18.23	5.997
15.57	12.38	16.47	9.122	17.37	7.480	18.27	5.948
15.60	12.25	16.50	9.042	17.40	7.422	18.30	5.902
15.63	12.12	16.53	8.965	17.43	7.365	18.33	5.859
15.67	11.99	16.57	8.892	17.47	7.307	18.37	5.819
15.70	11.86	16.60	8.823	17.50	7.250	18.40	5.782
15.73	11.73	16.63	8.756	17.53	7.192	18.43	5.747
15.77	11.60	16.67	8.691	17.57	7.135	18.47	5.715
15.80	11.47	16.70	8.629	17.60	7.077	18.50	5.685
15.83	11.34	16.73	8.568	17.63	7.019	18.53	5.657
15.87	11.21	16.77	8.509	17.67	6.962	18.57	5.631
15.90	11.08	16.80	8.451	17.70	6.904	18.60	5.607
15.93	10.95	16.83	8.393	17.73	6.846	18.63	5.584
15.97	10.82	16.87	8.336	17.77	6.788	18.67	5.563
16.00	10.69	16.90	8.279	17.80	6.730	18.70	5.543
16.03	10.56	16.93	8.223	17.83	6.672	18.73	5.523
16.07	10.43	16.97	8.166	17.87	6.615	18.77	5.505
16.10	10.30	17.00	8.109	17.90	6.557	18.80	5.487

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Post Development

Hydrograph Discharge Table

Time (hrs)	Outflow (cfs)	Time (hrs)	Outflow (cfs)	Time (hrs)	Outflow (cfs)	Time (hrs)	Outflow (cfs)
18.83	5.470	19.73	5.006	20.63	4.538	21.53	4.064
18.87	5.452	19.77	4.989	20.67	4.520	21.57	4.047
18.90	5.435	19.80	4.972	20.70	4.503	21.60	4.029
18.93	5.418	19.83	4.954	20.73	4.485	21.63	4.012
18.97	5.401	19.87	4.937	20.77	4.468	21.67	3.994
19.00	5.384	19.90	4.920	20.80	4.450	21.70	3.976
19.03	5.367	19.93	4.903	20.83	4.433	21.73	3.959
19.07	5.350	19.97	4.885	20.87	4.415	21.77	3.941
19.10	5.333	20.00	4.868	20.90	4.398	21.80	3.923
19.13	5.316	20.03	4.851	20.93	4.380	21.83	3.906
19.17	5.299	20.07	4.833	20.97	4.363	21.87	3.888
19.20	5.281	20.10	4.816	21.00	4.345	21.90	3.870
19.23	5.264	20.13	4.799	21.03	4.328	21.93	3.853
19.27	5.247	20.17	4.781	21.07	4.310	21.97	3.835
19.30	5.230	20.20	4.764	21.10	4.293	22.00	3.817
19.33	5.213	20.23	4.747	21.13	4.275	22.03	3.862
19.37	5.196	20.27	4.729	21.17	4.258	22.07	3.908
19.40	5.179	20.30	4.712	21.20	4.240	22.10	3.957
19.43	5.161	20.33	4.694	21.23	4.223	22.13	4.008
19.47	5.144	20.37	4.677	21.27	4.205	22.17	4.061
19.50	5.127	20.40	4.660	21.30	4.188	22.20	4.116
19.53	5.110	20.43	4.642	21.33	4.170	22.23	4.173
19.57	5.092	20.47	4.625	21.37	4.152	22.27	4.233
19.60	5.075	20.50	4.607	21.40	4.135	22.30	4.295
19.63	5.058	20.53	4.590	21.43	4.117	22.33	4.359
19.67	5.041	20.57	4.573	21.47	4.100	22.37	4.327
19.70	5.024	20.60	4.555	21.50	4.082	22.40	4.293

Continues on next page

Post Development

Hydrograph Discharge Table

Time (hrs)	Outflow cfs)	Time (hrs)	Outflow cfs)	Time (hrs)	Outflow cfs)
22.43	4.260	23.33	3.506	24.23	2.514
22.47	4.225	23.37	3.493	24.27	2.321
22.50	4.189	23.40	3.480	24.30	2.106
22.53	4.152	23.43	3.466	24.33	1.870
22.57	4.114	23.47	3.453	24.37	1.647
22.60	4.076	23.50	3.440		
22.63	4.036	23.53	3.426	*...End*	
22.67	3.995	23.57	3.413		
22.70	3.953	23.60	3.400		
22.73	3.910	23.63	3.387		
22.77	3.866	23.67	3.373		
22.80	3.821	23.70	3.360		
22.83	3.775	23.73	3.347		
22.87	3.727	23.77	3.333		
22.90	3.679	23.80	3.320		
22.93	3.665	23.83	3.307		
22.97	3.652	23.87	3.293		
23.00	3.639	23.90	3.280		
23.03	3.626	23.93	3.267		
23.07	3.612	23.97	3.253		
23.10	3.599	24.00	3.240		
23.13	3.586	24.03	3.204		
23.17	3.573	24.07	3.145		
23.20	3.559	24.10	3.064		
23.23	3.546	24.13	2.960		
23.27	3.533	24.17	2.833		
23.30	3.520	24.20	2.685		

Hydrograph Report

Hyd. No. 1

Pre Development

Hydrograph type	= SCS Runoff	Peak discharge	= 249.42 cfs
Storm frequency	= 25 yrs	Time to peak	= 12.33 hrs
Time interval	= 2 min	Hyd. volume	= 1,306,057 cuft
Drainage area	= 97.910 ac	Curve number	= 81.000*
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= TR55	Time of conc. (Tc)	= 27.4 min
Total precip.	= 5.77 in	Distribution	= Type III
Storm duration	= 24 hrs	Shape factor	= 484

* Composite (Area/CN) = [(44.250 x 73) + (8.070 x 72) + (42.080 x 89) + (3.000 x 98) + (0.510 x 71)] / 97.910

Hydrograph Discharge Table

(Printed values >= 1.00% of Qp.)

Time -- Outflow (hrs cfs)		Time -- Outflow (hrs cfs)		Time -- Outflow (hrs cfs)		Time -- Outflow (hrs cfs)	
8.50	2.541	9.10	4.473	9.70	7.044	10.30	10.33
8.53	2.629	9.13	4.600	9.73	7.204	10.33	10.56
8.57	2.720	9.17	4.728	9.77	7.367	10.37	10.81
8.60	2.814	9.20	4.859	9.80	7.531	10.40	11.06
8.63	2.910	9.23	4.991	9.83	7.697	10.43	11.33
8.67	3.008	9.27	5.125	9.87	7.865	10.47	11.60
8.70	3.109	9.30	5.261	9.90	8.034	10.50	11.88
8.73	3.211	9.33	5.400	9.93	8.205	10.53	12.17
8.77	3.316	9.37	5.540	9.97	8.378	10.57	12.46
8.80	3.423	9.40	5.682	10.00	8.553	10.60	12.77
8.83	3.532	9.43	5.826	10.03	8.730	10.63	13.08
8.87	3.643	9.47	5.971	10.07	8.909	10.67	13.40
8.90	3.755	9.50	6.119	10.10	9.093	10.70	13.72
8.93	3.870	9.53	6.268	10.13	9.281	10.73	14.05
8.97	3.987	9.57	6.420	10.17	9.475	10.77	14.38
9.00	4.105	9.60	6.573	10.20	9.675	10.80	14.72
9.03	4.226	9.63	6.728	10.23	9.883	10.83	15.06
9.07	4.349	9.67	6.885	10.27	10.10	10.87	15.40

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Pre Development

Hydrograph Discharge Table

Time (hrs)	Outflow (cfs)	Time (hrs)	Outflow (cfs)	Time (hrs)	Outflow (cfs)	Time (hrs)	Outflow (cfs)
10.90	15.75	11.80	49.54	12.67	148.65	13.57	33.52
10.93	16.11	11.83	55.34	12.70	133.80	13.60	33.04
10.97	16.46	11.87	62.00	12.73	119.37	13.63	32.59
11.00	16.83	11.90	69.49	12.77	106.13	13.67	32.17
11.03	17.20	11.93	78.22	12.80	94.93	13.70	31.77
11.07	17.58	11.97	89.00	12.83	85.93	13.73	31.39
11.10	17.98	12.00	102.76	12.87	78.59	13.77	31.01
11.13	18.41	12.03	119.40	12.90	72.33	13.80	30.63
11.17	18.86	12.07	137.83	12.93	66.82	13.83	30.26
11.20	19.36	12.10	156.90	12.97	62.00	13.87	29.88
11.23	19.91	12.13	175.84	13.00	57.81	13.90	29.50
11.27	20.51	12.17	194.33	13.03	54.20	13.93	29.12
11.30	21.16	12.20	212.05	13.07	51.10	13.97	28.74
11.33	21.88	12.23	228.01	13.10	48.47	14.00	28.36
11.37	22.67	12.27	240.53	13.13	46.25	14.03	27.98
11.40	23.50	12.30	247.74	13.17	44.38	14.07	27.61
11.43	24.40	12.33	249.42	13.20	42.80	14.10	27.23
11.47	25.35	12.37	246.95	13.23	41.46	14.13	26.86
11.50	26.35	12.40	241.82	13.27	40.30	14.17	26.51
11.53	27.44	12.43	234.86	13.30	39.26	14.20	26.16
11.57	28.70	12.47	226.20	13.33	38.30	14.23	25.82
11.60	30.20	12.50	215.95	13.37	37.42	14.27	25.49
11.63	32.04	12.53	204.29	13.40	36.62	14.30	25.19
11.67	34.31	12.57	191.48	13.43	35.89	14.33	24.89
11.70	37.09	12.60	177.76	13.47	35.22	14.37	24.62
11.73	40.49	12.63	163.39	13.50	34.60	14.40	24.36
11.77	44.61			13.53	34.04	14.43	24.11

Continues on next page

Pre Development

Hydrograph Discharge Table

Time (hrs)	Outflow (cfs)	Time (hrs)	Outflow (cfs)	Time (hrs)	Outflow (cfs)	Time (hrs)	Outflow (cfs)
14.47	23.87	15.37	18.73	16.27	13.72	17.17	11.12
14.50	23.64	15.40	18.54	16.30	13.57	17.20	11.04
14.53	23.42	15.43	18.35	16.33	13.43	17.23	10.96
14.57	23.21	15.47	18.17	16.37	13.30	17.27	10.87
14.60	23.01	15.50	17.98	16.40	13.17	17.30	10.79
14.63	22.81	15.53	17.79	16.43	13.05	17.33	10.71
14.67	22.62	15.57	17.60	16.47	12.94	17.37	10.62
14.70	22.43	15.60	17.41	16.50	12.83	17.40	10.54
14.73	22.25	15.63	17.23	16.53	12.73	17.43	10.46
14.77	22.06	15.67	17.04	16.57	12.64	17.47	10.37
14.80	21.88	15.70	16.85	16.60	12.54	17.50	10.29
14.83	21.70	15.73	16.66	16.63	12.45	17.53	10.21
14.87	21.51	15.77	16.47	16.67	12.37	17.57	10.12
14.90	21.33	15.80	16.28	16.70	12.28	17.60	10.04
14.93	21.14	15.83	16.09	16.73	12.20	17.63	9.957
14.97	20.96	15.87	15.90	16.77	12.11	17.67	9.874
15.00	20.77	15.90	15.71	16.80	12.03	17.70	9.790
15.03	20.59	15.93	15.52	16.83	11.95	17.73	9.707
15.07	20.40	15.97	15.33	16.87	11.87	17.77	9.623
15.10	20.22	16.00	15.14	16.90	11.78	17.80	9.539
15.13	20.03	16.03	14.95	16.93	11.70	17.83	9.456
15.17	19.85	16.07	14.77	16.97	11.62	17.87	9.372
15.20	19.66	16.10	14.58	17.00	11.54	17.90	9.288
15.23	19.48	16.13	14.40	17.03	11.45	17.93	9.204
15.27	19.29	16.17	14.22	17.07	11.37	17.97	9.121
15.30	19.10	16.20	14.05	17.10	11.29	18.00	9.037
15.33	18.92	16.23	13.88	17.13	11.21	18.03	8.953

Continues on next page

Pre Development

Hydrograph Discharge Table

Time (hrs)	Outflow (cfs)	Time (hrs)	Outflow (cfs)	Time (hrs)	Outflow (cfs)	Time (hrs)	Outflow (cfs)
18.07	8.870	18.97	7.697	19.87	7.024	20.77	6.347
18.10	8.789	19.00	7.673	19.90	6.999	20.80	6.321
18.13	8.710	19.03	7.648	19.93	6.974	20.83	6.296
18.17	8.632	19.07	7.623	19.97	6.949	20.87	6.271
18.20	8.558	19.10	7.598	20.00	6.924	20.90	6.246
18.23	8.488	19.13	7.573	20.03	6.899	20.93	6.220
18.27	8.421	19.17	7.548	20.07	6.874	20.97	6.195
18.30	8.360	19.20	7.523	20.10	6.849	21.00	6.170
18.33	8.303	19.23	7.499	20.13	6.824	21.03	6.145
18.37	8.250	19.27	7.474	20.17	6.799	21.07	6.120
18.40	8.202	19.30	7.449	20.20	6.774	21.10	6.094
18.43	8.157	19.33	7.424	20.23	6.749	21.13	6.069
18.47	8.116	19.37	7.399	20.27	6.724	21.17	6.044
18.50	8.078	19.40	7.374	20.30	6.699	21.20	6.019
18.53	8.042	19.43	7.349	20.33	6.674	21.23	5.993
18.57	8.010	19.47	7.324	20.37	6.648	21.27	5.968
18.60	7.979	19.50	7.299	20.40	6.623	21.30	5.943
18.63	7.950	19.53	7.274	20.43	6.598	21.33	5.917
18.67	7.923	19.57	7.249	20.47	6.573	21.37	5.892
18.70	7.897	19.60	7.224	20.50	6.548	21.40	5.867
18.73	7.871	19.63	7.199	20.53	6.523	21.43	5.842
18.77	7.846	19.67	7.174	20.57	6.498	21.47	5.816
18.80	7.821	19.70	7.149	20.60	6.472	21.50	5.791
18.83	7.797	19.73	7.124	20.63	6.447	21.53	5.766
18.87	7.772	19.77	7.099	20.67	6.422	21.57	5.740
18.90	7.747	19.80	7.074	20.70	6.397	21.60	5.715
18.93	7.722	19.83	7.049	20.73	6.372	21.63	5.690

Continues on next page

Pre Development

Hydrograph Discharge Table

Time (hrs)	Outflow (cfs)	Time (hrs)	Outflow (cfs)	Time (hrs)	Outflow (cfs)
21.67	5.664	22.57	5.814	23.47	4.893
21.70	5.639	22.60	5.743	23.50	4.874
21.73	5.614	22.63	5.670	23.53	4.855
21.77	5.588	22.67	5.595	23.57	4.836
21.80	5.563	22.70	5.518	23.60	4.817
21.83	5.538	22.73	5.438	23.63	4.798
21.87	5.512	22.77	5.357	23.67	4.778
21.90	5.487	22.80	5.274	23.70	4.759
21.93	5.461	22.83	5.255	23.73	4.740
21.97	5.436	22.87	5.236	23.77	4.721
22.00	5.411	22.90	5.217	23.80	4.702
22.03	5.496	22.93	5.198	23.83	4.683
22.07	5.585	22.97	5.179	23.87	4.664
22.10	5.678	23.00	5.160	23.90	4.645
22.13	5.774	23.03	5.141	23.93	4.626
22.17	5.875	23.07	5.122	23.97	4.606
22.20	5.979	23.10	5.103	24.00	4.587
22.23	6.087	23.13	5.084	24.03	4.528
22.27	6.200	23.17	5.065	24.07	4.428
22.30	6.316	23.20	5.046	24.10	4.287
22.33	6.259	23.23	5.026	24.13	4.107
22.37	6.201	23.27	5.007	24.17	3.887
22.40	6.141	23.30	4.988	24.20	3.628
22.43	6.079	23.33	4.969	24.23	3.329
22.47	6.015	23.37	4.950	24.27	2.990
22.50	5.950	23.40	4.931	24.30	2.613
22.53	5.883	23.43	4.912		

...End

Hydrograph Report

Hyd. No. 2

Post Development

Hydrograph type	= SCS Runoff	Peak discharge	= 239.04 cfs
Storm frequency	= 25 yrs	Time to peak	= 12.37 hrs
Time interval	= 2 min	Hyd. volume	= 1,322,382 cuft
Drainage area	= 97.910 ac	Curve number	= 81.000*
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= TR55	Time of conc. (Tc)	= 30.4 min
Total precip.	= 5.77 in	Distribution	= Type III
Storm duration	= 24 hrs	Shape factor	= 484

* Composite (Area/CN) = [(26.680 x 73) + (8.070 x 72) + (41.470 x 89) + (0.685 x 98) + (20.499 x 79) + (0.510 x 71)] / 97.910

Hydrograph Discharge Table

(Printed values >= 1.00% of Qp.)

Time (hrs)	Outflow (cfs)	Time (hrs)	Outflow (cfs)	Time (hrs)	Outflow (cfs)	Time (hrs)	Outflow (cfs)
8.50	2.466	9.10	4.368	9.70	6.924	10.30	10.18
8.53	2.552	9.13	4.493	9.73	7.084	10.33	10.41
8.57	2.641	9.17	4.621	9.77	7.246	10.37	10.64
8.60	2.732	9.20	4.750	9.80	7.410	10.40	10.89
8.63	2.826	9.23	4.882	9.83	7.575	10.43	11.15
8.67	2.922	9.27	5.015	9.87	7.743	10.47	11.41
8.70	3.020	9.30	5.150	9.90	7.912	10.50	11.68
8.73	3.121	9.33	5.287	9.93	8.083	10.53	11.96
8.77	3.224	9.37	5.427	9.97	8.256	10.57	12.25
8.80	3.329	9.40	5.568	10.00	8.430	10.60	12.55
8.83	3.436	9.43	5.711	10.03	8.607	10.63	12.85
8.87	3.546	9.47	5.856	10.07	8.786	10.67	13.16
8.90	3.657	9.50	6.003	10.10	8.969	10.70	13.48
8.93	3.771	9.53	6.152	10.13	9.155	10.73	13.80
8.97	3.886	9.57	6.302	10.17	9.347	10.77	14.13
9.00	4.004	9.60	6.455	10.20	9.545	10.80	14.46
9.03	4.123	9.63	6.609	10.23	9.749	10.83	14.80
9.07	4.244	9.67	6.766	10.27	9.960	10.87	15.14

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Post Development

Hydrograph Discharge Table

Time (hrs)	Outflow (cfs)	Time (hrs)	Outflow (cfs)	Time (hrs)	Outflow (cfs)	Time (hrs)	Outflow (cfs)
10.90	15.49	11.80	45.95	12.67	169.21	13.57	34.84
10.93	15.85	11.83	50.94	12.70	156.57	13.60	34.27
10.97	16.20	11.87	56.74	12.73	143.70	13.63	33.75
11.00	16.56	11.90	63.33	12.77	130.80	13.67	33.25
11.03	16.93	11.93	71.04	12.80	118.11	13.70	32.79
11.07	17.31	11.97	80.55	12.83	106.05	13.73	32.35
11.10	17.70	12.00	92.59	12.87	95.15	13.77	31.93
11.13	18.12	12.03	107.11	12.90	85.95	13.80	31.53
11.17	18.57	12.07	123.23	12.93	78.49	13.83	31.14
11.20	19.04	12.10	140.01	12.97	72.34	13.87	30.76
11.23	19.56	12.13	156.85	13.00	67.06	13.90	30.38
11.27	20.11	12.17	173.49	13.03	62.37	13.93	29.99
11.30	20.72	12.20	189.68	13.07	58.24	13.97	29.61
11.33	21.39	12.23	205.15	13.10	54.63	14.00	29.23
11.37	22.11	12.27	219.11	13.13	51.51	14.03	28.84
11.40	22.89	12.30	230.19	13.17	48.82	14.07	28.46
11.43	23.72	12.33	236.91	13.20	46.52	14.10	28.08
11.47	24.60	12.37	239.04	13.23	44.57	14.13	27.71
11.50	25.54	12.40	237.67	13.27	42.93	14.17	27.34
11.53	26.56	12.43	233.97	13.30	41.55	14.20	26.98
11.57	27.72	12.47	228.61	13.33	40.38	14.23	26.63
11.60	29.10	12.50	221.67	13.37	39.37	14.27	26.29
11.63	30.76	12.53	213.28	13.40	38.46	14.30	25.96
11.67	32.78	12.57	203.65	13.43	37.62	14.33	25.65
11.70	35.22	12.60	192.96	13.47	36.84	14.37	25.35
11.73	38.18	12.63	181.41	13.50	36.12	14.40	25.07
11.77	41.72			13.53	35.46	14.43	24.80

Continues on next page

Post Development

Hydrograph Discharge Table

Time (hrs)	Outflow (cfs)	Time (hrs)	Outflow (cfs)	Time (hrs)	Outflow (cfs)	Time (hrs)	Outflow (cfs)
14.47	24.54	15.37	19.21	16.27	14.13	17.17	11.37
14.50	24.29	15.40	19.03	16.30	13.97	17.20	11.29
14.53	24.05	15.43	18.84	16.33	13.82	17.23	11.21
14.57	23.82	15.47	18.65	16.37	13.67	17.27	11.12
14.60	23.60	15.50	18.46	16.40	13.54	17.30	11.04
14.63	23.39	15.53	18.27	16.43	13.41	17.33	10.95
14.67	23.18	15.57	18.08	16.47	13.28	17.37	10.87
14.70	22.98	15.60	17.89	16.50	13.17	17.40	10.78
14.73	22.79	15.63	17.69	16.53	13.05	17.43	10.70
14.77	22.59	15.67	17.50	16.57	12.95	17.47	10.62
14.80	22.40	15.70	17.31	16.60	12.84	17.50	10.53
14.83	22.22	15.73	17.12	16.63	12.74	17.53	10.45
14.87	22.03	15.77	16.93	16.67	12.65	17.57	10.36
14.90	21.84	15.80	16.74	16.70	12.56	17.60	10.28
14.93	21.66	15.83	16.55	16.73	12.47	17.63	10.19
14.97	21.47	15.87	16.36	16.77	12.38	17.67	10.11
15.00	21.28	15.90	16.17	16.80	12.30	17.70	10.03
15.03	21.10	15.93	15.97	16.83	12.21	17.73	9.941
15.07	20.91	15.97	15.78	16.87	12.13	17.77	9.856
15.10	20.72	16.00	15.59	16.90	12.04	17.80	9.771
15.13	20.53	16.03	15.40	16.93	11.96	17.83	9.687
15.17	20.35	16.07	15.21	16.97	11.88	17.87	9.602
15.20	20.16	16.10	15.02	17.00	11.79	17.90	9.517
15.23	19.97	16.13	14.83	17.03	11.71	17.93	9.432
15.27	19.78	16.17	14.65	17.07	11.62	17.97	9.348
15.30	19.59	16.20	14.47	17.10	11.54	18.00	9.263
15.33	19.40	16.23	14.30	17.13	11.46	18.03	9.178

Continues on next page

Post Development

Hydrograph Discharge Table

Time (hrs)	Outflow cfs)	Time (hrs)	Outflow cfs)	Time (hrs)	Outflow cfs)	Time (hrs)	Outflow cfs)
18.07	9.094	18.97	7.827	19.87	7.146	20.77	6.460
18.10	9.011	19.00	7.802	19.90	7.121	20.80	6.434
18.13	8.930	19.03	7.777	19.93	7.095	20.83	6.409
18.17	8.851	19.07	7.752	19.97	7.070	20.87	6.383
18.20	8.774	19.10	7.727	20.00	7.045	20.90	6.358
18.23	8.699	19.13	7.701	20.03	7.019	20.93	6.332
18.27	8.629	19.17	7.676	20.07	6.994	20.97	6.307
18.30	8.562	19.20	7.651	20.10	6.969	21.00	6.281
18.33	8.499	19.23	7.626	20.13	6.943	21.03	6.256
18.37	8.440	19.27	7.601	20.17	6.918	21.07	6.230
18.40	8.386	19.30	7.575	20.20	6.892	21.10	6.205
18.43	8.335	19.33	7.550	20.23	6.867	21.13	6.179
18.47	8.288	19.37	7.525	20.27	6.842	21.17	6.153
18.50	8.244	19.40	7.500	20.30	6.816	21.20	6.128
18.53	8.203	19.43	7.475	20.33	6.791	21.23	6.102
18.57	8.165	19.47	7.449	20.37	6.765	21.27	6.077
18.60	8.130	19.50	7.424	20.40	6.740	21.30	6.051
18.63	8.096	19.53	7.399	20.43	6.715	21.33	6.026
18.67	8.065	19.57	7.374	20.47	6.689	21.37	6.000
18.70	8.035	19.60	7.348	20.50	6.664	21.40	5.974
18.73	8.007	19.63	7.323	20.53	6.638	21.43	5.949
18.77	7.979	19.67	7.298	20.57	6.613	21.47	5.923
18.80	7.953	19.70	7.273	20.60	6.587	21.50	5.897
18.83	7.928	19.73	7.247	20.63	6.562	21.53	5.872
18.87	7.902	19.77	7.222	20.67	6.536	21.57	5.846
18.90	7.877	19.80	7.197	20.70	6.511	21.60	5.821
18.93	7.852	19.83	7.171	20.73	6.485	21.63	5.795

Continues on next page

Post Development

Hydrograph Discharge Table

Time (hrs)	Outflow (cfs)	Time (hrs)	Outflow (cfs)	Time (hrs)	Outflow (cfs)
21.67	5.769	22.57	5.938	23.47	4.980
21.70	5.744	22.60	5.882	23.50	4.961
21.73	5.718	22.63	5.824	23.53	4.941
21.77	5.692	22.67	5.765	23.57	4.922
21.80	5.667	22.70	5.705	23.60	4.903
21.83	5.641	22.73	5.643	23.63	4.883
21.87	5.615	22.77	5.579	23.67	4.864
21.90	5.590	22.80	5.514	23.70	4.845
21.93	5.564	22.83	5.447	23.73	4.825
21.97	5.538	22.87	5.378	23.77	4.806
22.00	5.513	22.90	5.308	23.80	4.787
22.03	5.577	22.93	5.288	23.83	4.767
22.07	5.644	22.97	5.269	23.87	4.748
22.10	5.714	23.00	5.250	23.90	4.729
22.13	5.787	23.03	5.231	23.93	4.709
22.17	5.863	23.07	5.211	23.97	4.690
22.20	5.942	23.10	5.192	24.00	4.670
22.23	6.025	23.13	5.173	24.03	4.618
22.27	6.111	23.17	5.154	24.07	4.533
22.30	6.200	23.20	5.134	24.10	4.416
22.33	6.292	23.23	5.115	24.13	4.266
22.37	6.246	23.27	5.096	24.17	4.084
22.40	6.198	23.30	5.076	24.20	3.870
22.43	6.148	23.33	5.057	24.23	3.624
22.47	6.098	23.37	5.038	24.27	3.346
22.50	6.046	23.40	5.019	24.30	3.036
22.53	5.993	23.43	4.999	24.33	2.695

Hydrograph Report

Hydraflow Hydrographs Extension for AutoCAD® Civil 3D® 2015 by Autodesk, Inc. v10.4 — Friday, 01 / 29 / 2016

Hyd. No. 1

Pre Development

Hydrograph type	= SCS Runoff	Peak discharge	= 311.90 cfs
Storm frequency	= 50 yrs	Time to peak	= 12.33 hrs
Time interval	= 2 min	Hyd. volume	= 1,641,771 cuft
Drainage area	= 97.910 ac	Curve number	= 81.000*
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= TR55	Time of conc. (Tc)	= 27.4 min
Total precip.	= 6.80 in	Distribution	= Type III
Storm duration	= 24 hrs	Shape factor	= 484

* Composite (Area/CN) = [(44.250 x 73) + (8.070 x 72) + (42.080 x 89) + (3.000 x 98) + (0.510 x 71)] / 97.910

Hydrograph Discharge Table

(Printed values >= 1.00% of Qp)

Time -- (hrs)	Outflow cfs)	Time -- (hrs)	Outflow cfs)	Time -- (hrs)	Outflow cfs)	Time -- (hrs)	Outflow cfs)
8.10	3.192	8.70	5.177	9.30	8.082	9.90	11.69
8.13	3.275	8.73	5.319	9.33	8.265	9.93	11.91
8.17	3.359	8.77	5.463	9.37	8.450	9.97	12.13
8.20	3.446	8.80	5.610	9.40	8.637	10.00	12.36
8.23	3.536	8.83	5.759	9.43	8.826	10.03	12.58
8.27	3.629	8.87	5.910	9.47	9.017	10.07	12.81
8.30	3.726	8.90	6.064	9.50	9.211	10.10	13.05
8.33	3.827	8.93	6.219	9.53	9.406	10.13	13.29
8.37	3.932	8.97	6.377	9.57	9.604	10.17	13.53
8.40	4.041	9.00	6.538	9.60	9.804	10.20	13.79
8.43	4.153	9.03	6.700	9.63	10.01	10.23	14.06
8.47	4.269	9.07	6.865	9.67	10.21	10.27	14.33
8.50	4.389	9.10	7.032	9.70	10.42	10.30	14.62
8.53	4.512	9.13	7.202	9.73	10.62	10.33	14.93
8.57	4.639	9.17	7.374	9.77	10.83	10.37	15.24
8.60	4.769	9.20	7.547	9.80	11.04	10.40	15.57
8.63	4.902	9.23	7.724	9.83	11.26	10.43	15.91
8.67	5.038	9.27	7.902	9.87	11.47	10.47	16.26

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Pre Development

Hydrograph Discharge Table

Time (hrs)	Outflow (cfs)	Time (hrs)	Outflow (cfs)	Time (hrs)	Outflow (cfs)	Time (hrs)	Outflow (cfs)
10.50	16.62	11.40	31.42	12.30	310.35	13.17	54.19
10.53	17.00	11.43	32.57	12.33	311.90	13.20	52.25
10.57	17.38	11.47	33.78	12.37	308.31	13.23	50.61
10.60	17.77	11.50	35.06	12.40	301.44	13.27	49.18
10.63	18.17	11.53	36.45	12.43	292.34	13.30	47.90
10.67	18.57	11.57	38.06	12.47	281.16	13.33	46.73
10.70	18.99	11.60	39.98	12.50	268.05	13.37	45.65
10.73	19.40	11.63	42.34	12.53	253.24	13.40	44.66
10.77	19.83	11.67	45.25	12.57	237.04	13.43	43.76
10.80	20.26	11.70	48.81	12.60	219.77	13.47	42.94
10.83	20.69	11.73	53.16	12.63	201.75	13.50	42.18
10.87	21.13	11.77	58.43	12.67	183.31	13.53	41.49
10.90	21.58	11.80	64.73	12.70	164.78	13.57	40.85
10.93	22.02	11.83	72.13	12.73	146.81	13.60	40.26
10.97	22.48	11.87	80.59	12.77	130.37	13.63	39.71
11.00	22.93	11.90	90.10	12.80	116.49	13.67	39.19
11.03	23.40	11.93	101.13	12.83	105.37	13.70	38.70
11.07	23.88	11.97	114.71	12.87	96.30	13.73	38.22
11.10	24.39	12.00	131.96	12.90	88.58	13.77	37.76
11.13	24.92	12.03	152.75	12.93	81.79	13.80	37.30
11.17	25.51	12.07	175.69	12.97	75.86	13.83	36.83
11.20	26.14	12.10	199.35	13.00	70.70	13.87	36.37
11.23	26.83	12.13	222.76	13.03	66.26	13.90	35.91
11.27	27.59	12.17	245.54	13.07	62.45	13.93	35.44
11.30	28.43	12.20	267.29	13.10	59.22	13.97	34.97
11.33	29.35	12.23	286.77	13.13	56.49	14.00	34.51
11.37	30.35	12.27	301.89			14.03	34.04

Continues on next page

Pre Development

Hydrograph Discharge Table

Time (hrs)	Outflow (cfs)	Time (hrs)	Outflow (cfs)	Time (hrs)	Outflow (cfs)	Time (hrs)	Outflow (cfs)
14.07	33.58	14.97	25.44	15.87	19.27	16.77	14.67
14.10	33.12	15.00	25.21	15.90	19.04	16.80	14.57
14.13	32.67	15.03	24.99	15.93	18.81	16.83	14.46
14.17	32.23	15.07	24.76	15.97	18.58	16.87	14.36
14.20	31.80	15.10	24.53	16.00	18.35	16.90	14.26
14.23	31.39	15.13	24.31	16.03	18.12	16.93	14.16
14.27	30.99	15.17	24.08	16.07	17.89	16.97	14.06
14.30	30.62	15.20	23.85	16.10	17.66	17.00	13.96
14.33	30.26	15.23	23.63	16.13	17.44	17.03	13.86
14.37	29.92	15.27	23.40	16.17	17.23	17.07	13.76
14.40	29.60	15.30	23.17	16.20	17.02	17.10	13.66
14.43	29.29	15.33	22.94	16.23	16.81	17.13	13.56
14.47	29.00	15.37	22.71	16.27	16.62	17.17	13.46
14.50	28.72	15.40	22.49	16.30	16.44	17.20	13.36
14.53	28.45	15.43	22.26	16.33	16.27	17.23	13.26
14.57	28.20	15.47	22.03	16.37	16.11	17.27	13.16
14.60	27.95	15.50	21.80	16.40	15.95	17.30	13.06
14.63	27.71	15.53	21.57	16.43	15.81	17.33	12.95
14.67	27.47	15.57	21.34	16.47	15.67	17.37	12.85
14.70	27.24	15.60	21.11	16.50	15.54	17.40	12.75
14.73	27.02	15.63	20.88	16.53	15.42	17.43	12.65
14.77	26.79	15.67	20.65	16.57	15.30	17.47	12.55
14.80	26.57	15.70	20.42	16.60	15.19	17.50	12.45
14.83	26.34	15.73	20.19	16.63	15.08	17.53	12.35
14.87	26.12	15.77	19.96	16.67	14.97	17.57	12.25
14.90	25.89	15.80	19.73	16.70	14.87	17.60	12.15
14.93	25.67	15.83	19.50	16.73	14.77	17.63	12.04

Continues on next page

Pre Development

Hydrograph Discharge Table

Time (hrs)	Outflow (cfs)	Time (hrs)	Outflow (cfs)	Time (hrs)	Outflow (cfs)	Time (hrs)	Outflow (cfs)
17.67	11.94	18.57	9.682	19.47	8.849	20.37	8.029
17.70	11.84	18.60	9.645	19.50	8.819	20.40	7.999
17.73	11.74	18.63	9.610	19.53	8.789	20.43	7.968
17.77	11.64	18.67	9.577	19.57	8.758	20.47	7.938
17.80	11.54	18.70	9.545	19.60	8.728	20.50	7.907
17.83	11.44	18.73	9.514	19.63	8.698	20.53	7.877
17.87	11.33	18.77	9.484	19.67	8.667	20.57	7.846
17.90	11.23	18.80	9.453	19.70	8.637	20.60	7.816
17.93	11.13	18.83	9.423	19.73	8.607	20.63	7.785
17.97	11.03	18.87	9.393	19.77	8.576	20.67	7.755
18.00	10.93	18.90	9.363	19.80	8.546	20.70	7.724
18.03	10.83	18.93	9.333	19.83	8.516	20.73	7.693
18.07	10.73	18.97	9.303	19.87	8.485	20.77	7.663
18.10	10.63	19.00	9.272	19.90	8.455	20.80	7.632
18.13	10.53	19.03	9.242	19.93	8.424	20.83	7.602
18.17	10.44	19.07	9.212	19.97	8.394	20.87	7.571
18.20	10.35	19.10	9.182	20.00	8.364	20.90	7.541
18.23	10.26	19.13	9.152	20.03	8.333	20.93	7.510
18.27	10.18	19.17	9.121	20.07	8.303	20.97	7.480
18.30	10.11	19.20	9.091	20.10	8.272	21.00	7.449
18.33	10.04	19.23	9.061	20.13	8.242	21.03	7.418
18.37	9.974	19.27	9.031	20.17	8.212	21.07	7.388
18.40	9.915	19.30	9.000	20.20	8.181	21.10	7.357
18.43	9.861	19.33	8.970	20.23	8.151	21.13	7.327
18.47	9.811	19.37	8.940	20.27	8.120	21.17	7.296
18.50	9.765	19.40	8.910	20.30	8.090	21.20	7.266
18.53	9.722	19.43	8.879	20.33	8.059	21.23	7.235

Continues on next page

Pre Development

Hydrograph Discharge Table

Time (hrs)	Outflow (cfs)	Time (hrs)	Outflow (cfs)	Time (hrs)	Outflow (cfs)	Time (hrs)	Outflow (cfs)
21.27	7.204	22.17	7.089	23.07	6.178	23.97	5.555
21.30	7.174	22.20	7.215	23.10	6.155	24.00	5.532
21.33	7.143	22.23	7.346	23.13	6.132	24.03	5.460
21.37	7.113	22.27	7.481	23.17	6.109	24.07	5.340
21.40	7.082	22.30	7.621	23.20	6.086	24.10	5.170
21.43	7.051	22.33	7.553	23.23	6.063	24.13	4.953
21.47	7.021	22.37	7.482	23.27	6.040	24.17	4.688
21.50	6.990	22.40	7.410	23.30	6.017	24.20	4.375
21.53	6.959	22.43	7.335	23.33	5.994	24.23	4.014
21.57	6.929	22.47	7.258	23.37	5.971	24.27	3.606
21.60	6.898	22.50	7.179	23.40	5.948	24.30	3.151
21.63	6.867	22.53	7.098	23.43	5.925		
21.67	6.837	22.57	7.014	23.47	5.902	*...End*	
21.70	6.806	22.60	6.929	23.50	5.879		
21.73	6.775	22.63	6.840	23.53	5.856		
21.77	6.745	22.67	6.750	23.57	5.833		
21.80	6.714	22.70	6.657	23.60	5.809		
21.83	6.683	22.73	6.561	23.63	5.786		
21.87	6.653	22.77	6.463	23.67	5.763		
21.90	6.622	22.80	6.363	23.70	5.740		
21.93	6.591	22.83	6.340	23.73	5.717		
21.97	6.560	22.87	6.317	23.77	5.694		
22.00	6.530	22.90	6.294	23.80	5.671		
22.03	6.633	22.93	6.271	23.83	5.648		
22.07	6.740	22.97	6.248	23.87	5.625		
22.10	6.852	23.00	6.225	23.90	5.602		
22.13	6.968	23.03	6.202	23.93	5.578		

Hydrograph Report

Hyd. No. 2

Post Development

Hydrograph type	= SCS Runoff	Peak discharge	= 299.07 cfs
Storm frequency	= 50 yrs	Time to peak	= 12.37 hrs
Time interval	= 2 min	Hyd. volume	= 1,662,294 cuft
Drainage area	= 97.910 ac	Curve number	= 81.000*
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= TR55	Time of conc. (Tc)	= 30.4 min
Total precip.	= 6.80 in	Distribution	= Type III
Storm duration	= 24 hrs	Shape factor	= 484

* Composite (Area/CN) = [(26.680 x 73) + (8.070 x 72) + (41.470 x 89) + (0.685 x 98) + (20.499 x 79) + (0.510 x 71)] / 97.910

Hydrograph Discharge Table

(Printed values >= 1.00% of Qp.)

