Sturbridge PV LLC Solar + Battery Storage Project

Sturbridge, MA
1.3 MW-DC PV + 1.28 MWh BESS

Bear Peak Power Overview

Bear Peak Power is a renewable energy development company focused on distributed generation and utility scale solar solutions. We are lead by a team that holds over 40 years of combined energy industry experience. The company has successfully developed over 85 Megawatts in five different states and we have 500+ Megawatts under active development.

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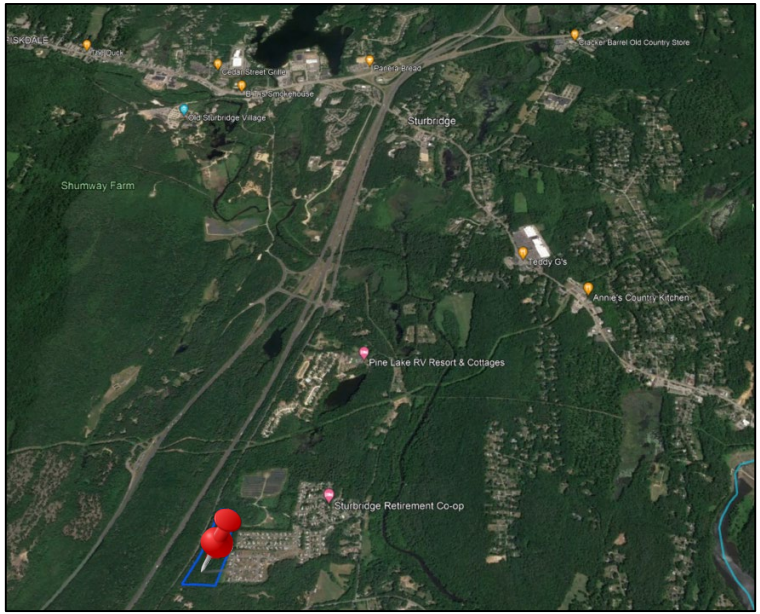
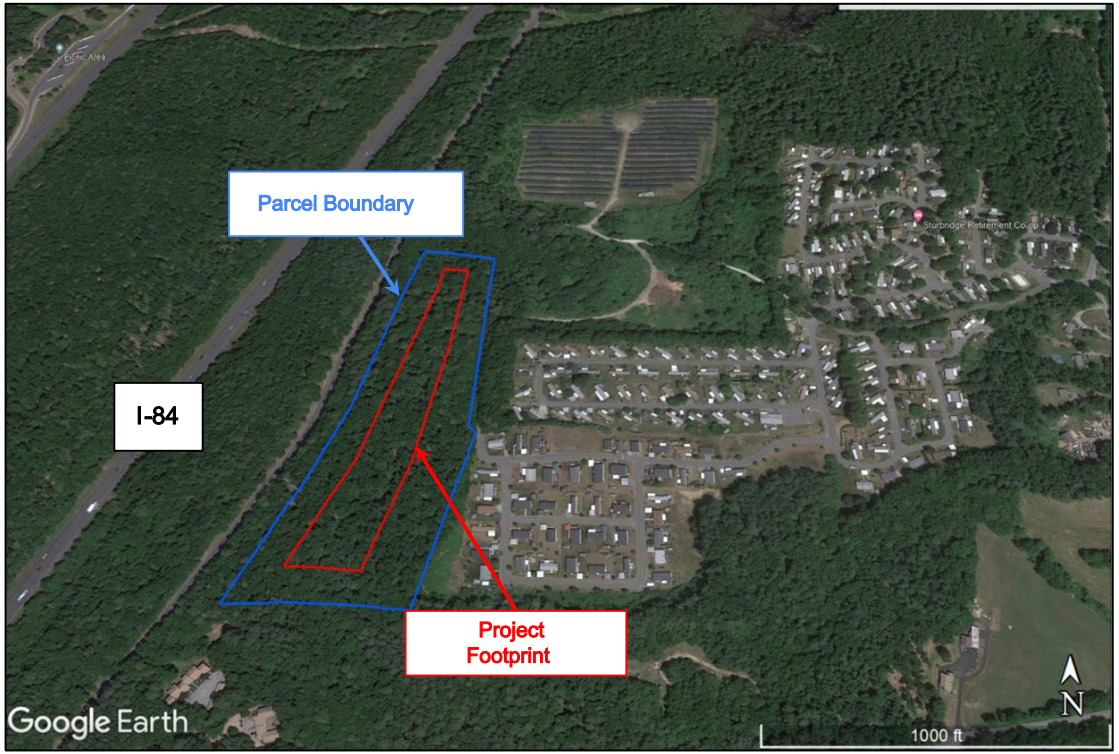
Location and Layout





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Location and Layout

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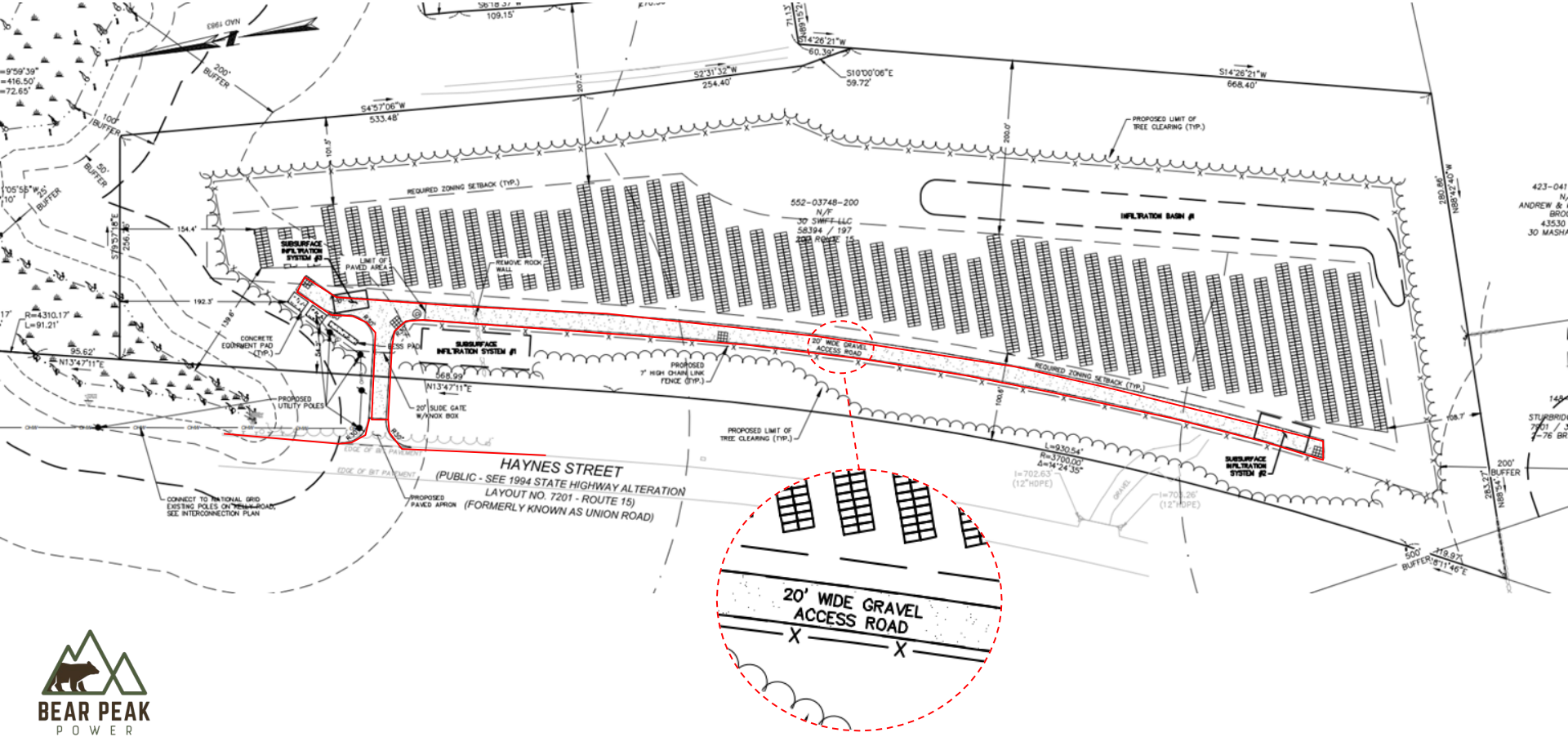
Site Access Via Haynes Street



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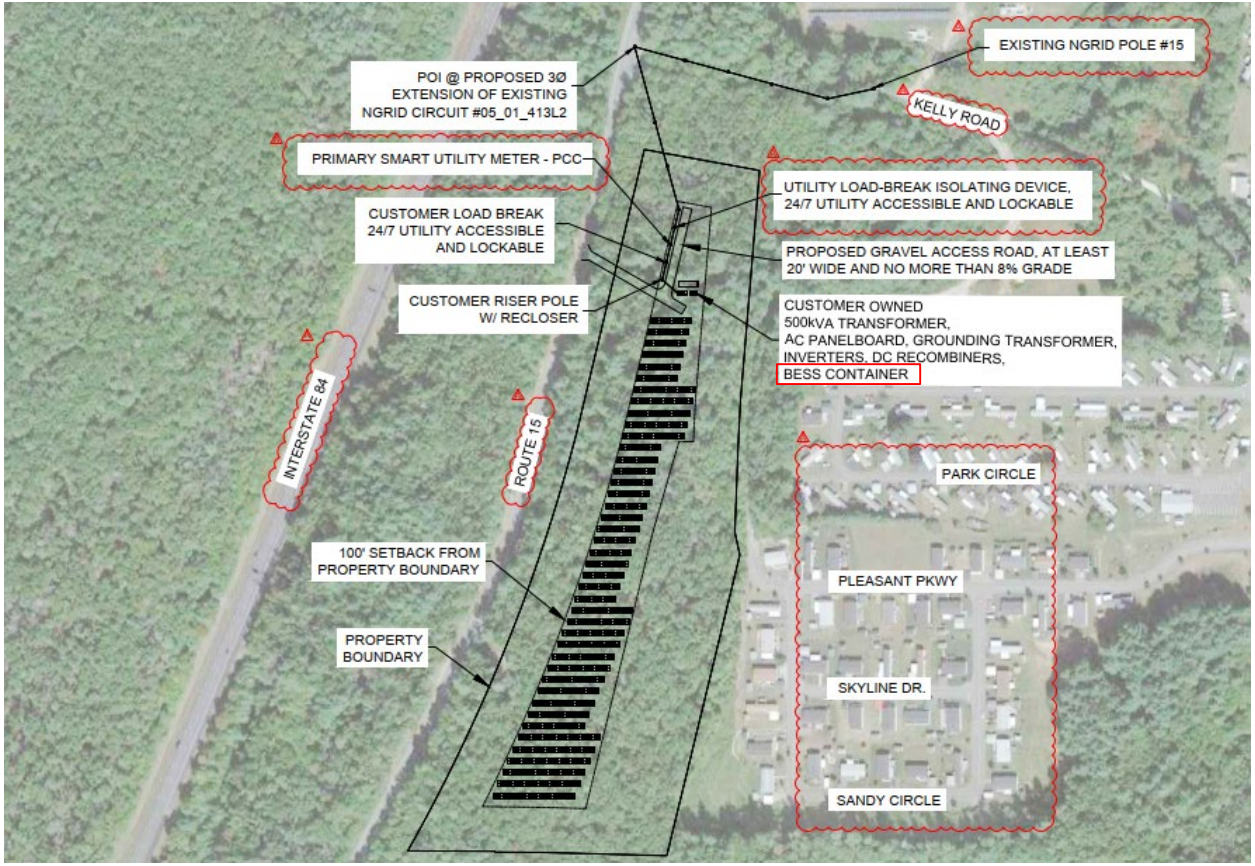
Interconnection

- Point of interconnection located NW of project area.
- The project will connect by extending the nearby existing circuit owned by National Grid.
- Project expected to complete interconnection screening by Q1 2024.
- Estimated utility permission to operate date is as early as Q1 2025.



