

# SYSTEM-1 (2.4 KW DC)

METER NO: # 8069993

SYSTEM-1 PLANSET AND ALL OTHER  
DETAILS PROVIDED ON PV-1.0, PV-2.0,  
PV-3.0, PV-4.0, PV-5.0 & PV-6.0

PROPOSED SYSTEM-1 SPECIFICATION	
SYSTEM SIZE DC	2.4 KWP
SYSTEM SIZE AC	@300 VA PEAK POWER = 1.8 KWP
SYSTEM SIZE AC	@290 VA MAX. CONT. POWER = 1.74 KWP
MODULES USED	(6)HYPERION HY-DH108P8 400WP
INVERTER USED	(6)ENPHASE IQ8PLUS-72-2-US
BRANCH CIRCUIT	1 CIRCUIT OF 6 MODULES
RACKING	ECOFASTEN ROCKIT + DECKMOUNTS

ELECTRICAL SPECIFICATION- SYSTEM-1	
SERVICE PANEL	100A MCB WITH 125A BUSBAR
INTERCONNECTION	PV BACKFEED BREAKER
PV OCPD	20A BREAKER

ARRAY SPECIFICATION-SYSTEM-1			
ROOF NO.	TILT	AZIMUTH	QTY
1	32°	131°	6

# SYSTEM-2 (3.2 KW DC)

METER NO: # 126739755

SYSTEM-1 PLANSET AND ALL OTHER  
DETAILS PROVIDED ON PV-1.1, PV-2.1,  
PV-3.0, PV-4.1, PV-5.1 & PV-6.1

PROPOSED SYSTEM-2 SPECIFICATION	
SYSTEM SIZE DC	3.2 KWP
SYSTEM SIZE AC	@300 VA PEAK POWER = 2.4 KWP
SYSTEM SIZE AC	@290 VA MAX. CONT. POWER = 2.32 KWP
MODULES USED	(8)HYPERION HY-DH108P8 400WP
INVERTER USED	(8)ENPHASE IQ8PLUS-72-2-US
BRANCH CIRCUIT	1 CIRCUIT OF 8 MODULES
RACKING	ECOFASTEN ROCKIT + DECKMOUNTS

ELECTRICAL SPECIFICATION- SYSTEM-2	
SERVICE PANEL	100A MCB WITH 125A BUSBAR
INTERCONNECTION	PV BACKFEED BREAKER
PV OCPD	20A BREAKER

ARRAY SPECIFICATION-SYSTEM-2			
ROOF NO.	TILT	AZIMUTH	QTY
2	32°	311°	8



Wysysling Consulting, P.L.L.C.  
76 N. Mendhambrook, Drive Alpha LIT 84004  
New Jersey COA 24CA28352000  
Signed 1/10/2023



