STATE OF CONNECTICUT
CONNECTICUT SITING COUNCIL
Ten Franklin Square, New Britain, CT 06051
Phone: (860) 827-2935 Fax: (860) 827-2950
E-Mail: siting.council@ct.gov
Web Site: portal.ct.gov/csc

VIA ELECTRONIC MAIL

July 19, 2024

Paul R. Michaud, Esq.
Michaud Law Group LLC
515 Centerpoint Drive, Suite 503
Middletown, CT 06457
pmichaud@michaud.law

RE: **PETITION NO. 1599 –** TRITEC Americas, LLC Declaratory Ruling, pursuant to Connecticut General Statutes §4-176 and §16-50k, for the construction, maintenance and operation of a 0.999-megawatt AC solar photovoltaic electric generating facility located at Parcel No. 30-25-59 Spencer Street, Suffield, Connecticut, and associated electrical interconnection. **Compliance with Condition Nos. 2, 9, 10, 11 and 13.**

Dear Attorney Michaud:

The Connecticut Siting Council (Council) is in receipt of your correspondence dated July 18, 2024 regarding compliance with Condition Nos. 2, 3, 9, 10, 11 and 13 of the Declaratory Ruling issued by the Council on April 26, 2024 for the above-referenced facility.

The correspondence includes a copy of the DEEP Stormwater Permit, the final structural design of the racking system, summary of consultation with Eversource regarding interconnection design to reduce the number of poles, the Phase 1B archaeological reconnaissance survey, the final enhanced landscaping plan, and notice of commencement of construction, in accordance with Condition Nos. 2, 3, 9, 10, 11, and 13, respectively.

The Council acknowledges that Condition Nos. 2, 9, 10, 11, and 13 have been satisfied by the July 18, 2024 correspondence.

Condition No. 3 remains outstanding. The final structural analysis for the racking system has not been stamped by a Professional Engineer duly licensed in the State of Connecticut.

Therefore, this acknowledgment applies only to conditions 2, 9, 10, 11, and 13 satisfied by the July 18, 2024 correspondence.

Please be advised that deviations from the standards established by the Council in the Declaratory Ruling are enforceable under the provisions of Connecticut General Statutes §16-50u.

Thank you for your attention and cooperation.

Sincerely,

Melanie A. Bachman
Executive Director
MAB/RDM/dll

c. Service List, dated November 15, 2023

MLG | MICHAUD
RENEWABLE ENERGY LAW IS OUR BUSINESS LAWGROUP

PAUL R. MICHAUD
Managing Attorney / Principal
515 Centerpoint Drive, Suite 503
Middletown, CT 06457
Direct Telephone: (860) 338-3728
Email: pmichaud@michaud.law
Web: www.michaud.law

July 18, 2024

VIA ELECTRONIC MAIL

Melanie Bachman
Executive Director
Connecticut Siting Council
10 Franklin Square
New Britain, CT 06051

Re: **PETITION NO. 1599** – TRITEC Americas, LLC notice of election to waive exclusion from Connecticut Siting Council jurisdiction, pursuant to Connecticut General Statutes §16-50k€, and petition for a declaratory ruling, pursuant to Connecticut General Statutes §4-176 and §16-50k, for the proposed construction, maintenance and operation of a 0.999-megawatt AC solar photovoltaic electric generating facility located at Parcel No. 30-25-59 Spencer Street, Suffield, Connecticut, and associated electrical interconnection. **Conditions No. 2, 3, 9, 10, 11, and 13.**

Dear Attorney Bachman:

On behalf of TRITEC Americas, LLC ("Petitioner"), Michaud Law Group submits this letter to the Connecticut Siting Council (the "Council") in response to Council's Final Decision dated April 26, 2024, in the above-referenced petition. Specifically, this letter is in response to Conditions 2, 3, 9, 10, 11, and 13 – the conditions Petitioner must complete "prior to the commencement of construction."

Condition 2

Condition 2 requires Petitioner to "Submit a copy of the DEEP Stormwater Permit prior to the commencement of construction." DEEP approved Petitioner's Stormwater Permit application on June 26, 2024. Please see Exhibit A: DEEP Stormwater Permit.

Condition 3

Condition 3 requires Petitioner to "Submit the final structural design for the racking system stamped by a Professional Engineer duly licensed in the State of Connecticut prior to commencement of construction." The final, stamped structural design is enclosed. Please see Exhibit B: Final Structural Design.

Condition 9

Condition 9 requires Petitioner to "Consult with Eversource to determine the feasibility of using pad-mounted equipment or other interconnection design to reduce the number of poles, including design costs, and submit the results to the Council prior to the commencement of construction."

Petitioner met with Eversource on July 2, 2024, to discuss the use of pad-mount equipment and other interconnection designs to potentially reduce the number of poles. Eversource may be able to remove one of the three utility poles. Eversource is still investigating this internally, and Petitioner will update Council accordingly and prior to the installation of any Eversource-owned equipment, which will not occur until the final stages of the construction process.

Eversource requires at least two poles, one for the primary meter, and one for the recloser. Eversource told Petitioner that they always pole-mount primary meters. The recloser can be pad-mounted, but pad mounts have a 16 – 24 lead time and cost two-to-three times the amount as pole-mounted reclosers. Although a pad-mounted recloser is not feasible for this project, Petitioner is working with Eversource to investigate pad-mounting reclosers for projects that are in the predevelopment stage and coincide with these long lead times.

The interconnection route is approximately 710 linear feet long. About 570 linear feet will be underground. If Petitioner constructed the entire route above-ground, then it would require up to twenty-five utility poles. However, Petitioner is installing over 80% of the interconnection route underground. Petitioner and Eversource require the remaining 20% to be above ground to install the meters, reclosers, and other equipment.

Condition 10

Condition 10 requires Petitioner to "Submit the Phase 1B archaeological reconnaissance survey prior to commencement of construction." The survey is enclosed. Please see <u>Exhibit C</u>: Phase 1B Survey.

Condition 11

Condition 11 requires Petitioner to "Submit a final enhanced landscaping plan prior to commencement of construction." The landscaping plan is enclosed. Please see <u>Exhibit D</u>: Enhanced Landscaping Plan.

Condition 13

Condition 13 states, "The Council shall be notified in writing at least two weeks prior to the commencement of site construction activities." Please accept this letter as notice that, subject to the Council acknowledging that Petitioner complied with all pre-construction conditions, Petitioner intends to commence construction of the project in two weeks (August 1, 2024).

Petitioner believes they have met all the conditions required to begin constructing the project, but they will refrain from doing so until they receive Council's acknowledgement.

Please feel free to contact me if you have any questions.

Very truly yours,

Paul R. Michaud

cc: Service List dated 11/15/2023

EXHIBIT A

DEEP Stormwater Permit

Connecticut Department of
ENERGY &
ENVIRONMENTAL
PROTECTION

79 Elm Street • Hartford, CT 06106-5127 www.ct.gov/deep Affirmative Action/Equal Opportunity Employer

Bureau of Materials Management and Compliance Assurance

Notice of Permit Authorization

June, 26 2024

.
TRITEC AMERICAS LLC
888 PROSPECT ST
LA JOLLA, CA 92037-4260

Subject: General Permit Registration for the Discharge of Stormwater and Dewatering Wastewaters from Construction Activities
Application NO.: 202402497

.:

The Department of Energy and Environmental Protection, Water Permitting and Enforcement Division of the Bureau of Materials Management and Compliance Assurance, has completed the review of the 0 Spencer Street (located at 315 Spencer St, Suffield) registration for the **General Permit for the Discharge of Stormwater and Dewatering Wastewaters from Construction Activities, effective 12/31/2020, modified 11/25/2022 (general permit)** . The project is compliant with the requirements of the general permit and the discharge(s) associated with this project is (are) authorized to commence as of the date of this letter. Permit No. GSN004041 has been assigned to authorize the stormwater discharge(s) from this project.

Questions can be emailed to deep.stormwater@ct.gov.

PROPOSED SOLAR POWER SITE:
0 SPENCER STREET
41°57'50.4"N, 72°40'12"W
SUFFIELD CT, 06078

PREPARED FOR:
HORTON ELECTRICAL SERVICES
97 RIVER ROAD
CANTON, CT 06019

PREPARED BY:
FLEXRACK BY QCELLS
23000 HARVARD RD., SUITE B
CLEVELAND, OH 44122

ARRAY LOCATION

PROJECT SITE

NORTH

GENERAL NOTES:

1. CODES AND STANDARDS:
   - **IBC 2021**
   - **NEC 2020**
   - **AISC 360-16**
   - **AISI S100-20**
   - **ASCE 7-16**
   - **2022 CT STATE BUILDING CODE**

2. WIND DESIGN PARAMETERS:
   - ULTIMATE DESIGN WIND SPEED, V – **110** MPH
   - RISK CATEGORY – I
   - WIND EXPOSURE CATEGORY C, K_z – 1.00
   - TOPOGRAPHICAL FACTOR, K_{zt} – 1.00
   - WIND DIRECTIONALITY FACTOR, K_d – 0.85
   - GUST FACTOR & NET PRESSURE COEFFICIENT, GCN
     - -GCN COEFFICIENTS DETERMINED BASED ON WIND TUNNEL TESTING
     - -SEE SFR STRUCTURAL REPORT FOR PROJECT SPECIFIC GCN COEFFICIENTS

3. SNOW DESIGN PARAMETERS:
   - GROUND SNOW LOAD – **35** PSF
   - EXPOSURE CATEGORY, Ce – 0.90
   - SNOW THERMAL FACTOR, Ct – 1.20
   - SNOW IMPORTANCE FACTOR, I – **0.80**
   - ROOF SLOPE FACTOR, Cs – 1.00

4. EARTHQUAKE DESIGN PARAMETERS – EQUIVALENT LATERAL FORCE:
   - RISK CATEGORY – **I**
   - SITE CLASS – D
   - SEISMIC IMPORTANCE FACTOR, Ie – **1.0**
   - RESPONSE MODIFICATION COEFFICIENT, R – 2
   - SPECTRAL RESPONSE ACCELERATION PARAMETERS

MAPPED	DESIGN
S_S – 0.170g	S_{DS} – 0.181g
S_1 – 0.054g	S_{D1} – 0.086g

   - SEISMIC DESIGN CATEGORY – **D**
   - SEISMIC RESPONSE COEFFICIENT, Cs – **0.091**

5. FOUNDATIONS:
   - FOUNDATION DESIGN DERIVED FROM GEOTECHNICAL REPORT PROVIDED BY: TBD

6. APPLICABLE INSTALLATION TOLERANCES (PER SINGLE TRACKER):
   - N-S POST SPACING: ±1 ½"
   - N-S SLOPE: 5%
   - E-W POST ALIGNMENT: ±¾"
   - IDLER POST HEIGHT OUT OF STRING-LINE: ±1"
   - POST PLUMB: ±1°
   - POST TWIST: ±3°
   - TUBE TWIST: ±2°

POST TOLERANCES ARE REFERENCED AT TOP-OF-POST LOCATION.
DRIVE POST HEIGHT ABOVE GRADE IS 3" ABOVE IDLER POSTS
MINIMUM RECOMMENDED CLEARANCE BETWEEN TRACKERS NO LESS THAN 12".

POST EMBEDMENT AND ABOVE GRADE TOLERANCES ARE SHOWN ON S2-S3.
S2-S3 TOLERANCES GIVEN TO ASSIST WITH VARIATIONS IN GRADE.

7. CONNECTIONS:
   - SEE SHEETS S4-S7 FOR TORQUE VALUES FOR EACH CONNECTION.

8. PV MODULE INFORMATION:
   - **NAME/MODEL: TSM-540-DEG19C.20 540W**
   - **DIMENSIONS: 93.858" LONG X 43.150" WIDE X 1.378" TALL**
   - **WEIGHT: 71.9 LBS**
   - **VERSION: TSM_EN_2020_APAC_A**

9. MATERIALS AND COATINGS:
   - A. PILES:
     - I. W-SECTIONS: A992 STEEL HOT DIPPED GALVANIZED PER ASTM A123.
   - B. HARDWARE:
     - I. ¾"ø TO BE F3125 GRADE A325 HOT DIPPED GALVANIZED PER ASTM A153.
     - II. ⅝"ø TO BE F3125 GRADE A325 HOT DIPPED GALVANIZED PER ASTM A153.
     - III. ½"ø TO BE F3125 GRADE A325 HOT DIPPED GALVANIZED PER ASTM A153.
     - IV. ⅜"ø TO BE A449 MECHANICAL GALVANIZED PER MAGNI 560.
     - V. 5/16"ø TO BE A449 MECHANICAL GALVANIZED PER MAGNI 560 OR STAINLESS STEEL.
     - VI. ¼"ø TO BE A449 MECHANICAL GALVANIZED PER MAGNI 560 OR STAINLESS STEEL.
   - C. COLD FORMED STEEL:
     - I. ALL COLD FORM STEEL TO BE PRE GALVANIZED PER A653 UNLESS OTHERWISE NOTED.

10. SPECIAL INSPECTIONS:
    THE FOLLOWING SPECIAL INSPECTIONS MAY BE REQUIRED PER IBC CHAPTER 17.
    CHECK WITH LOCAL BUILDING OFFICIAL FOR APPLICABILITY.
    - DRIVEN PILES..(CONTINUOUS)
      - -SEE **IBC 2021**, TABLE 1705.7, ITEMS 1-5
    - ASTM A325 BOLTS AND FASTENERS..........................(PERIODIC)
      - -SEE **AISC 360-16**, SECTION N5.6
    - ASTM A307 BOLTS AND FASTENERS
      - -NOT REQUIRED

ABBREVIATIONS

MIN	MINIMUM	BC	BEARING CRADLE
MAX	MAXIMUM	C-C	CENTER TO CENTER
OH	OVERHANG	CD	CRITICAL DIMENSION
PAG	POST ABOVE GRADE	CTA	CENTRAL TUBE AXIS
REF	REFERENCE	DIM	DIMENSION
DIA	DIAMETER	EOP	END OF PANEL
TYP	TYPICAL	HORIZ	HORIZONTAL
VERT	VERTICAL	HDG	HOT DIPPED GALVANIZED
STD	STANDARD	PLN	PLAIN
RV	RECEIVER	SWG	SWAGED
CP	CLAMP	EOT	END OF TUBE
S/C	STOCK CODE		

SHEET INDEX: FLEXTRACK S-SERIES

S1	PV MODULE SPECIFICATION SHEETS	●			
S2	1X70 RACK PLAN VIEW, ELEVATION, & NOTES	●			
S3	1X35 RACK PLAN VIEW, ELEVATION, & NOTES	●			
S4	TRACKER CONNECTIONS – DRIVE POST & SPLICE CONNECTION DETAILS	○			
S5	TRACKER CONNECTIONS – IDLER POST & VERTICAL RAIL CONNECTION DETAILS	○			
S6	TRACKER CONNECTIONS – DAMPER & PANEL CONNECTION DETAILS	○			
S7	TCU COMPONENT AND CONNECTION DETAILS	○			
		SIGN-OFF JUNE 19, 2024			
		ISSUANCE/REVISION			

LEGEND:
● ISSUED
○ REVISED, BUT NOT ISSUED

CUSTOMER APPROVAL

TILT ANGLE	TRACKER CONFIGURATIONS	SOLAR MODULE SPECIFICATION	GENERAL NOTES	SITE LOCATION	STATUS
					APPROVED
					APPROVED AS NOTED, RESUBMISSION NOT REQUIRED
					APPROVED AS NOTED, RESUBMISSION REQUIRED
					NOT APPROVED, CORRECT AND RESUBMIT

COMMENTS:

COMPLETED BY: Warren Horton DATE:

NOTE: APPROVALS ARE SUBJECT TO COMPLY WITH CONTRACT REQUIREMENTS. CUSTOMER SHALL VERIFY ALL DIMENSIONS AND CONFIGURATION AND RETURN WITH DATED SIGNATURE PRIOR TO PROCUREMENT (IF APPLICABLE) AND FINAL DRAWINGS BEING SUBMITTED.

CUSTOMER: HORTON ELECTRICAL SERVICES
0 SPENCER STREET
SUFFIEND CT, 06078

DATE: 06/19/2024	JOB #: 18661	Sheet: S0
DRAWN BY: NZ	CHECK BY? JRD	PAGE: S0 of S7

COVER SHEET

FLEXRACK by Qcells
23000 Harvard Road, Suite B
Cleveland, OH 44122

REV	DESCRIPTION	CHG. BY	DATE

Mono Multi Solutions

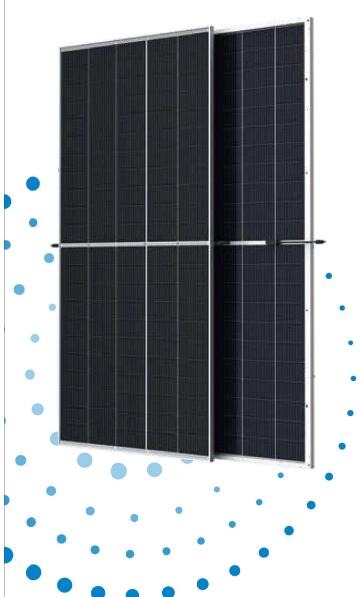
Vertex

BIFACIAL DUAL GLASS MONOCRYSTALLINE MODULE

PRODUCT: TSM-DEG19C.20

PRODUCT RANGE: 525-550W

550W+	0~+5W	21.0%
MAXIMUM POWER OUTPUT	POSITIVE POWER TOLERANCE	MAXIMUM EFFICIENCY



High customer value

- Lower LCOE (Levelized Cost Of Energy), reduced BOS (Balance of System) cost, shorter payback time
- Lowest guaranteed first year and annual degradation;
- Designed for compatibility with existing mainstream system components
- Higher return on Investment

High power Mono Perc up to 550W

- Up to 21.0% module efficiency with high density interconnect technology
- Multi-busbar technology for better light trapping effect, lower series resistance and improved current collection

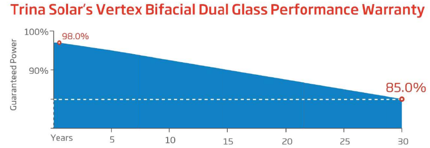
High reliability

- Minimized micro-cracks with innovative non-destructive cutting technology
- Ensured PID resistance through cell process and module material control
- Resistant to harsh environments such as salt, ammonia, sand, high temperature and high humidity areas
- Mechanical performance up to 5400 Pa positive load and 2400 Pa negative load

High energy yield

- Excellent IAM (Incident Angle Modifier) and low irradiation performance, validated by 3rd party certifications
- The unique design provides optimized energy production under inter-row shading conditions
- Lower temperature coefficient (-0.34%) and operating temperature
- Up to 25% additional power gain from back side depending on albedo

Trina Solar's Vertex Bifacial Dual Glass Performance Warranty



Comprehensive Products and System Certificates

IEC61215/IEC61730/IEC61701/IEC62716/UL61730
ISO 9001: Quality Management System
ISO 14001: Environmental Management System
ISO14064: Greenhouse Gases Emissions Verification
ISO45001: Occupational Health and Safety Management System

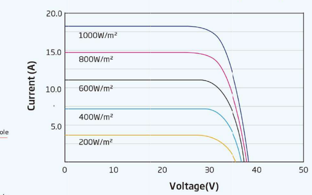
Trinasolar

Vertex

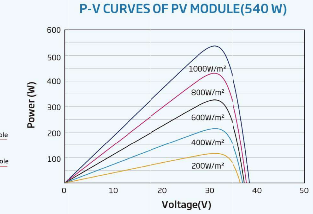
BIFACIAL DUAL GLASS MONOCRYSTALLINE MODULE

DIMENSIONS OF PV MODULE(mm)

I-V CURVES OF PV MODULE(540 W)



P-V CURVES OF PV MODULE(540 W)



ELECTRICAL DATA (STC)

Peak Power Watts-PMAX (Wp)*	525	530	535	540	545	550
Power Tolerance-PMAX (W)	0 ~ +5					
Maximum Power Voltage-VMPP (V)	30.8	31.0	31.2	31.4	31.6	31.8
Maximum Power Current-IMPP (A)	17.04	17.11	17.16	17.21	17.24	17.29
Open Circuit Voltage-VOC (V)	37.1	37.3	37.5	37.7	37.9	38.1
Short Circuit Current-ISC (A)	18.14	18.19	18.24	18.30	18.35	18.39
Module Efficiency η m (%)	20.1	20.3	20.5	20.7	20.9	21.0

STC: Irrdiance 1000W/m2, Cell Temperature 25°C, Air Mass AM1.5. *Measuring tolerance: ±3%.

Electrical characteristics with different power bin (reference to 10% Irradiance ratio)

Total Equivalent power -PMAX (Wp)	562	567	573	578	583	589
Maximum Power Voltage-VMPP (V)	30.8	31.0	31.2	31.4	31.6	31.8
Maximum Power Current-IMPP (A)	18.23	18.31	18.36	18.41	18.45	18.50
Open Circuit Voltage-VOC (V)	37.1	37.3	37.5	37.7	37.9	38.1
Short Circuit Current-ISC (A)	19.41	19.45	19.52	19.58	19.63	19.68
Irradiance ratio (rear/front)	10%					

Power Bifaciality:70±5%.

ELECTRICAL DATA (NOCT)

Maximum Power-PMAX (Wp)	398	401	405	409	413	416
Maximum Power Voltage-VMPP (V)	28.6	28.8	29.0	29.2	29.4	29.5
Maximum Power Current-IMPP (A)	13.88	13.93	13.97	14.02	14.08	14.10
Open Circuit Voltage-VOC (V)	35.0	35.1	35.3	35.5	35.7	35.9
Short Circuit Current-ISC (A)	14.62	14.65	14.70	14.75	14.79	14.82

NOCT: Irradiance at 800W/m², Ambient Temperature 20°C, Wind Speed 1m/s.

MECHANICAL DATA

Solar Cells	Monocrystalline
No. of cells	110 cells
Module Dimensions	2384×1096×35 mm (93.86×43.15×1.38 inches)
Weight	32.6 kg (71.9 lb)
Front Glass	2.0 mm (0.08 inches), High Transmission, AR Coated Heat Strengthened Glass
Encapsulant material	EVA/POE
Back Glass	2.0 mm (0.08 inches), Heat Strengthened Glass (White Grid Glass)
Frame	35mm(1.38 inches) Anodized Aluminium Alloy
J-Box	IP 68 rated
Cables	Photovoltaic Technology Cable 4.0mm² (0.006 inches²), Portrait: 280/280 mm(11.02/11.02 inches) Landscape: 1400/1400 mm(55.12/55.12 inches)
Connector	TS4

TEMPERATURE RATINGS

NOCT (Nominal Operating Cell Temperature)	43°C (±2°C)
Temperature Coefficient of PMAX	- 0.34%/°C
Temperature Coefficient of VOC	- 0.25%/°C
Temperature Coefficient of ISC	0.04%/°C

MAXIMUMRATINGS

Operational Temperature	-40~+85°C
Maximum System Voltage	1500V DC (IEC)
	1500V DC (UL)
Max Series Fuse Rating	35A

WARRANTY

12 year Product Workmanship Warranty
30 year Power Warranty
2% first year degradation
0.45% Annual Power Attenuation

(Please refer to product warranty for details)

PACKAGING CONFIGUREATION

Modules per box: 31 pieces
Modules per 40' container: 620 pieces

Trinasolar

CAUTION: READ SAFETY AND INSTALLATION INSTRUCTIONS BEFORE USING THE PRODUCT.

