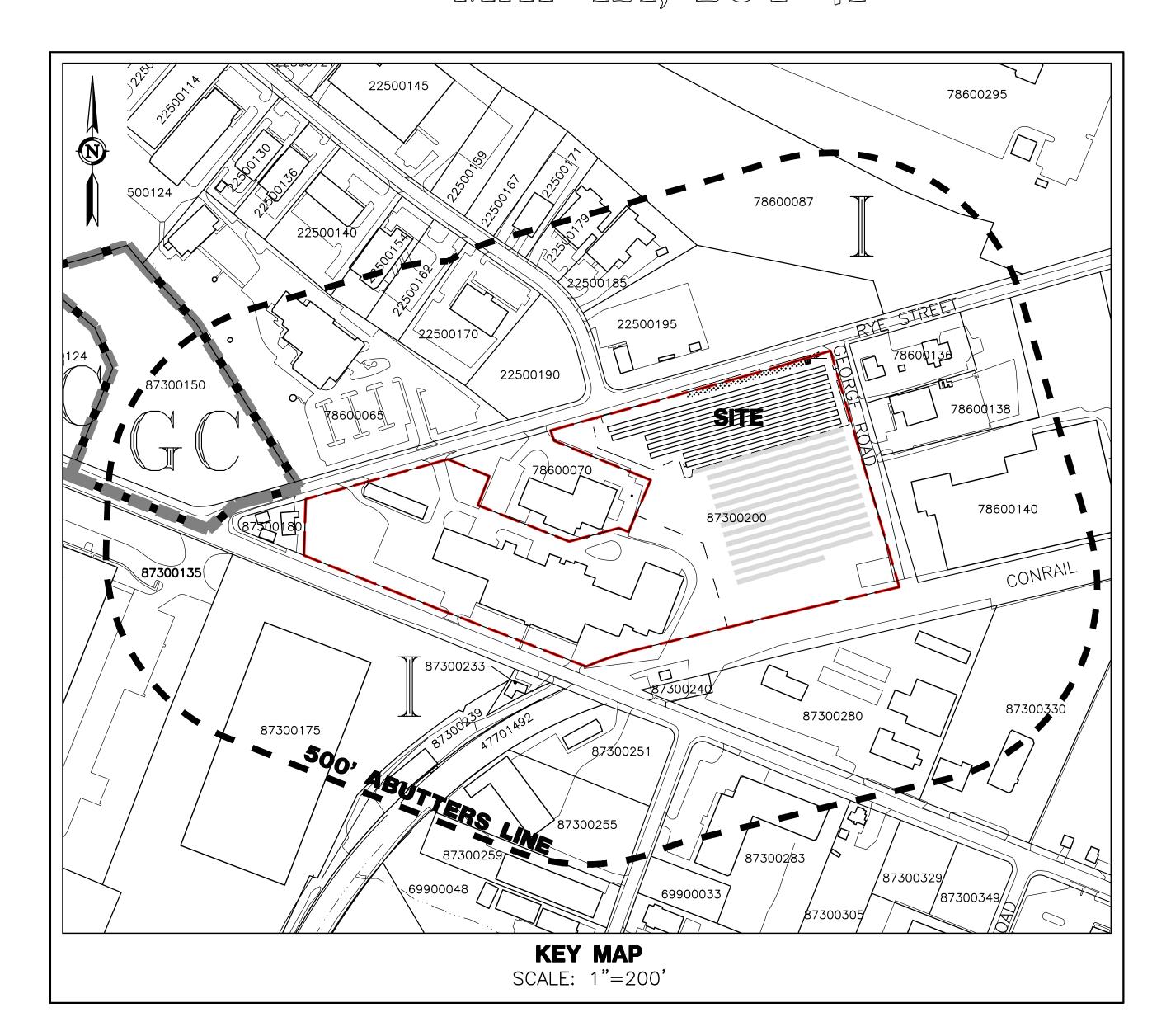
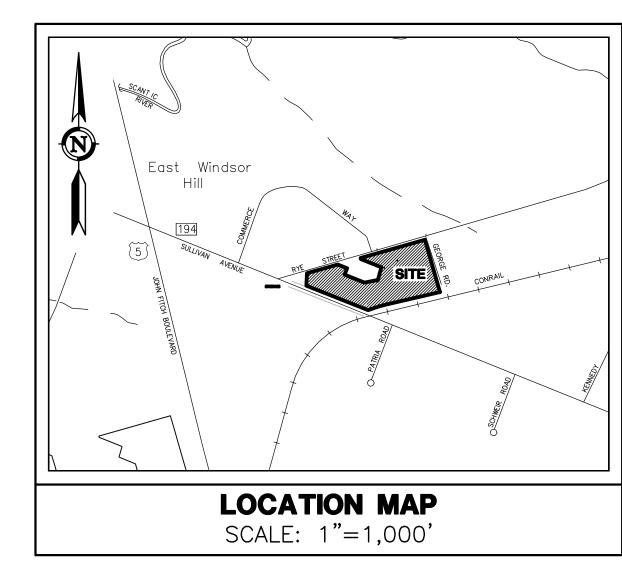
# NUWAY TOBACCO CO.

# SOLAR FARM PHASE 2

200 SULLIVAN AVENUE ~ SOUTH WINDSOR ~ CONNECTICUT MAP 121, LOT 41

N/F 500' ABUTTERS							
Parcel ID	Site Address	Owner Name					
22500140	140 COMMERCE WAY	ZITO PROPERTIES LLC					
22500154	154 COMMERCE WAY	GOLTECH LLC					
22500162	162 COMMERCE WAY	GOLTECH LLC					
22500170	170 COMMERCE WAY	MOUNTFORD INDUSTRIES LLC					
22500171	171 COMMERCE WAY	REAL GROUP LLC THE					
22500179	179 COMMERCE WAY	LUKASIK LLC					
22500185	185 COMMERCE WAY	LUKASIK LLC					
22500190	190 COMMERCE WAY	MOUNTFORD INDUSTRIES LLC					
22500195	195 COMMERCE WAY	COMMERCE 195 LLC					
47701492	1492 JOHN FITCH BLVD	SOUTH WINDSOR TOWN OF					
69900048	48 PATRIA ROAD	ERS RE HOLDINGS LLC					
78600065	65 RYE STREET	TOP OF THE NINTH LLC					
78600070	70 RYE STREET	JE SHEPARD COMPANY THE					
78600087	87 RYE STREET	CONN STATE OF					
78600136	136 RYE STREET	136 RYE STREET LLC					
78600138	138 RYE STREET	SHEPARD POLA INC					
78600140	140 RYE STREET	SHEPARD POLA INC					
78600295	295 RYE STREET	ALDI INC					
87300135	135 SULLIVAN AVENUE	MOBIS PARTS AMERICA LLC					
87300150	150 SULLIVAN AVENUE	150 SULLIVAN LLC					
87300175	175 SULLIVAN AVENUE	PPF WE 175 SULLIVAN AVENUE LLC					
87300180	180 SULLIVAN AVENUE	ZAMMX LLC					
87300233	233 SULLIVAN AVENUE	OLIVIERI HOLDINGS LLC					
87300239	239 SULLIVAN AVENUE	NEYCO LLC					
87300240	240 SULLIVAN AVENUE	CONN LIGHT & POWER CO					
87300251	251 SULLIVAN AVENUE	LAVEY ROBERT W & BARBARA E					
87300255	255 SULLIVAN AVENUE	LAVEY ROBERT W & BARBARA E					
87300259	259 SULLIVAN AVENUE	LAVEY ROBERT W & BARBARA E					
87300280	280 SULLIVAN AVENUE	280 SULLIVAN AVENUE LLC					
87300283	283 SULLIVAN AVENUE	DELLA N LLC/LEGACY VENTURES LLC					
87300305	305 SULLIVAN AVENUE	WOLF HELMAR					
87300330	330 SULLIVAN AVENUE	JKLN LLC					





	SHEET INDEX	
C-T1	TITLE	1 OF 3
C-SP1	SITE PLAN	2 OF 3
C-D1	NOTES, LEGEND, & DETAILS	3 OF 3
V-1 & V-2	IMPROVEMENT LOCATION SURVEY - RECORD	2 OF 2
	SOLBID PLAN SET	

### **PROPERTY OWNERS:**

**APPLICANT:** 

200 SULLIVAN AVENUE, LLC NUWAY TOBACCO CO. 200 SULLIVAN AVENUE **200 SULLIVAN AVENUE** SOUTH WINDSOR, CT 06074 SOUTH WINDSOR, CT 06074

860-289-6414 **PRELIMINARY** 

NOT FOR CONSTRUCTION APPROVALS. ONLY FINAL PLANS STAMPED APPROVED BY THE TOWN SHALL BE USED FOR

### **GENERAL NOTES:**

• REPRODUCTION TECHNIQUES USED IN THE PRODUCTION OF THIS PLAN CAN STRETCH OR SHRINK THE PAPER. SCALING OF

• THESE PLANS AND OTHER ITEMS PREPARED BY DESIGN PROFESSIONALS, INC. (DPI) ARE INSTRUMENTS OF SERVICE AND REMAIN ITS PROPERTY. THE USE OF THESE ITEMS BY DPI'S CLIENT IS SUBJECT TO THE TERMS SET FORTH IN THE AGREEMENT BETWEEN CLIENT AND DPI. REPRODUCTION AND/OR USE OF THESE ITEMS BY OTHERS IS PROHIBITED

# CIVIL ENGINEER & LAND SURVEYOR:

# esign rofessionals

CIVIL & TRAFFIC ENGINEERS / PLANNERS / SURVEYORS GIS ANALYSTS / LANDSCAPE ARCHITECTS

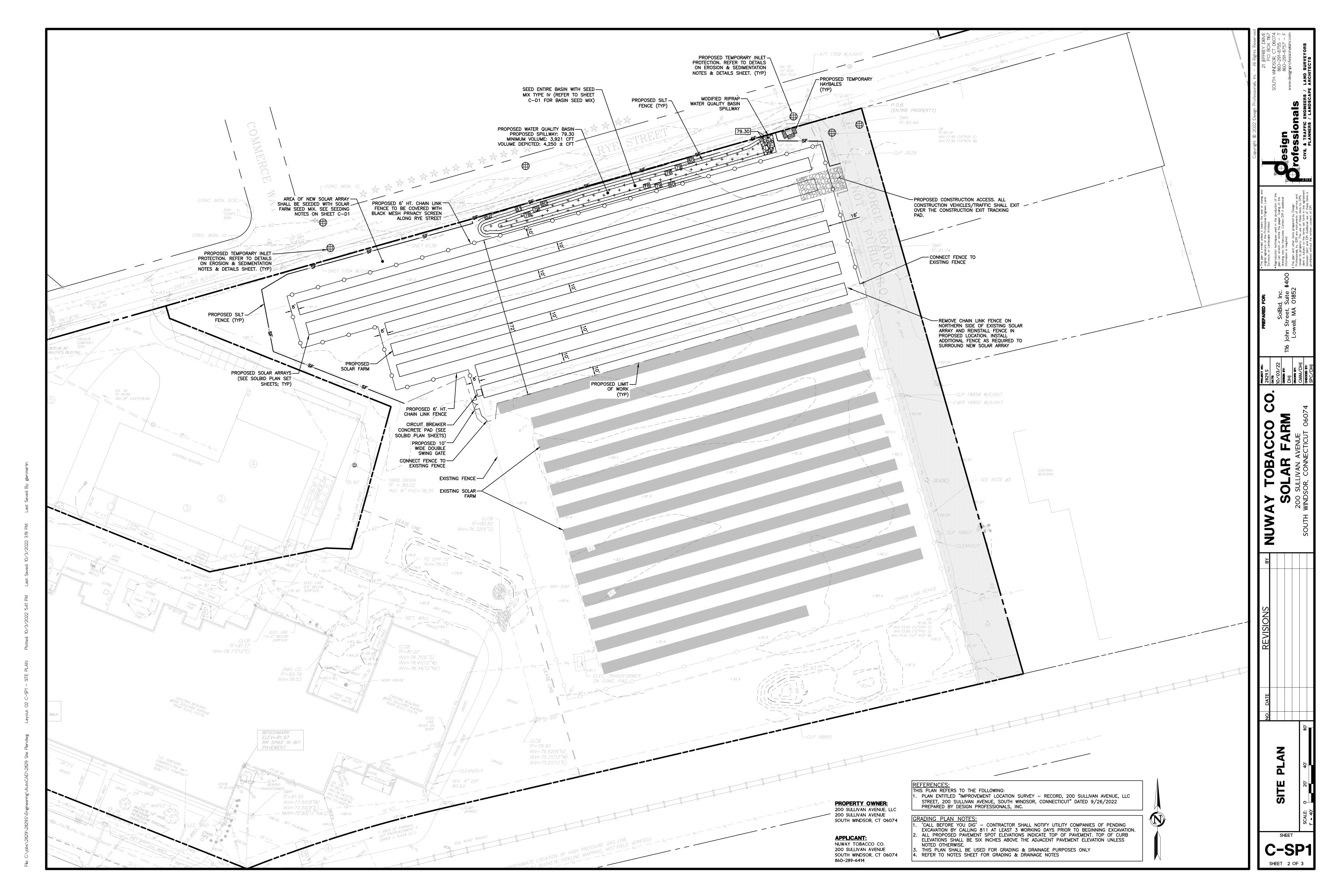
21 Jeffrey Drive P.O. Box 1167 South Windsor, CT 06074

Phone: 860-291-8755 Fax: 860-291-8757 www.designprofessionalsinc.com

<b>ZONING TABLE</b>								
ZONE: I (INDUSTRIAL)								
ITEM	REQUIRED/ ALLOWED	PROPOSED						
LOT AREA	30,000 S.F.	15.144 ACRES						
LOT FRONTAGE	100'	768'						
LOT DEPTH	150'	890'						
FRONT YARD	35'	8.60'*						
SIDE YARD	10'	24.5'						
REAR YARD	25'	N/A						
BUILDING HEIGHT	40' / 2 STORIES	27'±						
LOT COVERAGE	50%	13%						
IMPERVIOUS COVERAGE	65%	42.7%						

NOTES:

\* EXISTING BUILDING IS NON—CONFORMING TO FRONT YARD SETBACK REQUIREMENTS ALONG RYE STREET



- 2. It is the contractor's responsibility to review all construction contract documents associated with the project scope of work, including, but not limited to, all drawings and specifications, architectural plans, boundary and topographic survey, wetlands assessment and reports, geotechnical reports, environmental reports, and approval conditions, prior to the commencement of construction. Should the contractor find conflict and/or discrepancy between the documents relative to the plans, specifications, reports, or the relative or applicable codes, regulations, laws, rules, statutes and/or ordinances, it is the contractor's sole responsibility to notify the Engineer, in
- 3. The contractor shall be responsible for adhering to any conditions of approval placed on the project by the authorities having jurisdiction.
- 4. The contractor must comply, to the fullest extent, with the latest Occupational Health and Safety (OSHA) standards and regulations, and/or any other agency with jurisdiction for construction activities. The contractor is solely responsible for construction means, methods, techniques, sequences, 24. The use of explosives, if required, must comply with all local, state and or procedures, or for safety precautions and programs in connection with work on the Project. The Engineer will not be responsible for the contractor's safety, schedules, or failure to carry out its work in accordance with the contract documents. The Engineer will not have control over or charge of acts or omissions of the contractor, subcontractors, or their agents or employees, or of any persons performing portions of work on the
- 5. Contractor must notify the Engineer in writing if there are any questions concerning the accuracy or intent of these plans or related specifications. If such notification is given, no demolition or site activity may begin until such time that the Engineer provides a written response to same.
- 6. Contractor shall adhere to and is responsible for compliance with all details, notes, plans and specifications contained herein. It is the responsibility of in full compliance with these requirements.
- 7. The contractor shall confirm that they are in receipt of the current version of the referenced documents prior to the commencement of any work.
- 8. Prior to commencing work, the contractor shall review and correlate all consultants plans and specifications including the entire site plan and the latest architectural plans (including, but not limited to, structural, mechanical, electrical, plumbing, and fire suppression plans, where applicable), in particular for building utility connection locations, grease trap requirements/ details, door access, and exterior grading. Contractor must immediately notify the Architect and the Engineer, in writing, of any conflicts, discrepancies or ambiguities which exist, and receive a written resolution prior to commencing construction.
- 9. Prior to commencing work, contractor is required to secure all necessary and/or required permits and approvals for the construction of the project, including, but not limited to, demolition work, and all off site material sources and disposal facilities. Copies of all permits and approvals shall be maintained on site throughout the duration of the project. The contractor shall thoroughly review and understand all permits and permit conditions prior to fabrication of any materials or products to be used as part of the project.
- 10. The contractor is responsible for independently verifying all existing onsite utilities within and adjacent to the limits of the project activities. Underground utility, structure and facility locations depicted and noted on the plans have been compiled, in part, from record mapping supplied by the respective utility companies or governmental agencies, from parol testimony, and from other sources. These locations must be considered as approximate in nature. Additionally, other such features may exist on the site, the existence of which are unknown to the Engineer.
- 11. The contractor is responsible for ensuring the installation of all improvements comply with all requirements of utility companies with jurisdiction and/or control of the site.
- 12. Locations of all existing and proposed services are approximate. Final utility 32. The tops of existing manholes, inlet structures, and sanitary cleanout tops service sizes and locations, including, but not limited to, the relocation and/or installation of utility poles, or the relocation and/or installation of transformers, are at the sole discretion of the respective utility companies. 33. Where retaining walls (whether or not they meet the jurisdictional definition)
- 13. Prior to commencement of any work, the contractor shall independently coordinate and confirm with the appropriate utility companies to finalize all utility services and/or relocations to ensure no conflict with the design plans and that proper depths can be achieved. All discrepancies must immediately be reported to the Engineer in writing. Should a conflict arise due to the final designs of the utility company, the contractor shall notify the Engineer 34. The contractor shall ensure that all work located in existing pavement be in writing and await a written resolution prior to proceeding with further
- 14. Prior to commencing construction, the contractor shall field verify all existing conditions, topographic information, utility invert elevations, and proposed layout dimensions, and must immediately notify the Engineer in writing if actual site conditions differ or are in conflict with the proposed work. No extra compensation will be paid to the contractor for work which has to be redone or repaired due to dimensions or grades shown incorrectly on these plans unless the contractor receives written permission from Owner/developer giving authorization to proceed with such additional work.
- 15. Where utilities are proposed to cross/traverse existing underground utilities, the elevations of the existing utilities shall be verified in the field prior to construction by excavating a test pit at the proposed utility crossing point. Should the field verified existing utility be in conflict with the proposed site designs, the contractor shall notify the Engineer in writing and shall not proceed with said utility construction until further direction is given from the
- 16. At least 72 hours prior to starting any site activity or demolition, the contractor shall notify, at a minimum, the building official, municipal engineer, department of public works, planning and zoning commission, the Engineer, and local inland wetland commission, as applicable. The contractor shall also attend a pre—construction meeting with the local municipality, if
- 17. Prior to starting any site activity or demolition, the contractor shall implement the soil erosion and sediment control measures as noted on the plans. Refer to the Erosion and Sedimentation Control Notes.

required, prior to commencing any site activity or demolition.

