

HANNIGAN
281 GROVE ST.



WESTWOOD BOARD OF APPEALS
APPLICATION FOR HEARING

- Name of Applicant: BLUESSEL HOME SOLAR, INC.
- Applicant is (check one): Owner Tenant Abutter Purchaser Other
- Mailing address of Applicant: 17 JAN SEBASTIAN DRIVE, STE. #12
SANDWICH, MA 02563
- Telephone - Home: _____ Business: 508-833-9500
- E-Mail Address of Applicant: cvilese@bluesel.com @mtanghee@bluesel.com
- Address of Property subject to Hearing: 281 GROVE ST., WESTWOOD, MA 02090
- Owner of Property: WILLIAM & MARY-JO HANNIGAN (TR.)
GROVE STREET MEADOW 281 NOMINEE TRUST
- Mailing Address of Property Owner: 245 GROVE ST., WESTWOOD, MA 02090
- Telephone - Home: 617-842-4448 Business: _____
- Deed recorded in: Norfolk County Registry of Deeds: Book # _____ Page # _____
- Land and Court Registry: Certificate # 184382 Book # N/A Page # N/A
(DEED)
- Property MAP # 5 LOT # 19A DISTRICT SINGLE RESIDENCE E (SRE)
- Has an appeal/application ever been filed with the ZBA on this property? (Y/N) N If yes, when: _____
- NATURE of Application (check one):
 Appeal in accordance with MA G.L.Ch. 40A, Sec. 8 as amended
 Special Permit in accordance with MA G.L.Ch.40A, Sec. 9 as amended
 Variance in accordance with MA G.L. Ch. 40A, Sec. 10 as amended

When applying for a Special Permit under Section 9.3 of the Westwood Zoning Bylaw, please make sure that you and/or your attorney refer to the specific bylaw regarding this section.

STATE the EXACT NATURE of this application including the applicable section number(s) of the Westwood Zoning Bylaw: PER THE TOWN OF WESTWOOD ZONING BYLAW, SECTION 4.1.7.5, WE ARE REQUESTING APPROVAL FOR A SPECIAL PERMIT B TO INSTALL A LARGE SCALE RESIDENTIAL SOLAR GROUND MOUNT PHOTOVOLTAIC ARRAY + INVERTERS. THE REASON IS THIS SOLAR SYSTEM IS OVER 15 KWH DC IN TOTAL SIZE, AS IT IS 26.9 KWH DC TOTAL. THE SOLAR SYSTEM WOULD BE PLACED IN A FIELD ON AN UNDEVELOPED RESIDENTIAL LOT IN A SINGLE RESIDENCE E DISTRICT (BYLAW

Plan on a minimum of three months to complete the process.

3.1.1), THE SOLAR PV PANELS WOULD PRODUCE ELECTRICITY.

I hereby request a hearing before the Westwood Board of Appeals with reference to the subject property.

I am aware that the cost of legal advertising will be billed to me directly as the Applicant, by the newspaper at a later date. I am also aware of the provisions in the Zoning Bylaw with regard to Reimbursement for Consultants, and I agree to reimburse the Board of Appeals and the Town of Westwood for all costs incurred by the Town or its' Boards for all fees, expenses and costs in connection with the review and evaluation of the Application for Special Permit and/or Variance.

I have reviewed the Zoning Board of Appeals Instructions and Information and understand the time requirements.

Signed: Michael Fonghe Date: 3/16/17
APPLICANT'S SIGNATURE (or Agent)

Signed: Mary Jo Haanigan, Justice Date: March 14, 2017
PROPERTY OWNER (if different from applicant)

SCHEDULE OF FILING FEES FOR THE BOARD OF APPEALS

Residential Properties - \$165.00

Business Properties - \$330.00

Comprehensive Permits - \$2530.00

CHECKLIST:

- 6 copies of the Application
- 6 copies of the OPTIONAL Appendices (if completed)
- 6 copies of a Certified Plot Plan – size 11" x 17"
- 6 copies of the Building Plans (interior and/or exterior as applicable) – size 11" x 17"
- 6 copies of the Building Commissioner's denial of a building permit or equivalent

File the six (6) packets in the Town Clerk's office located at 580 High Street making sure to include a check for the filing fee in the correct amount.

Deliver one (1) electronic copy of the Application with attachments to the Office of the Board of Appeals at 50 Carby Street.

HANNIGAN

BlueSel Home Solar, Inc.'s Town of Westwood Zoning Board of Appeals Application Appendix B – Special Permit Optional Information- for Customer William & Mary – Jo Hannigan, Trustee & Grove Street Meadow 281 Nominee Trust, for 281 Grove St., Westwood, MA 02090 /March 21, 2017

OPTIONAL

APPENDIX B - Special Permit Considerations

1) The structure is in harmony with the general purpose and intent of the bylaw.

As per the **Town of Westwood Bylaw Section 1.1 "Purpose"**, we respect and wish to adhere to the regulations enacted to protect health, safety, (including fire hazard), and the natural environment, as well as appropriate land use. "Per the **Town of Westwood Zoning Bylaw Section 4.1.7.5 on "Principal Use & Districts"**, identifying this project as in a **"Single Residence Use 5 District" & "Large Scale Solar"**, we understand that this use may be **permitted by Special Permit from the Zoning Board of Appeals (ZBA)**, as denoted by the letter **"BA"** on the applicable table.

BlueSel Home Solar, Inc. proposes to install a **large scale, 26.9 kWh DC, residential solar ground-mounted photovoltaic (PV) array**, within an existing maintained field on the undeveloped lot # 122 at 281 Grove St., Westwood, MA 02090 for the property owners, William & Mary-Jo Hannigan. The solar system would be placed low to the ground, with the lower edge about 2 feet off the ground & the upper edge about 10 feet off the ground. So it will not be visible from all over, as for example, a cell tower would be. The residential property owners' **intended use** for the solar electricity generated at this site is to help offset their personal residential electrical needs, at their adjoining lot # 124 located at 245 Grove Street.

2) The structure is in an appropriate location and is not detrimental to the neighborhood and does not significantly alter the character of the zoning district.

The ZBA classifies the **Zoning District** for this solar project located at 281 Grove Street as **"Single Residence Use District 5"**, which is a vacant, undeveloped residential lot. The **locus has an area of 7.92 acres** and was historically part of a much larger parcel of land. In order to respect the **residential** character of this Zoning District & the neighborhood, the solar PV ground mount will be installed within an **existing field**, that has been maintained for many years, mainly in the **northwest section** of the parcel. No tree or natural vegetation removal is proposed.

3) Adequate and appropriate facilities will be provided for the proper operation of the proposed structure.

The BlueSel Home Solar, Inc. project includes installing solar panels and a utility pedestal, and **temporary** trenching for electrical conduits. The electricity needed for the work will be supplied by the transformer, located near the **adjoining residential property** at 245 Grove Street, with the **same property owners**.

4) The proposed structure will not be detrimental or offensive to the adjoining zoning districts and neighboring properties due to the effects of lighting, odors, smoke, noise, sewage, refuse material, visual or other nuisances.

BlueSel Home Solar, Inc. is has carefully considered the potential **visual nuisance** & the **safety, including fire hazards** of the solar PV installation, and planned to mitigate those as much as possible. We intend to construct the residential solar PV ground mount array in an **area well hidden, due to vegetation surrounding the field, therefore minimizing visual impact to the abutters**, such as reflection off the solar panels. No vegetation is required for the installation of the solar panels and transformer. Also, since the upper edge is only 10 feet off the ground, **sliding snow should not be an issue**, as it might be in the case of a roof-mount solar system.

Also, to avoid possible **fire hazards**, all electrical components will be locked so there is no chance for anyone to touch live wires. Furthermore, it will meet the Town of Westwood Structural Requirements for wind & snow loads.

5) The proposed structure will not cause undue traffic congestion in the immediate area.

The proposed solar PV ground mount is being set up in a field on an undeveloped residential lot, which is privately owned, so **it should not affect traffic in the immediate area, or cause the number of visitors to that area to increase.**

DECLINED

DATE ISSUED: _____ FEE PAID: _____ NO. _____

TOWN OF WESTWOOD APPLICATION FOR PERMIT TO BUILD

To the Building Commissioner: _____ Date: _____

The undersigned hereby applies for a permit to Build - Alter - Remodel, etc., according to information indicated in this application and plans and specifications submitted herewith.