Time -- Outflow (hrs cfs)		Time -- Outflow (hrs cfs)		Time -- Outflow (hrs cfs)		Time -- Outflow (hrs cfs)	
8.07	3.049	8.67	4.929	9.27	7.768	9.87	11.33
8.10	3.128	8.70	5.065	9.30	7.948	9.90	11.55
8.13	3.210	8.73	5.204	9.33	8.129	9.93	11.77
8.17	3.293	8.77	5.346	9.37	8.314	9.97	11.99
8.20	3.379	8.80	5.491	9.40	8.500	10.00	12.22
8.23	3.468	8.83	5.638	9.43	8.689	10.03	12.44
8.27	3.559	8.87	5.788	9.47	8.879	10.07	12.67
8.30	3.653	8.90	5.940	9.50	9.072	10.10	12.90
8.33	3.751	8.93	6.095	9.53	9.267	10.13	13.14
8.37	3.853	8.97	6.252	9.57	9.465	10.17	13.39
8.40	3.958	9.00	6.411	9.60	9.664	10.20	13.64
8.43	4.067	9.03	6.573	9.63	9.866	10.23	13.90
8.47	4.180	9.07	6.737	9.67	10.07	10.27	14.17
8.50	4.296	9.10	6.903	9.70	10.27	10.30	14.45
8.53	4.416	9.13	7.071	9.73	10.48	10.33	14.75
8.57	4.539	9.17	7.242	9.77	10.69	10.37	15.05
8.60	4.666	9.20	7.415	9.80	10.90	10.40	15.37
8.63	4.796	9.23	7.590	9.83	11.12	10.43	15.70

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Post Development

Hydrograph Discharge Table

Time (hrs)	Outflow (cfs)	Time (hrs)	Outflow (cfs)	Time (hrs)	Outflow (cfs)	Time (hrs)	Outflow (cfs)
10.47	16.04	11.37	29.66	12.27	275.59	13.13	62.95
10.50	16.39	11.40	30.65	12.30	288.98	13.17	59.64
10.53	16.75	11.43	31.72	12.33	296.88	13.20	56.82
10.57	17.12	11.47	32.85	12.37	299.07	13.23	54.43
10.60	17.50	11.50	34.04	12.40	296.91	13.27	52.41
10.63	17.89	11.53	35.34	12.43	291.87	13.30	50.71
10.67	18.28	11.57	36.83	12.47	284.79	13.33	49.27
10.70	18.69	11.60	38.59	12.50	275.78	13.37	48.03
10.73	19.10	11.63	40.72	12.53	265.02	13.40	46.91
10.77	19.52	11.67	43.30	12.57	252.73	13.43	45.88
10.80	19.95	11.70	46.43	12.60	239.18	13.47	44.93
10.83	20.38	11.73	50.22	12.63	224.60	13.50	44.04
10.87	20.82	11.77	54.75	12.67	209.25	13.53	43.23
10.90	21.26	11.80	60.15	12.70	193.39	13.57	42.47
10.93	21.71	11.83	66.51	12.73	177.27	13.60	41.77
10.97	22.16	11.87	73.89	12.77	161.17	13.63	41.12
11.00	22.62	11.90	82.26	12.80	145.35	13.67	40.51
11.03	23.08	11.93	92.02	12.83	130.34	13.70	39.94
11.07	23.56	11.97	104.01	12.87	116.81	13.73	39.40
11.10	24.06	12.00	119.14	12.90	105.41	13.77	38.89
11.13	24.59	12.03	137.31	12.93	96.19	13.80	38.40
11.17	25.15	12.07	157.40	12.97	88.60	13.83	37.92
11.20	25.75	12.10	178.26	13.00	82.09	13.87	37.45
11.23	26.41	12.13	199.12	13.03	76.31	13.90	36.98
11.27	27.12	12.17	219.67	13.07	71.23	13.93	36.51
11.30	27.89	12.20	239.60	13.10	66.79	13.97	36.04
11.33	28.74	12.23	258.57			14.00	35.57

Continues on next page

Post Development

Hydrograph Discharge Table

Time (hrs)	Outflow cfs)	Time (hrs)	Outflow cfs)	Time (hrs)	Outflow cfs)	Time (hrs)	Outflow cfs)
14.03	35.10	14.93	26.29	15.83	20.06	16.73	15.09
14.07	34.63	14.97	26.06	15.87	19.82	16.77	14.99
14.10	34.16	15.00	25.83	15.90	19.59	16.80	14.88
14.13	33.70	15.03	25.60	15.93	19.36	16.83	14.78
14.17	33.25	15.07	25.37	15.97	19.12	16.87	14.68
14.20	32.81	15.10	25.15	16.00	18.89	16.90	14.58
14.23	32.38	15.13	24.92	16.03	18.66	16.93	14.48
14.27	31.97	15.17	24.69	16.07	18.42	16.97	14.37
14.30	31.57	15.20	24.46	16.10	18.19	17.00	14.27
14.33	31.18	15.23	24.23	16.13	17.97	17.03	14.17
14.37	30.82	15.27	24.00	16.17	17.75	17.07	14.07
14.40	30.47	15.30	23.77	16.20	17.53	17.10	13.97
14.43	30.14	15.33	23.54	16.23	17.32	17.13	13.86
14.47	29.82	15.37	23.31	16.27	17.12	17.17	13.76
14.50	29.52	15.40	23.07	16.30	16.92	17.20	13.66
14.53	29.22	15.43	22.84	16.33	16.74	17.23	13.56
14.57	28.94	15.47	22.61	16.37	16.56	17.27	13.46
14.60	28.67	15.50	22.38	16.40	16.39	17.30	13.35
14.63	28.41	15.53	22.15	16.43	16.24	17.33	13.25
14.67	28.16	15.57	21.92	16.47	16.09	17.37	13.15
14.70	27.91	15.60	21.68	16.50	15.94	17.40	13.05
14.73	27.67	15.63	21.45	16.53	15.81	17.43	12.95
14.77	27.44	15.67	21.22	16.57	15.68	17.47	12.84
14.80	27.20	15.70	20.99	16.60	15.55	17.50	12.74
14.83	26.97	15.73	20.76	16.63	15.43	17.53	12.64
14.87	26.75	15.77	20.52	16.67	15.32	17.57	12.54
14.90	26.52	15.80	20.29	16.70	15.20	17.60	12.43

Continues on next page

Post Development

Hydrograph Discharge Table

Time (hrs)	Outflow (cfs)	Time (hrs)	Outflow (cfs)	Time (hrs)	Outflow (cfs)	Time (hrs)	Outflow (cfs)
17.63	12.33	18.53	9.917	19.43	9.031	20.33	8.201
17.67	12.23	18.57	9.871	19.47	9.001	20.37	8.170
17.70	12.13	18.60	9.827	19.50	8.970	20.40	8.140
17.73	12.02	18.63	9.787	19.53	8.939	20.43	8.109
17.77	11.92	18.67	9.748	19.57	8.909	20.47	8.078
17.80	11.82	18.70	9.712	19.60	8.878	20.50	8.047
17.83	11.72	18.73	9.678	19.63	8.847	20.53	8.016
17.87	11.61	18.77	9.645	19.67	8.816	20.57	7.985
17.90	11.51	18.80	9.613	19.70	8.786	20.60	7.954
17.93	11.41	18.83	9.582	19.73	8.755	20.63	7.924
17.97	11.30	18.87	9.551	19.77	8.724	20.67	7.893
18.00	11.20	18.90	9.521	19.80	8.694	20.70	7.862
18.03	11.10	18.93	9.490	19.83	8.663	20.73	7.831
18.07	11.00	18.97	9.460	19.87	8.632	20.77	7.800
18.10	10.90	19.00	9.429	19.90	8.601	20.80	7.769
18.13	10.80	19.03	9.399	19.93	8.571	20.83	7.738
18.17	10.70	19.07	9.368	19.97	8.540	20.87	7.707
18.20	10.61	19.10	9.337	20.00	8.509	20.90	7.676
18.23	10.52	19.13	9.307	20.03	8.478	20.93	7.645
18.27	10.43	19.17	9.276	20.07	8.448	20.97	7.614
18.30	10.35	19.20	9.246	20.10	8.417	21.00	7.583
18.33	10.28	19.23	9.215	20.13	8.386	21.03	7.553
18.37	10.20	19.27	9.184	20.17	8.355	21.07	7.522
18.40	10.14	19.30	9.154	20.20	8.325	21.10	7.491
18.43	10.08	19.33	9.123	20.23	8.294	21.13	7.460
18.47	10.02	19.37	9.092	20.27	8.263	21.17	7.429
18.50	9.967	19.40	9.062	20.30	8.232	21.20	7.398

Continues on next page

Post Development

Hydrograph Discharge Table

Time (hrs)	Outflow cfs)	Time (hrs)	Outflow cfs)	Time (hrs)	Outflow cfs)	Time (hrs)	Outflow cfs)
21.23	7.367	22.13	6.983	23.03	6.310	23.93	5.679
21.27	7.336	22.17	7.075	23.07	6.287	23.97	5.656
21.30	7.305	22.20	7.171	23.10	6.263	24.00	5.633
21.33	7.274	22.23	7.270	23.13	6.240	24.03	5.570
21.37	7.243	22.27	7.374	23.17	6.217	24.07	5.467
21.40	7.212	22.30	7.481	23.20	6.193	24.10	5.325
21.43	7.181	22.33	7.593	23.23	6.170	24.13	5.145
21.47	7.150	22.37	7.536	23.27	6.147	24.17	4.925
21.50	7.119	22.40	7.478	23.30	6.123	24.20	4.667
21.53	7.088	22.43	7.419	23.33	6.100	24.23	4.370
21.57	7.057	22.47	7.358	23.37	6.077	24.27	4.035
21.60	7.026	22.50	7.295	23.40	6.053	24.30	3.661
21.63	6.995	22.53	7.231	23.43	6.030	24.33	3.250
21.67	6.964	22.57	7.165	23.47	6.007		
21.70	6.932	22.60	7.097	23.50	5.983		
21.73	6.901	22.63	7.027	23.53	5.960		
21.77	6.870	22.67	6.956	23.57	5.937		
21.80	6.839	22.70	6.883	23.60	5.913		
21.83	6.808	22.73	6.808	23.63	5.890		
21.87	6.777	22.77	6.731	23.67	5.866		
21.90	6.746	22.80	6.652	23.70	5.843		
21.93	6.715	22.83	6.571	23.73	5.820		
21.97	6.684	22.87	6.488	23.77	5.796		
22.00	6.653	22.90	6.403	23.80	5.773		
22.03	6.730	22.93	6.380	23.83	5.750		
22.07	6.811	22.97	6.357	23.87	5.726		
22.10	6.895	23.00	6.333	23.90	5.703		

...End

Hydrograph Report

Hyd. No. 1

Pre Development

Hydrograph type	= SCS Runoff	Peak discharge	= 381.94 cfs
Storm frequency	= 100 yrs	Time to peak	= 12.33 hrs
Time interval	= 2 min	Hyd. volume	= 2,024,122 cuft
Drainage area	= 97.910 ac	Curve number	= 81.000*
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= TR55	Time of conc. (Tc)	= 27.4 min
Total precip.	= 7.95 in	Distribution	= Type III
Storm duration	= 24 hrs	Shape factor	= 484

* Composite (Area/CN) = [(44.250 x 73) + (8.070 x 72) + (42.080 x 89) + (3.000 x 98) + (0.510 x 71)] / 97.910

Hydrograph Discharge Table

(Printed values >= 1.00% of Qp.)

Time -- Outflow (hrs cfs)		Time -- Outflow (hrs cfs)		Time -- Outflow (hrs cfs)		Time -- Outflow (hrs cfs)	
7.67	3.858	8.27	5.697	8.87	8.721	9.47	12.72
7.70	3.950	8.30	5.825	8.90	8.922	9.50	12.97
7.73	4.042	8.33	5.959	8.93	9.125	9.53	13.22
7.77	4.136	8.37	6.099	8.97	9.331	9.57	13.47
7.80	4.230	8.40	6.244	9.00	9.540	9.60	13.72
7.83	4.325	8.43	6.393	9.03	9.752	9.63	13.97
7.87	4.421	8.47	6.548	9.07	9.965	9.67	14.23
7.90	4.518	8.50	6.708	9.10	10.18	9.70	14.49
7.93	4.617	8.53	6.872	9.13	10.40	9.73	14.75
7.97	4.716	8.57	7.041	9.17	10.62	9.77	15.02
8.00	4.815	8.60	7.214	9.20	10.85	9.80	15.28
8.03	4.916	8.63	7.390	9.23	11.07	9.83	15.55
8.07	5.019	8.67	7.571	9.27	11.30	9.87	15.82
8.10	5.124	8.70	7.755	9.30	11.53	9.90	16.09
8.13	5.231	8.73	7.943	9.33	11.77	9.93	16.36
8.17	5.342	8.77	8.133	9.37	12.00	9.97	16.64
8.20	5.456	8.80	8.326	9.40	12.24	10.00	16.92
8.23	5.574	8.83	8.522	9.43	12.48	10.03	17.20

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Pre Development

Hydrograph Discharge Table

Time (hrs)	Outflow cfs)	Time (hrs)	Outflow cfs)	Time (hrs)	Outflow cfs)	Time (hrs)	Outflow cfs)
10.07	17.48	10.97	29.51	11.87	101.83	12.73	177.37
10.10	17.77	11.00	30.07	11.90	113.59	12.77	157.35
10.13	18.07	11.03	30.65	11.93	127.22	12.80	140.49
10.17	18.38	11.07	31.24	11.97	143.94	12.83	126.99
10.20	18.70	11.10	31.86	12.00	165.10	12.87	116.00
10.23	19.03	11.13	32.52	12.03	190.53	12.90	106.66
10.27	19.37	11.17	33.24	12.07	218.51	12.93	98.44
10.30	19.74	11.20	34.02	12.10	247.28	12.97	91.27
10.33	20.12	11.23	34.88	12.13	275.67	13.00	85.04
10.37	20.51	11.27	35.82	12.17	303.22	13.03	79.67
10.40	20.92	11.30	36.87	12.20	329.45	13.07	75.07
10.43	21.35	11.33	38.01	12.23	352.82	13.10	71.16
10.47	21.79	11.37	39.26	12.27	370.79	13.13	67.87
10.50	22.24	11.40	40.60	12.30	380.59	13.17	65.10
10.53	22.71	11.43	42.02	12.33	381.94	13.20	62.76
10.57	23.18	11.47	43.54	12.37	377.06	13.23	60.78
10.60	23.67	11.50	45.13	12.40	368.19	13.27	59.05
10.63	24.17	11.53	46.85	12.43	356.65	13.30	57.51
10.67	24.67	11.57	48.85	12.47	342.61	13.33	56.09
10.70	25.19	11.60	51.26	12.50	326.27	13.37	54.79
10.73	25.71	11.63	54.20	12.53	307.91	13.40	53.60
10.77	26.24	11.67	57.82	12.57	287.91	13.43	52.51
10.80	26.77	11.70	62.28	12.60	266.65	13.47	51.51
10.83	27.31	11.73	67.71	12.63	244.53	13.50	50.60
10.87	27.86	11.77	74.27	12.67	221.95	13.53	49.76
10.90	28.40	11.80	82.12	12.70	199.30	13.57	48.99
10.93	28.96	11.83	91.32			13.60	48.28

Continues on next page

Pre Development

Hydrograph Discharge Table

Time (hrs)	Outflow (cfs)	Time (hrs)	Outflow (cfs)	Time (hrs)	Outflow (cfs)	Time (hrs)	Outflow (cfs)
13.63	47.61	14.53	34.04	15.43	26.59	16.33	19.41
13.67	46.98	14.57	33.73	15.47	26.32	16.37	19.22
13.70	46.39	14.60	33.43	15.50	26.04	16.40	19.04
13.73	45.81	14.63	33.14	15.53	25.77	16.43	18.87
13.77	45.25	14.67	32.86	15.57	25.49	16.47	18.70
13.80	44.70	14.70	32.58	15.60	25.22	16.50	18.55
13.83	44.14	14.73	32.31	15.63	24.94	16.53	18.40
13.87	43.58	14.77	32.04	15.67	24.67	16.57	18.26
13.90	43.02	14.80	31.77	15.70	24.39	16.60	18.12
13.93	42.46	14.83	31.50	15.73	24.12	16.63	17.99
13.97	41.90	14.87	31.23	15.77	23.84	16.67	17.86
14.00	41.34	14.90	30.96	15.80	23.56	16.70	17.74
14.03	40.77	14.93	30.68	15.83	23.29	16.73	17.62
14.07	40.22	14.97	30.41	15.87	23.01	16.77	17.50
14.10	39.67	15.00	30.14	15.90	22.74	16.80	17.38
14.13	39.12	15.03	29.87	15.93	22.46	16.83	17.26
14.17	38.59	15.07	29.60	15.97	22.18	16.87	17.14
14.20	38.08	15.10	29.32	16.00	21.91	16.90	17.02
14.23	37.58	15.13	29.05	16.03	21.63	16.93	16.90
14.27	37.10	15.17	28.78	16.07	21.36	16.97	16.78
14.30	36.65	15.20	28.51	16.10	21.09	17.00	16.65
14.33	36.22	15.23	28.23	16.13	20.82	17.03	16.53
14.37	35.81	15.27	27.96	16.17	20.56	17.07	16.41
14.40	35.42	15.30	27.69	16.20	20.31	17.10	16.29
14.43	35.05	15.33	27.41	16.23	20.07	17.13	16.17
14.47	34.70	15.37	27.14	16.27	19.84	17.17	16.05
14.50	34.37	15.40	26.86	16.30	19.62	17.20	15.93

Continues on next page

Pre Development

Hydrograph Discharge Table

Time (hrs)	Outflow (cfs)	Time (hrs)	Outflow (cfs)	Time (hrs)	Outflow (cfs)	Time (hrs)	Outflow (cfs)
17.23	15.81	18.13	12.55	19.03	11.01	19.93	10.03
17.27	15.69	18.17	12.44	19.07	10.98	19.97	9.997
17.30	15.57	18.20	12.33	19.10	10.94	20.00	9.961
17.33	15.45	18.23	12.23	19.13	10.90	20.03	9.925
17.37	15.33	18.27	12.14	19.17	10.87	20.07	9.888
17.40	15.21	18.30	12.05	19.20	10.83	20.10	9.852
17.43	15.09	18.33	11.96	19.23	10.79	20.13	9.816
17.47	14.97	18.37	11.89	19.27	10.76	20.17	9.779
17.50	14.84	18.40	11.82	19.30	10.72	20.20	9.743
17.53	14.72	18.43	11.75	19.33	10.69	20.23	9.706
17.57	14.60	18.47	11.69	19.37	10.65	20.27	9.670
17.60	14.48	18.50	11.64	19.40	10.61	20.30	9.634
17.63	14.36	18.53	11.59	19.43	10.58	20.33	9.597
17.67	14.24	18.57	11.54	19.47	10.54	20.37	9.561
17.70	14.12	18.60	11.49	19.50	10.51	20.40	9.525
17.73	14.00	18.63	11.45	19.53	10.47	20.43	9.488
17.77	13.88	18.67	11.41	19.57	10.43	20.47	9.452
17.80	13.75	18.70	11.37	19.60	10.40	20.50	9.415
17.83	13.63	18.73	11.34	19.63	10.36	20.53	9.379
17.87	13.51	18.77	11.30	19.67	10.32	20.57	9.343
17.90	13.39	18.80	11.26	19.70	10.29	20.60	9.306
17.93	13.27	18.83	11.23	19.73	10.25	20.63	9.270
17.97	13.15	18.87	11.19	19.77	10.22	20.67	9.233
18.00	13.03	18.90	11.16	19.80	10.18	20.70	9.197
18.03	12.91	18.93	11.12	19.83	10.14	20.73	9.160
18.07	12.79	18.97	11.08	19.87	10.11	20.77	9.124
18.10	12.67	19.00	11.05	19.90	10.07	20.80	9.087

Continues on next page

Pre Development

Hydrograph Discharge Table

Time (hrs)	Outflow (cfs)	Time (hrs)	Outflow (cfs)	Time (hrs)	Outflow (cfs)	Time (hrs)	Outflow (cfs)
20.83	9.051	21.73	8.064	22.63	8.140	23.53	6.966
20.87	9.014	21.77	8.028	22.67	8.032	23.57	6.939
20.90	8.978	21.80	7.991	22.70	7.921	23.60	6.911
20.93	8.941	21.83	7.955	22.73	7.807	23.63	6.884
20.97	8.905	21.87	7.918	22.77	7.691	23.67	6.856
21.00	8.869	21.90	7.881	22.80	7.571	23.70	6.829
21.03	8.832	21.93	7.845	22.83	7.543	23.73	6.801
21.07	8.796	21.97	7.808	22.87	7.516	23.77	6.773
21.10	8.759	22.00	7.771	22.90	7.488	23.80	6.746
21.13	8.723	22.03	7.894	22.93	7.461	23.83	6.718
21.17	8.686	22.07	8.022	22.97	7.434	23.87	6.691
21.20	8.650	22.10	8.155	23.00	7.406	23.90	6.663
21.23	8.613	22.13	8.293	23.03	7.379	23.93	6.636
21.27	8.576	22.17	8.437	23.07	7.351	23.97	6.608
21.30	8.540	22.20	8.587	23.10	7.324	24.00	6.581
21.33	8.503	22.23	8.742	23.13	7.296	24.03	6.495
21.37	8.467	22.27	8.903	23.17	7.269	24.07	6.351
21.40	8.430	22.30	9.070	23.20	7.241	24.10	6.150
21.43	8.394	22.33	8.988	23.23	7.214	24.13	5.892
21.47	8.357	22.37	8.904	23.27	7.186	24.17	5.576
21.50	8.321	22.40	8.818	23.30	7.159	24.20	5.204
21.53	8.284	22.43	8.729	23.33	7.131	24.23	4.774
21.57	8.247	22.47	8.637	23.37	7.104	24.27	4.289
21.60	8.211	22.50	8.543	23.40	7.076		
21.63	8.174	22.53	8.446	23.43	7.049	*...End*	
21.67	8.138	22.57	8.347	23.47	7.021		
21.70	8.101	22.60	8.245	23.50	6.994		

Hydrograph Report

Hyd. No. 2

Post Development

Hydrograph type	= SCS Runoff	Peak discharge	= 366.39 cfs
Storm frequency	= 100 yrs	Time to peak	= 12.37 hrs
Time interval	= 2 min	Hyd. volume	= 2,049,422 cuft
Drainage area	= 97.910 ac	Curve number	= 81.000*
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= TR55	Time of conc. (Tc)	= 30.4 min
Total precip.	= 7.95 in	Distribution	= Type III
Storm duration	= 24 hrs	Shape factor	= 484

* Composite (Area/CN) = [(26.680 x 73) + (8.070 x 72) + (41.470 x 89) + (0.685 x 98) + (20.499 x 79) + (0.510 x 71)] / 97.910

Hydrograph Discharge Table

(Printed values >= 1.00% of Qp.)

Time -- Outflow (hrs cfs)		Time -- Outflow (hrs cfs)		Time -- Outflow (hrs cfs)		Time -- Outflow (hrs cfs)	
7.63	3.697	8.23	5.497	8.83	8.374	9.43	12.32
7.67	3.788	8.27	5.617	8.87	8.571	9.47	12.56
7.70	3.879	8.30	5.741	8.90	8.771	9.50	12.81
7.73	3.971	8.33	5.871	8.93	8.974	9.53	13.06
7.77	4.065	8.37	6.006	8.97	9.179	9.57	13.31
7.80	4.159	8.40	6.146	9.00	9.387	9.60	13.56
7.83	4.254	8.43	6.291	9.03	9.597	9.63	13.81
7.87	4.350	8.47	6.441	9.07	9.810	9.67	14.07
7.90	4.447	8.50	6.595	9.10	10.03	9.70	14.33
7.93	4.545	8.53	6.755	9.13	10.24	9.73	14.59
7.97	4.644	8.57	6.919	9.17	10.46	9.77	14.85
8.00	4.744	8.60	7.087	9.20	10.69	9.80	15.12
8.03	4.845	8.63	7.259	9.23	10.91	9.83	15.39
8.07	4.948	8.67	7.436	9.27	11.14	9.87	15.66
8.10	5.052	8.70	7.616	9.30	11.37	9.90	15.93
8.13	5.159	8.73	7.801	9.33	11.61	9.93	16.21
8.17	5.268	8.77	7.988	9.37	11.84	9.97	16.48
8.20	5.381	8.80	8.179	9.40	12.08	10.00	16.76

Continues on next page...

Post Development

Hydrograph Discharge Table

Time (hrs)	Outflow (cfs)	Time (hrs)	Outflow (cfs)	Time (hrs)	Outflow (cfs)	Time (hrs)	Outflow (cfs)
10.03	17.04	10.93	28.59	11.83	84.33	12.70	234.45
10.07	17.33	10.97	29.15	11.87	93.50	12.73	214.71
10.10	17.62	11.00	29.71	11.90	103.87	12.77	195.02
10.13	17.91	11.03	30.28	11.93	115.94	12.80	175.70
10.17	18.22	11.07	30.87	11.97	130.71	12.83	157.39
10.20	18.53	11.10	31.48	12.00	149.30	12.87	140.92
10.23	18.86	11.13	32.13	12.03	171.55	12.90	127.07
10.27	19.19	11.17	32.82	12.07	196.09	12.93	115.88
10.30	19.54	11.20	33.57	12.10	221.50	12.97	106.69
10.33	19.91	11.23	34.38	12.13	246.84	13.00	98.80
10.37	20.29	11.27	35.26	12.17	271.74	13.03	91.82
10.40	20.69	11.30	36.22	12.20	295.82	13.07	85.67
10.43	21.10	11.33	37.27	12.23	318.68	13.10	80.31
10.47	21.52	11.37	38.42	12.27	339.09	13.13	75.67
10.50	21.96	11.40	39.66	12.30	355.00	13.17	71.67
10.53	22.41	11.43	40.98	12.33	364.19	13.20	68.26
10.57	22.88	11.47	42.39	12.37	366.39	13.23	65.38
10.60	23.35	11.50	43.88	12.40	363.31	13.27	62.94
10.63	23.84	11.53	45.49	12.43	356.73	13.30	60.89
10.67	24.33	11.57	47.34	12.47	347.69	13.33	59.16
10.70	24.84	11.60	49.54	12.50	336.33	13.37	57.66
10.73	25.35	11.63	52.19	12.53	322.86	13.40	56.31
10.77	25.88	11.67	55.41	12.57	307.59	13.43	55.06
10.80	26.41	11.70	59.32	12.60	290.81	13.47	53.91
10.83	26.94	11.73	64.04	12.63	272.82	13.50	52.84
10.87	27.49	11.77	69.70	12.67	253.93	13.53	51.86
10.90	28.04	11.80	76.42			13.57	50.94

Continues on next page

Post Development

Hydrograph Discharge Table

Time (hrs)	Outflow (cfs)	Time (hrs)	Outflow (cfs)	Time (hrs)	Outflow (cfs)	Time (hrs)	Outflow (cfs)
13.60	50.10	14.50	35.32	15.40	27.57	16.30	20.20
13.63	49.31	14.53	34.97	15.43	27.29	16.33	19.98
13.67	48.58	14.57	34.63	15.47	27.01	16.37	19.77
13.70	47.89	14.60	34.30	15.50	26.74	16.40	19.57
13.73	47.24	14.63	33.99	15.53	26.46	16.43	19.38
13.77	46.62	14.67	33.68	15.57	26.18	16.47	19.20
13.80	46.02	14.70	33.39	15.60	25.90	16.50	19.03
13.83	45.44	14.73	33.10	15.63	25.62	16.53	18.86
13.87	44.88	14.77	32.81	15.67	25.35	16.57	18.71
13.90	44.31	14.80	32.53	15.70	25.07	16.60	18.56
13.93	43.74	14.83	32.26	15.73	24.79	16.63	18.41
13.97	43.18	14.87	31.98	15.77	24.51	16.67	18.27
14.00	42.61	14.90	31.71	15.80	24.23	16.70	18.14
14.03	42.04	14.93	31.43	15.83	23.95	16.73	18.01
14.07	41.48	14.97	31.16	15.87	23.67	16.77	17.88
14.10	40.92	15.00	30.88	15.90	23.39	16.80	17.76
14.13	40.36	15.03	30.61	15.93	23.11	16.83	17.63
14.17	39.82	15.07	30.33	15.97	22.83	16.87	17.51
14.20	39.29	15.10	30.06	16.00	22.55	16.90	17.39
14.23	38.77	15.13	29.78	16.03	22.27	16.93	17.27
14.27	38.27	15.17	29.51	16.07	22.00	16.97	17.15
14.30	37.79	15.20	29.23	16.10	21.72	17.00	17.03
14.33	37.33	15.23	28.95	16.13	21.45	17.03	16.90
14.37	36.89	15.27	28.68	16.17	21.18	17.07	16.78
14.40	36.47	15.30	28.40	16.20	20.92	17.10	16.66
14.43	36.07	15.33	28.12	16.23	20.67	17.13	16.54
14.47	35.69	15.37	27.85	16.27	20.43	17.17	16.42

Continues on next page

Post Development

Hydrograph Discharge Table

Time (hrs)	Outflow (cfs)	Time (hrs)	Outflow (cfs)	Time (hrs)	Outflow (cfs)	Time (hrs)	Outflow (cfs)
17.20	16.29	18.10	12.99	19.00	11.23	19.90	10.24
17.23	16.17	18.13	12.87	19.03	11.20	19.93	10.21
17.27	16.05	18.17	12.76	19.07	11.16	19.97	10.17
17.30	15.93	18.20	12.65	19.10	11.12	20.00	10.13
17.33	15.80	18.23	12.54	19.13	11.09	20.03	10.10
17.37	15.68	18.27	12.44	19.17	11.05	20.07	10.06
17.40	15.56	18.30	12.34	19.20	11.02	20.10	10.02
17.43	15.44	18.33	12.25	19.23	10.98	20.13	9.987
17.47	15.32	18.37	12.16	19.27	10.94	20.17	9.951
17.50	15.19	18.40	12.08	19.30	10.91	20.20	9.914
17.53	15.07	18.43	12.01	19.33	10.87	20.23	9.877
17.57	14.95	18.47	11.94	19.37	10.83	20.27	9.840
17.60	14.83	18.50	11.88	19.40	10.80	20.30	9.803
17.63	14.70	18.53	11.82	19.43	10.76	20.33	9.766
17.67	14.58	18.57	11.76	19.47	10.72	20.37	9.730
17.70	14.46	18.60	11.71	19.50	10.69	20.40	9.693
17.73	14.34	18.63	11.66	19.53	10.65	20.43	9.656
17.77	14.21	18.67	11.62	19.57	10.61	20.47	9.619
17.80	14.09	18.70	11.57	19.60	10.58	20.50	9.582
17.83	13.97	18.73	11.53	19.63	10.54	20.53	9.545
17.87	13.84	18.77	11.49	19.67	10.50	20.57	9.508
17.90	13.72	18.80	11.45	19.70	10.47	20.60	9.472
17.93	13.60	18.83	11.42	19.73	10.43	20.63	9.435
17.97	13.48	18.87	11.38	19.77	10.39	20.67	9.398
18.00	13.35	18.90	11.34	19.80	10.36	20.70	9.361
18.03	13.23	18.93	11.31	19.83	10.32	20.73	9.324
18.07	13.11	18.97	11.27	19.87	10.28	20.77	9.287

Continues on next page

Post Development

Hydrograph Discharge Table

Time (hrs)	Outflow (cfs)	Time (hrs)	Outflow (cfs)	Time (hrs)	Outflow (cfs)	Time (hrs)	Outflow (cfs)
20.80	9.250	21.70	8.252	22.60	8.445	23.50	7.118
20.83	9.213	21.73	8.215	22.63	8.362	23.53	7.090
20.87	9.176	21.77	8.178	22.67	8.277	23.57	7.063
20.90	9.139	21.80	8.141	22.70	8.190	23.60	7.035
20.93	9.102	21.83	8.103	22.73	8.101	23.63	7.007
20.97	9.066	21.87	8.066	22.77	8.009	23.67	6.979
21.00	9.029	21.90	8.029	22.80	7.915	23.70	6.951
21.03	8.992	21.93	7.992	22.83	7.819	23.73	6.923
21.07	8.955	21.97	7.955	22.87	7.720	23.77	6.895
21.10	8.918	22.00	7.918	22.90	7.619	23.80	6.867
21.13	8.881	22.03	8.010	22.93	7.591	23.83	6.840
21.17	8.844	22.07	8.106	22.97	7.564	23.87	6.812
21.20	8.807	22.10	8.206	23.00	7.536	23.90	6.784
21.23	8.770	22.13	8.311	23.03	7.508	23.93	6.756
21.27	8.733	22.17	8.420	23.07	7.480	23.97	6.728
21.30	8.696	22.20	8.534	23.10	7.452	24.00	6.700
21.33	8.659	22.23	8.652	23.13	7.425	24.03	6.625
21.37	8.622	22.27	8.775	23.17	7.397	24.07	6.503
21.40	8.585	22.30	8.903	23.20	7.369	24.10	6.335
21.43	8.548	22.33	9.036	23.23	7.341	24.13	6.120
21.47	8.511	22.37	8.969	23.27	7.313	24.17	5.858
21.50	8.474	22.40	8.900	23.30	7.285	24.20	5.551
21.53	8.437	22.43	8.829	23.33	7.258	24.23	5.198
21.57	8.400	22.47	8.756	23.37	7.230	24.27	4.799
21.60	8.363	22.50	8.681	23.40	7.202	24.30	4.355
21.63	8.326	22.53	8.605	23.43	7.174	24.33	3.866
21.67	8.289	22.57	8.526	23.47	7.146		

...End

ATTACHMENT 5

Carbon Debt Analysis

SolarCity Corporation
Proposed 3.9 Megawatt Solar Facility
Old Forge Road
Rocky Hill, CT

SolarCity Corporation performed an analysis to determine whether the proposed solar array installation ("Project") at the referenced site ("Subject Property") has the ability to produce a net improvement in carbon reduction compared to the loss of approximately nine (9) acres of early successional woodland. This analysis accounts for the loss of the trees and the carbon associated with both the manufacture of the solar panels and the installation activities.

The Project requires the removal of 225 trees primarily consisting of autumn olive and similar small diameter species (less than 6" diameter at breast height). The results of this analysis demonstrate that the Project would begin to have a measurable net improvement in carbon reduction in less than three years. Consider the accounting of "carbon debt" in the following table - which includes the energy used and CO2 released during the manufacturing and installation of the solar arrays, as well as the existing and future carbon reduction derived from the trees to be displaced by the solar array[1] - and the subsequent payback analysis[2].

[1] The calculations used in determining amount of energy used and CO2e created in manufacture and installation of solar array uses industry standard data sourced from: The Environmental Protection Agency (EPA) CO2 emissions calculator; Franklin Life Cycle Analysis Database; NREL US Life Cycle Inventory; Aluminum Association Life Cycle Inventory; Ecoinvent Life Cycle Inventory; Annual Energy Review, EIA; DOE Life Cycle Inventory.

[2] Tree CO2E calcs are based off volumetric equations by McClure, J. and Cost, N. (2010) and the component ratio method by Health et al. 2009. This estimation method is adopted by US Forest Service Forest Inventory Analysis (FIA) program and California's pre-compliance market (AB 32), is peer-reviewed and widely considered to be the standard methodology for calculating carbon sequestration. USDA/Forestry Service/ Northern Research Station: "Measurement guidelines for the sequestration of forest carbon." Pearson, Timothy R.H. Brown, Sandra L. Birdsey, Richard A. 2007.

Carbon Debt &Payback of Solar Array **(Original Case)**	Energy (GJ) used in Production	CO^2e (Metric Tons)
PV Modules	34524	5959
Racking	862	367
Module Interconnection	65	6
Junction Boxes	63	16
Conduits and Fittings	404	79
Wire and Grounding Devices	948	136
Inverters and Transformers	1629	215
Grid Connections	157	19
Office Facilities Concrete	111	32
Concrete	81	38
Trees Removed (Current Stock2)	0	225
Trees (Future Lost Carbon Reduction - 20 Years)	0	520
Total CO^2e to Payback		7613
Annual PV Production Benefits (- CO^2e)	**5725**	**3149**
Carbon Payback of Solar Array (Yrs)		**2.4**

System Size (W)	**3,903,020**
System Size (MW)	**3.9**
Acres Cleared (Estimated)	**9.0**

ATTACHMENT 6

Decommissioning Plan

SolarCity Corporation
Old Forge Road Solar Facility
Rocky Hill, CT

This Decommissioning Plan ("Plan") establishes the approach to conduct decommissioning activities for the permanent closure of the solar panels and appurtenant equipment at the Old Forge Road site ("Project" or "Facility") at the end of its useful life or the permanent cessation of its operation, whichever comes first. The Plan also describes the approach for removal and/or abandonment of facilities and equipment associated with the Facility and describes anticipated land-restoration activities.

As background, the Power Purchase Agreement ("PPA") for the Facility requires that no later than ninety (90) days after its expiration, all tangible property comprising the Facility must be removed from the site. The PPA also requires that the site be returned to its original condition, excepting ordinary wear and tear, including the removal of mounting and/or support structures for the solar modules.

DECOMMISSIONING ACTIVITIES

In accordance with the PPA, decommissioning will involve removal and disposal or recycling of all Project components. All recyclable materials will be transported to the appropriate nearby recycling facilities. Any non-recyclable materials will be properly disposed of at a nearby landfill. Ninety-five percent (95%) or greater of the Facility's components will be recyclable.

Decommissioning Preparation

Site decommissioning and equipment removal can take up to six (6) months to complete for a project of this size. Therefore, access roads, fencing and electrical power will temporarily remain in place for use by the decommissioning and site restoration workers until it is no longer needed. Demolition debris will be placed in temporary on-site storage areas pending final transportation and disposal/recycling according to the procedures listed below.

Photovoltaic (PV) Equipment Removal and Recycling

During decommissioning, all Facility components that will not be used by the site owner will be removed from the site. Equipment removal will include any and all pad-mounted cabinets, wiring, solar modules, solar module racking, inverters, and panel boards. Pounded post foundations will be pulled up and removed. Any resulting holes will be backfilled with locally imported soil to match existing site soil conditions. The concrete transformer and interconnection equipment pads will be broken up and removed.

The demolition debris and removed equipment may be cut or dismantled in to pieces that can be safely lifted or carried with the on-site equipment being used. The majority of glass, steel and aluminum will be processed for transportation and delivery to the licensed off-site recycling

center. The solar modules will be transported to and recycled at the nearest facility that will accept them. Minimal non-recyclable materials are anticipated; these will be properly disposed of a the nearest qualified disposal facility.

Internal Power Collection System

The DC and AC power collection system will be dismantled and removed. All conduit and cabling that is removed will be recycled.

Access Roads

The existing onsite access driveway will remain in place to accomplish decommissioning at the end of the Facility's life.

Security Fence

The existing eight (8) foot high chain link perimeter security fence will remain in place and will not be removed during the decommissioning process.

Interconnection Line

The overhead interconnection cabling that connects the Facility to the Eversource distribution network will remain in place during decommissioning activities to provide electrics service onsite during decommissioning. At the time of decommissioning, if the Town determines that this electric service line will be beneficial for the future use of the site, the line may remain after decommissioning. If the line is not used, it will be removed pursuant to Eversource guidelines and transported offsite to the nearest recycling facility.

SITE RECLAMATION

After the Project is completely decommissioned, and all Project equipment has been removed from the site, additional activities will be performed to return the property back to its pre-construction conditions, excepting ordinary wear and tear.

Any site restoration or monitoring activities completed on the site will comply with applicable regulations and requirements.

Restoration Process

The decommissioning process will remove Project-related structures and infrastructure as described in the previous sections. Following decommissioning, site reclamation activities will occur. Reclamation will restore landform features, vegetative cover, and hydrologic function after the closure of the facility. The process will involve (where needed) the replacement of topsoil and vegetation, as well as modification of site topography where necessary to bring the site back to substantially pre-construction conditions compatible with the adjacent surroundings.

Any excavated areas remain after removal of equipment pads or access road base material, will be backfilled and compacted with locally imported soil to match existing onsite soils, and hydro seeded with a seed mix to match existing onsite groundcover. Any other areas of lower than average ground surface level will receive similar treatment.

If any soils are compacted at levels that would affect successful re-vegetation, they will be de-compacted. The method of de-compaction will depend on how compacted the soil has become over the life of the Project. Following de-compaction, re-contouring of the site will be conducted, if necessary, to return the site to approximately match the pre-construction surface conditions and the surrounding area conditions. Original site drainage characteristics will be restored if they have not been maintained. It is unlikely that a significant amount of earthwork will be required, because the Project construction plan calls for minimal disturbance of the site during Project construction. Grading activities will be limited to areas as shown on the design plans that require re-contouring. Efforts will be made to disturb as little of the natural drainages and existing natural vegetation that remain post-decommissioning as possible.

Any remaining bare earth areas will be hydro seeded with a seed mix to match existing onsite groundcover. Site restoration activities are anticipated to be limited, because the pre-construction conditions of the site are not planned to be significantly altered during Project construction. Also, any other activities that become necessary will be performed to return the site to a pre-construction condition.

