-		ERVICE			ICB, N		3R			LOCA ITING:	TION: BO RACK			A.I.C. TYPE:						
СКТ	DESCRIPTION	KVA	CKT	BRKR	BRAN	ICH	С	IRCUIT		OVT		DECODIE	TION	10.44	CKT	BRKR	BRA	NCH	CIR	R
	DESCRIPTION	NVA	POLE	TRIP	Ø	N	GND	C"		CKT		DESCRIP	TION	KVA	POLE	TRIP	Ø	N	GND	0
					*				a								*			
1	INV-1	125	3	175	*	_	*	*	b	2	INV-2			125	3	175	*	_	*	The state of the s
					*				С								*			COLUMN TO STATE OF THE PARTY OF
					*				a								*			Part of the last
3	INV-3	125	3	175	*	-	*	*	b	4	INV-4			125	3	175	*	-	*	
					*				С								*			
					*				a								*			
5	INV-5	125	3	175	*	_	*	*	b	6	INV-6			125	3	175	*	-	*	
					*		100		С								*			
					*			1900	a								*			
7	INV-7	125	3	175	*	_	*	*	b	8	INV-8			125	3	175	*	-	*	
					*				С								*			
					*				a								*			
9	INV-9	125	3	175	*	_	*	*	b	10	INV-10			125	3	175	*	-	*	
					*				С								*			-
					*				a								*			
11	INV-11	125	3	175	*	_	*	*	b	12	INV-12			125	3	175	*	_	*	
					*				С								*			
					*				a								*			
13	INV-13	125	3	175	*	_	*	*	b	14	INV-14			125	3	175	*	_	*	
					*				С								*			
45	Nn/ 45				*				a								*			
15	INV-15	125	3	175	*		*	*	b	16	INV-16			125	3	175	*	_	*	
					*				С								*			
47					12				a											
17	REFERENCE VOLTAGE	_	3	15	12	_	12	1	+	18	SPACE									
					12				С											
10	AUN LOAD TRANSFORME				8				a						_		6			
19	AUX LOAD TRANSFORMER	20	3	40	8	_	10	1	b	20	SURGE P	ROTECTION	DEVICE	-	3	60	6	6	6	-
		-0	10:1	/:::	8				С						/		6			
	CONNE	THE PERSONNEL PROPERTY.	CITE SALDANIAN CONTRACT	-		OCCUPATION AND REAL PROPERTY.		ØB [ØC _	(100)								
INIX	EQUIPMENT SERVED	-	KAILL		TPUT	(KW)		MAX A	00		POWER	(KVA)	REMARKS - PROVID		F WP	ITTEN	DIRE	CTORY	,	
INVERTERS MISC.				20				2000					- PROVID	DE NEU	TRAL	AND	GRO	UND E	BARS	
IVIIS	00.			2	U		+			20)		NEMAPROVID		CUIT	BRFAL	(FRS	LISTE	D FO)
							+						BACK-	FEEDIN		J \I	,0			The state of
													- 2500A - * REFI	BUS ER TO	CONI	UCTO	R SC	HEDLI	LE ON	1
													PVE-1	2 FOR	WIR	E AND	CON	VDUIT		
	CONNECTED OUTPUT:	-		00	00					000	<u> </u>			PROVIDE ARC-ENERGY REDUCTION MAINTENANCE SWITCH.						
	CONNECTED OUTPUT			20	00					200	00		- PROVID				FOF	NAIN	۷.	

PA	NEL: HP	RATING: SERVICE									TION: BOTTOM : RACK		A.I.C. TYPE:						
CKT	DESCRIPTION	KVA	CKT	BRKR	BRAN	СН	CI	RCUIT	ø	СКТ	DESCRIF	OTION	KVA	СКТ	BRKR	BRAN	ICH	CIRC	UIT
	DEGOTAL HOLE	I NVA	POLE	TRIP	Ø	N	GND	C"	Ľ	CKI	DESCRIP	TION	KVA	POLE	TRIP	Ø	N	GND	
					8				a							8			
1	TRACKER MOTOR 1	2.5	3	15	8	_	8	1	b	2	TRACKER MOTOR	2	2.5	3	15	8	-	8	
					8				С							8			
					8				a		SPACE								
3	TRACKER MOTOR 2	2.5	3	15	8	-	8	1	b	4	AUX LOAD TRANSF	ORMER	15	2	40	8	-	10	
					8				С							8			
	SPACE								a										
	SPACE								b	6	MAIN CIRCUIT BRE	AKER	-	3	45				
	SPACE								С										
	(CONNECTED	LOA) (KV	A) ØA			øB [ØC								
	EQUIPMENT SERVED			CON	NECTE	D LOAD		LF	DF		DEMAND LOAD	REMARKS	:						
TRACKER MOTORS 7.5							1.0	0	75 - PRO		PROVIDE TYPE WRITTEN DIRECTORY PROVIDE NEUTRAL AND GROUND BARS								
MISC.					15						15	- PROVII		JIKAL	AND	GROU	JND F	BARS	
								TOTA	L K	/A:	22.5								
									AMF	95.	27								