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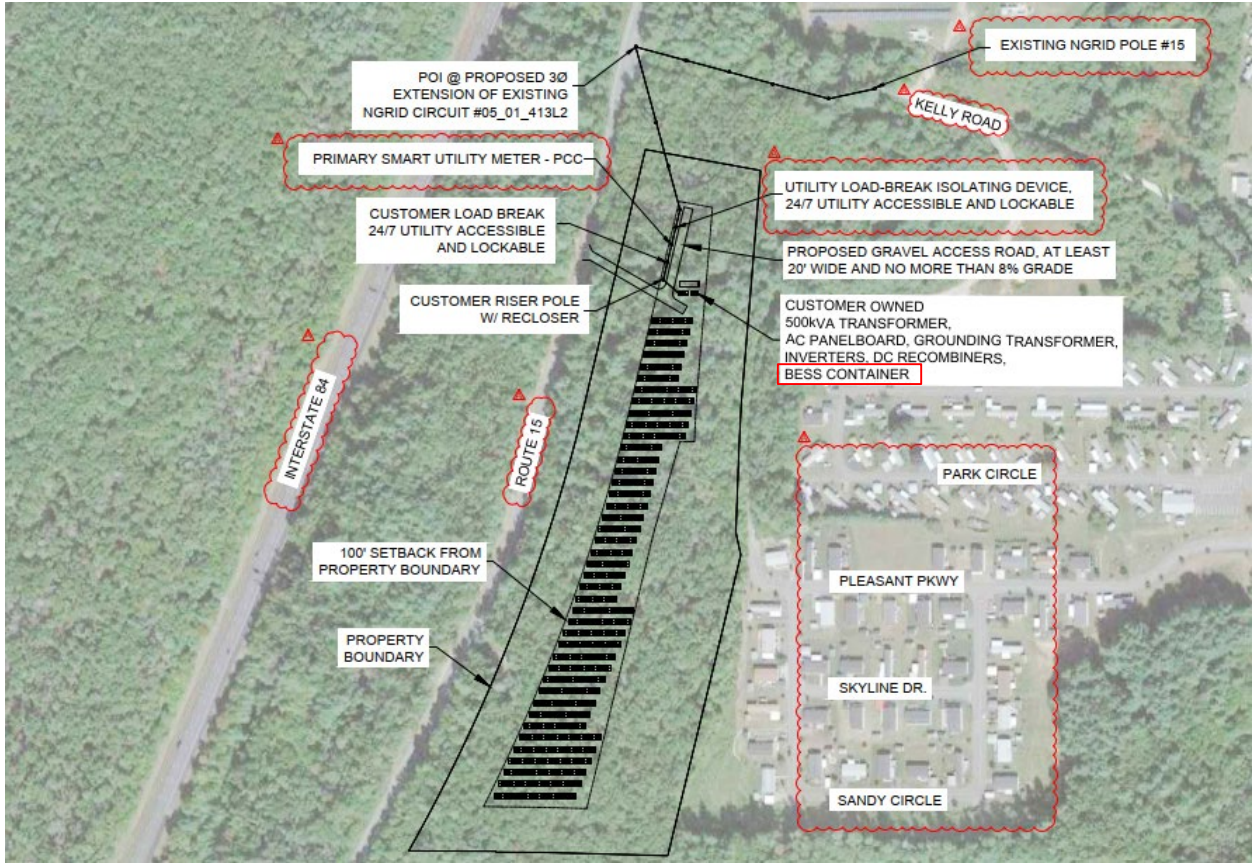
Visual Mitigation

- Because the site area is surrounded by existing trees, no further visual mitigation is anticipated at this time.



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Project Details: Traffic, Site Access, & Safety

- Upon commencement of construction, an average of 15 vehicles will be entering and exiting the site, per day, throughout the 3 to 6 months it will take to complete construction.
- During the first year, there will be approximately 1 visit per month to the project site. Beyond that, the project will require up to 2 visits per year to maintain vegetation and up to 2 visits per year to inspect the physical condition of the solar project.
- The project does not require physical presence to operate on a daily basis. Instead the project will be remotely monitored to ensure reliable and safe performance.
- As mentioned previously, an access road will be constructed with the array. This will provide seamless access to the site for any necessary emergency vehicles and personnel.
- Local emergency personnel will be trained on how to deal with any issues that may arise with the system.

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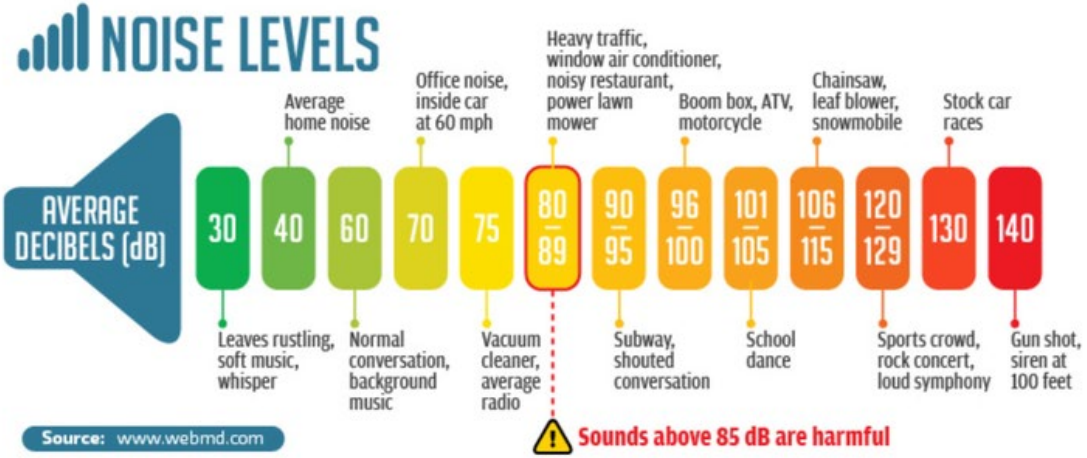
Project Details: Noise Analysis

- The highest level of noise produced by any piece of equipment on site is from the inverters which is a maximum of 65 dBA when standing 3 feet away from the inverter. When standing 50 feet away from the inverter, this is equivalent to a maximum of 40.56 dBA, or the average home noise.
- No noise is created when the sun is down at night.



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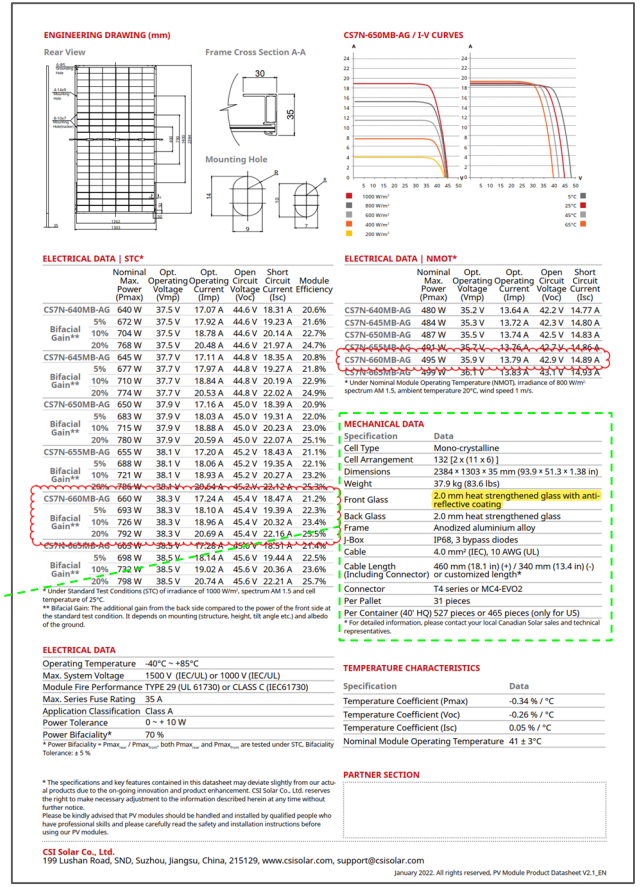
Project Details: Glare Analysis

- All of the proposed solar panels contain a manufacturer specified 2.0 mm heat strengthened front glass with anti - reflective coating. This will ensure that no sunlight is reflected onto surrounding properties.
- The project completed screening by the Federal Aviation Administration and resulted in a determination of no hazard to air navigation.

MECHANICAL DATA

Specification	Data
Cell Type	Mono-crystalline
Cell Arrangement	132 [2 x (11 x 6)]
Dimensions	2384 × 1303 × 35 mm (93.9 × 51.3 × 1.38 in)
Weight	37.9 kg (83.6 lbs)
Front Glass	2.0 mm heat strengthened glass with anti-reflective coating
Back Glass	2.0 mm heat strengthened glass
Frame	Anodized aluminium alloy
J-Box	IP68, 3 bypass diodes
Cable	4.0 mm² (IEC), 10 AWG (UL)
Cable Length (Including Connector)	460 mm (18.1 in) (+) / 340 mm (13.4 in) (-) or customized length*
Connector	T4 series or MC4-EVO2
Per Pallet	31 pieces
Per Container (40' HQ)	527 pieces or 465 pieces (only for US)

* For detailed information, please contact your local Canadian Solar sales and technical representatives.