PROJECT NAME & ADDRESS

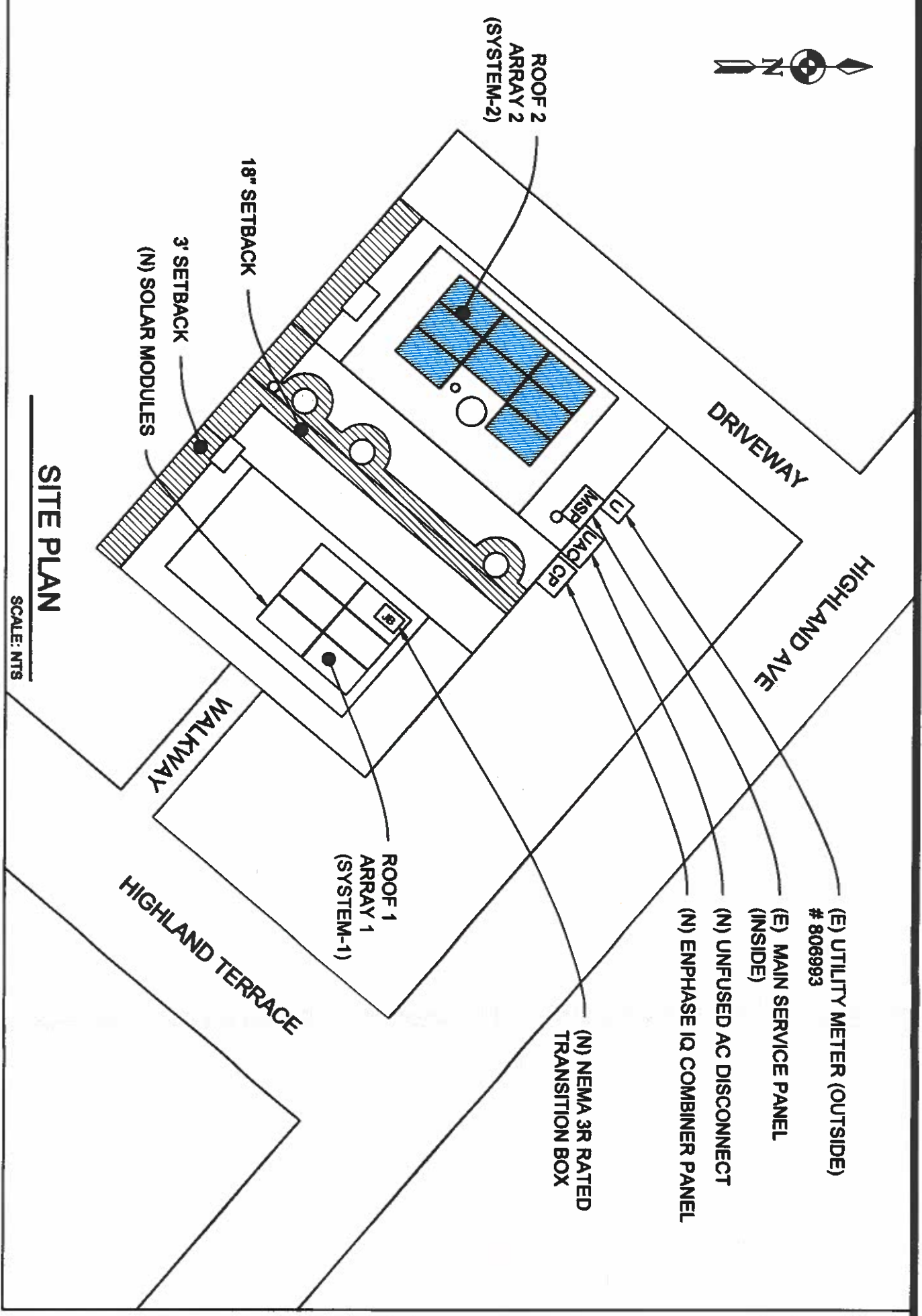
Alexandra Ramirez / Alberto Pena  
System-1: 391 Highland Ter  
Orange City, NJ, 07050  
(Lat, Long: 40.765844, 40.765844)  
System-2: 391 Highland Ter Fl 2  
Orange City, NJ, 07050  
(Lat, Long: 40.765844, 40.765844)

2137 Route 35  
Holmdel, NJ 07733  
Tel:(732) 979-2400  
Fax: (732) 979-2401

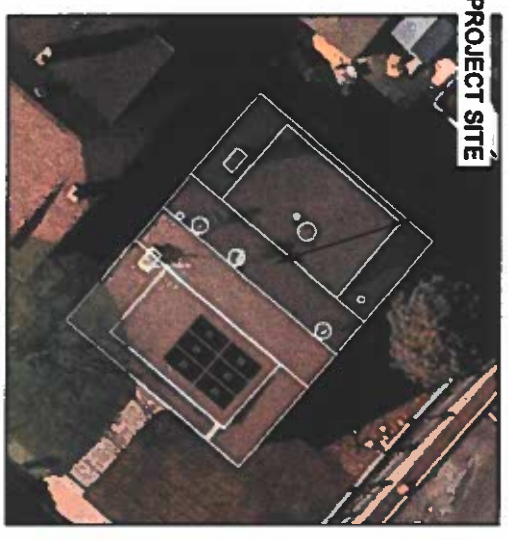
Signature with Seal

REVISIONS				
REV	DESCRIPTION	DATE	DRW BY	REV BY
1.1	MODULE CHANGED TO HYPERION 400W AND CODES UPDATED	12/22/2022	VIKAS	PARRISH

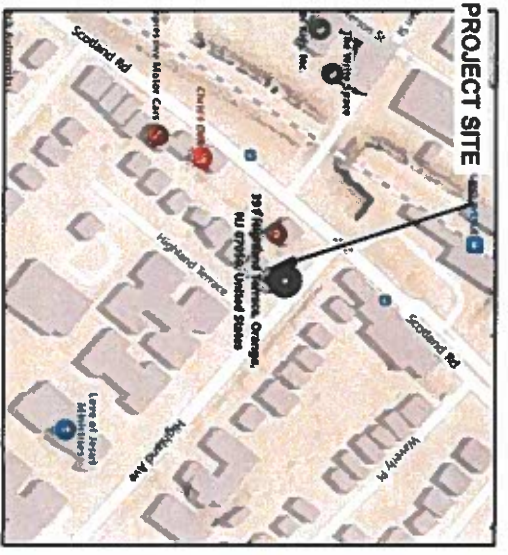
DATE DRAWN	08-28-2022
DRAWN BY	NIKHIL
REVIEWED BY	SHAMNIKA
SHEET NAME	COVER PAGE
SHEET NO.	PV-0.0