- 18. The demolition plan or existing features designated to be removed are intended to provide only general information regarding items to be demolished and/or removed. The contractor shall review all site plans (and architectural drawings as applicable) to assure that all demolition activities and incidental work necessary for the construction of the new site improvements are completed.
- active utilities and systems that are not being removed during all construction activities. Should a temporary interruption of utility services be coordinate with appropriate utility companies and the affected end users to minimize impact and service interruption.

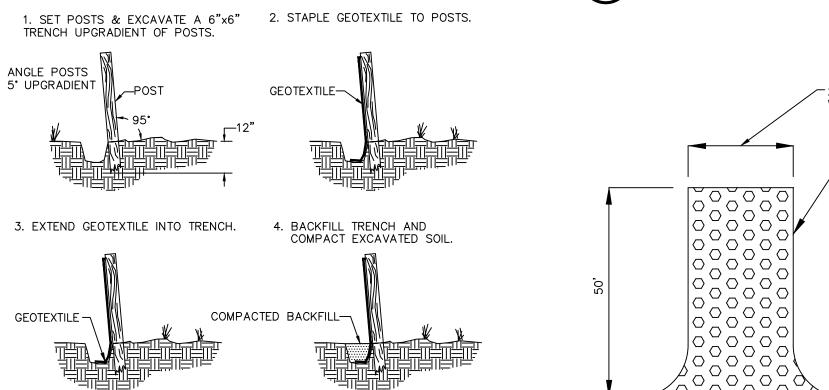
- 20. The contractor shall arrange for and coordinate with the appropriate utility companies for all services that require temporary or permanent termination for the project, whether shown on the site plans or not. Termination of utilities shall be performed in compliance with all local, state and/or federal reaulations.
- 21. Contractor must prepare record drawings depicting the location of existing utilities that are capped, abandoned in place, or relocated and provide to the Owner and the Engineer of record.
- 22. Should hazardous material be discovered/encountered, which was not anticipated/addressed in the project plans and specifications, cease all work immediately and notify Owner and Engineer regarding the discovery of same. Do not continue work in the area until written instructions are received from an environmental professional.
- writing, of said conflict and/or discrepancy prior to the start of construction. 23. The contractor is responsible for preventing movement, settlement, damage, or collapse of existing structures, and any other improvements that are to remain. If any existing structures that are to remain are damaged during construction, repairs shall be made using new product/materials resulting in a pre-damage condition, or better. Contractor is responsible for all repair costs. Contractor shall document all existing damage and to notify the Owner prior to the start of construction.
  - federal regulations. The contractor shall obtain all permits that are required by the federal, state and local governments, and shall also responsible for all notification, inspection, monitoring or testing as may be required.
  - 25. All debris from removal operations must be removed from the site at the time of excavation. Stockpiling of demolition debris will not be permitted. Debris shall not be burned or buried on site. All demolition materials to be disposed of, including, but not limited to, stumps, limbs, and brush, shall be done in accordance with all municipal, county, state, and federal laws and applicable codes. The contractor must maintain records of all disposal
  - 26. The contractor is responsible for repairing all damage to any existing utilities during construction, at its own expense.
- the contractor to ensure that all work performed by their subcontractors is 27. All new utilities/services, including electric, telephone, cable tv, etc. are to be installed underground unless noted otherwise on the plans. The Contractor shall be responsible for installing all new utilities/services in accordance with the utility/service provider's written installation specifications and standards.
  - 28. All earthwork activities must be performed in accordance with these plans and specifications and the recommendations set forth in the geotechnical report completed for this project. In the absence of a geotechnical report, all earthwork activities must comply with the standard state Department of Transportation (DOT) specifications (latest edition) and any amendments or revisions thereto. All earthwork activities must comply all applicable requirements, rules, statutes, laws, ordinances and codes for the jurisdictions where the work is being performed.
  - 29. All materials and work shall conform to the state Department of Transportation standard specifications (latest edition, and any amendments or revisions thereto), unless otherwise specified in these plans.
  - 30. The contractor is responsible for removing and replacing unsuitable materials with suitable materials. All excavated or filled areas must be properly compacted. Moisture content at time of placement must be submitted in a compaction report prepared by a qualified geotechnical engineer, licensed in the state where the work is performed, verifying that all filled areas and subgrade areas within the building pad area and areas to be paved have been compacted in accordance with these plans, specifications and the recommendations. Subbase material for building pads, sidewalks, curb, or asphalt must be free of organics and other unsuitable materials. Should subbase be deemed unsuitable by Owner/developer or Owner/developer's representative, subbase is to be removed and filled with suitable material and properly compacted at the contractor's expense. All fill, compaction, and backfill materials required for utility installation must be coordinated with the applicable utility company specifications. The Engineer shall have no liability or responsibility for or as related to fill, compaction, backfill, or the balancing of earthwork.
  - 31. Pavement must be saw cut into straight lines and must extend to the full depth of the existing pavement, except for edge of butt joints.
  - must be adjusted as necessary, to match proposed grades.
  - are identified on plans, elevations identified herein are for the exposed portion of the wall. Wall footing/foundation elevations are not identified herein and are to be set/determined by the contractor based on final structural design shop drawings prepared by an appropriate professional licensed in the state where the construction occurs.
  - repaired in accordance with municipal, county and/or DOT details as applicable. Contractor is responsible to coordinate the permitting, inspection and approval of completed work with the agency having jurisdiction over the
  - 35. Where sump pumps are installed, all discharges must be connected to the storm sewer or discharged to an approved location.
  - 36. Contractor shall maintain and control traffic on and offsite in conformance with the current Federal Highway Administration (FHWA) "Manual on Uniform Traffic Control Devices" (MUTCD), and the federal, state, and local regulations for all aspects of demolition and site work. If a Maintenance of Traffic Plan is required for work that affects public travel either on or offsite, the contractor shall be responsible for the cost and implementation of said plan.
  - 37. All temporary and permanent onsite and offsite signage and pavement markings shall conform to MUTCD, ADA, state DOT, and/or local approval
  - 38. Contractor shall prevent the emission of dust, sediment, and debris from the site, and shall be responsible for corrective measures such as street sweeping, and clean—up work as deemed necessary by the Engineer orthe authority having jurisdiction.
  - 39. All concrete must be air entrained with a minimum compressive strength of 4,000 psi at 28 days unless otherwise specified on the plans, details and/or geotechnical report.
  - 40. The Engineer will review contractor submittals which the contractor is required to submit, but only for the sole purpose of checking for general conformance with the intent of the design and contract documents. The Engineer is not responsible for any deviations from the construction documents unless contractor received explicit direction to do so, in writing, from the Engineer. The contractor remains responsible for details and accuracy, for confirming and correlating all quantities and dimensions, and for techniques of assembly and/or fabrication processes.
- 19. The contractor shall protect and maintain the operation and service of all 41. All dimensions are to face of curb, edge of pavement, or edge of building, unless noted otherwise.
- required as part of the proposed construction activities, the contractor shall 42. The contractor shall install and/or construct all aspects of the project in strict compliance with and accordance with manufacturer's written installation standards, recommendations and specifications.

### **CONSTRUCTION SEQUENCE:**

- STAKE-OUT THE LIMITS OF CLEARING AND GRUBBING, INCLUDING EXISTING CROP LAND TO BE AFFECTED BY ARRAY LIMITS. INSTALL EROSION AND SEDIMENTATION CONTROL MEASURES AT LIMITS OF CLEARING AND GRUBBING. CONTRACTOR TO CONDUCT ALL CONSTRUCTION ACTIVITIES WITHIN LIMITS SHOWN ON PLAN.
- OVERSEED EXISTING MOWED LAWN AREA TO ENHANCE ESTABLISHED VEGETATION. ESTABLISH NEW VEGETATION ON AREA OF REMOVED CROP LAND WITH BROADCAST SEEDING. SEE SEEDING NOTES FOR SEED MIX AND APPLICATION RATES
- INSTALL SOLAR ARRAY RACKING
- APPLY POLYPROPELENE TURF REINFORCEMENT MATTING, PER MANUFACTURER'S INSTRUCTIONS. UNDER THE DRIP LINE OF RACKING LOCATED WITHIN THE EXTENTS OF THE BROADCAST
- 5. INSTALL REMAINDER OF PANELS AND ELECTRICAL LINES FOR SOLAR ARRAY.
- RE-STABILIZE AREAS OF SEEDING DISTURBED BY ARRAY INSTALLATION.
- MINOR ADJUSTMENTS TO THE EXCAVATION LIMITS MAY BE WARRANTED WITH APPROVAL OF LOCAL AUTHORITY HAVING JURISDICTION TO ALLOW FOR PRESERVATION OF EXISTING
- ALL EROSION CONTROL DEVICES SHALL REMAIN FUNCTIONAL AND IN PLACE THROUGHOUT THE CONSTRUCTION EFFORT UNTIL THE SITE IS FULLY STABILIZED WITH VEGETATION.

### **SEEDING NOTES:**

- SOLAR FARM SEED MIX (ERNMX-186) TO BE USED FOR FULL EXTENTS OF FENCING UNLESS OTHERWISE NOTED ON SITE PLAN: CREEPING RED FESCUE 45.5% OF MIXTURE
  - 15.0% OF MIXTURE HARD FESCUE, 'BEACON HARD FESCUE, 'HARPOON 15.0% OF MIXTURE CHEWINGS FESCUE 10.0% OF MIXTURE KENTUCKY BLUEGRASS, 'VOLT' 5.0% OF MIXTURE KENTUCKY BLUEGRASS, 'SHAMROCK' 5.0% OF MIXTURE WHITE CLOVER, DUTCH 4.5% OF MIXTURE
    - BROADCAST SEEDING APPLICATION RATE: 6.00LBS, PER 1000 S.F. OVERSEEDING APPLICATION RATE: 3 00LBS PFR 1000 S F
- SEEDING MIXTURE TYPE IV (BASIN) 10% OF MIXTURE PERENNIAL RYEGRASS 10% OF MIXTURE CREEPING RED FESCUE ALSIKE CLOVER 5% OF MIXTURE 5% OF MIXTURE TURF-TYPE TALL FESCUE 70% OF MIXTURE APPLICATION RATE: 5.00 LBS PER 1,000 S.F.
- CONTRACTOR RESPONSIBLE FOR ESTABLISHING AND MAINTAINING SEEDED AREAS UNTIL SATISFACTORY GROWTH AS DETERMINED BY THE OWNER. REPLANT BARE AND REPAIR ERODED AREAS UNTIL END OF MAINTENANCE PERIOD.

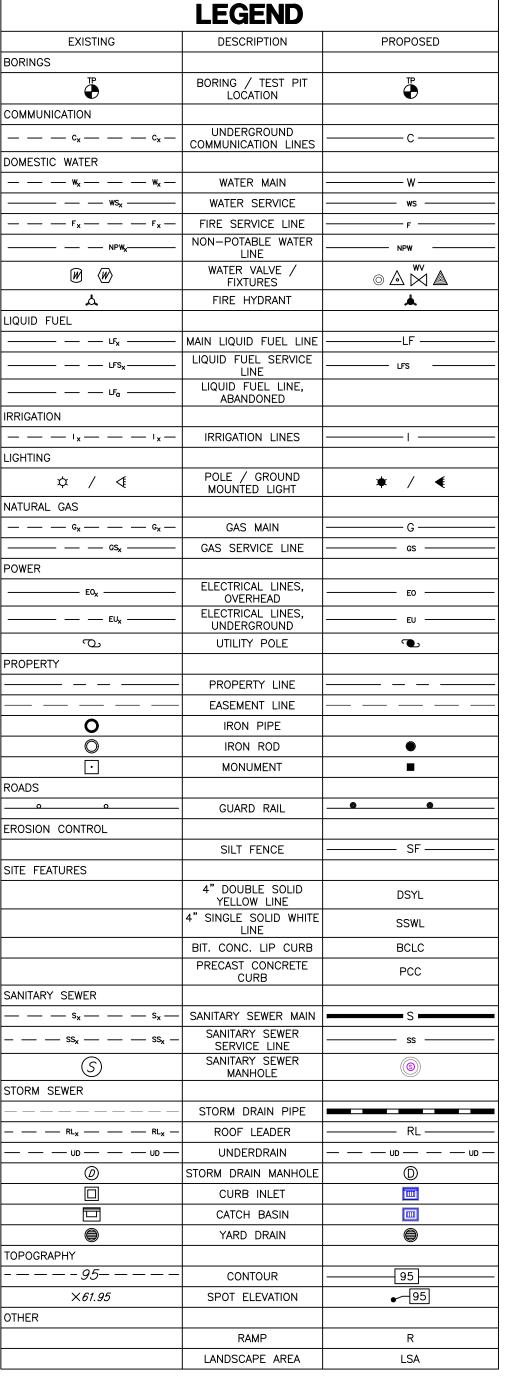


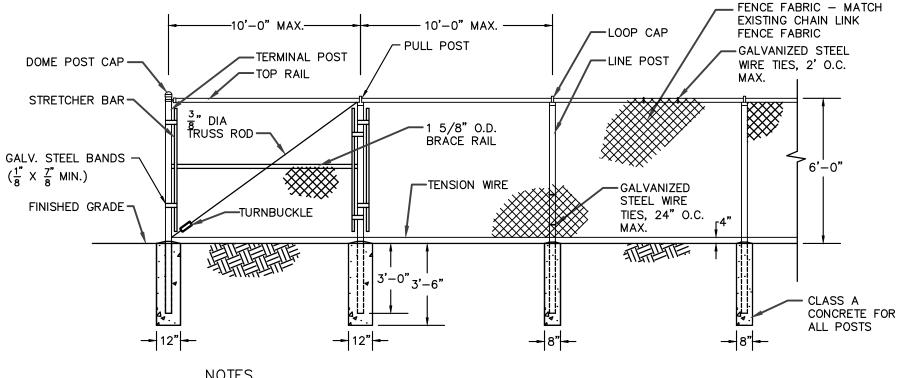
STREET

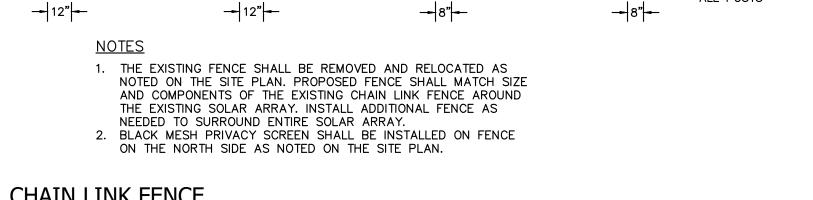
18 IN (WHEN INTERMEDIATE RIPRAP SPECIFIED) 36 IN (WHEN STANDARD RIPRAP SPECIFIED) 2) RIPRAP GRADATIONS SHALL MEET CT DOT FORM 816 SECTION M.12.02 3) FILTER FABRIC SHALL BE NONWOVEN AND SHALL MEET AASHTO M288-00, CLASS 2 ┌4" TOPSOIL & GRASS SEED INTE 6 IN GRANULAR FILL FOR-INTERMEDIATE RIPRAP MODIFIED/INTERMEDIATE RIPRAP AND 12 IN FOR STANDARD RIPRAP. RIPRAP APRON SECTION VIEW Not to Scale

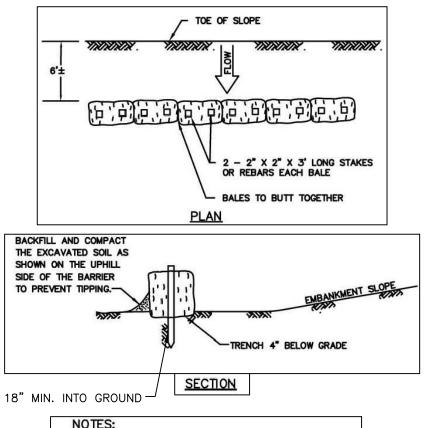
1) d = 12 IN (WHEN MODIFIED RIPRAP SPECIFIED)

24' OR DRIVE WIDTH WHICHEVER IS GREATER THICK LAYER OF RIP RAP CONSISTING OF SOUND, TOUGH DURABLE AND ANGULAR ROCK PLACED OVER GEOTEXTILE. MAXIMUM RIPRAP SIZE TO BE 4 INCHES AND NOT MORE THAN 10% LESS THAN 2 I. INSPECT CONSTRUCTION EXIT WEEKLY AND AFTER EVERY MAJOR STORM EVENT WASH WATER, IF USED SHALL BI DIRECTED TOWARDS A SEDIMENT SIZED FOR SITE CONDITIONS. 3. STONE SHALL BE REMOVED/REPLACED WHEN EXCESS LEVELS OF MUD ARE





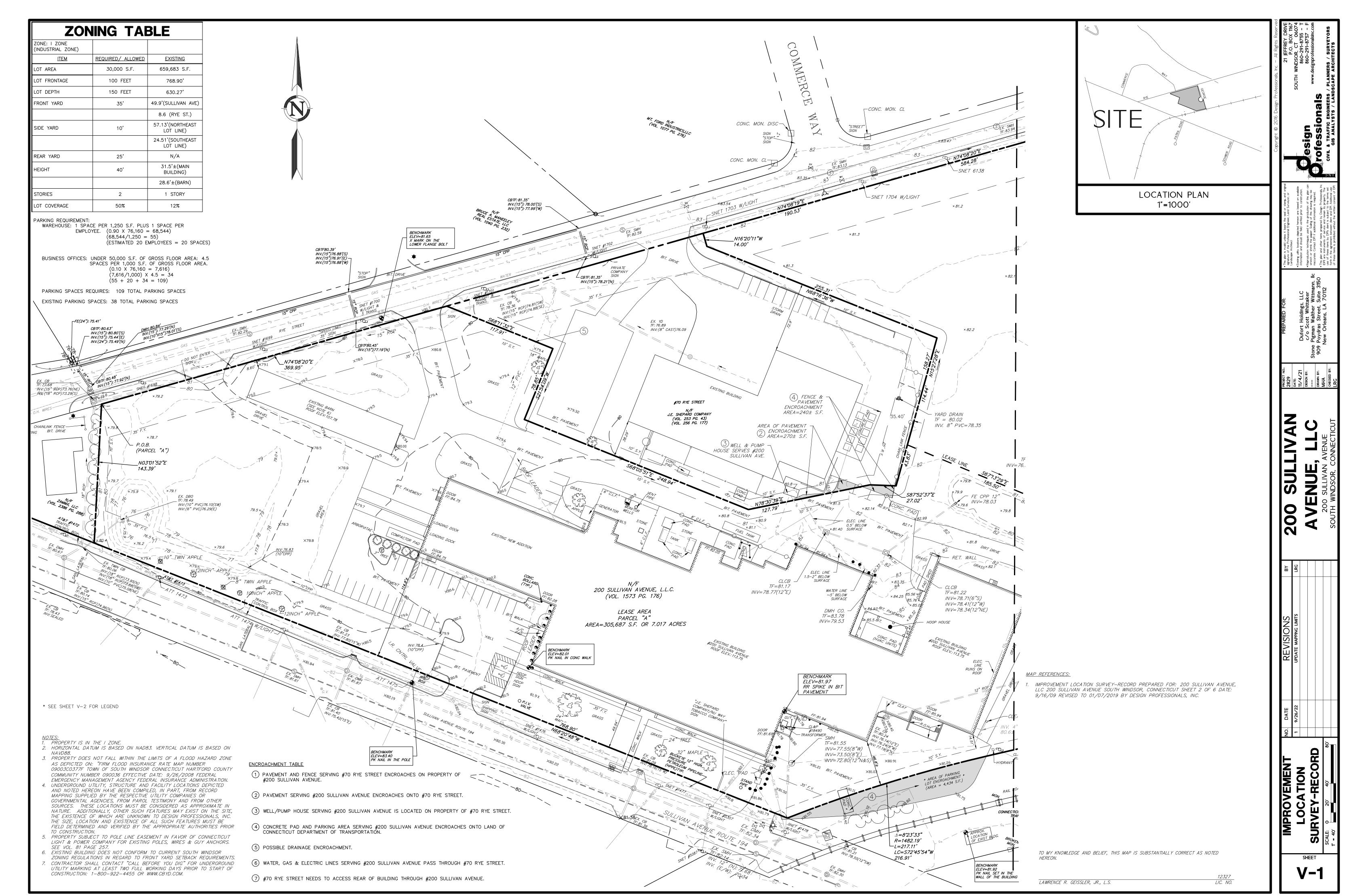




1. HAYBALES SHALL BE MAINTAINED AND/OR REPLACED AS REQUIRED OR AS DIRECTED BY THE ENGINEER. 2. PLACE HAYBALES SUCH THAT TWINE OR BINDING WIRE IS PARALLEL TO THE EXISTING GROUND.