ENGINEERING DRAWING (mm)

Rear View

Frame Cross Section A-A

Mounting Hole

CS7N-650MB-AG / I-V CURVES

ELECTRICAL DATA | STC*

		Nominal Max. Power (Pmax)	Opt. Operating Voltage (Vmp)	Opt. Operating Current (Imp)	Open Circuit Voltage (Voc)	Short Circuit Current (Isc)	Module Efficiency
CS7N-640MB-AG		640 W	37.5 V	17.07 A	44.6 V	18.31 A	20.6%
Bifacial Gain**	5%	672 W	37.5 V	17.92 A	44.6 V	19.23 A	21.6%
	10%	704 W	37.5 V	18.78 A	44.6 V	20.14 A	22.7%
	20%	768 W	37.5 V	20.48 A	44.6 V	21.97 A	24.7%
CS7N-645MB-AG		645 W	37.7 V	17.11 A	44.8 V	18.35 A	20.8%
Bifacial Gain**	5%	677 W	37.7 V	17.97 A	44.8 V	19.27 A	21.8%
	10%	710 W	37.7 V	18.84 A	44.8 V	20.19 A	22.9%
	20%	774 W	37.7 V	20.53 A	44.8 V	22.02 A	24.9%
CS7N-650MB-AG		650 W	37.9 V	17.16 A	45.0 V	18.39 A	20.9%
Bifacial Gain**	5%	683 W	37.9 V	18.03 A	45.0 V	19.31 A	22.0%
	10%	715 W	37.9 V	18.88 A	45.0 V	20.23 A	23.0%
	20%	780 W	37.9 V	20.59 A	45.0 V	22.07 A	25.1%
CS7N-655MB-AG		655 W	38.1 V	17.20 A	45.2 V	18.43 A	21.1%
Bifacial Gain**	5%	688 W	38.1 V	18.06 A	45.2 V	19.35 A	22.1%
	10%	721 W	38.1 V	18.93 A	45.2 V	20.27 A	23.2%
	20%	786 W	38.1 V	20.64 A	45.2 V	22.12 A	25.3%
CS7N-660MB-AG		660 W	38.3 V	17.24 A	45.4 V	18.47 A	21.2%
Bifacial Gain**	5%	693 W	38.3 V	18.10 A	45.4 V	19.39 A	22.3%
	10%	726 W	38.3 V	18.96 A	45.4 V	20.32 A	23.4%
	20%	792 W	38.3 V	20.69 A	45.4 V	22.16 A	25.5%
CS7N-665MB-AG		665 W	38.5 V	17.28 A	45.6 V	18.51 A	21.4%
Bifacial Gain**	5%	698 W	38.5 V	18.14 A	45.6 V	19.44 A	22.5%
	10%	732 W	38.5 V	19.02 A	45.6 V	20.36 A	23.6%
	20%	798 W	38.5 V	20.74 A	45.6 V	22.21 A	25.7%

* Under Standard Test Conditions (STC) of irradiance of 1000 W/m², spectrum AM 1.5 and cell temperature of 25°C.
** Bifacial Gain: The additional gain from the back side compared to the power of the front side at the standard test condition. It depends on mounting (structure, height, tilt angle etc.) and albedo of the ground.

ELECTRICAL DATA | NMOT*

	Nominal Max. Power (Pmax)	Opt. Operating Voltage (Vmp)	Opt. Operating Current (Imp)	Open Circuit Voltage (Voc)	Short Circuit Current (Isc)
CS7N-640MB-AG	480 W	35.2 V	13.64 A	42.2 V	14.77 A
CS7N-645MB-AG	484 W	35.3 V	13.72 A	42.3 V	14.80 A
CS7N-650MB-AG	487 W	35.5 V	13.74 A	42.5 V	14.83 A
CS7N-655MB-AG	491 W	35.7 V	13.76 A	42.7 V	14.86 A
CS7N-660MB-AG	495 W	35.9 V	13.79 A	42.9 V	14.89 A
CS7N-665MB-AG	499 W	36.1 V	13.83 A	43.1 V	14.93 A

* Under Nominal Module Operating Temperature (NMOT), irradiance of 800 W/m² spectrum AM 1.5, ambient temperature 20°C, wind speed 1 m/s.

MECHANICAL DATA

Specification	Data
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Weight	37.9 kg (83.6 lbs)
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Back Glass	2.0 mm heat strengthened glass
Frame	Anodized aluminium alloy
J-Box	IP68, 3 bypass diodes
Cable	4.0 mm² (IEC), 10 AWG (UL)
Cable Length (Including Connector)	460 mm (18.1 in) (+) / 340 mm (13.4 in) (-) or customized length*
Connector	T4 series or MC4-EVO2
Per Pallet	31 pieces
Per Container (40' HQ)	527 pieces or 465 pieces (only for US)

* For detailed information, please contact your local Canadian Solar sales and technical representatives.

ELECTRICAL DATA

Operating Temperature	-40°C ~ +85°C
Max. System Voltage	1500 V (IEC/UL) or 1000 V (IEC/UL)
Module Fire Performance	TYPE 29 (UL 61730) or CLASS C (IEC61730)
Max. Series Fuse Rating	35 A
Application Classification	Class A
Power Tolerance	0 ~ + 10 W
Power Bifaciality*	70 %

* Power Bifaciality = $P_{max,rear}$ / $P_{max,front}$, both $P_{max,rear}$ and $P_{max,front}$ are tested under STC. Bifaciality Tolerance: ± 5 %

TEMPERATURE CHARACTERISTICS

Specification	Data
Temperature Coefficient (Pmax)	-0.34 % / °C
Temperature Coefficient (Voc)	-0.26 % / °C
Temperature Coefficient (Isc)	0.05 % / °C
Nominal Module Operating Temperature	41 ± 3°C

PARTNER SECTION

* The specifications and key features contained in this datasheet may deviate slightly from our actual products due to the on-going innovation and product enhancement. CSI Solar Co., Ltd. reserves the right to make necessary adjustment to the information described herein at any time without further notice.
Please be kindly advised that PV modules should be handled and installed by qualified people who have professional skills and please carefully read the safety and installation instructions before using our PV modules.

CSI Solar Co., Ltd.
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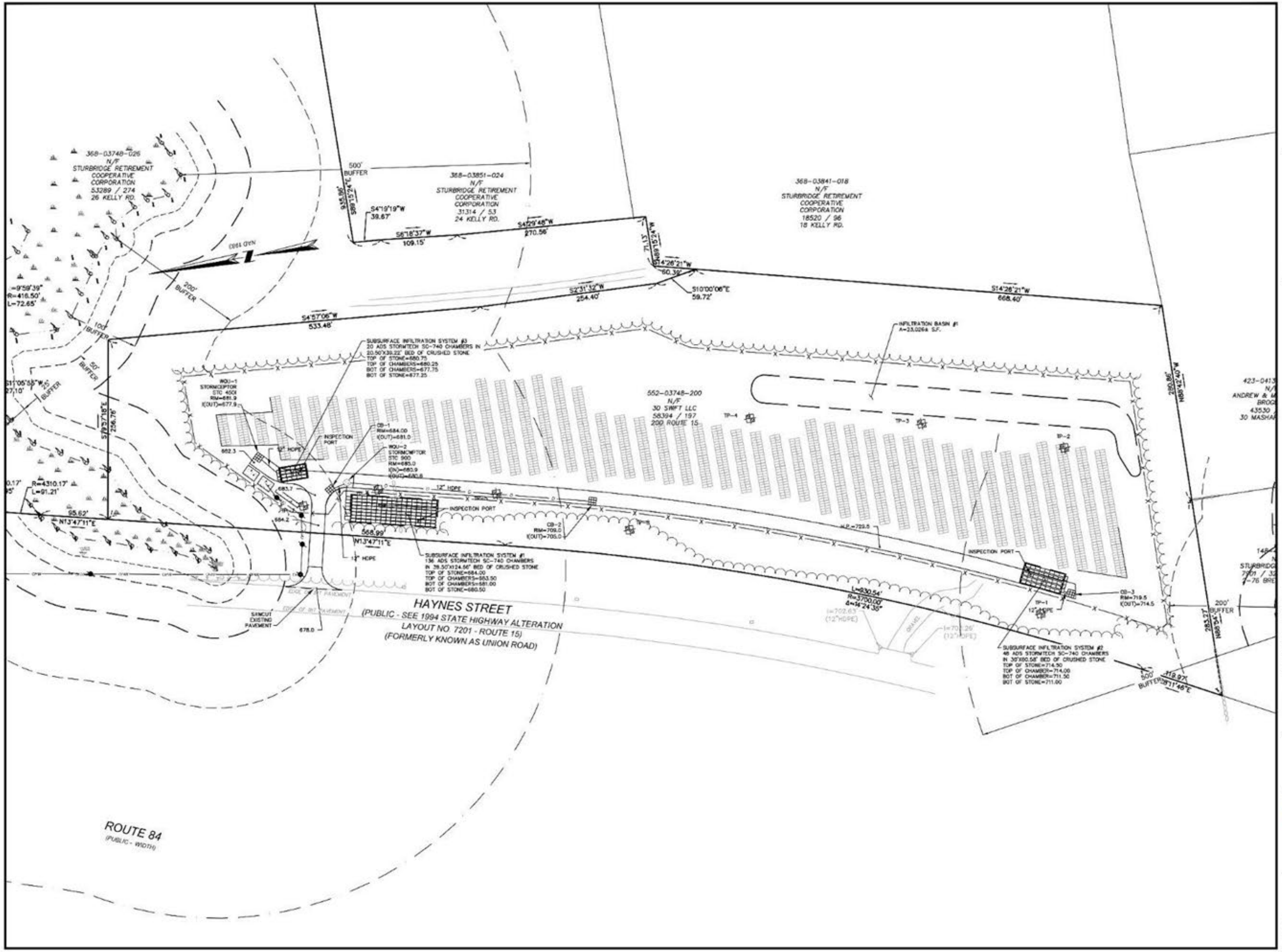
Project Details: Decommissioning

- Decommissioning = removal of the system and restoration of the site.
  - Includes: solar panels, racking system, transformers, inverters, wires, cables, access roads, etc.
- What triggers the system to be decommissioned?
  - End of the operational term of the solar project, typically 20 to 35 years.
- All equipment and materials will be sorted on site and transported off site for recycling, refurbishing or disposal. The decommissioning process will be paid for by the project owner.
- Lease agreement obligates tenant to completely decommission the project and restore the site.
- Financial assurance to decommission the system, typically in the form of a surety bond

BEAR PEAK POWER



BRIAN G. YERGATIAN
PROFESSIONAL ENGINEER

8/1/23
DATE

GROUND-MOUNTED PHOTOVOLTAIC SYSTEM

200 ROUTE 15
IN
STURBRIDGE
MASSACHUSETTS
(WORCESTER COUNTY)

DRAINAGE PLAN

AUGUST 1, 2023

REVISIONS:

NO.	DATE	DESC.