Version number: TSM_EN_2020_APAC_A
www.trinasolar.com

CUSTOMER: HORTON ELECTRICAL SERVICES
0 SPENCER STREET
SUFFIEND CT, 06078

DATE: 06/19/2024 | JOB #: 18661 | DRAWN BY: NZ | CHECK BY?: JRD | PAGE: S1 of S7 | Sheet S1

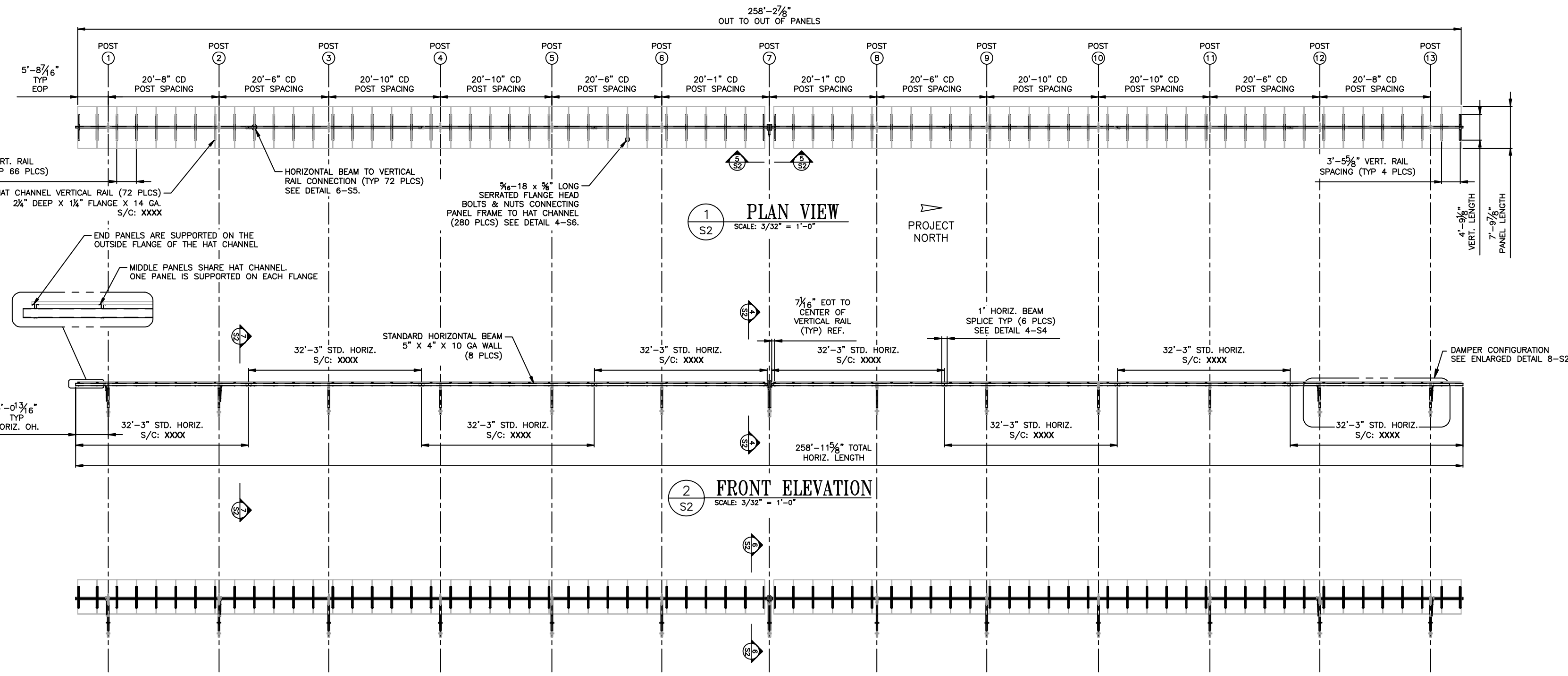
PV MODULE SPECIFICATION SHEETS

FLEXRACK by Qcells
23000 Harvard Road, Suite B
Cleveland, OH 44122

REV | DESCRIPTION | CHG. BY | DATE

EXHIBIT B

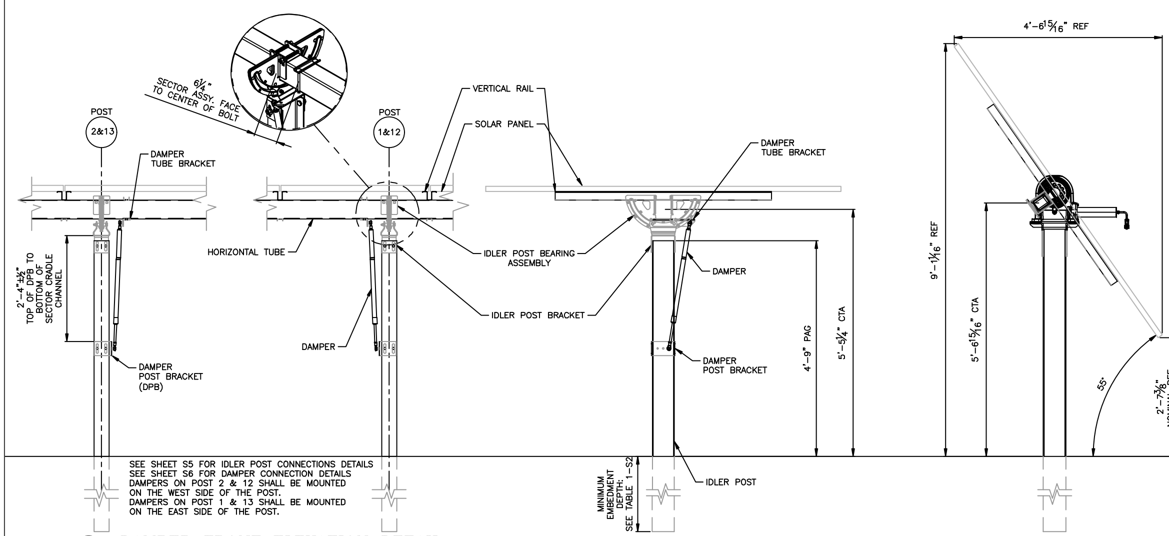
Final Structural Design



1 PLAN VIEW (S2) SCALE: 3/32" = 1'-0"

2 FRONT ELEVATION (S2) SCALE: 3/32" = 1'-0"

3 FRONT ELEVATION - 55° (S2) SCALE: 3/32" = 1'-0"



SEE SHEET S5 FOR IDLER POST CONNECTIONS DETAILS
SEE SHEET S6 FOR DAMPER CONNECTION DETAILS
DAMPERS ON POST 2 & 12 SHALL BE MOUNTED ON THE WEST SIDE OF THE POST.
DAMPERS ON POST 1 & 13 SHALL BE MOUNTED ON THE EAST SIDE OF THE POST.

8 DAMPER FRONT ELEVATION DETAIL (S2) SCALE: 3/4" = 1'-0"

7 IDLER POST DAMPER SECTION VIEW - 0° (S2) SCALE: 3/4" = 1'-0"

6 DRIVE POST SECTION VIEW - 55° (S2) SCALE: 3/4" = 1'-0"

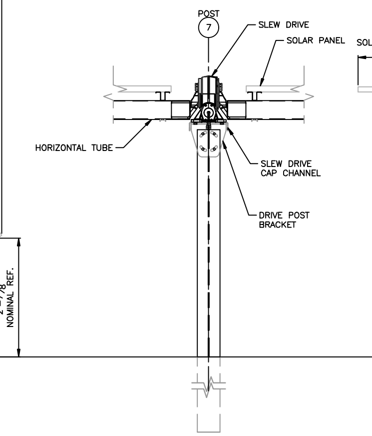
*LESSER PAG MAY BE USED IF MIN GROUND CLEARANCE AT FULL TILT CAN BE MAINTAINED.

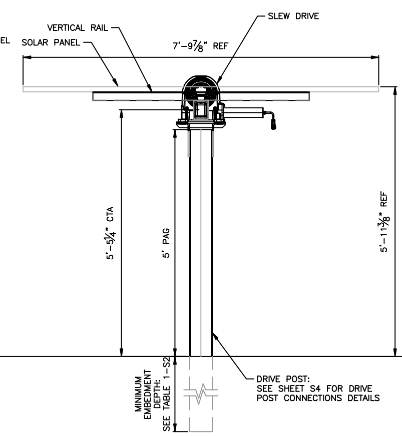
**NOMINAL DIMENSIONS SHOWN. DIMENSIONS FROM GROUND SURFACE MAY VARY WITH UNDULATION IN GRADE AS WELL AS WHEN THE PAG DIMENSION IS ALTERED AS PRESCRIBED.

NOTE: RANGE OF POST ABOVE GRADE GIVEN TO ASSIST WITH UNDULATIONS IN GRADE.

TABLE 1-S2 POST INFORMATION

POST TYPE	POST SIZE	S/C	LENGTH	MAX PAG	MIN PAG*	MIN EMBEDMENT
DRIVE	W6X20	XXXX	TBD	5'-6"	4'-6"	TBD
DRIVE	W6X20	XXXX	TBD	6'-6"	4'-3"	TBD
IDLER	W6X7	XXXX	TBD	5'-3"	4'-3"	TBD
IDLER	W6X9	XXXX	TBD	6'-3"	4'-3"	TBD





4 DRIVE POST SECTION VIEW - 0° (S2) SCALE: 3/4" = 1'-0"

5 DRIVE POST FRONT ELEVATION VIEW (S2) SCALE: 3/4" = 1'-0"

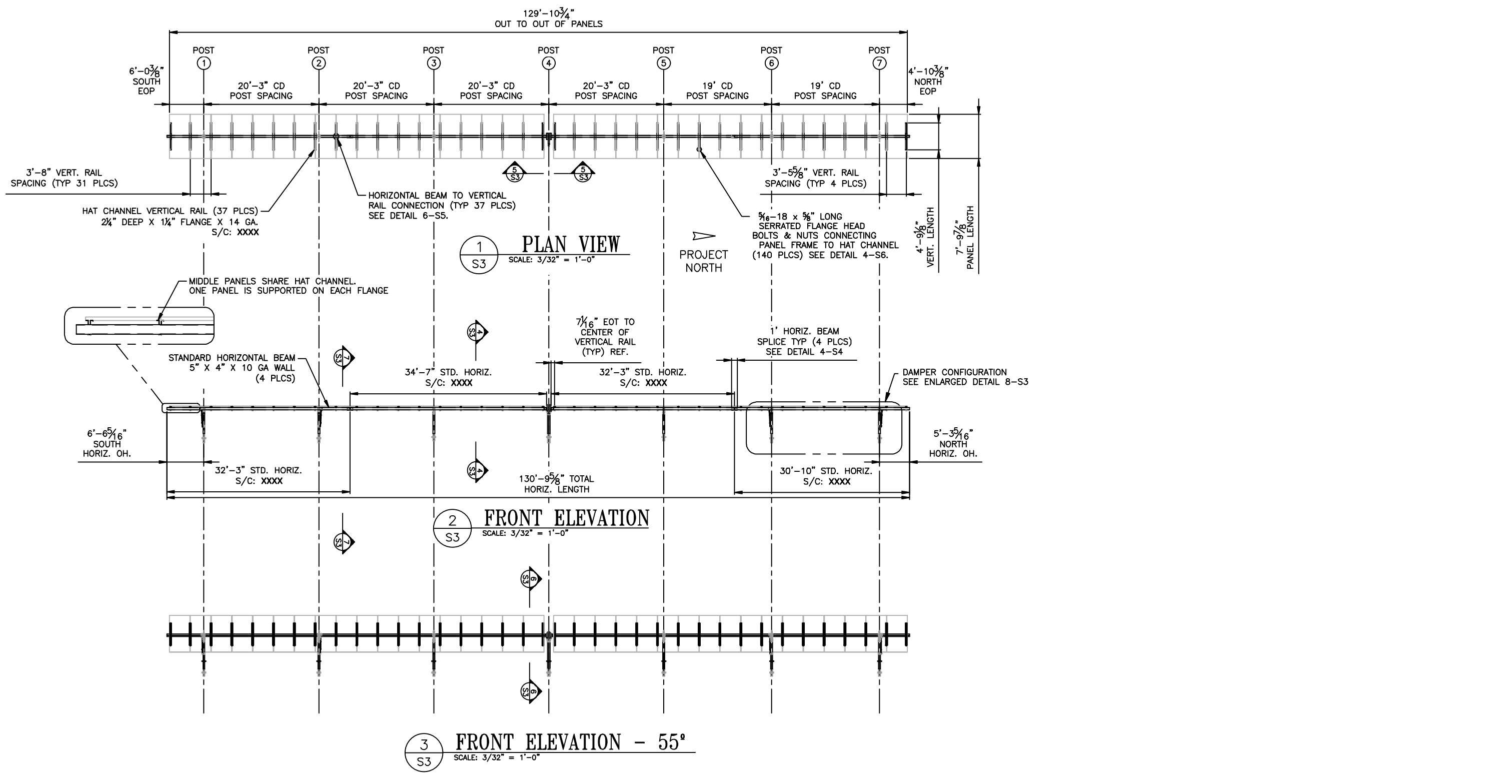
CUSTOMER: HORTON ELECTRICAL SERVICES
0 SPENCER STREET
SUFFIEND CT, 06078

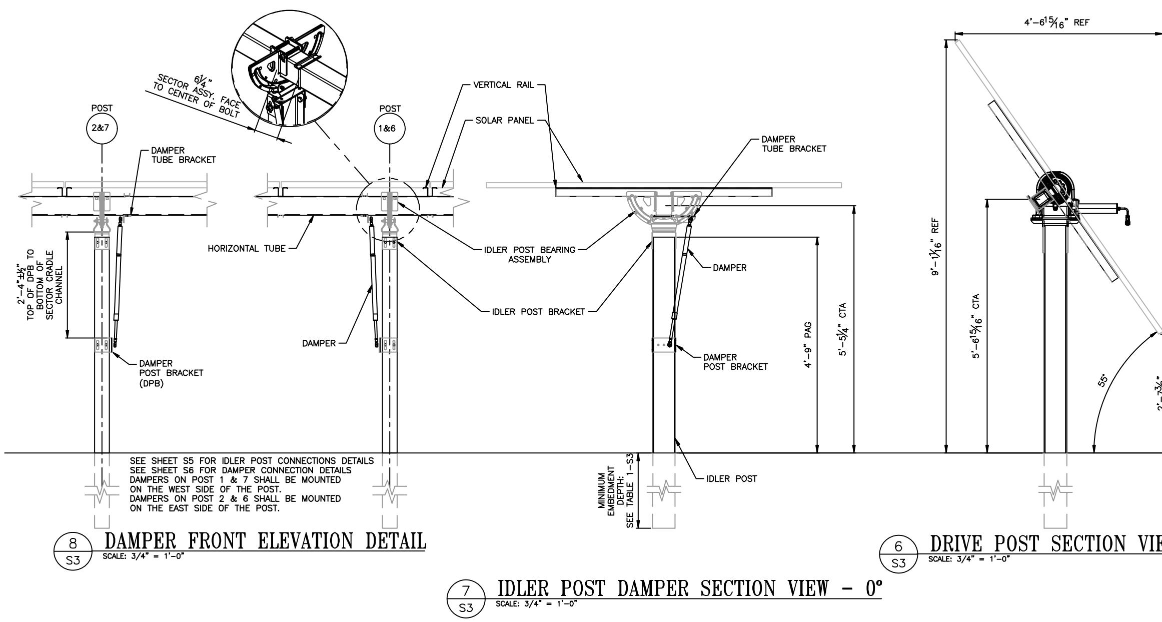
DATE: 06/19/2024	JOB #: 18661	Sheet: S2
DRAWN BY: NZ	CHECK BY? JRD	PAGE: S2 of S7

TSM-540-DEG19C.20 540W
1X70 FLEXTRACK S-SERIES
TRACKER QUANTITY: 31

FLEXRACK by Qcells
23000 Harvard Road, Suite B
Cleveland, OH 44122

REV	DESCRIPTION	CHK. BY	DATE





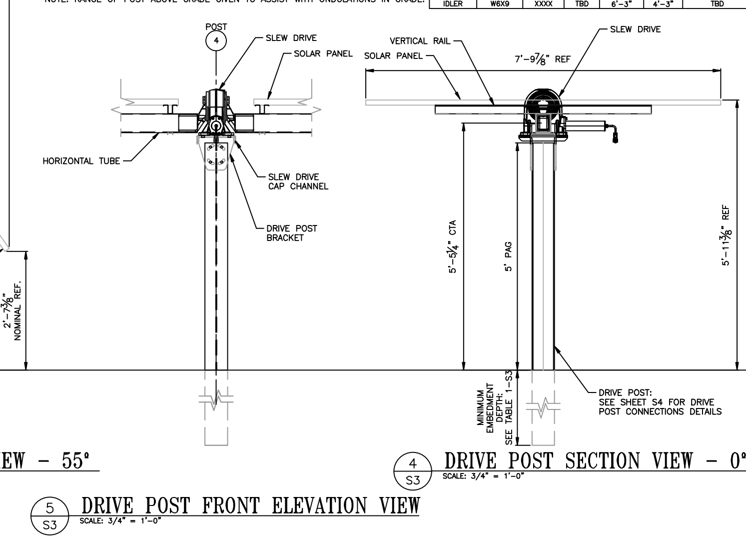
*LESSER PAG MAY BE USED IF MIN GROUND CLEARANCE AT FULL TILT CAN BE MAINTAINED.

**NOMINAL DIMENSIONS SHOWN. DIMENSIONS FROM GROUND SURFACE MAY VARY WITH UNDULATION IN GRADE AS WELL AS WHEN THE PAG DIMENSION IS ALTERED AS PRESCRIBED.

NOTE: RANGE OF POST ABOVE GRADE GIVEN TO ASSIST WITH UNDULATIONS IN GRADE.

TABLE 1-S3 POST INFORMATION

POST TYPE	POST SIZE	S/C	LENGTH	MAX PAG	MIN PAG*	MIN EMBEDMENT
DRIVE	W6X20	XXXX	TBD	5'-6"	4'-6"	TBD
DRIVE	W6X20	XXXX	TBD	6'-6"	4'-3"	TBD
IDLER	W6X7	XXXX	TBD	5'-3"	4'-3"	TBD
IDLER	W6X9	XXXX	TBD	6'-3"	4'-3"	TBD



CUSTOMER: HORTON ELECTRICAL SERVICES
0 SPENCER STREET
SUFFIEND CT, 06078

DATE:	JOB #:	Sheet
06/19/2024	18661	S3
DRAWN BY: NZ	CHECK BY? JRD	PAGE: S3 of S7

TSM-540-DEG19C.20
1X35 FLEXTRACK S-SERIES
TRACKER QUANTITY: 12

FLEXRACK by Qcells
23000 Harvard Road, Suite B
Cleveland, OH 44122

REV	DESCRIPTION	CHG. BY	DATE

EXHIBIT C

Phase 1B Survey

June 25, 2024

Dr. Gregory F. Walwer
Archaeological Consulting Services
118 Whitfield Street
Guilford, CT 06437
(sent only via email to acsinfo@yahoo.com)

Subject: Cultural Resources Reconnaissance Survey of a Proposed Solar Development
0 Spencer Street
Suffield, Connecticut

Dear Dr. Walwer:

The State Historic Preservation Office (SHPO) received the technical report prepared by Archaeological Consulting Services (ACS) titled *Phase I Archaeological Reconnaissance Survey: Proposed Solar Photovoltaic Array, Spencer Street, Town of Suffield, Connecticut* dated June 2024. The completed investigation meets the standards set forth in the *Environmental Review Primer for Connecticut's Archaeological Resources*. SHPO understands that the proposed project will consist of the construction of a new solar facility including an access road and associated infrastructure at the referenced address. Because the project will require approval from the Connecticut Siting Council, it is subject to review by this office.

A cultural resources reconnaissance survey of the Area of Potential Effect (APE) for the project was completed by ACS in May/June of 2023 and June of 2024. The investigation included comprehensive background research that examined historic maps and aerial imagery as well as previously identified cultural resources located in proximity to the APE. The review identified four previously reported archaeological sites and a single National Register of Historic Places (NRHP) listed district (Suffield Historic District) within one mile of the project area.

During survey, 33 planned shovel tests were excavated at 15-meter intervals along transects placed 15 meters apart throughout portions the APE determined to retain archaeological sensitivity through a previously completed archaeological assessment survey. The field effort resulted in the recovery of 15 Postcontact Period artifacts from five shovel tests placed in the vicinity of identified remnants of an outbuilding. Recovered cultural material consisted of three wire nails, two indeterminate nail fragments, two fasteners, a metal rod, a metal plate fragment, and three window glass shards. Identified outbuilding remnants consisted of concrete pillars indicating the structure measured approximately 16 feet by 48 feet in area. ACS determined that the identified archaeological deposits and associated structural remains lacked research potential and were not eligible for listing on the NRHP. Based on the information submitted to this office, it is the opinion of SHPO that <u>no historic properties will be affected</u> by the proposed solar facility and no additional archaeological investigation is warranted. This comment is conditional upon the submission of two bound copies of the final report; one will be kept for use in the office and the other will be transferred to the Thomas J. Dodd Research Center at the University of Connecticut (Storrs) for permanent archiving and public accessibility.

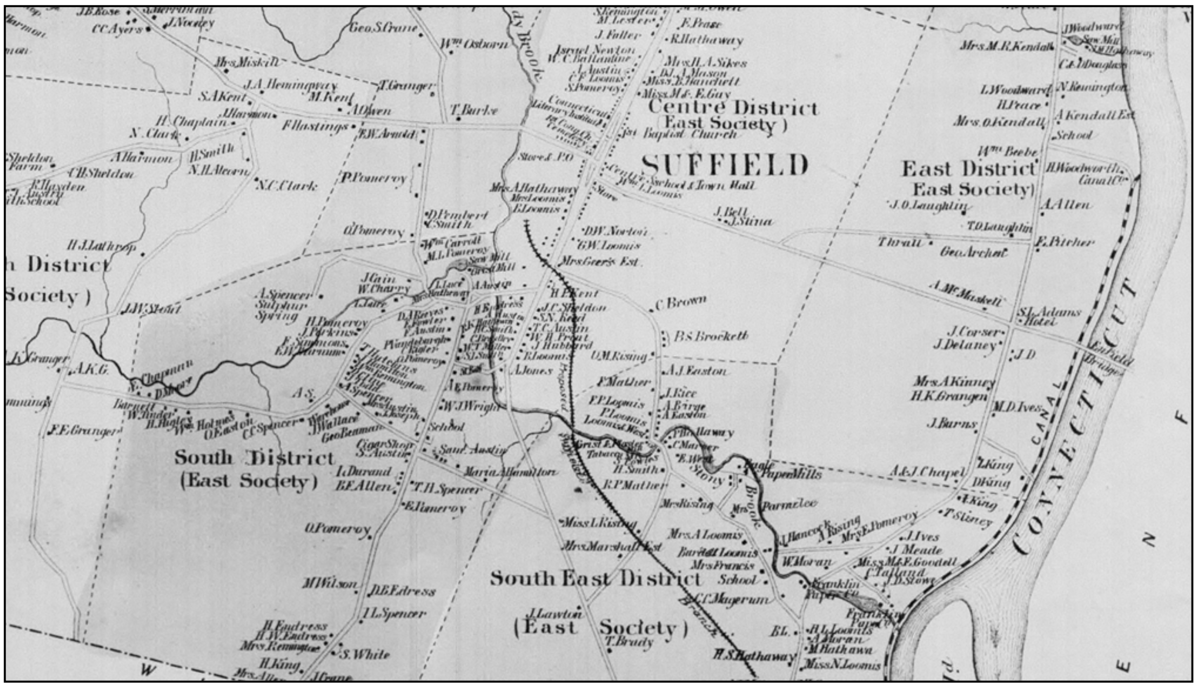
This office appreciates the opportunity to review and comment upon this project. Do not hesitate to contact Cory Atkinson, Staff Archaeologist and Environmental Reviewer, for additional information at (860) 500-2458 or cory.atkinson@ct.gov.

Sincerely,

Jonathan Kinney
State Historic Preservation Officer

Phase I Archaeological Reconnaissance Survey
Proposed Solar Photovoltaic Array
Spencer Street
Town of Suffield, Connecticut

June, 2024



ACS

◆ ***Archaeological Consulting Services*** ◆

Phase I Archaeological Reconnaissance Survey
Proposed Solar Photovoltaic Array
Spencer Street
Town of Suffield, Connecticut

by

Gregory F. Walwer, Ph.D.
and
Dorothy N. Walwer, M.A.

of

ACS

for

Solli Engineering
501 Main Street, Suite 2A
Monroe, CT 06468
(203) 880-5455

June, 2024

ACS
◆ ***Archaeological Consulting Services*** ◆
118 Whitfield Street
Guilford, Connecticut 06437
(203) 458-0550
www.acsarchaeology.com
acsinfo@yahoo.com

Abstract

This report contains the results of a Phase Ib archaeological reconnaissance survey conducted by ACS (Archaeological Consulting Services) during the month of June, 2024, following a Phase Ia archaeological assessment survey conducted a year prior. The project calls for an evaluation of potential cultural resources to be affected by the construction of a solar farm on a property that measures about 12 acres in Suffield, Connecticut. The project property consists of one lot on the south side of Spencer Street in south-central Suffield in the Suffield Depot part of town. The project is being coordinated by Solli Engineering, a civil engineering firm based in Monroe, Connecticut. Solli supplied site plans which show the proposed development and existing conditions. The project is subject to review by the Connecticut Siting Council and the Connecticut State Historic Preservation Office (SHPO).