PROPERTY OWNER: 200 SULLIVAN AVENUE, LLC 200 SULLIVAN AVENUE SOUTH WINDSOR, CT 06074

**APPLICANT:** NUWAY TOBACCO CO. 200 SULLIVAN AVENUE SOUTH WINDSOR, CT 06074 860-289-6414



S.C.) Jobs 12829 Nurvey — Asbult 12829—base asb 2021 dwg Layout. Updated Asbult (1) Plotted; 10/3/2022 2:12 PM Last Saved; 10/3/2022 158 PM Last Saved By: Larry. Geis

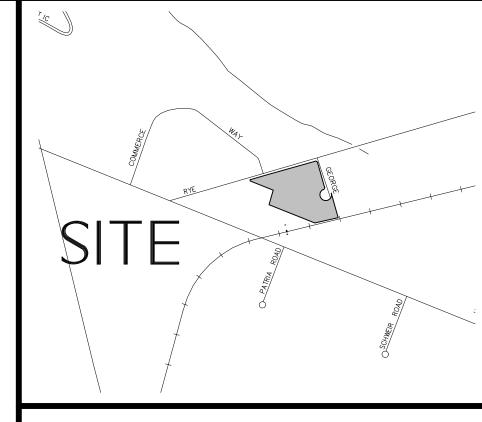
	.EGEND
EXISTING	DESCRIPTION
COMMUNICATION	
	OVERHEAD COMM. LINES (CABLE, TEL, ETC.)
c <sub>x</sub> c <sub>x</sub>	UNDERGROUND COMMUNICATION LINES
DOMESTIC WATER	
— — — W <sub>x</sub> — — — W <sub>x</sub> —	WATER MAIN
ws <sub>x</sub> ws <sub>x</sub>	WATER SERVICE
W	WATER VALVE
۵	FIRE HYDRANT
LIGHTING	
<b>\$</b>	POLE MOUNTED LIGHT
NATURAL GAS	
— — G <sub>x</sub> — — G <sub>x</sub> —	GAS MAIN
GS <sub>x</sub> GS <sub>x</sub>	GAS SERVICE LINE
POWER	
EO <sub>X</sub>	ELECTRICAL LINES, OVERHEAD
EU <sub>x</sub> EU <sub>x</sub> _	ELECTRICAL LINES, UNDERGROUND
<i>D</i>	UTILITY POLE
PROPERTY	
	PROPERTY LINE
	EASEMENT LINE
0	IRON PIPE
0	IRON ROD
·	MONUMENT
ROADS	
	GUARD RAIL
- OR	SIGN
SITE FEATURES	
	EDGE OF WATER
x x x x	BARBED WIRE FENCE
	CHAIN LINK FENCE
_ = = =	RAIL FENCE
	STOCKADE FENCE
	WIRE FENCE
	STONE WALL
€ OR **	TREE
. ~~~~~	TREE LINE
SANITARY SEWER	
s <sub>x</sub> s <sub>x</sub>	SANITARY SEWER MAIN
ss <sub>x</sub> ss <sub>x</sub> _	SANITARY SEWER SERVICE LINE
<u> </u>	SANITARY SEWER MANHOLE
STORM SEWER	
— — D <sub>X</sub> — — D <sub>X</sub> —	STORM DRAIN PIPE
Ø	STORM DRAIN MANHOLE
	CURB INLET
	CATCH BASIN
TOPOGRAPHY	
	CONTOUR
×61.95	SPOT ELEVATION

EX. CLCB OR CLCB EX. CB OR CB EX. DMH OR DMH EX. SMH OR SMH

REINFORCED CONCRETE PIPE CURBLESS CATCH BASIN EXISTING CURBED CATCH BASIN EXISTING DRAINAGE MANHOLE FLARED END CORRUGATED PLASTIC PIPE DUCTILE IRON PIPE SANITARY MANHOLE TOP OF FRAME INVERT OVER HEAD SIDE YARD REAR YARD FRONT YARD SOUTHERN NEW ENGLAND TELEPHONE CONNECTICUT LIGHT & POWER **EVERSOURCE** FINISHED FLOOR CLEAN OUT AT&T TELEPHONE

ROOF OVER HANG

MONUMENT (SURVEY MARKER)



### LOCATION PLAN 1"=1000'

NOTES:

1. PROPERTY IS IN THE I ZONE.

1. PARTIM IS BASET 2. HORIZONTAL DATUM IS BASED ON NAD83. VERTICAL DATUM IS BASED ON

- 3. PROPERTY DOES NOT FALL WITHIN THE LIMITS OF A FLOOD HAZARD ZONE AS DEPICTED ON: "FIRM FLOOD INSURANCE RATE MAP NUMBER 09003C0377F TOWN OF SOUTH WINDSOR CONNECTICUT HARTFORD COUNTY COMMUNITY NUMBER 090036 EFFECTIVE DATE: 9/26/2008 FEDERAL
- EMERGENCY MANAGEMENT AGENCY FEDERAL INSÚRANCE ADMINISTRATION. 4. UNDERGROUND UTILITY, STRUCTURE AND FACILITY LOCATIONS DEPICTED AND NOTED HEREON HAVE BEEN COMPILED, IN PART, FROM RECORD MAPPING SUPPLIED BY THE RESPECTIVE UTILITY COMPANIES OR GOVERNMENTAL AGENCIES, FROM PAROL TESTIMONY AND FROM OTHER SOURCES. THESE LOCATIONS MUST BE CONSIDERED AS APPROXIMATE IN NATURE. ADDITIONALLY, OTHER SUCH FEATURES MAY EXIST ON THE SITE, THE EXISTENCE OF WHICH ARE UNKNOWN TO DESIGN PROFESSIONALS, INC.
  THE SIZE, LOCATION AND EXISTENCE OF ALL SUCH FEATURES MUST BE
  FIELD DETERMINED AND VERIFIED BY THE APPROPRIATE AUTHORITIES PRIOR TO CONSTRUCTION.
- 5. PROPERTY SUBJECT TO POLE LINE EASEMENT IN FAVOR OF CONNECTICUT LIGHT & POWER COMPANY FOR EXISTING POLES, WIRES & GUY ANCHORS. SEE VOL. 81 PAGE 257. 6. EXISTING BUILDING DOES NOT CONFORM TO CURRENT SOUTH WINDSOR
- ZONING REGULATIONS IN REGARD TO FRONT YARD SETBACK REQUIREMENTS. 7. CONTRACTOR SHALL CONTACT "CALL BEFORE YOU DIG" FOR UNDERGROUND UTILITY MARKING AT LEAST TWO FULL WORKING DAYS PRIOR TO START OF

CONSTRUCTION: 1-800-922-4455 OR WWW.CBYD.COM.

<b>ZONING TABLE</b>						
ZONE: I ZONE (INDUSTRIAL ZONE)						
<u>ITEM</u>	REQUIRED/ ALLOWED	<u>EXISTING</u>				
LOT AREA	30,000 S.F.	659,683 S.F.				
LOT FRONTAGE	100 FEET	768.90'				
LOT DEPTH	150 FEET	630.27'				
FRONT YARD	35'	49.9'(SULLIVAN AVE				
		8.6 (RYE ST.)				
SIDE YARD	10'	57.13'(NORTHEAST LOT LINE)				
		24.51'(SOUTHEAST LOT LINE)				
REAR YARD	25'	N/A				
HEIGHT	40'	31.5'±(MAIN BUILDING)				
		28.6'±(BARN)				
STORIES	2	1 STORY				
LOT COVERAGE	50%	12%				

PARKING REQUIREMENT:

WAREHOUSE: 1 SPACE PER 1,250 S.F. PLUS 1 SPACE PER EMPLOYEE. (0.90 X 76,160 = 68,544) (68,544/1,250 = 55)(ESTIMATED 20 EMPLOYEES = 20 SPACES)

BUSINESS OFFICES: UNDER 50,000 S.F. OF GROSS FLOOR AREA: 4.5 SPACES PER 1,000 S.F. OF GROSS FLOOR AREA.  $(0.10 \times 76,160 = 7,616)$  $(7,616/1,000) \times 4.5 = 34$ (55 + 20 + 34 = 109)

PARKING SPACES REQUIRES: 109 TOTAL PARKING SPACES EXISTING PARKING SPACES: 38 TOTAL PARKING SPACES

### MAP REFERENCES:

1. IMPROVEMENT LOCATION SURVEY-RECORD PREPARED FOR: 200 SULLIVAN AVENUE, LLC 200 SULLIVAN AVENUE SOUTH WINDSOR, CONNECTICUT SHEET 2 OF 6 DATE: 9/16/09 REVISED TO 01/07/2019 BY DESIGN PROFESSIONALS, INC.

### SURVEY NOTES:

- 1. THIS SURVEY AND MAP HAS BEEN PREPARED PURSUANT TO THE REGULATIONS OF CONNECTICUT STATE AGENCIES SECTIONS 20-300b-1 THRU 20-300b-20 AND THE "MINIMUM STANDARDS OF ACCURACY, CONTENT AND CERTIFICATION FOR SURVEYS AND MAPS" AS ADOPTED BY THE CONNECTICUT ASSOCIATION OF LAND SURVEYORS, INC. ON SEPTEMBER 26, 1996 AND REVISED ON OCTOBER 26, 2018.
  - TYPE OF SURVEY IS A PROPERTY SURVEY AND IS INTENDED TO DEPICT THE LOCATION OF EXISTING CONDITIONS RELATIVE TO PROPERTY LINES.
  - THIS IS A RESURVEY BASED ON MAPS REFERENCED HEREON.
  - HORIZONTAL ACCURACY MEETS CLASS A-2 STANDARDS. VERTICAL ACCURACY MEETS CLASS V-2 STANDARDS.

TO MY KNOWLEDGE AND BELIEF, THIS MAP IS SUBSTANTIALLY CORRECT AS NOTED HEREON.

LAWRENCE R. GEISSLER, JR., L.S.





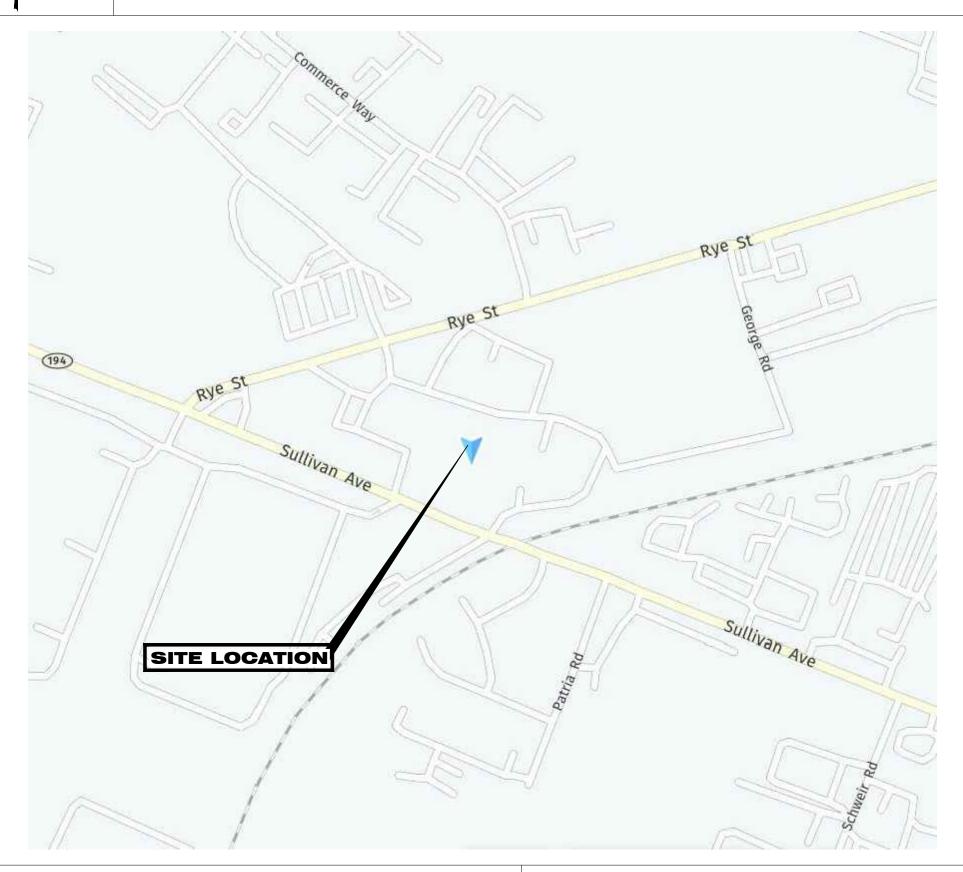
# GROUND MOUNTED PHOTOVOLTAIC SYSTEM 937.99 KWDC / 700.00 KWAC

200 SULLIVAN AVE SOUTH WINDSOR, CT 06074

# **LOCATION MAP**

SCALE: NTS

# SATELLITE MAP SCALE: NTS





# PROJECT SUMMARY:

PROJECT OBJECTIVES: INSTALLATION OF SOLAR PANEL ARRAYS ON ROOF MOUNTED STRUCTURE AND ASSOCIATED EQUIPMENT TO PROVIDE A TOTAL OF 700 KWAC OF ELECTRICAL POWER TO THE EXISTING SERVICE

- INSTALLATION OF SOLAR ARRAYS ON GROUND MOUNT STRUCTURE. • INSTALLATION OF (7) 100 KW DC/AC INVERTERS.
- ELECTRICAL CONDUIT & CABLES INSTALLED FROM SOLAR ARRAY TO THE
- ELECTRICAL CONDUIT AND CABLES FROM INVERTERS TO THE ELECTRICAL EQUIPMENT.

### **APPLICABLE CODES**

2020 NEC (NFPA-70) 9TH EDITION OF MA STATE BUILDING CODE 780 CMR UL 1703 - SOLAR MODULES UL 1741 - INVERTERS

THIS PHOTOVOLTAIC INSTALLATION SHALL BE INSTALLED IN ACCORDANCE WITH THE 9TH EDITION OF MA STATE BUILDING CODE 780 CMR, THE NATIONAL ELECTRICAL CODE (NEC), AND ANY LOCAL BUILDING CODES CURRENTLY BEING ENFORCED BY THE AUTHORITY HAVING JURISDICTION (AHJ).

# SYSTEM SUMMARY:

INVERTER NUMBER	INVERTER MODEL	INVERTER SIZE (KWAC)	# STRINGS	MODULE TYPE	MODULE SIZE (W)	NUMBER OF MODULES PER STRING	NUMBER OF MODULES	TILT	AZIMUTH	SYSTEM SIZE (KWDC)	DC:AC
INV-1	CHINT CPS SCH100KTL-DO/US-480	100	2	QCELLS Q.PEAK DUO	485	24	48	25°	175°	134.83	1.35
IINV-T	CHINI CP3 3CHIOOKIL-DO/03-460	100	10	XL-G10.2 485W	465	23	230	25	1/5	134.83	1.35
INV-2	CHINT CPS SCH100KTL-DO/US-480	100	12	QCELLS Q.PEAK DUO XL-G10.2 485W	485	23	276	25°	175°	133.86	1.34
INV-3	CHINT CPS SCH100KTL-DO/US-480	100	12	QCELLS Q.PEAK DUO XL-G10.2 485W	485	23	276	25°	175°	133.86	1.34
INV-4	CHINT CPS SCH100KTL-DO/US-480	100	12	QCELLS Q.PEAK DUO XL-G10.2 485W	485	23	276	25°	175°	133.86	1.34
INV-5	CHINT CPS SCH100KTL-DO/US-480	100	12	QCELLS Q.PEAK DUO XL-G10.2 485W	485	23	276	25°	175°	133.86	1.34
INV-6	CHINT CPS SCH100KTL-DO/US-480	100	12	QCELLS Q.PEAK DUO XL-G10.2 485W	485	23	276	25°	175°	133.86	1.34
INV-7	CHINT CPS SCH100KTL-DO/US-480	100	12	QCELLS Q.PEAK DUO XL-G10.2 485W	485	23	276	25°	175°	133.86	1.34
TOTAL:	_	700					1.934			937.99	1.34

ID	DRAWING TITLE	90% DESIGN ISSUED FOR REVIEW 07.29.22	SED 909 8.22		
PV-001	COVER SHEET	X	X		
PV-002	NOTES AND SYMBOLS	X	Х		
PV-100	PHOTOVOLTAIC SYSTEM LAYOUT	X	Х		
PV-200	PHOTOVOLTAIC SYSTEM ONE-LINE DIAGRAM	Х	Х		
PV-300	PV SYSTEM CIRCUITING SHEET 1	X	Х		
PV-301	PV SYSTEM CIRCUITING SHEET 2	Х	Х		
PV-302	PV SYSTEM CIRCUITING SHEET 3	X	X		
PV-400	PHOTOVOLTAIC SYSTEM DETAILS SHEET 1	X	Х		
PV-401	PHOTOVOLTAIC SYSTEM DETAILS SHEET 2	X	Х		
PV-402	PHOTOVOLTAIC SYSTEM DETAILS SHEET 3	X	X		
PV-403	PHOTOVOLTAIC SYSTEM LABEL SHEET 1	X	X		
PV-404 PV-500	PHOTOVOLTAIC SYSTEM LABEL SHEET 2  PHOTOVOLTAIC SYSTEM DATA SHEETS	X	X		