Monitoring Activities

The site will be monitored by SolarCity after site restoration activities are complete to confirm that any earthwork and re-vegetation were performed correctly. The site will be periodically inspected (at least quarterly) to check for any eroded earthwork or failed vegetation. Any deficiencies will be promptly corrected. This monitoring will continue for a period of one year, or until the site is re-developed for another future purpose, whichever comes first.

ATTACHMENT 7

Robinson + Cole

KENNETH C. BALDWIN

280 Trumbull Street
Hartford, CT 06103-3597
Main (860) 275-8200
Fax (860) 275-8299
kbaldwin@rc.com
Direct (860) 275-8345

Also admitted in Massachusetts

[SAMPLE PUBLIC OFFICIALS LETTER]

March 23, 2016

Via Certificate of Mailing

«Name_and_Address»

Re: **SolarCity Corporation – Petition for Declaratory Ruling for the Construction and Operation of a Solar Photovoltaic Electric Generating Facility Off Old Forge Road in Rocky Hill, Connecticut**

Dear «Salutation»:

This firm represents SolarCity Corporation ("SolarCity"). Pursuant to the requirements of Connecticut General Statutes § 16-50*l*(b), and Section 16-50j-40 of the Regulations of Connecticut State Agencies, enclosed is a copy of the above-referenced Petition for Declaratory Ruling. SolarCity intends to construct and operate a 3.9 MW solar photovoltaic electric generating facility on a portion of a 61.38-acre parcel off Old Forge Road in Rocky Hill. The property is owned by the Town of Rocky Hill. The SolarCity Petition will be filed with the Connecticut Siting Council on March 24, 2016.

If you have any questions regarding this Petition please contact me or the Siting Council directly at (860) 827-2935.

Sincerely,

Kenneth C. Baldwin

KCB/kmd
Enclosure

14614114-v1

CERTIFICATION OF SERVICE

I hereby certify that on this 23rd day of March, 2016, copies of the Petition and attachments were sent first class mail, postage prepaid and via Certificate of Mailing, to the following:

STATE OFFICIALS:

The Honorable George Jepsen
Attorney General
Office of the Attorney General
55 Elm Street
Hartford, CT 06106

Rob Klee, Commissioner
Department of Energy and Environmental Protection
79 Elm Street
Hartford, CT 06106

Raul Pino, M.D., M.P.H., Commissioner
Department of Public Health
410 Capitol Avenue
P.O. Box 340308, MS 13COM
Hartford, CT 06134-0308

Karl J. Wagener, Executive Director
Council on Environmental Quality
79 Elm Street
P.O. Box 5066
Hartford, CT 06106

Steven K. Reviczky, Commissioner
Department of Agriculture
165 Capital Avenue
Hartford, CT 06106

Arthur House, Chairman
Public Utilities Regulatory Authority
10 Franklin Square
New Britain, CT 06051

Benjamin Barnes, Secretary
Office of Policy and Management
450 Capitol Avenue
Hartford, CT 06106

Catherine Smith, Commissioner
Department of Economic and Community Development
505 Hudson Street
Hartford, CT 06106

James P. Redeker, Commissioner
Department of Transportation
2800 Berlin Turnpike
Newington, CT 06111

Dora B. Schriro, Commissioner
Department of Emergency Services and Public Protection
Emergency Management and Homeland Security Division
1111 Country Club Road
Middletown, CT 06457

Jonathan A. Harris, Commissioner
Department of Consumer Protection
115 Capitol Avenue
Hartford, CT 06106

Melody A. Currey, Commissioner
Department of Administrative Services
165 Capitol Avenue
Hartford, CT 06106

Scott D. Jackson, Commissioner
Department of Labor
200 Folley Brook Boulevard
Wethersfield, CT 06109

ROCKY HILL TOWN OFFICIALS:

Guy Scaife, Town Manager
Town of Rocky Hill
761 Old Main Street
Rocky Hill, CT 06067

Claudia Baio, Mayor
Town of Rocky Hill
761 Old Main Street
Rocky Hill, CT 06067

Philip Sylvestro, Chairman
Planning and Zoning Commission
Town of Rocky Hill
761 Old Main Street
Rocky Hill, CT 06067

Kim Ricci
Zoning Enforcement Officer, Town Planner
Town of Rocky Hill
761 Old Main Street
Rocky Hill, CT 06067

Edward Charamut, Chairman
Open Space & Conservation Inland Wetlands Commission
Town of Rocky Hill
761 Old Main Street
Rocky Hill, CT 06067

CROMWELL TOWN OFFICIALS:

Anthony J. Salvatore, Town Manager
Town of Cromwell
41 West Street
Cromwell, CT 06416

Enzo Faienza, Mayor
Town of Cromwell
41 West Street
Cromwell, CT 06416

Alice Kelly, Chairman
Planning and Zoning Commission
Town of Cromwell
41 West Street
Cromwell, CT 06416

Stuart Popper, Director
Planning and Development
Town of Cromwell
41 West Street
Cromwell, CT 06416

Joseph Corlis, Chair
Inland Wetland and Watercourses Agency
Town of Cromwell
41 West Street
Cromwell, CT 06416

Scott Lamberson, Chairman
Conservation Commission
Town of Cromwell
41 West Street
Cromwell, CT 06416

STATE LEGISLATORS:

The Honorable Christie Carpino
Representative – 32nd District
Legislative Office Building, Room 4200
Hartford, CT 06106

The Honorable Antonio Guerrera
Representative – 29th District
Legislative Office Building, Room 2301
Hartford, CT 06106

The Honorable Paul Doyle
Senator – 9th District
Legislative Office Building, Room 3900
Hartford, CT 06106

REGIONAL COUNCIL OF GOVERNMENTS:

Capital Region Council of Governments
241 Main Street, 4th Floor
Hartford, CT 06106
Attn: Lyle Wray

Kenneth C. Baldwin, Esq.
Robinson & Cole LLP
280 Trumbull Street
Hartford, CT 06103
Telephone: (860) 275-8200
Attorneys for SolarCity Corporation

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	Raul Pino, M.D., M.P.H., Commissioner Department of Public Health 410 Capitol Avenue P.O. Box 340308, MS 13COM Hartford, CT 06134-0308				
	Karl J. Wagener, Executive Director Council on Environmental Quality 79 Elm Street P.O. Box 5066 Hartford, CT 06106				
	Steven K. Reviczky, Commissioner Department of Agriculture 165 Capital Avenue Hartford, CT 06106				
	Arthur House, Chairman Public Utilities Regulatory Authority 10 Franklin Square New Britain, CT 06051				

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ZIP 06103
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MAR 23 2016
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	Catherine Smith, Commissioner Department of Economic and Community Development 505 Hudson Street Hartford, CT 06106				
	James P. Redeker, Commissioner Department of Transportation 2800 Berlin Turnpike Newington, CT 06111				
	Dora B. Schriro, Commissioner Department of Emergency Services and Public Protection Emergency Management and Homeland Security Division 1111 Country Club Road Middletown, CT 06457				
	Jonathan A. Harris, Commissioner Department of Consumer Protection 115 Capitol Avenue Hartford, CT 06106				
	Melody A. Currey, Commissioner Department of Administrative Services 165 Capitol Avenue Hartford, CT 06106				

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	Philip Sylvestro, Chairman Planning and Zoning Commission Town of Rocky Hill 761 Old Main Street Rocky Hill, CT 06067				
	Kim Ricci Zoning Enforcement Officer, Town Planner Town of Rocky Hill 761 Old Main Street Rocky Hill, CT 06067				
	Edward Charamut, Chairman Open Space & Conservation Inland Wetlands Commission Town of Rocky Hill 761 Old Main Street				

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	Enzo Faienza, Mayor Town of Cromwell 41 West Street Cromwell, CT 06416				
	Alice Kelly, Chairman Planning and Zoning Commission Town of Cromwell 41 West Street Cromwell, CT 06416				
	Stuart Popper, Director Planning and Development Town of Cromwell 41 West Street Cromwell, CT 06416				
	Joseph Corlis, Chair Inland Wetland and Watercourses Agency Town of Cromwell 41 West Street Cromwell, CT 06416				
	Scott Lamberson, Chairman Conservation Commission Town of Cromwell 41 West Street Cromwell, CT 06416				

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	The Honorable Christie Carpino Representative – 32nd District Legislative Office Building, Room 4200 Hartford, CT 06106				
	The Honorable Antonio Guerrera Representative – 29th District Legislative Office Building, Room 2301 Hartford, CT 06106				
	The Honorable Paul Doyle Senator – 9th District Legislative Office Building, Room 3900 Hartford, CT 06106				
	Capital Region Council of Governments 241 Main Street, 4th Floor Hartford, CT 06106 Attn: Lyle Wray				

ATTACHMENT 8

Robinson + Cole

KENNETH C. BALDWIN

280 Trumbull Street
Hartford, CT 06103-3597
Main (860) 275-8200
Fax (860) 275-8299
kbaldwin@rc.com
Direct (860) 275-8345

Also admitted in Massachusetts

[SAMPLE ABUTTERS LETTER]

March 23, 2016

Via Certificate of Mailing

«Name_and_Address»

Re: **SolarCity Corporation – Petition for Declaratory Ruling for the Construction and Operation of a Solar Photovoltaic Electric Generating Facility Off Old Forge Road in Rocky Hill, Connecticut**

Dear «Salutation»:

This firm represents SolarCity Corporation ("SolarCity"). Pursuant to the requirements of Connecticut General Statutes § 16-50*l*(b), and Section 16-50j-40 of the Regulations of Connecticut State Agencies, enclosed is a copy of the above-referenced Petition for Declaratory. SolarCity intends to construct and operate a 3.9 MW solar photovoltaic electric generating facility on a portion of a 61.38-acre parcel off Old Forge Road in Rocky Hill. The property is owned by the Town of Rocky Hill. The SolarCity Petition will be filed with the Connecticut Siting Council on March 24, 2016. You are receiving this notice because you are listed as an owner of property that abuts the parcel on which the proposed solar generating facility is proposed to be located.

If you have any questions regarding this Petition please contact me or the Siting Council directly at (860) 827-2935.

Sincerely,

Kenneth C. Baldwin

Attachment

14603658-v1

SOLARCITY CORPORATION

ABUTTERS' CERTIFICATE OF MAILING
MAP 18/LOT 93

OLD FORGE ROAD
ROCKY HILL, CONNECTICUT

I hereby certify that on this 23rd day of March, 2016, copies of the Petition and attachments were sent first class mail, postage prepaid and via Certificate of Mailing, to those abutting landowners listed below.

Kenneth C. Baldwin

ROCKY HILL

	Map/Lot	Property Address	Owner and Mailing Address
1.	18/86	299 Dividend Road	Harold O. Johndrow, Jr. 14 Chimney Crest Lane Bristol, CT 06010
2.	18/94	28 Belamose Avenue	NOCARP LLC P.O. Box 656 Rocky Hill, CT 06067
3.	18/88	60 Belamose Avenue	Belamose Business Park c/o Semac Electrical Contractor P.O. Box 638 New Britain, CT 06050-0638
4.	18/89	R005 Belamose Avenue	Town of Rocky Hill 761 Old Main Street Rocky Hill, CT 06067 Attn: Town Manager
5.	18/90	R006 Belamose Avenue	Gardner Nurseries Inc. 460 Brook Street Rocky Hill, CT 06067

	Map/Lot	Property Address	Owner and Mailing Address
6.	18/91	R007Z Belamose Avenue	John Russo, Tr. 321 West Service Road Hartford, CT 06120
7.	18/92	R006 Pleasant Valley Road	John Russo, Tr. 321 West Service Road Hartford, CT 06120
8.	17/157	L002 Pleasant Valley Road	Town of Rocky Hill 761 Old Main Street Rocky Hill, CT 06067
9.	18/97	114 Old Forge Road	Trustees of The Sheet Metal Workers Local No. 40 Pension Fund 100 Old Forge Road Rocky Hill, CT 06067
10.	18/83	89 Old Forge Road	Chemedray LLC c/o Development Assocs. P.O. Box 528 Agawam, MA 01001-0528
11.	18/84	280 Dividend Road	McKesson Corporation c/o Ryan LLC 2800 Post Oak Boulevard, Suite 4200 Houston, TX 77056
12.	18/96	16 Old Forge Road	Sixteen Old Forge LLC c/o Paul Uccello 101 Hammermill Road, Suite D Rocky Hill, CT 06067
13.	14/398	L003Z Belamose Avenue (Railroad)	Gareth D. Bye, Director of Legal Affairs Office of the Secretary State of Connecticut Office of Policy and Management 450 Capitol Avenue Hartford, CT 06106

CROMWELL

	Map/Block/Lot	Property Address	Owner and Mailing Address
1.	60/51/77	674 Main Street	Connecticut Light & Power P.O. Box 270 Hartford, CT 06106 Attn: Sal Giuliano, Corporate Property Management
2.	53/63/17	Wall Street (Railroad)	Gareth D. Bye, Director of Legal Affairs Office of the Secretary State of Connecticut Office of Policy and Management 450 Capitol Avenue Hartford, CT 06106
3.	69/50/44B	Meadow Road	Cromwell Fire District – Water Division 1 West Street Cromwell, CT 06416

Legend

- Town of Rocky Hill Property (+/-61.4 acres)
- Proposed Fenced Facility (+/-19 acres)
- Existing Treeline/Clearing Limit
- Project Area - Limit of Proposed Work (+/-24 acres)
- CTDEEP Watercourse
- CTDEEP Waterbody
- Abutting Property *Map/Lot:* 18/86
- Approximate Assessor Parcel Boundary (CTDEEP)
- Municipal Boundary

Abutters Map

Proposed Solar PV Facility
Town of Rocky Hill
Old Forge Road
Rocky Hill, Connecticut

Map Notes:
Base Map Source: 2012 Aerial Photograph (CTECO)
Map Scale: 1 inch = 625 feet
Map Date: March 2016

625 312.5 0 625 Feet

SolarCity
ALL-POINTS TECHNOLOGY CORPORATION

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	Belamose Business Park c/o Semac Electrical Contractor P.O. Box 638 New Britain, CT 06050-0638				
	Chemedray LLC c/o Development Assocs. P.O. Box 528 Agawam, MA 01001-0528				
	Connecticut Light & Power P.O. Box 270 Hartford, CT 06106 Attn: Sal Giuliano, Corporate Property Management				
	Cromwell Fire District – Water Division 1 West Street Cromwell, CT 06416				
	Gardner Nurseries Inc. 460 Brook Street Rocky Hill, CT 06067				
	Gareth D. Bye, Director of Legal Affairs Office of the Secretary State of Connecticut Office of Policy and Management 450 Capitol Avenue Hartford, CT 06106				

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USPS Tracking Number Firm-specific Identifier	Address (Name, Street, City, State, and ZIP Code™)	Postage	Fee	Special Handling	Parcel Airlift
	Harold O. Johndrow, Jr. 14 Chimney Crest Lane Bristol, CT 06010				
	John Russo, Tr. 321 West Service Road Hartford, CT 06120				
	McKesson Corporation c/o Ryan LLC 2800 Post Oak Boulevard, Suite 4200 Houston, TX 77056				
	NOCARP LLC P.O. Box 656 Rocky Hill, CT 06067				
	Sixteen Old Forge LLC c/o Paul Uccello 101 Hammermill Road, Suite D Rocky Hill, CT 06067				
	Town of Rocky Hill 761 Old Main Street Rocky Hill, CT 06067 Attn: Town Manager				

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	Postmaster, per *(name of receiving employee)*		

USPS Tracking Number Firm-specific Identifier	Address (Name, Street, City, State, and ZIP Code™)	Postage	Fee	Special Handling	Parcel Airlift
	Trustees of The Sheet Metal Workers Local No. 40 Pension Fund 100 Old Forge Road Rocky Hill, CT 06067				

PS Form **3665**, May 2015 PSN 7530-17-000-5549

ENVIRONMENTAL ASSESSMENT

SOLAR FACILITY INSTALLATION

OLD FORGE ROAD

ROCKY HILL, CONNECTICUT

HARTFORD COUNTY

Prepared for:

SolarCity Corporation

Prepared by:

All-Points Technology Corporation, P.C.
3 Saddlebrook Drive
Killingworth, CT 06419

March 2016

Table of Contents

Figures

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Tables

Table No. **Title**

Appendices

Appendix	Title

Project Introduction

All-Points Technology Corporation, P.C. ("APT") prepared this Environmental Assessment ("EA") on behalf of SolarCity Corporation ("SolarCity") for the proposed installation of an approximately 3.9 megawatt ("MW") solar-based electric generating facility the ("Project") in the Town of Rocky Hill, Connecticut (the "Town").

This EA has been completed to support SolarCity's submission of a petition for declaratory ruling that no Certificate of Environmental Compatibility and Public Need is required for the construction, maintenance, and operation of the Project.

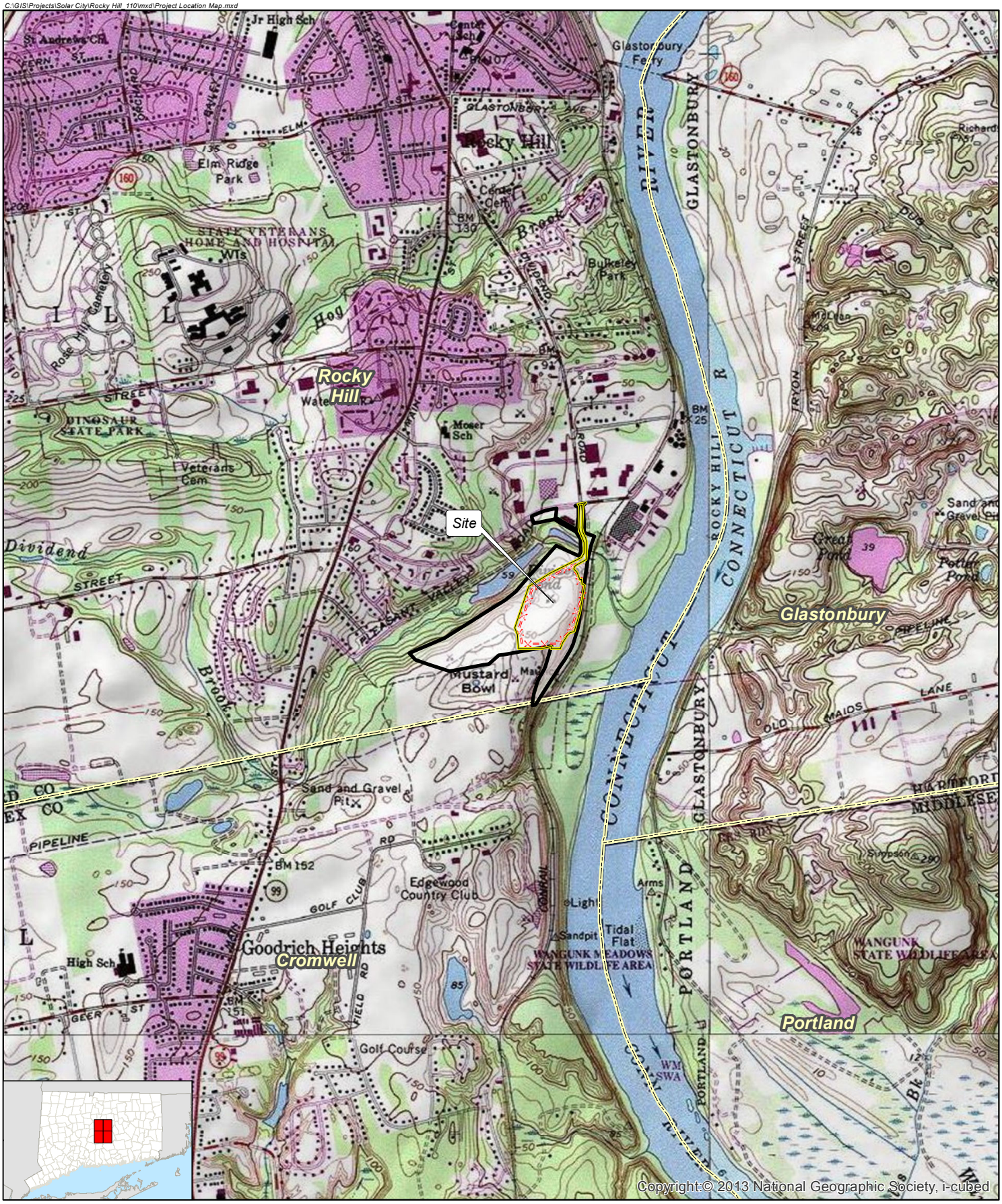
The Project would be located south of Old Forge Road in Rocky Hill, Connecticut ("Site"). The municipally-owned Site consists of approximately 61.38 undeveloped acres, a portion of which is used by the Town for materials storage.

The Site is situated generally south of the intersection of Old Forge Road and Dividend Road, southeast of Town-owned open space (the "Dividend Pond Open Space Property"), west of an active rail line and the Connecticut River, and north of the municipal border with Cromwell. The immediate Site vicinity is characterized as a mix of residential and commercial development to the north and west, and undeveloped land to the east and south.

Upon its completion, the proposed solar array ("facility") would occupy approximately 19 acres of the Site. The facility would be comprised of approximately 9,460 – 275 watt and 4,488 – 290 watt Trina Solar TSM-PD14 modules, three (3) Advanced Energy AE 500TX 500 kW inverters, and three (3) transformers. The facility would use a post-driven RBI Solar Inc. racking system. To facilitate development of the facility, a total of approximately 24 acres require some level of disturbance ("Project Area").

Figure 1, *Project Location Map*, depicts the location of the Site and surrounding area.

C:\GIS\Projects\Solar City\Rocky Hill_110\mxd\Project Location Map.mxd



Legend

- Site Boundary
- Project Area - Limit of Proposed Work (+/-24 acres)
- Proposed Fenced Facility (+/-19 acres)
- Municipal Boundary

Map Notes:
Base Map Source: USGS 7.5 Minute Topographic Quadrangle Maps, Glastonbury (1992), Harford South (1992), Middle Haddam (1984), and Middletown (1992), CT
Site located on the Hartford South Quadrangle
Map Scale: 1:24,000
Map Date: February 2016

N W E S

1,000 500 0 1,000 Feet

Figure 1
Project Location Map

Proposed Solar PV Facility
Town of Rocky Hill
Old Forge Road
Rocky Hill, Connecticut

SolarCity
All-Points Technology Corporation

Existing Conditions

The purpose of this section is to describe current conditions of the Site. A detailed discussion of the proposed Project's effects on the environment is provided in following sections of this document.

Project Location

The Site consists of a single, Town-owned parcel located south of Old Forge Road, encompassing a total of approximately 61.38 acres. The Site is undeveloped and portions are heavily disturbed by historic clearing and excavation activities. Several areas are currently used by the Town's Department of Public Works ("DPW") for materials storage, including asphalt millings, street sweepings, sand, top soil, leaves, brush and mulch.

The Project Area consists of approximately 24-acres of undeveloped, lightly wooded land, a portion of which is currently used by the Town for materials storage. Upon completion, the facility will occupy approximately 19 acres.

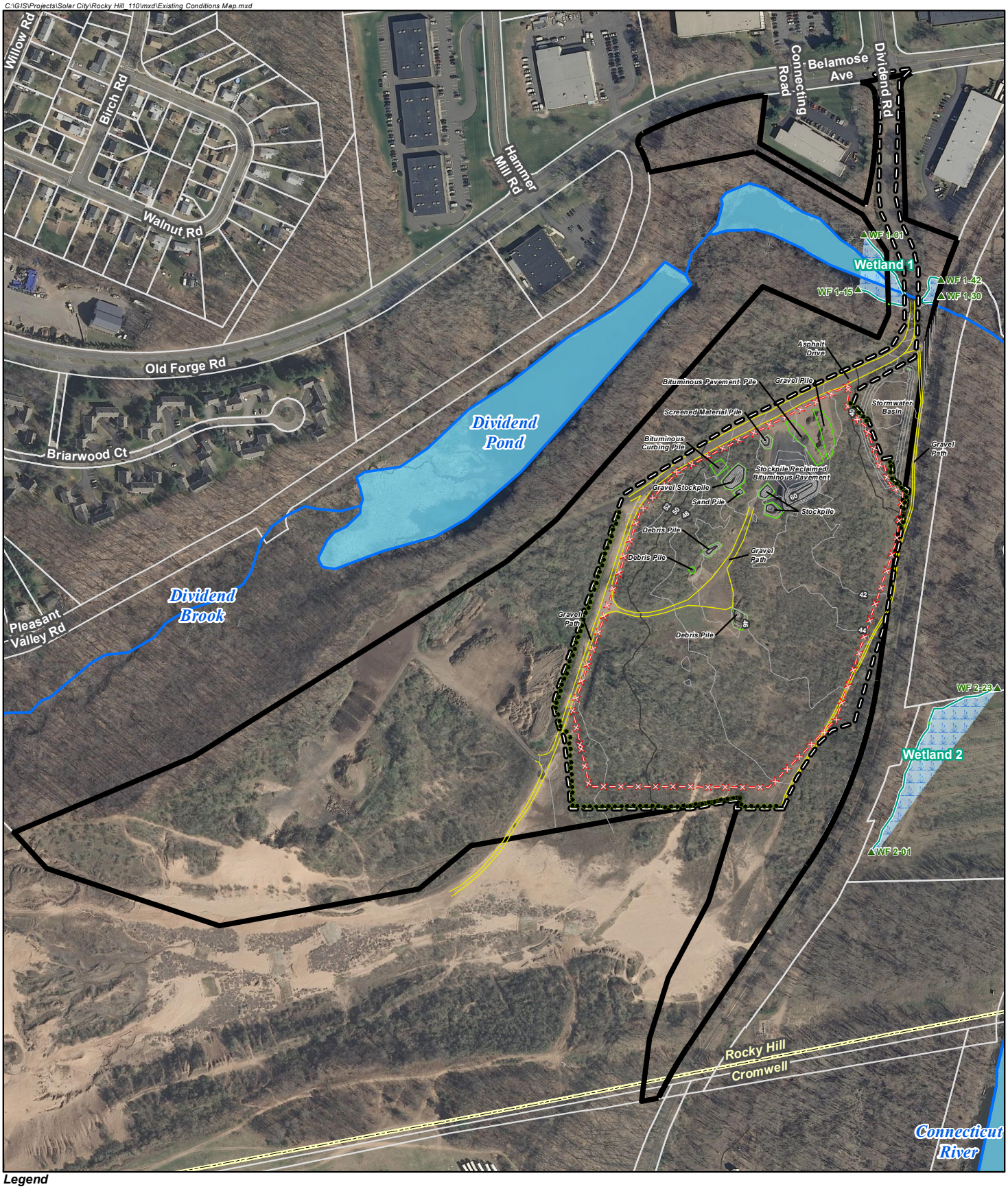
Site Access

Access to the Site is over an existing, gated drive originating at the intersection of Old Forge Road and Dividend Road in its northern portion. The existing access drive extends south into the Site where it connects to a system of interior dirt roads.

Figure 2, *Existing Conditions Map*, depicts current conditions on the Site, its access, abutting properties, and several features discussed herein.

Wetlands and Watercourses

Matthew Gustafson, a Connecticut registered Soil Scientist with APT, conducted an inspection of the Site on September 3, 2015 to determine the presence and extent of wetland resources proximate to the proposed Project Area. Two (2) wetland areas were delineated on the Site. A copy of the APT *Inland Wetland & Watercourse Report* prepared by Mr. Gustafson and *Photo-Documentation* of existing resources at the Site are included as Appendix A. The wetland resources are summarized below and depicted on Figure 2.



Legend

- Site Boundary
- Existing Access Drive
- Existing Materials Pile
- 10' Contour Line
- 2' Contour Line
- Proposed Fenced Facility (+/-19 acres)
- Existing Treeline/Clearing Limit
- Project Area - Limit of Proposed Work (+/-24 acres)
- Start/End Wetland Flag
- Delineated Wetland Boundary
- Wetland Area
- CTDEEP Watercourse
- CTDEEP Waterbody
- Approximate Assessor Parcel Boundary (CTDEEP)
- Municipal Boundary

N W E S

400 200 0 400 Feet

Map Notes:
Base Map Source: 2012 Aerial Photograph (CTECO)
Map Scale: 1 inch = 400 feet
Map Date: February 2016

Figure 2
Existing Conditions Map

Proposed Solar PV Facility
Town of Rocky Hill
Old Forge Road
Rocky Hill, Connecticut

SolarCity
ALL-POINTS TECHNOLOGY CORPORATION

Wetland 1 consists of an open water resource ("Dividend Pond") located on the adjacent Dividend Pond Open Space Property and a perennial watercourse ("Dividend Brook"). This brook outlets from Dividend Pond, flowing eastward beneath the existing gravel access road through a large reinforced concrete pipe culvert, and, under an existing railroad line off the Site. It eventually enters the Connecticut River approximately 800 feet west of the Project Area. The margins of Wetland 1 are entirely forested with sparse scrub/shrub and emergent vegetation present. Banks to the resource are steeply sloping with little to no bordering vegetated wetland areas.

Wetland 2 consists of the semi-active floodplain associated with several backwater wetland areas that border the Connecticut River. The western edge of the delineated resource consists of steeply sloping embankments. The northern edge is more moderately sloped with a broader transition zone from wetlands to uplands. The primary vegetation/ habitat class associated with Wetland 2 is open field with edge forested areas and transitional scrub/shrub ecotones separating the two. Observed soil profiles reveal these areas flood irregularly and are consistent with moderately well drained and well drained floodplain soils.

Vernal Pools

Calhoun and Klemens (2002) provides the following operational definition of vernal pools:

Vernal pools are seasonal bodies of water that attain maximum depths in the spring or fall, and lack permanent surface water connections with other wetlands or water bodies. Pools fill with snowmelt or runoff in the spring, although some may be fed primarily by groundwater sources. The duration of surface flooding, known as hydroperiod, varies depending upon the pool and the year; vernal pool hydroperiods range along a continuum from less than 30 days to more than one year. Pools are generally small in size (<2 acres), with the extent of vegetation varying widely. They lack established fish populations, usually as a result of periodic drying, and support communities dominated by animals adapted to living in temporary, fishless pools. In the region, they provide essential breeding habitat for one or more wildlife species including Ambystomid salamanders (Ambystoma spp., called "mole salamanders" because they live in burrows), wood frogs (Rana sylvatica), and fairy shrimp (Eubranchipus spp.).

Vernal pool physical characteristics can vary widely while still providing habitat for indicator species. "Classic" vernal pools are natural depressions in a wooded upland with no hydrologic connection to other wetland systems. Often, vernal pools are depressions or impoundments

within larger wetland systems. These vernal pool habitats are commonly referred to as "cryptic" vernal pools.

A vernal pool habitat survey was performed in parallel with other wetland and biological surveys. Areas within 750 feet[1] of the Site were inspected for the potential of supporting vernal pool breeding habitat. No areas potentially supporting vernal pool habitat are located within 750 feet of the Site. No vernal pool habitat was identified in either of the wetland areas (Wetlands 1 and 2) at the Site.

Vegetation and Wildlife

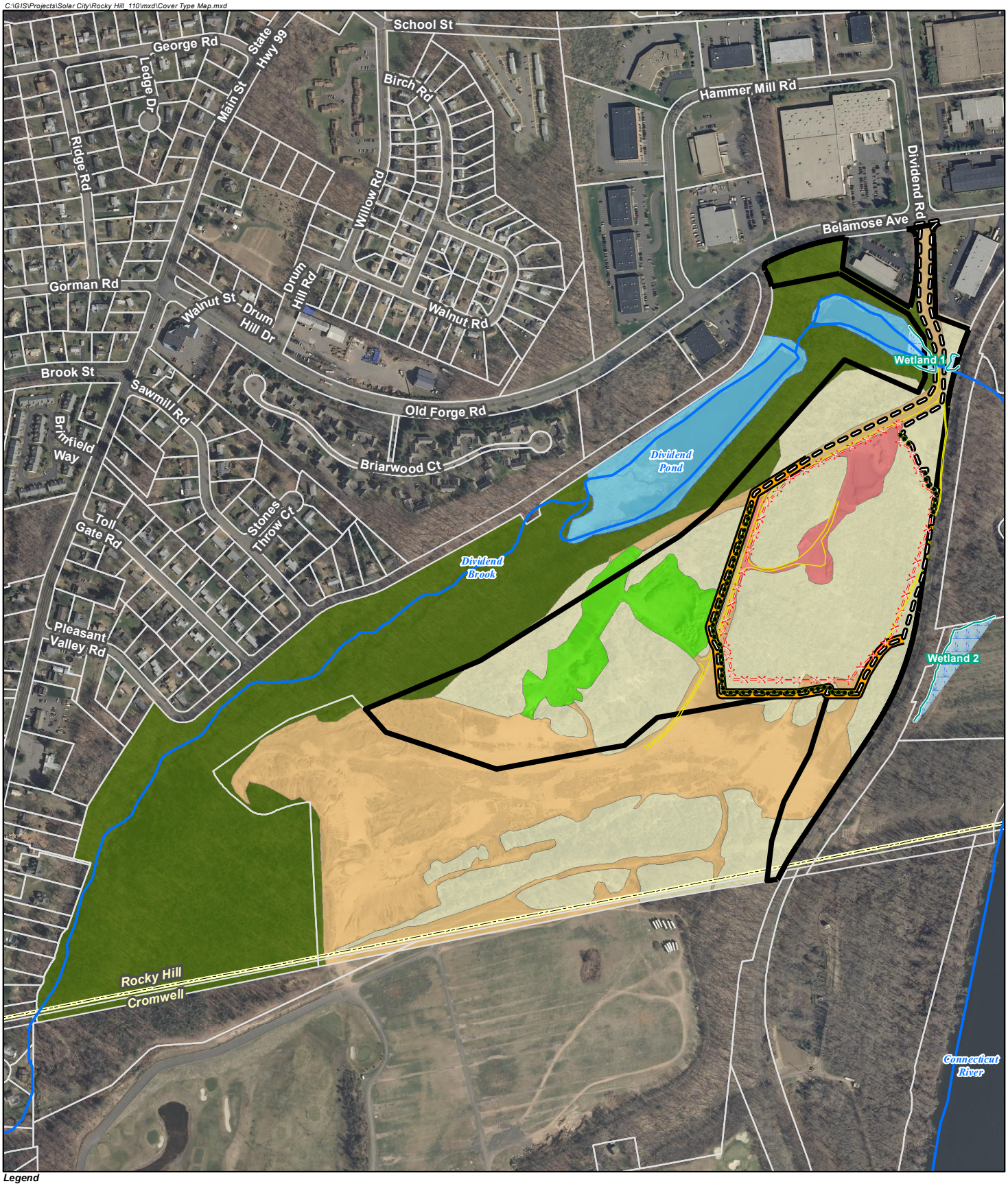
The Project Area is located primarily within an area of Late Old Field habitat with limited areas currently used by Town of Rocky Hill DPW as "Town Stockpile Areas". The entirety of the Site was historically a sand/gravel quarry resulting in the mosaic of habitats. Additional habitat types are located in the vicinity of the Project Area including Early Old Field/Unvegetated Sands, Mixed Hardwood Forest, Town Leaf/Brush Dump, and Open Water/Wetland Areas. These vegetative communities are depicted on Figure 3, *Cover Type Map* and described below.

Mixed Hardwood Forest: This habitat type comprises the relatively small northern edges of the Site that extends off-Site to the north and west. These forested areas are dominated by complexes of sugar maple (*Acer saccharum*), red oak (*Quercus rubra*), and white ash (*Fraxinus americana*). The forest is characterized as even aged with a mix of open and closed canopy areas. Edge/open canopy forested areas consist of greater understory growth dominated by autumn olive (*Elaeagnus umbellata*), mugwort (*Artemisia vulgaris*), and various other invasive plant species. Richer forested areas are characterized by a more closed canopy with an understory dominated by spicebush (*Lindera benzoin*).

Since this small forest block has been fragmented (mostly consisting of 'edge' forest with limited 'core' forest habitat present located to the far west), habitat favored by larger wildlife species is not ideal. Generalist wildlife species that are tolerant of human disturbance would be expected such as raccoon (*Procyon lotor*), striped skunk (*Mephitis mephitis*), grey squirrel (*Sciurus carolinensis*), Virginia opossum (*Didelphus virginiana*), and eastern chipmunk (*Tamias striatus*).

[1] Consistent with the extent of the *Critical Terrestrial Habitat* (750 feet) conservation zone surrounding vernal pools as established by Calhoun and Klemens.

C:\GIS\Projects\Solar City\Rocky Hill_110\mxd\Cover Type Map.mxd



Legend

- Site Boundary
- Existing Access Drive
- Proposed Fenced Facility (+/-19 acres)
- Existing Treeline/Clearing Limit
- Limits of Orange Construction Fencing
- Project Area - Limit of Proposed Work (+/-24 acres)
- CTDEEP Watercourse
- Delineated Wetland Boundary
- Wetland Area
- Approximate Assessor Parcel Boundary (CTDEEP)

Cover Type

- Early Old Field/Unvegetated Sands
- Late Old Field
- Mixed Hardwood Forest
- Town Leaf/Brush Dump
- Town Stockpile Area - Asphalt Millings with Compacted Soils
- Water/Wetland
- Municipal Boundary

Map Notes:
Base Map Source: 2012 Aerial Photograph (CTECO)
Map Scale: 1 inch = 625 feet
Map Date: February 2016

N W E S

625 312.5 0 625 Feet

Figure 3
Cover Type Map

Proposed Solar PV Facility
Town of Rocky Hill
Old Forge Road
Rocky Hill, Connecticut

SolarCity

ALL-POINTS TECHNOLOGY CORPORATION

Larger species such as coyote (*Canis latrans*), grey fox (*Urocyon cinereoargunteus*), white tailed deer (*Odocoileus virginianus*) and fisher (*Martes pennant*) also potentially take advantage of this habitat.

Early Old Field/Unvegetated Sands: This habitat type comprises the second largest area within the Site but is primarily located beyond the limits of the Project Area. The Early Old Field/Unvegetated Sands habitat type consists of large expanses of open sand escarpments in complex with herbaceous and scrub/shrub 'islands' or sparse intermixed vegetation. Any vegetation present in this habitat block is stunted as a result of the sandy substrate and infertile soils. Limited vegetation consists of mugwort, autumn olive, trembling aspen (seedling/ sapling), *solidago* (goldenrods), and various other grasses/sedges/forbs. This habitat type is considered a rare habitat type in Connecticut. Discussion of the wildlife habitat value of this habitat type is discussed further in the *Big Sand Tiger Beetle Habitat Assessment* and *Habitat Types and Their Importance to Birds* sections.

Late Old Field Habitat: This represents the largest habitat type on the Site and within the Project Area. Late Old Field habitat is segmented by other habitat types as a result of current uses of the Site. This habitat type consists of a complex of early successional trees with a dense understory dominated by patches of both scrub/shrub and herbaceous growth. The tree stratum is dominated by trembling aspen (*Populus trembloides*) with individual black willow (*Salix nigra*) trees present. The scrub/shrub stratum is dominated by autumn olive, Bebb willow (*Salix bebbiana*), staghorn sumac (*Rhus typhina*). The herbaceous stratum is dominated by mugwort, rough horsetail (*Equisetum hyemale*), and *solidago* species. The dominance of the three strata varies across this habitat type resulting in complex vertical structure. This complex vertical structure, in combination with the early successional habitat type (an uncommon habitat type in Connecticut) is favored by many wildlife species. However, the dominance of invasive species somewhat diminishes the habitat value of these areas. Discussion of the wildlife value of this habitat type is discussed further in the *Habitat Types and Their Importance to Birds* section.

Open Water/Wetland: This habitat type comprises a small percentage of the Site and is associated with both the Connecticut River floodplain located to the east and Dividend Pond/Dividend Brook located to the north/northwest. Edges of Dividend Pond/Dividend Brook are primarily forested with little to no bordering vegetated wetland areas. This wetland

resource drains west to east eventually out-letting into the Connecticut River. An existing access road crossing provides entrance to the Project Area off Dividend Road. The Connecticut River floodplain area delineated as Wetland 2 is isolated from the Project Area by a railroad line that runs north to south bordering the eastern edge of the Project Area. Dominant vegetation is consistent with the information provided in the *Inland Wetland & Watercourse Report (Appendix A)*.

Town Stockpile Areas: This habitat type is isolated to northern and central areas of the Project Area. The stockpile areas consist of material storage piles of asphalt millings underlain by compacted soils. Additional areas of this habitat type consist of a paved access drive that serves the DPW. These areas are largely devoid of vegetation making them generally unsuitable for wildlife use.