Background research indicates a low sensitivity for potential prehistoric cultural resources, with a statistical prehistoric landscape sensitivity model developed and utilized by ACS indicating a high score of only 5.9 out of a potential 100.0, and therefore within the low sensitivity range (0-20). The low score can be attributed to moderately drained, fine particle soil contexts and considerable distance to the nearest major water source, which is Spencer Brook, a minor tributary of a low order stream about one-quarter mile to the west. The property bears a higher sensitivity for historic cultural resources, given its location on Spencer Street that was occupied during the 19th century and likely earlier.

Land records and historic maps indicate the presence of a substantial Spencer family occupation to the west of the project property on Hale Street near its intersection with Spencer Street, with other Spencer family homes along Spencer Street to the north and east. The property just west of the project area contained a substantial cluster of outbuildings, including a "warehouse" on historic maps that likely relates to tobacco farming in the area. One of the lesser outbuildings was a shed located at the northwest corner of the project property, mostly outside the bounds of the project area according to a late historic survey map. Because of the possibility that previous historic occupations could have been located elsewhere on Spencer Street, and the known existence of the late historic outbuildings at or near the northwest corner of the project property, ACS recommended a Phase Ib archaeological reconnaissance survey, limited to an area within 300 feet of Spencer Street and within the project impact area, prior to any construction activities and subject to review by SHPO.

For the Phase Ib archaeological reconnaissance survey, ACS excavated 33 subsurface shovel tests in standard 50-foot intervals within the project area and 300 feet of Spencer Street. The remains of the anticipated outbuilding were located at the northwest corner of the project area within a thick tree line on the south side of Spencer Street. Structural remains include four concrete piers or footings for a structure that likely measured 16 by 48 feet and set perpendicular to Spencer Street, as well as original timbers and asphalt roofing shingles. Utility pipes leading to the shed were observed, as well as an oxidized steel drum. There were 15 late historic artifacts collected for the survey, including wire nails, window glass, and heavily oxidized metal items from the outbuilding area, and whiteware ceramic sherd, clear glass bottle fragment, and coal in immediate surrounding tests. The artifacts are late historic in origin, and the remains of the outbuilding are not significant. ACS therefore recommends no further archaeological conservation efforts for the proposed project.

Project Summary

Project Name: Proposed Solar Photovoltaic Array, Spencer Street, Suffield, Connecticut.

Project Purpose: To investigate possible cultural resources which may be impacted by the construction of a solar farm in Suffield, Connecticut, in compliance with requirements of the Connecticut Siting Council and the Connecticut State Historic Preservation Office.

Project Funding: Tritec Americas, LLC, La Jolla, California.

Project Location: Spencer Street, Suffield, Connecticut.

Project Size: ~11.7 acres (project property).

Investigation Type: Phase Ia archaeological assessment survey; Phase Ib archaeological reconnaissance survey.

Investigation Methods: Background research, pedestrian surface survey, 33 subsurface shovel tests.

Dates of Investigation: May to June, 2023; June, 2024.

Performed by: ACS (Archaeological Consulting Services), 118 Whitfield Street, Guilford, Connecticut 06437, (203) 458-0550 (telephone), (203) 672-2442 (fax), acsinfo@yahoo.com.

Principal Investigators: Gregory F. Walwer, Ph.D. and Dorothy N. Walwer, M.A.

Submitted to:

Solli Engineering (Eric Labatte, Director of Operations), 501 Main Street, Suite 2A, Monroe, CT 06468, (203) 880-5455.

Connecticut Office of State Archaeology (Dr. Sarah Sportman, State Archaeologist), University of Connecticut, 354 Mansfield Road, Storrs, Connecticut 06269-1176, (860) 486-5248.

Reviewing Agency:

Connecticut State Historic Preservation Office (Catherine Labadia, Staff Archaeologist), 450 Columbus Boulevard, Hartford, Connecticut 06103, (860) 500-2329.

Recommendations: Phase Ib archaeological reconnaissance survey of areas to be impacted within 300 feet of Spencer Street revealed a low density of late historic material, remains of outbuilding at northwest corner of project area are late historic and not significant.

Table of Contents

CHAPTER 3: METHODOLOGY

CHAPTER 4: RESULTS

CHAPTER 5: CONCLUSION

APPENDICES

List of Figures

CHAPTER 1: INTRODUCTION

Project Description

This report provides the results of a Phase Ib archaeological reconnaissance survey conducted by ACS in June, 2024 for the planned development of a solar voltaic array, or solar farm, in Suffield, Hartford County, Connecticut (Figure 1). The reconnaissance survey follows a Phase Ia archaeological assessment surey conducted by ACS for the project in May and June, 2023, during which ACS determined that the project area bears a moderate sensitivity for potential historic cultural resources. The owner of the project is TRITEC Americas, LLC of La Jolla, California. The project is located within a single lot, listed with the Suffield tax assessor as Lot 59 on Tax Map 30, Block 25, measuring 11.7 acres. The project area itself is limited to the bulk of the lot, which contains a cleared farm field (Figure 2). The project area is in southern Suffield, in the Suffield Depot part of town. The project property contains no existing structures.

ACS was contacted by Solli Engineering, a civil engineering firm based in Monroe, Connecticut to conduct the archaeological assessment survey for the project. Solli supplied ACS with a survey map, indicating that the survey was likely required for review by the Connecticut State Historic Preservation Office (SHPO) and Connecticut Siting Council. The survey map shows existing conditions, including topography and wetlands, as well as the location of the proposed development.

ACS conducted the assessment and reconnaissance surveys in conformance with the *Environmental Review Primer for Connecticut Archaeological Resources* issued by SHPO. The assessment survey evaluated the potential need, if any, for a Phase Ib archaeological reconnaissance survey. The archaeological assessment survey consisted of a thorough background research effort and pedestrian surface survey to evaluate the potential sensitivity of the project area for any prehistoric and/or historic cultural resources. Because of moderate historic sensitivity due to proximity to the historic course of Spencer Street, and historically mapped outbuildings near the northwest corner of the proposed development, relatively saturated systematic subsurface testing was conducted within the project area and within 300 feet of Spencer Street.

Figure 1: Map of the Project Area

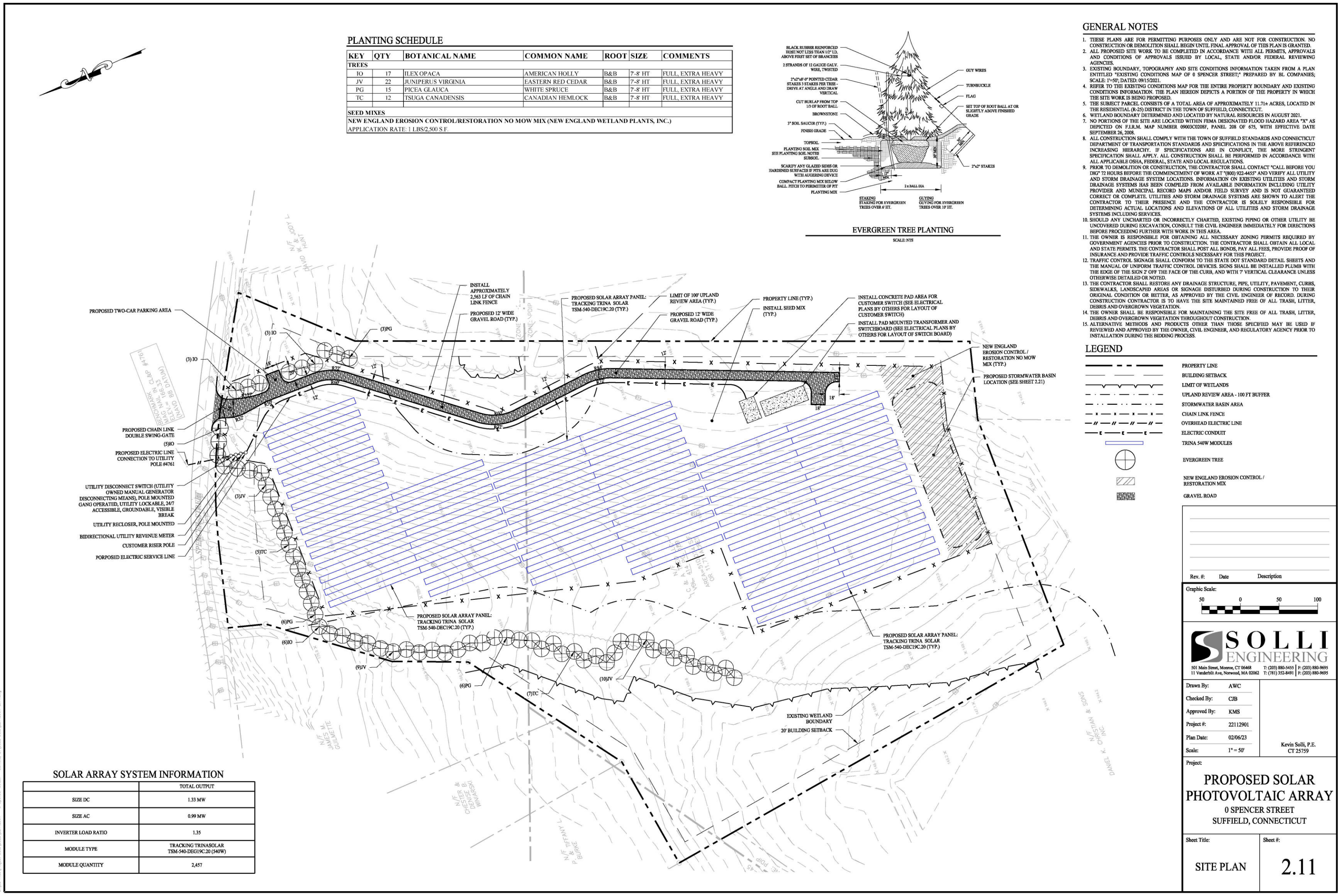


Figure 1: Map of the project area, from site plans drafted by Solli Engineering. Scale 1:2,400 (1" = 200').

Figure 2: USGS 7.5' Topographic Map, Windsor Locks Quadrangle

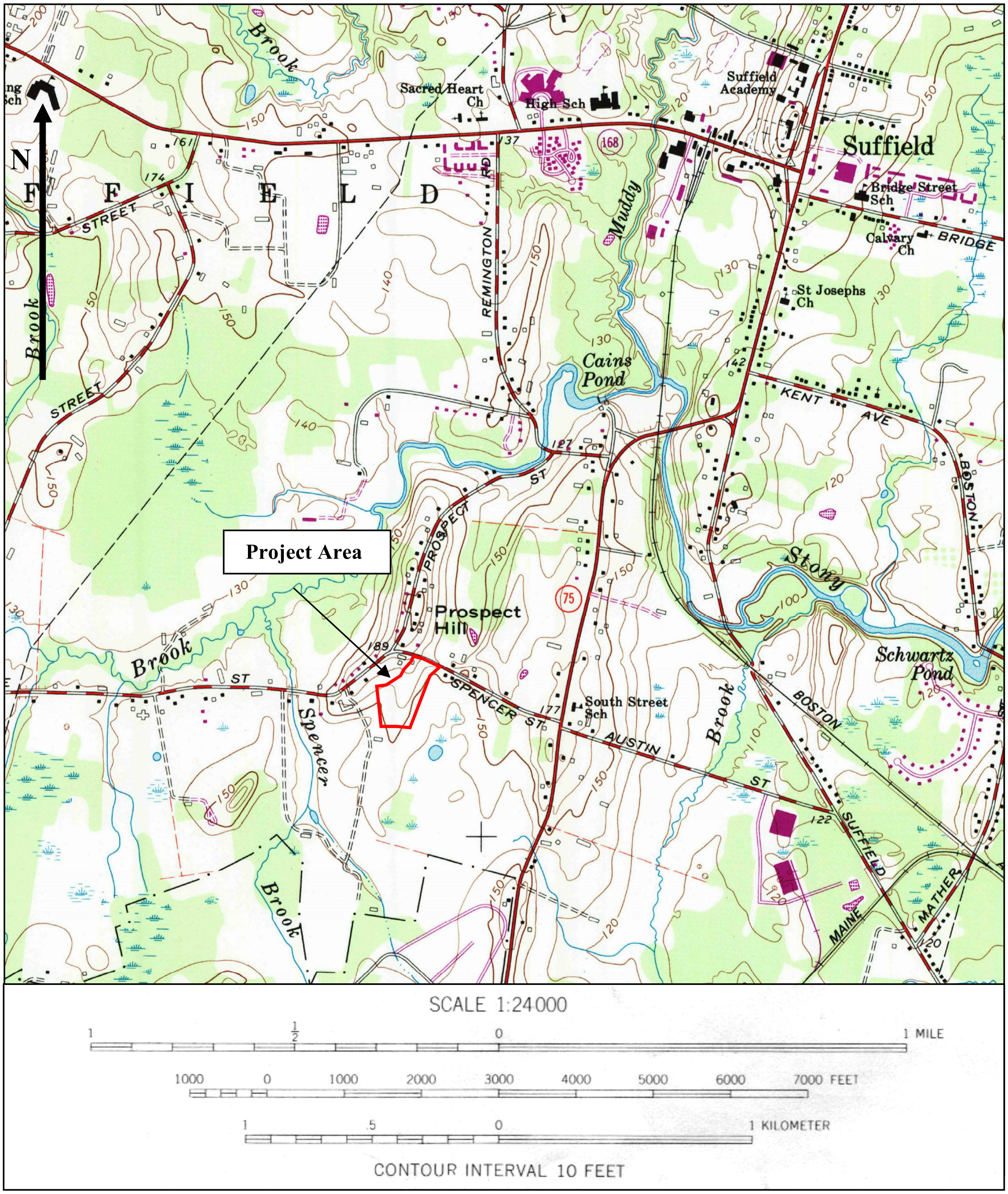


Figure 2: From USGS 1984.

CHAPTER 2: BACKGROUND

Environmental Setting

The project area is located in the Town of Suffield, Hartford County, Connecticut. The project setting is in the North-Central Lowlands (III-B) ecoregion of Connecticut (Dowhan and Craig 1976). The project area lies in the southern part of Suffield in the Suffield Depot section of town, to the west of Route 72 and to the north of Bradley International Airport. The parcel is undeveloped other than the farm field in the bulk of the lot where the solar array will be based.

Underlying bedrock is a massive unit of Portland Arkose (Jp), a Jurassic formation on the order of 210 to 150 million years old (Rodgers 1985). The arkose unit is a sedimentary formation that resulted from the failure of a tectonic rift forming the central lowlands of the state. Bedrock dips are modest, on the order of 10 to 15 degrees to the east. The property is set on a glacial moraine setting (Stone et al. 1992), with a core taken from a nearby moraine revealing 42 feet of till above bedrock. Elevations in the project area vary from about 180 feet above mean sea level in the northwest corner to about 150 feet above mean sea level in the southeast corner, with a gentle slope from northwest to southeast. The project is set within an open farm field part of the property that contains some scrub growth at the western and eastern ends. There are no wetlands within the project area, which is set within the broader Stony Brook (#4100) drainage basin (McElroy 1991). Spencer Brook is a perennial stream tributary of Stony Brook that courses north and empties into Stony Brook about one-quarter mile to the west, while Stony Brook flows east and empties into the Connecticut River several miles to the east.

The moraine supporting the project area is dominated by soil units of Broadbrook silt loam (82B / 82C) (Figure 3) (Shearin and Hill 1962; USDA NRCS websoil survey 2023). Typical soil profiles for Broadbrook silt loam includes a surface layer of brown to dark brown (10YR 4/3 - 3/3) silt loam eight inches thick, followed by subsoil layers of dark brown (7.5YR 4/4) silt loam to 18 inches and yellowish brown (10YR 5/4 and yellowish brown with gray streaks) to about two feet below the surface, and a substratum of reddish brown (5YR 4/4) and dark reddish brown (5YR3/4) compact and gravelly fine sandy loam to four feet deep or more. The well drained soil has a high moisture capacity and is slow to dry out, thus it is suitable for growing crops. The moraine supporting the project area is flanked by wetter soils of poorly drained Scitico, Shaker, and Maybrid units (9).

Figure 3: USDA Websoil Survey Map

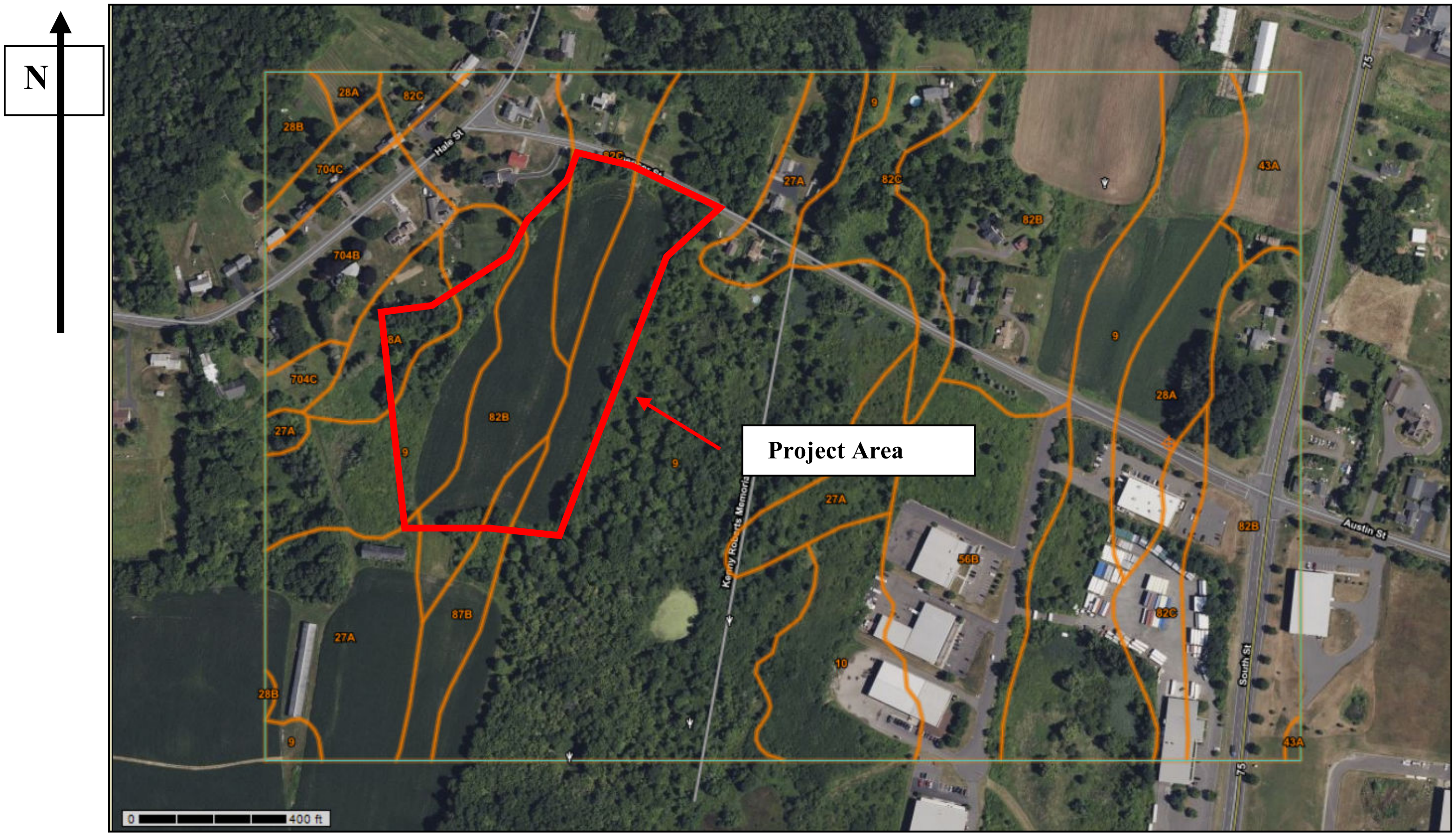


Figure 3: From USDA NRCS websoil survey.

Cultural Setting

Regional Prehistory

The prehistory of the project region and New England in general can be broadly divided into periods reflecting changes in environment, Native American subsistence and settlement patterns, and the material culture which is preserved in the archaeological record (Table 1). Although it remains controversial today, the conservative estimates for the first occupations of North America are about 18,000 to 15,000 years ago, just after the maximum extent of the last glaciation and the broadest extent of the Bering land bridge (Kehoe 1981:7; Parker 1987:4; Jennings 1989:52). Southern Connecticut itself remained glaciated until about 15,200 B.P. (Snow 1980:103; Gordon 1983:71; Parker 1987:5; McWeeney 1994:181, 1999:6).

Paleo-Indian

The Paleo-Indian period is documented in Connecticut after 13,000 years ago and extends to roughly 9,500 B.P. (Swigart 1974; Snow 1980:101; Lavin 1984:7; Moeller 1984, 1999). The earliest radiocarbon date in Connecticut was secured recently at the Brian D. Jones site, at about 12,500 B.P. (Leslie and Sportman 2020). An unpublished date of 12,600 B.P. was also obtained from the site (Sportman pers. comm. 2022). This was a period of climatic amelioration from full glacial conditions, and a rise in sea levels which fell short of inundating the continental shelf. It was during this time that tundra vegetation was replaced by patches of boreal forests dominated by spruce trees (Snow 1980:114; Parker 1987:5-6), and eventually white pine and several pioneering deciduous genera (McWeeney 1994:182, 1999:7). Early in the period, the environment was conducive to the existence of large herbivores and , although a low population density of humans who procured these animals as a major subsistence resourcewarming temperatures and denser forests contributed to their extinction. The projected social and settlement patterns are those of small bands of semi-nomadic or restricted wandering people who hunted mammoth, mastodon, bison, elk, caribou, musk ox, and several smaller mammals (Ritchie 1969:10-11; Snow 1980:117-120). Episodes of sparse vegetation during this period encouraged the use of high lookout points over hollows and larger valleys by people in pursuit of large game. The southern part of New England had an earlier recovery from glacial conditions when compared to areas to the north, however, with a higher density of vegetation that might have precluded Paleo-Indians of Connecticut from focussing heavily on the larger mammals (McWeeney 1994:182).

The cultural material associated with this period includes large to medium-sized, fluted projectile points (cf. Clovis), in addition to knives, drills, pieces esquillees and gravers, scrapers, perforators, awls, abraders, spokeshaves, retouched pieces, utilized flakes, and hammerstones (Wilbur 1978:5; Snow 1980:122-127; Moeller 1980). Although numerous finds from this period have been found in Connecticut, only a few, small *in situ* sites exist throughout the state. Finds tend to be located near very large streams in the lower Connecticut River Valley, and in rockshelters of other regions (McBride 1981). A survey performed by the Connecticut Office of State Archaeology and the Archaeological Society of Connecticut resulted in the documentation of 53 Paleo-Indian "find spots" in Connecticut (Bellantoni and Jordan 1995), while a more updated research survey indicates up to 72 locations and sites (Bouchard 2014). Many more sites have likely been eradicated by rising sea levels since the Paleoindian period (Anderson 2001).

Early Archaic

The Early Archaic period lasted from approximately 9,500 B.P. to 7,500 B.P. (Snow 1980:159; Lavin 1984:9; Moeller 1984). Sea levels and temperatures continued to rise during this period as denser stands of forests dominated by pine and various deciduous species replaced the vegetation of the former period (Davis 1969:418-419; Snow 1980:114; Parker 1987:9; McWeeney 1994:184-185, 1999:8-9). This environmental change was rapid and caused a major shift in the animals it supported, including deer, moose, other small to medium-sized mammals, migratory birds, fish, and shellfish. The material culture changed along with the environmental conditions to include the atlatl and smaller stemmed and bifurcated projectile points (Stanly, cf. Kanawha and Lecroy) for procuring smaller, faster game in more closed settings (Wilbur 1978:6-7). The expanded tool set included choppers and anvil stones. Settlement patterns were probably becoming more territorialized towards a central-based wandering character (Snow 1980:171; see also Forrest 1999). The Early Archaic period is poorly represented in Connecticut and the lower coastal river valleys, probably resulting from a combined effect of low population densities in response to rapidly changing environmental conditions, as well as site location and preservation factors (Snow 1980:168; McBride 1981; McBride and Dewar 1981:45; Lavin 1984:9; McWeeney 1986; see also Forrest 1999).