Allison D. Kimball



732.1002

COVER SHEET

AL ALUMINUM
AF AMP. FRAME
AFF ABOVE FINISHED FLOOR
AFG ABOVE FINISHED GRADE

AMERICAN WIRE GAUGE
CONDUIT (GENERIC TERM FOR
RACEWAY. PROVIDE AS SPECIFIED)
COMBINER BOX

CKT CIRCUIT
CT CURRENT TRANSFORMER
CU COPPER
DC DIRECT CURRENT
DISC DISCONNECT SWITCH

DWG DRAWING
EC ELECTRICAL SYSTEM INSTALLER
EMT ELECTRICAL. METALLIC TUBING
ES FUSIBLE SWITCH

FS FUSIBLE SWITCH
FU FUSE
GND GROUND
GFI GROUND FAULT INTERRUPTER

HZ FREQUENCY (CYCLES PER SECOND)
JB JUNCTION BOX
KCMIL THOUSAND CIRCULAR MILS
KVA KILO-VOLT AMPERE
KW KILO-WATT

L LINE
MCB MAIN CIRCUIT BREAKER
MDP MAIN DISTRIBUTION PANEL
MLO MAIN LUGS ONLY
MTD MOUNTED

KILO-WATT HOUR

MTG MOUNTING
N NEUTRAL
NEC NATIONAL ELECTRICAL CODE
NIC NOT IN CONTRACT

NO # NUMBER
NTS NOT TO SCALE
OCP OVERCURRENT PROTECTION

P POLE
PB PULL BOX
PH Ø PHASE
PVC POLY—VINYL O

kWH

PVC POLY-VINYL CHLORIDE CONDUIT
PWR POWER

RGS RIGID GALVANIZED STEEL
SN SOLID NEUTRAL
SWBD SWITCHBOARD
TYP TYPICAL
U.O.I. UNLESS OTHERWISE INDICATED

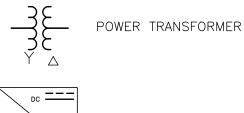
WP WEATHERPROOF
XFMR TRANSFORMER
+72 MOUNT 72 INCHES TO
BOTTOM ABOVE FINISHED

FLOOR OR GRADE

### SYMBOLS:

 $_{\scriptscriptstyle{\mathsf{AC}}}$ 

SURFACE MOUNTED ELECTRICAL PANEL



DC TO AC INVERTER

CONTACTOR

FUSE

\_\_\_\_ CIRCUIT BREAKER

FUSED SWITCH

M

METER SOCKET AND METER

SOLAR ARRAY COMBINER BOX NUMBER

STRING NUMBER

SOLAR PANEL

### PV HANDLING NOTES:

- 1. PANELS ARE WRAPPED AND SECURED IN THE CRATE BY A MEANS THAT WILL ALLOW THE INSTALLER TO REMOVE ONE PANEL AT A TIME WITHOUT COMPROMISING THE STABILITY OF THE REMAINING PANELS. (IF THE CRATE IS OPENED AND PANELS ARE REMOVED FROM THE WRONG END, PANEL STABILITY WILL BE COMPROMISED AND WILL CREATE A DANGEROUS SITUATION)
- 2. EACH INDIVIDUAL PHOTOVOLTAIC MODULE WEIGHS 58.4 LBS. FOR THE EASE AND SAFETY OF LIFTING, IT IS RECOMMENDED BY THE MANUFACTURER THAT THIS OPERATION BE PERFORMED BY NO LESS THAN TWO INSTALLERS. EACH INSTALLER SHALL USE THE CORRECT METHOD OF LIFTING AND PLACING.
- 3. ONCE A MODULE IS REMOVED FROM THE CRATE, NEVER LEAVE THE MODULE STANDING UNSUPPORTED OR UNSECURED. REMEMBER THAT DURING DAYLIGHT HOURS THE MODULE WILL BE PRODUCING 53.6 VDC. IF THE MODULE IS DAMAGED THERE IS A CHANCE THAT YOU COULD BE EXPOSED TO THE FULL VOLTAGE AND CURRENT BEING GENERATED. IF A MODULE IS SHIPPED DAMAGED OR BECOMES DAMAGED AT THE JOBSITE, CAREFULLY HANDLE THE MODULE AND PLACE IT OUT OF THE SUNLIGHT.
- 4. EVEN IF THE MODULE IS NOT DAMAGED, KEEP IN MIND THAT WHENEVER MODULES ARE EXPOSED TO SUNLIGHT THE MODULES AND BALANCE OF SYSTEM COMPONENTS CAN GENERATE UP TO 1,000 VDC. WHEN WORKING WITH THIS EQUIPMENT, MAKE SURE THAT YOU TAKE EVERY PRECAUTION TO AVOID CONTACT WITH ANY ELECTRICAL TERMINAL OR WIRE UNLESS SYSTEM VOLTAGE IS TESTED, LOCKED OUT, AND DEEMED SAFE FOR WORK.
- 5. IF YOU HAVE ANY QUESTIONS PERTAINING TO THE INSTALLATION, OPERATION OR FUNCTION OF ANY COMPONENTS THAT MAKE UP THIS PHOTOVOLTAIC SYSTEM, CONTACT THE PROJECT MANAGER AND THEY WILL ASSIST YOU IN EFFECTING A SAFE AND EFFICIENT INSTALLATION.
- 6. WHEN LIFTING THE CRATES OF PHOTOVOLTAIC MODULES ONTO THE ROOF, BE SURE THAT THE ROOF IS CAPABLE OF SUPPORTING THE ADDITIONAL DEAD WEIGHT OF THESE CRATES AND THAT THE LOAD IS DISTRIBUTED EVENLY.
- 7. BE SURE THAT THE CRANE OPERATOR IS IN CONTINUOUS COMMUNICATION WITH THE REPRESENTATIVES ON THE ROOF WHEN PLACING THE CRATES. DURING THIS OPERATION ALL WORKERS MUST BE WEARING OSHA APPROVED HEAD PROTECTION AND STEEL TOED SHOES.
- 3. WHEN LANDING THE CRATES ON THE ROOF, BE SURE THAT THE CRATE IS FACING THE CORRECT DIRECTION FOR PANEL REMOVAL. THE END THAT IS MARKED "OPEN THIS END" SHOULD BE ACCESSIBLE SO THAT THE PANELS CAN BE REMOVED SAFELY.

### ELECTRICAL NOTES:

- . IN EVERY PULL BOX AND IN ALL PLACES WHERE WIRES MAY NOT BE READILY IDENTIFIED BY NAMEPLATE MARKINGS ON THE EQUIPMENT TO WHICH THEY CONNECT, THE INSTALLATION CONTRACTOR WILL BE RESPONSIBLE FOR IDENTIFYING EACH CIRCUIT WITH A PLASTIC LABEL OR TAG.
- 2. THE LAYOUT OF THE CONDUIT SHOWN IN THIS DRAWING PACKAGE IS INDICATIVE ONLY. THE INSTALLATION CONTRACTOR WILL BE RESPONSIBLE FOR FIELD ROUTING AND LOCATING ALL CONDUITS AND ACCESSORIES TO SUIT SPECIFIC SITE CONDITIONS. THE INSTALLATION CONTRACTOR WILL COORDINATE ALL LOCATIONS WITH THE OWNER/GENERAL CONTRACTOR.
- . WHERE THE WIRING AND CABLE ROUTING IS NOT SHOWN AND THE DESTINATION IS ONLY INDICATED, THE INSTALLATION CONTRACTOR WILL BE RESPONSIBLE FOR DETERMINING THE EXACT ROUTING AND LENGTHS REQUIRED.
- 4. ALL CALCULATIONS FOR WIRING SIZE ARE BASED ON THE ESTIMATED CONDUIT ROUTING THAT MAY OR MAY NOT BE SHOWN ON THESE DRAWINGS. SHOULD THE CONDUIT LENGTHS INCREASE DUE TO RELOCATION OF THE SOURCE OR REROUTING OF THE CONDUITS, THE WIRING SIZES MAY NEED TO BE INCREASED. INCREASE WIRING SIZES WHERE REQUIRED TO MEET MINIMUM VOLTAGE DROP ALLOWANCES DEPENDENT UPON FINAL CONDUIT ROUTING. WHERE LENGTH OF WIRE INCREASES FROM ESTIMATES SHOWN IN SCHEDULE ON SHEET PV-200, KMB SHALL BE CONSULTED TO CONFIRM WIRE SIZES ARE ACCEPTABLE.
- 5. ALL WIRING SHALL BE RUN IN SPECIFIED CONDUIT. THE CONTRACTOR WILL BE REQUIRED TO SEEK APPROVAL BY THE GENERAL CONTRACTOR/DESIGN AGENCY PRIOR TO CHANGING ANY MATERIAL SPECIFICATIONS.
- 6. ANY BENDS IN THE CONDUIT OR RACEWAY SHALL NOT DAMAGE OR SIGNIFICANTLY CHANGE THE INTERNAL DIAMETER (NO KINKS).
- 7. ANY CONDUCTORS RUN IN A VERTICAL CONDUIT WILL BE SUPPORTED IN ACCORDANCE WITH NEC REQUIREMENTS.
- 8. THE INSTALLATION CONTRACTOR WILL INSTALL ALL WIRING MATERIALS IN A NEAT AND WORKMANLIKE MANNER. USE OF GOOD TRADE PRACTICES WILL BE ENFORCED AS REQUIRED BY CHAPTER 3 OF THE NEC.
- 9. WHERE APPLICABLE, THE INSTALLATION CONTRACTOR WILL ARRANGE CONDUIT IN SUCH A MANNER THAT WILL MAINTAIN HEADROOM AND IN A NEAT, INCONSPICUOUS MANNER. RUN PARALLEL AND AT RIGHT ANGLES TO STRUCTURAL MEMBERS, PROVIDE BOXES, FITTINGS, AND BENDS FOR CHANGE OF DIRECTION. INSTALLATION CONTRACTOR IS TO FASTEN ALL CONDUITS SECURELY IN PLACE.
- 10. THE INSTALLATION CONTRACTOR WILL SUPPORT CONDUIT USING STEEL OR MALLEABLE IRON STRAPS, LAY—IN ADJUSTABLE HANGERS, CLEVIS HANGERS AND SPLIT—HANGERS. HANGER SPACING SHALL BE 5'—0" MAXIMUM. THE CONTRACTOR WILL BE RESPONSIBLE FOR USING APPROVED BEAM CLAMPS FOR CONNECTION TO ANY STRUCTURAL MEMBERS.
- 11. THE INSTALLATION CONTRACTOR WILL PROVIDE PULL AND JUNCTION BOXES WHERE REQUIRED TO FACILITATE THE INSTALLATION OF WIRING, IN ADDITION TO THOSE THAT MAY BE SHOWN ON THE DRAWINGS. BENDS IN THE CONDUITS BETWEEN THE PULL BOXES SHALL NOT EXCEED THE EQUIVALENT OF FOUR 90 DEGREE BENDS.
- 12. ANY BENDS IN THE CONDUIT RUNS SHALL UTILIZE MANUFACTURER'S STANDARD ELBOWS WHERE PRACTICAL.
- 13. WHERE FIELD CUTTING IS REQUIRED, THE CONDUIT SHALL BE CUT SQUARE AND REAMED OR OTHERWISE FINISHED TO REMOVE ROUGH EDGES. . WHEN COMPLETE, ALL METAL FILINGS WILL BE DISPOSED OF PROPERLY.
- 14. WHERE CONDUIT SIZES ARE NOT SPECIFIED THE INSTALLATION CONTRACTOR WILL BE REQUIRED TO CONFORM TO THE NEC SPECIFICATIONS. THE MINIMUM ALLOWABLE CONDUIT SIZE SHALL BE 3/4".
- 15. THE MINIMUM ALLOWABLE WIRING SIZE WILL BE #12 AWG. THE ONLY EXCEPTION WILL BE FOR SIGNAL AND/OR CONTROL WIRING.
- 16. SAFETY REGULATIONS INCLUDING BUT NOT LIMITED TO THE INFORMATION CONTAINED IN THE SAFETY MANUAL MUST BE OBSERVED BY THE INSTALLATION CONTRACTOR DURING THE CONSTRUCTION OF THIS PROJECT IN ACCORDANCE WITH THE SAME ESTABLISHED BY OWNER AND/OR GENERAL CONTRACTOR.
- 17. ALL ENCLOSURES SHALL BE NEMA 3R.
- 18. NO PENETRATIONS ARE PERMITTED ON THE TOP OF EQUIPMENT BOXES OR ENCLOSURES.
- 19. ALL EQUIPMENT AND WIREWAYS SHALL BE INSTALLED SUCH THAT THEY ARE ARRANGED TO DRAIN AND CABLES OR CONDUITS <u>CANNOT</u> COLLECT AND DRAIN WATER INTO EQUIPMENT.
- 20. WHERE CONDUIT IS INSTALLED ON ROOFTOP, THE CONDUIT SHALL BE RMC, RGS, EMT AND ASSOCIATED FITTINGS SHALL BE LISTED FOR USE OUTDOORS. CONDUIT SHALL BE MOUNTED WITH A MINIMUM OF 4" BETWEEN ROOFTOP AND BOTTOM OF CONDUIT.
- 21. ALL WIRING SHALL BE 90° RATED COPPER UNLESS OTHERWISE SPECIFIED.

### GENERAL CONSTRUCTION NOTES:

- 1. THIS SET OF PLANS HAS BEEN PREPARED FOR THE PURPOSES OF MUNICIPAL AND AGENCY REVIEW AND APPROVAL. THIS SET OF PLANS SHALL NOT BE UTILIZED AS CONSTRUCTION DOCUMENTS UNTIL ALL DRAWINGS HAVE BEEN REVISED TO INDICATE "ISSUED FOR CONSTRUCTION." CONTRACTOR SHALL ENSURE THAT THEY HAVE THE LATEST SET OF CONSTRUCTION DRAWINGS PRIOR TO COMMENCING ANY WORK WHATSOEVER.
- 3. THESE PLANS ARE INTENDED TO BE USED TO DIRECT THE PROPOSED LAYOUT. DRAWINGS SHOULD NOT BE SCALED UNLESS OTHERWISE NOTED. PLANS, ELEVATIONS AND DETAILS ARE INTENDED TO SHOW THE END RESULT OF DESIGN. MINOR MODIFICATIONS MAY BE REQUIRED TO SUIT JOB DIMENSIONS OR CONDITIONS.
- 4. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND CONDITIONS AND NOTIFY THE PROJECT MANAGER OF ANY DISCREPANCIES BEFORE STARTING ANY WORK.
- 5. THESE PLANS ARE DESIGNED TO REFLECT OBSERVED FIELD CONDITIONS. CERTAIN CONDITIONS ARE ASSUMED TO COMPLY WITH GENERAL STANDARD CONSTRUCTION DESIGN METHODS AND PRINCIPLES, AND THE CONTRACTOR SHALL NOTE THAT NOT ALL AREAS OF STRUCTURAL ATTACHMENT HAVE BEEN OPENED OR SPECIFICALLY VERIFIED. THE CONTRACTOR IS THEREFORE REQUESTED TO NOTIFY THE ENGINEER IMMEDIATELY SHOULD ENCOUNTERED FIELD CONDITIONS VARY FROM THOSE DEPICTED ON THE DRAWINGS. KMB DESIGN GROUP, LLC WILL ISSUE FIELD CHANGE DIRECTION IF REQUIRED.
- 6. ALL EQUIPMENT AND MATERIALS SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS UNLESS OTHERWISE NOTED BY THE ENGINEER OF RECORD.
- 7. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL WORK PERFORMED AND MATERIALS INSTALLED TO BE IN STRICT CONFORMANCE, AS A MINIMUM STANDARD, WITH ALL APPLICABLE CODES, REGULATIONS AND ORDINANCES HAVING JURISDICTION. ELECTRICAL SYSTEMS SHALL BE INSTALLED IN CONFORMANCE WITH THE NATIONAL ELECTRICAL CODE, AND ALL OTHER LOCAL AND STATE JURISDICTIONAL CODES, ORDINANCES, AND WITH LOCAL UTILITY COMPANY SPECIFICATIONS, WHICHEVER IS MORE STRINGENT.
- 8. THE CONTRACTOR SHALL KEEP CONTRACT AREA CLEAN, HAZARD FREE AND DISPOSE OF ALL DIRT, STUMPS, STONES, RUBBISH OR DEBRIS IN ACCORDANCE WITH ALL LOCAL AND ENVIRONMENTAL LAWS. NO MATERIALS OR EQUIPMENT SHALL BE PLACED ANYWHERE ON OR IN THE STRUCTURE WITHOUT MAKING ADEQUATE PROVISIONS TO PROTECT EXISTING PROPERTY. UPON COMPLETION, REPAIR ANY DAMAGE THAT MAY HAVE OCCURRED DURING CONSTRUCTION. REPAIR ALL EXISTING WALL SURFACES DAMAGED DURING CONSTRUCTION SUCH THAT THEY MATCH AND BLEND WITH ADJACENT SURFACES.
- 9. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE AND HAVE CONTROL OVER CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES, AND PROCEDURES FOR THEIR WORK AND ALL SUBCONTRACTORS.

### SITE WORK GENERAL NOTES:

- 1. THE CONTRACTOR SHALL CALL UTILITIES PRIOR TO THE START OF CONSTRUCTION.
- 2. ALL EXISTING ACTIVE SEWER, WATER, GAS, ELECTRIC, AND OTHER UTILITIES WHERE ENCOUNTERED IN THE WORK, SHALL BE PROTECTED AT ALL TIMES, AND WHERE REQUIRED FOR THE PROPER EXECUTION OF THE WORK, SHALL BE RELOCATED AS DIRECTED BY ENGINEERS. EXTREME CAUTION SHOULD BE USED BY THE CONTRACTOR WHEN EXCAVATING OR DRILLING AROUND OR NEAR UTILITIES. CONTRACTOR SHALL PROVIDE SAFETY TRAINING FOR THE WORKING CREW. THIS WILL INCLUDE BUT NOT BE LIMITED TO:
  - FALL PROTECTIONCONFINED SPACE
  - ELECTRICAL SAFETY

3. ALL SITE WORK SHALL BE AS INDICATED ON THE DRAWING.

- o TRENCHING & EXCAVATION
- 4. CONTRACTOR SHALL MINIMIZE DISTURBANCE TO EXISTING SITE DURING CONSTRUCTION. EROSION CONTROL MEASURES, IF REQUIRED DURING CONSTRUCTION, SHALL BE IN CONFORMANCE WITH THE LOCAL GUIDELINES FOR EROSION AND SEDIMENT CONTROL.
- 5. ALL MATERIALS, WORKMANSHIP, AND CONSTRUCTION FOR THE SITE IMPROVEMENTS SHOWN HEREIN SHALL BE IN ACCORDANCE WITH:
  - HALL BE IN ACCORDANCE WITH:

    A. CURRENT PREVAILING MUNICIPAL AND/OR COUNTY SPECIFICATIONS,

    STANDARDS, AND REQUIREMENTS.
  - B. CURRENT PREVAILING UTILITY COMPANY SPECIFICATIONS, STANDARDS, AND REQUIREMENTS.