PLEASE PRINT CLEARLY								
IMPORTANT - Applicant to complete all items in sections I, II, III, IV, AND V								
I. LOCATION OF BUILDING								
STREET ADDRESS	281 GROVE ST.	R. SIDE YARD SETBACK _____						
	(NO.) (STREET)	L. SIDE YARD SETBACK _____						
ZONING DISTRICT _____	LOT FRONTAGE _____	REAR YARD SETBACK _____						
ASSESSORS MAP # _____	LOT# _____ LOT SIZE _____	FRONT YARD SETBACK _____						
II. TYPE AND COST OF BUILDING - All applicants complete Parts A - D.								
A. TYPE OF IMPROVEMENT 1 New Building 2 Addition ③ Alteration - ADDING GROUND MOUNT SOLAR 4 Repair, replacement 5 Wrecking 6 Moving (relocation) 7 Foundation only 8 Pools, Fences, Towers Tennis Courts, etc.	D. PROPOSED USE - For "Wrecking" most recent use RESIDENTIAL 13 One Family 14 Two or more family - Enter number of units 15 Transient hotel, motel, or dormitory - Enter number of units 16 Garage 17 Carport 18 Other - Specify UNDEVELOPED LOT - ADD SOLAR GROUND MOUNT PV INSTALLATION (84 PANELS WITH 2 INVERTERS FOR 26.880 KWH DC)	NONRESIDENTIAL 19 Amusement, recreational 20 Church, other religious 21 Industrial 22 Parking garage 23 Service station, repair garage 24 Hospital, Institutional 25 Office, bank, professional 26 Public Utility 27 School, library, other educational 28 Stores, mercantile 29 Tanks, towers 30 Other - Specify						
B. OWNERSHIP 9 Private (Individual, Corporation, nonprofit institution, ect.) 10 Public (Federal, State or Local Government)	E. TYPE OF OCCUPANCY OR USE; NEW HOME, ETC. Briefly outline scope and nature of work to be done. N/A							
C. COST 11 Cost of Basic Construction (50%) \$ 57,168 To be installed but not included in the above cost a. Electrical (50%) \$ 57,167 b. Plumbing _____ c. Heating, air conditioning _____ d. Other (elevator, etc.) _____ 12 TOTAL COST OF IMPROVEMENT \$ 114,335	<table style="width:100%; border: none;"> <tr> <td style="width: 50%;"></td> <td style="width: 50%; text-align: center;">RECEIVED</td> </tr> <tr> <td></td> <td style="text-align: center;">FEB 13 2017</td> </tr> <tr> <td></td> <td style="text-align: right; font-size: small;">TOWN OF WESTWOOD COMMISSIONER OF BUILDING</td> </tr> </table>			RECEIVED		FEB 13 2017		TOWN OF WESTWOOD COMMISSIONER OF BUILDING
	RECEIVED							
	FEB 13 2017							
	TOWN OF WESTWOOD COMMISSIONER OF BUILDING							
III. SELECTED CHARACTERISTICS OF BUILDING <small>For new buildings and additions, complete Parts E-L; for wrecking, complete only Part J, for all others skip to IV.</small>								
F. PRINCIPAL TYPE OF FRAME 31 Masonry 32 Wood frame 33 Structural steel 34 Reinforced concrete 35 Other - Specify	H. TYPE OF SEWAGE DISPOSAL 41 Public Sewer 42 Private (septic tank, etc.)	K. DIMENSIONS 49 Number of stories _____ 50 Total sq.ft. of floor area, all floors, based on exterior dimensions _____ 51 Total land area, sq.ft. _____						
G. PRINCIPAL TYPE OF HEATING FUEL 36 Gas 38 Electricity 40 Other - Specify 37 Oil 39 Coal	I. TYPE OF WATER SUPPLY 43 Public or Private Company 44 Private (well)	L. NUMBER OF OFF - STREET PARKING SPACES 52 Enclosed _____ 53 Outdoors _____						
J. TYPE OF MECHANICAL Will there be air conditioning? 45 Yes 46 No Will there be an elevator? 47 Yes 48 No		M. RESIDENTIAL BUILDINGS ONLY 54 No. of bedrooms _____ 55 No. of baths: Full Partial						

SECTION N/A

IV. TO BE COMPLETED BY ALL APPLICANTS USE N/A IF NOT APPLICABLE

- 1. Will building be erected on solid or filled land N/A If filled land how long ago filled N/A
- 2. Will foundation be laid on earth, rock, timber, piles N/A
- 3. Foundation material N/A
- 4. Roof (flat, pitched) N/A
- 5. Roof covering N/A
- 6. Will all construction to be performed conform to State and Local Building Codes YES
- 7. Has the applicant complied with the Architectural Access Code N/A
- 8. Does this Building or Structure conform to the Zoning Bylaw YES
- 9. Has the applicant complied with the Energy Code N/A
- 10. Is this property in the FLOOD PLAIN AREA N/A

THIS IS A TRUE STATEMENT SIGNED UNDER PENALTIES OF PERJURY

V. IDENTIFICATION - To be completed by all applicants - Complete street and mailing addresses

NAME		COMPLETE ADDRESS	HOME & BUS. PHONE
Owner or Lessee	MARY-JD HANNIGAN TRUSTEE	243 GROVE ST. WESTWOOD, MA 02090	617-842-4448
Builder/Contractor	BLUESEL HOME SOLAR, INC. BRANDON CANTELLI	17 JAN SEBASTIAN DR. STE#12 SANDWICH, MA 02563	508-833-9500
Architect/Engineer			

N/A

I hereby certify that the proposed work is authorized by the owner of record and that I have been authorized by the owner to make this application as his authorized agent.

Signature of Applicant: *[Signature]* Address: BLUESEL HOME SOLAR, INC. 17 JAN SEBASTIAN DR. STE#12 SANDWICH, MA 02563 Application Date: 2-8-2017

This permit is approved subject to the provisions of all Federal and State Laws, Rules & Regulations and Con. Com. approval.

Sewer Permit No.	N/A
Sanitary Permit No. (Title V)	N/A
Highway Dept. Permit	N/A
Fire Dept. Permit	N/A
Water District Permit	N/A
CONTRACTOR LICENSING INFORMATION	
Construction Supervisor License No.	CS-108979
Date of Expiration	03-20-2019
Home Improvement Contractor No.	166151
Date of Expiration	04-29-2018

COMMENTS - DEPARTMENT USE ONLY

BUILDING COMMISSIONER'S DENIAL
 REQUIRES SPECIAL PERMIT UNDER SECTION 4-1-7.5 - LG-SCALE SOLAR
 I have reviewed the applicant's request for a Building Permit and determined that it be forwarded to the Zoning Board of Appeals
[Signature]
 BUILDING COMMISSIONER