Middle Archaic

The Middle Archaic period extended from approximately 7,500 B.P. to 6,000 B.P. (Snow 1980:173; Lavin 1984:9; McBride 1984; Jones 1999). It was by the end of this period of increased warming that sea levels and coastal configurations had stabilized and approached their present conditions (Kehoe 1981:211; Gordon 1983:82; Parker 1987:9). The period is marked by the establishment of forests with increasing proportions of deciduous hardwoods in relation to the pine predecessors in Connecticut (Davis 1969; Snow 1980:114; McWeeney 1999:10). The material culture included square or contracting-stemmed points (Neville, Stark, and Merrimac), semi-lunar groundstone knives, ground and winged banner stones for atlatls, plummets for nets, gouges, denticulates, perforators, percussed celts and adzes and grooved axes for woodworking (Snow 1980:183-184), as well as tools used in previous periods. This more extensive range of material culture indicates a broader subsistence base than in previous periods, including greater fish and shellfish procurement (Wilbur 1978:8; Snow 1980:178-182) which was associated with the stabilization of sea levels towards the end of the period. The increased breadth of subsistence resources had the effect of increasing scheduling efforts and may have caused settlement patterns to take on more of a central-based or seasonally circulating pattern with bands joining and dispersing on a seasonal basis (Snow 1980:183). Sites found in the lower Connecticut River Valley region suggest that a wider range of environments and associated site types were exploited, including both large and special task sites in upland areas (McBride 1981, 1984:56). This regional pattern may confirm the suggested settlement pattern of central-based, seasonally circulating or restricted circulating groups of people supported by logistical procurement sites throughout the state. Middle Archaic sites are fairly rare in Connecticut, again a combined product of rising sea levels and poor site preservation (see Forrest 1999).

Late Archaic

The Late Archaic period ranged from approximately 6,000 B.P. to 3,700 B.P. (Snow 1980:187; Lavin 1984:11; McBride 1984; Pfeiffer 1984; Cassedy 1999). This period is marked by a warm-dry maximum evident from pollen cores in the region (Davis 1969:414; Ogden 1977). Hardwood, oak-dominated forests very similar in character to ones established today covered most of Connecticut by the Late Archaic (Parker 1987:10). The Late Archaic in Connecticut has been divided into two traditions: the Laurentian and the Narrow Point (Lavin 1984:11), with the former perhaps being distributed more in the interior. The Laurentian tradition is defined by wider-bladed, notched and eared triangular points, and ground slate points and ulus, while the Narrow Point tradition includes smaller, thicker, and narrower points. The tool kit and general material culture became even more expanded during this period, with the advent of ground stone manos, nut mortars, pestles, and bowls, as well as stone pipes, bone tools, corner-notched (Vosburg, Brewerton, and Vestal), side-notched (Otter Creek, Brewerton, Normanskill), smaller narrow-stemmed (Dustin, Lamoka, Squibnocket, and Wading River), and triangular points (Squibnocket, Brewerton, and Beekman), grooved and perforated weights, fish weirs and harpoons, and decorative gorgets (Wilbur 1978:15-24; Snow 1980:228-231). The groundstone material has been inferred as being associated with an increased vegetable diet that consisted of berries, nuts, and seeds (Snow 1980:231; Lavin 1984:13), including acorn, butternut, chestnut, walnut, hickory, bayberry, blackberry, goose foot, cranberry, partridge berry, service berry, strawberry, and swamp current (Cruson 1991:29). Deer continued to be the predominant meat source, although animal remains recovered from archaeological sites in the region include black bear, raccoon, woodchuck, rabbit, otter, gray squirrel, red fox, gray fox, wolf, wild turkey, grouse, pigeon, migratory fowl, and anadromous and freshwater fish and shellfish (Cruson 1991:28-29). Various sea mammals and fish were procured along the coast.

The increasing breadth of the subsistence base and material culture was in turn associated with a central-based settlement pattern in which a restricted range of seasonally scheduled and used areas were exploited in a more semi-sedentary fashion than previously (Lavin 1984:13; Dincauze 1990:25). Sites in the lower Connecticut River Valley suggest that the larger rivers served more as long-term bases within a central-based circulating system than in the Middle Archaic (McBride 1981; McBride and Dewar 1981:48). The interior uplands of Connecticut may have supported a relatively independent set of seasonally circulating groups which used larger wetlands as long-term bases (Wadleigh 1981). Mortuary practices of the time suggest some sedentism for certain groups of people who were buried in specialized secondary cremation cemeteries and who may have had some control over restricted resources (e.g. riparian transportation routes) (Walwer 1996). Although the cremation sites largely include utilitarian funerary objects, some contain non-local materials which suggest trade association with cultures to the west of Connecticut (Walwer 1996).

Terminal Archaic

The Terminal Archaic period extended from approximately 3,700 B.P. to 2,700 B.P., as defined by the Susquehanna and Small-Stemmed traditions (Swigart 1974; Snow 1980:235; Lavin 1984:14; Pfeiffer 1984; Pagoulatos 1988; Cruson 1991; Cassedy 1999). Steatite, or soapstone, was a frequently used material by this time, and could be fashioned into bowls and other objects. The mass, permanency, and labor intensiveness of creating these heavy items have led to the inference of more sedentary base camps, especially on large rivers where the development of a canoe technology had become fully established and increased the effective catchment area within which groups of people were gathering resources on a continuous basis. The material culture of the period was very similar to the Late Archaic, with a proliferation of stemmed projectile point types including Snook Kill, Bare Island and Poplar Island stemmed points, Orient Fishtail points, Sylvan and Vestal side-notched points, and Susquehanna corner-notched points. The resource base continued to consist of deer and small mammals, nuts, shellfish, turtles, and birds (Snow 1980:249). The first signs of ceramics (Vinette I pottery) tempered with steatite fragments appeared during this period (Lavin 1984:15; Lavin and Kra 1994:37; see also Cassedy 1999:131), and archaeological evidence of trade with other regions becomes more substantial for this time (Pfeiffer 1984:84).

The distribution of sites and site types in the lower Connecticut River Valley during this period suggests that there was a change in settlement to one with fewer, yet larger sites in riverine settings, and associated satellite task-specific sites in the uplands (McBride 1981; McBride and Dewar 1981:49). The implications are less foraging-strategy residential movement and more task-oriented collection activities within a radiating settlement pattern, but probably one in which some degree of seasonal circulation of settlement took place. Pagoulatos (1988) has shown that while sites associated with the Small-Stemmed tradition tend to suggest a more mobile settlement pattern in the interior uplands, sites of the Susquehanna tradition indicate a semi-sedentary collector strategy in major riverine and estuarine environments. At least certain groups exhibited semi-sedentism and some control over restricted resources, as indicated by the elaborate burials of the Terminal Archaic (Walwer 1996). Mortuary practices from the period include secondary cremation interments in formalized cemetery areas, with individual pits containing fragmented utilitarian material from communal cremation areas, as well as highly stylized funerary objects from non-local material (Walwer 1996). The lack of other, less formalized burial types evident in the archaeological record may be a matter of poor preservation, in which case it has been proposed that the cremation cemeteries are representative of a stratified society in which a portion of the people (of the Susquehanna "tradition") were able to generate a surplus economy that supported a semi-sedentary settlement pattern. This surplus may have been generated by the procurement and control over the transportation of steatite from various areas in Connecticut and surrounding territory.

Early Woodland

The Early Woodland period in Connecticut extended from about 2,700 B.P. to 2,000 B.P. (Lavin 1984:17; Juli and McBride 1984; Cruson 1991; Juli 1999). A cooling trend during the Early Woodland (Davis 1969:414; Parker 1987:10; McWeeney 1999:11) is thought to have reduced population sizes and regional ethnic distinction as the hickory nut portion of the resource base was significantly decreased, although the apparent decline in populations may possibly be related to other factors such as the inability to confidently distinguish Early Woodland sites from those of other periods (Filios 1989; Concannon 1993). Climatic deterioration and depopulation are in turn thought to have inhibited the progression towards, and association with, more complex social structures and networks that were developing further to the west and south

(Kehoe 1981:215). A proliferation of tobacco pipes may indicate the beginnings of agricultural efforts in the northeast. The Early Woodland of this region, however, exhibits no direct traces of subsistence crop remains, indicating continuity with previous periods in terms of subsistence practices (Lavin 1984:18).

Materially, the period is marked by a substantial development of a ceramic technology, with the Early Windsor tradition of pottery being dominant in the Early Woodland of Connecticut (Rouse 1980:68; Lavin 1984:17, 1987). Both Early Windsor cord-marked and Linear Dentate ceramic forms were being produced at this time. Diagnostic projectile points can be developmentally traced to indigenous points of previous periods, consisting of many stemmed forms in addition to Meadowood and Fulton side-notched points, Steubenville points, and Adena-Rossville types, but now may have been used in conjunction with the bow and arrow (Lavin 1984:18). Adena-like boatstones are also found in this period. Although rare contact with the Adena culture is evident throughout assemblages of the period, the Early Woodland in southern New England remained a very gradual transitional period (Snow 1980:279,287; Lavin 1984:19).

A heightened use of ceramics has been erroneously promoted as an automatic indication of increased sedentism in many areas. Instead, central-based camps with restricted seasonal encampments appear to be the dominant settlement pattern (Snow 1980:287). Minimal archaeological evidence from the lower Connecticut River Valley appears to suggest a similar settlement pattern to the Terminal Archaic in which large riverine sites served as central bases with upland seasonal dispersal or specific task sites (McBride 1981; McBride and Dewar 1981:49), but with a lesser degree of sedentism. Interior uplands populations also decreased during the Woodland era, perhaps related to the intensification of agricultural resources along major riverine and coastal areas (Wadleigh 1981:83). The trend towards greater mobility may in part be attributed to the decline in the use of steatite that no longer gave certain groups control over critical and restricted resources, as indicated by the declining ceremonialism of burial sites at the time which were more often located in habitation sites and exhibited combinations of secondary cremation features and primary inhumations (Walwer 1996). This transition in the socio-economics of the region was brought about by the decrease in importance of steatite as ceramics obscured its value for producing durable containers. Partially preserved primary inhumations appear for the first time in the region based on preservation considerations.

Middle Woodland

The Middle Woodland period lasted from about 2,000 B.P. to 1,000 B.P. (Lavin 1984:19; Juli and McBride 1984; Cruson 1991; Juli 1999). The climate was returning to the conditions basically witnessed today (Davis 1969:420; McWeeney 1999:11). It is a period which exhibited considerable continuity with previous periods in terms of both subsistence and material culture. Cylindrical pestles and groundstone hoes are tools diagnostic of the period and reflect developing agricultural efforts, including the cultivation of squash, corn, and beans on a seasonally tended basis (Snow 1980:279). Direct evidence for agriculture in the form of preserved vegetal remains, however, does not generally appear until the early Late Woodland (Lavin 1984:21) when corn is thought to have been introduced into the Connecticut River Valley from the upper Susquehanna and Delaware River Valleys (Bendremer and Dewar 1993:386). Projectile point forms from the period include Snyders corner-notched, LongBay and Port Maitland side-notched, Rossville stemmed, and Greene lanceolate types. A proliferation of ceramic styles was witnessed during the Middle Woodland (Rouse 1980; Lavin 1984:19-20, 1987; Lavin and Kra 1994:37), including Rocker Dentate, Windsor Brushed, Sebonac Stamped, Hollister Stamped, Selden Island, and Windsor Plain types that were all also produced in the Late Woodland, with the exception of the Rocker Dentate. Ceramic forms from the Early Woodland were still being produced as well. Minor traces of the Hopewell cultures to the west are also present in the archaeological record of this period. Site types and distributions in the lower Connecticut River Valley imply that a moderate increase of sedentism with aspects of a radiating settlement pattern took place on large rivers, supported by differentiated upland task sites (McBride 1981; McBride and Dewar 1981:49). This trend may have been supported by the expansion of tidal marshes up larger rivers (McBride 1992:14).

Late Woodland

The Late Woodland period extended from approximately 1,000 B.P. to 1600 A.D., the time of widespread European contact in the broader region (Snow 1980:307; Kehoe 1981:231; Lavin 1984:21; Feder 1984, 1999). A warmer climate and increased employment of large scale agriculture for subsistence in New England were associated with increased population densities, more sedentary settlements, and more permanent living structures and facilities in larger villages. Settlements in Connecticut, however, tended to remain smaller with only small scale agricultural efforts, and as part of a seasonal round in which smaller post-harvest hunting and task-specific settlements were established in fall, and protected settlements occupied in winter (Guillette 1979:CI5-6; McBride and Bellantoni 1982; Lavin 1984:23; Starna 1990:36-37). Instead of maintaining permanent villages near agricultural plots, aboriginal populations engaged in the slashing and burning new plots and let old plots lie fallow periodically (Salwen 1983:89). In this area, domestic resources included corn, beans, squash, Jerusalem artichoke, and tobacco (Guillette 1979:CI5; Starna 1990:35). Agriculture was largely maintained by women, with the exception of tobacco (Salwen 1983:89; Starna 1990:36). Deer, small mammals, fish and shellfish, migratory birds, nuts and berries, and other wild foods continued to contribute significantly to the diet (Waters 1965:10-11; Russell 1980). Many of the foods produced were dried and/or smoked and stored in baskets and subterranean holes or trenches.

The increasing diversity of wild estuary resources may have served to increase sedentism in the coastal ecoregions of Connecticut (Lavin 1988:110; Bragdon 1996:67), while agriculture and sedentism may have been even more prominent along the larger river bottoms (Bragdon 1996:71). Late Woodland settlement patterns of groups in the uplands interior ecozones of Connecticut may have included the highest degree of mobility, while many sites from the central lowlands represent task-specific sites associated with larger settlements along the Connecticut River (McBride 1992:16). House structures consisted of wigwams or dome-shaped wooden pole frameworks lashed and covered with hides or woven mats, and clothing was made from animal hides (Guillette 1979:CI7-8; Starna 1990:37-38). Pottery for the period is defined as the Late Windsor tradition in Connecticut (Rouse 1980:68; Lavin 1984:22, 1987). Most of the ceramic forms of the Middle Woodland were still being produced, in addition to the newer Niantic Stamped and Hackney Pond forms. Ceramics of the East River tradition also appear in the area during the Late Woodland, having originated and been concentrated in the New York area (Rouse 1980; Wiegand 1987; Lavin 1987). The period exhibits some continuity in terms of projectile point forms, although the Jack's Reef, Madison triangular, and Levanna points are considered diagnostic for the period. As likely with earlier periods, the material culture included various textile products such as baskets and mats, and wooden utensils such as bowls, cups, and spoons (Willoughby 1935; Russell 1980:56).

Unlike groups of the Mississippi valley, the overall cultural pattern for the entire Connecticut Woodland era exhibits considerable continuity. Interregional contact increased during this period, however, with non-local lithic materials increasing from as low as 10% to as high as 90% from the early Middle Woodland to the Late Woodland (McBride and Bellantoni 1982:54; Feder 1984:105), although most trade appears to have been done between neighboring groups rather than initiated through long-distance forays (Salwen 1983:94). The lack of enormous agricultural surpluses for the time is indicated by the low density of small storage features in habitation sites, as well as the ubiquitous primary inhumation of people without a select portion of graves exhibiting special treatment that would require high energy expenditure (Walwer 1996). As confirmed by early ethnohistoric accounts, this suggests a largely egalitarian and relatively mobile society for the Late Woodland despite the fact that this period marks the highest development of food production (i.e. agriculture) during the course of prehistory in the region. Corn was undoubtedly important, however, as a disproportionate amount of the simple, flexed burials were oriented towards the southwest which was the aboriginally acknowledged direction for the origins of corn and the Spirit Land.

Local Sites and Surveys

There has been a low to moderate density of prehistoric sites recorded in the south-central and eastern Suffield area (CT SHPO 2023; Figure 4). Several sites have been found just within a mile surrounding the project area. The most prolific site documented in the area is the Carolyn Site (139-11), where professional surveys led to the mitigation of the site for a proposed correctional facility (LBA 1988a, 1989; Lothrop 1991). Located within a mile to the east of the project area on a small tributary of Stony Brook and the Connecticut River, the Carolyn site revealed both Late Archaic and Late Woodland components, the former identified by Vosburg and narrow stemmed projectile points, the latter by Levanna points. The Late Archaic occupations included concentrations of fire-cracked rock, debitage, and lithic tools, while a gorget and ceramic sherds were found in the Late Woodland contexts. The site may have been at one time closer to the meandering course of the Connecticut River.

Over one mile to the northeast of the project area, prehistoric site (139-12) contained a groundstone pestle reportedly found near a spring at the head of Rawlins Brook. The Skorski III site (139-9) is a Late Woodland site found a few miles to the east of the project area near the Connecticut River, where a cord-marked ceramic sherd was found.

A number of sites recorded in the area are only known by isolated projectile point tips, including the Find Spot 1 Site (139-26) and the Find Spot 4 Site (139-27) located for a pipeline survey within one mile to the west of the project area, and another tip was found during a professional survey of land adjacent to Route 75 within a mile to the east of the project area (HC 2009). Seven other sites previously recorded in Suffield (139-1, 2, 3, 6, 10, 24, 25) are only known by low densities of lithic debitage, including local quartz, basalt, argillite, and quartzite as well as non indigenous chert (see LBA 1988b).

It is important to note that there are literary references to early historic Native American sites in the area that have not been archaeologically verified: "on the west bank of the Connecticut River, between Rawlin's Brook and the Falls, was an extensive Indian burial

Figure 4: Prehistoric Sites of the Region

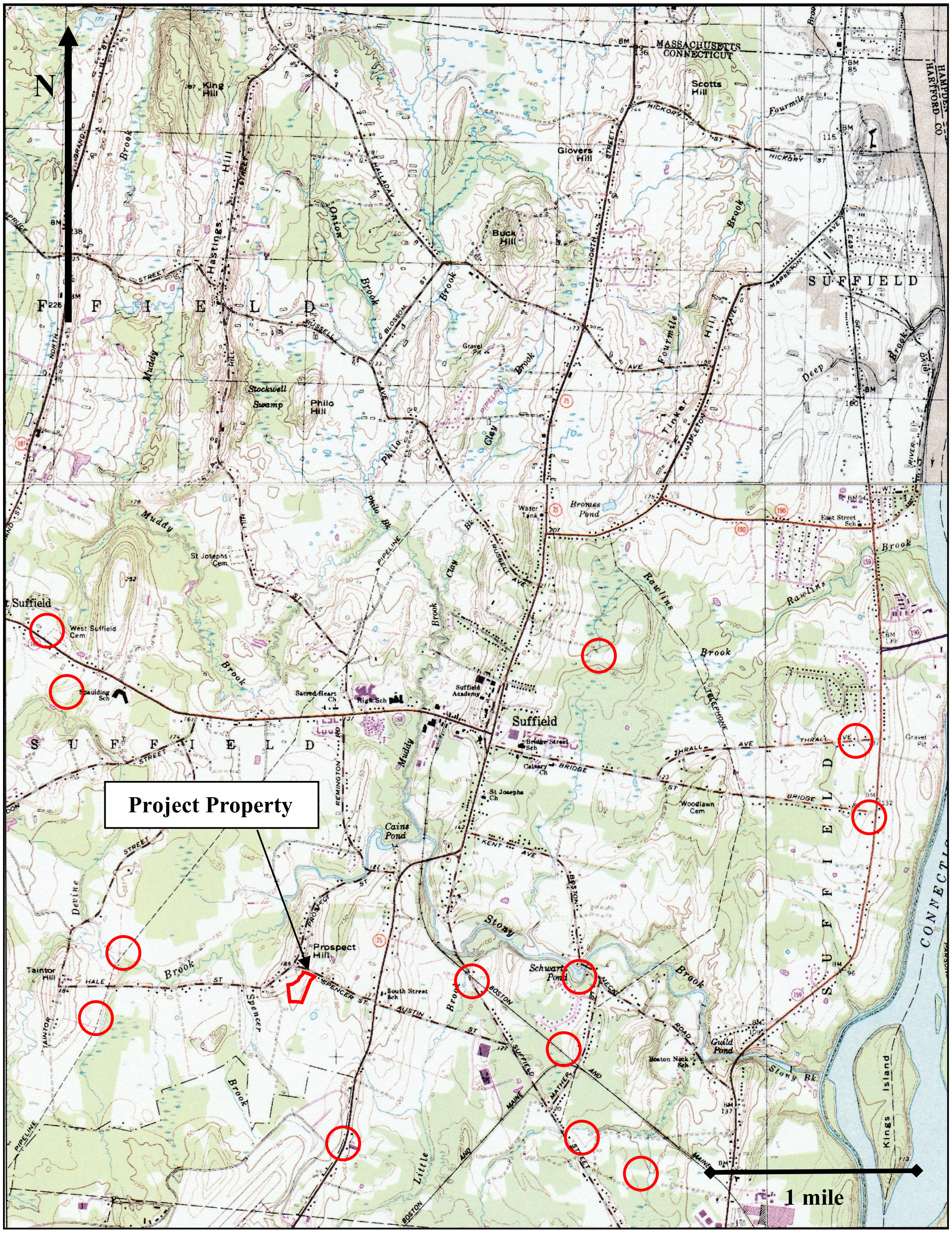


Figure 4: Approximate location of previously recorded sites shown as red circles.

ground," and "They were numerous about the Falls above Stony River (Lacowsick); and below (at Squotuck), attracted thither by the admirable fishing grounds" (Sheldon 1879:8).

Summary

In summary, there is a low to moderate density of previously recorded prehistoric sites within a few miles of the project area. The chronological range of documented sites is from the Late Archaic through Late Woodland periods, although earlier sites are likely present and as of yet undiscovered. Sites range in size from task specific through large camp or small village sites, possibly confirming reconstructed settlement patterns of larger regional settlement models, with a primary focus on larger streams and marshes, and radiating use / settlement up the smaller drainages for task specific / resource extraction or seasonally restricted sites. The project area is within the Stony Brook drainage along which sites have been previously located, although closest to Spencer Brook which is a very small Stony Brook tributary. Most nearby sites tend to be located further down the drainages and closer to the Connecticut River, although one of the most prolific sites of the area was also recorded on a smaller tributary of Stony Brook. The meandering course of the Connecticut River through time may have made the project area closer to the river at certain times in the past.

Local History

Contact Period

The Contact period is designated here as the time ranging from the first substantial contact between European explorers and Native American inhabitants of Connecticut to the time of initial occupation by European settlers, roughly 1600 to 1700. Initial contact in the broader region occurred in 1524 when Verrazano reached the coast of New England (Terry 1917:16). Others followed in the first decade of the 1600s (Salwen 1983), and in 1614 Dutch explorers reached the Connecticut River (DeForest 1852:70; DeLaet 1909 [1625-1640]). The Dutch were met by the Quinnipiacs at New Haven Harbor in 1625 (Brusic 1986:9) when they initiated fur trading relationships with several local tribes. The trade relationship between local tribes and the Dutch was short-lived, however, coming to an abrupt end by the mid-1630s (Guillette 1979:WP2) when substantial English settlements were being established in the area. DeForest (1852:48) estimates about 6,000 to 7,000 Native Americans in pre-epidemic Connecticut (early 1630s), while others consider the aboriginal population to have been as high as 16,000 to 20,000 or more (Trumbull 1818:40; Gookin 1970 [1674]; Cook 1976; Snow 1980:35; Bragdon 1996:25).

The spatial configuration of tribal territories at the time of initial contact is fairly well known, although boundaries are known to have fluctuated significantly, as did the political alliances by which the tribes could be defined (Thomas 1985:138). Three major divisions of Algonkian speaking groups can be delineated in eastern Connecticut, and their original territories conform well to present ecozone distributions (see Dowhan and Craig 1976:26 and Speck 1928:Plate 20). Centralized in East Windsor and South Windsor (Trumbull 1818:40; DeForest 1852:54-55; Spiess 1933), the Podunks occupied that part of the Connecticut River drainage basin which constitutes the North-Central Lowlands east of the river. Linguistically, the Podunks were part of the Wappinger or Mattabesec Confederacy of tribes that extended west of the Connecticut River and onto Long Island (Speck 1928). The validity of the Wappinger-Mattabesec Confederacy as a cultural entity has been challenged (Salwen 1983:108-109), however, with many smaller and somewhat independent tribes occupying much of the western half of the state. In the northeast part of the state, the Nipmucs occupied areas covering the Northeast Uplands and Northeast Hills ecoregions, but were centrally based in Massachusetts (Gookin 1970 [1674]; Van Dusen 1975:21; DeForest 1852:57). Blanketing the Southeast Hills and Eastern Coastal regions, the territory of the Pequots lay adjacent to the Narragansetts of Rhode Island to the east (Speck 1928).

The Suffield area was part of Agawam territory at the time of contact (Spiess1933:21-22). The Agawams were a branch of the Pocomtock Confederation of tribes which were based in Deerfield, Massachusetts. Their territory extended south to include all of Suffield and also east across the Connecticut River into Enfield. Two main villages of the Agawams in the area at the time of contact include Agawam and Congamond, and the two main Sachems of the Agawan territory to the west of the Connecticut River were Pampunkshat and Mishnousqus.