### CONSTRUCTION SPECIFICATIONS:

- 1. THE CONTRACTOR SHALL REVIEW AND BECOME FAMILIAR WITH SPECIFICATIONS CONTAINED IN THE BID PACKAGE PREPARED BY KMB DESIGN GROUP, LLC AND THE CLIENT. CONTRACTOR SHALL ENSURE THAT THEY HAVE THE LATEST SET OF CONSTRUCTION DRAWINGS PRIOR TO COMMENCING ANY WORK WHATSOEVER.
- 2. IN THE EVENT OF A CONFLICT BETWEEN THE BID PACKAGE SPECIFICATIONS AND THESE NOTES, THE PROVISIONS OF THE CLIENTS SPECIFICATIONS SHALL TAKE PRECEDENCE.
- 3. THE CONTRACTOR SHALL VISIT THE SITE OF THE PROPOSED WORK AND FULLY ACQUAINT THEMSELVES WITH THE CONDITIONS AS THEY EXIST IN ORDER THAT ANY RESTRICTIONS PERTAINING TO THE WORK ARE UNDERSTOOD. ALL AREAS AND DIMENSIONS ARE INDICATED ON THE DRAWINGS AS ACCURATELY AS POSSIBLE, BUT ALL CONDITIONS SHALL BE VERIFIED BY EACH CONTRACTOR AND/OR SUBCONTRACTOR AT THE SITE. THE FAILURE OF THE CONTRACTOR TO EXAMINE OR RECEIVE ANY FORM, INSTRUMENT OR DOCUMENT, OR TO VISIT THE SITE, SHALL NOT RELIEVE THE CONTRACTOR FROM ANY OBLIGATION WITH RESPECT TO THEIR QUOTED PRICE. THE SUBMISSION OF A QUOTATION SHALL ACKNOWLEDGE THAT THE CONTRACTOR AND THEIR SUBCONTRACTORS HAVE FULLY EXAMINED THE SITE AND KNOW THE EXISTING CONDITIONS AND HAVE MADE PROVISIONS FOR OPERATING UNDER THE CONDITIONS AS THEY EXIST AT THE SITE AND HAVE INCLUDED ALL NECESSARY ITEMS.
- 4. THE CONTRACTORS SHALL COORDINATE CONSTRUCTION ACTIVITIES WITH THE OWNER IN ORDER TO AVOID CONFLICTS WITH CURRENT USE OF THE SITE.
- 5. THE OWNER MAY HAVE WORK PERFORMED UNDER SEPARATE CONTRACTS, CONCURRENTLY, WITH THE WORK OF THIS CONTRACT.
- 6. THE GENERAL CONTRACTOR SHALL PERMIT ACCESS TO THE PROJECT TO THESE CONTRACTORS TO PERFORM THEIR WORK.
- 7. CONTRACTOR SHALL CONFORM TO ALL APPLICABLE LOCAL, COUNTY, STATE, AND FEDERAL CODES, LAWS AND REQUIREMENTS, INCLUDING OSHA.
- 8. THE CONTRACTOR SHALL APPLY AND PAY FOR THE CONSTRUCTION PERMIT, AND ALL OTHER REQUIRED PERMITS OR LICENSES. THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING ALL INSPECTIONS.
- 9. CARE SHALL BE EXERCISED IN PROTECTING THE SITE OCCUPANTS DURING THE DEMOLITION AND CONSTRUCTION PERIODS OF THIS PROJECT. EVERY EFFORT SHALL BE MADE TO MAINTAIN A CLEAN OPERATION. DEBRIS SHALL NOT ACCUMULATE. ALL DEBRIS WILL BE DEPOSITED IN A SUITABLE CONTAINER ON A DAILY BASIS AND SHALL BE EMPTIED ON A REGULAR SCHEDULE. THE LOCATION OF THE CONTAINER SHALL BE COORDINATED WITH THE BUILDING MANAGER.
- 10. SAFETY PROCEDURES: ATTENTION IS DIRECTED TO FEDERAL, STATE, AND LOCAL LAWS, RULES AND REGULATIONS CONCERNING CONSTRUCTION SAFETY AND HEALTH STANDARDS. THE CONSTRUCTION COMPANY AWARDED THIS PROJECT SHALL ENSURE ALL WORKING SURROUNDINGS AND CONDITIONS ARE SANITARY, AND ARE NOT HAZARDOUS OR DANGEROUS TO THE HEALTH OR SAFETY OF THE WORK CREWS OR BUILDING OCCUPANTS. PRECAUTION SHALL BE EXERCISED AT ALL TIMES FOR THE PROTECTION OF PERSONS AND PROPERTY. IT IS MANDATORY THAT THE SAFETY PROVISIONS OF APPLICABLE LOCAL LAWS, OSHA REGULATIONS AND BUILDING AND CONSTRUCTION CODES, BE OBSERVED FOR ALL CONTRACTORS.
- 11. THE GENERAL CONTRACTOR MUST COORDINATE ALL ROOF RELATED WORK WITH THE BUILDING OWNER'S PRE— APPROVED ROOFER. THE GENERAL CONTRACTOR MUST CONFIRM THE COMPATIBILITY OF ALL MATERIALS AND ENSURE THAT ALL EXISTING ROOF WARRANTIES, IF ANY, REMAIN IN EFFECT.
- 12. THE GENERAL CONTRACTOR WILL BE SOLELY RESPONSIBLE AND HAVE CONTROL OVER ALL PROJECT MANAGEMENT, SITE COORDINATION, AND CONSTRUCTION SCHEDULE TO BE DIRECTLY SUBMITTED TO THE OWNER FOR APPROVAL AND COORDINATION.
- 13. THE GENERAL CONTRACTOR WILL BE SOLELY RESPONSIBLE AND HAVE CONTROL OVER ALL SITE COMMISSIONING, AS—BUILTS, STARTUP, AND UTILITY REQUIRED TESTING AND COORDINATION.
- 14. THE INSTALLATION CONTRACTOR SHALL CONFIRM AND VERIFY ALL INTERCONNECTION POINTS AND METERING REQUIREMENTS BY THE LOCAL UTILITY AND AHJ PRIOR TO CONSTRUCTION COMPLETION AND WILL BE RESPONSIBLE FOR ANY MODIFICATIONS, COSTS, OR DELAYS FOR NONCOMPLIANCE LISTED OR NOT LISTED ON THIS DOCUMENT. IF ANY ISSUES OR DISCREPANCIES ARE OBSERVED WITH RESPECT TO WHAT IS SHOWN ON THE DRAWINGS AND THE DESIGN INTENT, THE CONTRACTOR SHALL NOTIFY THE CLIENT AND THE ENGINEER OF RECORD. INSTALLATION CONTRACTOR SHALL PROVIDE DETAIL ON THE POTENTIAL ISSUE AND INCLUDE AN ALTERNATIVE APPROACH / SUGGESTION.

### DELIVERY, STORAGE AND HANDLING:

- 1. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL PROCEDURES AND SCHEDULING ASSOCIATED WITH HOISTING, STAGING, ERECTING OF MATERIALS AND EQUIPMENT TO AND/OR UPON THE SITE.
- 2. ALL ELEMENTS OF THE EXISTING SITE, I.E. STRUCTURES, SITE PLANTINGS, ETC. SHALL BE PROTECTED AS NECESSARY FROM SAID ACTIONS. THIS WORK MUST BE DONE IN A SAFE, SECURE NONDESTRUCTIVE MANNER FOR PROTECTING PERSONNEL AND PROPERTY.

### GENERAL PV INSTALLATION NOTES:

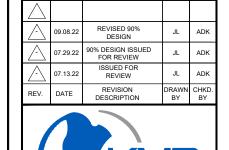
- 1. THE INSTALLATION CONTRACTOR IS RESPONSIBLE FOR INSTALLING ALL EQUIPMENT AND FOLLOWING ALL DIRECTIONS AND INSTRUCTIONS CONTAINED IN THIS DRAWING PACKAGE, IN ANY INFORMATION RECEIVED FROM THE CLIENT AND OTHERS AND ANY INFORMATION CONTAINED IN EQUIPMENT INSTALLATION MANUALS.
- 2. THE INSTALLATION CONTRACTOR IS RESPONSIBLE FOR READING AND UNDERSTANDING ALL DRAWINGS, COMPONENT AND INVERTER MANUALS PRIOR TO INSTALLATION. THE INSTALLATION CONTRACTOR IS ALSO REQUIRED TO HAVE ALL COMPONENT SWITCHES IN THE OFF POSITION AND FUSES REMOVED PRIOR TO THE INSTALLATION OF ALL FUSE BEARING SYSTEM COMPONENTS.
- 3. ONCE THE PHOTOVOLTAIC MODULES ARE MOUNTED, THE INSTALLATION CONTRACTOR SHOULD HAVE A MINIMUM OF ONE ELECTRICIAN WHO HAS ATTENDED A SOLAR PHOTOVOLTAIC INSTALLATION COURSE.
- 4. FOR SAFETY IT IS RECOMMENDED BY THE MANUFACTURER THAT THE INSTALLATION CREW ALWAYS HAVE A MINIMUM OF TWO PERSONS WORKING TOGETHER AND THAT EACH OF THE INSTALLATION CREW MEMBERS BE TRAINED IN FIRST AID AND CPR.
- 5. THIS SOLAR PHOTOVOLTAIC SYSTEM IS TO BE INSTALLED FOLLOWING THE CONVENTIONS OF THE NATIONAL ELECTRIC CODE. ANY LOCAL CODE WHICH MAY SUPERSEDE THE NEC SHALL GOVERN.
- 6. ALL SYSTEM COMPONENTS TO BE INSTALLED WITH THIS SYSTEM ARE TO BE "UL" LISTED. ALL OUTDOOR EQUIPMENT WILL BE NEMA 3R OR NEMA 4 AS INDICATED ON THE PLANS.
- 7. THE DC VOLTAGE FROM THE ARRAY IS ALWAYS PRESENT AT THE DC DISCONNECT ENCLOSURE AND THE DC TERMINALS OF THE INVERTER DURING DAYLIGHT HOURS. ALL PERSONS WORKING ON OR INVOLVED WITH THIS PHOTOVOLTAIC SYSTEM ARE WARNED THAT THE SOLAR MODULES ARE ENERGIZED WHENEVER THEY ARE EXPOSED TO LIGHT.
- 8. ALL PORTIONS OF THIS SOLAR PHOTOVOLTAIC SYSTEM SHALL BE MARKED CLEARLY IN ACCORDANCE WITH THE NATIONAL ELECTRIC CODE ARTICLE 690.
- 9. PRIOR TO SYSTEM START-UP, THE INSTALLATION CONTRACTOR SHALL PERFORM ALL INITIAL
- 10. FOR THE PROPER MAINTENANCE AND ISOLATION OF THE INVERTERS REFER TO THE ISOLATION PROCEDURES IN THE OPERATIONS MANUAL.

HARDWARE CHECKS AND DC WIRING CONDUCTIVITY CHECKS.

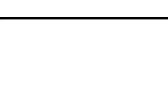
11. ALL ELECTRICAL TERMINATIONS AND MECHANICAL CONNECTIONS OF THE SOLAR INSTALLATION MUST BE TORQUED TO FACTORY SPECIFICATIONS AND MARKED WITH A PERMANENT TAMPER PROOF MEANS.

RACKING SYSTEM:

THE DESIGN OF THE RACKING SYSTEM, BALLASTING AND/OR ATTACHMENT DESIGN, AND ALL ASSOCIATED CALCULATIONS ARE NOT INCLUDED IN THE SCOPE OF WORK PERFORMED BY KMB DESIGN GROUP, LLC(KMB), ARE NOT PART OF THESE DRAWINGS AND KMB MAKES NO REPRESENTATION WHATSOEVER WITH REGARD TO SAID RACKING, BALLASTING AND/OR ATTACHMENT DESIGN. ALL PARTIES ARE INSTRUCTED TO OBTAIN AND REFER TO THE RACKING DESIGN PLANS, PROVIDED BY OTHERS, FOR INFORMATION REGARDING THE RACKING SYSTEM AND METHOD OF SECURING/ATTACHMENT OF THE PHOTOVOLTAIC SYSTEM TO THE GROUND MOUNT.







Allison D. Kimball
PROFESSIONAL ENGINEER



# NUWAY SROUND MOUNTED PHOTOVOLTAIC SYST 700.00 KW AC / 937.99 KW DC 200 SULLIVAN AVE SOUTH WINDSOR, CT 06074

732.1002

NOTES
AND
SYMBOLS

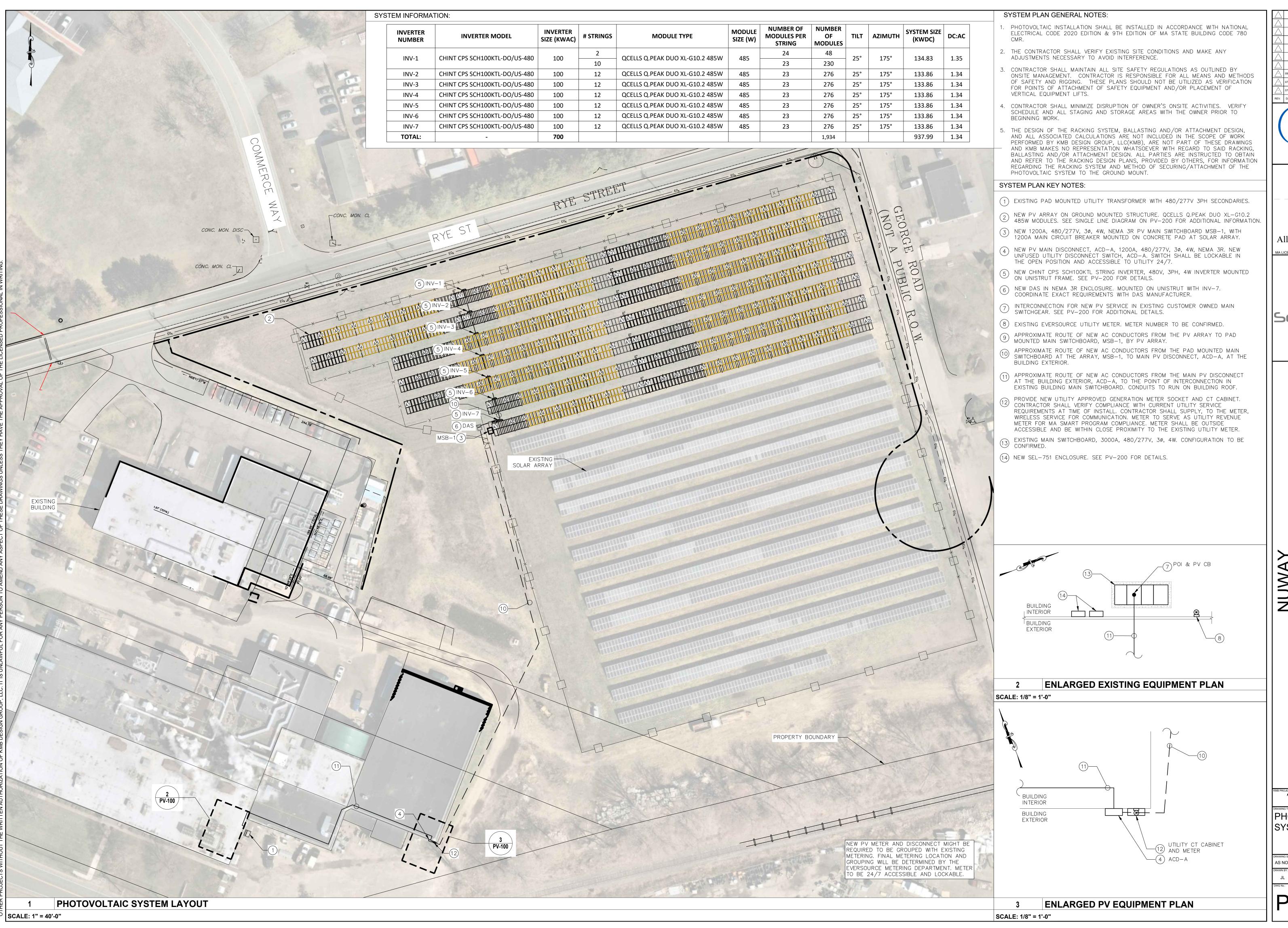
DRAWING SCALE:

NONE

DRAWN BY: CHECKED BY:

||P\/-002

ADK 07.11.22



REVISED 90% DESIGN REVISION DESCRIPTION



Allison D. Kimball PROFESSIONAL ENGINEER

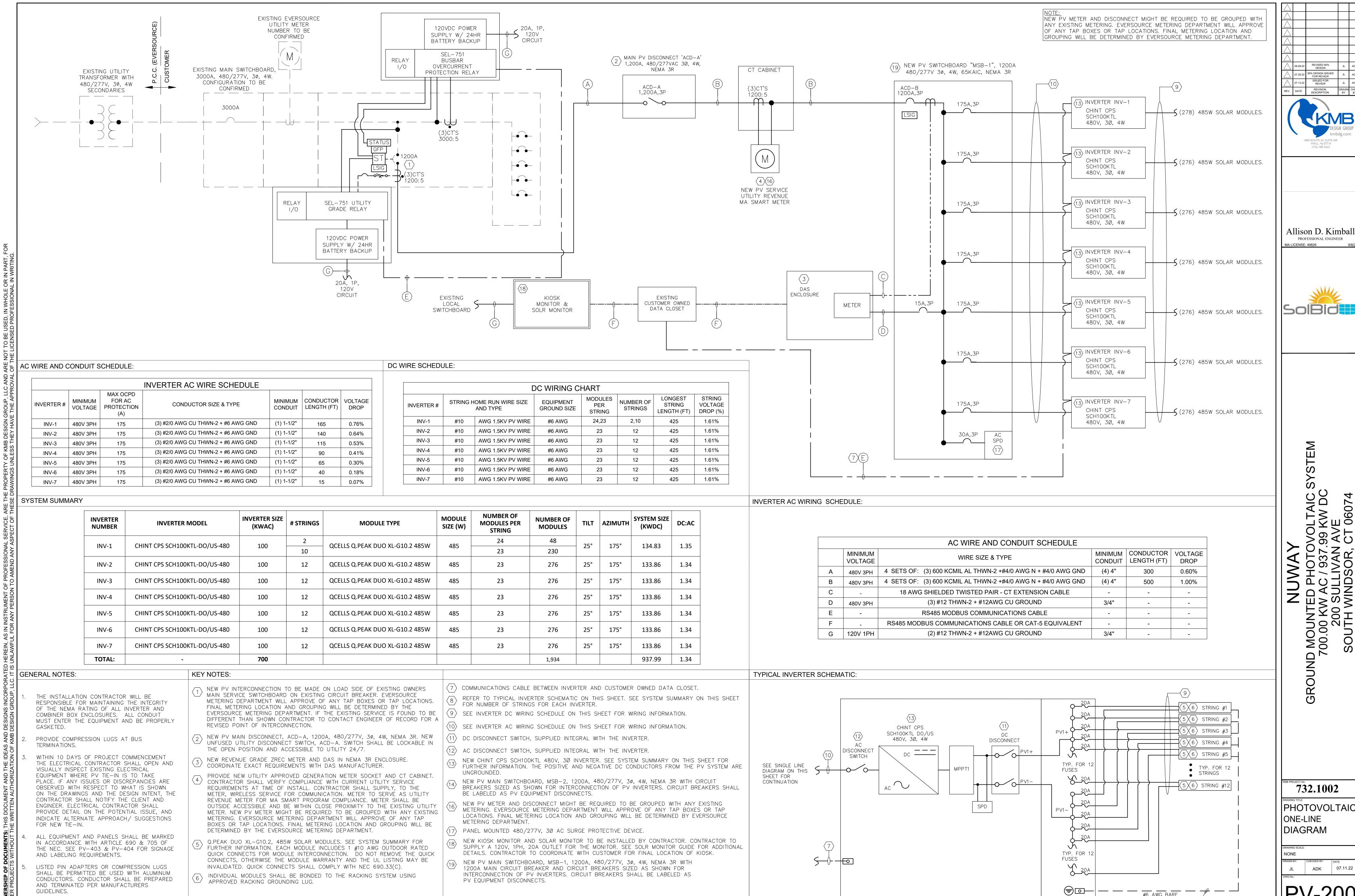


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PHOTOVOLTAIC SYSTEM LAYOUT

AS NOTED

ADK 07.11.22



Allison D. Kimball PROFESSIONAL ENGINEER

37.8 AN OR. MOUNTED PHOTO 700.00 KW AC / 937 200 SULLIVAN SOUTH WINDSOR,

|PHOTOVOLTAIC

#6 AWG BARE GROUNDING WIRE NOTE: MAX TOTAL CLEARING TIME SETTINGS DO NOT TAKE INTO ACCOUNT SWITCH OPERATING TIMES. ACTUAL SETTINGS INPUT INTO THE SEL RELAY VIA RDB FILE SHALL BE ADJUSTED TO ACCOUNT FOR OPENING TIME OF THE SELECTED BREAKER AND BE PRESENTED TO EVERSOURCE FOR REVIEW PRIOR TO WITNESS TEST.