2/25/17 g.fied

A. I hereby certify under penalty of perjury that I carry Workers' Compensation Insurance Coverage.

Signature: _____

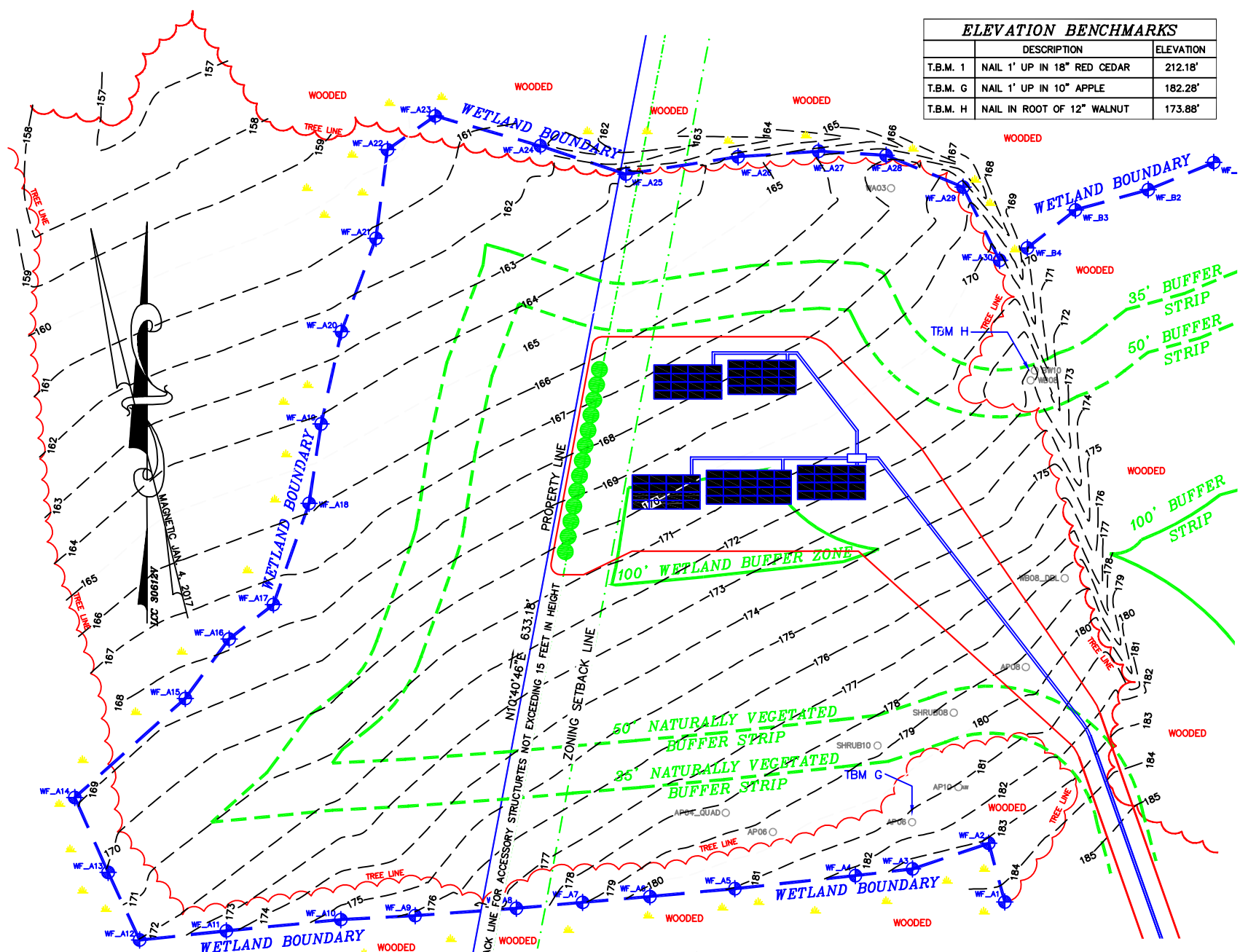
Name of Insurance Company: _____

Policy Number: _____ Expiration Date: _____

B. I do not carry Workers' Compensation Coverage as I am an unincorporated sole proprietorship with no employees, using other self-employed sub-contractors for all work.

Signature _____

ELEVATION BENCHMARKS		
T.B.M.	DESCRIPTION	ELEVATION
T.B.M. 1	NAIL 1' UP IN 18" RED CEDAR	212.18'
T.B.M. G	NAIL 1' UP IN 10" APPLE	182.28'
T.B.M. H	NAIL IN ROOT OF 12" WALNUT	173.88'



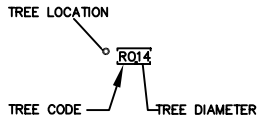
N/F
 GROVE STREET MEADOW 281 NOMINEE TRUST
 CERT. # 184382
 ASS. MAP 5, LOT 19A

TREE DESCRIPTION LEGEND

CODE	DESCRIPTION
AP#	APPLE
BW#	BLACK WALNUT
RC#	RED CEDAR
SG#	SNAG
WA#	WHITE ASH
WB#	WHITE BIRCH
DBL	DOUBLE
QUAD	FOUR STEMMED

N/F
 JOHN J. TIERNEY & MARGARET L. HEGER
 CERT. # 183521
 ASS. MAP 5, LOT 123

DETAIL



ZONING TABLE	
SINGLE RESIDENCE E	
AREA	80,000 S.F.
FRONTAGE	175 FEET
SETBACKS:	
FRONT YARD	40 FEET ¹
SIDE YARD	20 FEET
REAR YARD	30 FEET
BUILDING HEIGHT	25-35 FEET
IMPERVIOUS SURFACE	50% MAXIMUM
LOT COVERAGE	25% MAXIMUM
LOT WIDTH	175 FEET
MINIMUM NON-WETLAND AREA	60,000 S.F.

¹MEASURED FROM A LINE TWENTY FEET OFF THE CENTERLINE OF STREETS THAT ARE LESS THAN FORTY FEET WIDE.

LEGEND

AD	AREA DRAIN
B	BERM
COMM	COMMUNICATIONS CONDUIT
C	CURB
DCB	DRAIN CATCH BASIN
DL	DRAIN LINE
DM	DRAIN MANHOLE
DO	DRAIN OUTFALL
EL	ELECTRIC LINE
EO	ELECTRICAL OUTLET
F	FENCE
GL	GAS LINE
GG	GAS GATE
GTC	GEO-THERMAL CONDUIT
GP	GUARD POST
H	HYDRANT
ICV	IRRIGATION CONTROL VALVE
IP	LIGHTPOST
OW	OBSERVATION WELL
PE	PAVEMENT EDGE
SL	SEWER LINE
SM	SEWER MANHOLE
SH	SPRINKLER HEADS COLOR CODED TO LOCATED FLAGS
TM	TELEPHONE MANHOLE
TL	TELEPHONE LINE
TC	TELEVISION CONDUIT
UM	UTILITY MANHOLE
UP	UTILITY POLE
WG	WATER GATE
WL	WATER LINE
WF	WETLAND FLAG

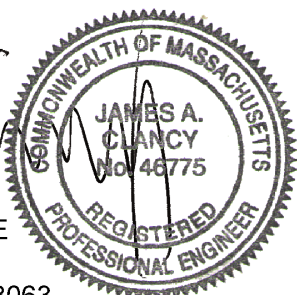


CONTRACTOR TO VERIFY ACTUAL LOCATION OF EXISTING UTILITY SERVICES IN THE FIELD PRIOR TO CONSTRUCTION (WATER, ELECTRICAL, ETC.) CALL DIG-SAFE BEFORE YOU DIG 811.

NOTES:

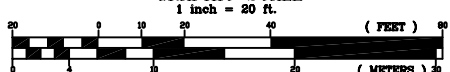
- SUBJECT PARCEL IS SHOWN AS ASSESSORS SHEET 5, LOT 19A. RECORD TITLE FROM CERTIFICATE OF TITLE 184382.
- UTILITY LOCATIONS DEPICTED ON THIS PLAN, BOTH ABOVE- AND BELOW-GROUND, ARE BASED UPON DIRECT FIELD OBSERVATIONS MADE BY METROWEST ENGINEERING, INC. PERSONNEL DURING A FIELD SURVEY. RECORD PLAN LOCATIONS, OR DIGSAFE PAINT-INDICATORS, METROWEST ENGINEERING, INC. DOES NOT WARRANT THAT ALL UTILITIES ARE SHOWN OR THAT UTILITIES THAT ARE DEPICTED ARE SHOWN IN THE CORRECT LOCATION, OR WITH THE PROPER MATERIAL DESIGNATION. METROWEST ENGINEERING, INC. DOES NOT WARRANT OR PROVIDE AN EXPRESS OR IMPLIED WARRANTY THAT ALL SUBSURFACE IMPROVEMENTS ARE SHOWN OR ARE SHOWN CORRECTLY, INCLUDING, BUT NOT LIMITED TO, UTILITIES, UNDERGROUND VAULTS, UNDERGROUND TANKS OR CHAMBERS, BUNKERS, DUCT BANKS, AND/OR OTHER MAN-MADE IMPROVEMENTS THAT LIE BENEATH THE GROUND SURFACE AT THE TIME OF THE SURVEY.
- CONTRACTOR IS SOLELY RESPONSIBLE FOR ESTABLISHING EXISTING LOCATIONS OF ALL SUB-SURFACE UTILITIES AND REQUIREMENTS TO REPLACE, RELOCATE OR REPAIR EXISTING UTILITIES. METROWEST ENGINEERING, INC. IS NOT RESPONSIBLE OR LIABLE FOR DELAYS OR COSTS ASSOCIATED WITH REMOVING/REPLACING/RELOCATING OF EXISTING UTILITIES.
- THE PROPERTY DESCRIBED ON THIS SURVEY DOES NOT LIE WITHIN A SPECIAL FLOOD HAZARD AREA AS DEFINED BY THE FEDERAL EMERGENCY MANAGEMENT AGENCY; THE PROPERTY LIES WITHIN ZONE "X" OF THE FLOOD INSURANCE RATE MAP IDENTIFIED AS MAP NUMBER 2502100176E, BEARING AN EFFECTIVE DATE OF JULY 17, 2012 AND ZONE "X" OF THE FLOOD INSURANCE RATE MAP IDENTIFIED AS MAP NUMBER 2502100177E, BEARING AN EFFECTIVE DATE OF JULY 17, 2012.
- THE WETLANDS SHOWN HEREON WERE DELINEATED BY DEBORA J. ANDERSON IN DECEMBER 2016 AND LOCATED AS SHOWN HEREON BY METROWEST ENGINEERING, INC. ON DECEMBER 30, 2016.