The fluctuating nature of tribal territory boundaries can be partly attributed to aspects of mobility and subsistence. Ethnohistoric sources offer descriptions of terminal Woodland and early Contact subsistence-settlement strategies of the area (McBride and Bellantoni 1982; Starna 1990:36-37). Spring settlements were located to take advantage of anadromous fish runs in larger drainages and along the coast. By late spring, attention was focussed on tending corn fields on alluvial terraces and glacial meltwater features along perennial streams and rivers. Semi-sedentary settlements near these fields were supported by task-specific hunting and gathering sites. Dispersal in the late fall and winter brought smaller groups into protected, upland or interior valleys where hunting and gathering continued. This model is confirmed by an archaeological survey of the lower Connecticut River Valley (McBride and Dewar 1981:49-50) in which large, early Contact period villages were found to be a part of a central-based circulating settlement pattern. Family units occupied major villages on a seasonal basis. The dispersal phase had a longer duration in the Contact period than the Late Woodland, and consisted of smaller subsistence units (e.g. single families).

The fortification of some larger villages in the early Contact period was likely a response to intertribal and intercultural political conflicts resulting from increased economic pressures induced by Euroamerican trade relationships (Salwen 1983:94; McBride 1990:101; but see Thomas 1985:136). The fortified villages are representative of the trend towards increasing sedentism and territoriality during the Contact period. Eventually, Native American populations became dispersed and afflicted by disease, warfare, and intertribal conflict to the point that small, scattered reservations served as the final restricted territories for some indigenous populations.

The economic base for Native Americans in eastern Connecticut during the Contact period continued to consist of hunting deer and small mammals, gathering berries, nuts, and roots, and procuring shellfish and fish on larger drainages and along the coast (Waters 1965:7; Salwen 1970:5). This basic subsistence strategy was supported by various horticultural products, including corn as a staple, squash, beans, Jerusalem artichoke, and tobacco (Guillette 1979:CI5; Starna 1990:35). The importance of corn is evident in historic descriptions of ritual activities, including variations of the Green Corn Festival that extended with various groups, including the Mohegans, into the present day (Speck 1909:194; Speck 1928:255; Tantaquidgeon 1972:81; Fawcett 1995:54-57). Elderly women possessed extensive knowledge of wild plants which provided a host of medicines and treatments (Russell 1980:35-37).

The material culture included a mix of aboriginal forms and European goods such as metal kettles and implements (e.g. knives and projectile points), cloth, glass beads, and kaolin pipes (Salwen 1966, 1983:94-96). Wigwams continued to serve as the principal form of housing, in some cases well into the 18th century (Sturtevant 1975). Unlike the Late Woodland, however, Contact aboriginal lithic products were predominantly manufactured from local quartz sources (McBride and Bellantoni 1982:54). Dugout canoes may have continued to provide a major form of transportation in larger drainages (Salwen 1983:91). Late Contact period Euroamerican trade goods included various metal tools, glass bottles, ceramic vessels, kaolin clay pipes, and nails (McBride and Grumet 1992).

Wampum (shell beads) served as an important item for exchange by Native Americans with European traders, but their original use was in the form of belts as symbolic signs of allegiance or reciprocity between tribes, and as sacred markers or tokens of honor for individuals (Guillette 1979:CI8; Ceci 1990:58-59; Salisbury 1990:87; Fawcett 1995:59). With European metal drill bits, tribes along the coast were now mass producing wampum for trade with the Dutch and English, who in turn used the shell beads to trade for fur procured by other tribes farther inland (Salwen 1983:96; Ceci 1990:58). Control of wampum production along the eastern Connecticut coast may have contributed to Pequot dominance over other tribes at this time. Although wampum was initially traded for Euroamerican goods, it was eventually used to pay fines imposed by colony governments on the tribes for "illegal" acts. While colonization brought new material goods to Native Americans in the area in exchange for fur, land, and services, the indigenous inhabitants became increasingly subject to legislative economic restrictions by the colonists (Salisbury 1990:83).

Sachems and councils of leading males formed the basic political unit for groups of villages (Gookin 1970 [1674]; Simmons 1986:12). The authoritative roles of clan mothers had diminished as a result of a strong European leadership bias towards males in trade relationships (Fawcett pers. comm. 1996). Tributes paid to sachems were generally used as reserves for the tribe at large. Although sachems were generally assigned by hereditary lineage, this was not always the case (Bragdon 1996:140-141). Additionally, authority was usually enforced by persuasion of a council. Shamans were "magico-religious" specialists of the tribes who also had a considerable role in leadership and decision-making (Speck 1909:195-196; Simmons 1986:43; Starna 1990:42-43). Other special status roles included warriors and persons who had visions, thus social status was largely based on achievement and recognition. Rules of obligation and reciprocity operated on all levels of tribal-wide decision-making (Bragdon 1996:131-134), serving to diffuse centralized authority. While the assignment of lineality (i.e. matrilineal vs. patrilineal) for the area tribes is still debated (Bragdon 1996:157), the well established practice of bride-pricing and traditional accounts support a patrilineal social organization (Speck 1909:193; Salwen 1983:97). Post-marital residence appears to have been ambilocal.

On a larger scale, more powerful tribes demanded tributes from smaller ones, often resulting in loose alliances between the latter. This process created a dynamic political environment that prompted intertribal conflict, especially after contact with Euroamericans (Guillette 1979; Bragdon 1996). The European settlers of the Contact period used this embedded rivalry system to their advantage in trade relationships and the procurement of land. The colonists were placed at a further political advantage because of the severe reduction in aboriginal populations as a result of disease (Starna 1992). Major epidemics occurred between 1616 and 1619, and more severely around 1633 (Snow and Lanphear 1988; Starna 1990:45; Snow and Starna 1989). Diseases introduced into the Americas included chicken pox, cholera, diphtheria, malaria, measles, oncercerosis, poliomyelitis, scarlet fever, smallpox, tapeworms, trachoma, trichinosis, typhoid fever, whooping cough, and yellow fever (Newman 1976:671).

Early land sales of the region by the various tribes often overlapped, with multiple episodes of reconfirmation (Stiles 1891:109,122-127; Howard 1935:19-20; Uricchio 1976:41). Surrounding land sales falling under the jurisdiction of Windsor, then known as Dorchester after the location in Massachusetts where many of Windsor's early settlers derived, included approximately 150,000 to 175,000 acres, soon to be subdivided into different towns including what is now Suffield, Windsor Locks, Granby, East Granby, Enfield, East Windsor, and South Windsor in northern Hartford County, as well as various other non-contiguous lands (Howard 1935:20-21; Uricchio 1976:46). The greater Windsor settlement had begun as a trading post in 1633 near the mouth of the Farmington River (Springman and Guinan 1983:1). As emigration from England increased, settlement spread along the rivers, and into the Suffield area which included approximately 500 acres of meadow suitable settlement land next to the Connecticut River (Sheldon 1879:7). The Suffield area was located between the early settlements of

Springfield and Windsor, transected by Native American Indian trails and the European trade route known as the "Northampton Path" (Alcorn 1970:2). In the mid-17th century, William Pynchon was a prominent fur trader and businessman in Springfield who traded with the Native Americans in the area and shipped the furs back to England (Alcorn 1970: 2-3). After publishing a controversial book, being indicted for heresy, and returning to England, his son, John Pynchon, took over his father's businesses and continued as a successful and wealthy fur trader and businessman in the area (Alcorn 1970: 4).

John Pynchon's fortune and influence grew, and he expanded his businesses to all parts of commerce in the Springfield area including ironworks, sawmills, and gristmills, became magistrate of Springfield, and held shares in many neighboring settlements (Alcorn 1970:4). His long business travels from Springfield to Windsor inspired him to establish a mid-point for travelers in the now Suffield area because of the extensive meadows in the area rich with natural resources including animals and farm land (Alcorn 1970:5-6). In 1670, the Massachusetts Bay Colony approved the purchase of lands in the Suffield area by Major John Pynchon for the establishment of an agricultural village called the Stony Brooke Plantation, now known as Suffield (Sheldon 1879:7;Alcorn 1970:5-6).

The Suffield lands were purchased from several different chiefs as part of several different land transactions (Sheldon 1879:9). One substantial part of the territory was purchased from Pampunkshat in the sale of 'Waronoco' (Westfield) to Major John Pynchon (Sheldon 1879:9). Another substantial part of the territory to the south was purchased by Major Pynchon from Misnouasques (Sheldon 1879:9) (spelled as Mishnousqus above). Pynchon and the committee granted land grants to settlers and established roads and a meeting house in a very planned process (Sheldon 1879; Alcorn 1970:7). Pynchon and this committee carefully planned out this settlement and closely regulated the land grants by enforcing conditions on the settlers as detailed in the items listed in the minutes of early town meetings (Alcorn 1970:7-8). The land grants were generally 40 acres, but there were exceptions for more or less, and there were land grants for specific purposes including the town common area, 40 acres for a school, and 80 acres for the minister (Alcorn 1970:8). Between 1670 and 1674, there were 38 land grants to new settlers of the town (Sheldon 1879: 24; Alcorn 1970:12).

Pynchon established a gristmill and saw mill along the Stony Brook (Sheldon 1879:8). Running along a trail on a major ridge, the first road in Suffield was the "Northampton Road", now Christian Street, South Street, Remington Street, and Zion's Hill Road (Sheldon 1879:7-8). Several other streets were laid out at this time along the other trails on prominent ridges, including High Street (now North Main Street) and Feather Street (Sheldon 1879:8). The first minister of Suffield was Mr. John Younglove, and the committee of Suffield granted him a house and lot of 30 acres in 1680 (Sheldon 1879:15). Also at this time, the first meeting house was constructed on the town common land (Sheldon 1879:17, 80).

During the time of the King Philips's War, the settlers of Suffield abandoned their homes and fled to Springfield. Pynchon's grist and saw mills in both Suffield and Springfield were burned, and one of the original proprietors of Suffield, Lieutenant Thomas Cooper, was killed in the violence (Alcorn 1970:12). By 1677, most of the Euroamerican settlers had returned to Suffield, and Pynchon rebuilt his grist and saw mills in their original locations (Sheldon 1879:15; Alcorn 1970:12).

The late 17th century was also a time of industry expansion in Suffield. At this time, Suffield was no longer known as the Stoney Brooke Plantation, but was referred to as "Southfield," which became Suffield (Alcorn 1970:14). In 1681, Pynchon and his committee conducted an election of town officers (Alcorn 1970:17). Pynchon constructed a third gristmill on Schwartz pond, and others constructed a tannery at Rawlins Brook (close to the Connecticut River) and a tar kiln near the intersection of East Street and Mapleton Avenue (Alcorn 1970:27). By 1691, there was an established ferry across the Connecticut River from Suffield to Enfield on the site of the Thompsanville bridge (Alcorn 1970:44).

18th Century

Expansion of Suffield continued in the 18th century. Wealthy John Pynchon continued to construct new buildings and added new industries to the area. In 1701, he built a "bloomery," or iron works, on Stony Brook (Alcorn 1970:27,41). The bloomery was used to process the iron bog ore found in "Pancake Swamp" between South Grand and Sheldon Streets (Alcorn 1970:41). Others constructed a cider mill on Stony Brook in 1700, a cotton mill in 1710, a blacksmith shop on High Street (now North Main Street), and several taverns and inns were established in town (Alcorn 1970:27,35,44,95). A fish dam was constructed at the mouth of Stony Brook on the Connecticut River for catching and supplying Suffield residents with salmon and shad (Alcorn 1970:39). Corn, rye, wheat, and barley were grown by local farmers along with keeping diary cows and sheep (Alcorn 1970:96). And an oil mill for processing flax seed was built by Eli Granger on Stony Brook in 1793 (Alcorn 1970:103). Expansion also included construction of the second meeting house on the common area (in the location of the present day Congregational Church) in 1702, and construction of the first school next to the new meetinghouse in 1704 (Sheldon 1879:18, 80; Alcorn 1970:20). The second schoolhouse was constructed in 1733, and was later moved in the late 18th century to the corner of Crooked Lane and Thompsanville Road (Alcorn1970:39).

During this century, the tobacco industry was an important part of Suffield's economy. The valuable tobacco was actually considered currency and accepted as payments of debts as early as 1727 (Alcorn 1970:44,117), and by 1753, the tobacco grown in Suffield was being exported to England (Alcorn 1970:72,117). Its economic value and its relative ease to grow in the soil and climate of the area made tobacco a popular crop of the local farmers (Alcorn 1970:117).

Suffield was very vocal in its defiance of the British Crown during the Revolution and even documented the independent political views of the town in the minutes of a town meeting in 1774 (Alcorn 1970:75-79). In recognition of its view for independence, George Washington visited Suffield on his way to Boston in June, 1775 (Alcorn 1970:78-79). It was recorded that he spoke at what is currently the Hatheway House Property and then entered the Congregational Church, and afterward, ate lunch at the Austin Tavern at Bridge and High Streets (Alcorn 1970:79-80). Washington returned again to Suffield as president in 1789 (Alcorn 1970:80). Revolutionary troops utilized the Ferry Tavern and Riverman's Hotel on the east side of High Street while waiting to cross the river (Alcorn 197:87). The project property was likely occupied and farmed by the Spencer family during the 18th century (SGEC 1921:169).

19th Century

Around the turn of the century, a number of families in the greater Suffield area emigrated to Ohio to Western Reserve land (Alcorn 1970; Springman and Guinan 1983:96-98) with some migration of African Americans from the south and Irish immigrants to work first for the construction of the Farmington Canal which ran through the western part of Suffield and then the railroad (Springman and Guinan 1983:99). The Franklin Paper Mill was built at the mouth of Stony Brook in 1801 and remained in business until a fire destroyed it in 1914, and a second paper mill, the Eagle Mill was built in 1816 (Alcorn 1970:113,119). Other industries which rose in popularity in the early 19th century included spa-like accommodations centering around a natural spring. "The Pool" in Suffield was a mineral spring located on Remington Street that became a source of prescribed cure for many ailments and was surrounded by a farmhouse-like hotel (Alcorn 1970:121). A major construction project of the 19th century in Suffield was a bridge across the Connecticut River at Bridge Street from 1805 to 1809 (Alcorn 1970:115). The bridge collapsed after only a few years of use, and a new bridge was constructed in 1826 (Alcorn 1970:115).

The state constitution of 1818 opened the door for greater denominational diversity, with a Baptist church established in the area in, the building of the Methodist Church in 1839, the first Episcopal Church in 1865, the Calvary Episcopal Church in 1872, and the Roman Catholic Church in 1885 (Alcorn 1970:171-172). The Connecticut Baptist Literary Institution opened in 1833 on the land that is now the Kent Memorial Library (Alcorn 1970:131).

The Irish immigrants of the 1850s settled mostly in the western part of Suffield along Ratley Road (Alcorn 1970:169). In 1868, following the decline of the Farmington Canal of the 1820s, the Windsor Locks and Suffield Railroad branch line was opened that connected with the Springfield-New York main line (Alcorn 1970:172). "The Huckleberry" was the Suffield branch infamous engine car (Alcorn 1970:172).

Cigar wrapper tobacco leaf farming proliferated during the 19th century, and peaked by the end of the century (Vibert 1970:158; Springman and Lahue 2011:7,91). It is estimated that in 1801, 20,000 pounds were grown in the Connecticut Valley region and in 1864, 292 of the 316 farms in Suffield were growing tobacco (Alcorn 1979:141). Simeon Viets expanded the tobacco industry in Suffield to include cigar manufacture (Alcorn 1970:117). In 1810, Viets hired a man from Cuba to instruct a group of women in how to make cigars, and he began the first cigar factory in the United States on Ratley Road (Alcorn 1970:117). The tobacco produced in Suffield, the Connecticut Valley Broadleaf tobacco, was considered the finest outer leaf cigar wrappers in the world for the next 100+ years (Alcorn 1970:118). Cigar shops proliferated in the area until the end of the 19th century, when focus shifted to producing the cured leaf and not the final cigar product (Alcorn 1970:186).

Maps of the mid to late 19th century (Figures 5a and 5b) do not show any developments within the project area. However, land records of the parcel can be traced back to the Spencer family, after whom the road fronting the parcel is named. In 1899, James P. Spencer and six other heirs of a Spencer estate sold four lots at that location to the Alfred Spencer Company (Suffield land records volume 38, page 242). The primary Spencer farmstead house appears to have been located to the west of the project property on Hale Street, and a late 1860s map further shows a "warehouse" being located there. The broader Spencer land holdings appears to have extended to the north of Spencer Street, which was actually moved since it was laid out in 1803 from the north of another Spencer farm house to its current alignment (SGEC 1921:169).

Figure 5a: Historic Sites of the Area (1855 Map)

Figure 5a: From Woodford 1855.

Figure 5b: Historic Sites of the Area (1869 Map)

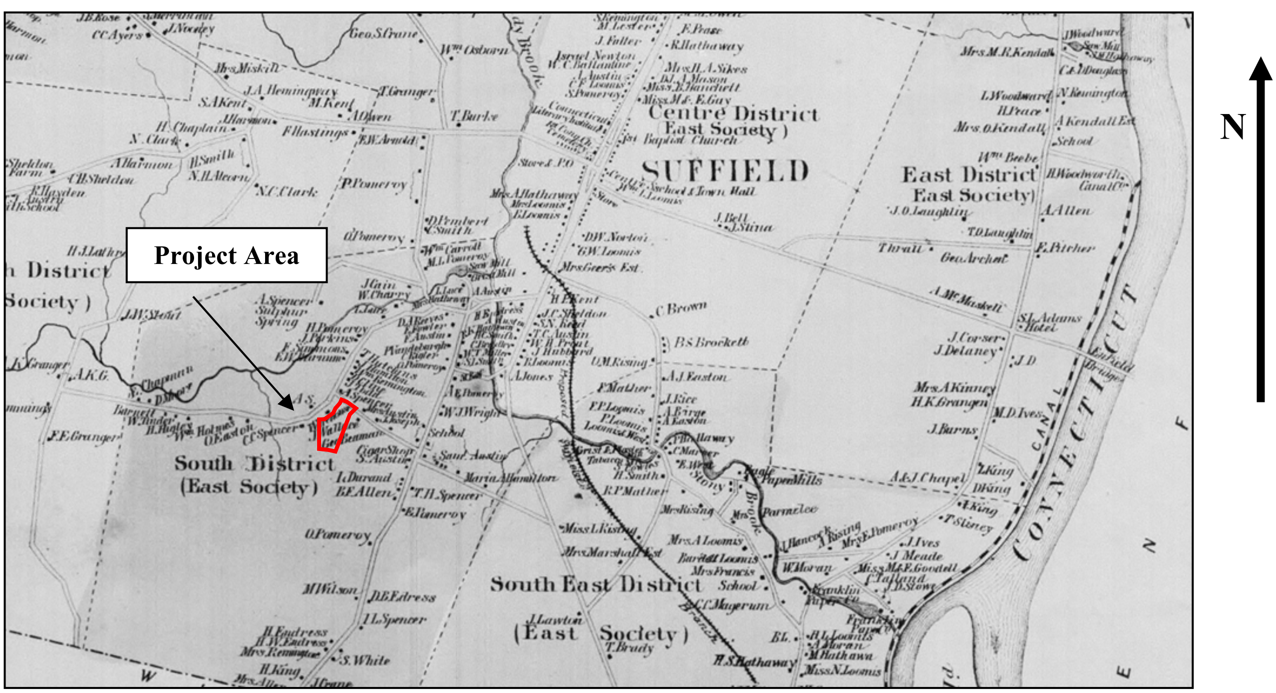


Figure 5b: From Baker and Tilden 1869.

20th Century+

Many families from Poland arrived in Suffield in the late 19th and early 20th centuries (Alcorn 1970:196-197). In 1905, the St. Joseph's Polish Church Society was formed and included 25 members by 1910 (Alcorn 1970: 215). The services were held in a barn until 1952 when a large church was built.

Infrastructure of Suffield was expanded in the early 20th century. At the end of the 19th century, the Village Water Company was established, and by 1902 trolley service existed through Suffield on a line from Springfield to Hartford (Alcorn 1970:105-206). A nurse was employed by Suffield to serve the community in 1915, and the Emergency Aid Association was formed (Alcorn 1970:241). The first fire truck that was motorized was purchased in 1917, and automobiles became popular (Alcorn 1970:241).

The tobacco business proliferated in Suffield and remained the base of the economy. The early tobacco farmers of 20th century began to concentrate on cigar wrapper leaf seed from Sumatra grown under cloth shade tents (Alcorn 1970:252-253; Vibert 1970:159; Springman and Guinan 1983:239; Springman and Lahue 2011:7,93). The tobacco grown under the cloth shades required much more manual labor of cultivation and maintenance of the tents, but resulted in higher tobacco prices (Alcorn 1970:253-254). The seasonal nature of growing tobacco led to the increase of immigrant workers in the area (Vibert 1970:161-162; Springman and Lahue 2011:94).

Larger corporations began consolidating some of the larger tobacco farms of the area, with 15 large packing houses functioning in 1950 (Alcorn 1970:216). The smaller farms were unable to compete. In the early 20th century, the Suffield tobacco packing houses employed over 600 men with relatively high individual salaries of $20 a month in 1901, which increased substantially to $35 a month in 1906 (Alcorn 1970:218). Reportedly, the very first Carrier air-conditioning unit was constructed at the tobacco warehouse shed of William S. Pinney located on South Street (Alcorn 1970:216-217). Willis Carrier was a friend of Pinney, and frequented his home in Suffield. His invention was used to control humidity in the packing house of the valuable tobacco leaves and prevent cracking or breaking before shipment.

Traditional homestead farming continued to be important, with a notable shift in the mid-20th century agriculture to farms owned by Polish and African American families in Suffield (Alcorn 1970:255). These farms continued smaller tobacco acreage and also included dairy cows, crops of potatoes, corn, and other household vegetables and fruit (Alcorn 1970:256). Tobacco continued to serve as a major crop of the area into the late 20th Century, with Connecticut tobacco constituting two-thirds of all wrapper tobacco utilized by American cigar manufacturers (Vibert 1970:159).

By the mid 1900s, the population of Suffield was nearly 8,000 (Alcorn 1970:227). Social and recreational activities were established in Suffield and included tennis courts, a golf course, and a theater group (Alcorn 1970:258,284). Civic organizations of the times included the Suffield Hounds fox hunting club, the Suffield Sportsmens Club, and for women, the Womens Club, the Mapleton Literary Club, and the West Suffield Wide Awakes group (Alcorn 1970:260, 268-269). In 1938, the federal government sensed the potential need to prepare for a war effort, and they began to develop Bradley Field at the southern end of Suffield and into Windsor Locks as a training site for fighter pilots (Alcorn 1970:225,271). The large Polish community responded to the invasion of Poland in WW II by organizing clothes and blood drives (Alcorn 1970:260,268-269;271).

The mid 1900s was also a time of growth for the churches of the area. The Episcopal Church, that had previously closed, reopened in 1949 and a new church was built in 1951; a new St. Joseph's Church was built in 1952; and additions and upgrades were added to the Second Baptist Church in 1953, The First Congregational Church in 1956, The Second Congregational Church in 1958, and the Third Baptist Church in 1962 (Alcorn 1970:281-282). Several banks and shops were also constructed in Suffield at this time, as well as parks and a wildlife conservation area on the banks of the Muddy Brook and Stony Brook (Alcorn 1970:304-305).

Early to mid-20th century maps of the area reveal no structures on the project property other than a shed at the northwest corner of the parcel by 1934 (Figures 5c and 5d), although a large tobacco barn was located near the southwest corner where the dilapidated remains of the structure are visible today. Land records reveal that the Alfred Spencer Company owned the parcel until 1962 when sold to Donald Lanz (volume 103, page 105), and the property remained in the Lanz then Sedor families until into the 21st century. A survey map at the Suffield town hall from 1986 (volume 14, page 149) shows a cluster of outbuildings near the northwest corner of the project property, with one shed within the bounds of the project property but mostly outside the project impact area.

Local Sites and Surveys

Many of the historic archaeological sites of the area were documented by the American Indian Archaeological Institute (AIAI). A number of these include late 18th through early 20th century domestic household occupations, some of which were correlated to individual households on historic maps (139-5, 6, 7, 9, 13, 14, 15, 16). Typical artifacts include architectural materials such as bricks and wrought and cut nails; ceramic forms such as redware, creamware, pearlware, whiteware, ironstone china, and stoneware; bottle glass and other vessel glass; faunal and floral remains; and fuel related materials such as coal, slag, and charcoal. At the Viniconis I Site (139-4), recorded 18th century structures include barns and a house that were converted into tobacco barns in the 19th century.