PANEL: PC RATING: 80A MCB, NEMA 3R SERVICE: 120/240V, 1ø, 3W									LOCA	ATION: BOTTOM : RACK		A.I.C. : 22KAIC TYPE: TBD							
CKT	DESCRIPTION	KVA	The second second	BRKR	BRAN		CI	RCUIT	I	СКТ	DECODIE	TION		Name and Address of the Owner, where	BRKR	BRAN	ICH	CIRCI	JIT
0111	DESCRIPTION	NVA	POLE	TRIP	Ø	N	GND	C"	Ø	CKI	DESCRIP	TION	KVA	POLE	TRIP	Ø	IN	CND	
1	DAS	0.7	1	20	12	12	12	1	a	2	SWITCHGEAR HEATE	ER .	2.0	1	20	4	4	4	1
3	TRACKER CONTROLLERS	0.7	1	20	12	12	12	1	b	4(SPACE								
5	MIANT. RECEPTACLE	0.36	1	20	12	12	12	1	a	6/	SPACE								
7	SPARE		1	20					b	8	SPACE			†					
9	SPARE		1	20					a	10	SPACE								
11	SPACE								b	12	SPACE								
13	SPACE								a	14	SPACE		~						~
15	SPACE								b	16	SPACE								
17	SPACE								a	18	SPACE								
19	SPACE								b	20	SPACE								
21	SPACE								a	22	MAIN CIRCUIT BREA	AKER	_	2	80				
23	SPACE								b	24									
	C	ONNECTED	LOA) (KV	(A) ØA			ØB [ØC								
	EQUIPMENT SERVED			COI	NNECTE	D LOAI		LF	DF	T	DEMAND LOAD	REMARKS:							
HEATERS					2.0)			1.0		2.0	- PROVIDE TYPE WRITTEN DIRECTORY							
MISC.				1.8						\exists	1.8	PROVIDE NEUTRAL AND GROUND BARS NEMA 3R							
													- '						
										1									
								TOTA	AL K	/A:	3.8								
									AMF	-	16								

RECEIVED

JUN 3 0 2023 LICENSES & PERMITS DIVISION

REV# DATE REVISION - 11-04-22 ISSUED FOR PERMITTING - 02-23-23 ISSUED FOR CONSTRUCTION	DATE 11-04-22 02-23-23
*	2651 EAU GALLIE BLVD, SUITE A MELBOURNE, FL 32935 TEL. 321,253.1221 WWW.CEGENGINEERING.COM
	2651 EAU GALLIE BLVD, SUITE A MELBOURNE, FL 32935 TEL. 321.253.1221 WWW.CEGENGINEERING.COM
	2651 EAL

TEN OAKS SOLAR

NEW PHOTOVOLTAIC SYSTEN

6160 Ten Oaks Rd, Clarksville, MD 21029

DRAWING TITLE

SCHEDULES

ENGINEER OF RECORD

ENGINEER OF MARYLAND

PROFESSIONAL ENGINEER

PROFESSIONAL ENGINEER
NO. 42678

I HEREBY CERTIFY THAT THESE DOCUMENTS
WERE PREPARED OR APPROVED BY ME,
AND THAT I AM A DULY LICENSED
PROFESSIONAL ENGINEER UNDER THE LAWS
OF THE STATE OF MARYLAND, LICENSE NO.
42678, EXPIRATION DATE: 2024—09—12.

DATE: 11-04-22 SCALE:

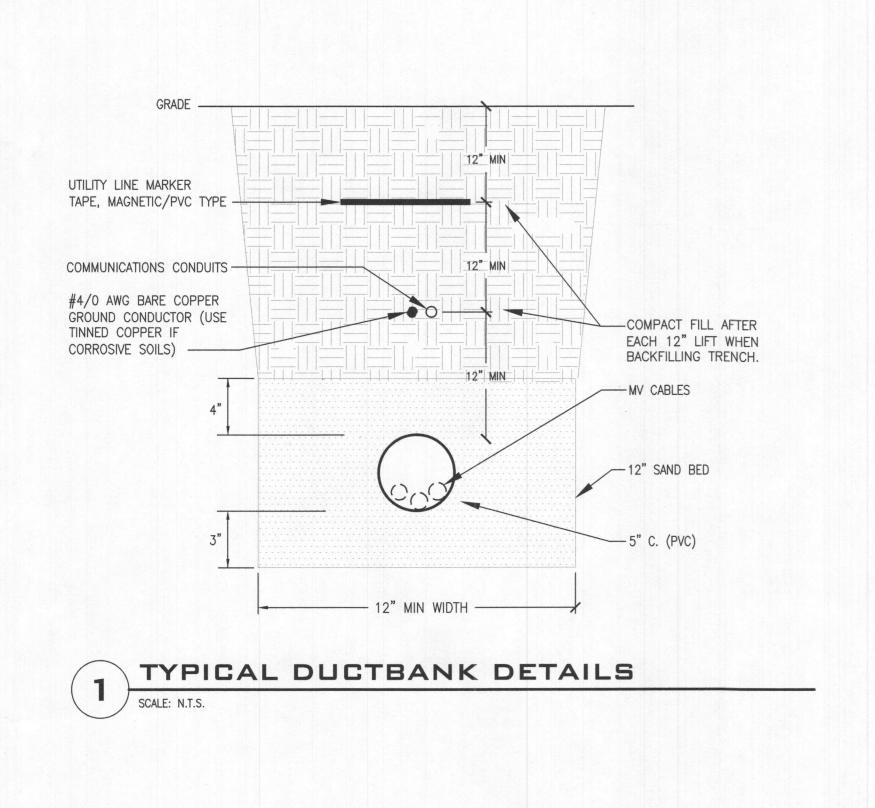
AS NOTED
PROJ. NO. :
220214

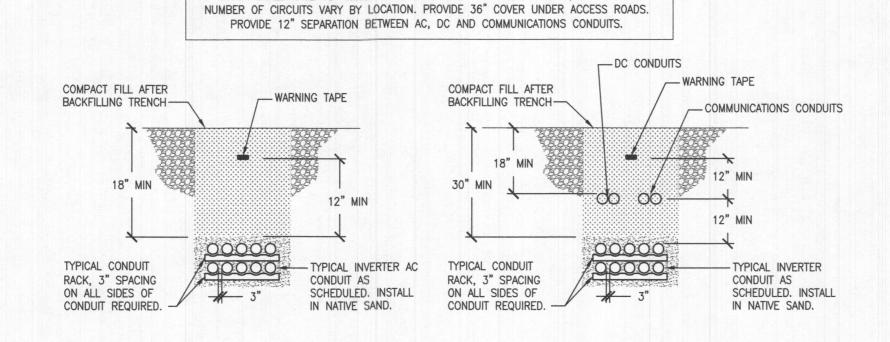
DESIGNED BY: JNH

DRAWN BY: JNH

CHECKED BY:
DEA
DRAWING NO.:

PVE-4.2





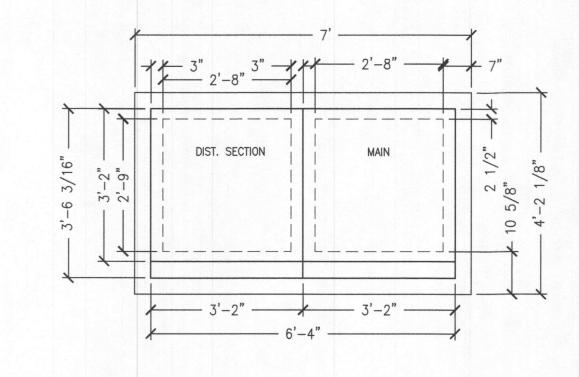
TYPICAL TRENCH DETAILS

SCALE: NTS

DRY DENSITY.

SCALE: 1/8" = 1'-0"

600V SHALL HAVE 18" MINIMUM COVERAGE PER NEC TABLE 300.5, COLUMN 3. 1000V SHALL HAVE 18" MINIMUM COVERAGE PER NEC TABLE 300.50, COLUMN 2.

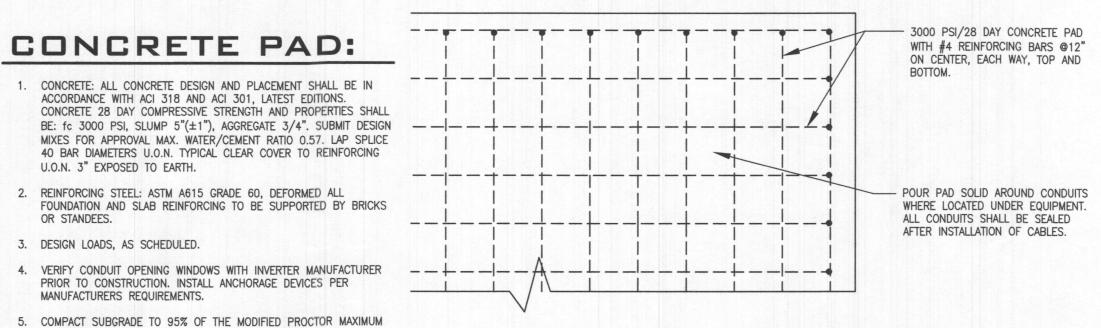


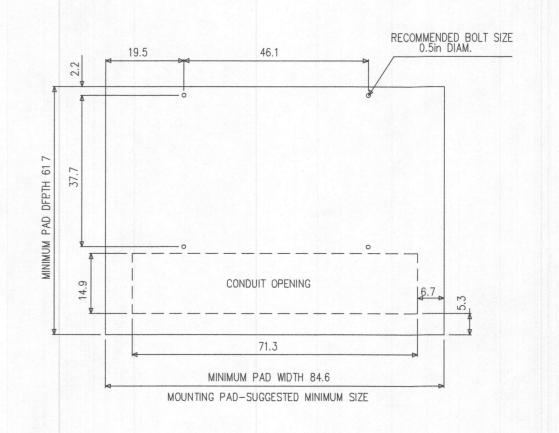
SWITCHBOARD PAD CUTOUT DIMENSIONS 3 SCALE 1/2" = 1'-0"

- 6" COMPACTED GRAVEL LAYER, 3000 PSI/28 DAY CONCRETE PAD WITH #4 REINFORCING BARS @12" SLOPE TO GRADE WITH NO MORE THAN 8:1 SLOPE ON CENTER, EACH WAY, TOP AND - COMPACTED SUBGRADE GRAVEL LAYER