James A. Clancy, PE
 601 Asbury Avenue
 National Park, NJ 08063
 Massachusetts PE Lic # 46775



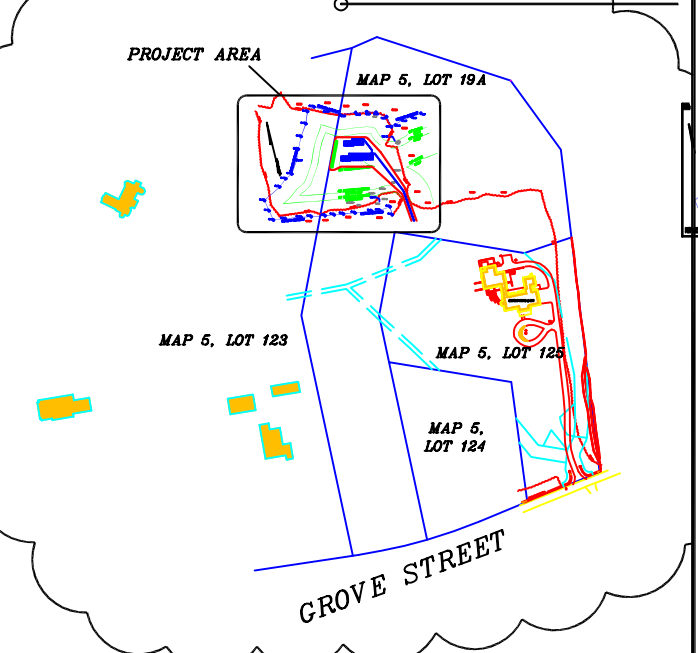
FOR METROWEST ENGINEERING, INC. DATE
 ROBERT A. GEMMA, P.L.S. # 37046

GRAPHIC SCALE



LOCUS PLAN

SCALE: 1"=200'



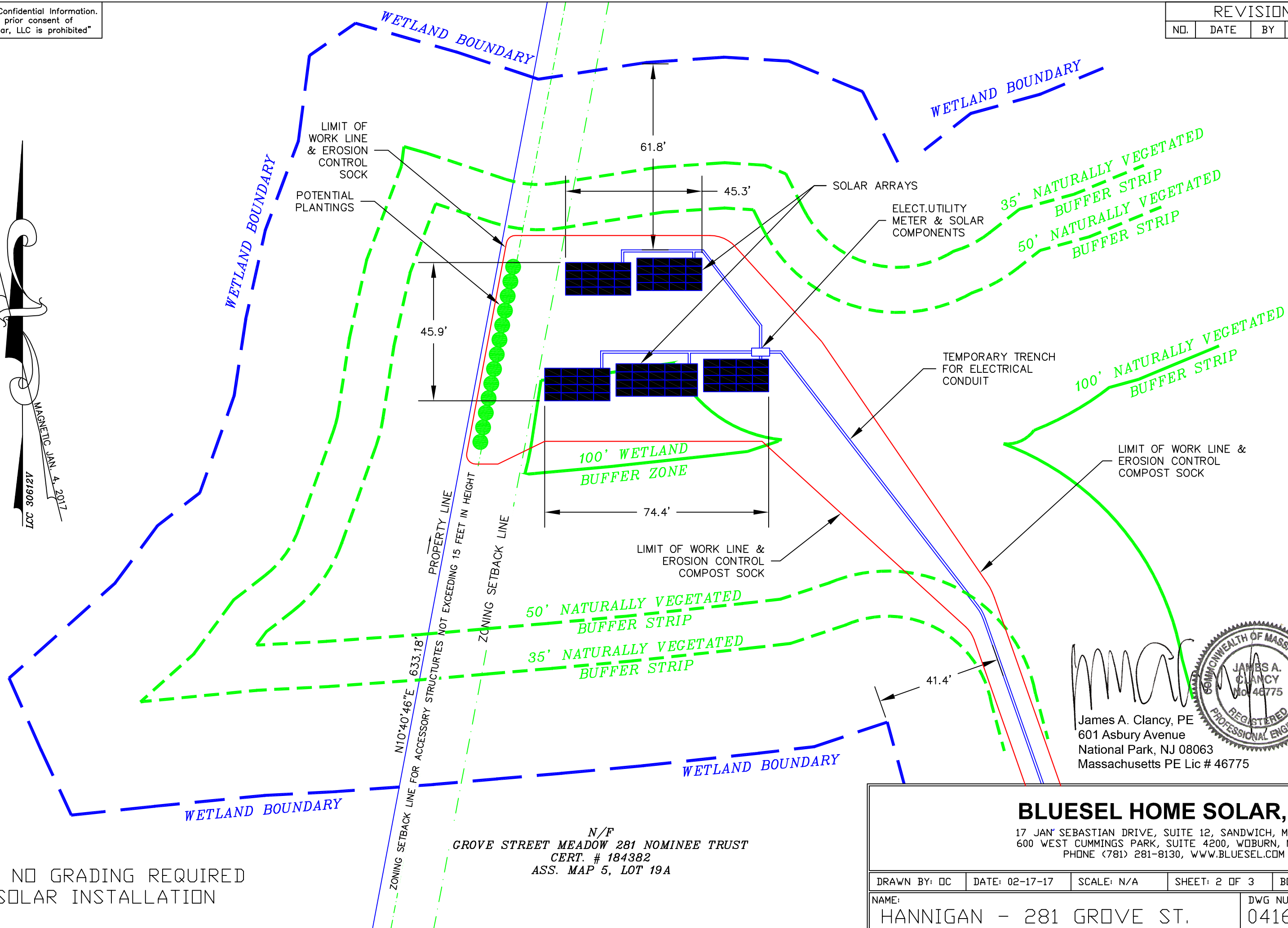
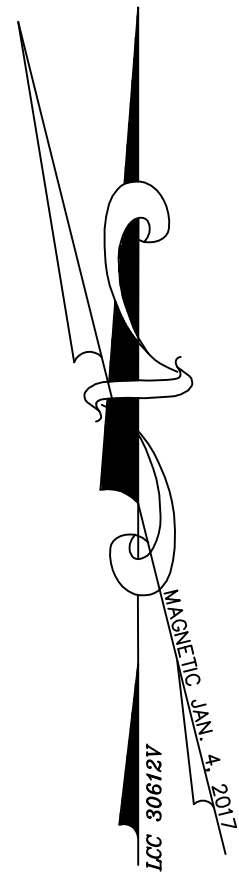
NO.	DATE	DESCRIPTION	BY


EXISTING CONDITIONS PLAN
 IN
 WESTWOOD, MASS
 (PROPERTY OF CONCERN: 281 GROVE STREET)

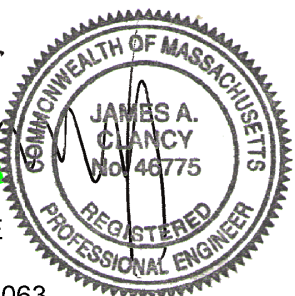
PREPARED FOR:	WILLIAM AND MARY-JO HANNIGAN 245 GROVE STREET WESTWOOD, MA 02090 617-842-4448
PROPERTY OF:	GROVE STREET MEADOW 281 NOMINEE TRUST & WILLIAM AND MARY-JO HANNIGAN 245 GROVE STREET WESTWOOD, MA 02090 617-842-4448
ENGINEERS & SURVEYORS:	MWE METROWEST ENGINEERING, INC. 75 FRANKLIN STREET FRAMINGHAM, MA 01702 TELE.: (508)626-0063
SHEET 1 OF 1	DATE: JANUARY 05, 2017
CALC'D BY: PHA	FIELD BK: 591
DRAFTER: PHA/ARG	CAD FILE: FIELD_TOPO_010517.dwg
PROJECT: WST_GRO	DWG FILE:

"Proprietary and Confidential Information. Disclosure without prior consent of Blue Selenium Solar, LLC is prohibited"

REVISIONS:			
NO.	DATE	BY	ECN #




 James A. Clancy, PE
 601 Asbury Avenue
 National Park, NJ 08063
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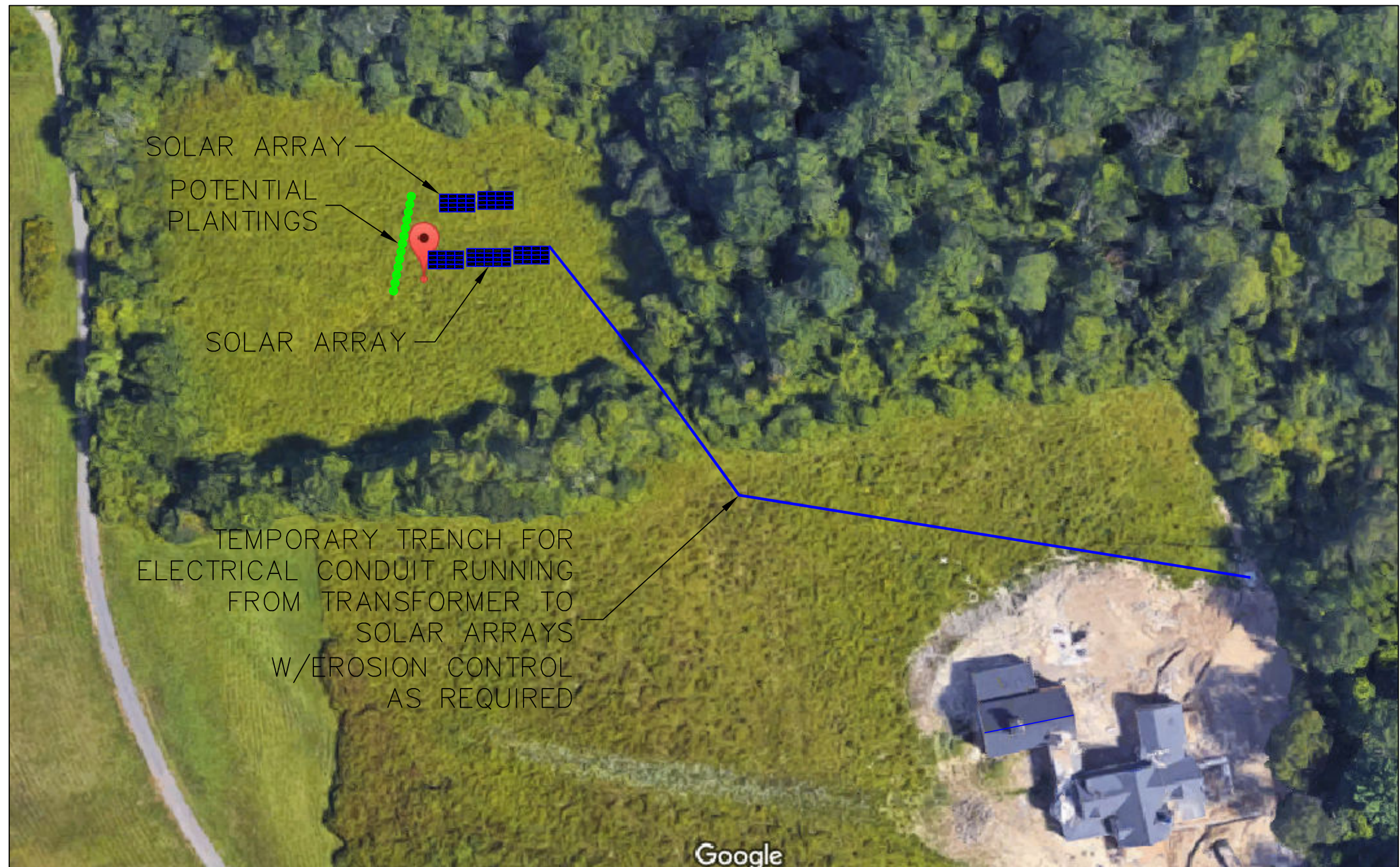
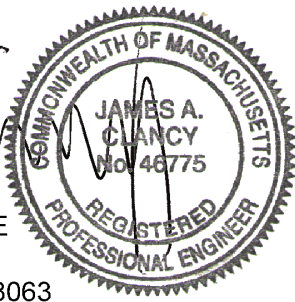
N/F
 GROVE STREET MEADOW 281 NOMINEE TRUST
 CERT. # 184382
 ASS. MAP 5, LOT 19A

NOTE: NO GRADING REQUIRED FOR SOLAR INSTALLATION

BLUESEL HOME SOLAR, INC

17 JAN SEBASTIAN DRIVE, SUITE 12, SANDWICH, MA 02563
 600 WEST CUMMINGS PARK, SUITE 4200, WOBURN, MA 01801
 PHONE (781) 281-8130, WWW.BLUESEL.COM

DRAWN BY: DC	DATE: 02-17-17	SCALE: N/A	SHEET: 2 OF 3	BORDER: C
NAME: HANNIGAN - 281 GROVE ST.			DWG NUMBER-REV: 04161-01	

James A. Clancy, PE
601 Asbury Avenue
National Park, NJ 08063
Massachusetts PE Lic # 46775

RESIDENTIAL SOLAR
GROUND MOUNTED
PV INSTALLATION:

HANNIGAN, WILLIAM
281 GROVE ST.,
WESTWOOD, MA 02090

PANEL TILT = 35 DEG
AZIMUTH = 180 DEG

AVERAGE TSRF = 90% ASSUMED

MODULES:
LG320N1C-G4

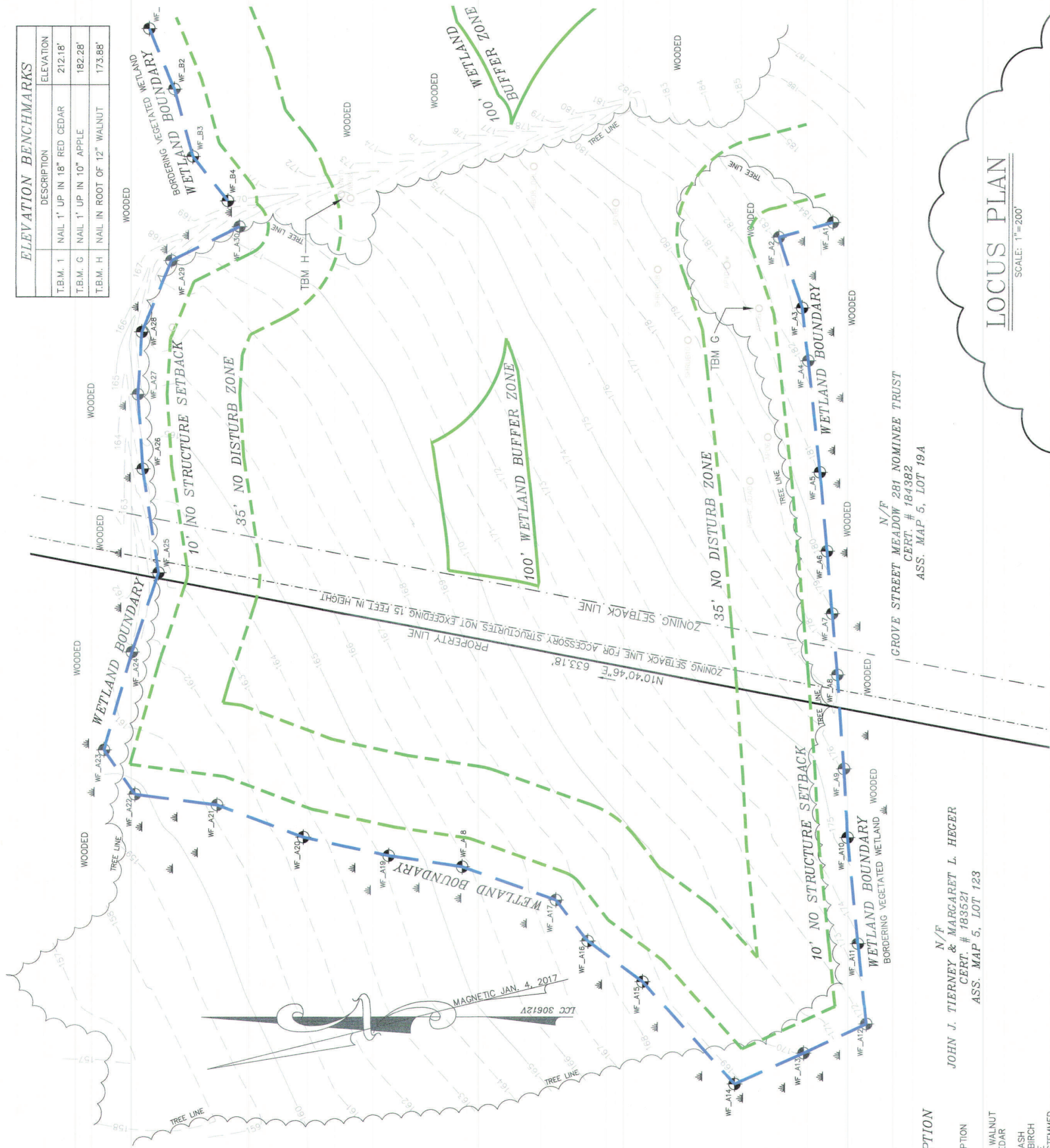
WESTWOOD, MA
WIND SPEED = 105 MPH
SNOW LOAD = 40 PSF