The AIAI also recorded some industrial sites along Stony Brook that runs to the north and east of the project area. The Franklin Paper Mill site (139-17) includes a dam and mill foundations constructed of mortared arkose stone work dating to the first quarter of the 19th century. The H Smith I Site (139-18) includes a mill foundation and sunken garden dating to 1816. Other associated remains for the H Smith I Site include a mill ditch at H Smith II (139-19), a dam and stone abutment at H Smith III (139-20), and a chimney at H Smith IV (139-21). The most significant industrial site of the area is on the Connecticut River and listed with the Historic American Engineering Record (HAER), consisting of traces a five mile long section of the historic Enfield Canal, including dam features, sluice gates, a lock, aqueduct, and tow path.

Some historic archaeological contexts of the area have been recorded by professional cultural resource management studies. One survey of an expansion of Route 75 in southern Suffield documented archaeological remains similar to those documented by AIAI as described above, and additionally reviewed potential impacts to existing historic structures (Soulsby and Clouette 1995). Similar remains along with traces of former tobacco sheds were also recorded at another survey about two miles east of the project area near Stony Brook and the Connecticut River (Heitert and Mair 2003). Just to the south of Stony Brook, another survey revealed artifacts that may have been related to a 19th century occupation of a demolished house located

Figure 5c: Historic Sites of the Area (1934 Map)

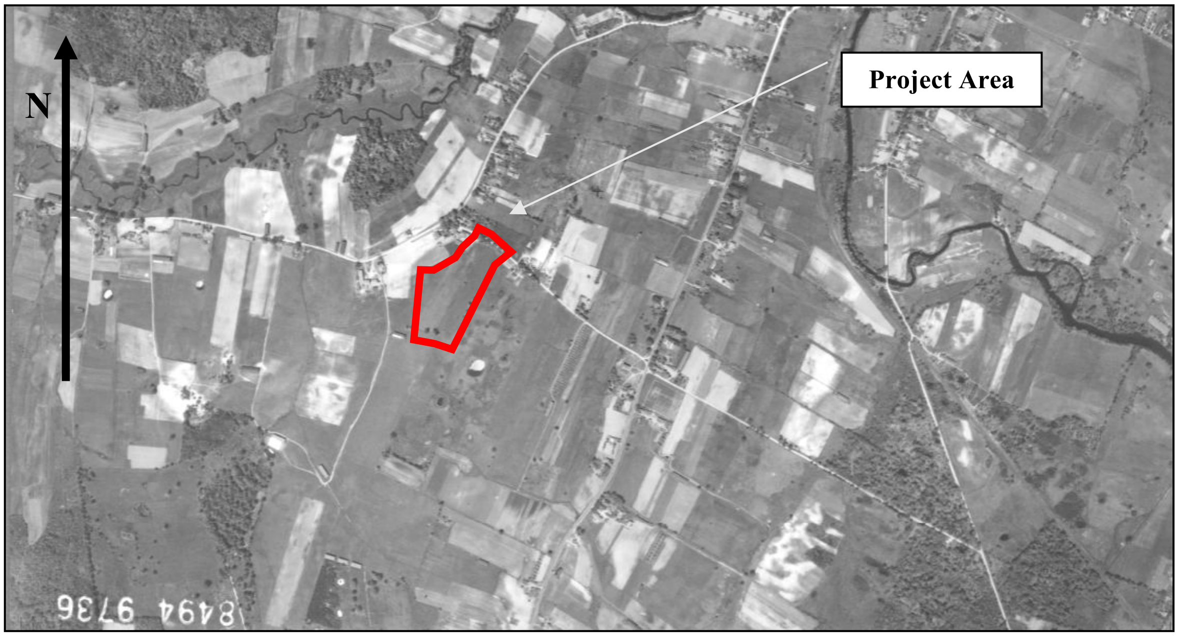


Figure 5c: From Fairchild 1934.

Figure 5d: Historic Sites of the Area (1939 Map)

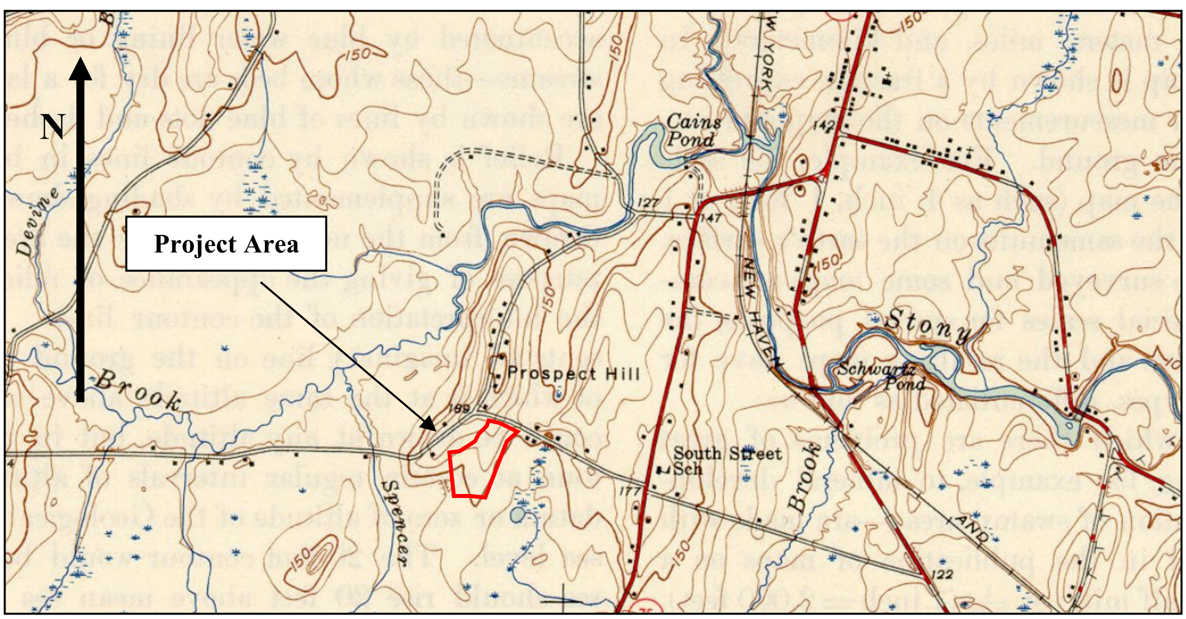


Figure 5d: From USGS 1939.

off site (Holmes 2015). Other surveys of the area have not revealed substantial cultural resources (Aigner et al. 1977; HC 2014; Raber 2015).

The project property is within one mile of the Suffield National Register District (Ransom 1978) listed with the National Register of Historic Places (NHRP). The project area is to the southwest of the southern end of the district, which extends up and down North and South Main Streets and includes a high density of residential homes as well as religious and educational structures dating to the 18th through 20th centuries. Represented styles include Colonial, Georgian, Federal, Greek Revival, Italianate, Romanesque Revival, Second Empire, Beaux Arts, Colonial Revival, and modern. Tobacco was a core of the Suffield economy that served as the basis of much of the construction within the district during the 18th through 20th centuries.

Summary

The project area was part of the Agawam tribal range at the time of contact. Euroamerican settlement of the Suffield area started in 1670, although the town was virtually abandoned after an attack during King Philip’s War until re-occupied by 1677. Self-subsistence agriculture dominated the local economy, until tobacco became a main crop in the first quarter of the 18th century. It was a substantial export to England by the mid-18th century, and became the dominant crop during the 19th century. The project property was part of the Spencer family farm, which had a “warehouse” located just west of the current property, likely dedicated to processing and shipping tobacco leaf. The Spencer farmstead to the west also had a cluster of outbuildings located near the northwest corner of the project property but mostly just outside its bounds, with the exception of one shed that was at the northwest corner of the project impact area. The Spencer family owned the property until the mid-20th century, followed by the Lanz and Sedor families who continued to use the land for agricultural purposes.

CHAPTER 3: METHODOLOGY

Research Methodology

Background

Establishing background information is critical in constructing a research design that is problem oriented. Here the problem is assessment of cultural resources, including traces of both prehistoric and historic activity. Background information provides an understanding as to which parts of a survey area are likely to be culturally sensitive. It may also dictate the nature of the excavation and distribution or density of testing. Finally, all data must be related to an historic and ecological context if they are to provide meaningful information.

The background research in this study is basically aligned along the sections already covered. Primary environmental information was procured from USGS quadrangle 7.5' series topographic maps; CGNHS bedrock geology, surficial materials, and drainage basin maps of Connecticut; the USDA SCS soil book for Hartford County; NRCS websoil survey; and various bulletins published by the Connecticut State Geological and Natural History Survey. Secondary sources such as general texts and various guides useful for interpreting what plant and animal life is and may have been relevant to the cultural use of the area were also consulted.

Establishing the present and any past environmental information for an area is critical as cultural behavior is highly integrated with and founded upon resource procurement, while resources are in turn highly integrated with the conditions of the environment (Jochim 1979; Butzer 1982). This relationship is especially greater as one considers earlier groups of people whose technological and social networks may not have provided for the mesh of buffers intervening between humans and the environment that is evident in today's modern industrial settings. Once the past and/or present environmental conditions for a project area have been assessed, they can be related to what is known about land-use as indicated by other sites and surveys in the region for predicting archaeological sensitivity across space (Kohler and Parker 1986; Kvamme 1990; Walwer and Pagoulatos 1990; Walwer 1996).

Several types of sources are critical for gathering background cultural information. Prehistoric cultural data must be procured via past archaeological surveys and excavations. These studies often rely upon rational application, ethnographic analogy, or less frequently, ethnohistoric, experimental, and folklore studies to provide behavioral interpretations of data derived from the archaeological record. Nevertheless, an abundance of independent sources for a region may provide fruitful information in relation to prehistoric cultural behavior. Sources consulted in this study include information from books on Native Americans in the northeast, articles from publications such as the *Bulletin of the Archaeological Society of Connecticut* and *Man in the Northeast* (*Northeast Anthropology*), existing archaeological surveys of the area, and Connecticut State Historic Preservation Office (CT SHPO) site files which give valuable summary information for individual sites in the region. Professional and avocational archaeologists as well as landowners, municipal historians, and project engineers are typically consulted as to knowledge of significant remains in the project area or surrounding region.

For the historic component of the background research, there are records which can be consulted. For this study, primary documents such as historic maps and land records were reviewed, as were secondary documents in the form of local histories and registers of historic places. As with prehistoric background research, local informants, historians, and project officials can also be important sources of historic cultural resource information. The combined research of these types of sources helps to indicate the potential sensitivity for historic cultural remains within a project setting.

Various institutions were approached for information concerning the environmental and cultural background of the area. The State Historic Preservation Office (SHPO) in Hartford yielded the information on past archaeological and historic architecture surveys in the area, as well as site files which yielded detailed information about individual prehistoric and historic sites. Libraries consulted for environmental and cultural history sources include Kent Memorial Library in Suffield, and various libraries at Yale University in New Haven, such as Sterling Memorial, Kline Science, Henry S. Graves Forestry, Geology, Mudd, and Cross Campus. The Suffield Town Hall contains land records dating back to its full incorporation in 1682.

Methodology and Analysis

Research for methodology is based on a combination of past experience and formal training. Part of the formal training for the directors of ACS includes lectures and text books which cover methodological issues such as research design and excavation. Research for analysis of the archaeological record is also based upon formal training and published identification guide books. With respect to artifacts, analysis is segmented according to time (prehistoric and historic), and material types (i.e. wooden, metal, lithic, ceramic, etc.), while structures and features are analyzed by comparing case studies. Coordinating the information into a summary and meaningful form is based on knowledge gleaned from both theoretical and practical lectures, articles, and texts.

Field Methodology

Testing Design

In the face of temporal and monetary constraints when considering cultural resource management, sampling design is critical. In this process, a portion or sample of the entire sample frame or population of sample units is selected which will ideally represent the nature of what is to be described (Binford 1964; Ragir 1967; Thomas 1986). A sample strategy that employs the whim of the investigator to position subsurface testing has been shown to be subject to severe biases and results in invalid statements when statistically extrapolating sample data to a whole area or site. Judgmental testing, however, can be fruitful in cases where something is known about the history of a project area, or if prior work has yielded results which require further clarification. Random sampling achieves validity, but may result in large areas remaining untested despite an adequate sample fraction. Where certain portions of an area to be tested have been statistically shown to be more sensitive or prone to the incorporation of cultural material, it may be appropriate to stratify or partition an area into sections which receive differential proportions of testing.

A statistical model has been developed and tested by ACS for prehistoric sites in Connecticut (Walwer 1996), and was used to assess the sensitivity of the project area with respect to the potential to contain sites (www.acsarchaeology.com/sensitivity-model.html). Qualitatively, the most sensitive areas tend to be those on nearly level, well drained soils overlying glacial meltwater features and alluvial terraces in close proximity to major waterways. Project areas are typically partitioned according to areas scoring between 0 and 100 in increments of 10, with a score of more than 20 representing a moderate to high likelihood of containing prehistoric sites. The statistical prehistoric landscape sensitivity model developed and utilized by ACS indicates in this case that the project area scores no higher than 5.9 out of a possible 100.0, and therefore solidly within the low (0-20) sensitivity range. Factors contributing to this low sensitivity score include great distance to the nearest major water source for the project area, rocky hill slope context, and fine particle fraction for dominant soils. Spencer Brook is the nearest perennial stream at about one quarter mile to the west, with some lesser wetlands and ponds closer to the east. A review of previously recorded prehistoric sites in the region reveals none in close proximity to the project area, with sites concentrated close to substantial water sources, particularly on glacial meltwater landforms and alluvial terraces. The Phase Ia assessment survey of the project area indicated that no further archaeological conservation efforts were required for the proposed project development with respect to potential prehistoric cultural resources.

Historically, the project area has a moderate sensitivity for historic cultural resources. The project setting was probably on the outskirts of Agawam settlement range during the Contact period, a tumultuous time when indigenous populations were experiencing significant impact from non-indigenous disease, land occupation by Euroamerican settlement, and removal to other regions. Euroamerican settlement was relatively sparse by agriculturalists until the early 20th century, and the project area remained as a farm field until now. Spencer Street that fronts the property was named after the family that owned the project property until well into the 20th century. The Spencers had a prominent farm that extended west to Hale Street, and included a family farmhouse there as well as a "warehouse," likely related to tobacco production. Historic maps do not show any principal structures within the project property, although a prominent outbuilding cluster was located near the northwest corner of the project property, and at least one shed was located within the property but mostly just outside the project impact area.
The historic route of Spencer Street is known to have serviced the agricultural operations of multiple Spencer farms historically, and the Phase Ia survey determined that there could have been other unmapped structures represented within the project property. Any such remains could reveal important information regarding early agricultural life in the region. Because of this and the location of the project property along a historic route, ACS recommended that any part of the development project within 300 feet of Spencer Street be subject to a Phase Ib archaeological reconnaissance survey in advance of any construction impacts.

A total of 33 systematic subsurface shovel tests were located at the project area for the Phase Ib reconnaissance survey (Figure 6). Tests were placed in a saturated testing pattern at 50-foot intervals within 300 feet of the historic course of Spencer Street and within the project impact area. Testing was not conducted within the tree line closest to the road, given that the bulk of the project avoids this visibly disturbed area, nor throughout the farm field to the south

Figure 6: Subsurface Testing Pattern

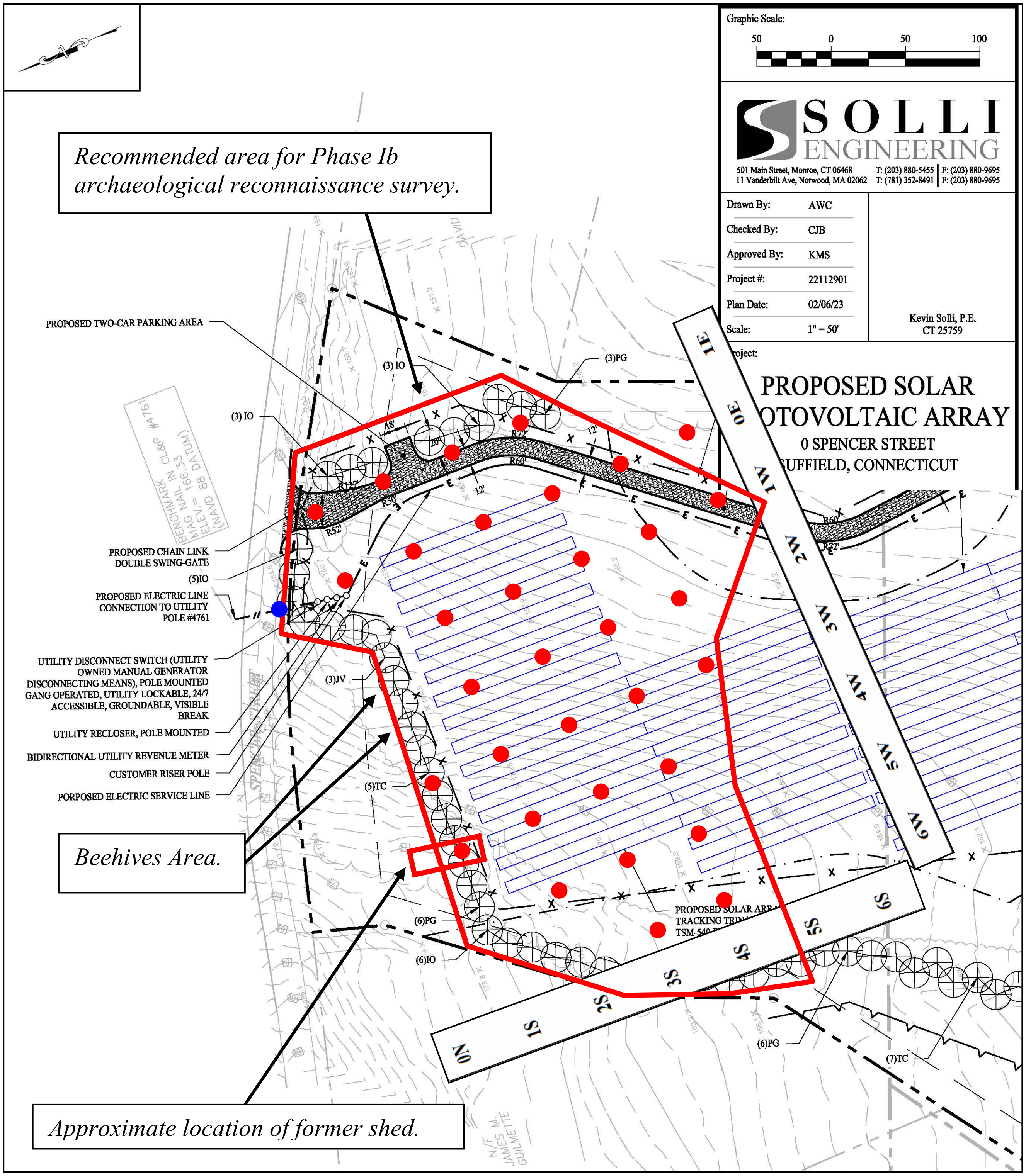


Figure 6: Subsurface testing pattern of the area recommended in the Phase Ia assessment survey. Shovel tests in standard 50-foot intervals. Scale 1:1,200 (1" = 100').

where there is diminishing sensitivity for historic cultural resources. ACS used a transit and long measuring tapes to plot tests in the field, marked with wire flags and flagging tape.

Easy access to the project area allowed for a complete pedestrian surface survey. This is an important technique in cases where historic features such as foundations leave depressions in the landscape, and often with signs of disturbance or differentiation in vegetation type. Additionally, prehistoric features and artifacts may be identified in areas where erosion out-paces soil development or deposition of leaf cover, or where historic agricultural activity often brings materials from buried archaeological contexts to the surface. The deep sedimentary and soil contexts of the project area, and most of this part of the country, however, requires that subsurface testing be employed as well. This is generally true in cases where thick vegetation or maintained grass and/or a relative lack of erosion encourage deep sedimentary and soil profiles, such as that of the project area.

Test Execution

The pedestrian surface survey was performed by two people for the project. Pedestrian traverses were made along all test transect lines, and in a less systematic fashion along the project area perimeter and along Spencer Street. Notes were taken as to any remnant features or structures, with the possibility that judgmental subsurface testing be applied in response to the results of the pedestrian survey. Any collected artifacts which are clearly in excess of 50 years in age are bagged and provenienced according to the nearest subsurface test location within areas subjected to the traverses, or to the nearest group of tests and/or major landscape area otherwise.

Round shovel tests measuring 1.5 feet in diameter were excavated according to natural or cultural layers, with the use of round-point shovels, trowels, and trench spades. Augers were used at the end of each test to confirm aspects of stratigraphy. Surface conditions were noted for each test prior to excavation, including any signs of natural or cultural disturbance. Standardized shovel test forms were used to record information such as soil types encountered, their depths, any bags for soil samples or artifacts collected, closing depth and reason for test termination, and any comments pertaining to unique conditions encountered. Extracted soil was screened and any artifacts retained. Hand screens consisted of wood frames with 1/4" mesh through which soil was passed for the recovery of artifacts. Recovered artifacts were provenienced according to test number and layer, and placed in labelled zip-lock bags for laboratory processing. Material that could be positively identified as modern debris was merely noted and left in place.

All test units were generally excavated to a depth which confidently exhausts any possibility of cultural resources being present, as often indicated by bedrock or Pleistocene gravels and sand that comprise the "C" horizon of soil units in the project area. North American archaeologists have the advantage of knowledge that humans were present in the New World only after the end of the Pleistocene, thus Pleistocene sediments are an extremely useful indication for unit termination. Tarps were used to retain shovel test backfill piles, which were returned to the test units subsequent to complete excavation and recording.

Laboratory Procedures

Processing

Processing procedures include those involving cleaning, labelling, conservation, and documentation, as mandated by the Connecticut Office of State Archaeology (OSA) and the Connecticut State Historic Preservation Office (CT SHPO) (Poirier 1987). A daily record of soil sample and artifact bags retrieved from the field was maintained in the laboratory. Cleaning procedures depend upon material type. Ceramics, glass, lithic artifacts, and well preserved bone and shell are washed in warm water and scrubbed with plastic brushes. Heavily rusted artifacts are dry-brushed lightly with a soft wire brush. Non-rusted metal artifacts, wood, and poorly preserved bone and shell are cleaned with a dry, soft plastic brush. Charcoal or burnt wood is separated and dry-brushed if necessary. Artifacts cleaned with water are dried on plastic trays, while those processed dry are bagged immediately. All artifacts are given new zip-lock bags, fresh tags, and significant artifacts are bagged separately according to material type. In the case of this study, labeled bags are given abbreviated codes for project area (SFNV), test number according to 50-foot interval from datum (e.g. 4S-2E), and layer below surface by Roman numeral (e.g. II). In this case, datum (0N-0E) was set at the south edge of Spencer Street and 200 feet west of the end of the tree line near the northeast property corner, with the 0E zero bearing set at true south. Highly significant artifacts are additionally labeled with India ink covered by an acetate solvent nail-polish, or given a separate labeled bag if labeling jeopardizes the integrity of the material or its potential to be studied in the future. Labeled artifacts bear an abbreviated indication of provenience. At the end of the project, all artifacts are scheduled to be submitted to the Laboratory of Archaeology and Museum of Natural History (LAMNH) at the University of Connecticut (UCONN) in Storrs, Connecticut.

Analysis

Analysis of artifacts in terms of individual identification are performed with the use of identification guide books, type collections (where possible), past experience, and standardized forms. The artifacts are separated by material type, with each material analyzed for designated variables. The variables selected for each material type reflect their significance in terms of identifying chronological and cultural demarcations, as well as variables which may ultimately shed light on the dynamics of the cultural behavior with which they were associated.

ACS has generated standardized data forms for lithic materials, faunal remains, and ceramics. This obviously does not exhaust the potential range of material types, however it covers those which are most often preserved or which show the greatest degree of variability through time and across space. Variables assessed for all materials include those of material type, horizontal and vertical provenience, and for those other than modern debris, shell, or metal - weight, color, and condition or portion present. Lithic artifacts are analyzed for variables of raw material type and texture, manufacturing method, stage in the reduction sequence (including tool type where applicable), presence of heat treatment, indications of use and curation efforts, as well as those involving metric dimensions (size and weight). Ceramic materials are analyzed for variables of raw material or ware type, inclusions or tempering, manufacturing method, firing method, surface treatment, thickness, rim and vessel diameters, container volume, decoration, and maker's marks. Shell is analyzed for species and weight. Finally, bone is analyzed for taxonomic classification, element, age, sex, seasonality, human modification, exposure to heat, and possible use as tools. Weight measurements of all artifacts are made to the nearest 0.1 gram using an Acculab V-1200 electronic balance. Metric measurements are made with the use of electronic calipers.