ISSUED FOR PERMITTING
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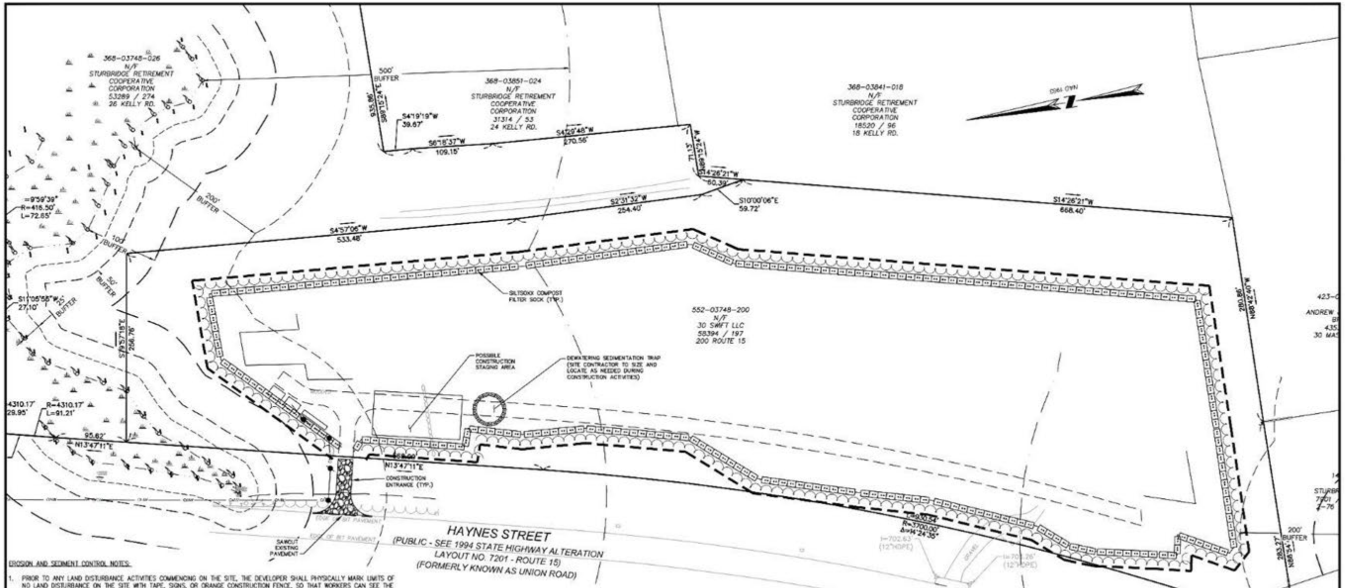
PREPARED FOR:
STURBRIDGE PV, LLC
2420 17TH STREET
DENVER, CO 80202

BSC GROUP
349 Main Street - Route 28
West Yarmouth, Massachusetts
02673
508 778 8919

SCALE: 1" = 60'

JOB. NO: 5-0745.00
SHEET 6 OF 9

BEAR PEAK
POWER



EROSION AND SEDIMENT CONTROL NOTES:

1. PRIOR TO ANY LAND DISTURBANCE ACTIVITIES COMMENCING ON THE SITE, THE DEVELOPER SHALL PHYSICALLY MARK LIMITS OF NO LAND DISTURBANCE ON THE SITE WITH TAPE, SIGNS, OR ORANGE CONSTRUCTION FENCE, SO THAT WORKERS CAN SEE THE AREAS TO BE PROTECTED. THE PHYSICAL MARKERS SHALL REMAIN IN PLACE UNTIL A CERTIFICATE OF COMPLETION HAS BEEN ISSUED.
2. APPROPRIATE EROSION AND SEDIMENT CONTROL MEASURES SHALL BE INSTALLED PRIOR TO SOIL DISTURBANCE. MEASURES SHALL BE TAKEN TO CONTROL EROSION WITHIN THE PROJECT AREA. SEDIMENT IN RUNOFF WATER SHALL BE TRAPPED AND RETAINED WITHIN THE PROJECT AREA. WETLAND AREAS AND SURFACE WATERS SHALL BE PROTECTED FROM SEDIMENT.
3. MINIMIZE TOTAL AREA OF DISTURBANCE AND PROTECT NATURAL FEATURES AND SOIL.
4. THE CONTRACTOR SHALL SEQUENCE ALL ACTIVITIES TO MINIMIZE SIMULTANEOUS AREAS OF DISTURBANCE. MASS CLEARING AND GRADING OF THE ENTIRE SITE SHALL BE AVOIDED.
5. MINIMIZE SOIL EROSION AND CONTROL SEDIMENTATION DURING CONSTRUCTION.
6. DIVERT UNCONTAMINATED WATER AROUND DISTURBED AREAS.
7. INSTALL AND MAINTAIN ALL EROSION AND SEDIMENT CONTROL MEASURES IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS AND GOOD ENGINEERING PRACTICES OR IN ACCORDANCE WITH THE 2017 EPA CONSTRUCTION GENERAL PERMIT.
8. PROTECT AND MANAGE ON AND OFF-SITE MATERIAL STORAGE AREAS (OVERBURDEN AND STOCKPILES OF DIRT, BORROW AREAS, OR OTHER AREAS USED SOLELY BY THE PERMITTED PROJECT ARE CONSIDERED A PART OF THE PROJECT).
9. COMPLY WITH APPLICABLE FEDERAL, STATE AND LOCAL LAWS AND REGULATIONS INCLUDING WASTE DISPOSAL, SANITARY OR SEWER REGULATIONS, AND AIR QUALITY REQUIREMENTS, INCLUDING DUST CONTROL.
10. SEDIMENT SHALL BE REMOVED ONCE THE VOLUME REACHES 1/4 TO 1/2 THE HEIGHT OF THE EROSION CONTROL DEVICE. SEDIMENT SHALL BE REMOVED FROM SILT FENCE PRIOR TO REACHING THE LOAD-BEARING CAPACITY OF THE SILT FENCE WHICH MAY BE LOWER THAN 1/4 TO 1/2 THE HEIGHT.
11. SEDIMENT FROM SEDIMENT TRAPS OR SEDIMENTATION PONDS SHALL BE REMOVED WHEN DESIGN CAPACITY HAS BEEN REDUCED BY 50 PERCENT.
12. BMPS TO BE USED FOR INFILTRATION AFTER CONSTRUCTION SHALL NOT BE USED AS BMPS DURING CONSTRUCTION UNLESS OTHERWISE APPROVED IN WRITING BY THE ENGINEER AND THE TOWN OF STURBRIDGE. MANY INFILTRATION TECHNOLOGIES ARE NOT DESIGNED TO HANDLE THE HIGH CONCENTRATIONS OF SEDIMENTS TYPICALLY FOUND IN CONSTRUCTION RUNOFF, AND THUS MUST BE PROTECTED FROM CONSTRUCTION RELATED SEDIMENT LOADINGS.
13. SOIL STOCKPILES MUST BE STABILIZED OR COVERED AT THE END OF EACH WORKDAY. STOCKPILE SIDE SLOPES SHALL NOT BE GREATER THAN 2:1. ALL STOCKPILES SHALL BE SURROUNDED BY SEDIMENT CONTROLS.
14. FOR ACTIVE CONSTRUCTION AREAS SUCH AS BORROW OR STOCKPILE AREAS, ROADWAY IMPROVEMENTS AND AREAS WITHIN 50 FEET OF A BUILDING UNDER CONSTRUCTION, A PERIMETER SEDIMENT CONTROL SYSTEM SHALL BE INSTALLED AND MAINTAINED TO CONTAIN SOIL.

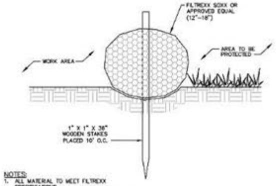
EROSION AND SEDIMENT CONTROL NOTES (CONT.):

15. A TRACKING PAD OR OTHER APPROVED STABILIZATION METHOD SHALL BE CONSTRUCTED AT ALL ENTRANCE/EXITS POINTS OF THE SITE TO REDUCE THE AMOUNT OF SOIL CARRIED ONTO ROADWAYS AND OFF THE SITE.
16. ON THE CUT SIDE OF ROADS, DITCHES SHALL BE STABILIZED IMMEDIATELY WITH ROCK RIP-RAP OR OTHER NON-ERODIBLE LINERS, OR WHERE APPROPRIATE, VEGETATIVE MEASURES SUCH AS HYDROSEEDING OR JUTE MATTING.
17. PERMANENT SEEDING SHALL BE UNDERTAKEN IN THE SPRING FROM MARCH THROUGH MAY, AND IN LATE SUMMER AND EARLY FALL FROM AUGUST TO OCTOBER 15. DURING THE PEAK SUMMER MONTHS AND IN THE FALL AFTER OCTOBER 15, WHEN SEEDING IS FOUND TO BE IMPRACTICAL, APPROPRIATE TEMPORARY STABILIZATION SHALL BE APPLIED. PERMANENT SEEDING MAY BE UNDERTAKEN DURING THE SUMMER IF PLANS PROVIDE FOR ADEQUATE MULCHING AND WATERING.
18. ALL SLOPES STEEPER THAN 3:1 (H:V, 33.3%), AS WELL AS PERIMETER DIKES, SEDIMENT BASINS OR TRAPS, AND EMBANKMENTS MUST, UPON COMPLETION, BE IMMEDIATELY STABILIZED WITH SOD, SEED AND ANCHORED STRAW MULCH, OR OTHER APPROVED STABILIZATION MEASURES. AREAS OUTSIDE OF THE PERIMETER SEDIMENT CONTROL SYSTEM MUST NOT BE DISTURBED.
19. TEMPORARY SEDIMENT TRAPPING DEVICES MUST NOT BE REMOVED UNTIL PERMANENT STABILIZATION IS ESTABLISHED IN ALL CONTRIBUTORY DRAINAGE AREAS.
20. ALL TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES SHALL BE REMOVED AFTER FINAL SITE STABILIZATION. DISTURBED SOIL AREAS RESULTING FROM THE REMOVAL OF TEMPORARY MEASURES SHALL BE PERMANENTLY STABILIZED WITHIN 30 DAYS OF REMOVAL.
21. PROPERLY MANAGE ON-SITE CONSTRUCTION AND WASTE MATERIALS.
22. PREVENT OFF-SITE VEHICLE TRACKING OF SEDIMENTS.
23. DUST SHALL BE CONTROLLED AT THE SITE.
24. ALL PREVIOUSLY DISTURBED LAND SHALL BE STABILIZED BY APPROVED METHODS AFTER 14 DAYS IF LEFT UNDISTURBED, THIS INCLUDES STOCKPILES, CONSTRUCTION ENTRANCES, GRADED AREAS AND OTHER CONSTRUCTION ACTIVITY RELATED CLEARING.
25. IF WORK IS HALTED OVER WINTER MONTHS THE CONTRACTOR SHALL BE RESPONSIBLE FOR STABILIZING THE AREA THROUGH GROUND COVER PRACTICES.

LEGEND

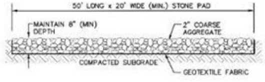
STAKED STRAW WATTLES (LIMIT OF WORK)

LIMIT OF WORK



NOTES:
1. ALL MATERIAL TO MEET FILTREXX SPECIFICATIONS.
2. FILTER MEDIA FILL TO MEET APPLICATION REQUIREMENTS.
3. COMPOST MATERIAL TO BE DISPERSED ON SITE, AS DETERMINED BY THE ENGINEER.