RACK:
SUNMODD CORPORATION
4 ROWS PER COLUMN IN LANDSCAPE
AUGER GROUND MOUNTED SYSTEM

84 MODULES x 320W = 26.9 KW-DC
EST PROD = 32,885 KWH/YR
(PV SIM 10% SHADE ASSUMED)

BLUESEL HOME SOLAR, INC				
17 JAN SEBASTIAN DRIVE, SUITE 12, SANDWICH, MA 02563 600 WEST CUMMINGS PARK, SUITE 4200, WOBURN, MA 01801 PHONE (781) 281-8130, WWW.BLUESEL.COM				
DRAWN BY: DC	DATE: 02-17-17	SCALE: N/A	SHEET: 3 OF 3	BORDER: C
NAME: HANNIGAN - 281 GROVE ST.			DWG NUMBER-REV 04161-01	

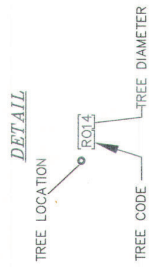
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T.B.M. H	NAIL IN ROOT OF 12" WALNUT	173.88'



TREE DESCRIPTION

CODE	DESCRIPTION
AP#	APPLE
BW#	BLACK WALNUT
RC#	RED CEDAR
SC#	SNAG
WA#	WHITE ASH
WB#	WHITE BIRCH
DB#	DOUBLE-BIRCH
QUAD	FOUR-STEMMED

JOHN J. TIERNNEY & MARGARET L. HEGER
 N/F
 CERT. # 183521 / 123
 ASS. MAP 5, LOT 123



ZONING TABLE

AREA	REQUIRED SINGLE RESIDENCE E
FRONTAGE	80,000 S.F.
SETBACKS:	175 FEET
FRONT YARD	40 FEET 1
REAR YARD	20 FEET
BUILDING HEIGHT	25-35 FEET
IMPERVIOUS SURFACE	25% MAXIMUM
LOT COVERAGE	25% MAXIMUM
LOT WIDTH	175 FEET
MINIMUM NON-WETLAND AREA	60,000 S.F.

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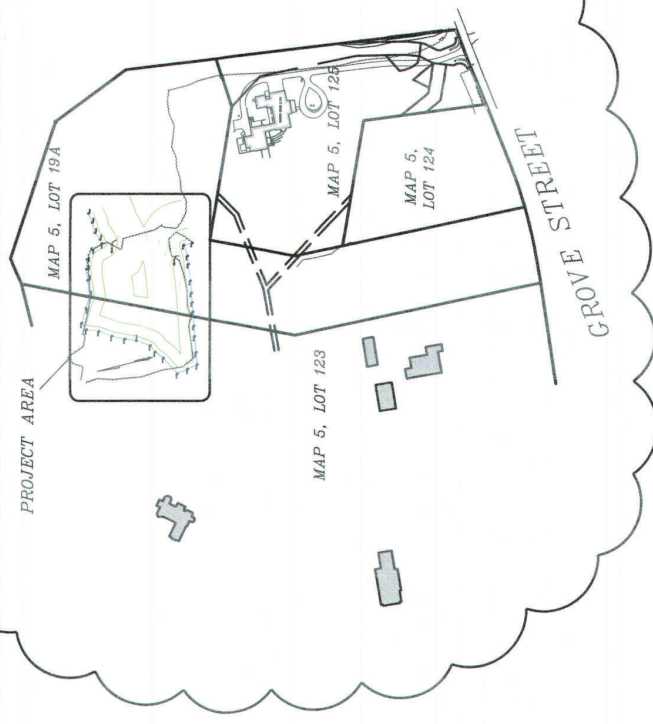
- SUBJECT PARCEL IS SHOWN AS ASSESSORS SHEET 5, LOT 19A. RECORD TITLE FROM CERTIFICATE OF TITLE 184382.
- UTILITY LOCATIONS DEPICTED ON THIS PLAN, BOTH ABOVE- AND BELOW-GROUND, ARE BASED UPON DIRECT FIELD OBSERVATIONS MADE BY METROWEST ENGINEERING, INC. CONTRACTORS ARE ADVISED TO VERIFY THE LOCATION, DEPTH, OR DIGSAFE PLANT-INDICATOR. METROWEST ENGINEERING, INC. DOES NOT WARRANT THAT ALL UTILITIES ARE SHOWN OR THAT UTILITIES THAT ARE DEPICTED ARE SHOWN IN THE CORRECT LOCATION, OR WITH THE PROPER MATERIAL DESIGNATION. METROWEST ENGINEERING, INC. DOES NOT WARRANT OR PROVIDE AN EXPRESS OR IMPLIED WARRANTY THAT ALL SUBSURFACE IMPROVEMENTS ARE LIMITED TO UTILITIES, UNDERGROUND VALVES, UNDERGROUND TANKS OR CHAMBERS, BUNKERS, DUCT BANKS, AND/OR OTHER MAN-MADE IMPROVEMENTS THAT LIE BENEATH THE GROUND SURFACE AT THE TIME OF THE SURVEY.
- CONTRACTOR IS SOLELY RESPONSIBLE FOR ESTABLISHING EXISTING LOCATIONS OF ALL SUB-SURFACE UTILITIES AND REQUIREMENTS TO REPLACE, RELOCATE OR REPAIR EXISTING UTILITIES. METROWEST ENGINEERING, INC. IS NOT RESPONSIBLE OR LIABLE FOR DELAYS OR COSTS ASSOCIATED WITH REMOVING/REPLACING/RELOCATING OF EXISTING UTILITIES.
- THE PROPERTY DESCRIBED ON THIS SURVEY DOES NOT LIE WITHIN A SPECIAL FLOOD HAZARD AREA AS DEFINED BY THE FEDERAL EMERGENCY MANAGEMENT AGENCY. THE PROPERTY LIES WITHIN ZONE "X" OF THE FLOOD INSURANCE RATE MAP IDENTIFIED AS MAP NUMBER 25021C0176E, BEARING AN EFFECTIVE DATE OF JULY 17, 2012 AND ZONE "X" OF THE FLOOD INSURANCE RATE MAP IDENTIFIED AS MAP NUMBER 25021C0177E, BEARING AN EFFECTIVE DATE OF JULY 17, 2012.
- THE WETLANDS SHOWN HEREON WERE DELINEATED BY DEBORA J. ANDERSON IN DECEMBER 2016 AND LOCATED AS SHOWN HEREON BY METROWEST ENGINEERING, INC. ON FEBRUARY 30, 2016.