Town Leaf/Brush Dump: This habitat type comprises areas to the west of the Project Area and consists of large leaf and brush storage piles. This habitat type is largely devoid of mature vegetation and, due to the storage of brush and leaves, has limited value to wildlife (mostly small mammals and birds) for cover and foraging.

Rare Species

The Connecticut Department of Energy and Environmental Protection ("CTDEEP") Natural Diversity Data Base ("NDDB") program performs hundreds of environmental reviews each year to determine the impact of proposed development projects on state listed species and to help landowners conserve the state's biodiversity. State agencies are required to ensure that any activity authorized, funded or performed by a state agency does not threaten the continued existence of endangered or threatened species. Maps have been developed to serve as a pre-screening tool to help applicants determine if there is a potential impact to state listed species.

The NDDB maps represent approximate locations of endangered, threatened and special concern species and significant natural communities in Connecticut. The locations of species and natural communities depicted on the maps are based on data collected over the years by CTDEEP staff, scientists, conservation groups, and landowners. In some cases an occurrence represents a location derived from literature, museum records and/or specimens. These data are compiled and maintained in the NDDB. The general locations of species and communities are symbolized as shaded (or cross-hatched) areas on the maps. Exact locations have been

masked to protect sensitive species from collection and disturbance and to protect landowner's rights whenever species occur on private property.

APT reviewed the most recent CTDEEP NDDB mapping (August 2015) to determine if any such species or habitats occur within the vicinity of the Site. Based on the NDDB mapping, the southwestern portion of the Site is located within a shaded area. In addition, additional shaded areas are depicted immediately east of the Site. See Appendix B, *CTDEEP NDDB Mapping.* On September 5, 2015, APT submitted a review request to the CTDEEP NDDB with respect to this Project to determine what, if any, Threatened, Endangered, or Special Concern species or critical habitats exist at the Site. The CTDEEP responded via email on October 13, 2015 that State Special Concern Species *Cicindela formosa generosa* (Big Sand Tiger Beetle) is known to occur in the general area of the Site.[2]

The Big Sand Tiger Beetle ("tiger beetle") is a dry-habitat species that is found on yellow-to-white shifting sand with sparse vegetation. The species is found in short grass and weeds near the edges of sand dunes; in old, seldom-used road cuts, sand pits and seashores; and in pine barrens (Leonard and Bell, 1999). The species has a two-year life cycle and is active from spring through fall. They can be found from late April through July, rarely in August, and again in late August through September (Leonard and Bell, 1999).

While published information varies, it is generally accepted that adults die in early fall while larvae become inactive and overwinter in their burrows. Larval burrows are found in sand substrates that are loose, deep and well drained. *C. Formosa* larvae dig a small pit at the mouth of the burrow that serves as a pitfall for prey. The larval tunnel runs horizontally from the pit and then extends downward deep into the substrate. Sand about the pit and tunnel entrance is cemented by the larvae, which helps prevent the pit from collapsing.

Big Sand Tiger Beetle Habitat Assessment

Due to the timing of the Project initiation and resultant CTDEEP correspondence, it was not possible to directly survey the Site for the physical presence of the tiger beetle. Therefore, a habitat-based survey was conducted using the known habitat requirements as summarized by

[2] CTDEEP NDDB #201505939

Leonard and Bell (1999). Assessments of the Site and immediately surrounding environs were conducted to identify areas that contained loose and shifting sparsely vegetated sandy soils.

The Site is part of a larger contiguous habitat matrix that includes three separate parcels: (1) the Site; (2) the Dividend Pond Open Space Property to the northwest; and, (3) a privately owned parcel to the south. Collectively, these three (3) parcels were formerly used as a sand and gravel borrow pit. The habitat which developed after abandonment of the mining operations includes environments that are optimal for tiger beetle. However, the habitats within the Project Area represent unsuitable or, at best, highly marginal habitat for tiger beetle.

The lack of optimal tiger beetle habitat within the Project Area is a result of both the current Town activities as well as natural vegetative succession. The Project Area includes land presently used by the Rocky Hill DPW to store asphalt millings as well as sand and topsoil. This area is actively used and includes a stockpile area with access drives entering from the north and west. The stockpile area and access drives have been graded, compacted and coated with asphalt millings. These areas encompass approximately two (2) acres of the total Project Area and do not constitute suitable habitat for tiger beetle due to the soil surface conditions. The remainder of the Project Area consists of Late Old Field habitat which is beginning to transition to immature woodland. The woody stem density is high throughout most of the Project Area, consisting predominately of mature autumn olive shrubs. Where woody vegetation is absent, a dense cover of common mugwort blankets the ground. As a result, the Project Area contains no appreciable unvegetated or sparsely vegetated loose sands.

Conversely, areas within the adjoining parcel to the south contain optimal tiger beetle habitat in the form of large expanses of loose, shifting unvegetated sands. Succession in these areas has been stunted to a large degree by four-wheel drive activity.

Breeding Bird Inventory

Eric Davison of Davison Environmental, LLC conducted a breeding bird assessment of the Site on behalf of APT, Inc. This assessment focuses on species considered to be of high

conservation priority in Connecticut as designated in the *2015 Connecticut Wildlife Action Plan*[3] ("WAP"). The WAP was created to establish a framework for proactively conserving Connecticut's fish and wildlife, including their habitats. The WAP identifies Species of *Greatest Conservation Need* ("GCN species") that fall into three categories in descending order of significance from "most important" to "very important" and finally "important".

GCN species are those species that are considered of high conservation priority based on the consideration of such factors as: population trends and overall abundance; conservation threats associated with the species or its habitat; negative trends associated with the species' primary habitat; and the State's responsibility in the species overall conservation (i.e., the relative importance of Connecticut to the conservation of the species compared to other states in the species' range).

A total of 335 birds are found in Connecticut, over 170 of which nest in the State. There are a total of 95 GCN bird species in Connecticut, with 22 listed in the "most important" category, 38 are "very important" and 35 are "important".

The *Breeding Bird Inventory Table* provided in Appendix C includes a list of birds that potentially breed on the Site based on the presence of suitable habitat. This list was generated from a database that was developed by reviewing information on the habitat utilization of Connecticut's breeding birds. The primary resource for habitat utilization data was Bevier (Ed., 1994), with A. Poole (1995) and DeGraaf and Yamasaki (2001) utilized as secondary resources. The initial inventory, generated solely based on the presence of suitable habitat, was refined by considering such factors as bio-geographical distribution, the presence or absence of critical habitat features and minimum patch size requirements. The inventory is subdivided by habitat type. A species is listed under the habitat(s) which occupy the species typical home range. However, given that habitats are generally connected by transitional ecotones, a species should be considered to be potentially present within the ecotones associated with their primary habitat(s).

[3] The Wildlife Action Plan, formerly Connecticut's Comprehensive Wildlife Conservation Strategy (2005) is currently in draft form on the CT DEEP website at: http://www.ct.gov/deep/cwp/view.asp?a=2723&q=329520&deepNav_GID=1719#Review

Note that the inventory includes birds observed during habitat assessment work conducted on October 27, 2015. All birds seen or heard were noted as observed in the inventory table. Due to timing of field investigations, species observed were restricted to a small number of migratory and winter resident species.

Habitat Types and Their Importance to Birds

The Project Area is part of a larger contiguous habitat matrix that includes the Dividend Pond Open Space Property and the fallow quarry property to the south. When considering this contiguous habit as a whole, a significant and high value early-successional habitat unit is present for shrubland birds.

A single habitat type - Late Old Field - dominates the 24-acre Project Area. Approximately three (3) of these acres is occupied by the active Town Stockpile Areas and approximately three (3) acres by Early/Old Field/Unvegetated Sands (existing roadways). These areas do not represent breeding or feeding habitat for birds of any kind. Therefore, the functional Old Field habitat present within the Project Area totals approximately 18 acres.

When evaluating the Project Area alone, several factors limit its value for birds. The late successional stage of the habitat has resulted in the development of a dense monoculture of autumn olive. As a result, both plant species diversity and vegetative structural diversity of this habitat is low and therefore less likely to support a wide array of Old Field habitat specialists. As succession continues to progress, the Project Area will no longer be as suitable for those shrubland birds that may now use this habitat. Despite the Project Area's degraded state and late successional stage, it is still capable of supporting several habitat specialists such as the field sparrow (*Spizella pusilla*) or blue-winged warbler (*Vermivora pinus*).

Due to the habitat homogeneity of the Project Area, the list of birds potentially breeding on the Site is small and restricted to species that utilize late old field habitat. A total of 20 birds are identified in the *Breeding Bird Inventory Table* (*Appendix C*). This includes 10 GCN species (50%): three (3) "important" species; five (5) "very important" species; and, two (2) "most important" species. These species are all shrubland or non-forested habitat specialists classified as GCN species due to long-term regional population declines associated with habitat loss.

The inventory includes one state-listed species as potentially utilizing the Project Area; the brown thrasher[4]. Brown thrasher inhabit thickets, brushy hillsides and woodland edges in suburban and rural areas (Bevier, 1994). Maturation of forest and other factors causing loss of early successional habitat are driving the decline in this species. The Old Field represents suitable breeding habitat for thrasher.

Due to the timing of our field investigations during the fall migration, several species were observed feeding within the Project Area that are not expected to breed[5]; these include the white-throated sparrow (*Zonotrichia albicollis*), tufted titmouse (*Baeolophus bicolor*), black capped chickadee (*Poecile atricapillus*) and a flock of house finch (*Carpodacus mexicanus*) observed diligently feeding on autumn olive berries.

Water Quality

Groundwater underlying the Site is classified by the CTDEEP as "GA". This classification indicates groundwater within the area is presumed to be suitable for human consumption without treatment. Designated uses in GA-classified areas include existing private and potential public or private supplies of drinking water and base flow for hydraulically-connected surface water bodies.

The majority of the Site and Project Area are located in the Gardiner Expansion Aquifer Protection Area No. 67. This level A Final Aquifer Protection Area ("APA") is anticipated to be reclassified as GAA groundwater areas during future CTDEEP reclassifications. Level A APAs represent land area that is contributing ground water to active public water supply wells or well fields that serve more than 1,000 people and are set in sand and gravel aquifers. No water supply wells are located on the Site. It appears that four (4) water supply wells are located southwest of the Site on nearby property in Cromwell, over 1,000 feet from the southern extent of the Project Area.

[4] Brown thrasher was not included in the CTDEEP's correspondence regarding listed species potentially at the Site.

[5] These species generally prefer other habitat types for nesting and breeding and were likely using the Site as a stopover during migration.

Based upon CTDEEP mapping, the Site is located in Major Drainage Basin 4 (Connecticut River), Subregional Drainage Basin 4000 (Connecticut River), Local Drainage Basin 4000-31 (Dividend Pond).

The nearest surface water body is Dividend Pond, located adjacent to the western and northern boundaries of the Site. Dividend Pond is classified by the CTDEEP as a Class A surface water body. Designated uses for Class A surface water bodies include habitat for fish and other aquatic life and wildlife; potential drinking water supplies; recreation; and water supply for industry and agriculture.

Scenic Areas

No State or locally-designated scenic roads or other scenic areas are located proximate to the Site.

Historic and Archaeological Resources

APT reviewed relevant historic and archaeological information to determine whether the Site holds potential cultural resource significance. No historical resources on or eligible for listing on the National register of Historic Places exist at or in close proximity to the Site. The nearest historic resource is located one mile away (see Table 1, *Non-Residential Features within Two Miles of the Site*).

There are reported archaeological sites[6] in the general area, all related to activities associated with the area's contributions to the industrial revolution in the 17th and 18th centuries. Collectively, these comprise the Dividend Brook Industrial Archaeological District, which encompasses the Dividend Pond Open Space Property. Some areas may extend onto the western side of the Site[7]; however, the Site has been historically mined for sand and gravel and it is unlikely that intact native soils are present today.

APT submitted Project and Site historic/cultural information to the State Historic Preservation Office ("SHPO") for agency review and comment. Based on this information, it is evident that

[6] Archaeological Preserves are State Register districts developed from archaeological data.

[7] These "reported sites" consist of locations that have been buffered so as not reveal the specific locations of potentially sensitive artifacts/human remains.

the Project Area has been thoroughly disturbed and no longer possesses the potential to yield intact archaeological deposits.

A copy of the *SHPO Submission* is included in Appendix D. The SHPO has not responded at the time of this report.

Geology and Soils

Soils encompassing the Site and surrounding area are comprised of deposits of sand and gravel overlying sand, sand and gravel overlying sand overlying fines, and sand overlying fines. Soils located on the Site are identified as Penwood-Manchester-Hartford soils. Bedrock geology beneath the Site is identified as Hampden Basalt and Portland Arkose. Hampden Basalt is described as a greenish gray to black (weathers bright orange to brown), fine to medium grained, grading from basalt near contacts to fine grained gabbro in the interior, composed of pyroxene and plagioclase with accessory opaques and locally olivine or devitrified glass. Portland Arkose is described as a reddish brown to maroon micaceous arkose and siltstone and red to black fissile silty shale.

Floodplain Areas

APT reviewed the United States Federal Emergency Management Agency ("FEMA") Flood Insurance Rate Map ("FIRM") for the Site. A FIRM is the official map of a community on which FEMA has delineated both the special hazard areas and risk premium zones applicable to the community. The area of the Site is mapped on FIRM PANEL #09003 C0519 F, dated September 26, 2008. Based upon the reviewed FIRM Map, the proposed Project Area is designated as Zone X, which is defined as an area of minimal flooding.

Recreational Areas

The nearest recreational area to the Site is the Town's adjacent Dividend Pond Open Space parcel. Additional recreation areas are located in the Town but not proximate to the Site (see Table 1, *Non-Residential Features within Two Miles of the Site*).

Noise

A Noise Evaluation Study was prepared for the Project by HMB Acoustics LLC of Avon, Connecticut[8]. Based on sound measurements obtained at the Site and adjacent locations, the average levels range from 25 to 30 dBA[9].

Lighting

No lighting exists at the Site today.

Other Surrounding Features

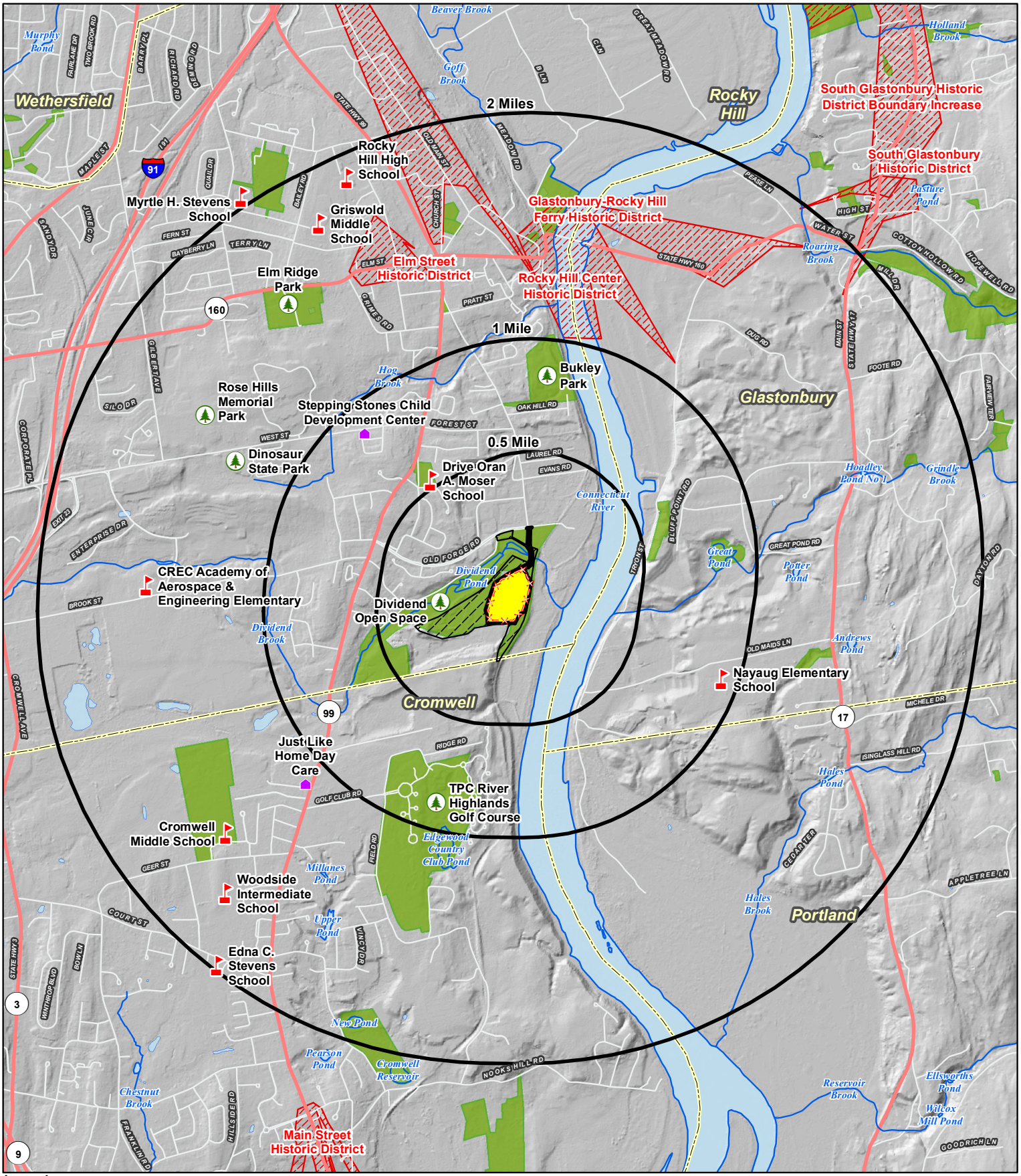
The locations of non-residential development and other resources within two miles of the Site are listed in Table 1 and depicted on Figure 4, *Surrounding Features Map*.

[8] The HMB report is provided in Appendix I. See also the Noise discussion in Effects on Environment section of this document.

[9] Sound measurements obtained on July 11, 2015 by HMB Acoustics LLC, of Avon, Connecticut.

Table 1: Non-Residential Features within Two Miles of the Site

Type	Name	Address	Town	Distance to Site
Recreational/Parks	Bulkley Park	Oak Hill Road-Michelle Drive	Rocky Hill	0.84 N
	Dinosaur State Park	400 West Street	Rocky Hill	1.28 NW
	Dividend Pond Open Space	Pleasant Valley Road	Rocky Hill	0.24 W
	Elm Ridge Park	376 Elm Street	Rocky Hill	1.54 NW
	Rose Hills Memorial Park	580 Elm Street	Rocky Hill	1.49 NW
	TPC River Highlands Golf Course	One Golf Club Road	Cromwell	0.90 S
Youth Camps	None within 2 miles of the Site			
Hospitals	None within 2 miles of the Site			
Child Day Cares	Just Like Home Day Care	659 Main Street	Cromwell	1.14 SW
	Stepping Stones Child Development Center	196 West Street	Rocky Hill	0.88 NW
Community Center	None within 2 miles of the Site			
Senior Facilities	None within 2 miles of the Site			
Schools	CREC Academy of Aerospace & Engineering Elementary	525 Brook Street	Rocky Hill	1.53 W
	Cromwell Middle School	6 Mann Memorial Drive	Cromwell	1.54 SW
	Drive Oran A. Moser School	10 School Street	Rocky Hill	0.53 NW
	Edna C. Stevens School	25 Court Street	Cromwell	2.0 SW
	Griswold Middle School	144 Bailey Road	Rocky Hill	1.76 NW
	Myrtle H. Stevens School	322 Orchard Street	Rocky Hill	2.04 NW
	Nayaug Elementary School	222 Old Maids Lane	Glastonbury	0.92 SE
	Rocky Hill High School	50 Chapin Avenue	Rocky Hill	1.90 NW
	West Hill School	95 Cronin Drive	Rocky Hill	2.77 NW
	Woodside Intermediate School	30 Woodside Road	Cromwell	1.73 SW
National Register of Historic Places	Elm Street Historic District			1.37 NW
	Glastonbury-Rocky Hill Ferry Historic District			1.0 N
	Rocky Hill Center Historic District		Rocky Hill	1.30 N
	South Glastonbury Historic District		Glastonbury	1.82 NE



Legend

- Project Area - Limit of Proposed Work (+/-24 acres)
- Proposed Fenced Facility (+/-19 acres)
- Site Boundary
- 0.5-2-Mile Radii
- Municipal and Private Open Space
- National Register of Historic Places
- Open Water

Surrounding Features

- Licensed Child Day Care
- Public School
- Recreation / Park

3,000 1,500 0 3,000 Feet

Base Map Source: ESRI & CTECO Shaded Relief
Map Date: February 2016

Figure 4
Surrounding Features Map

Proposed Solar PV Facility
Town of Rocky Hill
Old Forge Road
Rocky Hill, Connecticut

SolarCity
ALL-POINTS TECHNOLOGY CORPORATION

Effects on the Environment

The purpose of this section is to analyze and discuss the Project's potential effects on the environment and demonstrate that the proposed development will have no significant adverse effect on the surrounding environment.

Proposed Project Development

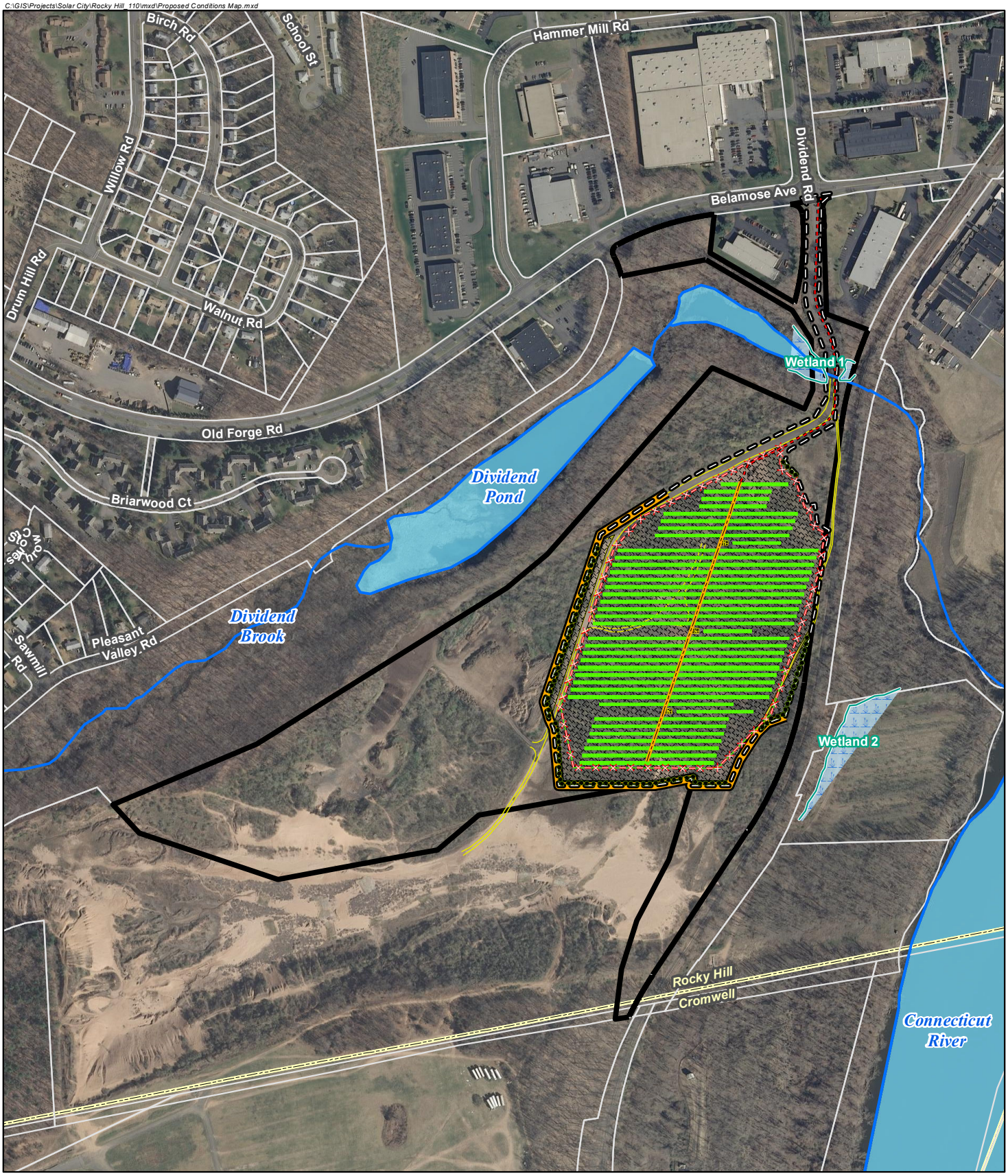
The Project will include an approximate 24-acre development on the Site. The solar array will be developed in the northern portion of the Site, which is primarily a mix of cleared land and early old field habitat, consisting of early successional trees[10] with a dense understory of scrub/shrub and herbaceous growth. New soil disturbances will be minimized to facilitate the installation of the solar arrays and associated equipment. The Project Area includes relatively level grades such that the development can be generally accomplished without significant cuts and/or fills.

The Project Area consists of previously disturbed land. A total of ±18 acres of early successional trees and associated dense understory will be cleared to accommodate the Project. The facility would be comprised of approximately 9,460 – 275 watt and 4,488 – 290 watt Trina Solar TSM-PD14 modules, three (3) Advanced Energy AE 500TX 500 kW inverters, and three (3) transformers. The facility would use a post-driven RBI Solar Inc. tracking system. Electrical connections would extend primarily overhead out to Old Forge Road. Once construction is complete, approximately 21 acres will be seeded for the establishment of permanent cover (turf).

Figure 5, *Proposed Conditions Map*, depicts the proposed Project layout.

[10] No trees within the Project Area have a diameter at breast height exceeding six (6) inches.

C:\GIS\Projects\Solar City\Rocky Hill_110\mxd\Proposed Conditions Map.mxd



Legend

- Site Boundary
- Existing Access Drive
- Proposed Fenced Facility (+/-19 acres)
- Proposed Overhead Wire
- Proposed Underground Trench
- Existing Treeline/Clearing Limit
- Proposed Solar Module
- Proposed Electrical
- Project Area - Limit of Proposed Work (+/-24 acres)
- Disturbed Area to be Seeded for Turf Establishment (+/-21 acres)
- Limits of Orange Construction Fencing
- CTDEEP Watercourse
- CTDEEP Waterbody
- Delineated Wetland Boundary
- Wetland Area
- Approximate Assessor Parcel Boundary (CTDEEP)
- Municipal Boundary

N W E S

500 250 0 500 Feet

Map Notes:
Base Map Source: 2012 Aerial Photograph (CTECO)
Map Scale: 1 inch = 500 feet
Map Date: February 2016

Figure 5
Proposed Conditions Map

Proposed Solar PV Facility
Town of Rocky Hill
Old Forge Road
Rocky Hill, Connecticut

SolarCity
ALL-POINTS TECHNOLOGY CORPORATION

Public Health and Safety

The Project would be designed to applicable industry, State, and local codes and standards and would not pose a safety concern or create undue hazard to the general public. The facility would not consume any raw materials, would not produce any by-products and would be unstaffed during normal operating conditions. The individual modules of the facility will be secured behind a new 8-foot tall chain link fence enclosure. The Site's entrance is gated, limiting access to authorized personnel.

Overall, the Project will meet or exceed all health and safety requirements applicable to electric power generation. Each employee working on Site will:

- Receive required general and Site specific health and safety training;
- Comply with all health and safety controls as directed by local and state requirements;
- Understand and employ the Site health and safety plan while on the Site;
- Know the location of local emergency care facilities, travel times, ingress and egress routes; and
- Report all unsafe conditions to the construction manager.

Construction equipment will be required to access the Site during normal working hours. Please refer to the *Construction Schedule* and *Construction Work Hours/Days Letter* provided in Appendix E and Appendix F, respectively. After construction is complete and the facility (unstaffed) is operable, traffic at the Site will be minimal. Four times per year the site will be mowed. Maintenance of the electrical equipment will occur once per year. Any equipment that breaks down will be repaired on an as needed basis. Annual maintenance will typically be two technicians for a day. The solar modules are designed to absorb incoming solar radiation and minimize reflectivity, such that only a small percentage of incidental light will be reflected off the panels. This incidental light is significantly less reflective than common building materials, such as steel, or the surface of smooth water. The panels will be tilted up toward the southern sky at a fixed angle of 30 degrees, further reducing reflectivity.

Local, State and Federal Land Use Plans

The Project is consistent with local, State, and Federal land use plans, including the 2014-2024 Capital Region Council of Government ("CRCOG") Plan of Conservation and Development which outlines the need for "*taking measures to drastically reduce greenhouse gas emissions*". CRCOG

states that the second largest producer of greenhouse gas emissions in the State is electric power generation. This Project will support CRCOG's policy by developing a renewable energy resource while not having a substantial adverse environmental effect.

Existing and Future Development

SolarCity and the Town of Rocky Hill have partnered together to redevelop the Site into a 3.9 MW DC Solar facility. SolarCity and Rocky Hill have entered into a power purchase agreement (PPA) whereby Rocky Hill will purchase the output of the facility and take advantage of either the net metering or virtual net metering program to offset its electric consumption at one or more town facilities. Additionally, the Project would benefit the community by improving electrical service for existing and future municipal development through enhanced capacity.

Roads

The existing access drive off Old Forge Road will be used. During construction, interior roads on both the east and west sides of the Project Area would be used to access multiple locations. Once construction is complete, permanent access to the facility will extend along the Project's west side. Two (2), sixteen (16) foot wide access gates will be installed along the west side of the fenced Project Area. The only upgrades required for the access road will be establishing a gravel apron at each gate location.

Wetlands

No wetlands or watercourses will be directly impacted by the Project. The existing access road, which currently crosses Wetland 1 via culvert, will not require upgrading. The closest potential construction activity to this wetland could occur within approximately 160 feet (to the south) if placement of new support poles is required[11] (for the overhead utility routing). All clearing and grading limits for the facility's infrastructure (solar arrays and associated equipment) would maintain a setback of approximately ±370 feet to the south of Wetland 1.

All the Project-related activities are remote from Wetland 2 by a railroad track that extends in a north to south direction, separating the Project Area from this wetland resource area which is

[11] Specific pole locations have not been determined to date.

approximately ±260 feet to the east. Due to the separating distance and intervening railroad infrastructure, no impacts are anticipated to Wetland 2.

The Connecticut River, located farther east of Wetland 2 (and ±850 feet east of the Project Area and ±800 feet east of the proposed limit of clearing) is not located in proximity to any proposed development areas. As such, no direct impacts are expected to occur to the Connecticut River.

Potential short term temporary impacts associated with the Project's construction activities will be minimized by the proposed sedimentation and erosion controls, which would be designed, installed and maintained during construction activities in accordance with the 2002 *Connecticut Guidelines for Soil Erosion and Sediment Control*. Potential long term secondary impacts to wetland resources possibly associated with the operation of this facility are minimized by the fact the development will be unstaffed (generating negligible traffic) and minimizes the creation of impervious surfaces by using an existing gravel access drive and treating the majority of the surface around the solar installation with native grass/vegetation. Based on a review of the Project plans, engineering documents, and the Stormwater Management Report (please see Attachment 4 of the Petition), the stormwater generated by the proposed development will be properly handled and treated in accordance with the 2004 *Connecticut Stormwater Quality Manual*. Due to implementation of these management techniques, the proposed Project development will not result in an adverse impact to wetland resources.

Vernal Pools

No vernal pool habitat was identified on or near (within 750 feet) the Site. All open water areas associated with Wetland 1 consist of permanent waterbodies with known fish populations and perennial stream inlets and outlets. Wetland 2 is an upland floodplain area that does not contain any potential for vernal pool habitat. As no vernal pool habitat exists within or near the Project Area, no impacts to vernal pool resources will result from the proposed Project.

Vegetation and Wildlife

The proposed Project will consist of approximately 24 acres of development, the majority of which is located within a mix of cleared land and early old field habitat, consisting of early successional trees with a dense understory of scrub/shrub and herbaceous growth. The solar arrays and gravel and grass surfaces associated with the construction of the Project will alter the habitat types present on the Site. Impacts to adjacent habitat types will be minimized through proper erosion and sedimentation controls. It is not anticipated that habitat types adjacent to the Project Area will be subjected to significant impacts. Provided below is an analysis of impact to the Site habitats.

Town Stockpile Areas: This habitat type exists in the northern extent of the Project Area. Of this habitat type, approximately three (3) acres will be directly impacted by the Project. As this area consists of entirely disturbed surfaces devoid of vegetation, little to no habitat value exists today. Therefore, habitat loss in these areas will not significantly affect wildlife populations utilizing the Site and will not result in significant negative impacts.

Late Old Field: Late Old Field habitat exists throughout the Project Area and the Site. Of this habitat type, approximately 18 acres will be removed as part of the Project. This habitat type is associated with transitioning early successional habitat. As a result of historic activities and current uses, similar habitat occurs to the west, north, and south of the Project Area. Late Old Field habitat within the Project Area will be eliminated, resulting in some habitat fragmentation. However, based on the small size of this block relative to the surrounding habitat that is to remain, development of the Project will not significantly impact Late Old Field habitat type in the surrounding area.

Early Old Field/Unvegetated Sands: The Early Old Field/Unvegetated Sands habitat type exists on the northern and western peripheries of the Project Area, all associated with the edges of an existing gravel access road. Totaling approximately three (3) acres in size, little of this habitat type will be removed as part of the proposed Project. It is expected that the use of this access road for construction and continued future use by the Town will result in some impacts to the habitat however, it will likely be minimal. These areas are compromised today by truck traffic. Once constructed and operative, primary access to the Project will be from the west. As the Project Area does not substantially encroach within this habitat type, it is not

anticipated that any significant impacts will result from the Project. Any potential impacts to this habitat type will be mitigated by the fact that the Project will result in additional edge Early Old Field/Unvegetated Sands habitat type through the removal of the Late Old Field habitat type.

Bird Habitat Impact Analysis

Habitat loss and fragmentation continue to be the greatest threat to Connecticut's birds. Therefore, when analyzing the impact of a particular project on birds and bird habitat, it is critical to assess both the total habitat to be lost as well as whether or not that habitat loss results in habitat fragmentation.

Habitat loss is an unavoidable consequence of land development. When assessing the impact of habitat loss, the total area of habitat lost must be quantified. This loss should be evaluated against the overall "patch size" of the habitat being affected in order to determine whether or not that habitat patch is large enough to support rare area-sensitive species both pre- and post-development. If the habitat patch size is currently small or fragmented and therefore suitable only for more common generalist species, the impacts of habitat loss can be insignificant. Conversely, if the habitat loss will result in the degradation of the entire patch size, the impacts of habitat loss can be significant.

When assessing whether or not a project will increase habitat fragmentation, it is critical to determine if the project decreases core (i.e., interior) habitat. This depends upon where the development occurs, within the interior or along the edge of the habitat patch. Projects located within the interior of a habitat patch will more adversely affect core habitat and result in higher increases in edge habitat than projects sited on the periphery of the habitat patch. Reduction of core habitat and the increase of edge habitat are critical factors negatively affecting the distribution of some area-sensitive species.

In this specific instance, the term "habitat matrix" (or "block") is used to discuss the relatively contiguous and undeveloped area that includes the Site and surrounding land. In addition to the Site, this habitat matrix includes the Dividend Pond Open Space Property to the west/northwest and the property to the south. This habitat matrix is primarily composed of Mixed Hardwood Forest areas to the north/northwest and a mix of Early Old Field/Unvegetated Sands and Late Old Field habitats to the south and southwest. These areas are generally

fragmented by the presence of existing paved roads to the west (Pleasant Valley Road), north (Old Forge Road/Belamose Avenue) and south (an unnamed drive immediately beyond the Cromwell town line), as well as the railroad tracks to the east of the Site, thus limiting the size of this habitat block.

The Project Area occupies the northeast corner of a habitat matrix that lies across three separate parcels. Although considered relatively contiguous in nature for purposes of this discussion, the matrix has experienced some level of fragmentation over time. For instance, the active road network and Town Stockpile Areas have resulted in varying degrees of disturbance, from loss of habitat to routine traffic and equipment use. Although development of the Project will result in some loss of patch size within the Late Old Field habitat, it would not result in significant reduction of the core habitat block. Associated edge effects resulting from the proposed development will penetrate into the remaining Late Old Field habitat. Edge effects include human activity and associated noise which can deter birds from using the remaining habitat that lies immediately adjacent to the new development[12]. Such affects are favored by some species.

The overall contiguous habitat matrix totals 179 acres. This habitat matrix will be reduced by approximately 24 acres (an approximate 13% reduction) as a result of development of the proposed Project. This will directly affect a portion of the late old field patch (approximately 18 of 52 acres, or ±35%). Post-development, the remaining late old field habitat patches located elsewhere within the habitat matrix will still be large enough to support area-sensitive shrubland habitat specialists such as the field sparrow or brown thrasher, as most shrubland specialists have a minimum patch size requirement of less than or equal to 25 acres.

When considering the entire contiguous habitat matrix, siting the development within the proposed Project Area represents the least environmentally damaging alternative. This conclusion is based on several factors, most notably: (1) the Project will not result in fragmentation of the overall habitat matrix; and, (2) portions of the Project Area are currently in use by the Rocky Hill DPW and do not represent suitable habitat for target species.

[12] While the edge effect is both species-dependent and land-use dependent, it generally affects avian use up to 300 feet from development.

Rare Species

The Project will not result in disturbances to habitat anticipated to be used by the tiger beetle. Although no appreciable habitat suitable for tiger beetle exists within the Project Area, areas within the southwest corner of the Site and the adjoining parcel to the south contain optimal tiger beetle habitat in the form of loose, shifting unvegetated sands. Due to the potential presence of tiger beetle populations proximate to the Project Area, SolarCity is committed to implementing proactive protection measures during construction. The plan would consist of installing physical barriers to restrict access to those nearby locations with suitable habitat, conducting contractor awareness training and inspections of protective measures by a qualified environmental specialist. SolarCity has provided its proposed Big Sand Tiger Beetle Protection Plan to the CTDEEP for review and acceptance. SolarCity will provide the Council with a copy of the CTDEEP's response letter upon receipt.

A copy of the proposed *Big Sand Tiger Beetle Protection Plan* is provided in Appendix G.

One federally listed[13] threatened species, northern long-eared bat (*Myotis septentrionalis*) may occur within the vicinity of the Site. The range of northern long-eared bat ("NLEB") encompasses the entire State of Connecticut. Suitable NLEB roost habitat includes trees (live, dying, dead, or snag) with a diameter at breast height ("DBH") of three (3) inches or greater. The proposed activity will result in the clearing of trees greater than three inches DBH. As a result, SolarCity evaluated the proposed activity's compliance with Section 10 of the Endangered Species Act ("ESA") through initial consultation with the U.S. Fish and Wildlife Service's ("USFWS") Information, Planning, and Conservation System ("IPaC").[14]

To determine whether the planned activity complies with Section 10 of the ESA, SolarCity assessed the Project using the USFWS's *Key to the Northern Long-Eared Bat 4(d) Rule for Non-Federal Activities Key* ("USFWS Key"; January 13, 2016), as detailed below.

1. *Will your activity purposefully take (see Definitions below) northern long-eared bats? For example, are you removing bats from a human structure or capturing bats for research?*

   Response: No, the proposed activity does not include purposefully taking northern long-eared bats.

[13] Listing under the federal Endangered Species Act.

[14] IPaC Consultation Tracking Number: 05E1NE00-2016-SLI-1095; dated March 15, 2016.

2. *Is your activity located outside the White-nose Syndrome Zone?*

   Response: No, the proposed activity is located inside the white-nose syndrome zone.

3. *Will your activity take place within a cave or mine where northern long-eared bats hibernate (i.e., hibernaculum) or could it alter the entrance or the environment (physical or other alteration) of a hibernaculum?*

   Response: No, the proposed activity will not take place within a northern long-eared bat hibernaculum or alter its entrance or environment.

4. *Will your action involve tree removal[15]?*

   Response: Yes.

5. *Is your activity the removal of hazardous trees for protection of human life or property?*

   Response: No, the proposed activity is not removing hazardous trees.

6. *Will your tree removal activities include one or both of the following: 1) removing a northern long-eared bat known occupied maternity roost tree or any trees within 150 feet of a known occupied maternity roost tree from June 1 through July 31; or 2) removing any trees within 0.25 miles of a northern long-eared bat hibernaculum at any time of year?*

   Response: No. There are currently no known NLEB maternity roost trees in Connecticut.[16] The nearest NLEB habitat resource to the proposed activity is located in North Branford ±18 miles to the southwest.