SILTSOXX COMPOST FILTER SOCK
SCALE: NONE



TEMPORARY CONSTRUCTION ENTRANCE
SCALE: NONE

8/1/23

BRIAN G. YERGATIAN — PROFESSIONAL ENGINEER — DATE

GROUND-MOUNTED PHOTOVOLTAIC SYSTEM

200 ROUTE 15

IN

STURBRIDGE MASSACHUSETTS

(WORCESTER COUNTY)

EROSION & SEDIMENT CONTROL PLAN

AUGUST 1, 2023

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02673
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SCALE: 1" = 60'

FILE: PROJECTS-YAR\5074500\C\D\5074500-SP.dwg
DWG.: DWG
JOB. NO: 5-0745.00
SHEET 7 OF 9

BEAR PEAK POWER

Next Steps

- Site plan adjustments and approval
- Execute an Interconnection Agreement with National Grid upon completion of interconnection studies
- Work towards PILOT agreement with the Town of Sturbridge
- Set up a Decommissioning Bond with the Town of Sturbridge

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Appendix

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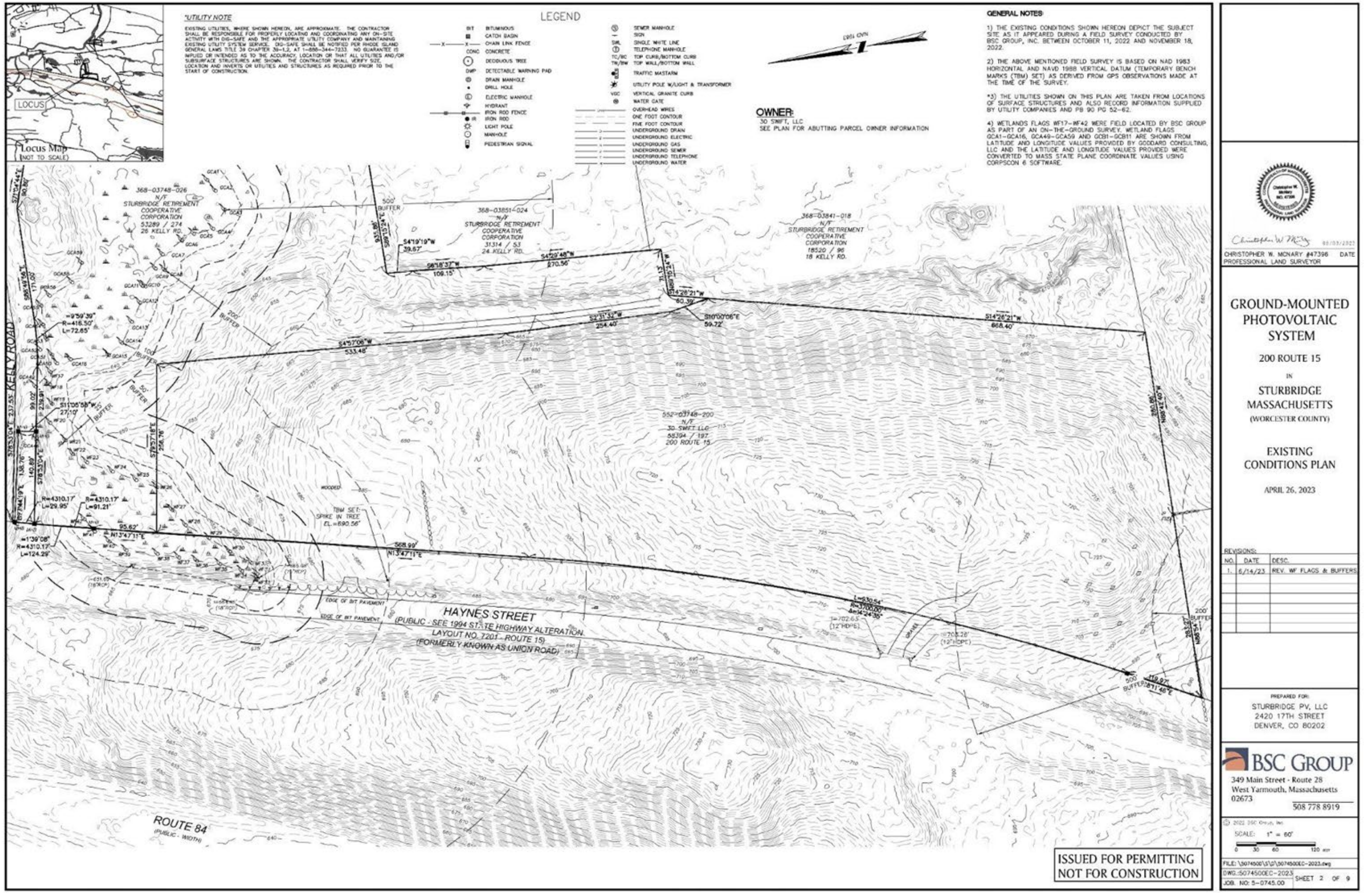
Civil Design



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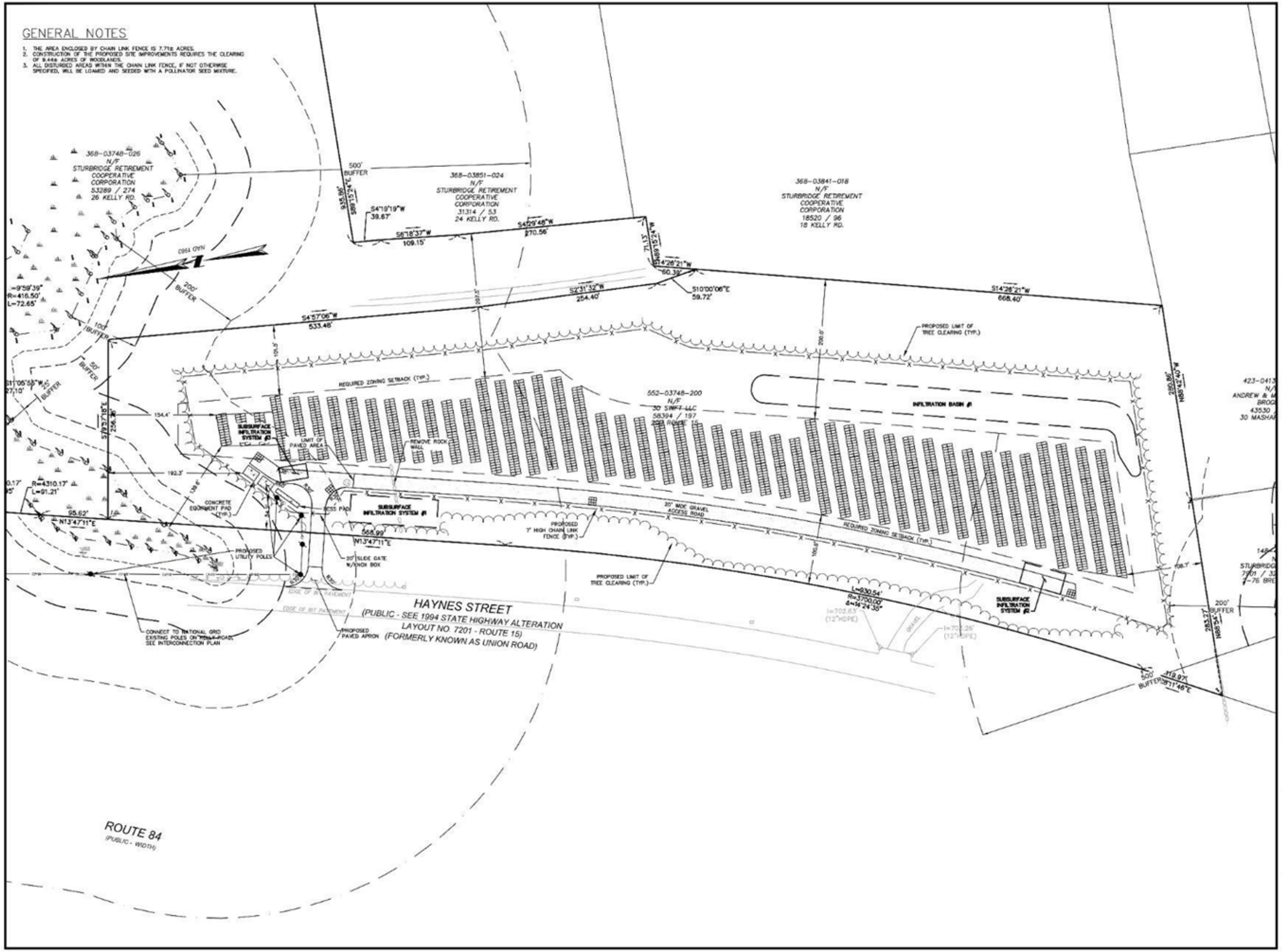

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BRIAN G. YERGATIAN
PROFESSIONAL ENGINEER

8/1/23 DATE

GROUND-MOUNTED PHOTOVOLTAIC SYSTEM

200 ROUTE 15

IN

STURBRIDGE MASSACHUSETTS

(WORCESTER COUNTY)

LAYOUT & MATERIALS PLAN

AUGUST 1, 2023

REVISIONS:

NO.	DATE	DESC.

PREPARED FOR:
STURBRIDGE PV, LLC
2420 17TH STREET
DENVER, CO 80202

BSC GROUP
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SCALE: 1" = 60'

FILE: PROJECTS-YAR\5074500\C\D\5074500-SP.dwg
DWG.: DWG
JOB. NO: 5-0745.00
SHEET 3 OF 9

BEAR PEAK
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EXAMINATION OF CONDITIONS:

1. THE CONTRACTOR SHALL BE RESPONSIBLE FOR JUDGING THE FULL EXTENT OF WORK REQUIREMENTS INVOLVED. THIS RESPONSIBILITY INCLUDES, BUT IS NOT LIMITED TO, THE FOLLOWING: TRANSPORTATION, PURCHASE, TEMPORARY STORAGE AND MAINTENANCE OF PLANTS; PLANT RE-HANDLING PRIOR TO FINAL INSTALLATION; REMOVAL AND OFF-SITE DISPOSAL OF EXISTING LOAM DETERMINED BY THE ENGINEER TO BE UNACCEPTABLE; PURCHASE, TRANSPORT, AND SUPPLY OF LOAM.
2. IMPORTED LOAM OFTEN CARRIES ANNUAL WEED SEED SUCH AS PERSICARIA. IT IS ADVANTAGEOUS TO ALLOW SOIL TO SETTLE AND WEED SEED TO GERMINATE AND BE MOWED PRIOR TO SITE SEEDING.
3. VERIFY ALL EXISTING UTILITY LINES PRIOR TO PLANTING AND REPORT ANY CONFLICTS TO THE OWNER OR HIS REPRESENTATIVE.