TYPICAL CONCRETE PAD SECTION

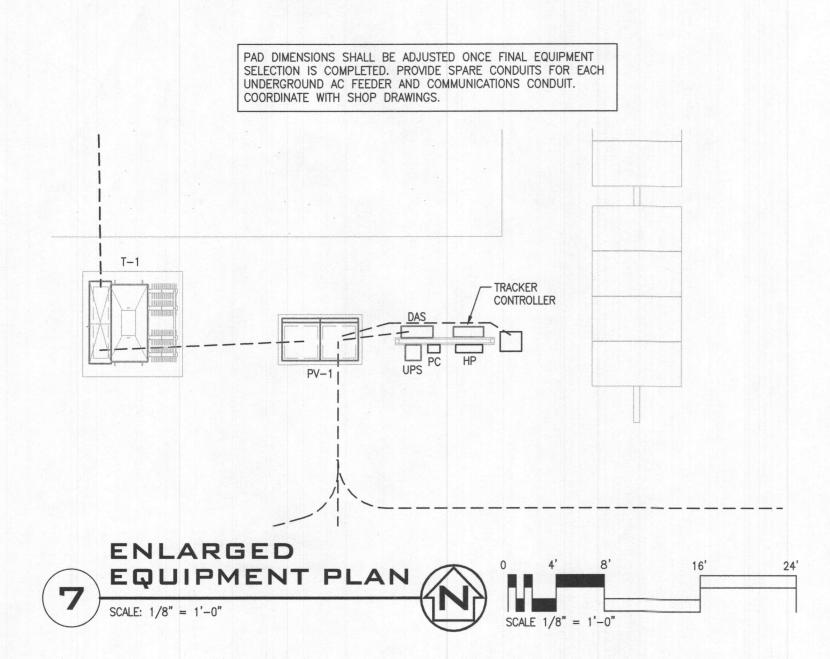
SCALE: 1/2" = 1'-0"

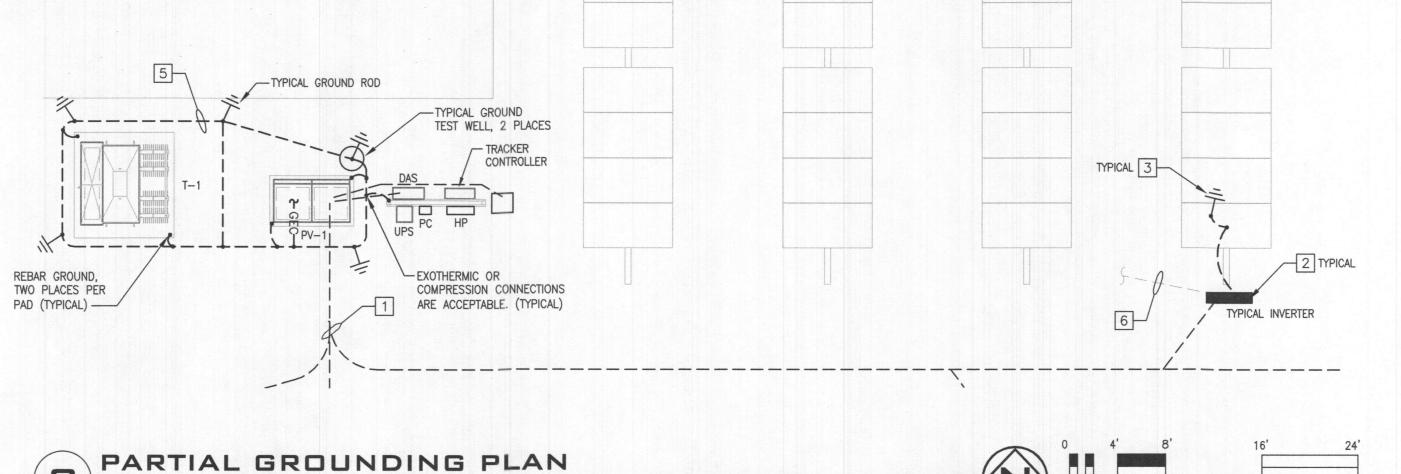




TYPICAL CONCRETE PAD PLAN







GROUNDING NOTES:

- 1. EQUIPMENT GROUNDING CONDUCTOR RUN WITH EACH INVERTER OUTPUT CIRCUIT FROM INVERTER TO AC CONSOLIDATION PANEL AS SCHEDULED. (NOT ALL SHOWN.)
- 2. BOND #6 INSULATED COPPER FROM INVERTER EQUIPMENT GROUNDING TERMINAL TO NEW LAY IN TYPE GROUND LUG AT MODULE RACKING STRUCTURE COLUMN AND INVERTER RACKING STRUCTURE COLUMN.
- 3. BOND #6 INSULATED COPPER FROM RACKING SUPPORT COLUMN TO SUPPLEMENTAL GROUND ROD WITH LAY IN TYPE LUG. MINIMUM ONE GROUND ROD PER RACKING SUB-ARRAY.
- 4. BOND NON-CONTINUOUS RACKS WITH #6 GROUNDING STRAPS TO ENSURE ALL RACKS WITHIN ROW ARE ADEQUATELY BONDED.
- 5. BURIED #4/O AWG BARE CU GROUNDING ELECTRODE CONDUCTOR. GROUND RING SHALL ENCIRCLE THE EQUIPMENT PAD
- BURIED 18" BELOW GRADE.
- 6. ROUTE #6 CU EGC IN EACH DC JUMPER RACEWAY AND BOND INVERTER SUPPORT STRUCTURES AND MODULE RACKING

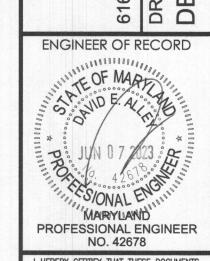
STRUCTURES TO FORM A CONTINUOUSLY GROUNDED SYSTEM.