**SITE PLAN**  
SCALE: NTS



**SITE MAP**  
SCALE: NTS



**VICINITY MAP**  
SCALE: NTS

**PROPOSED SYSTEM-1 SPECIFICATION**

SYSTEM SIZE DC	2.4 KWP
SYSTEM SIZE AC	@300 VA PEAK POWER = 1.8 KWP
SYSTEM SIZE AC	@290 VA MAX. CONT. POWER = 1.74 KWP
MODULES USED	(6) HYPERION HY-DH108P8 400WP
INVERTER USED	(0) ENPHASE IQ8PLUS-72-2-US
BRANCH CIRCUIT	1 CIRCUIT OF 8 MODULES
RACKING	ECOFASTEN ROCKIT + DECKMOUNTS

**ELECTRICAL SPECIFICATION- SYSTEM-1**

SERVICE PANEL	100A MCB WITH 125A BUSBAR
INTERCONNECTION	PV BACKFEED BREAKER
PV OCPD	20A BREAKER

**ROOF SPECIFICATION**

ROOF TYPE	COMPOSITE SHINGLE
ROOF CONDITION	GOOD
RE-ROOFING	NOT REQUIRED
RAFTERS	2"x6" @ 16" O.C.
SHEATHING	SKIP SHEATHING

**ARRAY SPECIFICATION-SYSTEM-1**

ROOF NO.	1	TILT	32°	AZIMUTH	131°	QTY	6
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**ROOF COVERAGE AREA CALCULATION**

TOTAL AREA OF ROOF	1928.37 SQ. FT
TOTAL AREA OF ARRAY	294.27 SQ. FT
PERCENTAGE OF TOTAL ARRAY AREA OCCUPIED ON ROOF	15.28%

NOTE : PROVIDING ARRAYS TAKE LESS THAN 33% OF TOTAL ROOF AREA, WHEN THE ARRAYS TAKE LESS THAN 33% WE CAN JUSTIFY 18" SETBACKS FROM RIDGE

**REFERENCE CODES**

ELECTRICAL CODE	IRC-2021-WAU EDITION
BUILDING USAGE	NEC-2020
CONSTRUCTION	R - RESIDENTIAL
	5-B UNPROTECTED

**WIND EXPOSURE CATEGORY**

WIND SPEED	120 MPH
SNOWLOAD	30 LB/SQ.FT.

**TABLE OF CONTENT**

NO.	TITLE
PV-1.0	SITE PLAN (SYSTEM-1)
PV-1.1	SITE PLAN (SYSTEM-2)
PV-2.0	ARRAY LAYOUT (SYSTEM-1)
PV-2.1	ARRAY LAYOUT (SYSTEM-2)
PV-3.0	STRUCTURAL
PV-4.0	ELECTRICAL LINE DIAGRAM (SYSTEM-1)
PV-4.1	ELECTRICAL LINE DIAGRAM (SYSTEM-2)
PV-5.0	ELECTRICAL CALCULATIONS (SYSTEM-1)
PV-5.1	ELECTRICAL CALCULATIONS (SYSTEM-2)
PV-6.0	LABELS (SYSTEM-1)
PV-6.1	LABELS (SYSTEM-2)
ATTACHMENT	DATASHEETS

**STATE OF NEW JERSEY**  
**SCOTT B. SCOTT**  
 11996  
**PROFESSIONAL ENGINEER**  
 WYSTLING CONSULTING, P.L.L.C.  
 76 N. Meadowbrook Drive Alpine UT 84004  
 New Jersey COA 24CA28352000  
 Signed 1/10/2023

**Suntuity**

2137 Route 35  
 Holmdel, NJ 07733  
 Tel: (732) 979-2400  
 Fax: (732) 979-2401

Alexandra Ramirez / Alberto Pena

System-1: 391 Highland Ter  
 Orange City, NJ, 07050  
 (Lat, Long: 40.765844, 40.765844)