	SEL-751 RELAY SETTINGS FOR BUSBAR OVERCURRENT PRO	TECTION		
ANSI	PICKUP	TOTAL CLEARING	TOTAL CLEARING	DELAY PER TCC
#	VPHASE, A, HZ	TIME (SEC)	TIME (CYCLES)	DELAT PER TCC
51P	2999A (4.99A) PRIMARY	-	-	2.0TD U4 CURVE

						2 (1 11)
	PROF	OSED INVE	RIE	R GRID PROTEC	CHON SETTINGS	S (L-N)
DEVICE SETTING	PICKUP	VALUE	Ξ	CLEARING TIME (SEC)	CLEARING TIME (CYCLES)	DESCRIPTION
27-1	50%	139	٧	1.10	66.00	UNDERVOLTAGE
27-2	88%	244	٧	2.00	120.00	UNDERVOLTAGE
59-1	110%	305	٧	2.00	120.00	OVERVOLTAGE
59-2	120%	333	V	0.16	9.60	OVERVOLTAGE
81U-2	ļ	56.5Hz		0.16	9.60	UNDERFREQUENCY
81U-1	į	58.5Hz		300.00	18000.00	UNDERFREQUENCY
810-1	(	61.2Hz		300.00	18000.00	OVEDEDEOLIENOV
810-2	(	62.0Hz		0.16	9.60	OVERFREQUENCY

O9.08.22 REVISED 90%
DESIGN

O7.29.22 90% DESIGN ISSUED
FOR REVIEW

O7.13.22 ISSUED FOR
REVIEW
JL ADK

REV. DATE REVISION
DESCRIPTION
DESCRIPTION
DESCRIPTION
DRAWN CHKD.
BY



Allison D. Kimball
PROFESSIONAL ENGINEER
MALICENSE: 49826 9/8/22



GROUND MOUNTED PHOTOVOLTAIC SYSTEM
700.00 KW AC / 937.99 KW DC
200 SULLIVAN AVE
SOLITH WINDSOR CT 06074

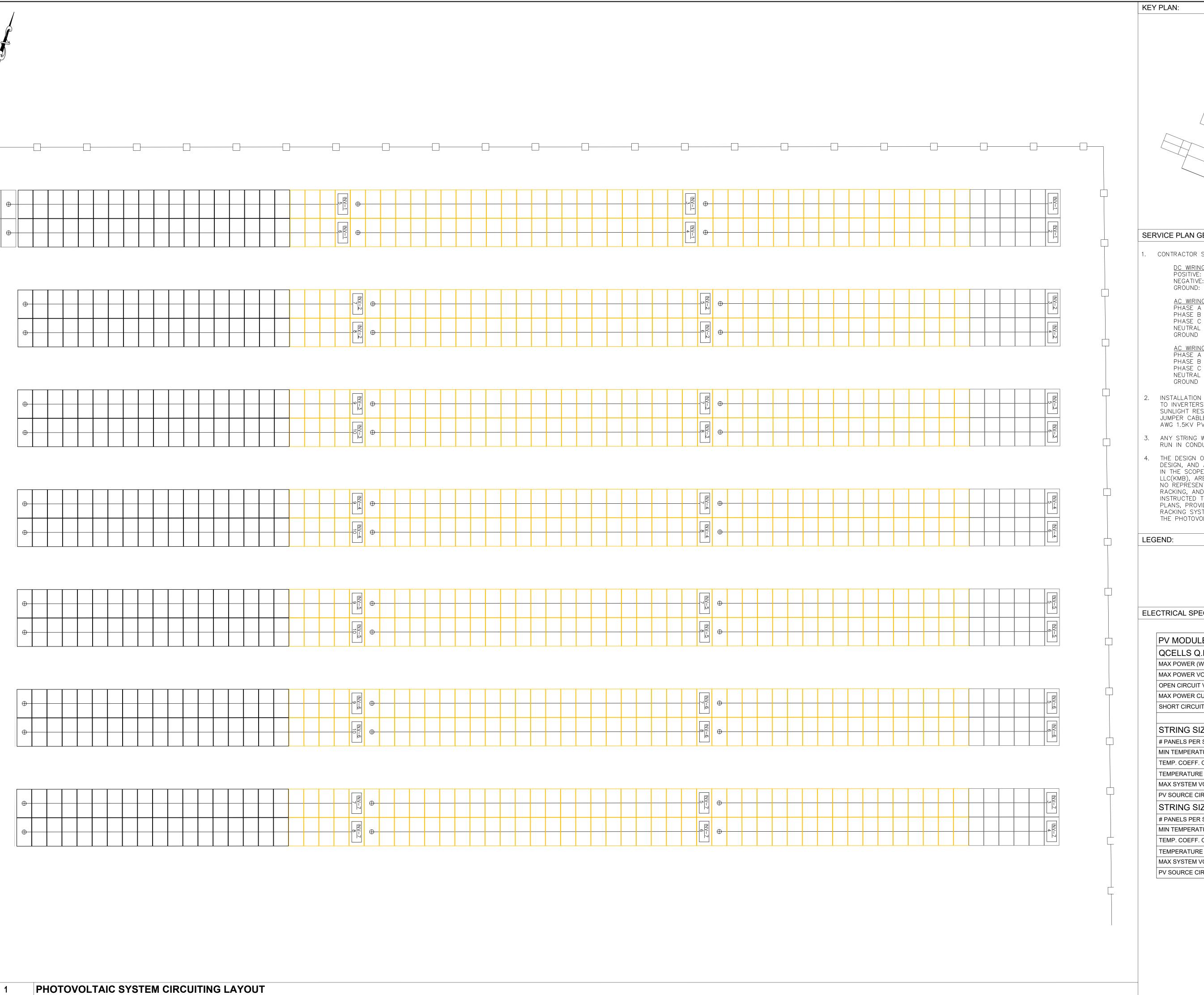
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PHOTOVOLTAIC
TABLES AND
SCHEDULES

NONE

DRAWN BY: CHEC

JL ADK 07.11.22



### SERVICE PLAN GENERAL NOTES:

1. CONTRACTOR SHALL PROVIDE WIRING IDENTIFICATION AS FOLLOWS:

<u>DC WIRING</u> POSITIVE: RED NEGATIVE: BLACK GROUND: GREEN

AC WIRING 120V/208V/240V PHASE A BLACK PHASE B RED PHASE C BLUE NEUTRAL WHITE

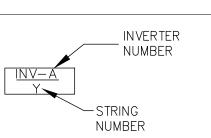
GREEN

AC WIRING 277V/480V PHASE A BROWN PHASE B ORANGE PHASE C YELLOW NEUTRAL GRAY GROUND GREEN

- 2. INSTALLATION CONTRACTOR SHALL INSTALL HOME RUN DC WIRING TO INVERTERS. THIS SHALL CONSIST OF #10 AWG 1.5KV PV SUNLIGHT RESISTANT CABLE WITH LOCKING MC CONNECTOR.

  JUMPER CABLES BETWEEN OPTIMIZERS SHALL CONSIST OF #10

  AWG 1.5KV PV SUNLIGHT RESISTANT CABLE.
- 3. ANY STRING WIRING THAT IS NOT UNDER THE ARRAY SHALL BE RUN IN CONDUIT FOR PROTECTION.
- 4. THE DESIGN OF THE RACKING SYSTEM AND/OR ATTACHMENT DESIGN, AND ALL ASSOCIATED CALCULATIONS ARE NOT INCLUDED IN THE SCOPE OF WORK PERFORMED BY KMB DESIGN GROUP, LLC(KMB), ARE NOT PART OF THESE DRAWINGS AND KMB MAKES NO REPRÉSENTATION WHATSOEVER WITH REGARD TO SAID RACKING, AND/OR ATTACHMENT DESIGN. ALL PARTIES ARE INSTRUCTED TO OBTAIN AND REFER TO THE RACKING DESIGN PLANS, PROVIDED BY OTHERS, FOR INFORMATION REGARDING THE RACKING SYSTEM AND METHOD OF SECURING/ATTACHMENT OF THE PHOTOVOLTAIC SYSTEM.



ELECTRICAL SPECIFICATIONS:

PV MODULE	
QCELLS Q.PEAK DUO XL-G10.2 485W	
MAX POWER (W)	485.00
MAX POWER VOLTAGE (Vmp)	45.07
OPEN CIRCUIT VOLTAGE (Voc)	53.64
MAX POWER CURRENT (Imp)	10.76
SHORT CIRCUIT CURRENT (Isc)	11.29
STRING SIZING CALCULATIONS-23	
# PANELS PER STRING	23.00
MIN TEMPERATURE (°C)	-19.7
TEMP. COEFF. OF VOLT(%/°C)	27
TEMPERATURE CORR. FAC.	12.07%
MAX SYSTEM VOLTAGE (NEC 690.7)	1388.1
PV SOURCE CIRCUIT CURRENT (NEC 690.8 (A)(A))	15.53
STRING SIZING CALCULATIONS-24	
# PANELS PER STRING	24.00
MIN TEMPERATURE (°C)	-19.7
TEMP. COEFF. OF VOLT(%/°C)	27
TEMPERATURE CORR. FAC.	12.07%
MAX SYSTEM VOLTAGE (NEC 690.7)	1442.7
PV SOURCE CIRCUIT CURRENT (NEC 690.8 (A)(A))	15.53

NUWAY
GROUND MOUNTED PHOTOVOLTAIC SYS<sup>-</sup>
700.00 KW AC / 937.99 KW DC
200 SULLIVAN AVE
SOUTH WINDSOR, CT 06074

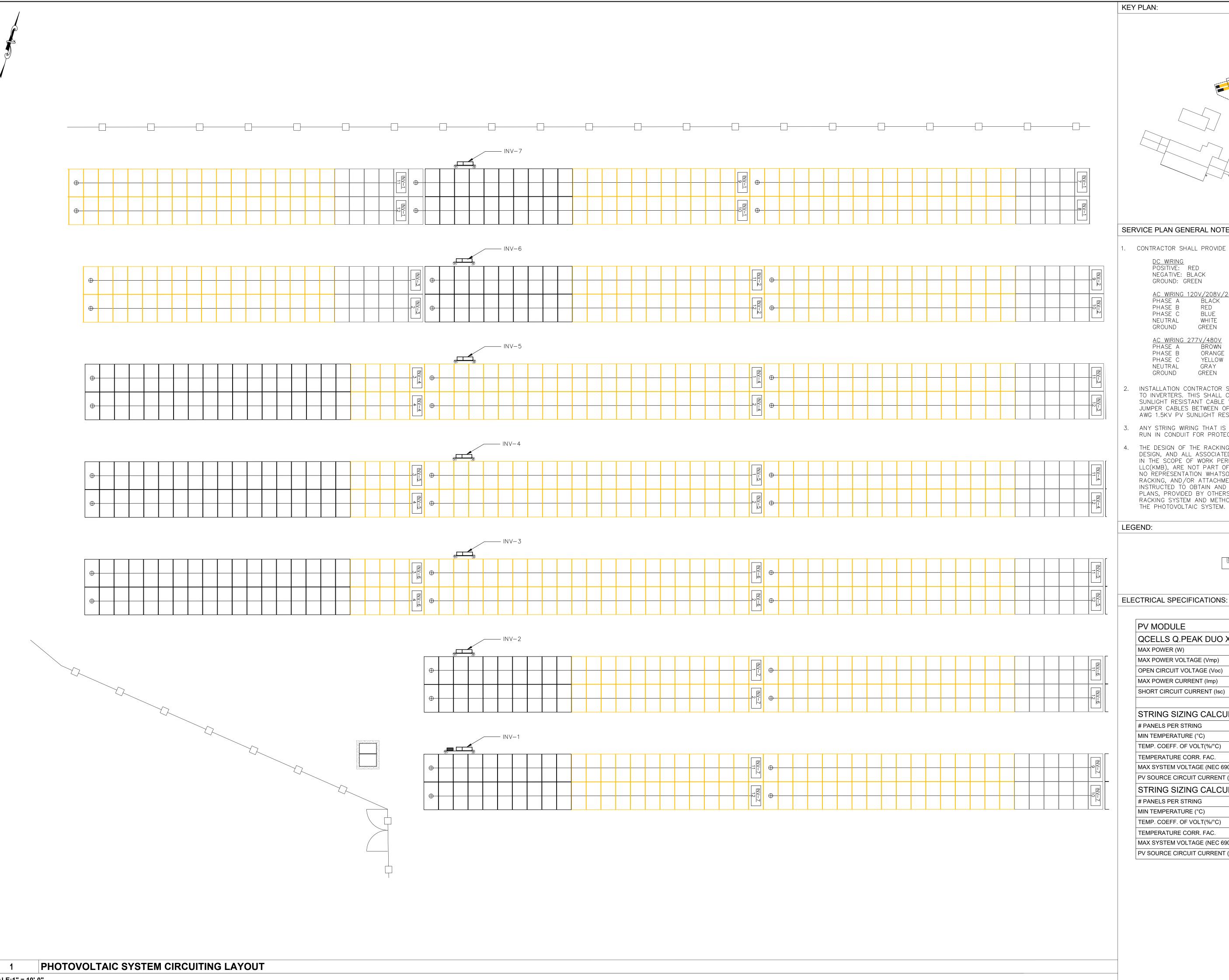
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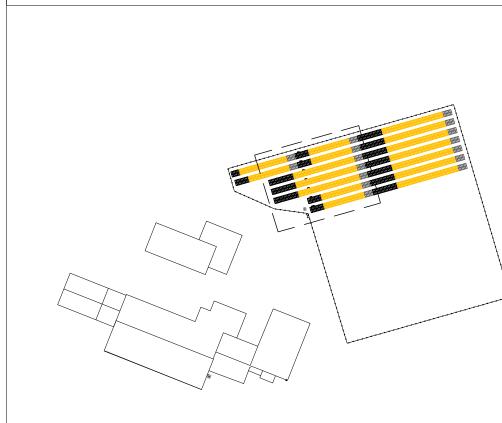
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PV SYSTEM CIRCUITING SHEET 1

NONE ADK 07.11.22





### SERVICE PLAN GENERAL NOTES:

CONTRACTOR SHALL PROVIDE WIRING IDENTIFICATION AS FOLLOWS:

AC WIRING 120V/208V/240V PHASE A BLACK RED BLUE

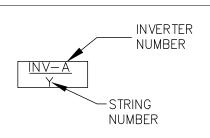
GREEN AC WIRING 277V/480V PHASE A BROWN

ORANGE YELLOW GRAY GREEN

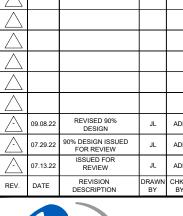
- INSTALLATION CONTRACTOR SHALL INSTALL HOME RUN DC WIRING TO INVERTERS. THIS SHALL CONSIST OF #10 AWG 1.5KV PV SUNLIGHT RESISTANT CABLE WITH LOCKING MC CONNECTOR.

  JUMPER CABLES BETWEEN OPTIMIZERS SHALL CONSIST OF #10

  AWG 1.5KV PV SUNLIGHT RESISTANT CABLE.
- ANY STRING WIRING THAT IS NOT UNDER THE ARRAY SHALL BE RUN IN CONDUIT FOR PROTECTION.
- 4. THE DESIGN OF THE RACKING SYSTEM AND/OR ATTACHMENT DESIGN, AND ALL ASSOCIATED CALCULATIONS ARE NOT INCLUDED IN THE SCOPE OF WORK PERFORMED BY KMB DESIGN GROUP, LLC(KMB), ARE NOT PART OF THESE DRAWINGS AND KMB MAKES NO REPRÉSENTATION WHATSOEVER WITH REGARD TO SAID RACKING, AND/OR ATTACHMENT DESIGN. ALL PARTIES ARE INSTRUCTED TO OBTAIN AND REFER TO THE RACKING DESIGN PLANS, PROVIDED BY OTHERS, FOR INFORMATION REGARDING THE RACKING SYSTEM AND METHOD OF SECURING/ATTACHMENT OF THE PHOTOVOLTAIC SYSTEM.