Soil samples are analyzed for standard variables of color, texture, and pH. Color is measured along the variables of hue or color, value or shade, and chroma or degree of saturation. The standardized Munsell charts also provide names of colors which may be universally recognized. Texture is assessed based on behavior in hand samples as indicated by standard soil science manuals.

Architectural features and sites are documented in standardized forms published by the Connecticut State Historic Preservation Office (SHPO). For purposes of the general report, architectural features and prehistoric sites as a whole are analyzed in terms of their capacity to explain cultural and historic phenomena, and tend to involve a less standardized procedure based on examining similar case studies. Analysis of artifacts and features will frequently involve factors such as the spatial distribution, density, and association of artifacts within a site. Copies of all field records and copies of the final report are sent to LAMNH along with the processed artifacts. In addition, analysis raw data sheets and a CD with the raw data stored in standard Excel format are sent to the LAMNH in cases where large databases are generated, or upon request.

CHAPTER 4: RESULTS

Field Conditions and Test Summary

A pedestrian surface survey was conducted for the project area by ACS in May, 2023, with particular attention paid to any areas where subsurface contexts were exposed due to erosion or any other natural or cultural processes. The 11.7-acre project area mostly consists of an open field (Figures 7 and 8), formerly used for growing corn, and now occupied by a field with a thick clover cover. It lies on the south side of Spencer Street, bound by residential properties to the east and west. An overgrown access into the field from the street lies towards the center of the property frontage. Modern beehives are located just to the west of the access and in a depression with invasive phragmites (Figure 9). A large tobacco farm lies to the south, and just south of the southern border of the project property lies one of the associated tobacco sheds. An overgrown clearing in the treeline bordering the southern side of Spencer Street approximates the middle of the northern property line. The tree line thickens to the west, where historic mapping indicates the location of an outbuilding associated with an outbuilding cluster concentrated just off the current property to the west on the south side of Spencer Street.

ACS concentrated its subsurface testing throughout the project impact area in the northern part of the overall property in standard 50-foot intervals, up to 300 feet from the road. Recall that the principal soil type for the project area is Broadbrook silt loam, which typically has a surface layer of brown to dark brown (10YR 4/3 - 3/3) silt loam eight inches thick, followed by subsoil layers of dark brown (7.5YR 4/4) silt loam to 18 inches and yellowish brown (10YR 5/4 and yellowish brown with gray streaks) to about two feet below the surface, and a substratum of reddish brown (5YR 4/4) and dark reddish brown (5YR3/4) compact and gravelly fine sandy loam to four feet deep or more.

A total of 33 shovel tests were excavated (Appendix A). Soil profiles were fairly well matched to the ideal Broadbrook silt loam soil type. The surface layer was typically a brown to dark brown (10YR 3/3 to 4/3) silt loam to about seven inches below the surface, followed by a slightly darker silt loam to about 12 inches below the surface that was likely part of the same layer, with the upper part reflecting a more active and recent plowzone context. The third layer of yellowish brown (10YR 5/6) silt loam subsoil typically extended to about 20 inches below the surface. The gravelly sandy loam substratum was more variable, with colors ranging from light brownish gray (2.5Y 6/2) to reddish brown (5YR 4/4) to a lighter yellowish brown (10YR 5/4), and typically excavated to about 30 or more inches below the surface. There were no wet soils present, although iron staining was found in deeper parts of the stratigraphy.

Historic Cultural Resources

ACS recorded one outbuilding feature located in the very northwest corner of the project property, mostly outside the project impact area and within the thick tree line to the south of Spencer Street (Figure 10). Standard Test 1S-4W was located within the southern part of the feature, much of which could be identified by the direct remains of the structure. Large piles of

Figure 7: Field, North View

Figure 7: North view of the open farm field, Spencer Street in background along tree line.

Figure 8: Field, South View

Figure 8: South view of the open farm field, dilapidated tobacco shed in background off project property.

Figure 9: Beehives

Figure 9: Northwest view of beehives kept just south of the treeline along the south side of Spencer Street, in a depression also occupied by invasive phragmites.

Figure 10: Outbuilding

Figure 10: North view of the outbuilding site area. Large tree growing at southern end, note the concrete pillar at left and oxidized steel drum, concrete block at right. Scale bar 5'.

associated timbers were present, along with common traces of asphalt roofing shingles at the surface. Utility pipes were also present, along with a heavily oxidized steel drum and other associated remains. The position of the structure is best defined by concrete pillars still remaining at the site. One row of north-south pillars defining the western wall of the former outbuilding is still present, with the four pillars equally spaced apart by 16 feet, and the width of the building appearing to be about 16 feet (thus 16 by 48 feet total). The eastern side of the building is roughly defined by a slope, while the neighboring property lies directly to the west.

There were 15 historic artifacts collected from five of 33 total tests placed at the project property, mostly within the first layer of tests in or immediately surrounding the former outbuilding location (Appendix B). Structural materials in the vicinity of the outbuilding include two wire nails, two other indeterminate nail fragments, two heavily oxidized fasteners, a metal rod and metal plate fragment with articulated hardware, and three fragments of window glass. Wire nails post-date 1850 when they started to be produced, although it was well after this time that they became widely used (Noel-Hume 1970:253-254). For the window glass found at the project area, none bear a heavy patination that is often associated with very old pieces. However, the lack of patination is due in part to the acidity of soils in the area which serves to neutralize weathering effects on silicate materials. They likely date to after 1832 when the more modern broad glass or "sheet" manufacturing processes resulted in window glass that was relatively uniform with a lack of substantial imperfections such as sand, stress lines, and air bubbles found in older forms of window glass (Noel Hume 1970:234-235).

Other artifacts located further from the outbuilding at Tests 3S-2W and 3S-4W include one fragment of whiteware ceramic, one fragment of coal, and one fragment of clear bottle glass. The white earthenware sherd recovered during the survey represents vessels produced after 1820 (Noel-Hume 1970:130) as potters began to perfect the whitening of the glaze which had been targeted for many years by those seeking to imitate the appearance of china. These wares have a date range which broadly extends to the present, although the sherd recovered has a clear crackled glaze that suggests it is not modern. Coal is definitively fuel-related, having been imported into the region in bulk after the mid to late 19th century with the advent of the railroad for home and industrial use. Because of the late historic use of coal as a common fuel source, it has important implications for interpretations of site chronology, as it reflects site occupation in the latter half of the 19th century and into the first half of the 20th century. The clear glass bottle fragment is likely from the incidental discard of a beverage bottle, with Federal laws applied to medicinal and consumed products prohibiting the use of dark bottle colors to disguise contents after 1880 (Yount 1971:6), thus the glass bottle fragment likely post-dates that time.

CHAPTER 5: CONCLUSION

Recommendations

ACS recommends that no further archaeological conservation efforts are warranted for the proposed project. Despite a moderate sensitivity for potential historic sites, no *in situ* historic site contexts were recorded other than a late historic outbuilding in the northwest corner of the project area. Historic mapping suggests that the area could have had a preceding structure, although the subsequent construction of the recently demolished outbuilding likely impacted any traces of a former structure. Other ancillary artifacts recovered from the vicinity immediately surrounding the outbuilding remains are likely just from incidental discard and the scattering effects of agriculture over time.

REFERENCES

Aigner, J.S., T. Del Bene, and K. Fedar
1977 *Report on the Archaeological Reconnaissance for the Suffield North Proposed Sewer System.* Manuscript filed with the Connecticut State Historic Preservation Office, Hartford, Connecticut.

Alcorn, R.H.
1970 *The Biography of a Town: Suffield - Connecticut, 1670-1970.* Suffield: Three Hundredth Anniversary Committe of the Town of Suffield.

Anderson, D.G.
2001 Climate and culture change in prehistoric and early historic North America. *Archaeology of Eastern North America* 29:143-186.

Baker & Tilden
1869 *Atlas of Hartford and Tolland Counties* (map). Hartford: Baker & Tilden.

Barber, J.W.
1838 *Connecticut Historical Collections*. New Haven: Durie & Peck.

Bellantoni, N.F. and D. Jordan
1995 *Distribution of Paleo-Indian Cultural Material in Connecticut*. Paper presented to the Archaeological Society of Connecticut, fall 1995 meeting, Essex, Connecticut.

Bendremer, J. and R.E. Dewar
1993 The advent of prehistoric maize in New England. In *Corn and Culture in the Prehistoric New World*, edited by S. Johannessen and C.A. Hastorf, pp. 369-393. Boulder: Westview Press.

Binford, L.R.
1964 A consideration of archaeological research design. *American Antiquity* 29(4):425-441.

Bouchard, M.C.
2014 The Paleo Project: A review and interpretation of Paleo-Indian site distribution patterns in Connecticut - asking the questions thirty years after Templeton. *Bulletin of the Archaeological Society of Connecticut* 76:5-32.

Bragdon, K.J.
1996 *Native People of Southern New England, 1500-1650*. Norman: University of Oklahoma Press.

Brusic, L.M.
1986 *Amidst Cultivated and Pleasant Fields: A Bicentennial History of North Haven, Connecticut*. Canaan: Phoenix Publishing.

Burpee, C.W.
1928 *History of Hartford County, Connecticut: 1633-1928*. Chicago: S.J. Clarke Publishing.

Butzer, K.W.
1982 *Archaeology as Human Ecology: Method and Theory for a Contextual Approach*. Cambridge: Cambridge University Press.

Campisi, J.
1990 The emergence of the Mashantucket Pequot Tribe, 1637-1975. In *The Pequots in Southern New England: The Fall and Rise of an American Indian Nation*, edited by L.M. Hauptman and J.D. Wherry, pp. 117-140. Norman: University of Oklahoma Press.

Cassedy, D.F.
1999 The Archaic florescence: The Late and Terminal Archaic periods of Connecticut as seen from the Iroquois pipeline. *Bulletin of the Archaeological Society of Connecticut* 62:125-140.

Caulkins, F.M.
1895 *History of New London, Connecticut*. New London: H.D. Utley.

Ceci, L.
1990 Native wampum as a peripheral resource in the Seventeenth-Century world-system. In *The Pequots in Southern New England: The Fall and Rise of an American Indian Nation*, edited by L.M. Hauptman and J.D. Wherry, pp. 48-63. Norman: University of Oklahoma Press.

Clark, Delphina L.M. N.D. *Extracts of land records and probate records relating to Suffield properties from 1670*,
n.d. Seven volumes of unpublished manuscript at Kent Memorial Library, Suffield. (Temporarily housed Suffield Historical Society)

Concannon, M.T.
1993 Early Woodland depopulation: A review of the literature. *Bulletin of the Massachusetts Archaeological Society* 54(2):71-79.
Connecticut State Historic Preservation Office (CT SHPO)
2024 *Site Files*. Manuscripts filed with the Connecticut State Historic Preservation Office, Hartford, Connecticut.
Connecticut Office of State Archaeology (CT OSA)
2024 *Site Files*. Manuscripts filed with the Connecticut Office of State Archaeology, University of Connecticut, Storrs, Connecticut.
Cook, S.F.
1976 *The Indian Population of New England in the Seventeenth Century*. University of California Publications in Anthropology, Volume 12. Berkeley: University of California Press.
Cronon, W.
1983 *Changes in the Land: Indians, Colonists, and the Ecology of New England.* New York: Hill and Wang.
Cruson, D.
1991 *The Prehistory of Fairfield County*. Newtown: Newtown Historical Society.
Davis, M.B.
1969 Climatic changes in southern Connecticut recorded by pollen deposition at Rogers Lake. *Ecology* 50:409-422.
DeForest, J.W.
1852 *History of the Indians of Connecticut: From the Earliest Known Period to 1850*. Hartford: Hamersley.
DeLaet, J.
1909 From the 'New World' [1625-1640]. In *Narratives of New Netherland, 1609-1664*, edited by J.F. Jameson, pp. 36-60. New York: Charles Scribner's Sons.
Dincauze, D.F.
1990 A capsule prehistory of southern New England. In *The Pequots in Southern New England: The Fall and Rise of an American Indian Nation*, edited by L. Hauptman and J. Wherry, pp. 19-32. Norman: University of Oklahoma Press.
Dowhan, J.J. and R.J. Craig
1976 *Rare and Endangered Species of Connecticut and Their Habitats*. Report of Investigations Number 6. Hartford: State Geological and Natural History Survey of Connecticut.
Fairchild
1934 *Aerial Maps*. Manuscripts filed with the Connecticut State Library, Hartford, Connecticut.
Fawcett, M.J.
1995 *The Lasting of the Mohegans*. Uncasville: Mohegan Tribe.
Feder, K.L.
1984 Pots, plants, and people: The Late Woodland period in Connecticut. *Bulletin of the Archaeological Society of Connecticut* 47:99-111.
1999 The Late Woodland revisited: The times, they were a-changin' (but not that much). *Bulletin of the Archaeological Society of Connecticut* 62:155-174.
Fiedel, S.J.
2001 What happened in the Early Woodland? *Archaeology of Eastern North America* 29:101-142.
Filios, E.L.
1989 The end of the beginning or the beginning of the end: The third millennium B.P. in southern New England. *Man in the Northeast* 38:79-93.
Forrest, D.T.
1999 Beyond presence and absence: Establishing diversity in Connecticut's early Holocene archaeological record. *Bulletin of the Archaeological Society of Connecticut* 62:79-100.
2010 The Middle to Late Archaic transition in the Still River Valley of Western Connecticut. *Bulletin of the Archaeological Society of Connecticut* 72:63-72.

Forrest, D., B. Jones, and R. Thorson
2008 The Adriaen's Landing Project and the development of the Connecticut River floodplain at Hartford, Connecticut. *Bulletin of the Archaeological Society of Connecticut* 70:5-16.

Gookin, D.
1836 An historical account of the doings and sufferings of the Christian Indians in New England [1677]. *Transactions and Collections of the American Antiquarian Society* 2:423-534.
1970 *Historical Account of the Indians in New England [1674]*. Towtaid: Fiske.

Gordon, R.B.
1983 History of sea level changes along the Connecticut shore. In *Connecticut Archaeology: Past, Present and Future*, edited by R. Dewar, pp. 67-84. Storrs: Department of Anthropology, University of Connecticut.

Gorman, J.F.
2002 *Connecticut Valley Vernacular: The Vanishing Landscape and Architecture of the New England Tobacco Fields*. Philadelphia: University of Pennsylvania Press.

Guillette, M.E.
1979 *American Indians in Connecticut: Past to Present*. Hartford: Connecticut Indian Affairs Council.

Hauptman, L.M.
1990 The Pequot War and its Legacies. In *The Pequots of Southern New England: The Fall and Rise of an American Indian Nation*, edited by L.M. Hauptman and J.D. Wherry, pp. 69-80. Norman: University of Oklahoma Press.

Heitert, K. and A.P. Mair
2003 *Reconnaissance Archaeological Survey Eastwoods Active Adult Community, Suffield, CT.* Manuscript filed with the Connecticut State Historic Preservation Office, Hartford, Connecticut

Heritage Consultants (HC)
2009 *Phase I Cultural Resources Reconnaissance Survey of an 11.7 ac Parcel of Land Located Along Route 75 in Suffield, Connecticut.* Manuscript filed with the Connecticut State Historic Preservation Office, Hartford, Connecticut.
2014 *Phase I Cultural Resources Reconnaissance Survey of a Proposed Sewer Line Along Route 75 in Suffield, Connecticut.* Manuscript filed with the Connecticut State Historic Preservation Office, Hartford, Connecticut.

Holmes, S.L.
2015 *Report on Phase I Archaeological Reconnaissance Survey for Proposed Hamlet on East Street South in Suffield, Ct.* Manuscript filed with the Connecticut State Historic Preservation Office, Hartford, Connecticut.

Howard, D.
1935 *A New History of Old Windsor, Connecticut*. Windsor Locks: Journal Press.

Jennings, J.D.
1989 *Prehistory of North America*. Mountain View: Mayfield Publishing.

Jochim, M.A.
1979 Breaking down the system: Recent ecological approaches in archaeology. In *Advances in Archaeological Method and Theory, Volume 2*, edited by M.B. Schiffer, pp. 77-117. New York: Academic Press.

Jones, B.D.
1999 The Middle Archaic period in Connecticut: The view from Mashantucket. *Bulletin of the Archaeological Society of Connecticut* 62:101-124.

Jones, B.D. and D.T. Forrest
2003 Life in a postglacial landscape: Settlement-subsistence change during the Pleistocene-Holocene transition in southern New England. In *Geoarchaeology of Landscapes in the Glaciated Northeast*, edited by D.L. Cremeens and J.P. Hart. Albany: University of the State of New York.

Juli, H.D.
1999 Current perspectives on Early and Middle Woodland archaeology in Connecticut. *Bulletin of the Archaeological Society of Connecticut* 62:141-154.

Juli, H.D. and K.A. McBride
1984 The Early and Middle Woodland periods of Connecticut prehistory: Focus on the lower Connecticut River Valley. *Bulletin of the Archaeological Society of Connecticut* 47: 89-98.

Kehoe, A.B.
1981 *North American Indians: A Comprehensive Account*. Englewood Cliffs: Prentice-Hall.

Kohler, T.A. and S.C. Parker
1986 Predictive models for archaeological resource location. In *Advances in Archaeological Method and Theory, Volume 9*, edited by M.B. Schiffer, pp. 397-452. New York: Academic Press.

Kvamme, K.L.
1990 *The fundamental principles and practice of predictive archaeological modelling. In Mathematics and Information Science in Archaeology: A Flexible Framework*, edited by A. Voorips, pp. 257-295. Studies in Modern Archaeology, Volume 3. Bonn: Holos.

Lavin, L.
1984 Connecticut prehistory: A synthesis of current archaeological investigations. *Archaeological Society of Connecticut Bulletin* 47:5-40.
1987 The Windsor ceramic tradition in southern New England. *North American Archaeologist* 8(1):23-40.
1988 Coastal adaptations in southern New England and southern New York. *Archaeology of Eastern North America* 16:101-120.

Lavin, L. and R. Kra
1994 Prehistoric pottery assemblages from southern Connecticut: A fresh look at ceramic classification in southern New England. *Bulletin of the Archaeological Society of Connecticut* 57:35-51.

Leslie, D.E. and S. Sportman
2020 The Brian D. Jones Site (4-10B): A multi-component Paleoindian site in southern New England. *PaleoAmerica* 6(2):199-203.

Lothrup, J.C.
1991 *Archaeological Investigations of the Carolyn Site (139-P011), Suffield Correctional Facility, Suffield, Connecticut.* Manuscript filed with the Connecticut State Historic Preservation Office, Hartford, Connecticut.

Louis Berger & Associates, Inc. (LBA)
1988a *A Report on a Phase I Cultural Resource Investigation of a Proposed Correctional Facility, Suffield, Connecticut.* Manuscript filed with the Connecticut State Historic Preservation Office, Hartford, Connecticut.
1988b *Technical Report #6 Phase I Cultural Resource Investigation of the Route 20-75 Connector Hartford County, Connecticut.* Manuscript filed with the Connecticut State Historic Preservation Office, Hartford, Connecticut.
1989 *Management Summary, Phase II Archaeological Investigations of the Proposed Suffield Correctional Facility, Suffield, Hartford County, Connecticut.* Manuscript filed with the Connecticut State Historic Preservation Office, Hartford, Connecticut.

McBride, K.A.
1981 *Lower Connecticut River Valley Project: Report on the 1981 Field Season*. Manuscript filed with the Connecticut State Historic Preservation Office, Hartford, Connecticut.
1984 Middle and Late Archaic periods in the Connecticut River Valley: A re-examination. *Bulletin of the Archaeological Society of Connecticut* 47:55-72.
1990 The historical archaeology of the Mashantucket Pequot, 1637-1900: A preliminary analysis. In *The Pequots in Southern New England: The Fall and Rise of an American Indian Nation*, edited by L. Hauptman and J. Wherry, pp. 96-116. Norman: University of Oklahoma Press.
1992 Prehistoric and historic patterns of wetland use in eastern Connecticut. *Man in the Northeast* 43:10-24.

McBride, K.A. and N.F. Bellantoni
1982 The utility of ethnohistoric models for understanding Late Woodland-Contact change in southern New England. *Bulletin of the Archaeological Society of Connecticut* 45:51-64.

McBride, K.A. and R.E. Dewar
1981 Prehistoric settlement in the lower Connecticut River Valley. *Man in the Northeast* 22:37-65.
McBride, K.A. and R.S. Grumet
1992 *National Historic Landmark Nomination - Mashantucket Pequot Indian Reservation Archaeological District.* Manuscript filed with the Connecticut State Historic Preservation Office, Hartford, Connecticut.
McBride, K.A., W.M. Wadleigh, Robert E. Dewar, and M.G. Soulsby
1980 *Prehistoric Settlement in Eastern Connecticut: The North-Central Lowlands and Northeastern Highlands Surveys: 1979*. Manuscript filed with the Connecticut State Historic Preservation Office, Hartford, Connecticut.
McElroy, M.
1991 *Natural Drainage Basins in Connecticut, revised edition* (map). Hartford: Connecticut Department of Environmental Protection.
McWeeney, L.
1986 Sea level rise and the submergence of archaeological sites in Connecticut. *Bulletin of the Archaeological Society of Connecticut* 49:53-60.
1994 *Archaeological Settlement Patterns and Vegetation Dynamics in Southern New England in the Late Quaternary*. Unpublished PhD dissertation, filed with Yale University, New Haven, Connecticut.
1999 A review of late Pleistocene and Holocene climate changes in southern New England. *Bulletin of the Archaeological Society of Connecticut* 62:3-18.
Mercer, H.C.
1976 *The Dating of Old Houses* [1926], reprint. New Hope: Bucks County Historical Society.
Millis, T.L. and H. Millis
2007 Settlement and subsistence in the Lower Housatonic River Valley. *Bulletin of the Archaeological Society of Connecticut* 69:77-101.
Moeller, R.W.
1980 *6LF21: A Paleo-Indian Site in Western Connecticut*. American Indian Archaeological Institute, Occasional Paper Number 2. Washington: American Indian Archaeological Institute.
1984 Paleo-Indian and Early Archaic occupations in Connecticut. *Bulletin of the Archaeological Society of Connecticut* 47:41-54.
1999 A view of Paleo-Indian studies in Connecticut. *Bulletin of the Archaeological Society of Connecticut* 62:67-78.
Newman, M.T.
1976 Aboriginal New World epidemiology and medical care, and the impact of Old World disease imports. *American Journal of Physical Anthropology* 45(3):667-672.
Noel-Hume, I.
1970 *A Guide to Artifacts of Colonial America*. New York: Alfred A. Knopf.
Ogden, J.G.
1977 The late Quaternary paleoenvironmental record of northeastern North America. In Amerinds and Their Paleoenvironments in Northeastern North America. *Annals of the New York Academy of Sciences* 288:16-34.
Pagoulatos, P.
1988 Terminal Archaic settlement and subsistence in the Connecticut River Valley. *Man in the Northeast* 35:71-93.
Parker, J.
1987 Changing paleoecological relationships during the late Pleistocene and Holocene in New England. *Bulletin of the Archaeological Society of Connecticut* 50:1-16.
Pfeiffer, J.E.
1984 The Late and Terminal Archaic periods of Connecticut prehistory. *Bulletin of the Archaeological Society of Connecticut* 47:73-88.

Poirier, D.A.
1987 *Environmental Review Primer for Connecticut's Archaeological Resources*. Hartford: Connecticut State Historic Preservation Office.

Raber, M.S.
2015 *Cultural Resources Investigations for Proposed Canis Major Solar Development, 1005 North Street, Suffield, Connecticut.* Manuscript filed with the Connecticut State Historic Preservation Office, Hartford, Connecticut.

Ragir, S.
1967 A review of techniques for archaeological sampling. In *A Guide to Field Methods in Archaeology: Approaches to the Anthropology of the Dead*, edited by R.F. Heizer and J.A. Graham, pp. 181-197. Palo Alto: National Press.

Ransom, D.F.
1978 *National Register of Historic Places Inventory – Nomination Form: Suffield National Historic District.* Manuscript filed with the Connecticut State Historic Preservation Office, Hartford, Connecticut.

Ritchie, W.A.
1969 *The Archaeology of New York State, revised edition*. Garden City: Natural History Press.

Robinson, B., J. Peterson, and A. Robinson
1992 *Early Holocene Occupation in Northern New England.* Occasional Publications in Maine Archaeology 9. Augusta: Maine Historic Preservation Commission.

Rodgers, J.
1985 *Bedrock Geological Map of Connecticut* (map). Hartford: Connecticut Geological and Natural History Survey.

Rouse, I.
1980 Ceramic traditions and sequences in Connecticut. *Bulletin of the Archaeological Society of Connecticut* 43:57-75.

Russell, H.S.
1980 *Indian New England Before the Mayflower*. Hanover: University Press of New England.