In accordance with the USFWS Key for NLEB, the Project would not result in an adverse effect or incidental take[17] to NLEB and does not require a permit from USFWS.

Water Quality

The facility will be unstaffed and no potable water uses or sanitary discharges are planned. No liquid fuels are associated with the operations of the Project. Once operative, the stormwater generated by the proposed development will be properly handled and treated in accordance with the 2004 *Connecticut Stormwater Quality Manual*. Therefore, upon its completion the

[15] "Tree removal" is defined in the 4(d) rule as cutting down, harvesting, destroying, trimming, or manipulating in any other way the trees, saplings, snags, or any other form of woody vegetation likely to be used by northern long-eared bats.

[16] *Northern long-eared bat areas of concern in Connecticut to assist with Federal Endangered Species Act Compliance* map (February 1, 2016)

[17] "Incidental take" is defined by the Endangered Species Act as take that is "incidental to, and not the purpose of, the carrying out of an otherwise lawful activity." For example, harvesting trees can kill bats that are roosting in the trees, but the purpose of the activity is not to kill bats.

Project would have no adverse environmental effect on wetlands, watercourses or other water resources.

The Site is located within the Gardiner Expansion APA. Water supply production wells are located on nearby property in Cromwell. The nearest well is located over 1,000 feet from the southern extent of the Project Area. To safeguard this resource from potential impacts during construction, SolarCity is committed to implementing protective measures in the form of an Aquifer Protection Plan. This Plan will include monitoring of established sedimentation and erosion controls that will be installed and maintained in accordance with the 2002 *Connecticut Guidelines for Soil Erosion and Sediment Control*. SolarCity will also apply for a *General Permit for the Discharge of Stormwater and Dewatering Wastewaters from Construction Activities* from CTDEEP. Therefore, with the incorporation of adequate protective measures, stormwater runoff from the Project development will not result in an adverse impact to water quality associated with the APA. A copy of the proposed *Aquifer Protection Plan* is provided in Appendix H.

Air Quality

No emission sources are associated with the operations of the Project. Therefore, no impacts to air quality are anticipated as part of the proposed Project.

Scenic Areas

No state designated scenic areas would be physically or visually impacted by development of the solar Project.

Historic and Archaeological Resources

APT consulted with the SHPO for concurrence that no historic or archaeological resources would be affected by the Project. Based on the results of APT's research, the Project Area has been thoroughly disturbed and no longer possesses any potential to yield intact archaeological deposits. In addition, the Project would not result in any impacts to the viewshed of the Dividend Brook Industrial Archaeological District.

The SHPO is currently reviewing the Project. Once received, a copy of the SHPO determination letter will be provided to the Council.

Geology and Soils

No adverse effects are anticipated on natural resources occurring at and/or nearby the Site. Once vegetative clearing activities are completed, minimal grading is required for construction of the Project.

Floodplain Areas

The Site is located entirely outside of the 100-year and 500-year floodplains. Therefore, no special design elements are necessary with respect to flooding concerns. In addition, no impacts to floodplains are associated with the proposed Project.

Recreational Areas

No recreational areas would be impacted by the Project.

Noise

The only equipment proposed for the Project that would generate noise consists of the fans associated with the inverters. The Noise Evaluation Study prepared by HMB Acoustics LLC of Avon, Connecticut, determined that after the Project is constructed and in service, the combined noise levels will comply with CTDEEP criteria for Commercial Emitters to both Commercial and Residential Receiver Zones.

After the Project is constructed and in service, the highest noise levels at adjacent properties are anticipated to be 30 dBA, which is well below the most conservative criteria of 45 dBA for nighttime and 55 dBA for daytime, as established by the State of Connecticut Noise Control regulations (CGS *22a/22a-69-1 through 7*). The inverters are inactive at night. During those times the inverters are operative, noise levels at nearby property lines and/or residences would not change and continue to be well below applicable criteria (estimated at 25 to 30 dBA based on existing background noise measurements obtained in July 2015).

Please refer to the *Noise Evaluation Report* provided in Appendix I.

Lighting

No lighting is planned for the facility.

Other Surrounding Features

No adverse effects are anticipated to the facilities identified in *Figure 4*, primarily because of their sufficient distances from the Project.

Visibility

Covering approximately 19 acres in total, the fenced facility will consist of a total of 13,948 non-reflective solar panels. The fence will rise to a height of eight (8) feet above grade ("AG"). The solar panels and appurtenances will not exceed this height. Once installed, the top of the solar panels would extend to a height of approximately six (±6) feet AG. The tallest equipment within the facility (inverters) would be approximately seven (±7) feet high. New utility poles are required for interconnection with the existing distribution system on Old Forge Road. However, the Project is set back sufficiently from abutting properties and public roads, and is benefited by intervening vegetation, such that the facility component will not be visible from locations off the Site.

Figure 6, *Facility Setting Map*, depicts the lack of nearby receptor locations with direct views towards the Project Area.

C:\GIS\Projects\Solar City\Rocky Hill_110\mxd\Figure 6 Visual Considerations Map.mxd

Legend

- Proposed Fenced Facility
- Proposed Overhead Wire
- Proposed Solar Module
- Approximate Assessor Parcel Boundary (CTDEEP)
- Municipal Boundary

Figure 6
Facility Setting Map

Proposed Solar PV Facility
Town of Rocky Hill
Old Forge Road
Rocky Hill, Connecticut

N
W E
S

650 325 0 650 Feet

Map Notes:
Base Map Source: 2012 Aerial Photograph (CTECO)
Map Scale: 1 inch = 650 feet
Map Date: February 2016

SolarCity
ALL-POINTS TECHNOLOGY CORPORATION

Conclusion

As demonstrated in this EA, the Project will comply with CTDEEP air and water quality standards. Further, it will not have an undue adverse effect on the existing environment and ecology, nor would it affect the scenic, historic and recreational resources in the vicinity. Protective measures would be employed to safeguard potential populations of tiger beetle proximate to the Project Area during construction activities. Once operative the facility will be unstaffed and generate minimal traffic. The Project design minimizes the creation of impervious surfaces and stormwater generated by the proposed development will be handled and treated in a manner consistent with the 2004 *Connecticut Stormwater Manual*.

APPENDIX A

Inland Wetland & Watercourse Report

and

Photo-Documentation

WETLAND INSPECTION

September 14, 2015 **APT Project No.: CT478110**

Prepared For: SolarCity
100 N. 18th Street Suite 1900
Philadelphia, PA 19103
Attn: Nichole Seidell

Project Name: Solar City Rocky Hill

Site Address: Old Forge Road
Rocky Hill, Connecticut

Date(s) of Investigation: 9/3/2015

Field Conditions: **Weather:** sunny**,** mid 80's
Soil Moisture: dry

Wetland/Watercourse Delineation Methodology*:

☒Connecticut Inland Wetlands and Watercourses
☐Connecticut Tidal Wetlands
☐U.S. Army Corps of Engineers

The wetlands inspection was performed by†:

Matthew Gustafson, Registered Soil Scientist

Enclosures: Wetland Delineation Field Forms & Wetland Inspection Map

This report is provided as a brief summary of findings from APT's wetland investigation of the referenced Study Area that consists of proposed development activities and areas generally within 100 feet.‡ If applicable, APT is available to provide a more comprehensive wetland impact analysis upon receipt of site plans depicting the proposed development activities and surveyed location of identified wetland and watercourse resources.

* *Wetlands and watercourses were delineated in accordance with applicable local, state and federal statutes, regulations and guidance.*

† *All established wetlands boundary lines are subject to change until officially adopted by local, state, or federal regulatory agencies.*

‡ *APT has relied upon the accuracy of information provided by by Brightfields Development, LLC regarding the proposed subject property for defining the study area within which wetlands and/or watercourses are to be identified.*

Attachments

- Wetland Delineation Field Forms
- Wetland Inspection Map

Wetland Delineation Field Form

Wetland I.D.:	Wetland 1	
Flag #'s:	WF 1-01 to 1-15 and 1-30 to 1-42	
Flag Location Method:	Site Sketch ☒	GPS (sub-meter) located ☒

WETLAND HYDROLOGY:

NONTIDAL ☒

Intermittently Flooded ☐	Artificially Flooded ☐	Permanently Flooded ☒
Semipermanently Flooded ☐	Seasonally Flooded ☐	Temporarily Flooded ☐
Permanently Saturated ☐	Seasonally Saturated – seepage ☐	Seasonally Saturated - perched ☐
Comments: None		

TIDAL ☐

Subtidal ☐	Regularly Flooded ☐	Irregularly Flooded ☐
Irregularly Flooded ☐		
Comments: None		

WETLAND TYPE:

SYSTEM:

Estuarine ☐	Riverine ☐	Palustrine ☒
Lacustrine ☐	Marine ☐	
Comments: None		

CLASS:

Emergent ☒	Scrub-shrub ☒	Forested ☒
Open Water ☒	Disturbed ☐	Wet Meadow ☐
Comments: Primarily forested edges with core open water areas.		

WATERCOURSE TYPE:

Perennial ☒	Intermittent ☐	Tidal ☐
Watercourse Name: Dividend Pond and outlet perennial stream		
Comments: Dividend Pond and the associated perennial stream outlet generally flows west to east under the existing gravel access through a large reinforced concrete pipe culvert.		

Wetland Delineation Field Form (Cont.)

SPECIAL AQUATIC HABITAT:

Vernal Pool Yes ☐ No ☒ Potential ☐	Other ☐
Vernal Pool Habitat Type: None	
Comments: None	

SOILS:

Are field identified soils consistent with NRCS mapped soils?	Yes ☒	No ☐
If no, describe field identified soils		

DOMINANT PLANTS:

Red Maple (Acer rubrum)	Silky Dogwood (Cornus amomum)
Poison Ivy (Toxicodendron radicans)	Specked Alder (Alnus rugosa)
American Elm (Ulmus americana)	Jewelweed (Impatiens capensis)
Autumn Olive* (Elaeagnus umbellate)	Mugwort* (Artemisia vulgaris)
Fox Grape (Vitis labrusca)	

* denotes Connecticut Invasive Species Council invasive plant species

GENERAL COMMENTS:

Wetland 1 consists of an open water resource identified as Dividend Pond and a perennial watercourse that outlets from the pond, flowing east eventually into the Connecticut River located approximately 800 feet west of the proposed Rocky Hill Solar PV Facility. An existing gravel access road crosses the watercourse through a large reinforced concrete pipe culvert. Wetland 1 eventually drains east under an existing railroad line and off the subject property. The margins of Wetland 1 are entirely forested with sparse scrub/shrub and emergent vegetation present. Banks to the resource are steeply sloping with little to no bordering vegetated wetland areas.

Based on APT's understanding of the Rocky Hill Solar PV Facility proposed by SolarCity, no direct impact to wetlands or watercourses would result from the development. The northeastern end of the proposed Facility would be located ±160 feet south of Wetland 1 at the existing wetland and watercourse crossing. The northwestern corner of the proposed Facility would be located ±260 feet southeast of Dividend Pond. Depending upon proposed improvements to the existing access road and utilities, work may occur in close proximity to wetlands located either side of this existing wetland and watercourse crossing. APT is available to provide a detailed evaluation of possible wetland and watercourse impacts associated with the proposed Rocky Hill Solar PV Facility.

Wetland Delineation Field Form

Wetland I.D.:	Wetland 2	
Flag #'s:	WF 2-01 to 2-23	
Flag Location Method:	Site Sketch ☒	GPS (sub-meter) located ☒

WETLAND HYDROLOGY:

NONTIDAL ☒

Intermittently Flooded ☐	Artificially Flooded ☐	Permanently Flooded ☐
Semipermanently Flooded ☐	Seasonally Flooded ☐	Temporarily Flooded ☒
Permanently Saturated ☐	Seasonally Saturated – seepage ☐	Seasonally Saturated - perched ☐
Comments: Floodplain associated with the Connecticut River.		

TIDAL ☐

Subtidal ☐	Regularly Flooded ☐	Irregularly Flooded ☐
Irregularly Flooded ☐		
Comments: None		

WETLAND TYPE:

SYSTEM:

Estuarine ☐	Riverine ☐	Palustrine ☒
Lacustrine ☐	Marine ☐	
Comments: None		

CLASS:

Emergent ☐	Scrub-shrub ☒	Forested ☒
Open Water ☐	Disturbed ☐	Wet Meadow ☒
Comments: Delineated extents of wetland primarily consist of an open field with edge forested areas.		

WATERCOURSE TYPE:

Perennial ☒	Intermittent ☐	Tidal ☐
Watercourse Name: Connecticut River		
Comments: Floodplain system bordering on the Connecticut River was delineated, not the banks of the river.		

Wetland Delineation Field Form (Cont.)

SPECIAL AQUATIC HABITAT:

Vernal Pool Yes ☐ No ☒ Potential ☐	Other ☐
Vernal Pool Habitat Type: None	
Comments: None	

SOILS:

Are field identified soils consistent with NRCS mapped soils?	Yes ☒	No ☐
If no, describe field identified soils		

DOMINANT PLANTS:

Sensitive Fern (Onoclea sensibilis)	Spicebush (Lindera benzoin)
Silky Dogwood (Cornus amomum)	Poison Ivy (Toxicodendron radicans)
Purple Loosestrife* (Lythrum salicaria)	Autumn Olive* (Elaeagnus umbellate)
Weeping Willow (Salix babylonica)	Mugwort* (Artemisia vulgaris)
Staghorn Sumac (Rhus typhina)	

* denotes Connecticut Invasive Species Council invasive plant species

GENERAL COMMENTS:

Wetland 2 consists of the semi-active floodplain associated with several associated backwater wetland areas that border on the Connecticut River. The western edge of the delineated resource consists of steeply sloping embankments. The northern edge is more moderately sloped with a broader transition zone from wetlands to uplands. The primary vegetation class associated with Wetland 2 is open field with edge forested areas and transitional scrub/shrub ecotones separating the two. Observed soil profiles reveals these areas flood irregularly and are consistent with moderately well drained and well drained floodplain soils.

Based on APT's understanding of the Rocky Hill Solar PV Facility proposed by SolarCity, no direct impact to wetlands or watercourses would result from the development. The southeastern corner of the proposed Facility would be located ±225 feet west of Wetland 2. APT is available to provide a detailed evaluation of possible wetland and watercourse impacts associated with the proposed Rocky Hill Solar PV Facility.

C:\GIS\Projects\Solar City\Rocky Hill_110\mxd\Wetland Inspection Map.mxd

Legend

- Approximate Project Area (+/-16 acres)
- Subject Property
- Approximate Assessor Parcel Boundary (CTDEEP)
- CTDEEP Watercourse
- CTDEEP Waterbody
- Start/End Wetland Flag
- Delineated Wetland Boundary
- Wetland Area
- Municipal Boundary

N W E S

500 250 0 500 Feet

Map Notes:
Base Map Source: 2012 Aerial Photograph (CTECO)
Map Scale: 1 inch = 500 feet
Map Date: September 2015

Wetland Inspection Map

Proposed Solar PV Facility
Town of Rocky Hill
Old Forge Road
Rocky Hill, Connecticut

SolarCity

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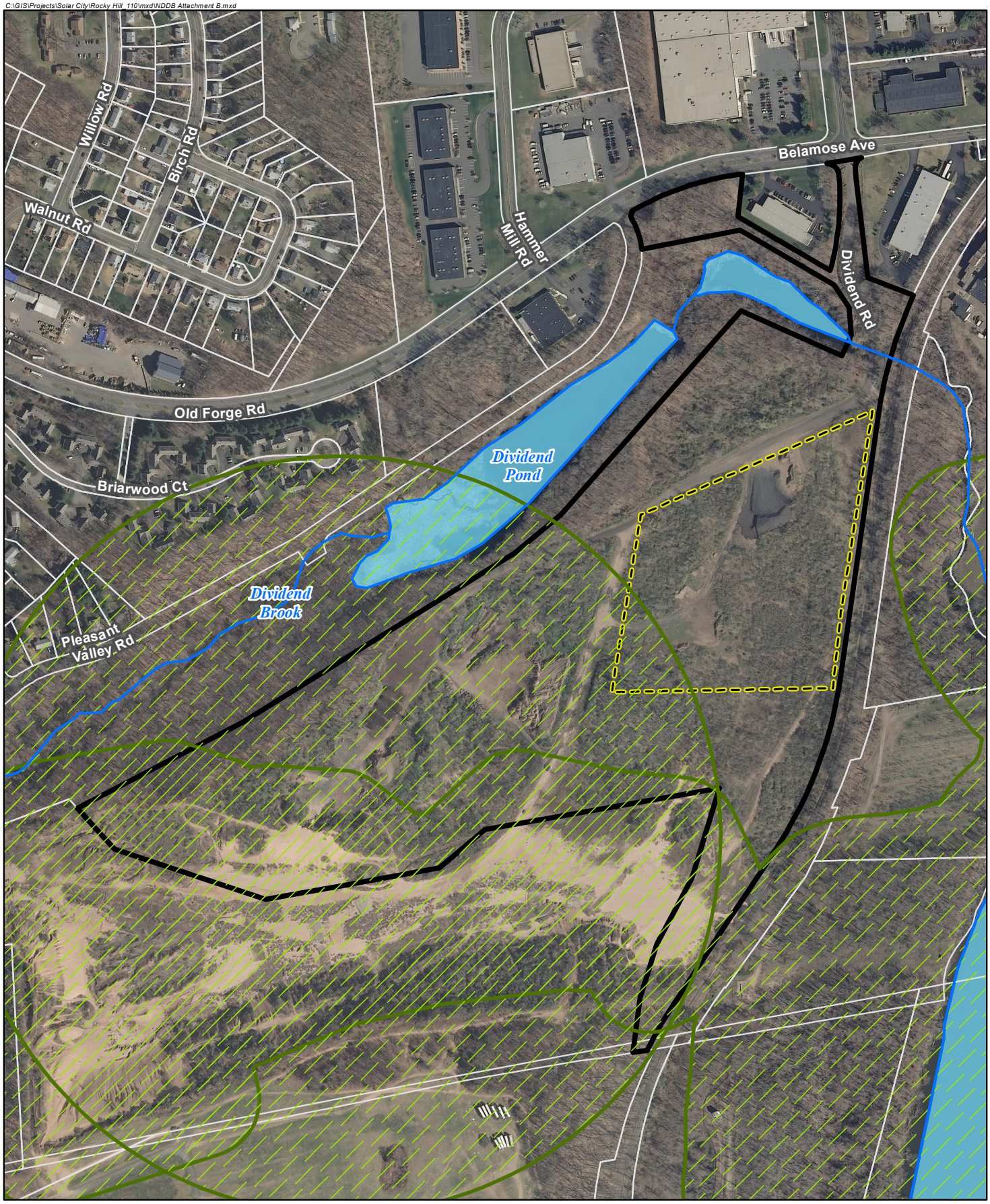
APPENDIX B

CTDEEP NDDB Mapping

C:\GIS\Projects\Solar City\Rocky Hill_110\mxd\NDDB Attachment B.mxd



Legend

- Site Boundary
- Project Area (+/-14 acres)
- Natural Diversity Database (NDDB; Sept. 2015)
- CTDEEP Watercourse
- CTDEEP Waterbody

N
W E
S

450 225 0 450 Feet

Map Notes:
Base Map Source: 2012 Aerial Photograph (CTECO)
Map Scale: 1:5,400
Map Date: November 2015

Appendix B
Site Map

Proposed Solar PV Facility
Town of Rocky Hill
Old Forge Road
Rocky Hill, Connecticut
Lat: 41.64342847
Long: -72.633249

SolarCity

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APPENDIX C

Breeding Bird Inventory Table

Breeding Bird Inventory Table

Common Name	Scientific Name	Observed	Status	Habitat Type
American Redstart	*Setophaga ruticilla*			OF
American Robin	*Turdus migratorius*	OB		OF
Blue-Jay	*Cyanocitta cristata*	OB		OF
Blue-winged Warbler	*Vermivora pinus*		MI	OF
Brown Thrasher	*Toxostoma rufum*		SC, VI	OF
Cedar Waxwing	*Bombycilla cedrorum*	OB		OF
Chestnut-sided Warbler	*Dendroica pensylvanica*		VI	OF
Common Yellowthroat	*Geothlypis trichas*			OF
Eastern Kingbird	*Tyrannus tyrannus*		I	OF
Eastern Towhee	*Pipilo erythrophthalmus*		VI	OF
Field Sparrow	*Spizella pusilla*		VI	OF
Gray Catbird	*Dumetella carolinensis*			OF
Indigo Bunting	*Passerina cyanea*		VI	OF
Mourning Dove	*Zenaida macroura*	OB		OF
Northern Cardinal	*Cardinalis cardinalis*			OF
Northern Oriole	*Icterus galbula*		I	OF
Prairie Warbler	*Dendroica discolor*		MI	OF
Rose-breasted Grosbeak	*Pheucticus ludovicianus*		I	OF
Song Sparrow	*Melospiza Melodia*			OF
White-eyed Vireo	*Vireo griseus*			OF

KEY
OB – species was observed on the site on 10/27/15 (migrant and winter residents only)
WAP Conservation Status: IM – Important; VI – Very Important; MI – Most Important
SC – State-listed species of special concern
Habitat Types (observed and potential use): OF – old field

APPENDIX D

State Historic Preservation Office Submission

Submit by Email | Print Form

Department of Economic and Community Development | Connecticut still revolutionary

State Historic Preservation Office

One Constitution Plaza | Hartford, CT 06103 | 860.256.2800 | Cultureandtourism.org

PROJECT REVIEW COVER FORM

1. This information relates to a previously submitted project. ☐

You do not need to complete the rest of the form if you have been previously issued a SHPO Project Number. Please attach information to this form and submit.

SHPO Project Number _____
(Not all previously submitted projects will have project numbers)

Project Address _____
(Street Address and City or Town)

2. This is a new Project. ☒

If you have checked this box, it is necessary to complete ALL entries on this form .

Project Name Proposed Solar Facility Installation

Project Location 13 Old Forge Road
Include street number, street name, and or Route Number. If no street address exists give closest intersection.

City or Town Rocky Hill
In addition to the village or hamlet name (if appropriate), the municipality must be included here.

County Hartford County
If the undertaking includes multiple addresses, please attach a list to this form.

Date of Construction (for existing structures) N/A - Undeveloped land

PROJECT DESCRIPTION SUMMARY (include full description in attachment):

SolarCity Corporation proposes the construction of a solar powered electrical generation installation consisting of photovoltaic (PV) module technology. The Site parcel is approximately 61.4 acres located at 13 Old Forge Road in Rocky Hill, CT. The proposed project area would encompass approximately 24 acres of undeveloped, lightly wooded land, a portion of which is currently used by the Town for materials storage. Upon completion, the facility will occupy approximately 19 acres. Access to the Site is over an existing, gated drive originating at the intersection of Old Forge Road and Dividend Road in its northern portion. The existing access drive extends south into the Site where it connects to a system of interior dirt roads.The project boundaries are depicted on the enclosed Project Location Map and Site Figures. A Preliminary Archeological Assessment prepared by Heritage Consultants, LLC is enclosed.

TYPE OF REVIEW REQUESTED

a. Does this undertaking involve funding or permit approval from a State or Federal Agency?

☒ Yes ☐ No

Agency Name/Contact	Type of Permit/Approval	State	Federal
CT Siting Council	Petition that NO Certificate of Env Compatibility and Public Need is required.	☒	☐
		☐	☐
		☐	☐

	Yes	No
b. Have you consulted the SHPO and UCONN Dodd Center files to determine the presence or absence of previously identified cultural resources within or adjacent to the project area?	☒	☐
If yes: Was the project site wholly or partially located within an identified archeologically sensitive area?	☐	☒
Does the project site involve or is it substantially contiguous to a property listed or recommended for listing in the CT State or National Registers of Historic Places?	☐	☒
Does the project involve the rehabilitation, renovation, relocation, demolition or addition to any building or structure that is 50 years old or older?	☐	

Department of Economic and Community Development | Connecticut still revolutionary

State Historic Preservation Office

One Constitution Plaza | Hartford, CT 06103 | 860.256.2800 | Cultureandtourism.org

PROJECT REVIEW COVER FORM

The Historic Preservation Review Process in Connecticut Cultural Resource Review under the National Historic Preservation Act – Section 106 http://www.achp.gov/106summary.html involves providing technical guidance and professional advice on the potential impact of publicly funded, assisted, licensed or permitted projects on the state's historic, architectural and archaeological resources. This responsibility of the State Historic Preservation Office (SHPO) is discharged in two steps: (1) identification of significant historic, architectural and archaeological resources; and (2) advisory assistance to promote compatibility between new development and preservation of the state's cultural heritage.

Project review is conducted in two stages. First, the SHPO assesses affected properties to determine whether or not they are listed or eligible for listing in the Connecticut State or National Registers of Historic Places. If so, it is deemed "historic" and worthy of protection and the second stage of review is undertaken. The project is reviewed to evaluate its impact on the properties significant materials and character. Where adverse effects are identified, alternatives are explored to avoid, or reduce project impacts; where this is unsuccessful, mitigation measures are developed and formal agreement documents are prepared stipulating these measures. For more information and guidance, please see our website at: http://www.cultureandtourism.org/cct/cwp/view.asp?a=3933&q=293820

ALL PROJECTS SUBMITTED FOR REVIEW MUST INCLUDE THE FOLLOWING MATERIALS*:

☒ **PROJECT DESCRIPTION** Please attach a full description of the work that will be undertaken as a result of this project. Portions of environmental statements or project applications may be included. The project boundary of the project should be clearly defined**

☒ **PROJECT MAP** This should include the precise location of the project – preferably a clear color image showing the nearest streets or roadways as well as all portions of the project. Tax maps, Sanborn maps and USGS quadrangle maps are all acceptable, but Bing and Google Earth are also accepted if the information provided is clear and well labeled. The project boundary should be clearly defined on the map and affected legal parcels should be identified.

☒ **PHOTOGRAPHS** Clear, current images of the property should be submitted. Black and white photocopies will not be accepted. Include images of the areas where the proposed work will take place. May require: exterior elevations, detailed photos of elements to be repaired/replaced (windows, doors, porches, etc.) All photos should be clearly labeled.

For Existing Structures	Yes	N/A	Comments
Property Card	☒	☐	
For New Construction	**Yes**	**N/A**	**Comments**
Project plans or limits of construction (if available)	☒	☐	
If project is located in a Historic District include renderings or elevation drawings of the proposed structure	☐	☒	
Soils Maps http://websoilsurvey.nrcs.usda.gov/app/HomePage.htm	☒	☐	Refer to Arch Assessment
Historic Maps http://magic.lib.uconn.edu/	☒	☐	Refer to Arch Assessment
For non-building-related projects (dams, culverts, bridge repair, etc)	**Yes**	**N/S**	**Comments**
Property Card	☐	☐	
Soils Map (see above)	☐	☐	
Historic Maps (see above)			

SHPO USEONLY	Above	Date	Below	Date
Indicate date of Review and Initials of Reviewer				

PROJECT CONTACT

Name Nicole Castro Title Project Manager

Firm/Agency All-Points Technology Corporation, P.C.

Address 3 Saddlebrook Drive

City Killingworth State CT Zip 06419

Phone 860-663-1697 x213 Cell 860-558-5037 Fax 860-663-0935

Email ncastro@allpointstech.com

*Note that he SHPO's ability to complete a timely project review depends largely on the quality of the materials submitted.

** Please be sure to include the project name and location on *each page* of your submission.

Department of Economic and Community Development
Connecticut still revolutionary

State Historic Preservation Office

One Constitution Plaza | Hartford, CT 06103 | 860.256.2800 | Cultureandtourism.org

PROJECT REVIEW COVER FORM

SHPO USE ONLY

Based on our review of the information provided to the State Historic Preservation Office, it is our opinion that:

☐ No historic properties will be affected by this project. No further review is requested.

☐ This project will cause no adverse effects to the following historic properties. No further review is requested:

☐ This project will cause no adverse effects to the following historic properties, conditional upon the stipulations included in the attached letter:

☐ Additional information is required to complete our review of this project. Please see the attached letter with our requests and recommendations.

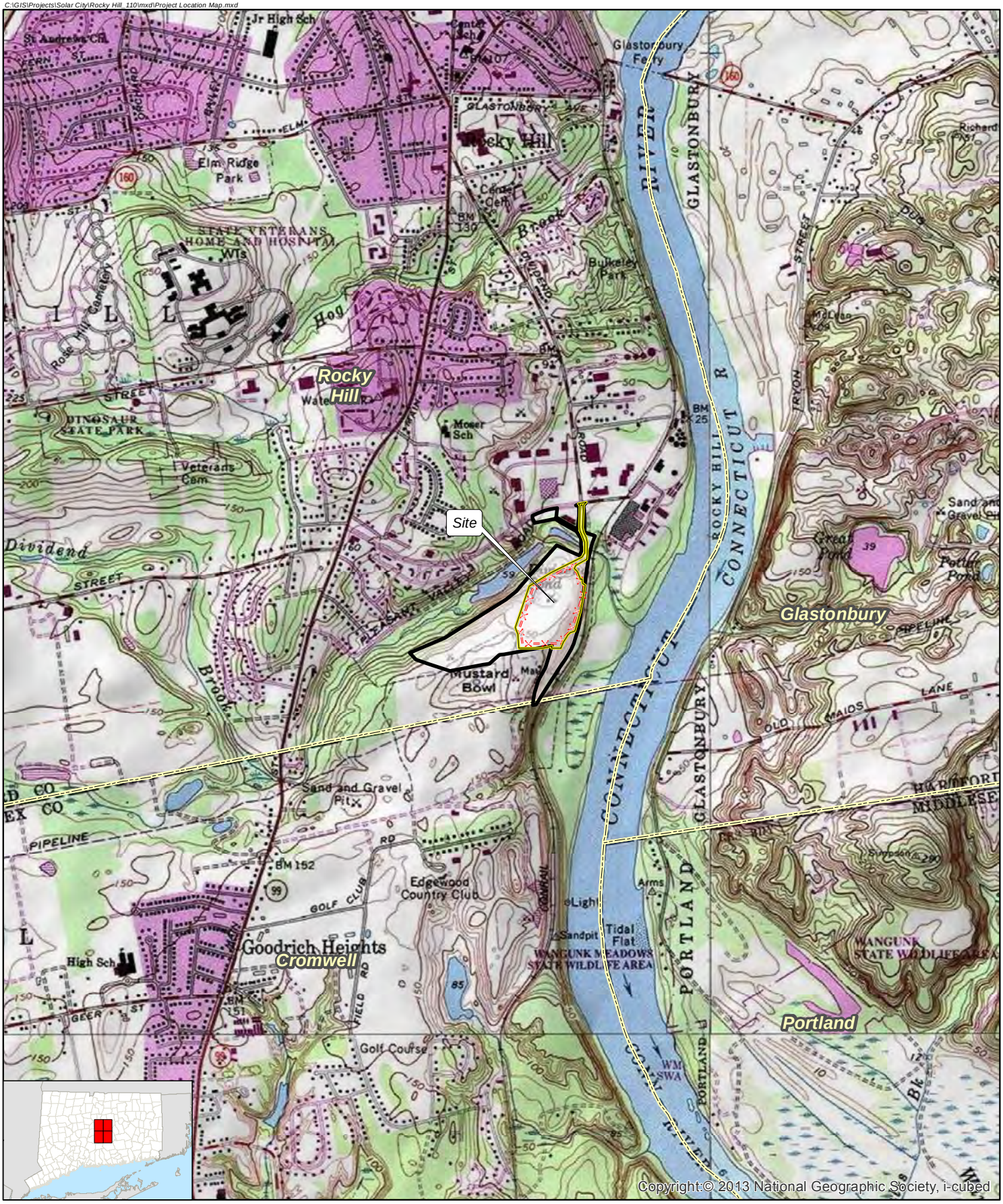
☐ This project will adversely affect historic properties as it is currently designed or proposed. Please see the attached letter for further details and guidance.

_____

Catherine Labadia — Date
State Historic Preservation Offier

Project Location Map

C:\GIS\Projects\Solar City\Rocky Hill_110\mxd\Project Location Map.mxd



Legend

- Site Boundary
- Project Area - Limit of Proposed Work (+/-24 acres)
- Proposed Fenced Facility (+/-19 acres)
- Municipal Boundary

Map Notes:
Base Map Source: USGS 7.5 Minute Topographic Quadrangle Maps, Glastonbury (1992), Harford South (1992), Middle Haddam (1984), and Middletown (1992), CT
Site located on the Hartford South Quadrangle
Map Scale: 1:24,000
Map Date: February 2016

N W E S

1,000 500 0 1,000 Feet

Project Location Map

Proposed Solar PV Facility
Town of Rocky Hill
Old Forge Road
Rocky Hill, Connecticut

SolarCity
ALL-POINTS TECHNOLOGY CORPORATION

Project Description

The Site consists of a single, Town-owned parcel located at 13 Old Forge Road, encompassing a total of approximately 61.4 acres. The Site is undeveloped and portions heavily disturbed by historic clearing and excavation activities. Several areas are currently used by the Town's Department of Public Works ("DPW") for materials storage, including asphalt millings, street sweepings, sand, top soil, leaves, brush and mulch.

The Project Area consists of approximately 24-acres of undeveloped, lightly wooded land, a portion of which is currently used by the Town for materials storage. Upon completion, the facility will occupy approximately 19 acres. Access to the Site is over an existing, gated drive originating at the intersection of Old Forge Road and Dividend Road in its northern portion. The existing access drive extends south into the Site where it connects to a system of interior dirt roads.

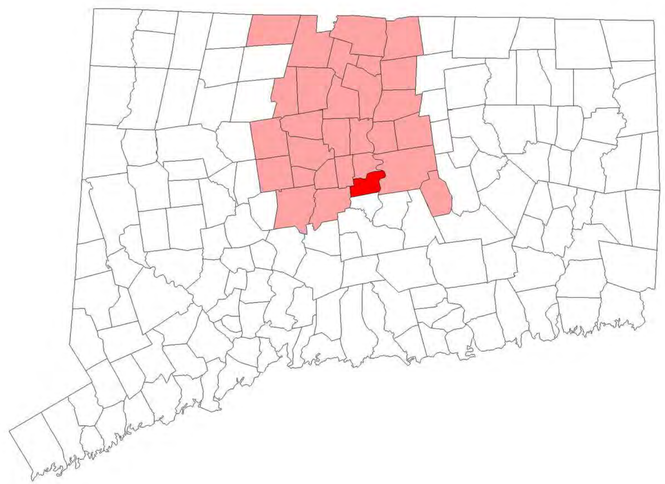
The Project will include an approximate 24-acre development on the Site. The solar array will be developed in the northern portion of the Site, which is primarily a mix of cleared land and early old field habitat, consisting of early successional trees with a dense understory of scrub/shrub and herbaceous growth. New soil disturbances will be minimized to facilitate the installation of the solar arrays and associated equipment. The Project Area includes relatively level grades such that the development can be generally accomplished without significant cuts and/or fills.

The Project Area consists of previously disturbed land. A total of ±18 acres of early successional trees and associated dense understory will be cleared to accommodate the Project. The facility would be comprised of approximately 9,460 – 275 watt and 4,488 – 290 watt Trina Solar TSM-PD14 modules, three (3) Advanced Energy AE 500TX 500 kw inverters, and three (3) transformers. The facility would use a post-driven RBI Solar Inc. tracking system. Electrical connections would extend primarily overhead out to Old Forge Road. Once construction is complete, approximately 21 acres will be seeded for the establishment of permanent cover (turf).

Site Figures and Property Card

ROCKY HILL, CONNECTICUT
SOLAR PHOTOVOLTAIC (PV) PROJECT

13 OLD FORGE ROAD
ROCKY HILL, CONNECTICUT 06067



CONNECTICUT MUNICIPAL MAP
SCALE: N.T.S.