PV MODULE	
QCELLS Q.PEAK DUO XL-G10.2 485W	
MAX POWER (W)	485.00
MAX POWER VOLTAGE (Vmp)	45.07
OPEN CIRCUIT VOLTAGE (Voc)	53.64
MAX POWER CURRENT (Imp)	10.76
SHORT CIRCUIT CURRENT (Isc)	11.29
STRING SIZING CALCULATIONS-23	
# PANELS PER STRING	23.00
MIN TEMPERATURE (°C)	-19.7
TEMP. COEFF. OF VOLT(%/°C)	27
TEMPERATURE CORR. FAC.	12.07%
MAX SYSTEM VOLTAGE (NEC 690.7)	1388.1
PV SOURCE CIRCUIT CURRENT (NEC 690.8 (A)(A))	15.53
STRING SIZING CALCULATIONS-24	
# PANELS PER STRING	24.00
MIN TEMPERATURE (°C)	-19.7
TEMP. COEFF. OF VOLT(%/°C)	27
TEMPERATURE CORR. FAC.	12.07%
MAX SYSTEM VOLTAGE (NEC 690.7)	1442.7
PV SOURCE CIRCUIT CURRENT (NEC 690.8 (A)(A))	15.53





Allison D. Kimball PROFESSIONAL ENGINEER



NUWAY
GROUND MOUNTED PHOTOVOLTAIC SYS<sup>-</sup>
700.00 KW AC / 937.99 KW DC
200 SULLIVAN AVE
SOUTH WINDSOR, CT 06074

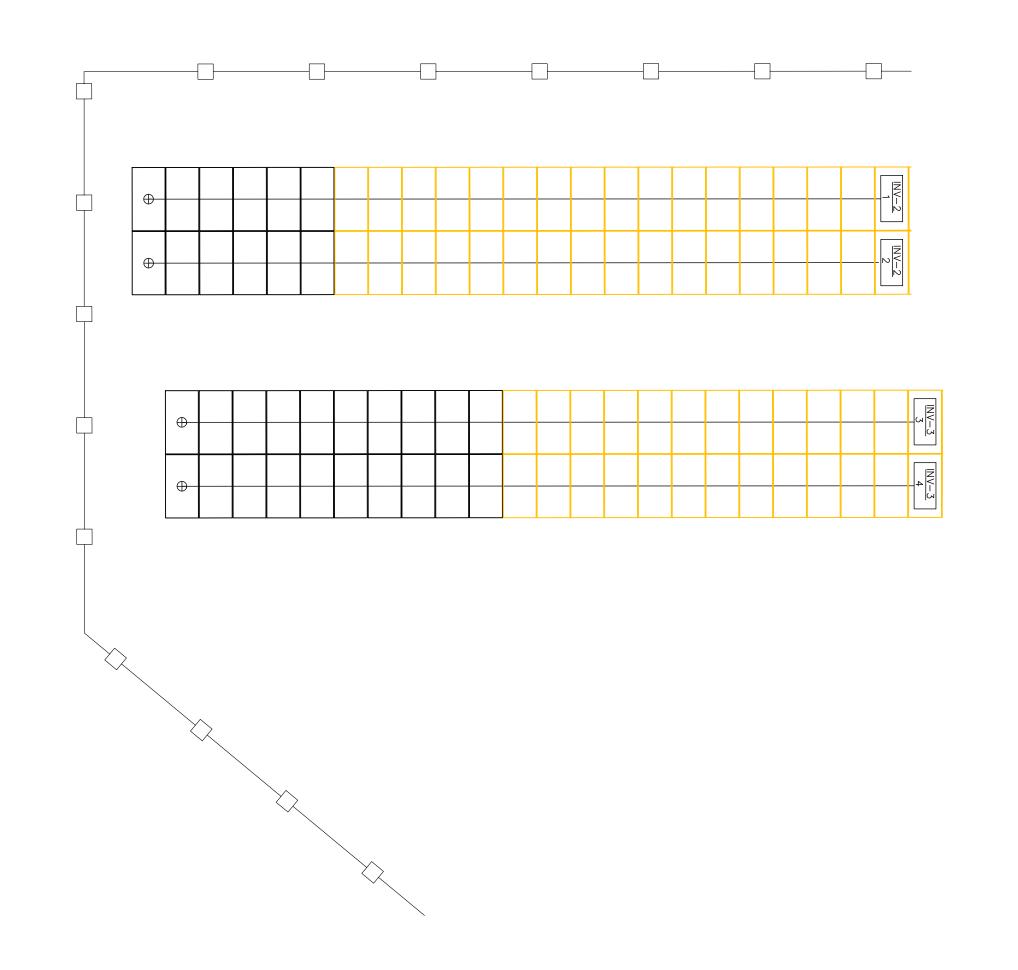
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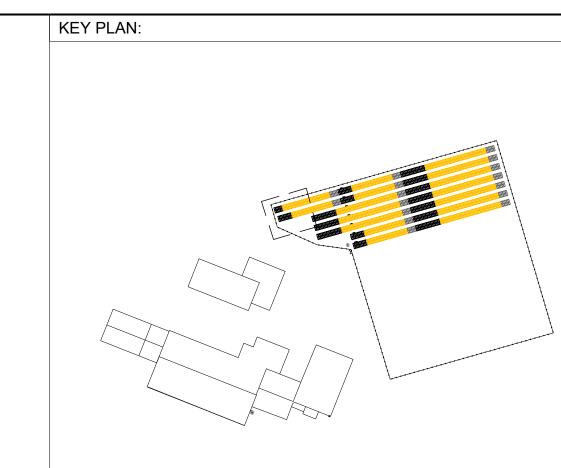
PV SYSTEM CIRCUITING SHEET 2

NONE ADK 07.11.22

PV-301

SCALE:1" = 10'-0"





### SERVICE PLAN GENERAL NOTES:

1. CONTRACTOR SHALL PROVIDE WIRING IDENTIFICATION AS FOLLOWS:

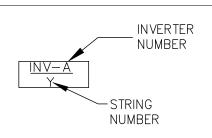
<u>DC WIRING</u> POSITIVE: RED NEGATIVE: BLACK GROUND: GREEN

AC WIRING 120V/208V/240V PHASE A BLACK PHASE B RED PHASE C BLUE NEUTRAL WHITE GROUND GREEN

AC WIRING 277V/480V PHASE A BROWN PHASE B ORANGE PHASE C YELLOW NEUTRAL GRAY GROUND GREEN

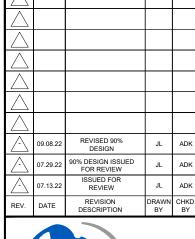
- 2. INSTALLATION CONTRACTOR SHALL INSTALL HOME RUN DC WIRING TO INVERTERS. THIS SHALL CONSIST OF #10 AWG 1.5KV PV SUNLIGHT RESISTANT CABLE WITH LOCKING MC CONNECTOR. JUMPER CABLES BETWEEN OPTIMIZERS SHALL CONSIST OF #10 AWG 1.5KV PV SUNLIGHT RESISTANT CABLE.
- 3. ANY STRING WIRING THAT IS NOT UNDER THE ARRAY SHALL BE RUN IN CONDUIT FOR PROTECTION.
- 4. THE DESIGN OF THE RACKING SYSTEM AND/OR ATTACHMENT DESIGN, AND ALL ASSOCIATED CALCULATIONS ARE NOT INCLUDED IN THE SCOPE OF WORK PERFORMED BY KMB DESIGN GROUP, LLC(KMB), ARE NOT PART OF THESE DRAWINGS AND KMB MAKES NO REPRÉSENTATION WHATSOEVER WITH REGARD TO SAID RACKING, AND/OR ATTACHMENT DESIGN. ALL PARTIES ARE INSTRUCTED TO OBTAIN AND REFER TO THE RACKING DESIGN PLANS, PROVIDED BY OTHERS, FOR INFORMATION REGARDING THE RACKING SYSTEM AND METHOD OF SECURING/ATTACHMENT OF THE PHOTOVOLTAIC SYSTEM.

### LEGEND:



### ELECTRICAL SPECIFICATIONS:

PV MODULE	
QCELLS Q.PEAK DUO XL-G10.2 485W	
MAX POWER (W)	485.
MAX POWER VOLTAGE (Vmp)	45.0
OPEN CIRCUIT VOLTAGE (Voc)	53.6
MAX POWER CURRENT (Imp)	10.7
SHORT CIRCUIT CURRENT (Isc)	11.2
STRING SIZING CALCULATIONS-23	
# PANELS PER STRING	23.0
MIN TEMPERATURE (°C)	-19
TEMP. COEFF. OF VOLT(%/°C)	2
TEMPERATURE CORR. FAC.	12.0
MAX SYSTEM VOLTAGE (NEC 690.7)	138
PV SOURCE CIRCUIT CURRENT (NEC 690.8 (A)(A))	15.
STRING SIZING CALCULATIONS-24	
# PANELS PER STRING	24.0
MIN TEMPERATURE (°C)	-19
TEMP. COEFF. OF VOLT(%/°C)	2
TEMPERATURE CORR. FAC.	12.0
MAX SYSTEM VOLTAGE (NEC 690.7)	1442
PV SOURCE CIRCUIT CURRENT (NEC 690.8 (A)(A))	15.5





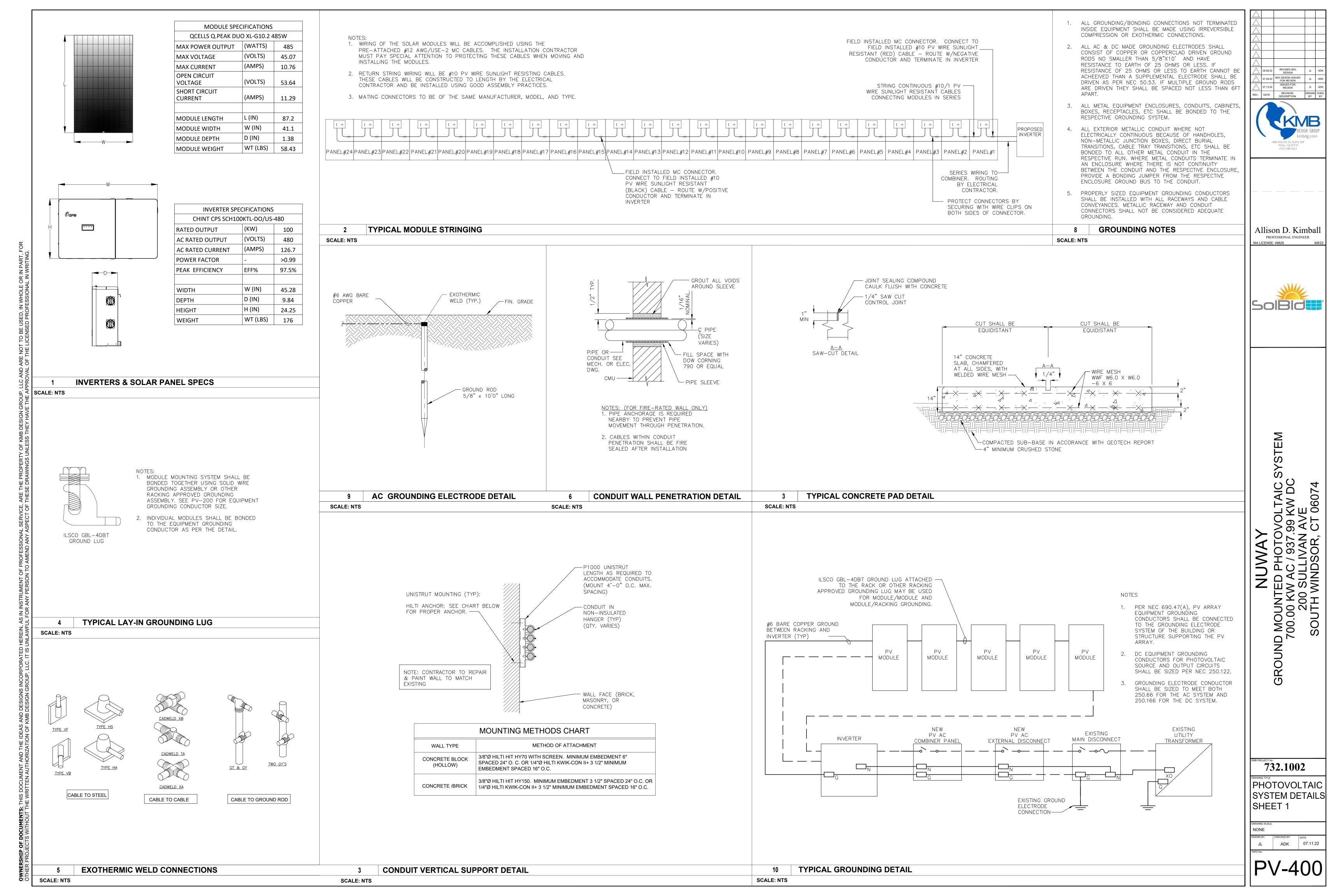
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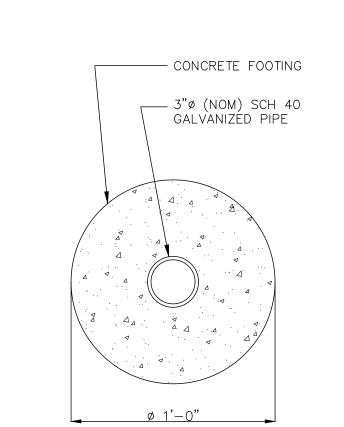


AIC SY V DC

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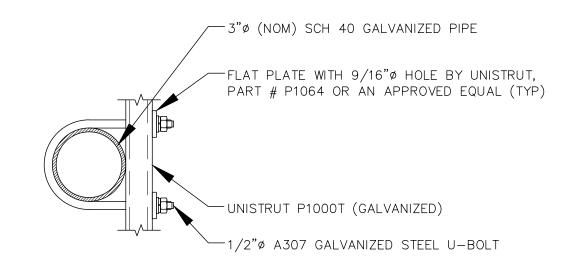
PV SYSTEM CIRCUITING SHEET 2





### CONCRETE AND REINFORCING STEEL NOTES:

- 1. ALL CONCRETE WORK SHALL BE IN ACCORDANCE WITH THE ACI 301, ACI 318 AND THE SPECIFICATION CAST-IN-PLACE CONCRETE.
- 2. ALL CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 3500 PSI AT 28 DAYS, UNLESS NOTED OTHERWISE.
- 3. THE FOLLOWING MINIMUM CONCRETE COVER SHALL BE PROVIDED FOR REINFORCING STEEL UNLESS SHOWN OTHERWISE ON DRAWINGS: CONCRETE CAST AGAINST EARTH....3 IN. CONCRETE EXPOSED TO EARTH OR WEATHER: #6 AND LARGER......2 IN. #5 AND SMALLER & WWF......1 1/2 IN.
  - CONCRETE NOT EXPOSED TO EARTH OR WEATHER OR NOT CAST AGAINST THE GROUND: SLAB AND WALL......3/4 IN. BEAMS AND COLUMNS...... 1/2 IN.
- 4. A 3/4" CHAMFER SHALL BE PROVIDED AT ALL EXPOSED EDGES OF CONCRETE, UNO, IN ACCORDANCE WITH ACI 301 SECTION 4.2.4.
- 5. INSTALLATION OF CONCRETE EXPANSION/WEDGE ANCHOR, SHALL BE PER MANUFACTURER'S WRITTEN RECOMMENDED PROCEDURE. THE ANCHOR BOLT, DOWEL OR ROD SHALL CONFORM TO MANUFACTURER'S RECOMMENDATION FOR EMBEDMENT DEPTH OR AS SHOWN ON THE DRAWINGS. NO REBAR SHALL BE CUT WITHOUT PRIOR ENGINEERING APPROVAL WHEN DRILLING HOLES IN



MAGNETIC WARNING TAPE -COMPACTED NATIVE BACKFILL VOID OF OBJECTS OVER 2 INCH DIAMETER AND VOID OF 1 1/2" HMA 9.5M64 SURFACE COURSE DECOMPOSABLE MATERIAL.

FINISHED GRADE ---4 1/2" HMA 19M64 BASE COURSE TOP SOIL ---6" COMPACTED DGA SUBBASE

UNDISTURBED EARTH

12" MIN

COMMUNICATION WIRE ----IN 2" CONDUIT

LAWN AREA PAVED AREA

DIRECT BURIED

CONDUIT, SEE PLANS

SAND OR NATIVE BACKFILL VOID -OF OBJECTS GREATER THAN 1" IN DIAMETER - 6" INCHES MINIMUM

ALL AROUND CONDUITS

- 1. MAGNETIC DETECTABLE WARNING TAPE "CAUTION ELECTRIC LINE BELOW" TO BE INSTALLED IN TRENCH AT NO DEEPER THAN 12" BELOW FINISHED
- 2. THIS DETAIL IS GENERAL, TO SHOW THE REQUIRED DEPTH'S AND COVER. ADJUST AS NECESSARY FOR MORE THEN ONE CONDUIT.
- 3. INSTALLING CONTRACTOR SHALL BE RESPONSIBLE FOR DETERMINING SUITABILITY OF NATIVE SOIL FOR
- 4. PAVEMENT DETAIL IS FOR ROADS WITH A CALIFORNIA BEARING RATIO CBR ≥ 2.

BACKFILL AROUND DIRECT BURIED CABLES.

- 5. ASPHALT PAVEMENT MATERIALS AND CONSTRUCTION SHALL BE IN ACCORDANCE WITH NJDOT SPECIFICATIONS.
- 6. PAVEMENT DESIGN HAS BEEN MADE MADE IN ACCORDANCE WITH THE NEW JERSEY RESIDENTIAL SITE IMPROVEMENT STANDARDS (RSIS-NJAC TITLE 5, CHAPTER 21).
- 7. COMPACTION LEVEL DESIGN HAS BEEN MADE IN ACCORDANCE WITH THE NJDOT STANDARD SPECIFICATION FOR ROAD AND BRIDGE CONSTRUCTION, SECTION 902.02.01.
- 8. COMPACTED SUB BASE: NJDOT 1-3 AGGREGATE
- 9. EXPOSED VERTICAL AND HORIZONTAL SURFACES. IN PAVED AREAS, SHALL BE PREPARED AS PER STATE DOT SPECIFICATIONS.

SolBid

Allison D. Kimball

PROFESSIONAL ENGINEER

09.08.22 REVISED 90% DESIGN

**EQUIPMENT POST DETAIL** SCALE: NTS

**UNISTRUT CONNECTION DETAIL** 

SCALE: NTS

DIRECT BURIED CONDUIT DETAIL

SCALE: NTS

GROUND MOUNT PURLIN ----MODULE ---GROUND BONDING TO ---GROUND MOUNT PURLINS WEATHERHEAD WITH DC — STRINGS TO INVERTER CHINT CPS SCH100KTL MOUNTED ON UNITSTRUT EXPANSION JOINTS (TYP.) GROUND BONDING TO NEW GROUND — UNISTRUT FRAME ROD TO BE INSTALLED

DETAILS ARE INTENDED TO CONVEY DESIGN INTENT ONLY. CONTRACTOR SHALL MODIFY AS NECESSARY TO SUIT FIELD CONDITIONS. CLEARANCES SHALL BE MAINTAINED PER NEC AND OTHER APPLICABLE LOCAL CODES.