Salisbury, N.
1990 Indians and colonists in southern New England after the Pequot War. In *The Pequots in Southern New England: The Fall and Rise of an American Indian Nation*, edited by L.M. Hauptman and J.D. Wherry, pp. 81-95. Norman: University of Oklahoma Press.

Salwen, B.
1966 European trade goods and the chronology of the Fort Shantok site. *Bulletin of the Archaeological Society of Connecticut* 34:5-39.
1969 A tentative in-situ solution to the Mohegan-Pequot problem. In *An Introduction to the Archaeology and History of the Connecticut Valley Indian*, edited by W.K. Young, pp. 81-88. Springfield: Springfield Museum of Science.
1970 Cultural inferences from faunal remains: Examples from three northeast coastal sites. *Pennsylvania Archaeologist* 40(1-2):1-8.
1983 Indians of southern New England and Long Island. In *Connecticut Archaeology: Past, Present and Future*, edited by R.E. Dewar, p. 85-121. Storrs: Department of Anthropology, University of Connecticut.

Shearin, A.E. and D.E. Hill
1962 *Soil Survey of Hartford County, Connecticut*. Washington, D.C.: U.S. Government Printing Office.

Sheldon, H. S.
1879 *Documentary History of Suffield in the Colony and Province of the Massachusetts Bay in New England, 1660-1749.* Springfield: The Clark W. Bryan Company.

Simmons, W.S.
1986 *Spirit of the New England Tribes: Indian History and Folklore, 1620-1984*. Hanover: University Press of New England.

Snow, D.R.
1980 *The Archaeology of New England*. New York: Academic Press.

Snow, D.R. and K.M. Lanphear

1988 European contact and Indian depopulation in the Northeast: The timing of the first epidemics. *Ethnohistory* 35(1):15-33.

Snow, D.R. and W.A. Starna

1989 Sixteenth-Century depopulation: A view from the Mohawk Valley. *American Anthropologist* 91:142-149.

Soulsby, M. And B. Clouette

1995 *Report: Phase I Archaeological Reconnaissance Survey, Connecticut Route 75 Expansion, Suffield, Connecticut*. Manuscript filed with the Connecticut State Historic Preservation Office, Hartford, Connecticut.

Speck, F.G.

1909 Notes of the Mohegan and Niantic Indians. *Anthropological Papers of the American Museum of Natural History* 3:183-210.

1928 Native tribes and dialects of Connecticut. *Annual Report of the Bureau of American Ethnology* 43:199-287.

Spiess, M.

1933 *The Indians of Connecticut*. Tercentenary Commission of the State of Connecticut Committee on Historical Publications. New Haven: Yale University Press.

Springman, M.J. and B.F. Guinan

1983 *East Granby: The Evolution of a Connecticut Town*. Canaan: Phoenix Publishing.

Springman, M.J. and A. Lahue

2011 *Images of America: Simsbury*. Charleston: Arcadia Publishing.

Starna, W.A.

1990 The Pequots in the early Seventeenth Century. In *The Pequots in Southern New England: The Fall and Rise of an American Indian Nation*, edited by L. Hauptman and J. Wherry, pp. 33-47. Norman: University of Oklahoma Press.

1992 The biological encounter: Disease and the ideological domain. *American Indian Quarterly* 16(4):511-519.

Stiles, H.R.

1891 *The History and Genealogies of Ancient Windsor, Connecticut, Volume I*. Hartford: Case, Lockwood & Brainard.

Stone, J.R., J.P. Schafer, E.H. London, and W.B. Thompson

1992 *Surficial Materials Map of Connecticut* (map). Washington D.C.: United States Geological Survey.

Sturtevant, W.G.

1975 Two 1761 wigwams at Niantic, Connecticut. *American Antiquity* 40 (4): 437-444.

Suffield General Executive Committee (SGEC)

1921 *Celebration of the Two Hundred and Fiftieth Anniversary of the Settlement of Suffield, Connecticut*. Suffield: Suffield General Executive Committee.

Swanton, J.R.

1952 The Indian Tribes of North America. Washington, D.C.: United States Government Printing Office.

Swigart, E.K.

1974 *The Prehistory of the Indians of Western Connecticut: Part I, 9000-1000 B.C.* Washington: American Indian Archaeological Institute.

Tantaquidgeon, G.

1972 *Folk Medicine of the Delaware and Related Algonkian Indians*. Harrisburg: Pennsylvania Historical and Museum Commission.

Terry, R.

1917 The first European visitors to Narragansett Bay. *Bulletin of the Newport Historical Society* 22:1-30.

Thomas, D.H.
1986 *Refiguring Anthropology: First Principles of Probability & Statistics*. Prospect Heights: Waveland Press.
Thomas, P.A.
1985 Cultural change on the southern New England frontier. In *Cultures in Contact: The European Impact on Native Cultural Institutions in Eastern North America, A.D. 1000-1800*, edited by W. Fitzhugh, pp. 131-162. Washington D.C.: Smithsonian Institution Press.
Trumbull, B.
1818 *A Complete History of Connecticut, Volume I.* New Haven: Maltby, Goldsmith and Company.
Trumbull, J.H.
1886 *The Memorial History of Hartford County, Connecticut: 1633-1884.* Boston: Edward L. Osgood.
1974 *Indian Names in Connecticut [1881]*. Hamden: Archon.
Twitchell, W.I., editor
1899 *Hartford in History*. Hartford: Plimpton Manufacturing Company.
United States Geological Survey (USGS)
1939 *Windsor Locks Quadrangle, Connecticut, 7.5 Minute Series (Topographic)*. Washington D.C.: United States Geological Survey.
1984 *Windsor Locks Quadrangle, Connecticut, 7.5 Minute Series (Topographic)*. Washington D.C.: United States Geological Survey.
Uricchio, W.J., editor
1976 *The Fowles History of Windsor, Connecticut: 1633-1900*. Windsor: Loomis Institute.
Van Dusen, A.E.
1975 *Puritans Against the Wilderness: Connecticut History to 1763*. Chester: Pequot Press.
Vibert, W.M.
1970 *Three Centuries of Simsbury, 1670-1970*. Simsbury: Simsbury Tercentenary Committee.
Wadleigh, W.M.
1981 Settlement and subsistence patterns in the Northeastern Highlands of Connecticut. *Man in the Northeast* 22:67-85.
Walwer, G.F.
1996 *Survey of Native American Burials and Cemeteries East of the Connecticut River*. Manuscript filed with the Connecticut State Historic Preservation Office, Hartford, Connecticut.
Walwer, G.F. and P. Pagoulatos
1990 Native American land-use patterns of the Outer Coastal Plain of New Jersey. *Bulletin of the Archaeological Society of New Jersey* 45:77-95.
Waters, J.H.
1965 Animal remains from some New England Woodland sites. *Bulletin of the Archaeological Society of Connecticut* 33:4-11.
Wegner, P.
2018 The LeBeau Fishing Camp and Weir: Connecticut's oldest fishing site. *Bulletin of the Archaeological Society of Connecticut* 80:13-24.
Wiegand, E.A.
1987 The prehistoric ceramics of southwestern Connecticut: An overview and reevaluation. *Bulletin of the Archaeological Society of Connecticut* 50:23-42.
Wilbur, C.K.
1978 *The New England Indians*. Chester: Globe Pequot Press.
Willoughby, C.C.
1935 *Antiquities of the New England Indians*. Cambridge: Peabody Museum of American Archaeology and Ethnology, Harvard University.
Wink, E. and D.E. Leslie
2021 A re-analysis of the Nature Conservancy Site: social connections in Connecticut During the Middle Woodland period. *Bulletin of the Archaeological Society of Connecticut* 83:73-85.
Woodford, E.M.
1855 *Map of Hartford County, Connecticut*. Philadelphia: H. & C.T. Smith.

Young, W.K.
1969 *An Introduction to the Archaeology and History of the Connecticut Valley Indian*. Springfield: Springfield Museum of Science.

Yount, J.T.
1971 *Bottle Collector's Handbook & Pricing Guide*. San Angelo: Educator Books.

Appendix A: Field Test Summary

Test #	Layer I Color	Layer I Texture	Layer I Depth in	Layer II Color	Layer II Texture	Layer II Depth in	Layer III Color	Layer III Texture	Layer III Depth in	Layer IV Color	Layer IV Texture	Layer IV Depth in	Auger in	Close Reason	Comments
1S-0E	10YR4/2	sloam	5	5YR4/4	sl	14							10	arb	compact Lay II; grv
1S-1E	10YR3/3	sloam	4	10YR3/2	sloam	10	10YR5/6	sloam	20	2.5Y6/2	sloam	30	20	arb	grv throughout
1S-3W	10YR3/2	sloam	5	10YR4/6	sloam	11	10YR4/4	sloam	17	10YR5/4	sloam	25	27	arb	Lay V 2.5Y4/4 fsl 34”
1S-4W	10YR3/2	sloam	5	10YR4/4	sl	11	7.5Y								
2S-0E	10YR4/3	sloam	7	10YR4/6	sloam	14	10YR4/4	fsl	20	10YR4/6	fsl	24	23	arb	grv throughout
2S-1E	10YR3/4	sloam	8	7.5YR4/4	sloam	13	7.5YR5/4	sloam	20	10YR5/4	sl	24	26	arb	Lay V 5YR4/2 fsl 31”; grv
2S-1W	10YR4/3	sloam	6	10YR3/2	sloam	13	10YR5/3	sloam	21	2.5Y6/3	sloam	28	23	arb	Iron staining in Lay IV; grv
2S-2W	10YR4/3	sloam	7	10YR3/3	sloam	13	10YR5/3	sloam	20	5YR4/3	sloam	26	23	rck	grv throughout
2S-3W	10YR3/3	sloam	3	10YR3/2	sloam	9	10YR5/6	sloam	15	5YR4/4	sl	22	16	arb	grv throughout
2S-4W	10YR3/2	sloam	5	10YR4/6	sloam	9	10YR4/4	sloam	24	2.5Y4/4	sloam	30	26	arb	grv throughout
2S-5W	10YR3/3	sloam	5	10YR4/6	sloam	11	10YR5/6	sloam	22	2.5Y6/2	sloam	28	24	arb	grv throughout
3S-0E	10YR4/3	sloam	5	10YR3/3	sloam	13	10YR5/6	sloam	22	2.5Y5/3	sl	27	24	arb	Iron staining in Lay III, grv
3S-1E	10YR4/3	sloam	6	10YR3/3	sloam	11	10YR5/6	sloam	19	5YR4/4	sl	25	21	atb	grv throughout
3S-1W	10YR4/3	sloam	6	10YR3/3	sloam	14	10YR5/6	sloam	23	2.5Y5/4	sloam	29	25	arb	Iron staining in Lay III and IV
3S-2W	10YR4/3	sloam	8	10YR3/3	sloam	17	10YR5/6	sloam	23	2.5Y5/2	sl	26	24	arb	grv throughout
3S-3W	10YR4/6	fsl	10	10YR5/6	sloam	14	5YR4/4	sl	16				14	arb	grv throughout
3S-4W	10YR4/3	sloam	6	10YR3/3	sloam	15	10YR5/6	sloam	23	5YR4/4	sl	29	25	arb	grv throughout
3S-5W	10YR3/3	sloam	5	10YR3/2	sloam	8	10YR5/6	sloam	13	5YR4/4	sl	31	20	arb	grv throughout
3S-6W	10YR3/3	sloam	6	10YR3/2	sloam	12	10YR5/6	sloam	24	2.5Y6/2	sloam	30	26	arb	grv throughout
4S-0E	10YR4/3	sloam	4	10YR3/3	sloam	10	10YR5/6	sloam	16	2.5Y5/4	sl	22	17	arb	grv throughout
4S-1E	10YR3/4	sloam	7	10YR3/2	sloam	13	10YR5/6	sloam	22	2.5Y5/4	sl	29	22	arb	Iron staining in Lay III
4S-1W	10YR4/3	sloam	7	10YR3/3	sloam	13	10YR5/6	sloam	19	5YR4/4	sl	29	22	arb	grv throughout
4S-2W	10YR4/3	sloam	7	10YR3/3	sloam	13	10YR5/6	sloam	20	5YR4/4	sl	27	21	arb	grv throughout
4S-3W	10YR4/6	fsl	8	10YR5/6	sloam	13	5YR4/4	sl	18				14	arb	grv throughout
4S-4W	10YR4/3	sloam	6	10YR3/3	sloam	12	10YR5/6	sloam	20	2.5Y5/4	fsl	32	22	arb	grv throughout
4S-5W	10YR4/3	sloam	5	10YR5/6	sloam	11	10YR6/4	sloam	20	10YR6/3	sloam	31	22	arb	Iron staining in Lay IV;grv
4S-6W	10YR3/3	sloam	5	10YR3/2	fsl	10	10YR5/6	fsl	20	2.5Y6/2	sloam	28	22	arb	grv throughout
5S-0E	10YR4/3	sloam	3	10YR3/3	sl	8	10YR5/6	sloam	17	5YR4/4	sl	22	18	arb	Lay IIvery compact w/ grv; Iron staining in Lay III
5S-1W	10YR4/3	sloam	7	10YR3/3	sloam	13	7.5YR5/8	sloam	20	10YR6/2	sloam	30	21	arb	Iron staining in Lay III and IV
5S-2W	10YR4/3	sloam	7	10YR3/3	sloam	13	10YR5/6	sloam	21	2.5Y5/4	fsl	26	23	arb	grv throughout
5S-3W	10YR4/3	sloam	5	10YR3/3	sloam	11	7.5YR5/8	sloam	22	2.5Y4/4	sl	27	24	arb	grv throughout
6S-1W	10YR4/3	sloam	5	10YR3/3	sl	12	10YR6/2	sloam	24				22	arb	Iron staining in Lay III; disturbed
6S-0E	10YR4/3	sloam	9	10YR5/6	sloam	11	5YR4/4	sl	17				12	arb	truncated B2

Abbreviations:

arb - arbitrary termination
cloam – clay loam
com - termination due to compact soil; compact
csand – coarse sand
fsand - fine sand
fsl - fine sandy loam
grv - termination due to dense gravel; gravel, gravelly
lfs - loamy fine sand
lo - lower
lsand - loamy sand
mtld - mottled
prof - profile
rck - termination due to rock; rock, rocky
scl - sandy clay loam
sl - sandy loam
sloam - silt loam
unc - termination due to unconsolidated sediments
wtr - termination due to water

Appendix B: Features and Artifacts by Test Unit

Test #	***Layer***	***Artifacts***
1S-3W	I	1 heavily oxidized indeterminate metal fastener, 46.6g.
1S-4W	I	2 heavily oxidized wire nails, ~3.7mm shaft diameter, ~57.6mm shaft length, 9.9g. (>1850)
		1 heavily oxidized wire roofing nail, ~3.0mm shaft diameter, ~28.7mm shaft length, 2.1g. (>1850)
		1 heavily oxidized indeterminate nail, 3.9g.
1S-4W	II	1 heavily oxidized metal rod, ~10.3mm diameter, 30.1g.
		1 heavily oxidized metal plate with articulated fasteners, 560.4g.
2S-4W	I	3 fragments clear window glass, 3.3mm thick, 5.4g.3.6g.
		1 heavily oxidized fragment indeterminate nail, 3.6g.
3S-2W	I	1 fragment whiteware, 7.6mm max thickness, 2.7g. (>1820)
		1 fragment heavily oxidized indeterminate metal fastener, 12.3g.
		1 fragment coal, 0.5g.
3S-4W	I	1 fragment clear glass bottle, 2.1mm max thickness, 0.4g.

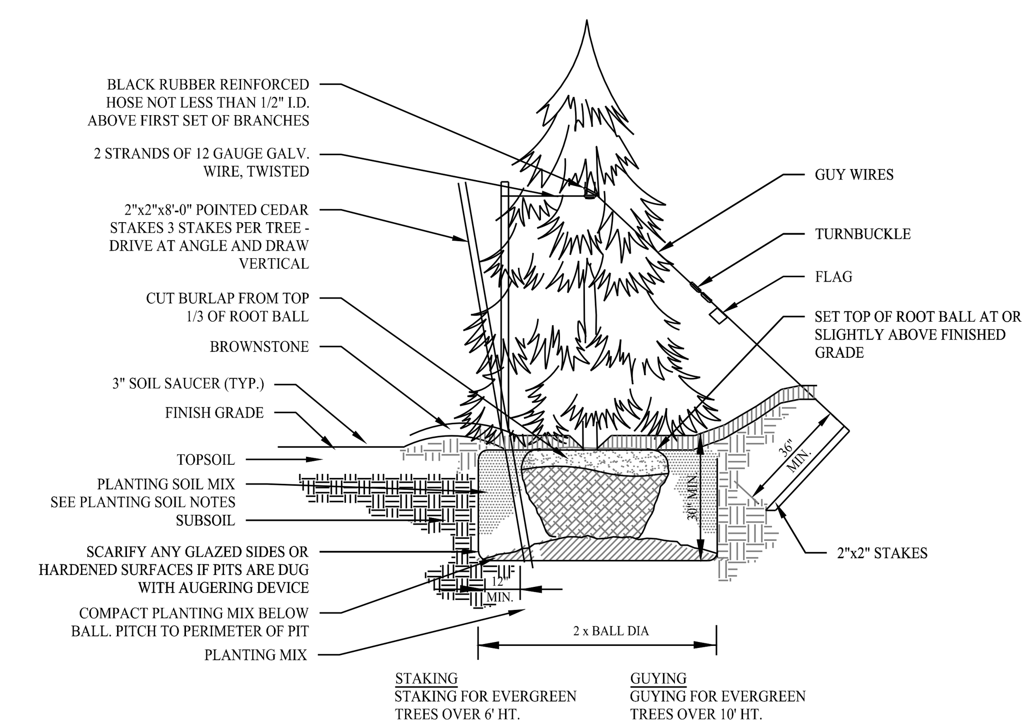
EXHIBIT D

Enhanced Landscaping Plan

PLANTING SCHEDULE

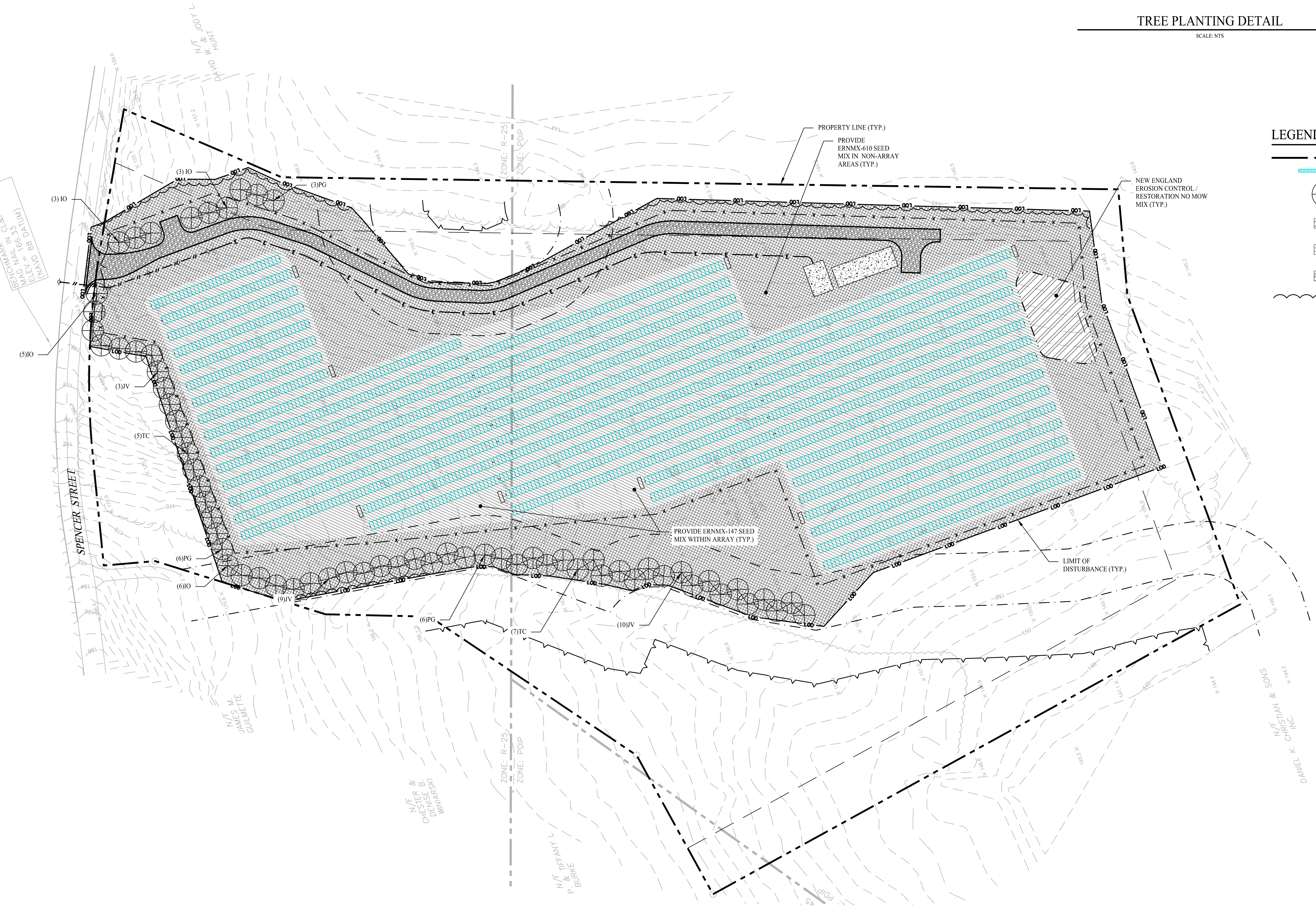
KEY	QTY	BOTANICAL NAME	COMMON NAME	ROOT	SIZE	COMMENTS
TREES						
IO	17	ILEX OPACA	AMERICAN HOLLY	B&B	7'-8' HT	FULL, EXTRA HEAVY, 15' O.C.
JV	22	JUNIPERUS VIRGINIA	EASTERN RED CEDAR	B&B	7'-8' HT	FULL, EXTRA HEAVY, 15' O.C.
PG	15	PICEA GLAUCA	WHITE SPRUCE	B&B	7'-8' HT	FULL, EXTRA HEAVY, 15' O.C.
TC	12	TSUGA CANADENSIS	CANADIAN HEMLOCK	B&B	7'-8' HT	FULL, EXTRA HEAVY, 15' O.C.
SEED MIXES						
NEW ENGLAND EROSION CONTROL/RESTORATION NO MOW MIX (NEW ENGLAND WETLAND PLANTS, INC.)						
APPLICATION RATE: 1 LBS/2,500 S.F.						
ERNMX-147						
APPLICATION RATE: 42 LBS/ACRE WITH A COVER CROP OF ANNUAL RYEGRASS AT 12 LBS/ACRE						
ERNMX-610						
APPLICATION RATE: 30 LBS/ACRE OF A COVER CROP. FOR A COVER CROP USE EITHER GRAIN OATS (JAN 1TO JUL 31) OR GRAIN RYE (AUG 1 TO DEC 31)						

NOTE: ERNMX-147 TO BE USED WITHIN ARRAY. ERNMX-610 TO BE USED OUTSIDE FENCELINE AND IN NON-ARRAY AREAS (ROAD SHOULDERS, PERIMETER ALLEYS, ELECTRIC TRENCHES, ETC.)



TREE PLANTING DETAIL

SCALE: NTS



LEGEND

(symbol)	PROPERTY LINE
(symbol)	TRINA 540W SOLAR MODULES
(symbol)	EVERGREEN TREE
(symbol)	NEW ENGLAND EROSION CONTROL / RESTORATION NO MOW MIX
(symbol)	ERNMX-147 SEED MIX
(symbol)	ERNMX-610 SEED MIX
(symbol)	LIMITS OF TREE CLEARING

Rev. #:	Date	Description

Graphic Scale:

50 0 50 100

SOLLI ENGINEERING

501 Main Street, Monroe, CT 06468 T: (203) 880-5455 | F: (203) 880-9695
11 Vanderbilt Ave, Norwood, MA 02062 T: (781) 352-8491 | F: (203) 880-9695

Drawn By:	AWC
Checked By:	MFB
Approved By:	KMS
Project #:	22112901
Plan Date:	07/18/24
Scale:	1" = 50'

STATE OF CONNECTICUT MARY F. BLACKBURN NO. 1499 LICENSED LANDSCAPE ARCHITECT

Mary Blackburn, P.L.A.
CT 1499

Project:

PROPOSED SOLAR PHOTOVOLTAIC ARRAY

0 SPENCER STREET
SUFFIELD, CONNECTICUT

Sheet Title: LANDSCAPE PLAN

Sheet #: 2.61