JUN 3 0 2023

LICENSES & PERMITS

CONSTRUCTION ENGINEERING GROUP

TEN OAKS SOL/
/ PHOTOVOLTAIC (



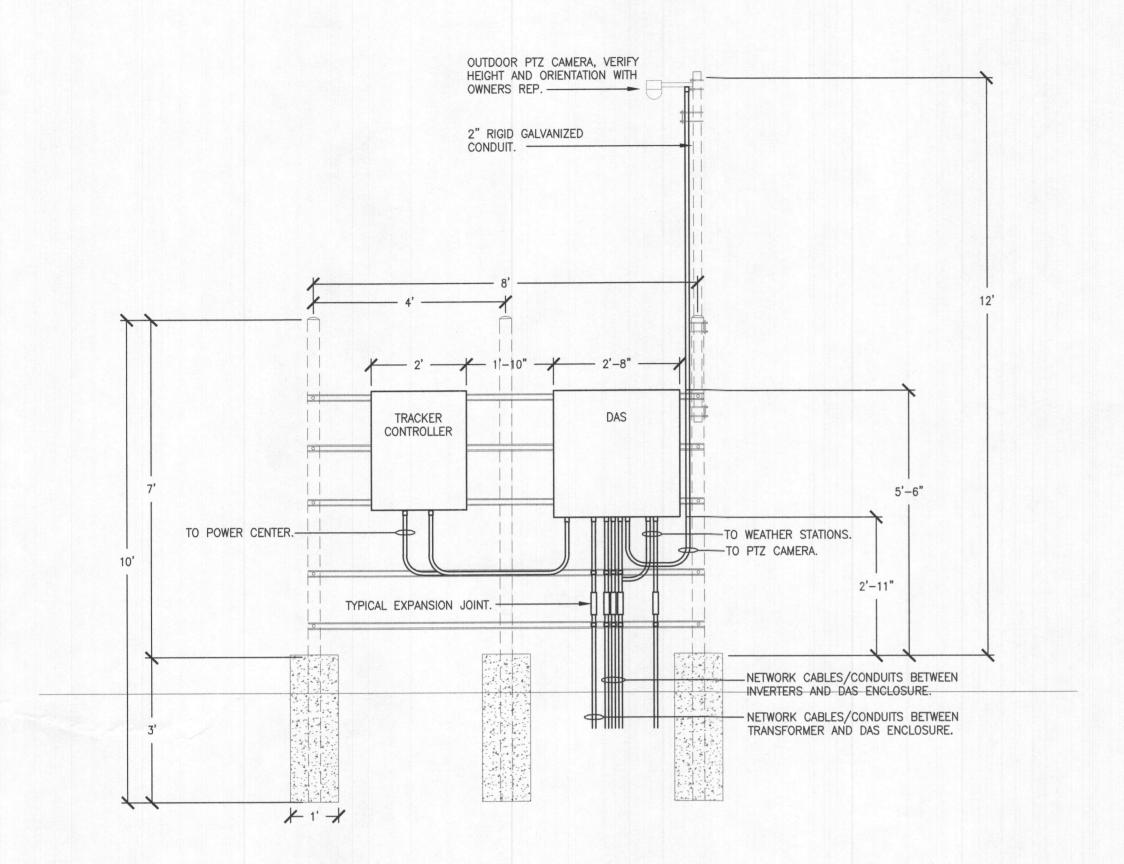
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42678, EXPIRATION DATE: 2024-09-12.

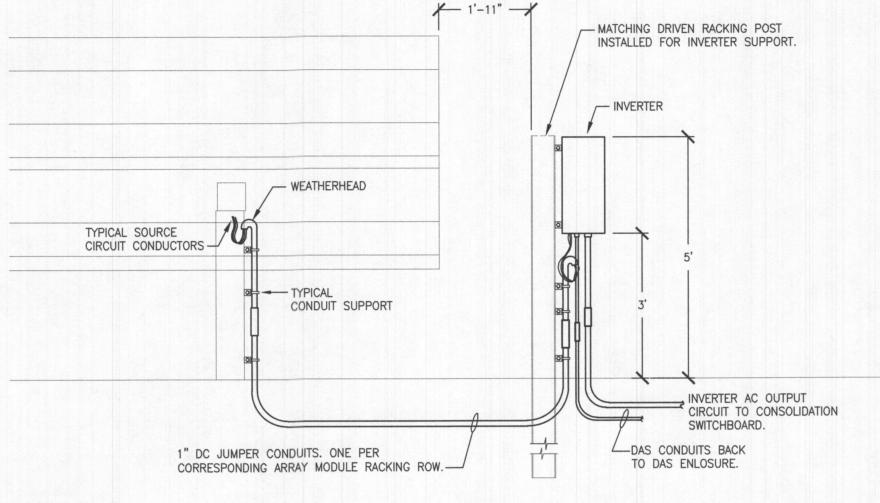
11-04-22 SCALE: AS NOTED

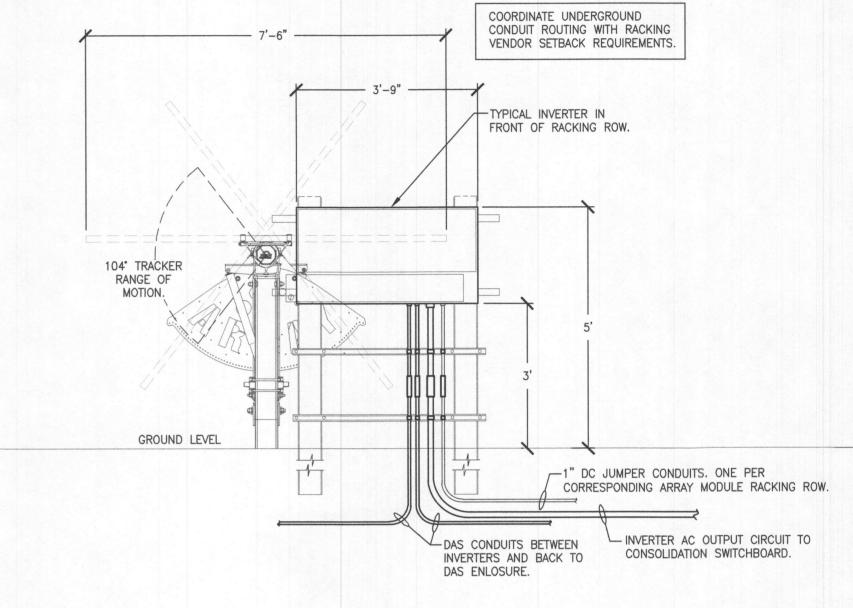
PROJ. NO. 220214 DESIGNED BY: JNH

DRAWN BY: JNH CHECKED BY: DEA

DRAWING NO .:





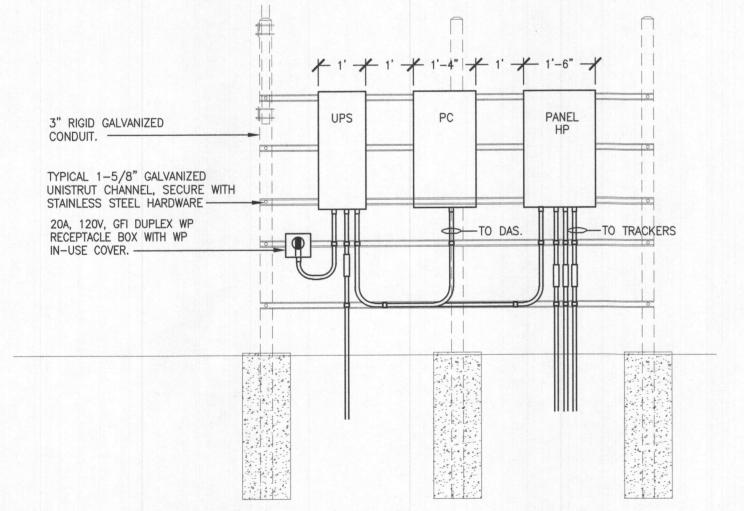




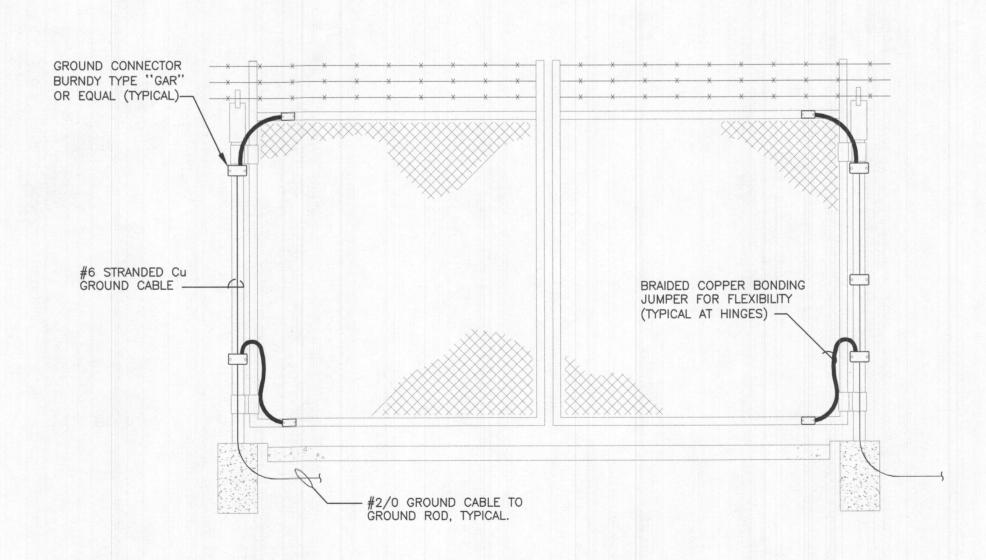
SCALE: 1/2" = 1'-0"