LEGEND

AREA DRAIN	AREA DRAIN
BERM	COMMUNICATIONS CONDUIT
CURB	DRAIN CATCH BASIN
DRAIN	DRAIN MANHOLE
DRAIN OUTFALL	ELECTRIC LINE
ELECTRIC OUTLET	FENCE
GAS LINE	GAS GATE
GEO-THERMAL CONDUIT	GUARD POST
HYDRANT	IRRIGATION CONTROL VALVE
LIGHTPOST	OBSERVATION WELL
MANHOLE	SEWER LINE
SEWER LINE	SEWER MANHOLE
SPRINKLER HEADS	SPRINKLER HEADS COLOR CODED TO LOCATED FLAGS
TELEPHONE MANHOLE	TELEPHONE LINE
TELEVISION CONDUIT	UTILITY MANHOLE
UTILITY POLE	UTILITY GATE
WATER LINE	WATER LINE
WETLAND FLAG	WETLAND FLAG

LOCUS PLAN

SCALE: 1"=200'



NO.	DATE	ADD CONS.	COMM.	COLORS	PHA	BY
1	02/10/17					

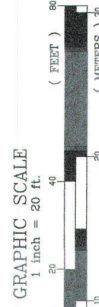
EXISTING CONDITIONS PLAN
 IN
WESTWOOD, MASS

PREPARED FOR:
WILLIAM AND MARY-JO HANNIGAN
 245 GROVE STREET
 WESTWOOD, MA 02021

PROPERTY OF:
GROVE STREET MEADOW 281 NOMINEE TRUST & GROVE STREET MEADOW 245 NOMINEE TRUST
 245 GROVE STREET
 WESTWOOD, MA 02021

ENGINEERS & SURVEYORS:
MWE
 METROWEST ENGINEERING, INC.
 75 FRANKLIN STREET
 FRAMINGHAM, MA 01702
 TELE: (508)626-0063

Robert A. Gemma
 FOR METROWEST ENGINEERING, INC. DATE
ROBERT A. GEMMA, P.L.S. # 37046

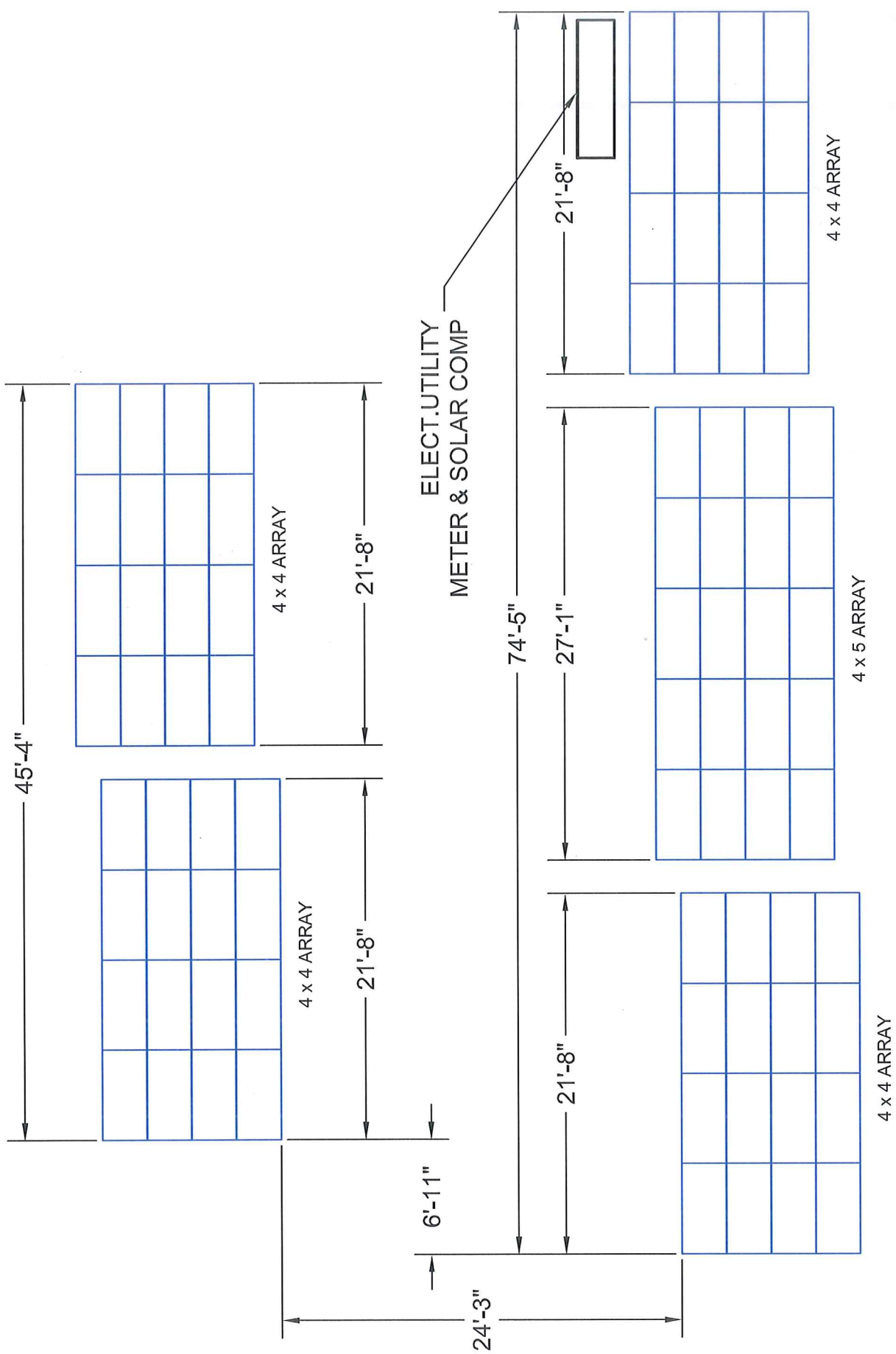


SHEET 1 OF 1
 DATE: JANUARY 05, 2017
 CALC'D BY: PHA FIELD BK: 591 CAD FILE: FIELD_TOPO_010517.dwg
 DRAFTER: PHA/ARG PROJECT: WST_GRO DWG FILE:

HANNIGAN - 281 GROVE ST.

Proprietary and Confidential Information.
Disclosed without agreement of
Blue Selenium Solar, LLC is prohibited.

REVISIONS:			
NO.	DATE	BY	ECN #



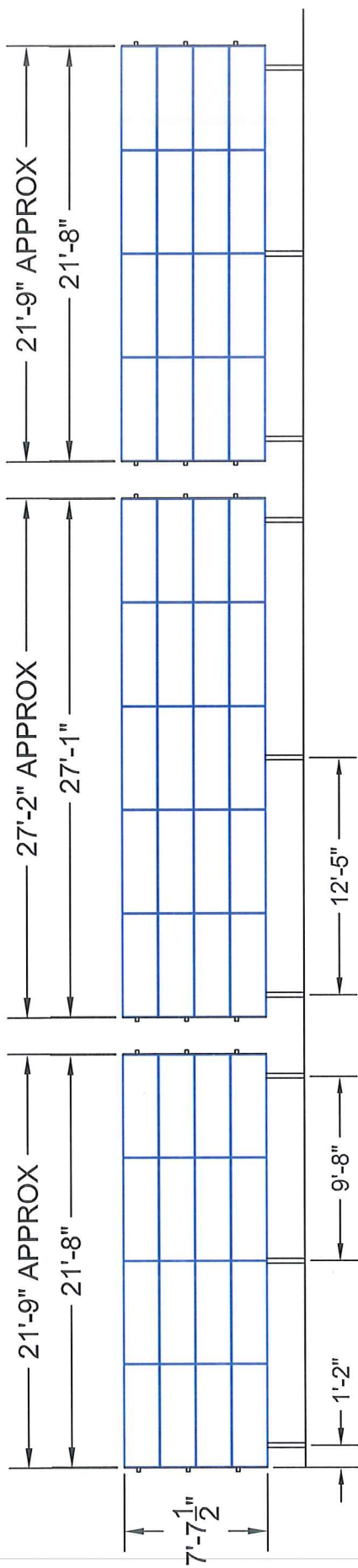
GROUND MOUNTED
SOLAR ARRAY
(TOP VIEW)

SUNPOWER BLUE SELENIUM SOLAR, LLC
 by BlueSel Home Solar
 17 JAN SEBASTIAN DRIVE, SUITE 12, SANDWICH, MA 02563
 PHONE (508)833-5600, WWW.BLUESEL.COM