PLASTIC END CAP, BY UNISTRUT, PART# P2860-10 OR AN APPROVED EQUAL (TYP) PROPOSED HORIZONTAL P1000 HOT DIPPED GALVANIZED UNISTRUT MOUNTED TO SUIT ELECTRIC/TELCO EQUIPMENT ATTACH UNISTRUT TO PIPE WITH 1/2" Ø U-BOLTS (TYP) 1'MIN. (TYP.) INV CONDUIT CONDUIT TO CONDUIT FROM MAIN FROM MAIN PV ARRAY SWITCHBOARD PV ARRAY SWITCHBOARD GRADE MSB-2MINIMUM DEPTH

732.1002 PHOTOVOLTAIC

SYSTEM DETAILS SHEET 2

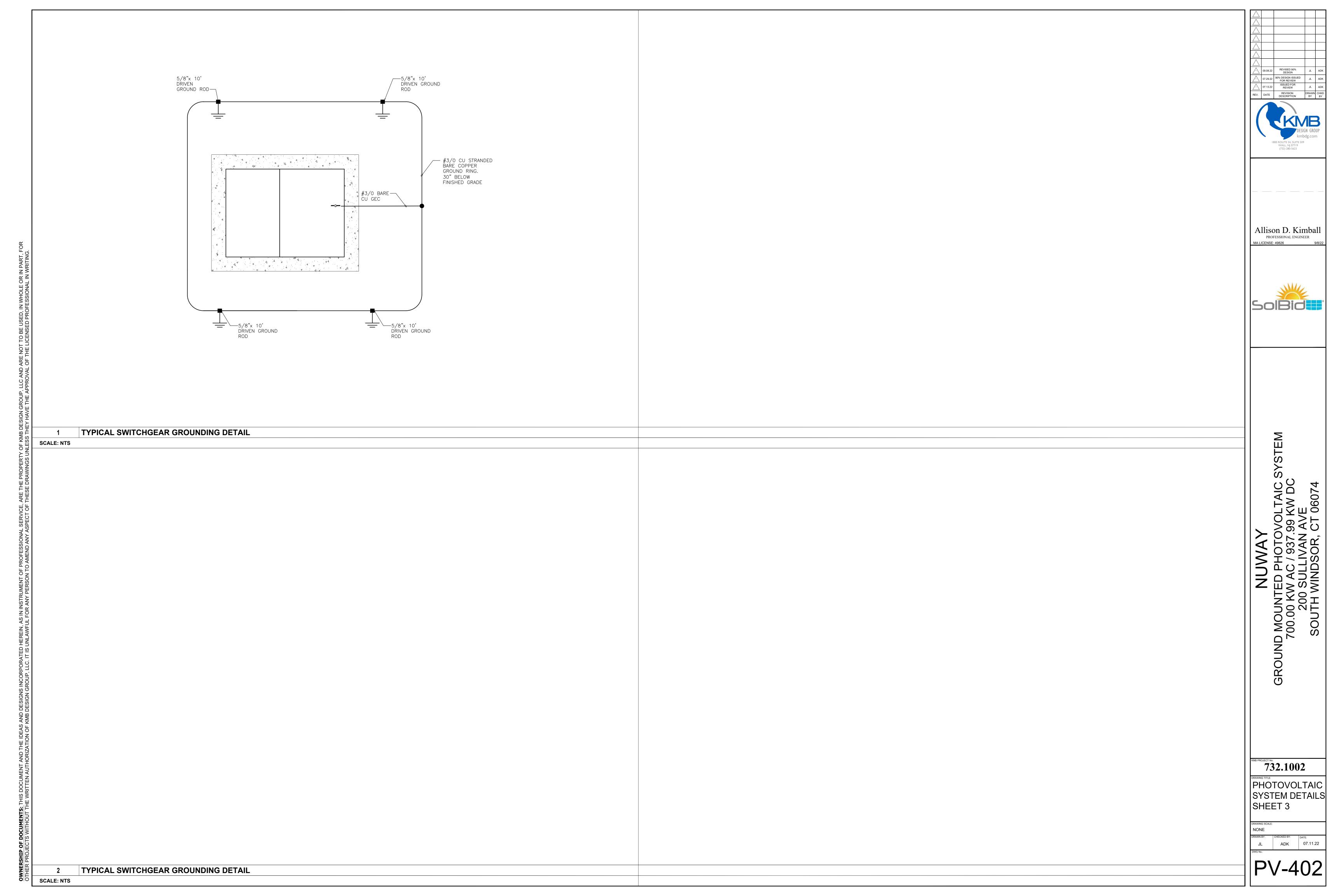
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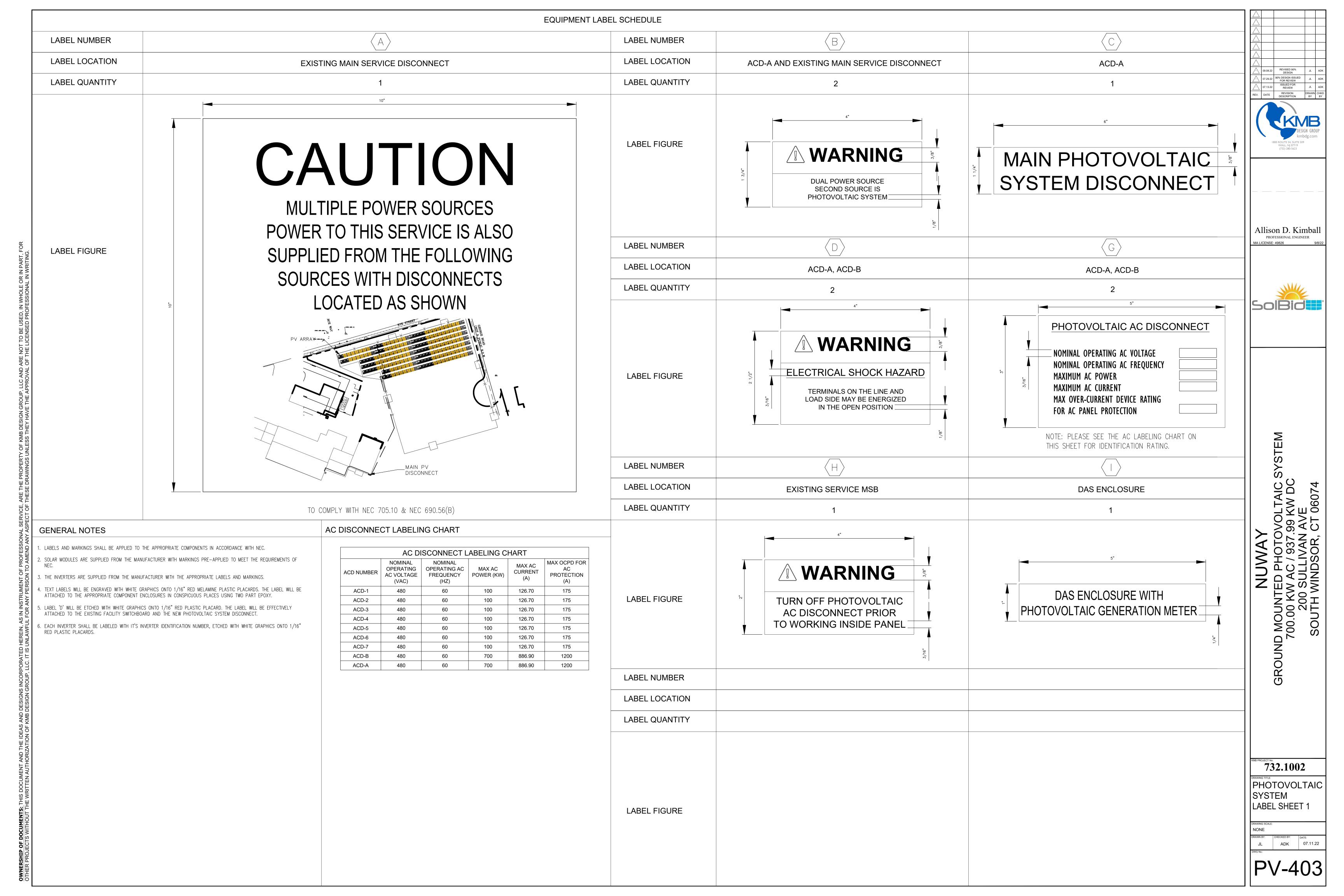
TYPICAL UNISTRUT INVERTER ELEVATION DETAIL

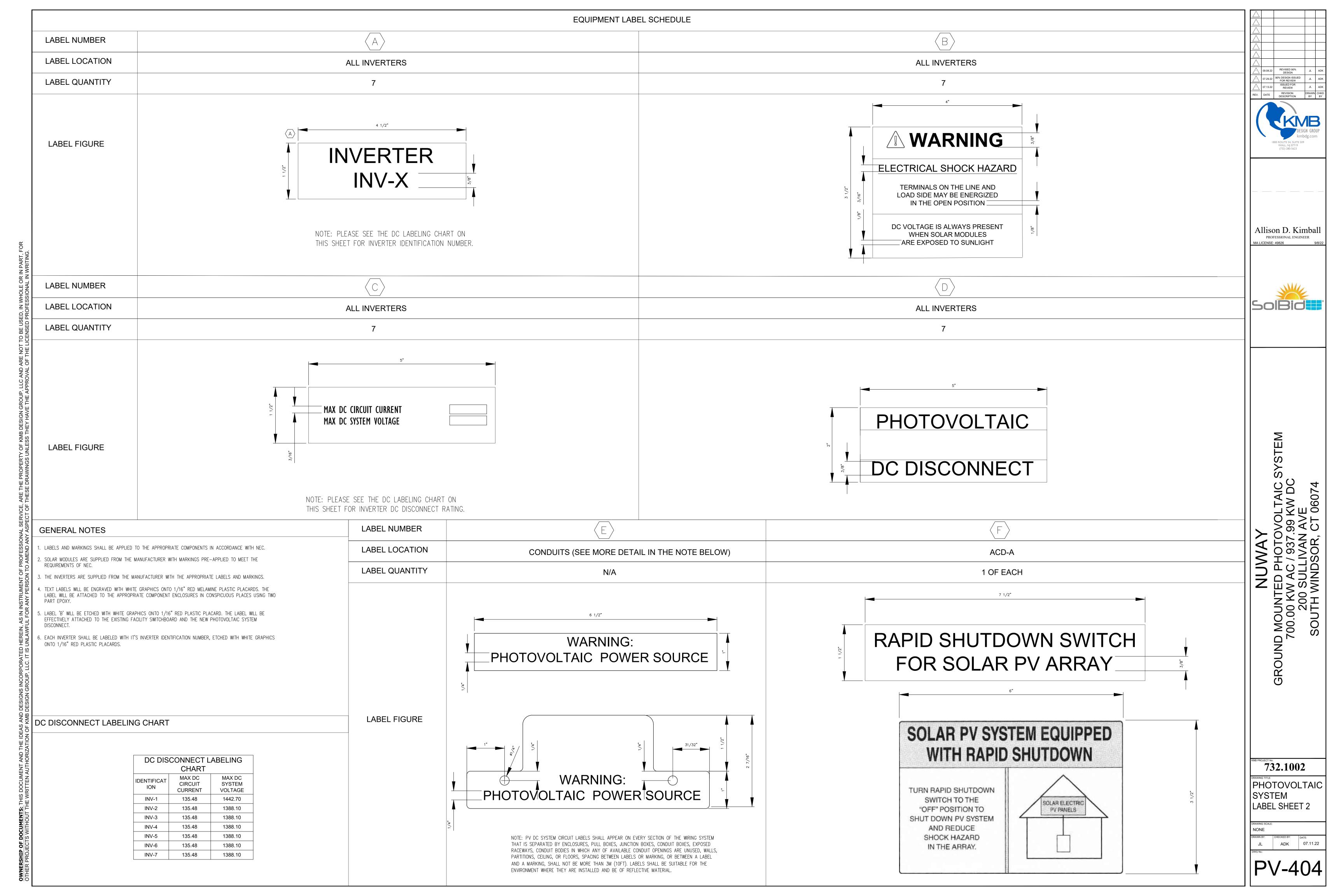
SIDE VIEW OF GROUND MOUNT AND INVERTER ELEVATION DETAIL

SCALE: NTS

SCALE: NTS



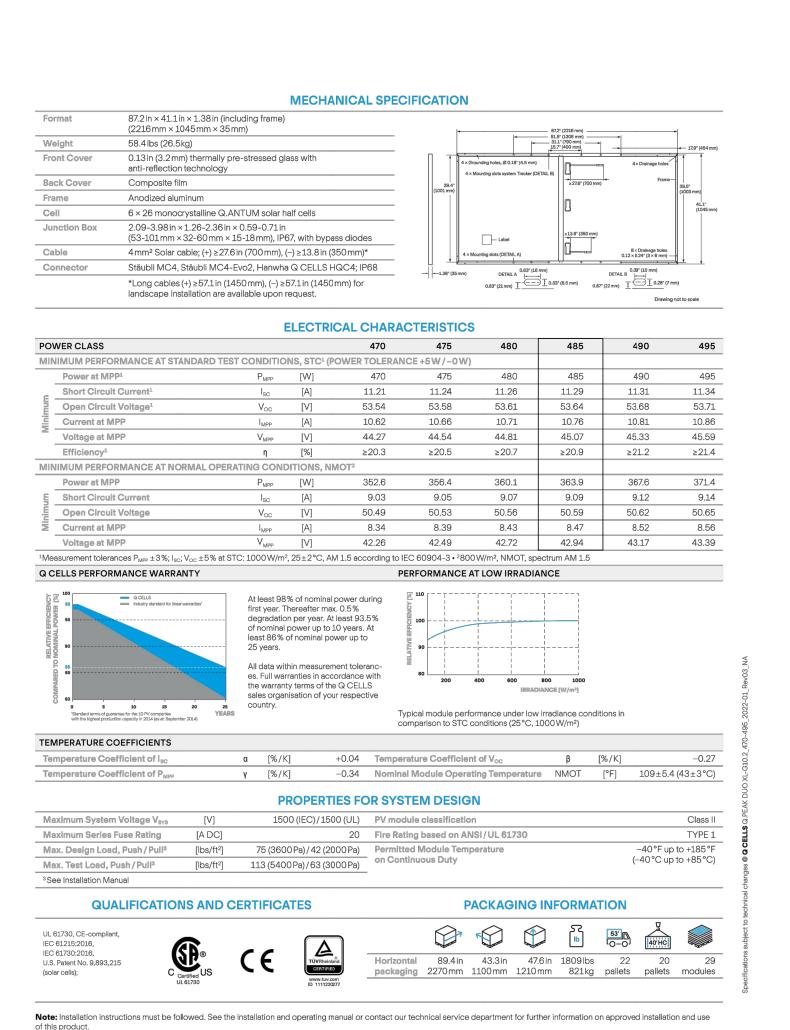




THE IDEAL SOLUTION FOR:

Engineered in Germany







### 100kW, 1500Vdc/480Vac String Inverters for North America



The 100kW high power CPS three phase string inverters are designed for ground mount applications with 480Vac service voltage. The units are high performance, advanced and reliable inverters designed specifically for the North American environment and grid. High efficiencies, wide operating voltages, broad temperature ranges and a NEMA Type 4X enclosure enable this inverter platform to operate at high performance across many applications. The CPS 100kW products ship with the Standard or Centralized Wire-box, each fully integrated and separable with AC and DC disconnect switches. The Standard Wire-box inlcudes touch safe fusing for up to 20 strings. The CPS FlexOM solution enables communication, controls and remote product upgrades.

### **Key Features**

- NFPA 70, NEC 2017 compliant
- Touch safe DC Fuse holders adds convenience and safety
- CPS FlexOM Gateway enables remote FW upgrades
- Integrated AC & DC disconnect switches
- 1 MPPT with 20 fused inputs for maximum flexibility

© CHINT POWER SYSTEMS AMERICA 2021/03-MKT NA

- Copper and Aluminum compatible AC connections
- NEMA Type 4X outdoor rated, tough tested enclosure
- Advanced Smart-Grid features
- Full power capacity up to 45°C
- Generous DC/AC Inverter Load Ratios
- Standard 5 year warranty with extensions to 20 years

Separable wire-box design for fast service





1) See user manual for further information regarding MPPT Voltage Range when operating at non-unity PF

1) See user manual or further mornisum regarding MPF1 voltage Range when operating at non-integer.

2) "Max. AC Apparent Power" rating valid within MPPT voltage range and temperature range of -30°C to +40°C (-22°F to +104°F) for 100kW @ PF >0.95

3) The "Output Voltage Range" and "Output Frequency Range" may differ according to the specific grid standard.

4) Wye neutral-grounded, Delta may not be corner-grounded.

5) See user manual for further requirements regarding non-operating conditions.

Chint Power Systems America 6800 Koll Center Parkway, Suite 235 Pleasanton, CA 9456 Tel: 855-584-7168 Mail: AmericaSales@chintpower.com Web: www.chintpowersystems.com

CPS SCH100KTL-DO/US-480 Model Name Max. DC Input Voltage Operating DC Input Voltage Range 750-1450Vdc 900Vdc / 200W Start-up DC Input Voltage / Power Number of MPP Trackers 760-1300Vd MPPT Voltage Range @ PF>0.991 Max. PV Input Current (Isc x1.25) 20 PV source circuits, pos. & neg. fused (Standard Wire-box) Number of DC Inputs 1 PV output circuit, 1-2 terminations per pole, non-fused (Centralized Wire-box) DC Disconnection Type Load-rated DC switch DC Surge Protection Type II MOV (with indicator/remote signaling), up=2.5kV, In=20kA (8/20uS) Rated AC Output Power @ PF>0.99 100kVA (105.3kVA @ PF>0.95) Max. AC Apparent Power<sup>2</sup> Rated Output Voltage 423-528Vac Output Voltage Range 3-Phase / PE / N (Neutral Optional) Grid Connection Type 120.3A/126.7A Max. AC Output Current @480Vac Rated Output Frequency 57 - 63Hz Output Frequency Range >0.99 (±0.8 adjustable Current THD @ Rated Load 41.47A Max. Fault Current Contribution (1 Cycle RMS) Max. OCPD Rating Load-rated AC switch AC Disconnection Type Type II MOV (with indicator/remote signaling), up=2.5kV, In=20kA (8/20uS) AC Surge Protection System and Performance Transformerless Max. Efficiency 98.9% 98.0% CEC Efficiency <4W Stand-by / Night Consumption NEMA Type 4X **Enclosure Protection Degree** Variable speed cooling fans -22°F to +140°F / -30°C to +60°C (derating from +113°F / +45°C) Operating Temperature Range No low temp minimum to +158°F / +70°C maximum Non-Operating Temperature Range<sup>5</sup> 0 to 100% Operating Humidity Operating Altitude 8202ft / 2500m (no derating) <65dBA @ 1m and 25°C Audible Noise **Display and Communicat** LED indicators, WiFi + APP User Interface and Display Inverter Monitoring Modbus RS485 CPS FlexOM (1 per 32 inverters) Site Level Monitoring Modbus Data Mapping SunSpec / CPS Standard / (with FlexOM Gateway) Remote Diagnostics / FW Upgrade Functions Mechanical 45.28x24.25x9.84in (1150x616x250mm) with Standard Wire-box 39.37x24.25x9.84in (1000x616x250mm) with Centralized Wire-box Inverter: 121lbs / 55kg; Wire-box: 55lbs / 25kg (Standard Wire-box) 33lbs / 15kg (Centralized Wire-box) 15 - 90 degrees from horizontal (vertical or angled) Mounting / Installation Angle M10 Stud Type Terminal [3Φ] (Wire range:1/0AWG - 500kcmil CU/AL, Lugs not supplied) AC Termination Screw Clamp Terminal Block [N] (#12 - 1/0AWG CU/AL) Screw Clamp Fuse Holder (Wire range: #12 - #6AWG CU) - Standard Wire-box DC Termination Busbar, M10 Bolts (Wire range: #1AWG - 500kcmil CU/AL [1 termination per pole], #1AWG - 300kcmil CU/AL [2 terminations per pole], Lugs not supplied) - Centralized Wire-box Fused String Inputs 20A fuses provided (Fuse values of 15A or 20A acceptable) Certifications and Standards UL1741-SA-2016, CSA-22.2 NO.107.1-01, IEEE1547a-2014, FCC PART15 IEEE 1547a-2014, CA Rule 21, ISO-NE, HECO Rule 14H Selectable Grid Standard Smart-Grid Features Volt-RideThru, Freq-RideThru, Ramp-Rate, Specified-PF, Volt-Var, Freq-Watt, Volt-Watt Warranty Extended Terms

732.1002

Allison D. Kimball

PROFESSIONAL ENGINEER

PHOTOVOLTAIC SYSTEM DATA SHEETS

NONE

ADK 07.11.22

INVERTER DATA SHEET

SCALE: NTS

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