PROJECT DIRECTORY	
DEVELOPER(S): SOLAR CITY, INC. 1376 LEAD HILL BLVD. ROSEVILLE, CA 95661 CONTACT: JOSHUA TROGLIN (650) 332-0412	RACKING SYSTEM DESIGNER: RBI SOLAR 5513 VINE STREET CINCINNATI, OH 45217 CONTACT: LOUIS "PAT" HUDEPOHL 513-618-2183
HOST: TOWN OF ROCKY HILL 13 OLD FORGE ROAD ROCKY HILL, CONNECTICUT 06067	UTILITY: EVERSOURCE
ENGINEER: WESTON & SAMPSON ENGINEERS, INC. 273 DIVIDEND ROAD ROCKY HILL, CONNECTICUT 06067 CONTACT: JOHN FIGURELLI (860) 513-1473	
ELECTRICAL ENGINEER: PLUMP ENGINEERING, INC 914 E KATELLA AVENUE ANAHEIM, CA 92805 CONTACT: ANN D'ALESSANDRO (518) 796-1030	

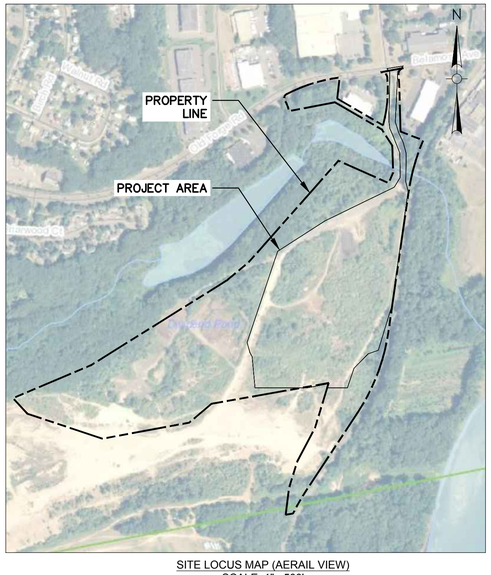
DRAWING INDEX - WESTON & SAMPSON	
SHEET	SHEET TITLE
T-1	COVER SHEET
G-1	ABBREVIATIONS, NOTES, AND LEGEND
D-1	DETAILS
C-1	EXISTING CONDITIONS
C-2	LAYOUT PLAN
C-3	EROSION & SEDIMENTATION CONTROL PLAN

DRAWING INDEX - SOLAR CITY BLOCK 1 (JB: 0602328-00)	
SHEET	SHEET TITLE
PV-1	COVER SHEET
PV-2	SITE PLAN
PV-3	ARRAY PLAN
PV-4	ACCESS PLAN
PV-5	STRUCTURAL DETAILS & INVERTER PADS
PV-6	PV EQUIPMENT PLAN & ELEVATION
PV-7	EQUIPMENT DETAILS
PV-8	ELECTRICAL SYMBOLS & NOTES
PV-9	LINE DIAGRAM
PV-10	MONITORING LINE DIAGRAM
PV-11	WARNING LABELS

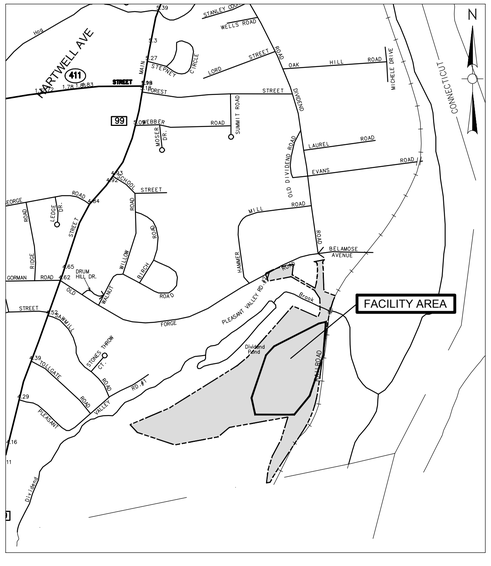
DRAWING INDEX - SOLAR CITY BLOCK 2 (JB: 0602329-00)	
SHEET	SHEET TITLE
PV-1	COVER SHEET
PV-2	SITE PLAN
PV-3	ARRAY PLAN
PV-4	ACCESS PLAN
PV-5	STRUCTURAL DETAILS & INVERTER PADS
PV-6	PV EQUIPMENT PLAN & ELEVATION
PV-7	EQUIPMENT DETAILS
PV-8	ELECTRICAL SYMBOLS & NOTES
PV-9	LINE DIAGRAM
PV-10	MONITORING LINE DIAGRAM
PV-11	WARNING LABELS

DRAWING INDEX - SOLAR CITY BLOCK 3 (JB: 0602330-00)	
SHEET	SHEET TITLE
PV-1	COVER SHEET
PV-2	SITE PLAN
PV-3	ARRAY PLAN
PV-4	ACCESS PLAN
PV-5	STRUCTURAL DETAILS & INVERTER PADS
PV-6	PV EQUIPMENT PLAN & ELEVATION
PV-7	EQUIPMENT DETAILS
PV-8	ELECTRICAL SYMBOLS & NOTES
PV-9	LINE DIAGRAM
PV-10	MONITORING LINE DIAGRAM
PV-11	WARNING LABELS

DRAWING INDEX - RBI SOLAR	
SHEET	SHEET TITLE
G-001	COVER SHEET
G-002	GENERAL NOTES/ MODULE SPECIFICATION SHEETS
S-101	COMPONENT LAYOUT 1
S-102	COMPONENT LAYOUT 2
S-103	COMPONENT LAYOUT 3
S-201	ADDITIONAL POST SECTIONS & ELEVATIONS
S-301	RACK SECTION & BAY PLAN VIEWS
S-501	DETAILS



SITE LOCUS MAP (AERAIL VIEW)
SCALE: 1"= 500'



SITE LOCATION MAP
SCALE: 1"=1000'

SOLAR PHOTOVOLTAIC (PV) SYSTEM DESCRIPTION			
SYSTEM	MOUNTING PLANE I.D. 1	MOUNTING PLANE I.D. 2	MOUNTING PLANE I.D. 3
SYSTEM SIZE	1,300,750 kW	1,300,750 kW	1,301,520 kW
MODULE	(4,730) TRINA SOLAR TSM-PD14 (275W)	(4,730) TRINA SOLAR TSM-PD14 (275W)	(4,488) TRINA SOLAR TSM-PD14 (290W)
TILT ANGLE	30 DEGREES	30 DEGREES	30 DEGREES
AZIMUTH	170 DEGREES	170 DEGREES	170 DEGREES
RACKING	RBI RACKING	RBI RACKING	RBI RACKING

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Project:
ROCKY HILL SOLAR PROJECT

13 OLD FORGE ROAD ROCKY HILL, CT 06067

SolarCity
3055 Clearview Way
San Mateo, CA 94402
(550) 638-1028
www.solarcity.com

Weston&Sampson
273 Dividend Road Rocky Hill, Connecticut
(860) 513-1483 (800) Sampson
www.westonandsampson.com

RBI SOLAR
5513 Vine Street
Cincinnati, OH 45217
(513) 618-2183

Revisions:

Rev	Date	Description

Seal:

PERMIT PLANS

JOB NO. 2150769

Date:	03.04.2016
Scale:	AS SHOWN
Drawn By:	LEC
Reviewed By:	JSP
Checked By:	JSP
Approved By:	RGT

Drawing Title:

COVER SHEET

Sheet Number:

T-1

LEGEND

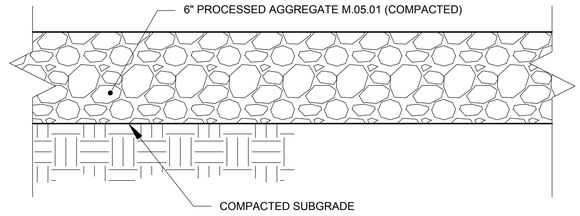
DESCRIPTION	EXISTING	PROPOSED
CATCH BASIN		CB
HYDRANT		
UTILITY POLE		
POLE-MOUNTED LIGHT FIXTURE		
EDGE OF PAVEMENT		
EDGE OF UNPAVED ROAD		
LIMIT OF WORK		
OVERHEAD WIRE (ELECTRICAL)	G	DIV
ELECTRICAL CONDUIT (SUBGRADE)	E	E
RAILROAD		
STONE WALL		
RETAINING WALL		
FENCE		
INDIVIDUAL DECIDUOUS TREE		
INDIVIDUAL EVERGREEN TREE		
EDGE OF WOODS/ CLEARING		
DEBRIS / SOIL PILE / RUBBLE		
ELECTRIC METER		
SURVEY MARKER		
PROPERTY BOUNDARY		
MOUNTING PLANE LIMIT		
SPOT ELEVATIONS	x 46	x 46
CONTOUR LINES	46	
RESOURCE FLAG	TOB/BVW	
GUY WIRE		
EROSION CONTROL MATTING		
RIP RAP		
SIGN		
BENCH MARK		
SEDIMENT/EROSION CONTROLS		
ROCK OUTCROP		
SEWER MANHOLE	S	
MANHOLE (MH) FOR UNDERDRAIN SYSTEM		
DRAIN MANHOLE (DMH)	D	
UTILITY MANHOLE	U	
GROUND-MOUNTED SOLAR PV MODULES (ELECTRICALLY CONNECTED)		
OVERHEAD WIRE	OH	
BORDERED VEGETATED WETLAND BUFFER		
WETLAND FLAG	WF	
IRON PIN		

ABBREVIATIONS

±	MORE OR LESS
TYP	TYPICAL
ACCMP	ASPHALT COATED CORRUGATED METAL PIPE
AC	ALTERNATING CURRENT
DC	DIRECT CURRENT
RCP	REINFORCED CONCRETE PIPE
INV	INVERT
FEU	FLARED END UNIT
W/	WITH
WF #1	WETLAND FLAG
REC	RECOVERED
N/F	NOW OR FORMERLY
CT	CONNECTICUT
DEEP	DEPARTMENT OF ENERGY AND ENVIRONMENTAL PROTECTION

CONSTRUCTION NOTES:

1. THE CONTRACTOR SHALL CALL BEFORE YOU DIG (CBYD) AT 811 OR 1-800-922-4455 AT LEAST 72 HOURS, SATURDAYS, SUNDAYS, AND HOLIDAYS EXCLUDED, PRIOR TO EXCAVATING AT ANY LOCATION. A COPY OF THE CALL BEFORE YOU DIG PROJECT REFERENCE NUMBER(S) SHALL BE GIVEN TO THE OWNER PRIOR TO EXCAVATION.
2. LOCATIONS OF EXISTING PIPES, CONDUITS, UTILITIES, FOUNDATIONS AND OTHER UNDERGROUND OBJECTS ARE NOT WARRANTED TO BE CORRECT AND THE CONTRACTOR SHALL HAVE NO CLAIM ON THAT ACCOUNT SHOULD THEY BE OTHER THAN SHOWN.
3. STONE WALLS, FENCES, CURBS, ETC. SHALL BE REMOVED AND REPLACED AS NECESSARY TO PERFORM THE WORK. UNLESS OTHERWISE INDICATED, ALL SUCH WORK SHALL BE INCIDENTAL TO CONSTRUCTION OF THE PROJECT.
4. ALL AREAS DISTURBED BY THE CONTRACTOR BEYOND PAYMENT LIMITS SHALL BE RESTORED AT NO ADDITIONAL COST TO THE OWNER.



4 GRAVEL DRIVEWAY

SCALE: N.T.S.

Project:

ROCKY HILL SOLAR PROJECT

13 OLD FORGE ROAD ROCKY HILL, CT 06067

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Checked By:	JSP
Approved By:	DCH

Drawing Title:

ABBREVIATIONS, NOTES, LEGEND, AND DETAILS

Sheet Number:

G-1

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GENERAL NOTES

ALL EROSION AND SEDIMENT CONTROL MEASURES SHALL BE PERFORMED IN ACCORDANCE WITH THE "CONNECTICUT GUIDELINES FOR SOIL EROSION AND SEDIMENT CONTROL" (MAY 2002). THE CONTRACTOR SHALL OWN AND MAINTAIN A COPY OF THE GUIDELINES ON-SITE DURING CONSTRUCTION.

ALL DISTURBED AREAS SHALL BE KEPT TO A MINIMUM. FINAL GRADING AND RESTORATION SHALL BE ACCOMPLISHED AS SOON AS PRACTICAL.

EROSION AND SEDIMENT CONTROL STRUCTURES SHALL BE INSTALLED PRIOR TO SITE WORK. IF IT IS NOT POSSIBLE TO DO SO, THE ENGINEER SHALL BE NOTIFIED IN ORDER TO MAINTAIN THE INTEGRITY OF DESIGN.

ALL CONTROL STRUCTURES SHALL BE MAINTAINED THROUGHOUT CONSTRUCTION AND REMOVED WHEN STABILIZATION HAS BEEN ATTAINED. IF THE PROPOSED CONTROL MEASURES ARE NOT SATISFACTORY, ADDITIONAL CONTROL MEASURES SHALL BE TAKEN.

ALL RUNOFF FROM THE DISTURBED AREA SHALL BE CONTROLLED AND FILTERED. NON-WOVEN SYNTHETIC FIBER FILTER FABRIC, STRAW BALES OR SILT SOCKS SHALL BE USED IN THE AREAS SHOWN ON THE SITE PLAN AND INSTALLED AS SHOWN ON THIS PLAN.

A CT DEEP GENERAL PERMIT FOR THE DISCHARGE OF STORMWATER AND DEWATERING WASTEWATERS FROM CONSTRUCTION ACTIVITIES WILL BE REQUIRED FOR THE PROPOSED PROJECT. THE CONTRACTOR SHALL BE RESPONSIBLE FOR IMPLEMENTATION AND COMPLIANCE WITH THE APPROVED STORMWATER POLLUTION CONTROL PLAN (SWPCP).

THE CONTRACTOR MUST OBTAIN COPIES OF THE ZONING, WETLANDS AND CTDEP STORMWATER PERMITS PRIOR TO THE START OF WORK.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR IMPLEMENTATION OF SEDIMENT AND EROSION CONTROL MEASURES. THIS RESPONSIBILITY INCLUDES THE ACQUISITION OF MATERIALS, INSTALLATION, AND MAINTENANCE OF EROSION AND SEDIMENT STRUCTURES, THE COMMUNICATION AND DETAILED EXPLANATION TO ALL PEOPLE INVOLVED IN THE SITE WORK OF THE REQUIREMENTS AND OBJECTIVE OF THE EROSION AND SEDIMENT CONTROL MEASURES.

TWO (2) WEEKS PRIOR TO THE START OF WORK THE CONTRACTOR SHALL PROVIDE THE NAME AND PHONE NUMBER OF THE INDIVIDUAL RESPONSIBLE FOR IMPLEMENTATION OF THIS PLAN.

IN THE EVENT THE APPLICANT IS NOT OWNER OF THE PROPERTY, THE CURRENT OWNER SHALL HAVE ALL THE RESPONSIBILITIES LISTED IN THIS PARAGRAPH AND SHALL SUBMIT A WORKING PHONE NUMBER FOR CONTACT AT TIME OF APPLICATION FOR PERMITS. ANY CHANGE IN ENGINEER SHALL BE NOTED AT THIS TIME.

THE ENGINEER, WESTON & SAMPSON ENGINEERS, INC. (860-513-1473) #273 DIVIDEND ROAD, ROCKY HILL, CT, 06067 SHALL BE NOTIFIED OF ANY PROPOSED ALTERATION TO THE EROSION AND SEDIMENT CONTROL PLAN, PRIOR TO ALTERING, IN ORDER TO ENSURE THE FEASIBILITY OF THE ADDITION, SUBTRACTION, OR CHANGE IN THE PLAN.

SEEDING WITHIN GROUND MOUNTED ARRAY AREA

NEW ENGLAND SEMI-SHADE GRASS AND FORBS MIX - THE NEW ENGLAND SEMI-SHADE GRASS AND FORB MIX CONTAINS A BROAD SPECTRUM OF NATIVE GRASSES AND FORBS THAT WILL TOLERATE SEMI-SHADE AND EDGE CONDITIONS. ALWAYS APPLY ON CLEAN BARE SOIL. THE MIX MAY BE APPLIED BY HYDRO-SEEDING, BY MECHANICAL SPREADER, OR ON SMALL SITES IT CAN BE SPREAD BY HAND. LIGHTLY RAKE, OR ROLL TO ENSURE PROPER SEED TO SOIL CONTACT. BEST RESULTS ARE OBTAINED WITH A SPRING SEEDING. LATE SPRING AND EARLY SUMMER SEEDING WILL BENEFIT WITH A LIGHT MULCHING OF WEED-FREE STRAW TO CONSERVE MOISTURE. IF CONDITIONS ARE DRIER THAN USUAL, WATERING WILL BE REQUIRED. LATE FALL AND WINTER DORMANT SEEDING REQUIRE AN INCREASE IN THE SEEDING RATE. FERTILIZER OR LIMING IS PROHIBITED, UNLESS PRIOR APPROVAL BY THE LOCAL CONSERVATION COMMISSION IS OBTAINED. PREPARATION OF A CLEAN WEED FREE SEED BED IS NECESSARY FOR OPTIMAL RESULTS. APPLICATION RATE 30 POUNDS PER ACRE.

MAINTENANCE

MAINTENANCE OF SEEDED AREAS SHALL BE THE SOLE RESPONSIBILITY OF CONTRACTOR AS DESCRIBED BELOW:

A. CONTRACTOR SHALL MAINTAIN THE ENTIRE SEEDED AREAS UNTIL FINAL ACCEPTANCE AT THE COMPLETION OF THE PROJECT OR FOR 90 DAY, WHICHEVER IS LONGER. MAINTENANCE SHALL INCLUDE WATERING AS SPECIFIED ,WEEDING, REMOVAL OF STONES WHICH MAY APPEAR AND REGULAR CUTTINGS OF THE GRASS NO CLOSER THAN 10 DAYS APART. THE FIRST CUTTING SHALL BE ACCOMPLISHED WHEN THE GRASS IS FROM 2-1/2 TO 3 INCHES HIGH. WEEKLY WATERING SHALL PROVIDE THE SEEDED AREAS WITH THE EQUIVALENT OF 1 INCH OF RAINFALL PER WEEK. IF THE SEEDED AREAS ARE WATERED BY NORMAL RAINFALL OR THE NORMAL WATERING IS INADEQUATE DUE TO WEATHER, THE CONTRACTOR MAY AT HIS/HER DISCRETION ELIMINATE OR INCREASE RESPECTIVELY, THE WATERING DURING A GIVEN WEEK. HOWEVER, SUCH ACTION BY CONTRACTOR SHALL IN NO WAY WAIVE CONTRACTOR'S RESPONSIBILITY FOR THE GROWTH AND HEALTH OF THE GRASS UNTIL FINAL ACCEPTANCE. CONTRACTOR SHALL FURNISH ALL TEMPORARY PIPE AND CONNECTIONS FOR SPRINKLING. CONTRACTOR SHALL FURNISH ALL REQUIRED WATER AT NO EXPENSE TO THE OWNER. GARDEN HOSE AND HAND SPRINKLING SHALL BE PERMITTED ONLY IN SPECIAL INSTANCES BY THE OWNER'S REPRESENTATIVE.

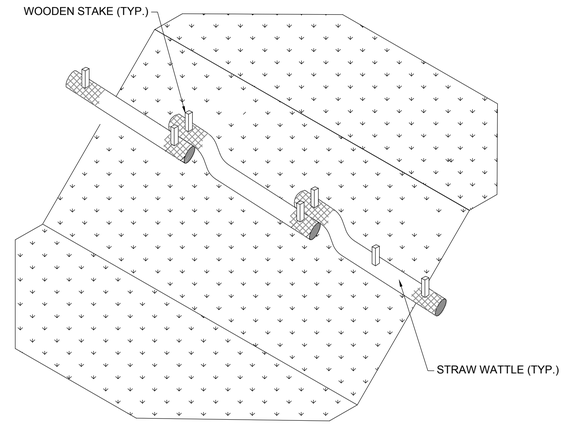
B. ALL BARE SPOTS, WHICH BECOME APPARENT AS THE GRASS GERMINATES, SHALL BE RESEEDED BY CONTRACTOR AT ITS OWN EXPENSE AS MANY TIMES AS NECESSARY TO SECURE A GOOD GROWTH AND THE ENTIRE AREA SHALL BE MAINTAINED AND CUT UNTIL ALL WORK HAS BEEN COMPLETED AND FINAL ACCEPTANCE HAS OCCURRED.

C. CONTRACTOR SHALL TAKE WHATEVER MEASURES ARE NECESSARY TO PROTECT THE GRASS WHILE IT IS GERMINATING. THESE MEASURES SHALL INCLUDE FURNISHING OF WARNING SIGNS, BARRIERS, TEMPORARY FENCE OR ANY OTHER NECESSARY MEASURES OF PROTECTION.

D. CONTRACTOR SHALL FURNISH, PROTECT, AND MAINTAIN ALL TEMPORARY BARRIERS UNTIL FINAL ACCEPTANCE OF THE SEEDED AREAS BY THE OWNER AND SHALL REMOVE THEM UPON SUCH FINAL ACCEPTANCE, THE BARRIERS SHALL REMAIN THE PROPERTY OF CONTRACTOR AT ALL TIMES.

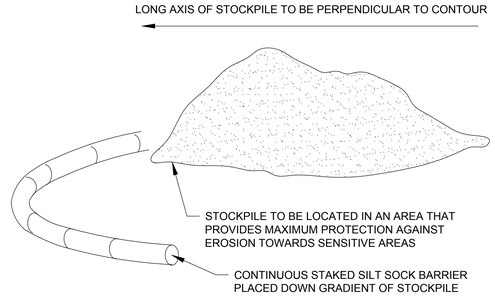
TEMPORARY EROSION CONTROL MEASURES:

1. EROSION CONTROL MEASURES SHALL BE IMPLEMENTED AS INDICATED ON THESE PLANS OR AS REQUIRED BY THE ON-SITE ENGINEER.
2. THE SMALLEST PRACTICAL AREA OF LAND SHALL BE EXPOSED AT ANY ONE TIME.
3. EROSION/SEDIMENT CONTROL MEASURES SHALL BE INSTALLED AS SHOWN ON PLANS. EROSION CONTROL BARRIERS ARE TO BE MAINTAINED AND CLEANED UNTIL ALL AREAS HAVE BEEN ADEQUATELY STABILIZED.
4. THE TEMPORARY AND PERMANENT STORMWATER CONTROLS SHALL BE PERIODICALLY CLEANED OF SEDIMENT, OR AS REQUIRED BY THE ENGINEER. THE SEDIMENT WILL BE REMOVED TO A SECURE LOCATION SO AS TO PREVENT SILTATION OF NATURAL WATER WAYS.
5. SILT SOCK FILLED WITH COMPOST MUST BE A MINIMUM TUBE DIAMETER OF 12 INCHES (300mm) FOR SLOPES UP TO 50 FEET (15.24m) IN LENGTH WITH A SLOPE RATIO OF 3H:1V OR STEEPER. LONGER SLOPES OF 3H:1V MAY REQUIRE LARGER TUBE DIAMETER OR ADDITIONAL COURSING OF FILTER TUBES TO CREATE A FILTER BERM. SILT SOCK TO BE MADE OF BIODEGRADABLE BURLAP. SILT SOCK TO BE SEDIMENT FILTERMITT OR APPROVED EQUAL. OTHER REFER TO MANUFACTURER'S RECOMMENDATIONS FOR INSTALLATION INSTRUCTIONS.
6. INSTALL SOCK ALONG CONTOURS AND PERPENDICULAR TO SHEET OR CONCENTRATED FLOW.
7. CONFIGURE SOCKS AROUND EXISTING SITE FEATURES TO MINIMIZE SITE DISTURBANCE AND MAXIMIZE CAPTURE AREA OF STORMWATER RUN-OFF.
8. DISTURBED AREAS SHALL BE SEEDED IMMEDIATELY OR AS SOON AS PRACTICABLE.
9. EROSION CONTROL MEASURES SHALL BE REMOVED WHEN DISTURBED AREA IS STABILIZED. DISTURBED AREA RESULTING FROM THE MEASURE REMOVAL OPERATION SHALL BE SEEDED IN ACCORDANCE WITH THE SPECIFICATIONS.
10. A CHECK LIST (PROVIDED BY THE ENGINEER) SHALL BE FILLED OUT BY THE CONTRACTOR EVERY WEEK OR AFTER EACH RAINFALL EVENT OF 1/2" OR GREATER AS NOTED ABOVE.
11. STRIP AND STOCKPILE TOPSOIL WITHIN THE LIMITS OF THE PROPOSED DEVELOPMENT. PROTECT STOCKPILE PERIMETER WITH EROSION CONTROLS. LOCATE STOCKPILES WHERE INDICATED ON PLANS. TREE STUMPS SHALL EITHER BE REMOVED OR CHIPPED IN PLACE.
12. CUT TREES WITHIN THE DEFINED CLEARING LIMITS AND REMOVE CUT WOOD. CHIP BRUSH AND SLASH, STOCKPILE CHIPS FOR USE ONSITE OR REMOVE OFF-SITE.



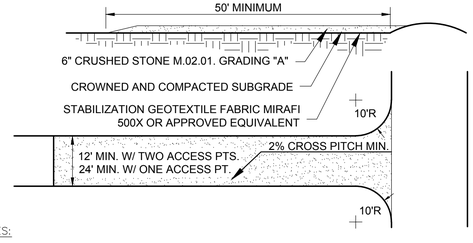
1 EROSION CONTROL MEASURES

SCALE: N.T.S.



2 TEMPORARY STOCKPILE DETAIL

SCALE: N.T.S.



NOTES:

1. STABILIZATION FABRIC SHALL BE PLACED OVER THE ENTIRE ENTRANCE AREA PRIOR TO PLACING OF STONE. OVERLAP FABRIC PER MANUFACTURER'S SPECIFICATIONS.
2. ALL SURFACE WATER FLOWING OR DIVERTED TOWARDS THE CONSTRUCTION ENTRANCE SHALL BE PIPED BENEATH THE ENTRANCE ROAD.
3. WHEN EQUIPMENT WASHING IS REQUIRED IT SHALL BE DONE ON A SEPARATE AREA ADJACENT TO THE ENTRANCE ROAD AND STABILIZED WITH STONE. EQUIPMENT WASHING WILL BE REQUIRED IF ROAD RECEIVES SIGNIFICANT SOILS OR DEBRIS ACCORDING TO JUDGMENT BY OWNER OR OWNER'S REPRESENTATIVE.
4. KEEP ROADS CLEAR OF STONES, MUD, AND OTHER CONSTRUCTION DEBRIS. CLEAN PAVEMENT AS ACCUMULATIONS WARRANT AND AS ORDERED BY ENGINEER.
5. REMOVE SILT ACCUMULATIONS ROUTINELY AND DISPOSE OF PROPERLY SUCH THAT WATER QUALITY IS NOT IMPAIRED. DO NOT INTRODUCE SILT INTO DRAINAGE SYSTEM OR TOPSOIL/RESTORATION AREAS.

3 CONSTRUCTION ENTRANCE

SCALE: N.T.S.

Project:

ROCKY HILL SOLAR PROJECT

13 OLD FORGE ROAD ROCKY HILL, CT 06067

SolarCity
3055 Clearview Way
San Mateo, CA 94402
(550) 638-1028
www.solarcity.com

Weston&Sampson
273 Dividend Road Rocky Hill, Connecticut
(860) 513-1483 (800) Sampson
www.westonandsampson.com

RBI SOLAR
5513 Vine Street
Cincinnati, OH 45217
(513) 618-2183

Revisions:

Rev	Date	Description

Seal:

PERMIT PLANS

JOB NO. 2150769

Date:	03.04.2016
Scale:	AS SHOWN
Drawn By:	LEC
Reviewed By:	JSP
Checked By:	JSP
Approved By:	DCH

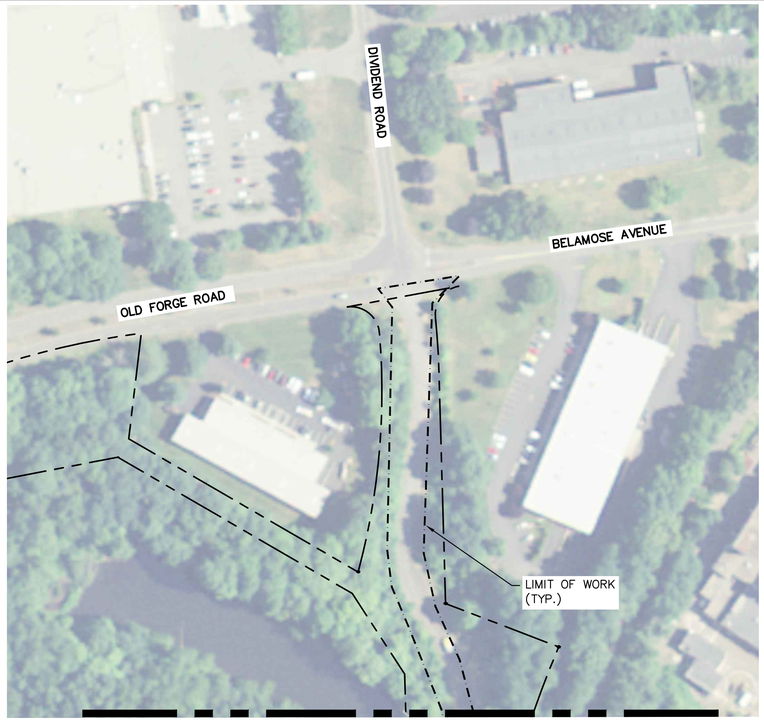
Drawing Title:

DETAILS

Sheet Number:

D-1

R:\SolarCity\2150769 - Rocky Hill\CAD\02 - G-1-NOTES.dwg



MATCHLINE

N

NOTES:

1. BASE MAP IS BASED ON A SURVEY CONFORMING TO HORIZONTAL CLASS B AND TOPOGRAPHIC CLASS T-2 ACCURACY STANDARDS, COMPLETED ON OCTOBER 28, 2015, PREPARED BY BOUNDARIES L.L.C., 179 PACHAUG RIVER DRIVE, GRISWOLD, CT.
2. NORTH ORIENTATION DEPICTED HEREON IS APPROXIMATE NORTH AMERICAN DATUM 1983 (NAD83) BASED UPON GLOBAL POSITIONING SYSTEM OBSERVATIONS, OBSERVED ON OCTOBER 20, 2015.
3. VERTICAL DATUM DEPICTED HERE ON IS APPROXIMATE NORTH AMERICAN VERTICAL DATUM 1988 (NAVD88) BASED GLOBAL POSITIONING SYSTEM OBSERVATIONS USING GEOIDE12A ON OCTOBER 20, 2015.

PLAN
SCALE: 1"=100'
0 100' 200' 300'

Project:
ROCKY HILL SOLAR PROJECT

13 OLD FORGE ROAD
ROCKY HILL, CT 06067

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Rev	Date	Description

Seal:

PERMIT PLANS

JOB NO. 2150769

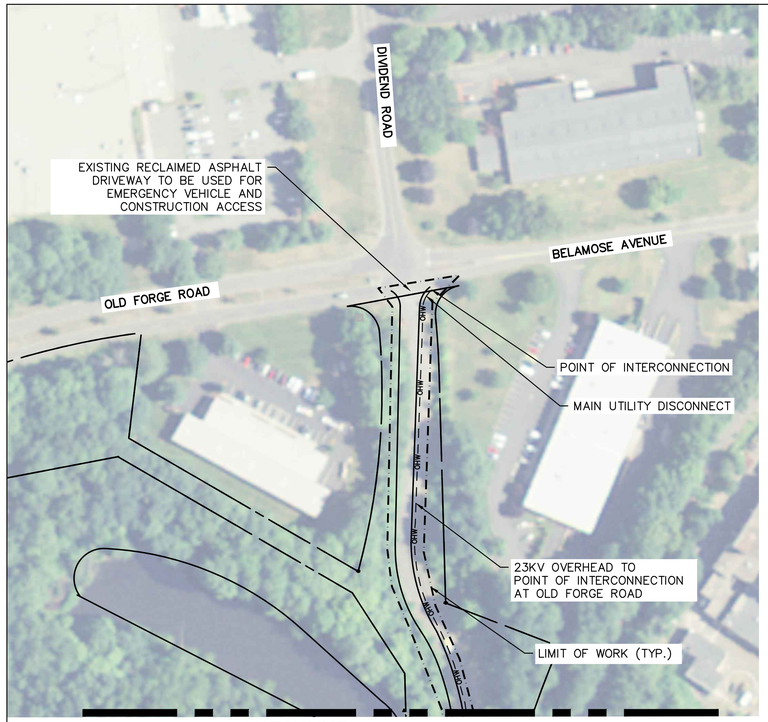
Date:	03.04.2016
Scale:	1"=100'
Drawn By:	LEC
Reviewed By:	LEC
Checked By:	JSP
Approved By:	RGT

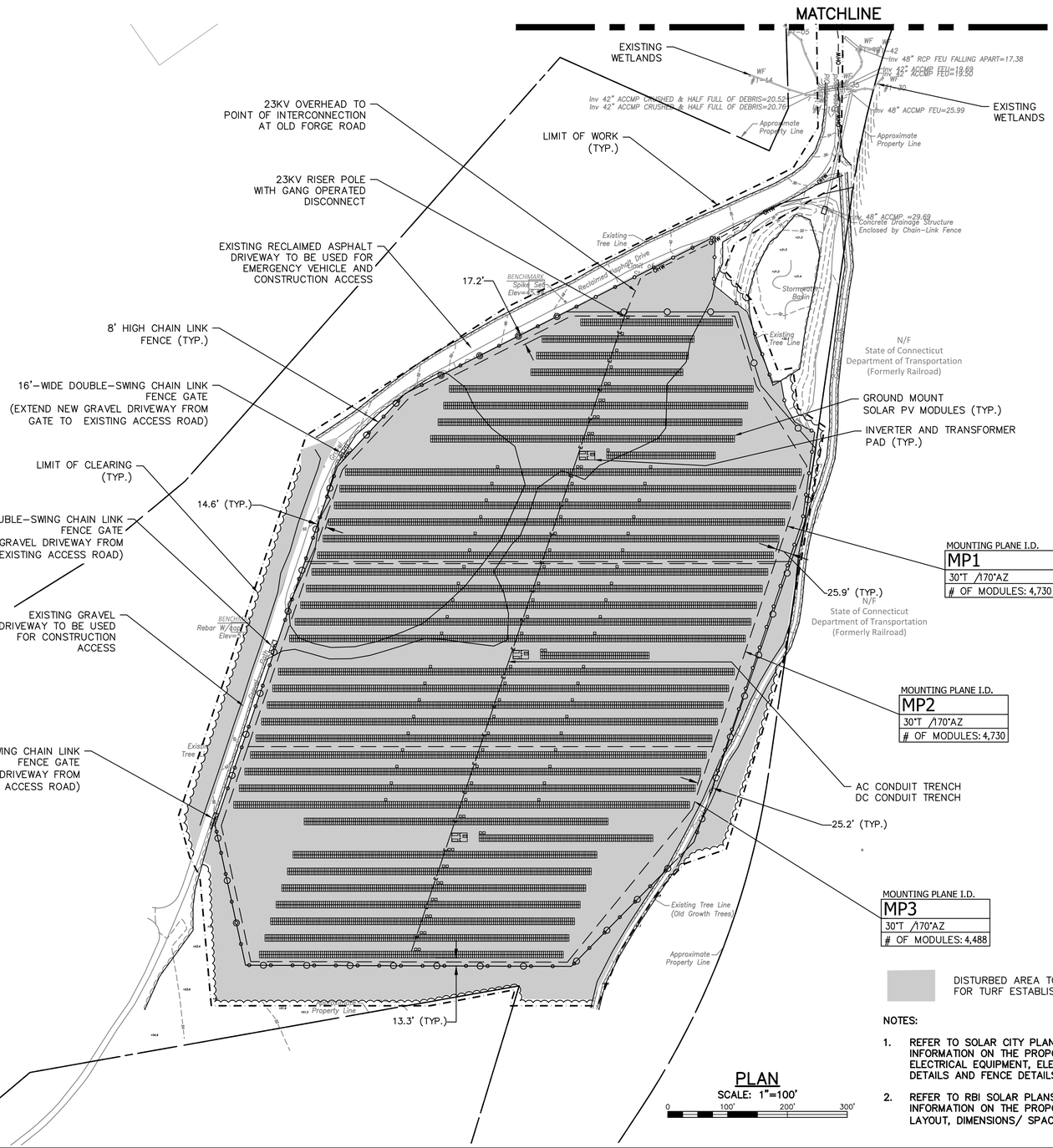
Drawing Title:

EXISTING CONDITIONS

Sheet Number:

C-1





DISTURBED AREA TO BE SEEDED FOR TURF ESTABLISHMENT

NOTES:

1. REFER TO SOLAR CITY PLANS FOR SPECIFIC INFORMATION ON THE PROPOSED PANELS, ELECTRICAL EQUIPMENT, ELECTRICAL SYSTEM DETAILS AND FENCE DETAILS.
2. REFER TO RBI SOLAR PLANS FOR SPECIFIC INFORMATION ON THE PROPOSED RACKING SYSTEM LAYOUT, DIMENSIONS/ SPACING, AND DETAILS.

PLAN
SCALE: 1"=100'

0 100' 200' 300'

N

Project:

ROCKY HILL SOLAR PROJECT

13 OLD FORGE ROAD ROCKY HILL, CT 06067

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Revisions:

Rev	Date	Description

Seal:

PERMIT PLANS

JOB NO. 2150769

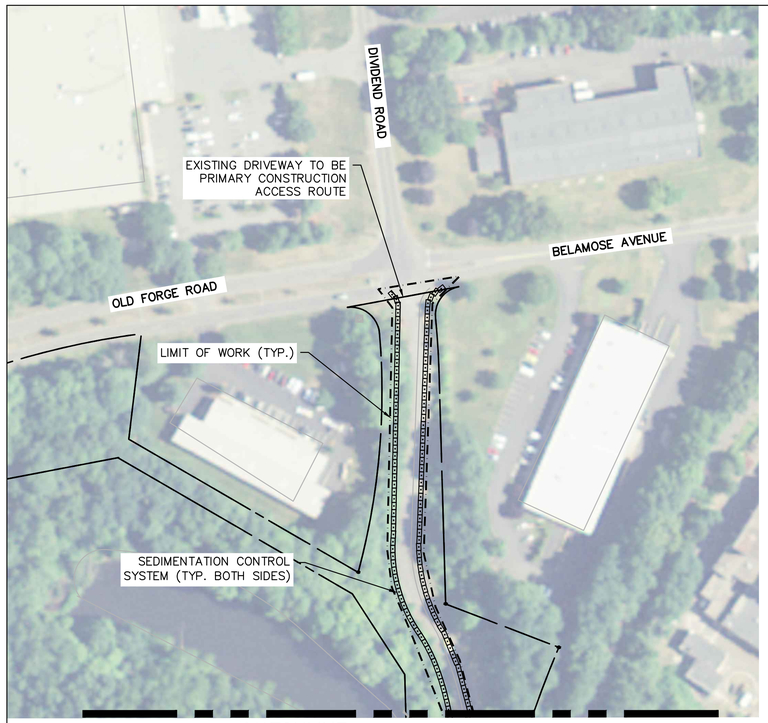
Date:	03.04.2016
Scale:	1"=100'
Drawn By:	LEC
Reviewed By:	LEC
Checked By:	JSP
Approved By:	RGT

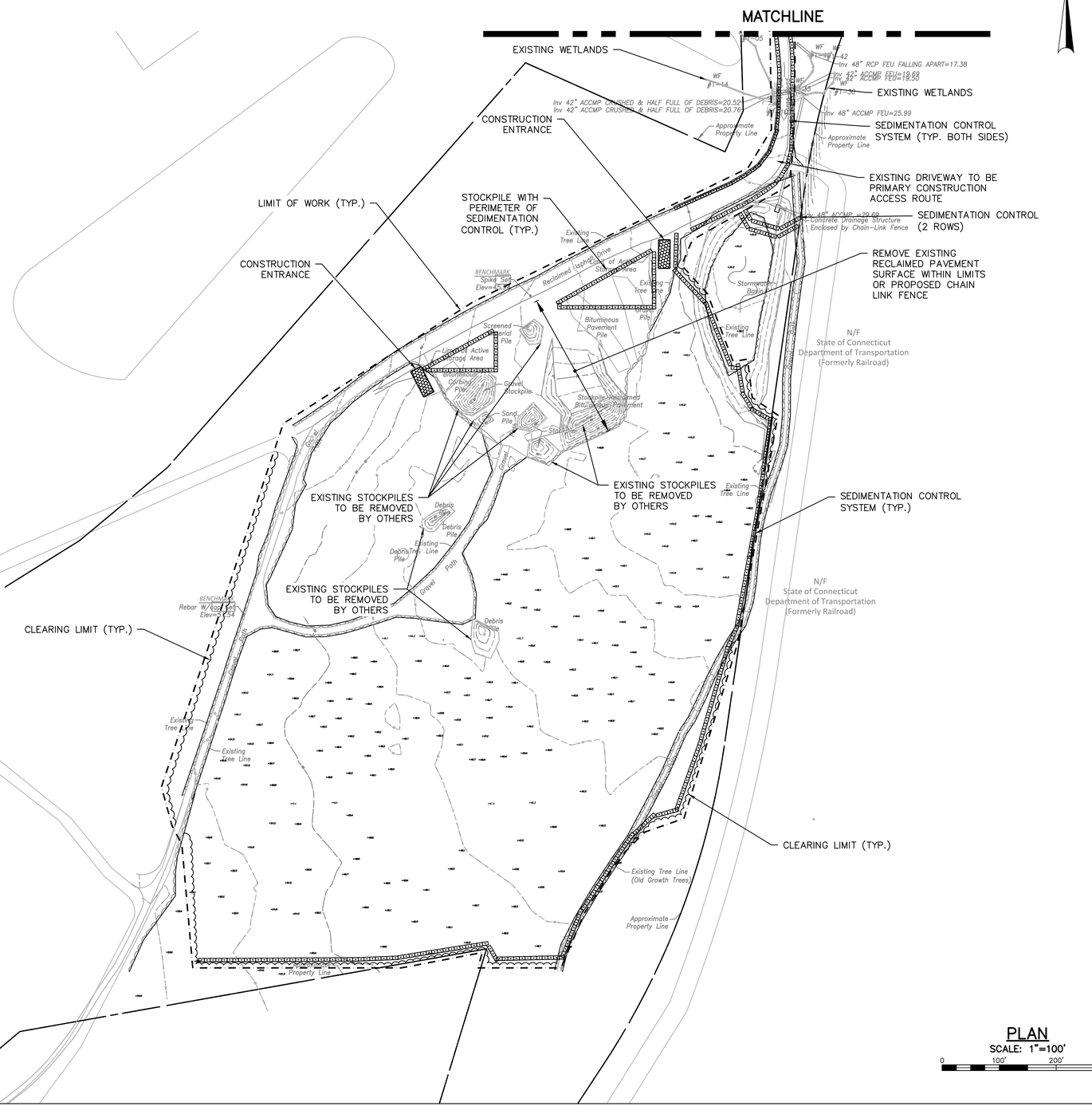
Drawing Title:

LAYOUT PLAN

Sheet Number:

C-2





Project:

ROCKY HILL SOLAR PROJECT

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Revisions:

Rev	Date	Description

Seal:

PERMIT PLANS

JOB NO. 2150769

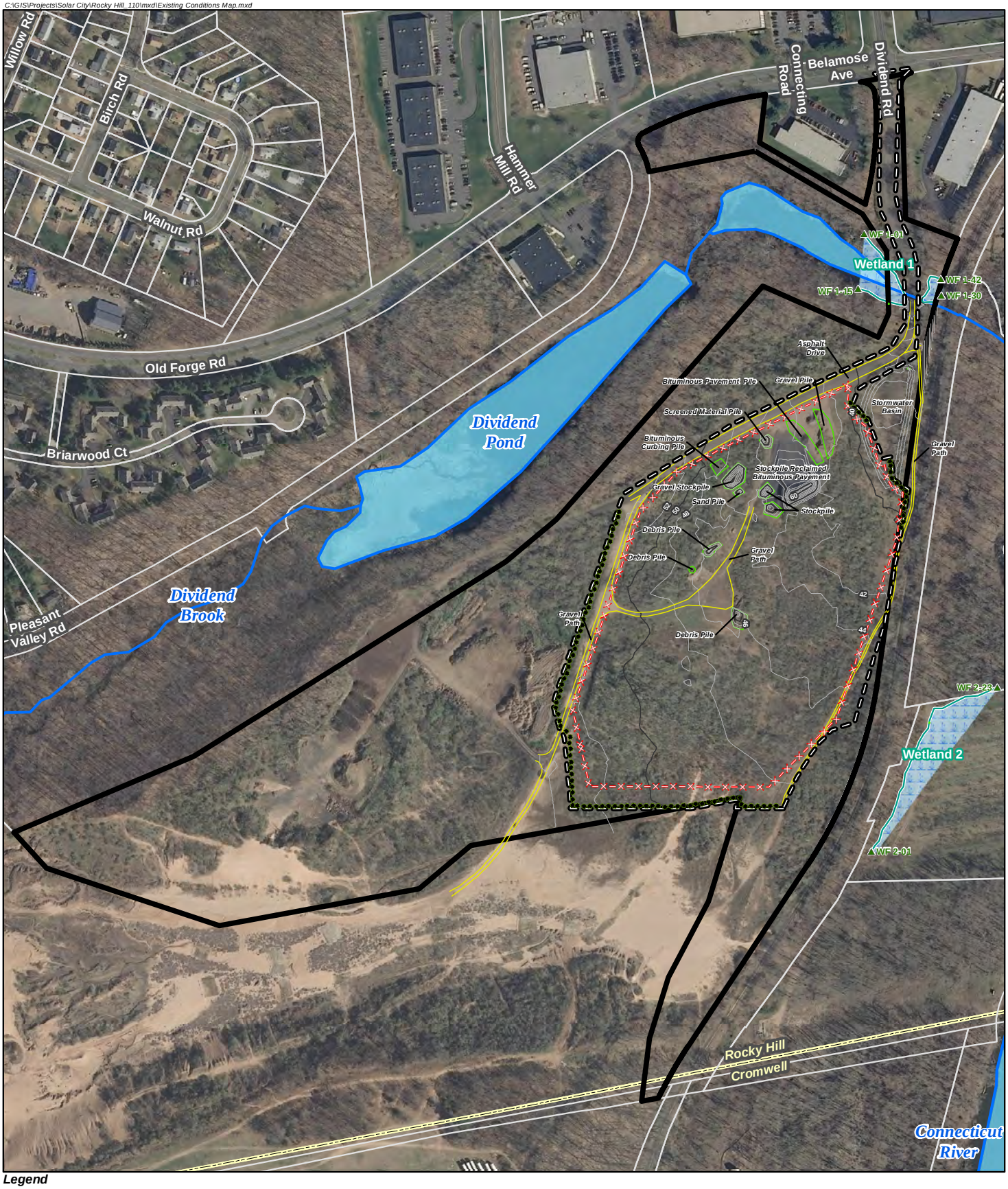
Date:	03.04.2016
Scale:	1"=100'
Drawn By:	LEC
Reviewed By:	LEC
Checked By:	JSP
Approved By:	RGT

Drawing Title:

SEDIMENTATION AND EROSION CONTROL PLAN

Sheet Number:

C-3



Legend

- Site Boundary
- Existing Access Drive
- Existing Materials Pile
- 10' Contour Line
- 2' Contour Line
- Proposed Fenced Facility (+/-19 acres)
- Existing Treeline/Clearing Limit
- Project Area - Limit of Proposed Work (+/-24 acres)
- Start/End Wetland Flag
- Delineated Wetland Boundary
- Wetland Area
- CTDEEP Watercourse
- CTDEEP Waterbody
- Approximate Assessor Parcel Boundary (CTDEEP)
- Municipal Boundary

N W E S

400 200 0 400 Feet

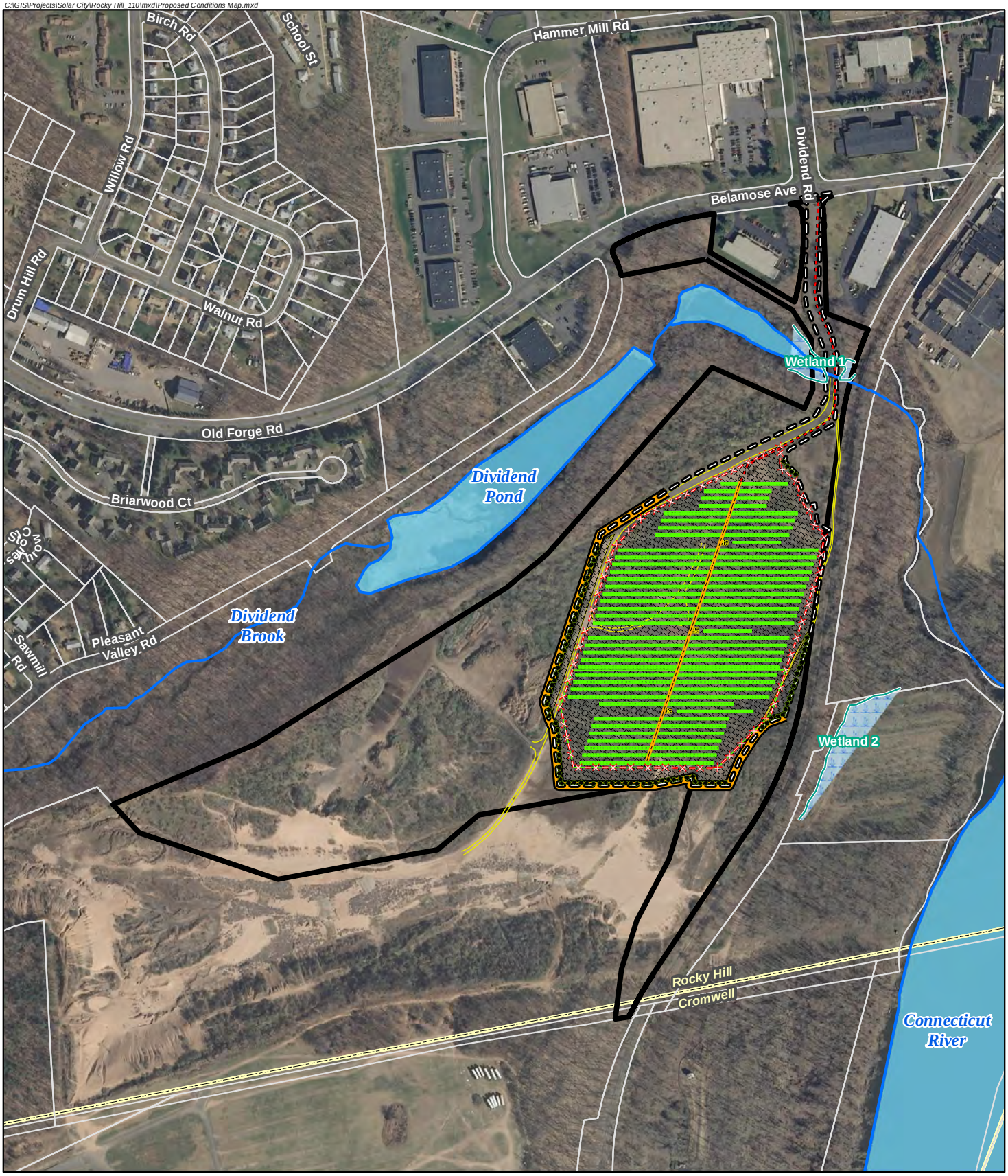
Existing Conditions Map

Proposed Solar PV Facility
Town of Rocky Hill
Old Forge Road
Rocky Hill, Connecticut

Map Notes:
Base Map Source: 2012 Aerial Photograph (CTECO)
Map Scale: 1 inch = 400 feet
Map Date: February 2016

SolarCity
ALL-POINTS TECHNOLOGY CORPORATION

C:\GIS\Projects\Solar City\Rocky Hill_110\mxd\Proposed Conditions Map.mxd



Legend

- Site Boundary
- Existing Access Drive
- Proposed Fenced Facility (+/-19 acres)
- Proposed Overhead Wire
- Proposed Underground Trench
- Existing Treeline/Clearing Limit
- Proposed Solar Module
- Proposed Electrical
- Project Area - Limit of Proposed Work (+/-24 acres)
- Disturbed Area to be Seeded for Turf Establishment (+/-21 acres)
- Limits of Orange Construction Fencing
- CTDEEP Watercourse
- CTDEEP Waterbody
- Delineated Wetland Boundary
- Wetland Area
- Approximate Assessor Parcel Boundary (CTDEEP)
- Municipal Boundary

N W E S

500 250 0 500 Feet

Proposed Conditions Map

Proposed Solar PV Facility
Town of Rocky Hill
Old Forge Road
Rocky Hill, Connecticut

Map Notes:
Base Map Source: 2012 Aerial Photograph (CTECO)
Map Scale: 1 inch = 500 feet
Map Date: February 2016

SolarCity
ALL-POINTS TECHNOLOGY CORPORATION

Town of Rocky Hill Property Summary Report

R013 OLD FORGE ROAD

PARCEL ID:	18-093	**ACCOUNT NUMBER:**	007408
LOCATION:	R013 OLD FORGE ROAD		
OWNER NAME:	ROCKY HILL TOWN OF		

18-093-001 11/04/2012

OWNER OF RECORD
ROCKY HILL TOWN OF
761 OLD MAIN STREET
ROCKY HILL, CT 06067-1517

LIVING AREA:	null	**ZONING:**	OP	**ACREAGE:**	61.38

SALES HISTORY

OWNER	BOOK / PAGE	SALE DATE	SALE PRICE
ROCKY HILL TOWN OF	283/ 207	30-Aug-1994	$0.00

CURRENT PARCEL VALUE

TOTAL:	$129,640.00	**IMPROVEMENTS:**	$0.00	**LAND:**	$129,640.00

ASSESSING HISTORY

FISCAL YEAR	TOTAL VALUE	IMPROVEMENT VALUE	LAND VALUE
2014	$129,640.00	$0.00	$129,640.00
2013	$129,640.00	$0.00	$129,640.00
2012	$1,760,430.00	$0.00	$1,760,430.00
2011	$1,760,430.00	$0.00	$1,760,430.00
2010	$1,760,430.00	$0.00	$1,760,430.00
2009	$1,760,430.00	$0.00	$1,760,430.00
2008	$490,000.00	$0.00	$490,000.00
2007	$306,250.00	$0.00	$306,250.00
2006	$306,250.00	$0.00	$306,250.00

Preliminary Archeological Assessment with
Historic Maps, Soil Map, and Site Photographs

February 23, 2016

Ms. Nicole Castro
All-Points Technology Corporation
3 Saddlebrook Drive
Killingworth, Connecticut 06419

RE: Preliminary Archeological Assessment of a Proposed Solar Power Generation Facility Located Along Old Forge Road in Rocky Hill, Connecticut

Ms. Castro:

Heritage Consultants, LLC, is pleased to have this opportunity to provide All-Points Technology Corporation with the following preliminary archeological assessment of a proposed solar power generation facility located along Old Forge Road in Rocky Hill, Connecticut (Figure 1). The facility will contain a single large solar array with panels extending from ca., 6.5 ft above the ground surface. The current project entailed completion of an existing conditions cultural resources summary based on the examination of GIS data obtained from the Connecticut State Historic Preservation Office, as well as historical data, aerial photographs, and topographic quadrangles maintained by Heritage Consultants, LLC. This investigation is based upon project location information provided to Heritage Consultants, LLC by All-Points Technology Corporation. The objectives of this study were to gather and present data regarding previously identified cultural resources situated within 1.6 km (1 mi) of the proposed solar power generation facility and to investigate the Area of Potential Effect (APE) in terms of its natural and historical characteristics so that the need for completing additional cultural resources investigations could be evaluated.

Figures 2 and 3 show that although there was a developed road network and a rail line in the project region by the mid to late nineteenth century, the area encompassing the proposed solar power generation consisted largely an outlying parcel of land. However, there were two mills adjacent to the western border of the APE. They included the Bulkeley Corn Mill and the Billings Manufacturing Company. Both were powered by large mill ponds that are located adjacent to the western corner of the proposed project parcel. This interpretation is confirmed by Figure 4, an aerial image dating from 1934, which shows that the proposed solar array areas was situated within a forested area situated adjacent to two mill ponds. Figure 5, which is an aerial image taken in 1951, documents that no large scale changes had occurred in immediate vicinity of the proposed solar power generation facility as of the middle of the twentieth century; the area remained largely forested and undeveloped. Figure 6, an aerial image captured in 1962, shows large scale changes to the proposed project area, including massive sand and gravel operation that disturbed the northern third of the APE. Figure 7, an aerial image taken just eight years later in 1970, shows that the sand and gravel operation had been expanded throughout most of the proposed project area, resulting in massive disturbance of the soils therein. The subsequent aerial image, Figure 8, was taken in 1997, and it demonstrates that the entirety of the APE has been impacted by the removal of sand and gravel. This final aerial image show the APE in 2014, by which time some areas had been covered in scrub brush and was being used by the town for dumping construction debris and brush (Figure 9). The

P.O. Box 310249 • Newington, Connecticut 06131
Phone (860) 667-3001 • Fax (860) 667-3008
Email: info@heritage-consultants.com

level of disturbance described above is confirmed by soil mapping of the APE, which shows that the vast majority of the area consists of Udorthent soils (Figure 10). These soils result from grading, smoothing, cutting, and filling operations. They retain no potential to yield intact archaeological deposits.

A review of previously recorded cultural resources on file with the Connecticut State Historic Preservation Office revealed that while no National Register of Historic Places properties have been identified within 1.6 km (1 mi) of the proposed solar power generation facility, the Dividend Brook Industrial Archaeological District is situated to the west of the APE (Figures 11 and 12). This district contains Sites 119-13, 119-14, 119-16, and 119-17. As mentioned above, these sites and landscape features include the Bulkeley Corn Mill and the Billings Manufacturing Company building; they also consist of a large stone dam that holds back the mill pond for these facilities, as well as an adjacent raceway and a second mill pond to the north. All of these items are significant from an archaeological perspective; however, the border of the Dividend Brook Industrial Archaeological District as it has been reproduced from the official State of Connecticut Site form in Figure 12 is in error. Figure 12 shows the district as overlapping with the APE. This overlap should be changed to follow the western and northwestern border of the proposed project area since the area it now encompasses in the northeast has been disturbed and contains no historic features.

A pedestrian survey of the proposed project parcel was completed on February 23, 2016 (Photos 1 through 10). The results of this effort confirmed the disturbed nature of the APE. The pedestrian survey also was conducted to assess the views from the APE toward the archaeological district and vice versa in order to determine whether or not the proposed project would have a visual impact on the Dividend Brook Industrial Archaeological District. As seen in Photo 2 the features associated with the Dividend Brook Industrial Archaeological District are not visible from the proposed project area due to the presence of a dense treeline, which will remain in place after construction of the solar facility. In addition, the APE could not be seen from the above ground features associated with the Dividend Brook Industrial Archaeological District due to the presence of the above-referenced treeline, as well as the lower topography in the vicinity of the historic building locations.

In sum, the proposed project area has been thoroughly disturbed and no longer possesses any potential to yield intact archaeological deposits. In addition, the proposed construction project will not result in any impacts to the viewshed of the Dividend Brook Industrial Archaeological District. As a result, it is the professional opinion of Heritage Consultants, LLC that no additional archaeological investigation of the APE is required prior to construction. If you have any questions regarding this Technical Memorandum, or if we may be of additional assistance with this or any other projects you may have, please do not hesitate to call us at 860-667-3001 or email me dgeorge@heritage-consultants.com. We are at your service.

Sincerely,

David R. George

David R. George, M.A., R.P.A
Heritage Consultants, LLC

Figure 1. Excerpt from recent USGS topographic quadrangle map depicting the proposed solar system in Rocky Hill, Connecticut.

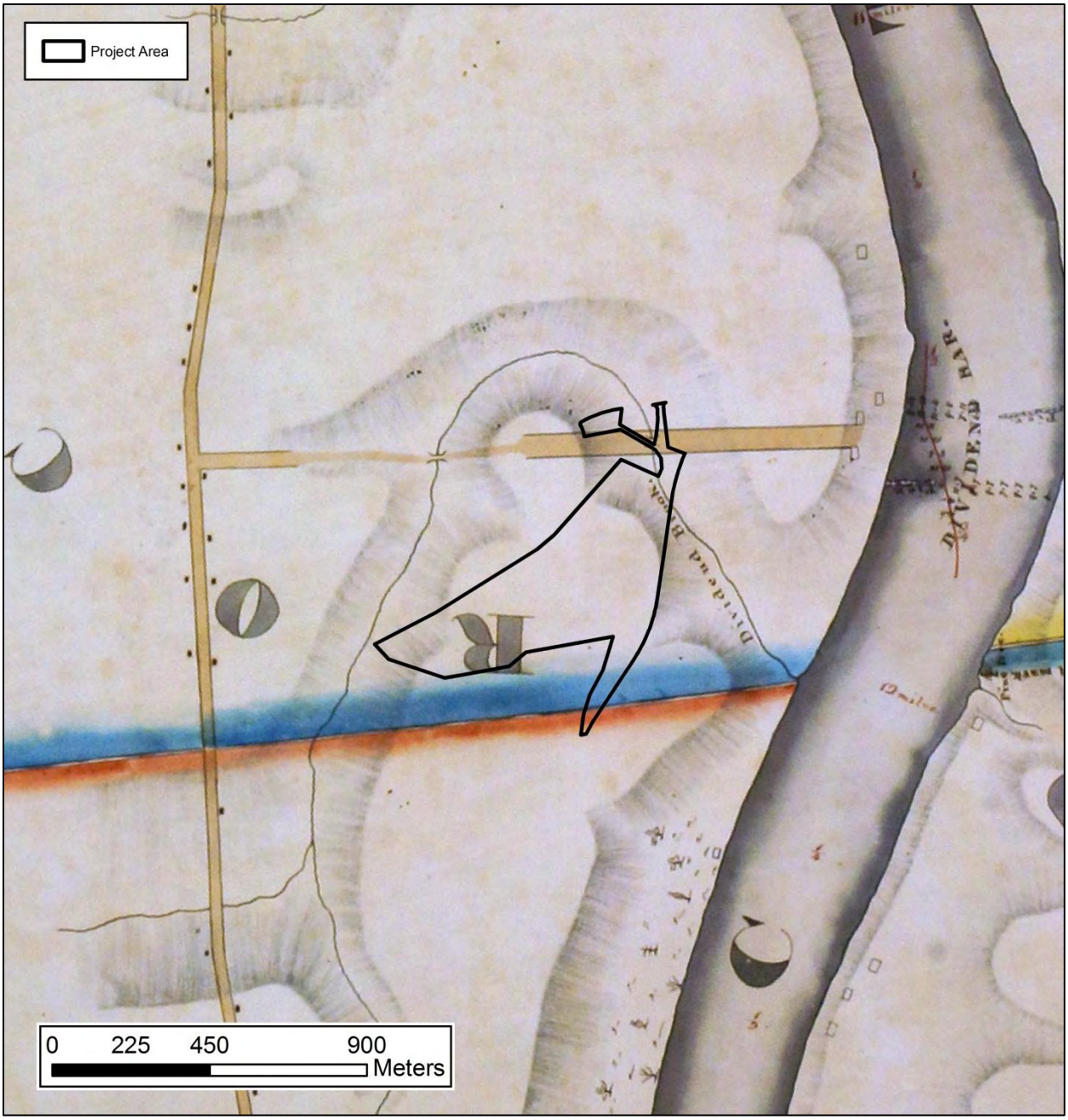


Figure 2. Excerpt from a 1846 historic map depicting the proposed solar system in Rocky Hill, Connecticut.

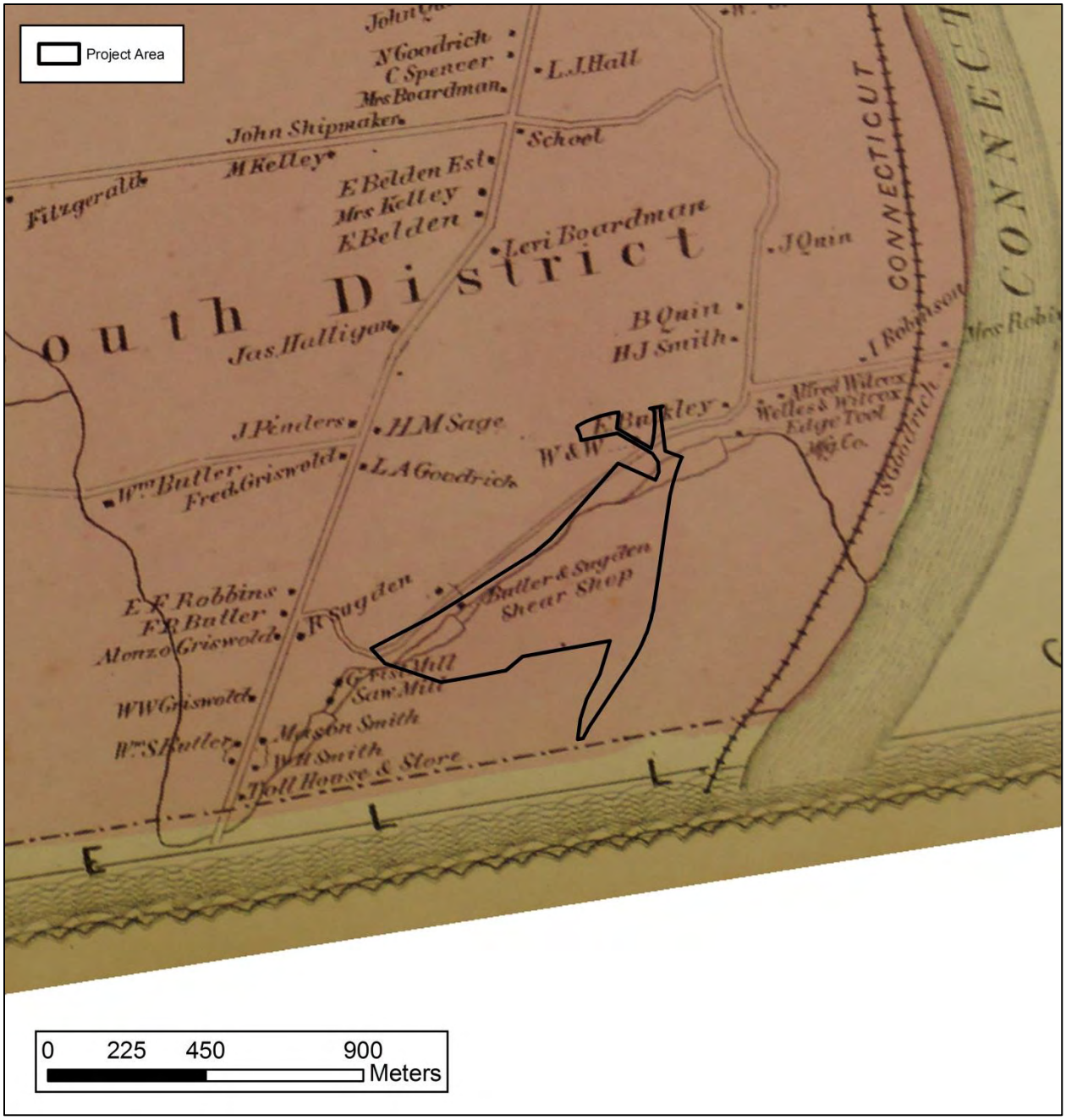


Figure 3. Excerpt from an 1869 historic map depicting the proposed solar system in Rocky Hill, Connecticut.

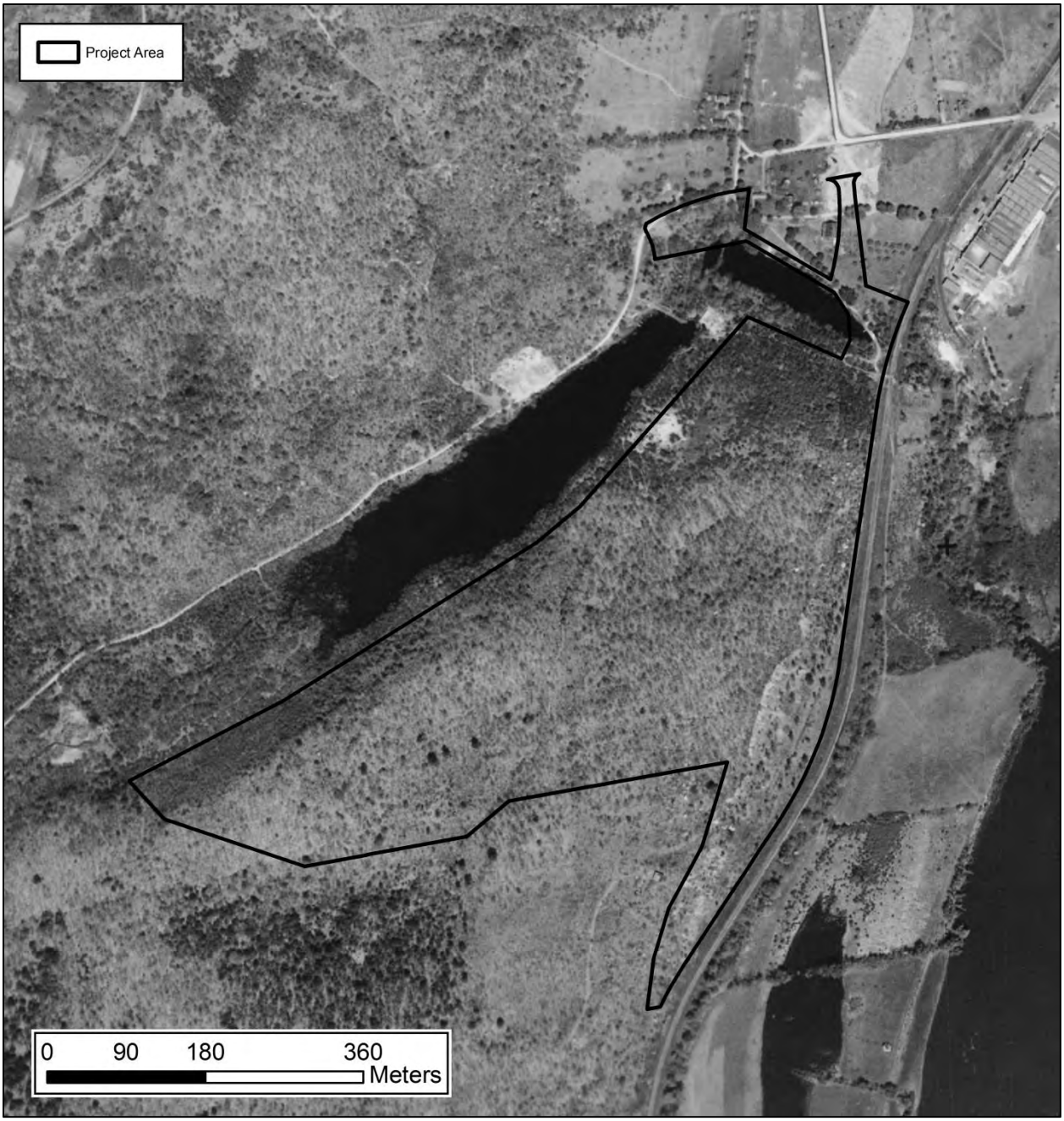


Figure 4. Excerpt from a 1934 aerial image depicting the proposed solar system in Rocky Hill, Connecticut.

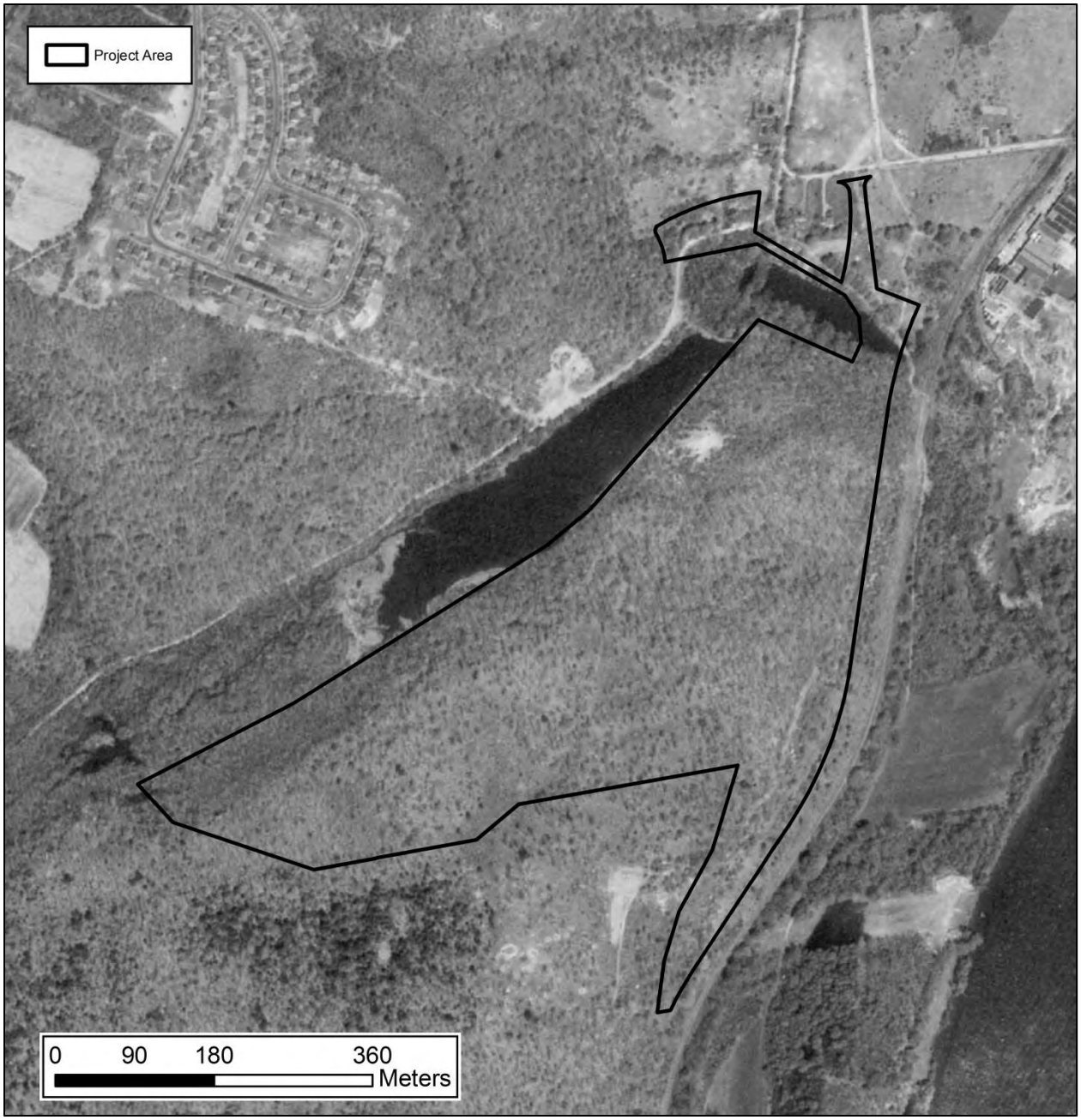


Figure 5. Excerpt from a 1951 aerial image depicting the proposed solar system in Rocky Hill, Connecticut.

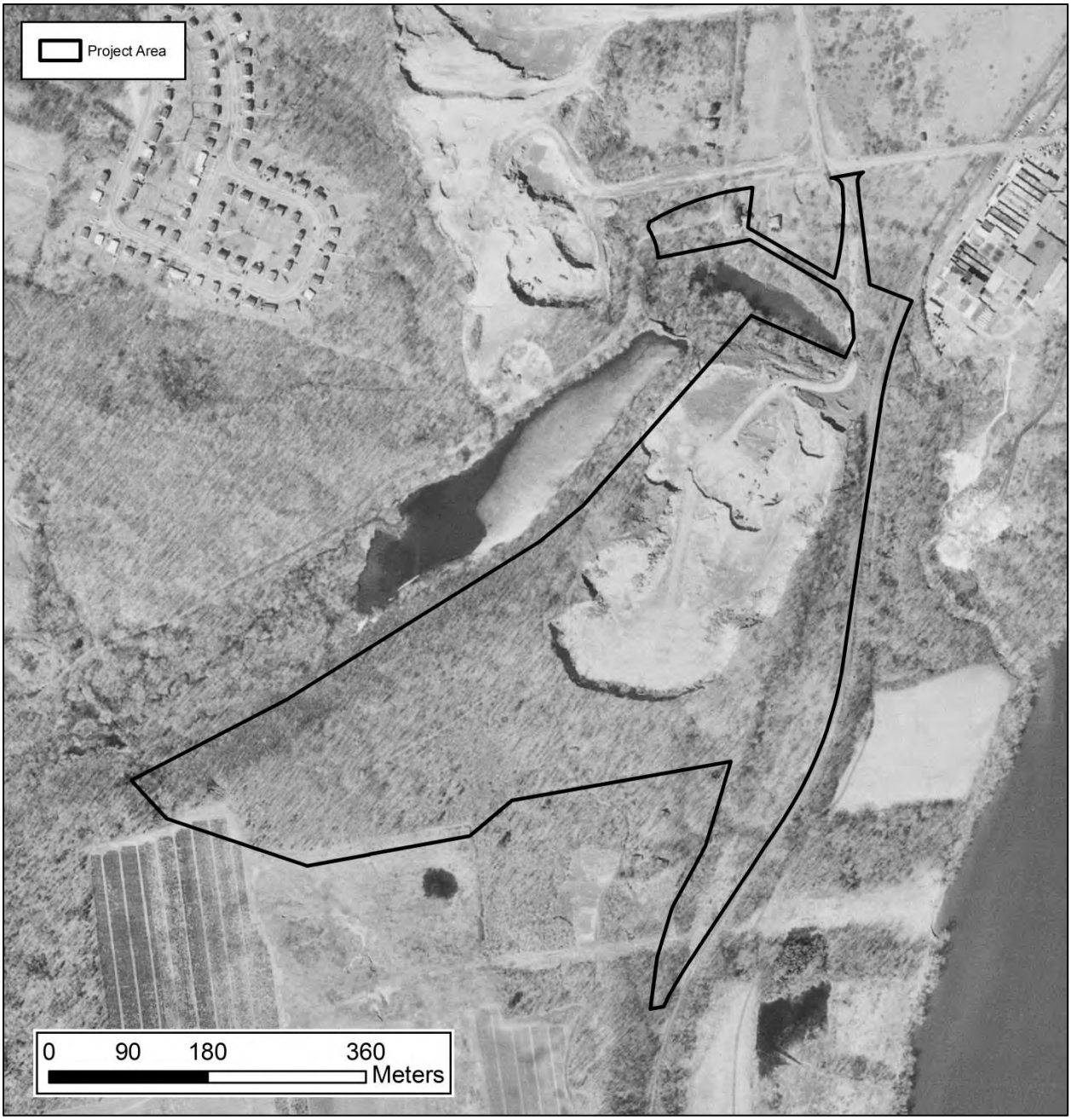


Figure 6. Excerpt from a 1962 aerial image depicting the proposed solar system in Rocky Hill, Connecticut.

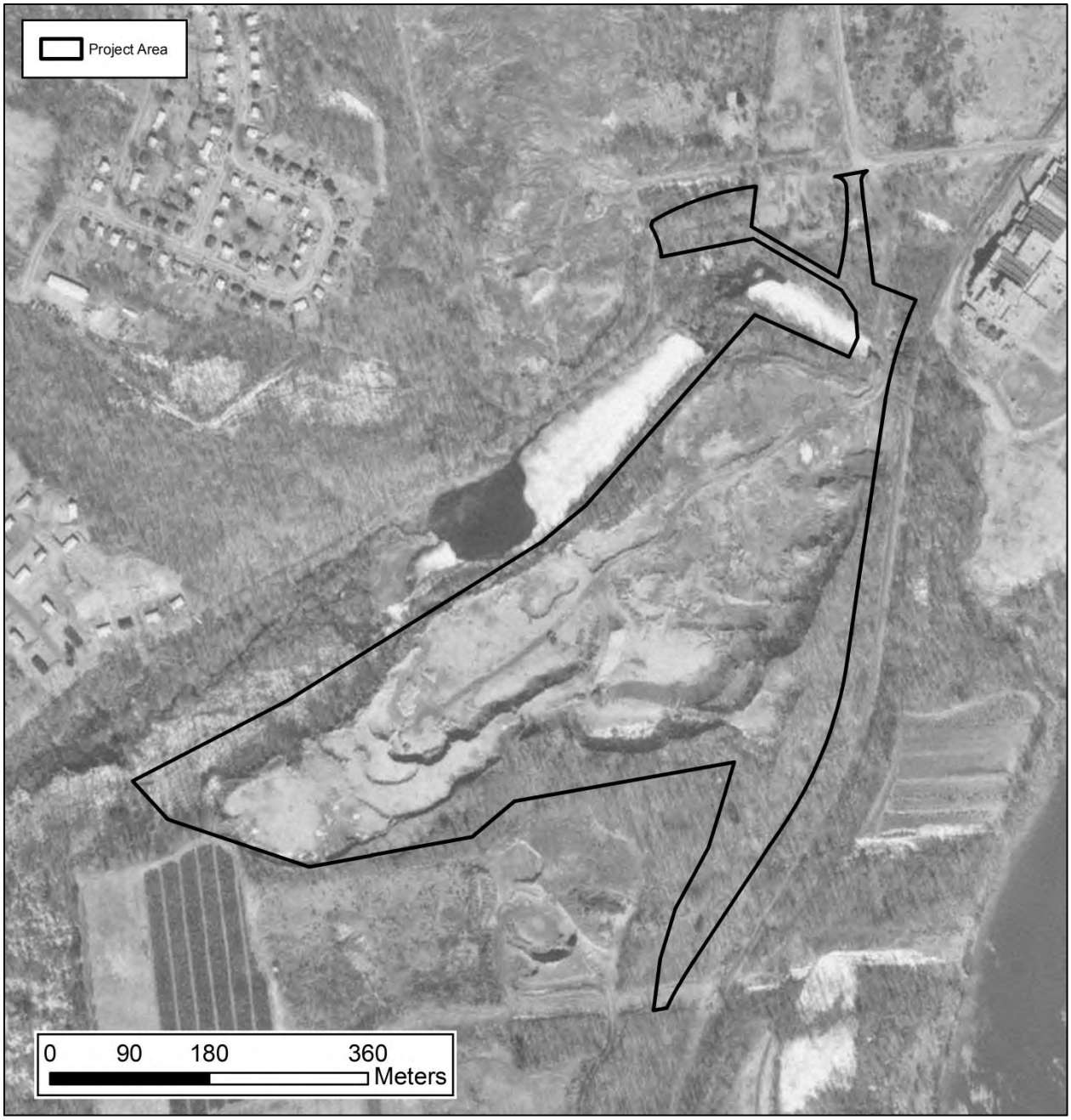


Figure 7. Excerpt from a 1970 aerial image depicting the proposed solar system in Rocky Hill, Connecticut.