DRAWN BY: OC	DATE: 03-10-17	SCALE: N/A	SHEET: 1 OF 4	BORDER: C
NAME: HANNIGAN - 281 GROVE ST.				DWG NUMBER: 04096-05

Proprietary and Confidential Information. Disclosure without prior consent of Blue Selenium Solar, LLC is prohibited

REVISIONS:			
NO.	DATE	BY	ECN#



GROUND MOUNTED SOLAR ARRAY (FRONT VIEW)

RESIDENTIAL SOLAR GROUND MOUNTED PHOTOVOLTAIC INSTALLATION:

HANNIGAN, WILLIAM
281 GROVE ST.,
WESTWOOD, MA 02090

GROUND MOUNT = 35 DEG TILT
AZIMUTH = 180 DEG

AVERAGE TSRF = 90% ASSUMED

MODULES:
LG320N1C-G4

WESTWOOD, MA
WIND SPEED = 105 MPH
SNOW LOAD = 40 PSF

RACK:
SUNMODO CORPORATION
4 ROWS PER COLUMN IN LANDSCAPE
AUGER GROUND MOUNTED SYSTEM

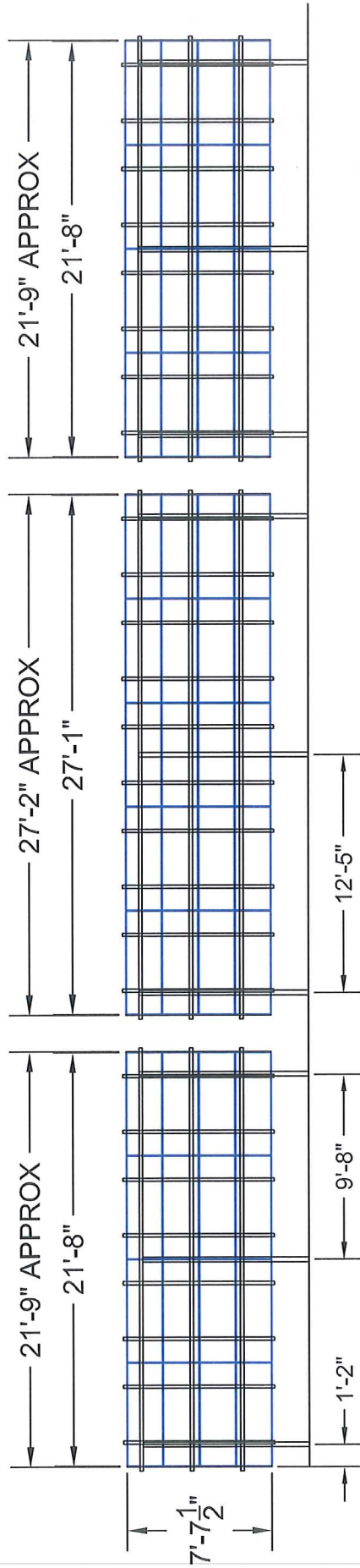
84 MODULES x 320W = 26.9 KW-DC
EST PROD = 32,885 KWH/YR
(PV SIM 10% SHADE ASSUMED)

SUNPOWER BLUE SELENIUM SOLAR, LLC
by BlueSel Home Solar
17 JAN SEBASTIAN DRIVE, SUITE 12, SANDWICH, MA 02563
PHONE (508)833-9500, WWW.BLUESEL.COM

DRAWN BY: OC	DATE: 03-10-17	SCALE: NA	SHEET: 2 OF 4	BORDER: C
NAME: HANNIGAN - 281 GROVE ST.				DWG NUMBER-REV: 04096-05

"Proprietary and Confidential Information. Disclosure without prior consent of Blue Selenium Solar, LLC is prohibited"

REVISIONS:		
NO.	DATE	BY
		ECN #



RESIDENTIAL SOLAR
GROUND MOUNTED
PHOTOVOLTAIC INSTALLATION:

HANNIGAN, WILLIAM
281 GROVE ST.,
WESTWOOD, MA 02090

GROUND MOUNT = 35 DEG TILT
AZIMUTH = 180 DEG

AVERAGE TSRF = 90% ASSUMED

MODULES:
LG320N1C-G4

WESTWOOD, MA
WIND SPEED = 105 MPH
SNOW LOAD = 40 PSF

GROUND MOUNTED
SOLAR ARRAY
(REAR VIEW)

RACK:
SUNMODO CORPORATION
4 ROWS PER COLUMN IN LANDSCAPE
AUGER GROUND MOUNTED SYSTEM

84 MODULES x 320W = 26.9 KW-DC
EST PROD = 32,885 KWH/YR
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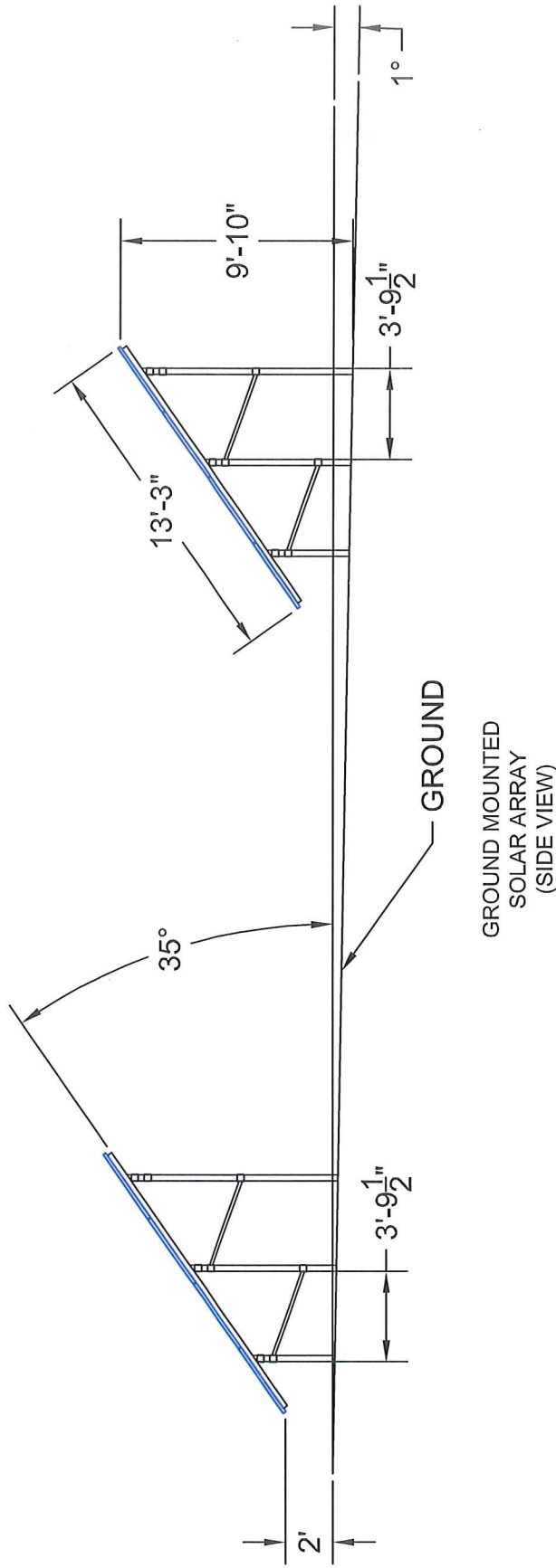
SUNPOWER BLUE SELENIUM SOLAR, LLC
by BlueSel Home Solar
17 JAN SEBASTIAN DRIVE, SUITE 12, SANDWICH, MA 02563
PHONE (609)833-9600, WWW.BLUESEL.COM

DRAWN BY: OC	DATE: 03-10-17	SCALE: N/A	SHEET: 3 OF 4	BORDER: C
NAME: HANNIGAN - 281 GROVE ST.				DWG NUMBER-REV
				04096-05

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Disclosure without prior consent of
Blue Selenium Solar, LLC is prohibited.

REVISIONS:		
NO.	DATE	BY

ECN#



RESIDENTIAL SOLAR
GROUND MOUNTED
PHOTOVOLTAIC INSTALLATION:

HANNIGAN, WILLIAM
281 GROVE ST.,
WESTWOOD, MA 02090

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DRAWN BY: OC	DATE: 03-10-17	SCALE: N/A	SHEET: 4 OF 4	BORDER: C
NAME: HANNIGAN - 281 GROVE ST.				DWG NUMBER-REV 04096-05