PLANTING NOTES:

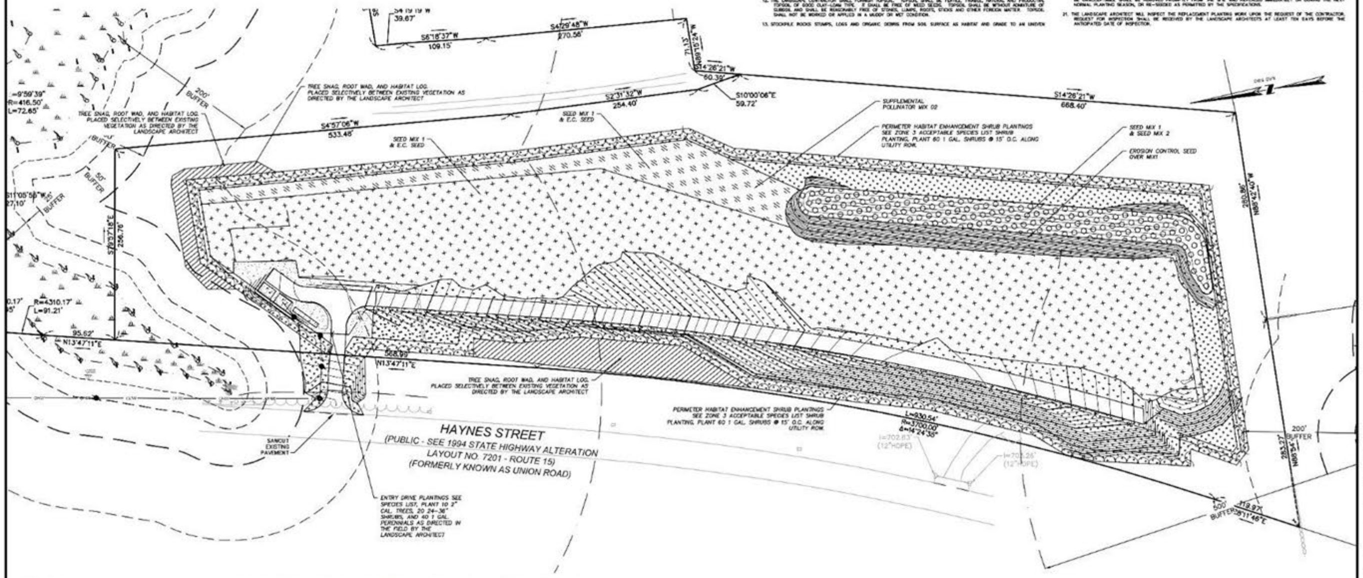
4. ALL PLANT MATERIAL SHALL CONFORM TO THE MINIMUM GUIDELINES ESTABLISHED BY THE AMERICAN STANDARD FOR NURSERY STOCK PUBLISHED BY THE AMERICAN ASSOCIATION OF NURSERYMEN, INC.
5. PLANT MATERIALS SHALL BEAR SAME RELATIONSHIP TO GRADE AS THEY BORE TO GRADE IN THE NURSERY.
6. ALL TREES NOTED FOR CLEARING AND SELECTIVE PRUNING AND THINNING SHALL BE EXECUTED UNDER THE SUPERVISION OF A LICENSED ARBORIST.
7. THE CONTRACTOR SHALL CLEARLY MARK LIMITS OF CLEARING AND LIMITS OF SELECTIVE PRUNING AND THINNING, FOR REVIEW BY THE A/E PRIOR TO ANY CLEARING OPERATIONS. VEGETATION THAT IS NOT USED IN HABITAT FEATURES OR REMOVED AS TIMBER PRODUCTS SHALL BE CHIPPED ON SITE AND INCORPORATED INTO TOP SOIL.
8. THE CONTRACTOR SHALL TAKE ALL MEASURES NECESSARY TO PROTECT EXISTING VEGETATION THAT IS TAGGED BY THE A/E, "TO BE SAVED".
9. ALL TREES TO BE SAVED SHALL BE PROTECTED WITH MARKED BOUNDS AT A MINIMUM DISTANCE OF 6', OR AS DIRECTED BY THE LANDSCAPE ARCHITECT.
10. THE A/E RESERVES THE RIGHT TO ADJUST FINAL GRADES IN THE FIELD TO SAVE EXISTING VEGETATION.
11. LOAM AND SEED ALL DISTURBED AREAS UNLESS OTHERWISE INDICATED.
12. THE LANDSCAPE CONTRACTOR SHALL FURNISH TOPSOIL. TOPSOIL SHALL BE FERTILE, FRIABLE, NATURAL AND PRODUCTIVE TOPSOIL OF GOOD CLAY-LOAM TYPE. IT SHALL BE FREE OF WEED SEEDS. TOPSOIL SHALL BE WITHOUT ADMIXTURE OF SUBSOIL AND SHALL BE REASONABLY FREE OF STONES, LUMPS, ROOTS, STICKS AND OTHER FOREIGN MATTER. TOPSOIL SHALL NOT BE WORKED OR APPLIED IN A MUDDY OR WET CONDITION.
13. STOCKPILE ROCKS STUMPS, LOGS AND ORGANIC DEBRIS FROM SOIL SURFACE AS HABITAT AND GRADE TO AN UNEVEN SURFACE.
14. PROVIDE FERTILIZE OR OTHER SOIL AMENDMENTS AS DIRECTED BY THE LANDSCAPE ARCHITECT BASED UPON THE FINDINGS OF THE SOIL TEST REPORT. NO FERTILIZER OR OTHER NUTRIENT AMENDMENT SHALL BE APPLIED WITHOUT COMPLIANCE WITH 330 CMR 31.00–31.11 .

MAINTENANCE PERIOD: 90 DAYS

15. THE MAINTENANCE PERIOD SHALL BEGIN IMMEDIATELY AFTER EACH PLANT IS PLANTED AND SHALL CONTINUE FOR A MINIMUM OF 90 DAYS FOLLOWING THE COMPLETION OF ALL PLANTING INSTALLATIONS, OR UNTIL THE CONDITIONAL ACCEPTANCE OF ALL PLANTING WORK, WHICHEVER IS A LONGER PERIOD OF TIME.
16. AT THE END OF THE MAINTENANCE PERIOD, THE CONTRACTOR WILL REQUEST INSPECTION BY THE OWNERS REPRESENTATIVE AT LEAST 10 DAYS BEFORE THE ANTICIPATED DATE OF INSPECTION.
17. AT THE TIME OF INSPECTION, IF THE PLANT MATERIALS AND WORKMANSHIP ARE ACCEPTABLE TO THE LANDSCAPE ARCHITECTS, THEY SHALL ISSUE A WRITTEN CERTIFICATE OF CONDITIONAL ACCEPTANCE TO THE CONTRACTOR. THE DATE OF THE INSPECTION SHALL ESTABLISH THE END OF THE MAINTENANCE PERIOD AND THE COMMENCEMENT OF THE REQUIRED ONE-YEAR ESTABLISHMENT PERIOD FOR PLANTING WORK.
18. IF IN THE LANDSCAPE ARCHITECTS OPINION, PLANT MATERIALS AND/OR WORKMANSHIP IS DEFICIENT, ACCEPTANCE WILL NOT BE GRANTED, AND THE MAINTENANCE PERIOD FOR ALL THE PLANTS SHALL BE EXTENDED UNTIL PLANT REPLACEMENTS ARE MADE OR OTHER DEFICIENCIES ARE CORRECTED. ALL DEAD AND UNSATISFACTORY PLANTS WILL BE REMOVED PROMPTLY FROM THE PROJECT. REPLACEMENT PLANTS SHALL CONFORM IN ALL RESPECTS TO THE SPECIFICATIONS FOR THE ORIGINAL PLANTS AND SHALL BE PLANTED IN THE SAME MANNER.

ESTABLISHMENT PERIOD: ONE YEAR

19. THE PURPOSE OF THE ESTABLISHMENT PERIOD IS TO NURTURE PLANTS AND SEEDING THROUGH AT LEAST ONE FULL GROWING SEASON AND ONE FULL WINTER. ALL PLANTS SHALL BE INSPECTED BY THE ENGINEER ONE YEAR AFTER CONDITIONAL ACCEPTANCE AND SHALL BE ALIVE AND IN SATISFACTORY GROWTH AT THE END OF THAT TIME. THE CONTRACTOR IS RESPONSIBLE FOR ARRANGING INSPECTION EARLY ENOUGH IN THE SEASON TO ALLOW ADEQUATE TIME TO PROCURE AND INSTALL REPLACEMENT MATERIAL.
20. AT THE END OF THE ESTABLISHMENT PERIOD, EACH PLANT/ SEED TYPE SHALL SHOW HEALTHY GROWTH ON AT LEAST 75 PERCENT OF ITS TERMINAL STEMS, AS DETERMINED BY THE ENGINEER. DETERMINATION OF HEALTHY GROWTH SHALL INCLUDE, BUT IS NOT NECESSARILY LIMITED TO, VIABLE LEAVES (IN SEASON) AND TERMINAL BUDS. PLANTS FOUND TO BE UNACCEPTABLE SHALL BE REMOVED PROMPTLY FROM THE SITE AND REPLACED IMMEDIATELY OR DURING THE NEXT NORMAL PLANTING SEASON, OR RE-SEEDED AS PERMITTED BY THE SPECIFICATIONS.
21. THE LANDSCAPE ARCHITECT WILL INSPECT THE REPLACEMENT PLANTING WORK UPON THE REQUEST OF THE CONTRACTOR. REQUEST FOR INSPECTION SHALL BE RECEIVED BY THE LANDSCAPE ARCHITECTS AT LEAST TEN DAYS BEFORE THE ANTICIPATED DATE OF INSPECTION.



BASE SEED MIXES
POLLINATOR MIXES ARE BEST SPREAD BY BROADCASTING USING A CYCLONE FERTILIZER SPREADER PRIOR TO HYDROSEEDING OR HYDROMULCHING. BROADCASTING NATIVE WARM SEASON GRASS AND FORB SEED ARE IRREGULAR AND REQUIRE THE USE OF A CARRIER TO ENSURE THE MIXTURE FLOWS CORRECTLY THROUGH THE SPREADER AND THE SEED IS DISTRIBUTED EVENLY ACROSS THE FIELD.