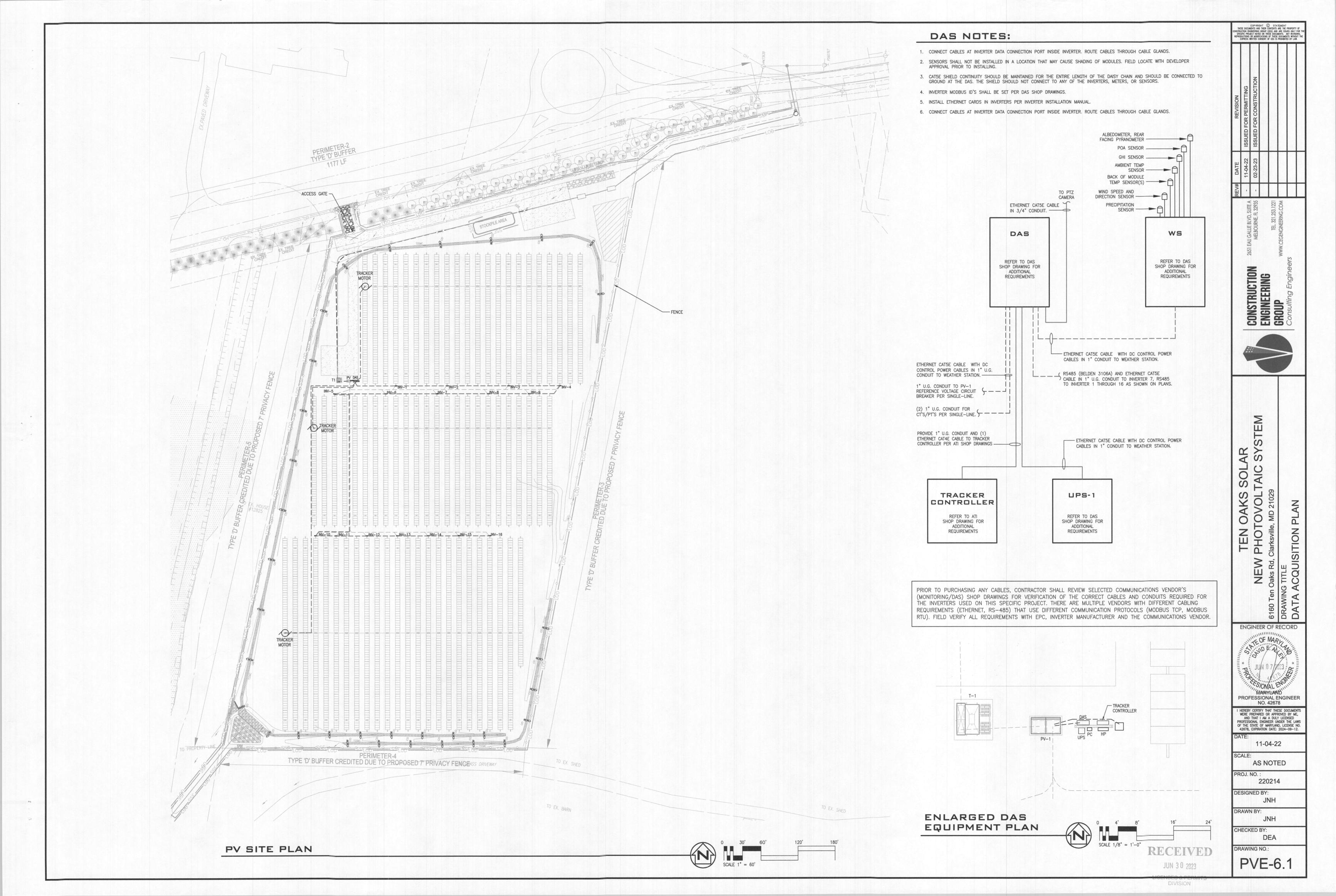


	GATE	GROUNDING	DETAILS	
)	SCALE: NONE			

DRAWING NO.: JUN 3 0 2023 **PVE-5.2** LICENSES & PERMITS DIVISION

RECEIVED

CONSTRUCTION ENGINEERING GROUP TEN OAKS SOLA
PHOTOVOLTAIC (
Clarksville, MD 21029 ENGINEER OF RECORD MARYLAND PROFESSIONAL ENGINEER NO. 42678 I HEREBY CERTIFY THAT THESE DOCUMENTS
WERE PREPARED OR APPROVED BY ME,
AND THAT I AM A DULY LICENSED
PROFESSIONAL ENGINEER UNDER THE LAWS
OF THE STATE OF MARYLAND, LICENSE NO.
42678, EXPIRATION DATE: 2024-09-12. 11-04-22 SCALE: AS NOTED PROJ. NO.: 220214 DESIGNED BY: JNH DRAWN BY: JNH CHECKED BY: DEA



INV-#

125KW PV INVERTER

MAX AC OUTPUT CURRENT: 120.3A NOMINAL AC VOLTAGE: 600/346V

RATED MAX POWER-POINT CURRENT: 141A RATED MAX POWER-POINT VOLTAGE: 1124V MAXIMUM SYSTEM VOLTAGE: 1124V MAXIMUM CIRCUIT CURRENT: 187A



INV-#

125KW PV INVERTER

MAX AC OUTPUT CURRENT: 120.3A

MAXIMUM CIRCUIT CURRENT: 170A

NOMINAL AC VOLTAGE: 600/346V RATED MAX POWER-POINT CURRENT: 129A RATED MAX POWER-POINT VOLTAGE: 1124V MAXIMUM SYSTEM VOLTAGE: 1124V

B PHENOLIC LABEL 13 REQUIRED ONE PER 10 STRING INVERTER

PV-1

PHOTOVOLTAIC 2500A AC SWITCHBOARD

MAX AC OPERATING CURRENT: 1925A NOMINAL AC VOLTAGE: 600/346V

FED FROM TRANSFORMER T-1 AND **INVERTERS INV-1 THROUGH INV-16**

C PHENOLIC LABEL ONE FOR AC SWITCHBOARD

HP

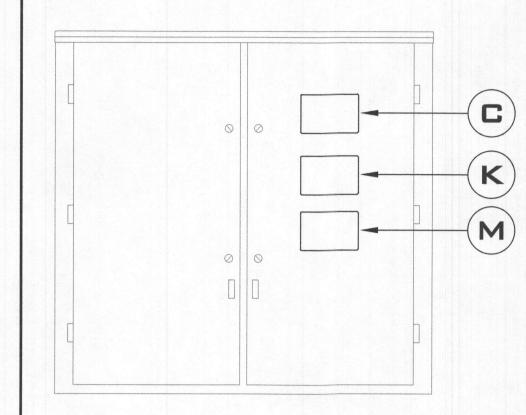
HOUSE PANEL

NOMINAL AC VOLTAGE: 120/240V

FED FROM AC CONSOLIDATION SWITCHBOARD PV-1

PHENOLIC LABEL 1 REQUIRED

SCALE: 1" = 1"



GENERAL NOTES:

ACCORDANCE WITH THE NEC AND ANSI Z535.4-2011.