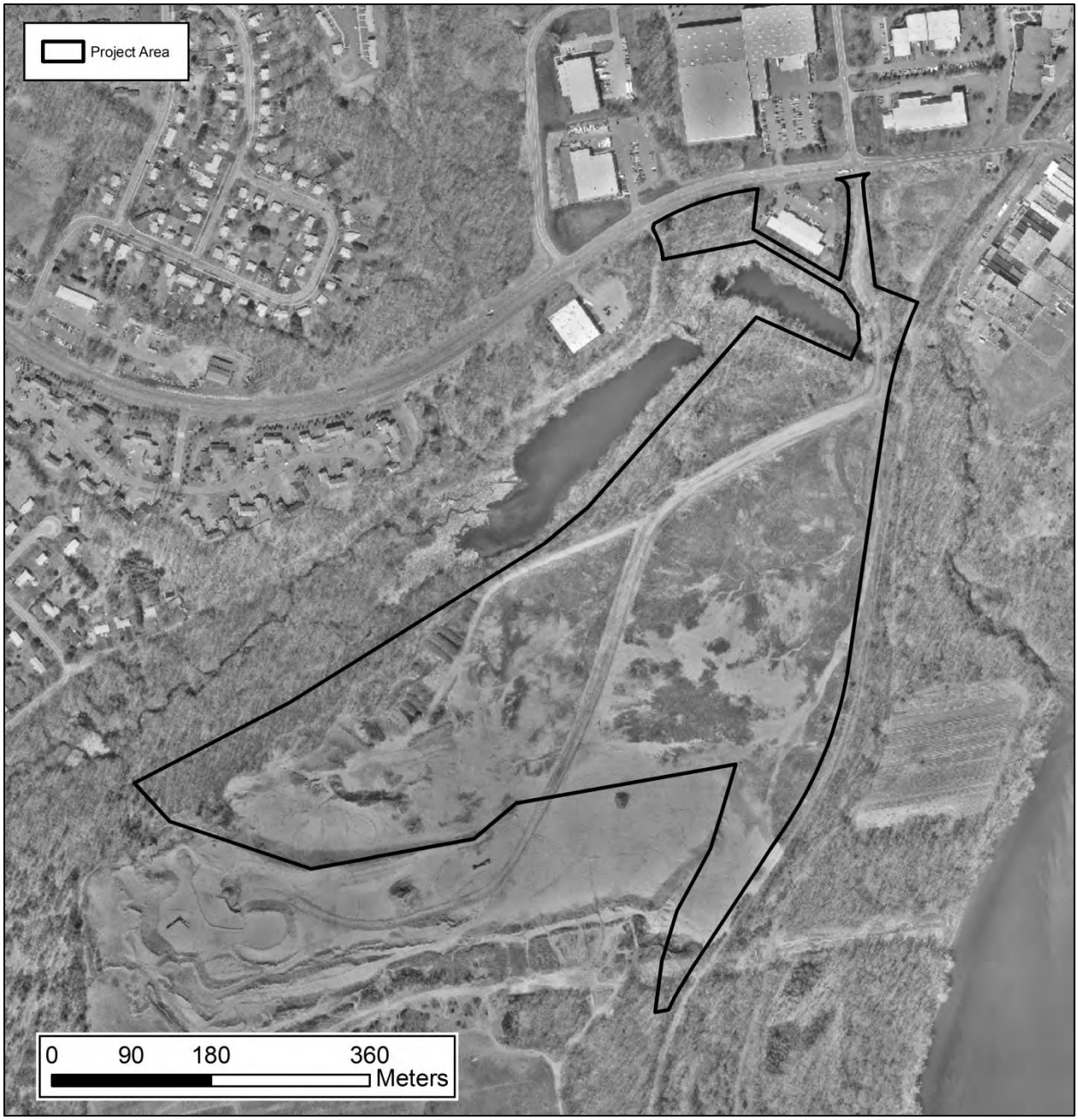


Figure 8. Excerpt from a 1997 aerial image depicting the proposed solar system in Rocky Hill, Connecticut.

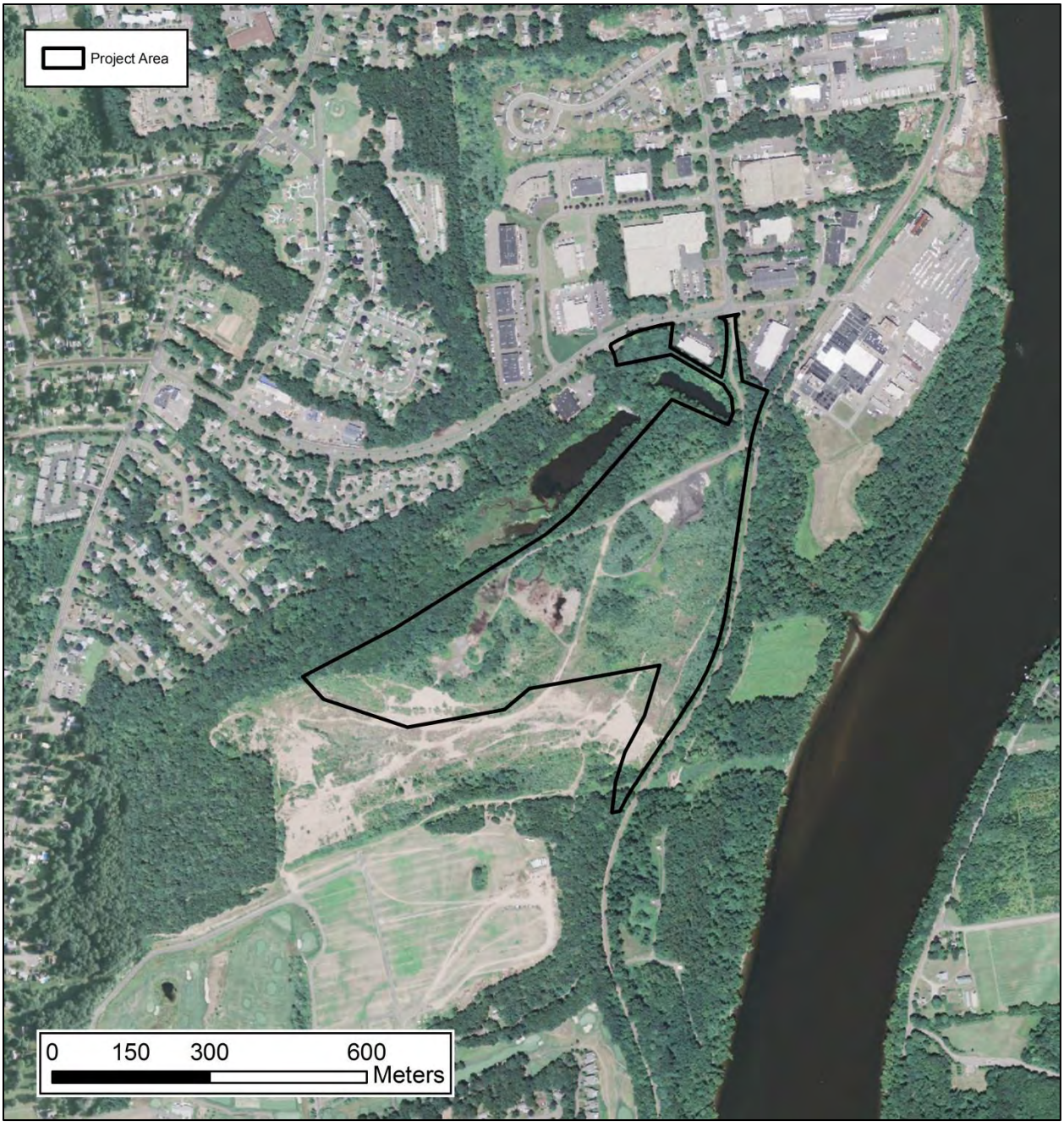


Figure 9. Excerpt from a 2014 aerial image depicting the proposed solar system in Rocky Hill, Connecticut.

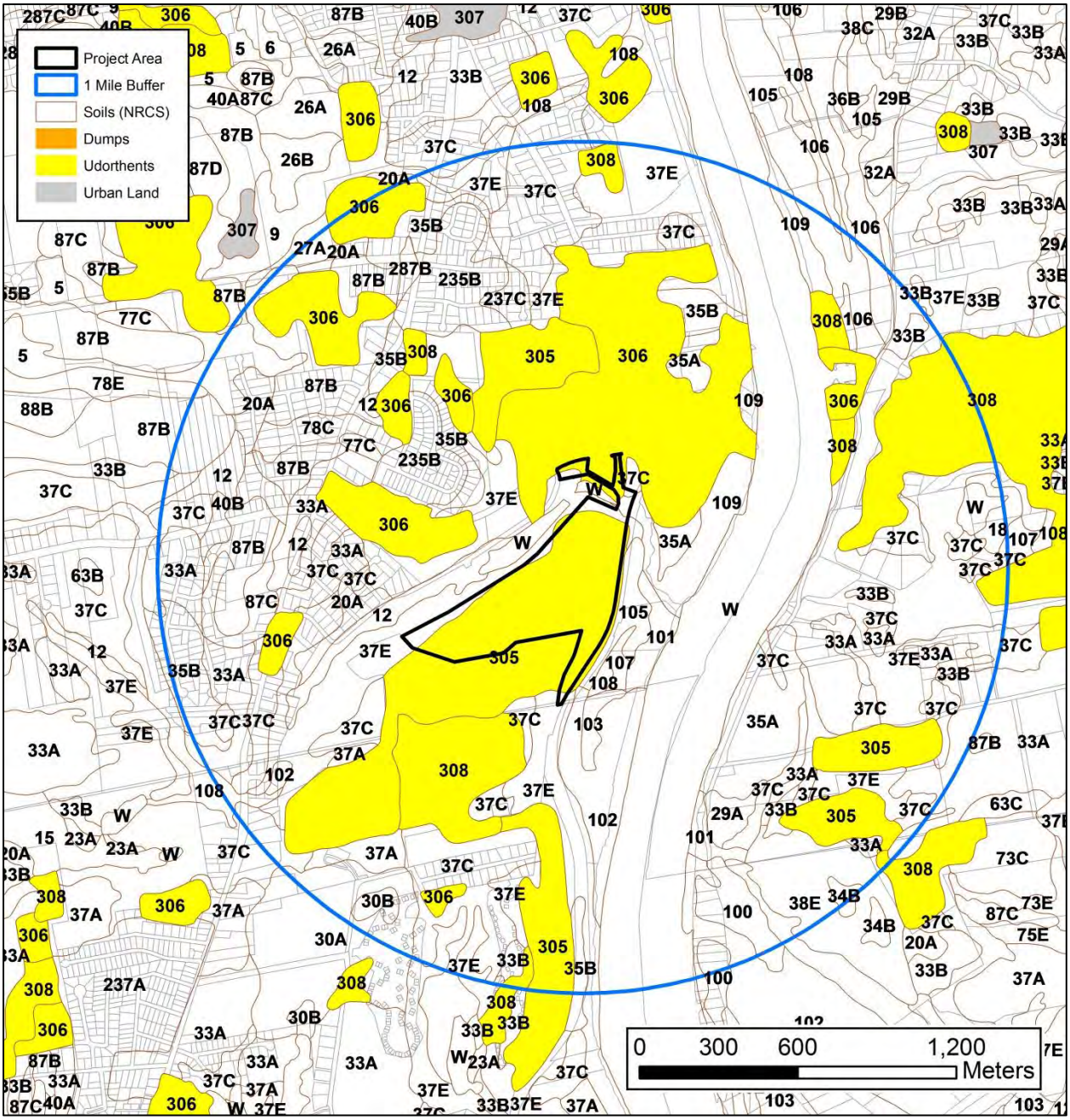


Figure 10. Digital map depicting the various soil types situated throughout the area of the proposed solar system in Rocky Hill, Connecticut (note soil code 305 consists of Udorthent soils associated with areas that have been substantially mined and disturbed).

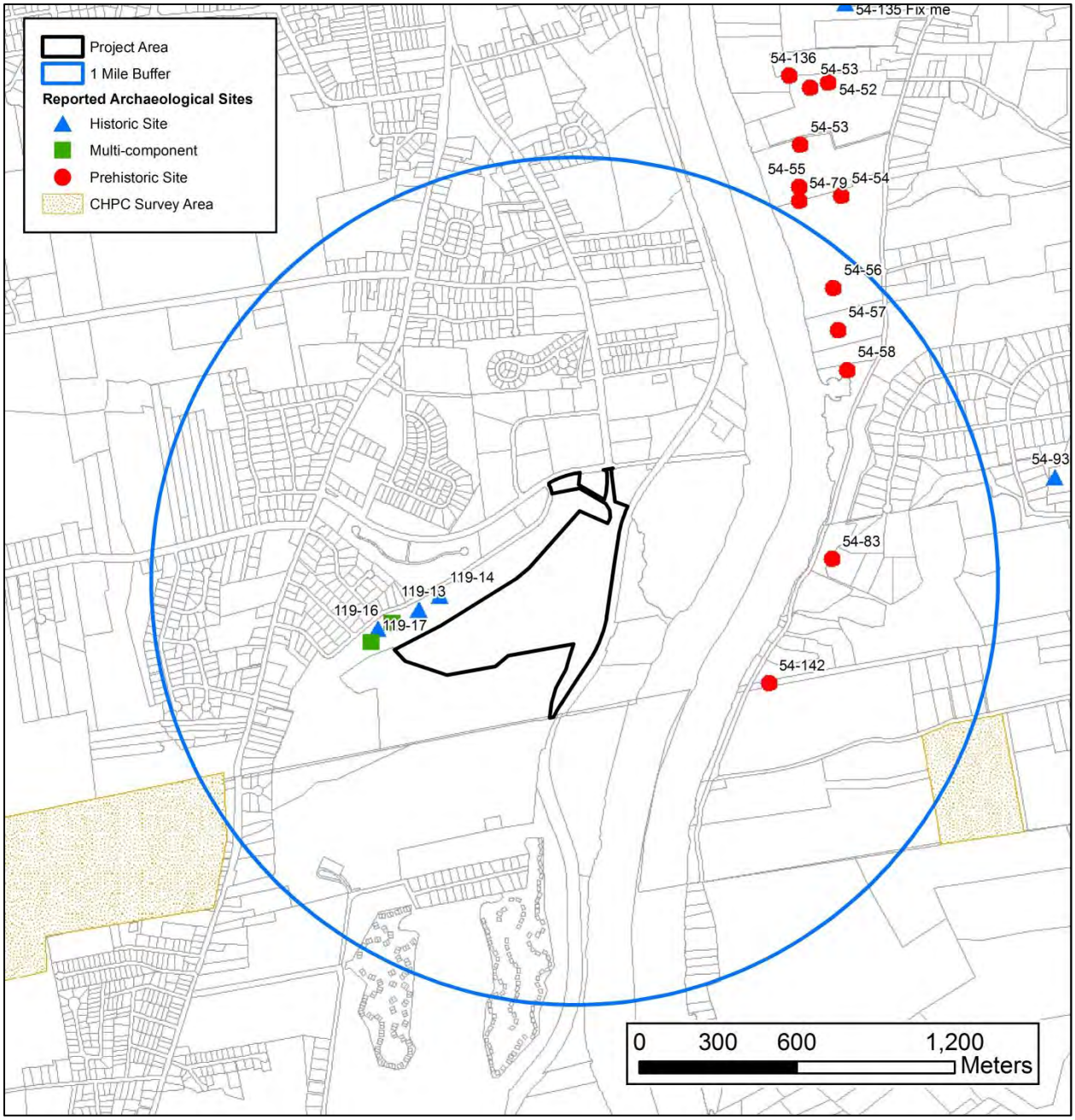


Figure 11. Digital map depicting the locations of previously recorded archaeological sites in the vicinity of the proposed solar system in Rocky Hill, Connecticut.

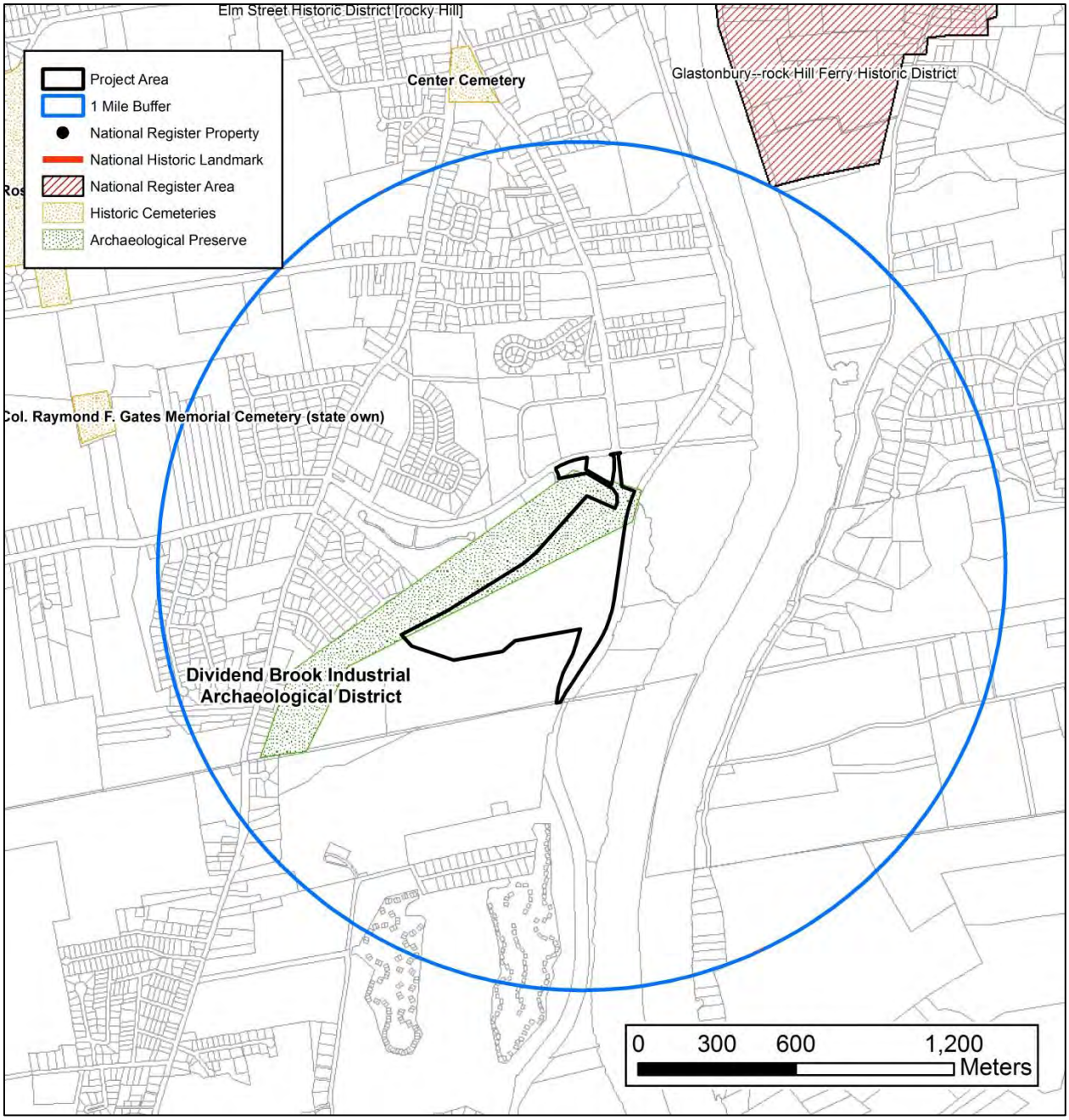


Figure 12. Digital map depicting the locations of previously National Register of Historic Places properties in the vicinity of the proposed solar system in Rocky Hill, Connecticut.

Figure 13. Aerial view of the proposed project area depicting the location and direction of each the following photographs.

Photo 1. Overview photo of the proposed tower location facing southwest.

Photo 2. Overview photo of the Dividend Brook Industrial Archaeological District facing southwest from the proposed project area.

Photo 3. Overview photo of the north central portion of the proposed project area location facing south.

Photo 4. Overview photo of the south central portion of the proposed project area facing south.

Photo 5. Overview photo of the southeastern portion of the proposed project area facing southeast.

Photo 6. Overview photo of the east central portion of the proposed project area facing east.

Photo 7. Overview photo of the north central portion of the proposed project area facing southeast facing north.

Photo 8. Overview photo from the proposed tower location facing east.

Photo 9. Overview photo of the Dividend Brook Industrial Archaeological District facing southeast toward the proposed project area (note that the project area is not visible from the district).

Photo 10. Overview photo of the eastern portion of the Dividend Brook Industrial Archaeological District facing southeast toward the proposed project area (note that the project area is not visible from the district).

APPENDIX E

Construction Schedule

Construction Schedule for Rocky Hill Solar Array

Activity	Prerequisites to Construction	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8	Week 9	Week 10	Week 11	Week 12
Siting Council Approval	X												
Rocky Hill Building/Electrical Permits	X												
State Permits	X												
Remove Brush and Trees		X	X										
Establish Erosion Control			X	X									
Site Grading			X	X	X	X	X						
Install Racking and Solar Panels					X	X	X	X	X	X	X	X	
Install Utility Equipment									X	X	X		
Install Perimeter Fence										X	X	X	
Local Inspections													X

APPENDIX F

Construction Work Hours/Days Letter

3/17/2016

Connecticut Siting Council
10 Franklin Square
New Britain, CT 06051

RE: Solar Application, RO13, Rocky Hill, CT 06051
Work Hours at Site

To Whom It May Concern:

The following work schedule will be maintained during the construction of the Rocky Hill solar arrays:

Working hours will be 7am-7pm, 6 days a week, Monday thru Saturday.

Best regards,

Kevin Angers
Project Manager
SolarCity

APPENDIX G

Big Sand Tiger Beetle Protection Plan

BIG SAND TIGER BEETLE PROTECTION PLAN

Due to the Project Area's proximity to optimal tiger beetle habitat (i.e., unvegetated sands), a comprehensive protection plan is proposed to avoid unintentional impact to this species during construction of the proposed facility. The Big Sand Tiger Beetle Protection Plan consists of various types of protection measures including protection of nearby "Early Old Field/Unvegetated Sands" habitat areas with installation of a restrictive barrier along the southern and western peripheries of the Project Areas, and implementation of contractor awareness training and environmental monitoring measures.

It is of the utmost importance that the Contractor complies with the Big Sand Tiger Beetle Protection Plan requirements for the implementation of protective measures and the education of its employees and subcontractors performing work within the Project Area. This protection program shall be implemented regardless of the time of year construction activities occur. All-Points Technology Corporation, P.C. ("APT") will serve as the Project Environmental Monitor for this project to ensure that the Big Sand Tiger Beetle Protection Plan is implemented properly. The Contractor shall contact Matthew Gustafson, Environmental Scientist at APT, at least five (5) business days prior to the pre-construction meeting. Mr. Gustafson can be reached by telephone at (860) 663-1697 ext. 202 or via email at mgustafson@allpointstech.com.

1. Early Old Field/Unvegetated Sands Protection Measures

a. The limits of the Project Area shall be isolated from the majority of the Early Old Field/Unvegetated Sands located to the south and west through installation of orange construction fencing (limits depicted on Proposed Conditions Map provided in Attachment 1). The Contractor shall install orange construction fencing around the identified portion of the Project Area to isolate construction activities from potential encroachment into Early Old Field/Unvegetated Sands habitats throughout the duration of the construction project. APT will inspect the orange fencing installation prior to any construction activities or equipment mobilization to the Project Area. This isolation fencing shall be inspected daily by the Contractor to ensure that it is maintained in good condition. The Contractor shall repair any damaged fencing within 24 hours. No work, stockpiling/staging of materials/vehicles/equipment, transport of vehicles, or work of any kind shall occur west or south of the orange construction fencing isolation barrier limits.

2. Contractor Awareness Training

a. Prior to work on site and initial deployment/mobilization of equipment and materials, the Contractor shall attend an educational session at the pre-construction meeting with the Project Environmental Monitor. This orientation and educational session will consist of information on the Big Sand Tiger Beetle (*Cicindela Formosa generosa*) and the associated Early Old Field/Unvegetated Sands habitat areas and the need to follow protective measures as described herein.

b. The Contractor will be provided cell phone and email contacts for APT Environmental Monitoring staff to immediately report any encounters with Big Sand Tiger Beetle. Poster materials (example provided in Attachment 2) will be provided by APT to the Contractor for posting on the job site to maintain worker awareness, along with any visitors, to the sensitive environmental nature of the job site.

3. Monitoring and Reporting

a. Any observations of tiger beetles by the Contractor shall be immediately reported to APT.

b. APT will provide periodic inspections of the isolation fencing throughout the duration of construction activities.

c. Daily Compliance Monitoring Reports (brief narrative and applicable photos) will be prepared for any inspections performed by APT and submitted to SolarCity for compliance verification. Any observations of tiger beetles will be included in the reports.

d. Following completion of the construction project, APT will provide a Compliance Monitoring Summary Report to SolarCity documenting the monitoring and maintenance of the barrier fence and erosion control measures and any turtle observations. SolarCity will provide a copy of the Compliance Monitoring Summary Report to the Connecticut Siting Council for compliance verification.

e. Any observations of Big Sand Tiger Beetle will be reported to CTDEEP by APT, with photo-documentation (if possible) and with specific information on the location and disposition of the insect.

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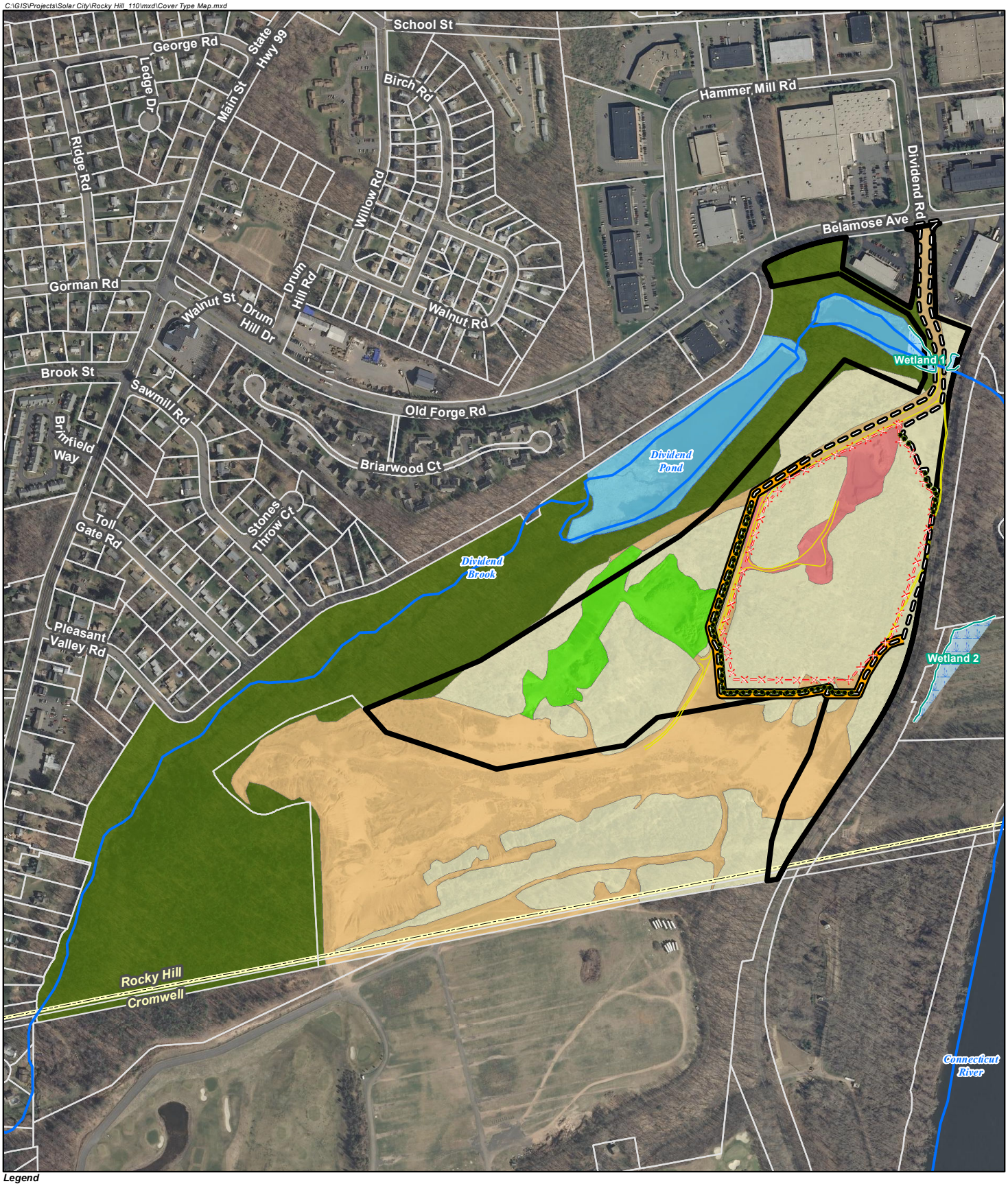

Legend

- Site Boundary
- Existing Access Drive
- Proposed Fenced Facility (+/-19 acres)
- Existing Treeline/Clearing Limit
- Limits of Orange Construction Fencing
- Project Area - Limit of Proposed Work (+/-24 acres)
- CTDEEP Watercourse
- Delineated Wetland Boundary
- Wetland Area
- Approximate Assessor Parcel Boundary (CTDEEP)

Cover Type

- Early Old Field/Unvegetated Sands
- Late Old Field
- Mixed Hardwood Forest
- Town Leaf/Brush Dump
- Town Stockpile Area - Asphalt Millings with Compacted Soils
- Water/Wetland
- Municipal Boundary

Map Notes:
Base Map Source: 2012 Aerial Photograph (CTECO)
Map Scale: 1 inch = 625 feet
Map Date: February 2016

N W E S

625 312.5 0 625 Feet

Cover Type Map

Proposed Solar PV Facility
Town of Rocky Hill
Old Forge Road
Rocky Hill, Connecticut

SolarCity

ALL-POINTS TECHNOLOGY CORPORATION

CAUTION

BIG SAND TIGER BEETLE ARE KNOWN TO INHABIT THIS AREA

Identification: Big Sand Tiger Beetle (*Cicindela Formosa generosa*) or "tiger beetle" is an invertebrate with usually shiny metallic bronze, blue, green, purple or orange body ranging from 10 – 21 mm. They are generally fast runners with long legs and long antennae that arise from the top of the head. Most are diurnal (daytime), sun loving species found in blowouts dunes, and other fin sparely vegetated sands. This sandy habitat is located on the southern and western peripheries of the Project Area, and extends outside the Project Area to the south and southwest.

What to do if you find a tiger beetle: Tiger beetles are protected by Connecticut's threatened and endangered species legislation and **cannot** be injured, killed, or retained as a specimen. If you find a tiger turtle, work shall be suspended in that area of the project. The tiger beetle should not be moved or disturbed in any manner as it is possible its burrow is close by (with the additional likelihood of other tiger beetle burrows in close proximity). The Project Environmental Monitor (listed below) should be immediately contacted, who will help assist in how to properly proceed.

Who to contact: Please report any observations of tiger beetle immediately to **Matt Gustafson of All-Points Technology Corp., P.C. at (860) 617-0613.**

APPENDIX H

Aquifer Protection Plan

ENVIRONMENTAL NOTES

Gardiner Expansion APA No. 67 Aquifer Protection Area

The 3.9 megawatt ("MG") solar based electric generating facility ("Project") proposed by SolarCity at 13 Old Forge Road in Rocky Hill, Connecticut is located within the Gardiner Expansion Aquifer Protection Area No. 67 ("APA").

The following precautions, protective measures, monitoring and notifications to protect this important resource shall be implemented during construction of the facility.

Contractor Environmental Awareness Training & Notification

The Rocky Hill Aquifer Protection Agency will be noticed at least 48 hours in advance of a pre-construction meeting with an invitation to attend. During the Project's pre-construction meeting, the contractor will be made aware of the special protective precautions noted above that are required due to the Project's location in the APA.

Prior to work on site, the Contractor shall attend an environmental awareness training session at the pre-construction meeting with All-Points Technology Corporation, P.C. ("APT"). This orientation and educational session will consist of an introductory meeting with APT stressing the environmentally sensitive nature of the Project due to its location within the APA. Caution poster materials will be provided by APT and displayed on the job site to maintain worker awareness as the project progresses.

Best Management Practices for Water Quality

The SolarCity construction Project will follow an approved soil erosion and sedimentation control plan designed in accordance with the *2002 Connecticut Guidelines for Soil Erosion and Sediment Control*. The installed erosion devices will be inspected periodically throughout the construction period, with a focus on after significant rainfall events (e.g., greater than one quarter inch over a 24-hour period) to ensure that proper precautions are taken to avoid the release of sediment into nearby resource areas. In addition to the site contractor being responsible for the proper installation and daily inspection of erosion and sedimentation ("E&S") controls, staff from APT will periodically inspect E&S controls and document their conditions and recommend any actions necessary to bring the controls back into compliance. The E&S controls and inspection protocols will protect water quality within the APT. A summary report of APT's compliance monitoring inspections will be submitted to the Connecticut Siting Council following completion of construction. Any incidents of significant release of sediment will be immediately reported to the Connecticut Siting Council. In addition, Town of Rocky Hill staff will be allowed access to the Project during construction for periodic field inspections should they desire.

E&S control items subject to inspection include, but are not limited to the following:

- Construction Entrance Pad
- Sediment/ Detention Basins
- Catch Basin Silt Socks
- Seeding & Mulching
- Drainage Swale Check Dams
- Sediment Traps
- Temporary Soil Stockpile Areas
- Silt Fencing/Straw Bales/Straw Wattles/Compost Filter Socks
- Drainage Swales
- Other Site-Specific Erosion Control Devices

Petroleum/Hazardous Materials Storage and Spill Prevention Plan

Certain precautions are necessary to store petroleum and hazardous materials, refuel and contain and properly clean up any inadvertent fuel or petroleum (i.e., oil, hydraulic fluid, etc.) spill due to the Project's location in an APA. A spill containment kit consisting of a sufficient supply of absorbent pads and absorbent material will be maintained by the site contractor at the construction site throughout the duration of the Project. In addition, a waste drum will be kept on site to contain any used absorbent pads/material for proper disposal off site.

The following, but not limited to, restrictions, protective measures and procedures, will be adhered to by the contractor.

Petroleum and Hazardous Materials Storage and Refueling

- Servicing of machinery shall be completed outside of the APA.
- Refueling of vehicles or machinery shall occur a minimum of 100 feet from wetlands or watercourses and shall take place on an impervious pad with secondary containment designed to contain fuels.
- Fuel and other hazardous materials shall not be stored within the APA.
- Any fuel or hazardous materials that must be kept within the APA during working hours shall be stored on an impervious surface utilizing secondary containment.

Initial Spill Response

- Stop operations and shut off equipment.
- Remove any sources of spark or flame.
- Contain the source of the spill.
- Determine the approximate volume of the spill.
- Identify the location of natural flow paths to prevent the release of the spill to sensitive nearby waterways or wetlands.
- Ensure that fellow workers are notified of the spill.

Clean Up & Containment

- Obtain spill response materials from the on-site spill response kit.
- Place absorbent materials directly on the release area.
- Limit the spread of the spill by placing absorbent materials around the perimeter of the spill.
- Isolate and eliminate the spill source.
- Contact the Rocky Hill Aquifer Protection Agency (Planning and Zoning Commission), immediately at (860) 258-2761, along with other appropriate local, state and/or federal agencies, as necessary.
- Contact a disposal company to properly dispose of contaminated materials.

Reporting

- Complete an incident report.
- Submit a completed incident report to the Rocky Hill Aquifer Protection Agency, Connecticut Siting Council and other appropriate local, state and/or federal agencies, as necessary.

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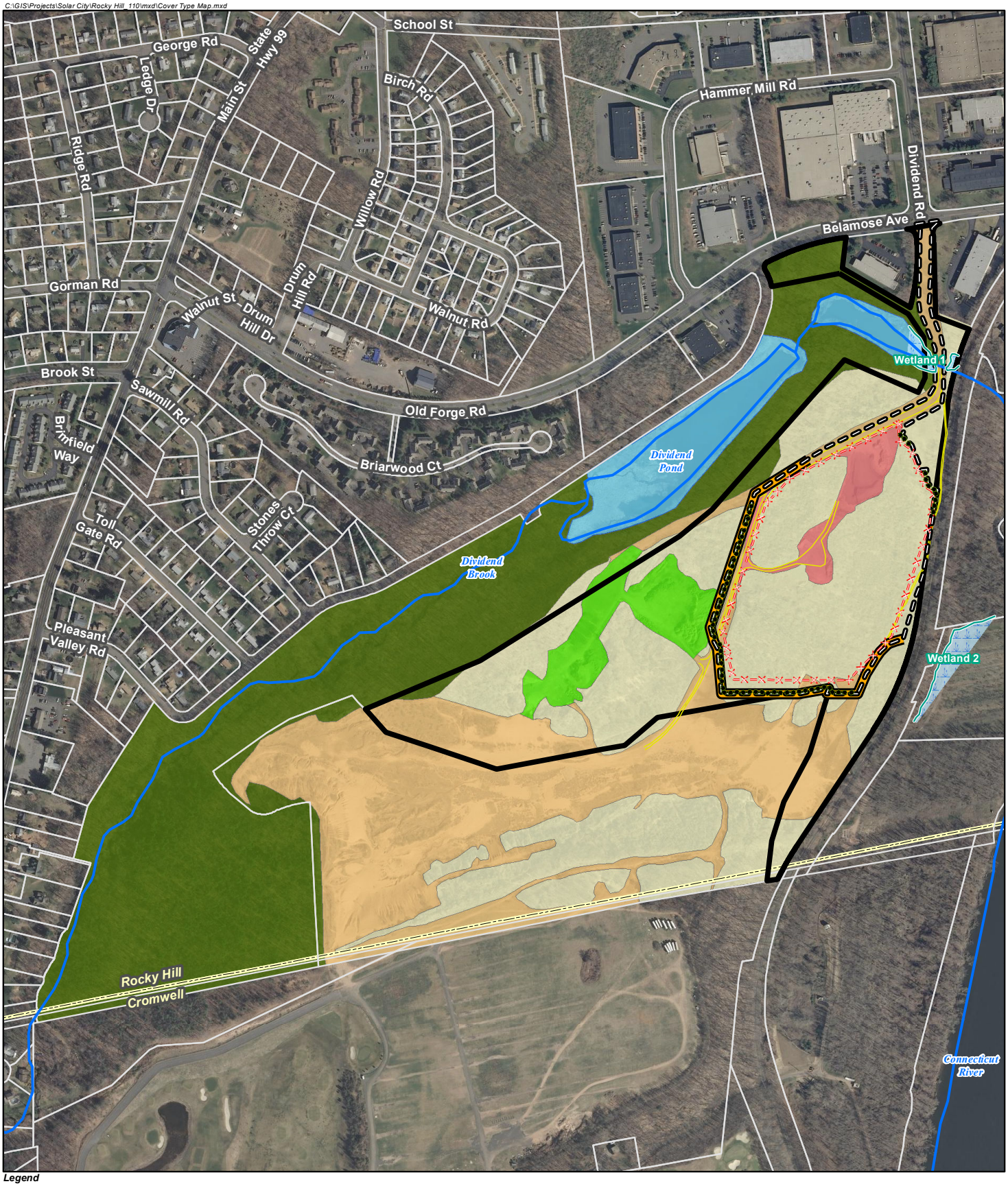

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625 312.5 0 625 Feet

Tiger Beetle Protection

Proposed Solar PV Facility
Town of Rocky Hill
Old Forge Road
Rocky Hill, Connecticut

SolarCity

ALL-POINTS TECHNOLOGY CORPORATION

APPENDIX I

Noise Evaluation Report

HMB

HMB Acoustics LLC 3 Cherry Tree Lane, Avon, CT 06001 860-677-5955

Noise Evaluation Study

Proposed Solar Farm Facility
Solar City Corporation
Old Forge Road
Rocky Hill, CT 06067

January 28, 2016

Prepared For:
All-Points Technology Corporation
3 Saddlebrook Drive
Killingworth, CT 06419

Prepared By:
Allan Smardin
HMB Acoustics LLC
3 Cherry Tree Lane
Avon, CT 06001

Introduction

I have reviewed site plans and specifications for equipment that is being proposed for the Solar Farm. The Solar Farm is to be located on Old Forge Road, Rocky Hill, CT. The site location is mixed Residential and Commercial. On July 11, 2015 existing background noise measurements were taken near the proposed site and in adjacent areas. The average levels were 25-30 dBA.

The purpose of this noise evaluation is to determine whether the proposed equipment will comply with the State of CT Noise Regulations. This report and the noise regulations utilize a dBA scale. This scale is used because it closely approximates the response characteristic of the human ear to loudness, and is the scale most commonly used in the measurement of community noise.

Noise Regulations

The State of CT has enacted regulations which limit the amount of noise which may be transferred from one property to another. In pertinent part, the Regulations provide as follows:

Daytime hours - The hours between 7 a.m. and 10 p.m. local time.

Nighttime hours - The hours between 10 p.m. and 7 a.m. local time.

The allowable noise level from a Class “B” Commercial Noise Zone Emitter to a Class “A” Residential Zone Receptor’s property line is 55 dBA (daytime) and 45 dBA (nighttime).

(Sec. 22a-69-1.1 (h&n)).

The allowable noise level from a Class “B” Commercial Zone Emitter to a Class “B” Commercial Zone Receptor is 62 dBA (day / night).

(Sec. 22a-69-3.5 (b)).

Noise Evaluation

The noise levels listed in TABLE 1 take into account the effect of acoustical shielding provided by other structures on the property. The noise levels have been projected to the nearest property lines in the directions listed.

TABLE 1

Direction	dBA Level	
North	25	Residential (Belamose Avenue)
	30	Commercial (Belamose Avenue)
South	29	Rocky Hill / Cromwell Town Line
East	26	Wetlands & The CT River
West	21	Residential (Pleasant Valley Road)

Noise Evaluation Results

The noise level data in TABLE 1 demonstrates that the noise levels meet the conditions for compliance as set forth in the State of CT Noise Regulations at Residential and Commercial property line noise zones.