COVER CROP HYDROSEEDED OVER BASE SEED DURING ESTABLISHMENT
ALL SEEDED AREAS TO BEGIN WITH A COVER CROP SELECTED RELATIVE TO SEASON. SEED AT 20 LBS/ACRE WITH A COVER CROP. FOR A COVER CROP USE JAPANESE MILLET (10 LBS/ACRE; 1 MAY TO 31 AUG), BARNYARD GRASS (10 LBS/ACRE; 1 MAY TO 31 AUG); OR GRAIN RYE (30 LBS/ACRE; 1 SEPT TO 30 APR)

LOW UPLAND POLLINATOR MIX 1 UNDER ARRAY UNDER 3' PART SHADE
1 LB/ 1000 FT.
ERNMX-212 OR EQUIVALENT
94.0% FESTUCA OVINA, (SHEEP FESCUE)
2.5% ASCLEPIAS TUBEROSA (BUTTERFLY MILKWEED)
2.0% CHAMAECRISTA FASCICULATA, PA ECOTYPE (PARTRIDGE PEA)
0.3% OENOTHERA FRUTICOSA VAR. FRUTICOSA (SUNDROPS)
0.2% SISYRINCHIUM ANGUSTIFOLIUM (NARROWLEAF BLUE EYED GRASS)

EROSION CONTROL SEED (OVER MIX 1 FOR STEEP SLOPES) UNDER 3'
2 LB/ 1000 FT.
70% LOLIUM PERENNE, TETRAPLOID (PERENNIAL RYEGRASS TETRAPLOID)
30% AVENA SATIVA, (OATS)

POLLINATOR FRIENDLY TURF
4 LB/ 1000 FT.
ERNMX-186
LOW GRASS MIX WITH RED AND WHITE CLOVER

BASIN MIX 2 OUTSIDE ARRAY FULL SUN TRANSITIONAL MOISTURE
1 LB/ 1000 FT.
ERNMX-170
37.0% SCHIZACHYRIUM SCOPARIUM(LITTLE BLUESTEM)
36.3% BOUTELOUA CURTIPENDULA, BUTTE (SIDEOATS GRAMA, BUTTE)
4.0% CHAMAECRISTA FASCICULATA, (PARTRIDGE PEA)
4.0% COREOPSIS LANCEOLATA (LANCELEAF COREOPSIS)
4.0% ECHINACEA PURPUREA (PURPLE CONEFLOWER)
3.3% RUDBECKIA HIRTA (BLACKEYED SUSAN)
2.3% HELIOPSIS HELIANTHOIDES, (OXEYE SUNFLOWER)
1.8% PENSTEMON DIGITALIS (TALL WHITE BEARDTONGUE)
1.5% ASCLEPIAS TUBEROSA (BUTTERFLY MILKWEED)
0.8% LIATRIS SPICATA (MARSH BLAZING STAR)
0.7% SENNA HEBECARPA (WILD SENNA)
0.6% ZIZIA AUREA (GOLDEN ALEXANDERS)
0.5% ASCLEPIAS INCARNATA, (SWAMP MILKWEED)
0.5% GEUM CANADENSE, (WHITE AVENS)
0.5% MONARDA FISTULOSA, (WILD BERGAMOT)
0.5% PYCNANTHEMUM TENUIFOLIUM (NARROWLEAF MOUNTAINMINT)
0.4% ASTER LAEVIS, NY ECOTYPE (SMOOTH BLUE ASTER, NY ECOTYPE)
0.4% ASTER NOVAE-ANGLIAE, (NEW ENGLAND ASTER)
0.3% BAPTISIA AUSTRALIS, SOUTHERN (BLUE FALSE INDIGO, SOUTHERN)
0.3% SISYRINCHIUM ANGUSTIFOLIUM (NARROWLEAF BLUE EYED GRASS)
0.2% OENOTHERA FRUTICOSA VAR. FRUTICOSA(SUNDROPS)
0.2% SOLIDAGO NEMORALIS, (GRAY GOLDENROD)
0.1% ASTER PRENANTHOIDES, (ZIGZAG ASTER)

POLLINATOR MIX 2 OUTSIDE ARRAY FULL SUN UNDER 4'
1 LB/ 1000 FT.
ERNMX-145 OR EQUIVALENT
29.4% LOLIUM PERENNE, TETRAPLOID (PERENNIAL RYEGRASS, TETRAPLOID)
21.0% DACTYLIS GLOMERATA, POTOMAC (ORCHARDGRASS, POTOMAC)
18.5% POA PRATENSIS, 'GINGER' (KENTUCKY BLUEGRASS, 'GINGER' (PASTURE TYPE)
12.6% BROMUS BIEBERSTEINII, 'FLEET' (MEADOW BROME, 'FLEET')
5.7% TRIFOLIUM HYBRIDUM (ALSIKE CLOVER)
5.0% FESTUCA ELATIOR X LOLIUM PERENNE, DUO (FESTULOLIUM, DUO)
4.8% TRIFOLIUM PRATENSE, MEDIUM, (RED CLOVER, MEDIUM)
2.0% LOTUS CORNICULATUS, 'LEO' (BIRD'S FOOT TREFOIL, 'LEO')
1.7% CHAMAECRISTA FASCICULATA, (PARTRIDGE PEA)
1.0% LINUM PERENNE (PERENNIAL BLUE FLAX)
0.9% COREOPSIS LANCEOLATA (LANCELEAF COREOPSIS)
0.5% CHRYSANTHEMUM LEUCANTHEMUM (OXEYE DAISY)
0.4% SOLIDAGO NEMORALIS, (GRAY GOLDENROD)

SHADE PERIMETER POLLINATOR MIX
1 LB/ 1000 FT.
ERNMX-132-1
20.0% PANICUM CLANDESTINUM, TIOGA (DEERTONGUE, TIOGA)
20.0% LOLIUM MULTIFLORUM (ANNUAL RYEGRASS)
16.0% ELYMUS VIRGINICUS, MADISON NY ECOTYPE (VIRGINIA WILDRYE
15.0% PANICUM VIRGATUM, 'SHELTER' (SWITCHGRASS, 'SHELTER')
18.0% FESTUCA RUBRA (CREEPING RED FESCUE)
5.0% AGROSTIS PERENNANS, ALBANY PINE (AUTUMN BENTGRASS)
3.0% CAREX VULPINOIDEA, (FOX SEDGE)
3.0% CHAMAECRISTA FASCICULATA, (PARTRIDGE PEA)

BRIAN G. YERGATIAN
PROFESSIONAL ENGINEER

8/1/23
DATE

GROUND-MOUNTED PHOTOVOLTAIC SYSTEM

200 ROUTE 15
IN
STURBRIDGE
MASSACHUSETTS
(WORCESTER COUNTY)

PLANTING PLAN

AUGUST 1, 2023

REVISIONS:

NO.	DATE	DESC.

ISSUED FOR PERMITTING
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PREPARED FOR:
STURBRIDGE PV, LLC
2420 17TH STREET
DENVER, CO 80202

BSC GROUP
349 Main Street - Route 28
West Yarmouth, Massachusetts
02673
508 778 8919

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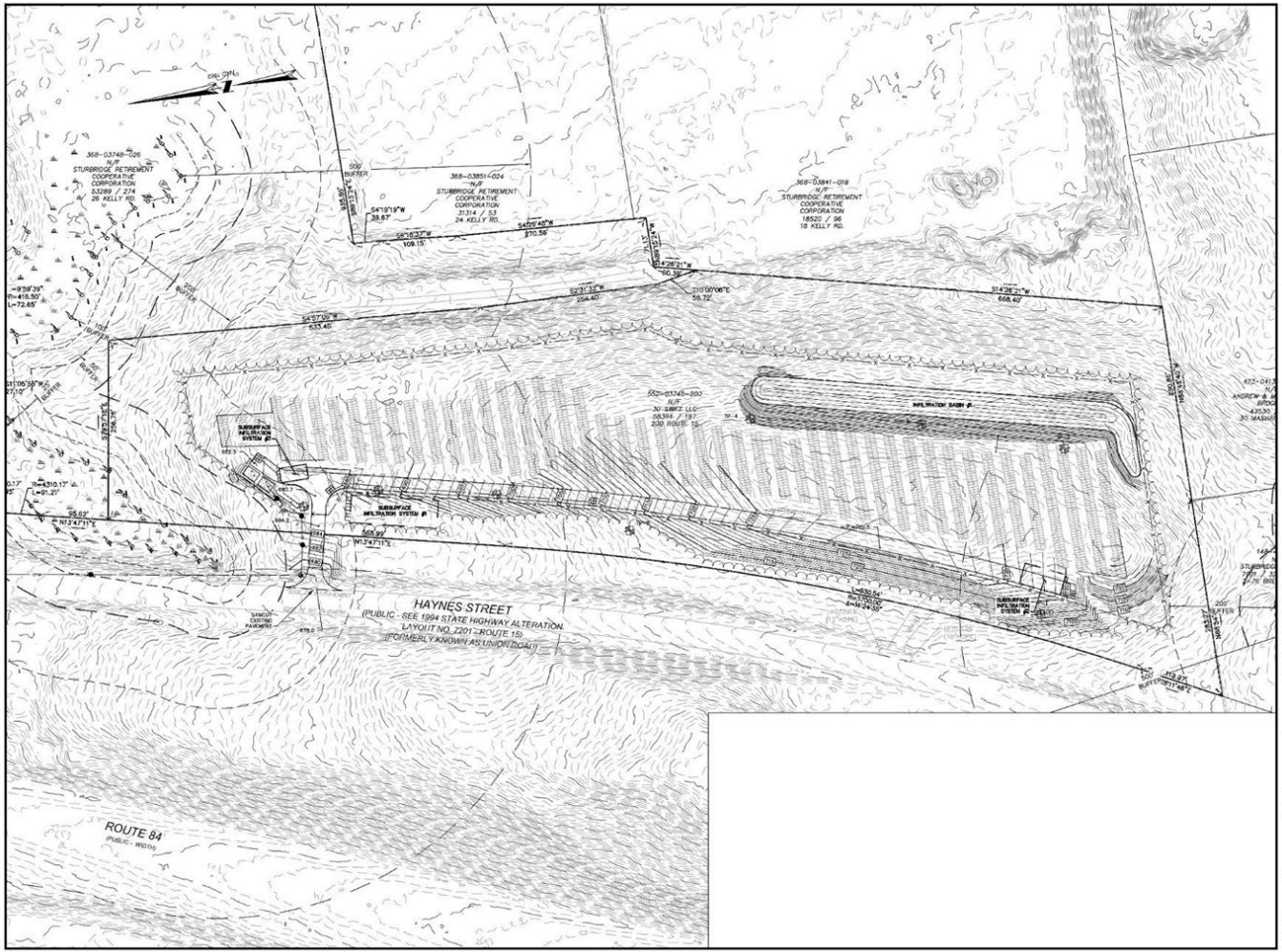
SCALE: 1" = 60'
0 30 60 120 FEET

FILE: PROJECTS-YAR\5074500\C\D\5074500-SP.dwg
DWG.: DWG
JOB. NO: 5-0745.00
SHEET 4 OF 9

BEAR PEAK
POWER



8/1/23

BRIAN G. YERGATIAN DATE
PROFESSIONAL ENGINEER

GROUND-MOUNTED PHOTOVOLTAIC SYSTEM

200 ROUTE 15

IN

STURBRIDGE
MASSACHUSETTS
(WORCESTER COUNTY)

GRADING PLAN

AUGUST 1, 2023

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0 30 60 120 scale

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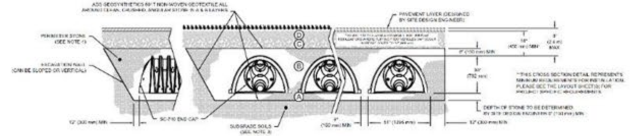
DWG..DWG
JOB. NO: 5-0745.00 SHEET 5 OF 9