LABELS AND MARKINGS SHALL BE APPLIED TO ALL APPROPRIATE COMPONENTS IN

SOLAR MODULES AND INVERTER(S) ARE SUPPLIED FROM THE MANUFACTURER WITH

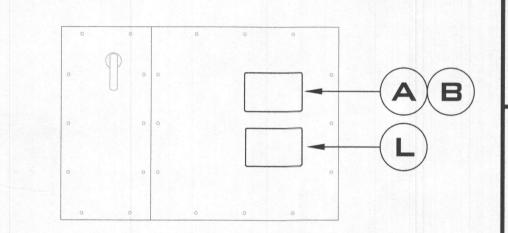
ADJUST AND REPLACE "#" ON LABELS PER LABEL DESCRIPTIONS AND MATCHING THE SINGLE LINE DIAGRAM ON PVE-4.1. EXAMPLE, REPLACE INV-# WITH INV-1. . LOCATE FENCE SIGNAGE AT GATE AND ALONG FENCE PER NESC RULE 110A1.

LABELS AND MARKINGS SHALL BE PERMANENTLY AFFIXED IN CONSPICUOUS SPACES TO THE APPROPRIATE EQUIPMENT ENCLOSURES, RACEWAYS AND/OR WIRING METHODS AND BE OF

SUPPLEMENTAL MARKINGS PRE-APPLIED TO MEET ADDITIONAL REQUIREMENTS OF THE NEC

SWBD LABELING

SCALE: NONE



INVERTER LABELING

SCALE: NONE

PRIMARY VOLTAGE: 7.62/13.2KV SECONDARY VOLTAGE: 600/346V RATING: 2200KVA

PHENOLIC LABEL

DATA ACQUISITION SYSTEM

H PHENOLIC LABEL

WS-#

WEATHER STATION

ONE PER WEATHER STATION

PHENOLIC LABEL PLACE ON EACH END OF ALL ROWS

ROW #

WARNING

PV POWER SOURCE TURN OFF PHOTOVOLTAIC AC DISCONNECT PRIOR TO WORKING INSIDE ENCLOSURE

ONE FOR MV TRANSFORMER

SCALE: 1" = 1"

SCALE: 1" = 1" ONE PER AC CONSOLIDATION SWITCHBOARD

1 CAUTION

PHOTOVOLTAIC SYSTEM CIRCUITS ARE BACKFED

LABEL SCALE: 1" = 1"

16 REQUIRED ONE PER INVERTER

REFER TO NFPA 70E FOR MINIMUM PPE REQUIREMENTS.

DATE ISSUED: 10-18-2022

ARC FLASH AND SHOCK HAZARD APPROPRIATE PPE REQUIRED

DO NOT TOUCH TERMINALS. TERMINALS ON BOTH THE LINE AND LOAD SIDES MAY BE **ENERGIZED IN THE OPEN POSITION**

DATE ISSUED: 10-18-2022

DO NOT OPERATE CONTROLS OR OPEN COVERS WITHOUT APPROPRIATE PERSONAL PROTECTION EQUIPMENT. TURN OFF PHOTOVOLTAIC AC DISCONNECT PRIOR TO WORKING INSIDE NCLOSURE. FAILURE TO COMPLY MAY RESULT II

SERIOUS INJURY OR DEATH! REFER TO NFPA 70E FOR MINIMUM PPE REQUIREMENTS.

M LABEL

SCALE: 1" = 1"

ONE PER AC SWBD & HOUSE PANEL

!DANGER

HIGH VOLTAGE KEEP OUT

AUTHORIZED PERSONNEL ONLY

PRINTED ALUMINUM SIGN SCALE: 1" = 2"

& EVERY 200' ALONG FENCE

AT EACH GATE

RECEIVED JUN 3 0 2023 LICENSES & PERMITS

NEW PHOTOVOLTAIC SOAKS SOLA ENGINEER OF RECORD PROFESSIONAL ENGINEER NO. 42678 I HEREBY CERTIFY THAT THESE DOCUMENTS
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AND THAT I AM A DULY LICENSED
PROFESSIONAL ENGINEER UNDER THE LAWS
OF THE STATE OF MARYLAND, LICENSE NO.
42678, EXPIRATION DATE: 2024—09—12.

CONSTRUCTION
ENGINEERING
GROUP

11-04-22

AS NOTED

220214 **DESIGNED BY:**

CHECKED BY:

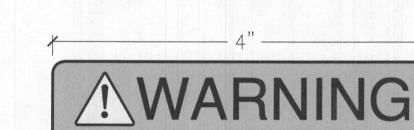
DRAWING NO.:

PVE-7.1 DIVISION

DAS COMMUNICATIONS ENCLOSURE DATA ACQUISITION SYSTEM ONE FOR DAS ENCLOSURE

UNINTERRUPTIBLE POWER SUPPLY

G PHENOLIC LABEL ONE PER UPS



ARC FLASH AND SHOCK HAZARD

APPROPRIATE PPE REQUIRED

IF A GROUND FAULT IS INDICATED

NORMALLY GROUNDED CONDUCTORS

MAY BE UNGROUNDED AND ENERGIZED

FLASH HAZARD BOUNDARY: 18 in

HAZARD RISK CATEGORY: 3

RADIANT ENERGY AT 18 INCHES: 10.2 cal/cm2

ARC FLASH BOUNDARY: 52.8 in

MAX SYSTEM VOLTAGE: 1369V