BEAR PEAK POWER

ACCEPTABLE FILL MATERIALS: STORMTECH SC-740 CHAMBER SYSTEMS

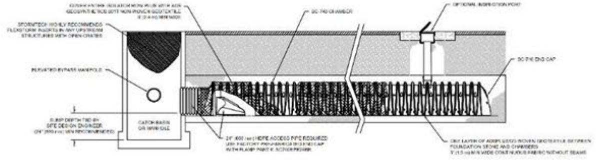
MATERIAL LOCATION		DESCRIPTION	AASHTO MATERIAL CLASSIFICATIONS	COMPACTION / DENSITY REQUIREMENT
D	**FINAL FILL:** FILL MATERIAL FOR LAYER 'D' STARTS FROM THE TOP OF THE 'C' LAYER TO THE BOTTOM OF FLEXIBLE PAVEMENT OR UNPAVED FINISHED GRADE ABOVE. NOTE THAT PAVEMENT SUBBASE MAY BE PART OF THE 'D' LAYER.	ANY SOIL/ROCK MATERIALS, NATIVE SOILS, OR PER ENGINEER'S PLANS. CHECK PLANS FOR PAVEMENT SUBGRADE REQUIREMENTS.	N/A	PREPARE PER SITE DESIGN ENGINEER'S PLANS. PAVED INSTALLATIONS MAY HAVE STRINGENT MATERIAL AND PREPARATION REQUIREMENTS.
C	**INITIAL FILL:** FILL MATERIAL FOR LAYER 'C' STARTS FROM THE TOP OF THE EMBEDMENT STONE ('B' LAYER) TO 18" (450 mm) ABOVE THE TOP OF THE CHAMBER. NOTE THAT PAVEMENT SUBBASE MAY BE A PART OF THE 'C' LAYER.	GRANULAR WELL-GRADED SOIL/AGGREGATE MIXTURES, <35% FINES OR PROCESSED AGGREGATE. MOST PAVEMENT SUBBASE MATERIALS CAN BE USED IN LIEU OF THIS LAYER.	AASHTO M145 A-1, A-2-4, A-3 OR AASHTO M43 3, 357, 4, 467, 5, 56, 57, 6, 67, 68, 7, 78, 8, 89, 9, 10	BEGIN COMPACTIONS AFTER 12" (300 mm) OF MATERIAL OVER THE CHAMBERS IS REACHED. COMPACT ADDITIONAL LAYERS IN 6" (150 mm) MAX LIFTS TO A MIN. 95% PROCTOR DENSITY FOR WELL GRADED MATERIAL AND 95% RELATIVE DENSITY FOR PROCESSED AGGREGATE MATERIALS. ROLLER GROSS VEHICLE WEIGHT NOT TO EXCEED 12,000 lbs (53 kN). DYNAMIC FORCE NOT TO EXCEED 20,000 lbs (89 kN).
B	**EMBEDMENT STONE:** FILL SURROUNDING THE CHAMBERS FROM THE FOUNDATION STONE ('A' LAYER) TO THE 'C' LAYER ABOVE.	CLEAN, CRUSHED, ANGULAR STONE	AASHTO M43 3, 357, 4, 467, 5, 56, 57	NO COMPACTION REQUIRED.
A	**FOUNDATION STONE:** FILL BELOW CHAMBERS FROM THE SUBGRADE UP TO THE FOOT (BOTTOM) OF THE CHAMBER.	CLEAN, CRUSHED, ANGULAR STONE	AASHTO M43 3, 357, 4, 467, 5, 56, 57	PLATE COMPACT OR ROLL TO ACHIEVE A FLAT SURFACE.

PLEASE NOTE:
1. THE LISTED AASHTO DESIGNATIONS ARE FOR GRADATIONS ONLY. THE STONE MUST ALSO BE CLEAN, CRUSHED, ANGULAR. FOR EXAMPLE, A SPECIFICATION FOR #4 STONE WOULD STATE: "CLEAN, CRUSHED, ANGULAR NO. 4 (AASHTO M43) STONE".
2. STORMTECH COMPACTION REQUIREMENTS ARE MET FOR 'A' LOCATION MATERIALS WHEN PLACED AND COMPACTED IN 6" (150 mm) (MAX) LIFTS USING TWO FULL COVERAGES WITH A VIBRATORY COMPACTOR.
3. WHERE INFILTRATION SURFACES MAY BE COMPROMISED BY COMPACTION, FOR STANDARD DESIGN LOAD CONDITIONS, A FLAT SURFACE MAY BE ACHIEVED BY RAKING OR DRAGGING WITHOUT COMPACTION EQUIPMENT. FOR SPECIAL LOAD DESIGNS, CONTACT STORMTECH FOR COMPACTION REQUIREMENTS.
4. ONCE LAYER 'C' IS PLACED, ANY SOIL/MATERIAL CAN BE PLACED IN LAYER 'D' UP TO THE FINISHED GRADE. MOST PAVEMENT SUBBASE SOILS CAN BE USED TO REPLACE THE MATERIAL REQUIREMENTS OF LAYER 'C' OR 'D' AT THE SITE DESIGN ENGINEER'S DISCRETION.

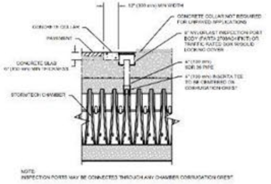


NOTES:

1 SC-740 CROSS SECTION DETAIL

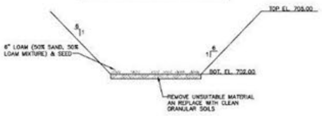


3 SC-740 ISOLATOR ROW PLUS DETAIL



4 4" PVC INSPECTION PORT DETAIL (SC SERIES CHAMBER)

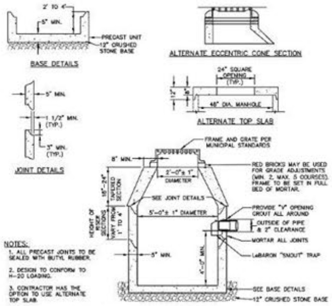
INFILTRATION BASIN #1



NOTES:

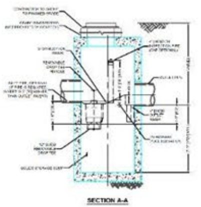
1. LIGHT EARTH MOVING EQUIPMENT IS TO BE USED DURING CONSTRUCTION TO REDUCE COMPACTION OF BASIN BOTTOM.
2. BASIN FLOOR IS TO BE DEEPLY TILLED AFTER FINAL GRADING.
3. PROPER EROSION SEDIMENT CONTROLS SHOULD BE UTILIZED DURING CONSTRUCTION TO PREVENT SEDIMENT AND/OR DEBRIS FROM ENTERING THE BASIN.
4. 75% OF RIP-RAP STONE SHALL BE 70 – 100 lbs.

INFILTRATION BASIN CROSS–SECTION
SCALE: NONE



NOTES:
1. ALL PRECAST JOINTS TO BE SEALED WITH BUTYL RUBBER.
2. DESIGN TO CONFORM TO H-20 LOADING.
3. CONTRACTOR HAS THE OPTION TO USE ALTERNATE TOP SLAB.

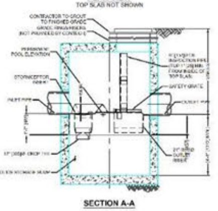
PRECAST CONCRETE CATCH BASIN
SCALE: NONE



SECTION A-A

STORMCEPTOR STC 450i
SCALE: NONE

PLAN VIEW
TOP SLAB NOT SHOWN



SECTION A-A

STORMCEPTOR STC 900
SCALE: NONE

8/1/23

BRIAN G. YERGATIAN
PROFESSIONAL ENGINEER
DATE

GROUND-MOUNTED PHOTOVOLTAIC SYSTEM

200 ROUTE 15

IN

STURBRIDGE MASSACHUSETTS
(WORCESTER COUNTY)

DETAIL SHEET

AUGUST 1, 2023

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02673
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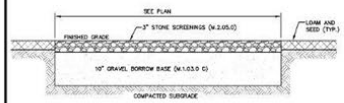
SCALE: NOT TO SCALE

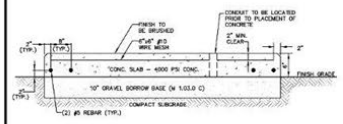
FILE: PROJECTS–YAR\5074500\C\D\5074500–SP.dwg
DWG.: DWG
JOB. NO: 5–0745.00
SHEET 8 OF 9

BEAR PEAK POWER



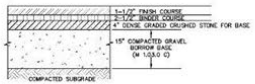
GRAVEL DRIVEWAY

SCALE: NONE



TRANSFORMER PAD

SCALE: NONE



STANDARD DUTY FLEXIBLE PAVEMENT

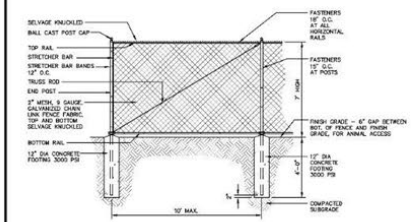
NOTE:
PAVEMENT SECTIONS ARE SUBJECT TO CHANGE AND MAY BE BASED ON THE RESULTS OF GEOTECHNICAL INVESTIGATIONS

HOT MIX ASPHALT PAVEMENT SECTIONS

SCALE: NONE

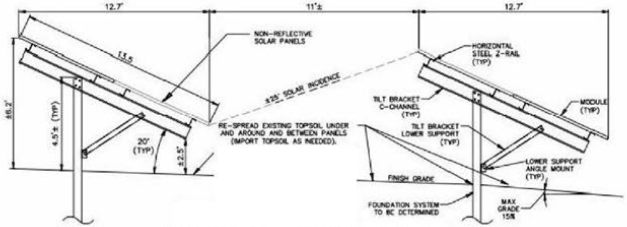
CHAIN LINK FENCE FRAMEWORK SCHEDULE

FABRIC HEIGHT	6' OR LESS	8' – 10'	12' OR MORE
END, CORNER & PULL POST	2.375" O.D.	2.875" O.D.	4" O.D.
LINE POST	1.900" O.D.	2.375" O.D.	2.875" O.D.
TOP AND BOTTOM RAIL	1.660" O.D.	1.900" O.D.	1.900" O.D.
MIDDLE RAIL	NONE	1.660" O.D.	1.660" O.D.



CHAIN LINK FENCE

SCALE: NONE



SECTION VIEW – PANEL/RACK ASSEMBLY

SCALE: NONE

8/1/23

BRIAN G. YERGATIAN
PROFESSIONAL ENGINEER

DATE

GROUND-MOUNTED PHOTOVOLTAIC SYSTEM

200 ROUTE 15

IN

STURBRIDGE
MASSACHUSETTS
(WORCESTER COUNTY)

DETAIL SHEET II

AUGUST 1, 2023

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DWG.: DWG
JOB. NO. 5-0745.00

SHEET 9 OF 9

BEAR PEAK POWER

Project Details: Community Benefits

- Renewable energy added to the local grid
- Low-impact development
- Helps residents save money over time by stabilizing electricity prices
- Local investment, including job creation, during construction and development
- Tax revenue

BEAR PEAK
POWER