System-2: 391 Highland Ter Fl 2  
 Orange City, NJ, 07050  
 (Lat, Long: 40.765844, 40.765844)

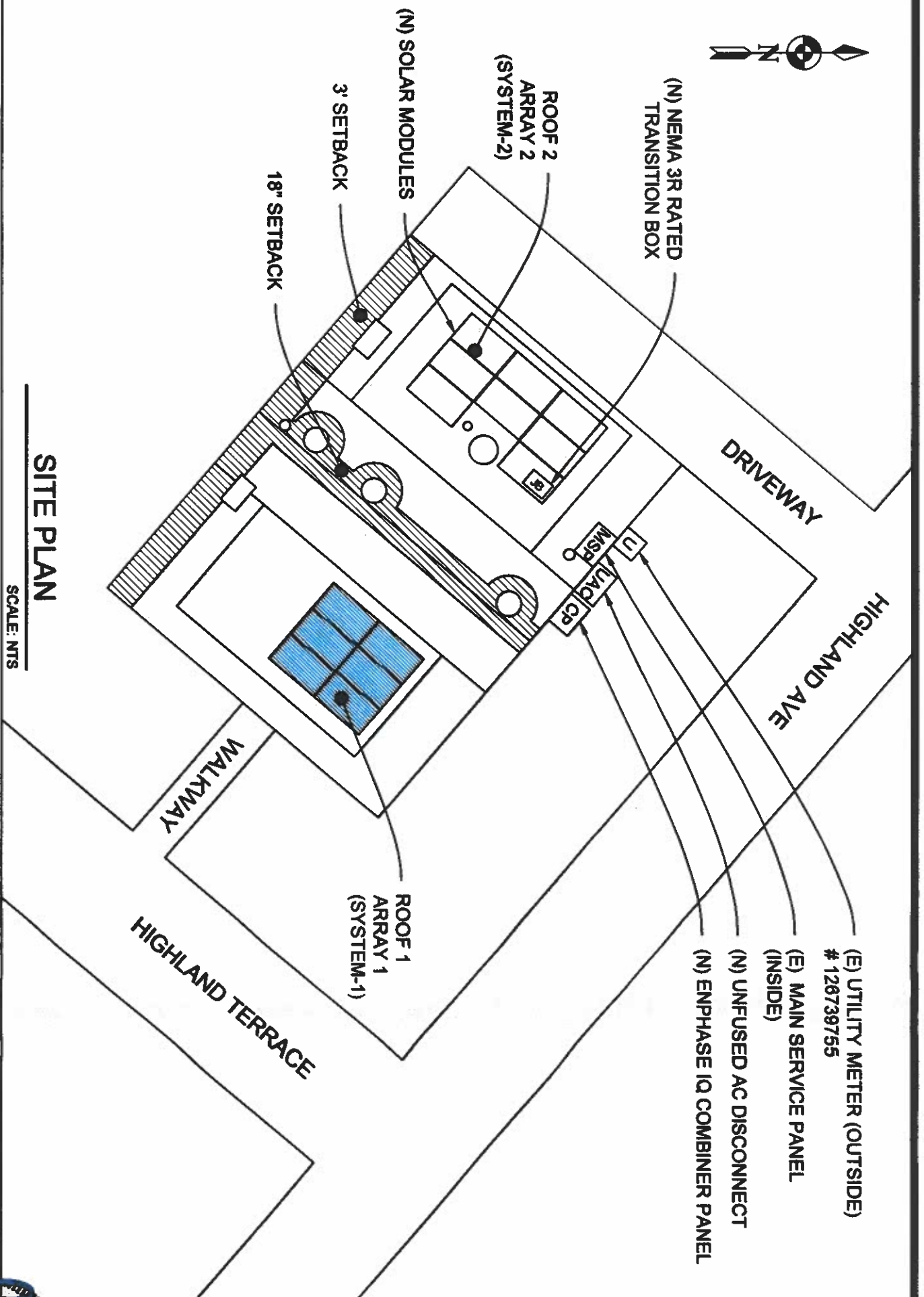
Signature with Seal

**REVISIONS**

REV	DESCRIPTION	DATE	DRW BY	REV BY
1.1	MODULE CHANGED TO HYPERION 400W AND CODES UPDATED	12/22/2022	VKAS	PARKSHIT

DATE DRAWN	09-26-2022
DRAWN BY	NIKHIL
REVIEWED BY	SHAMNIKA
SHEET NAME	87E-PLAN (SYSTEM-1)
SHEET NO.	PV-1.0





**SITE PLAN**

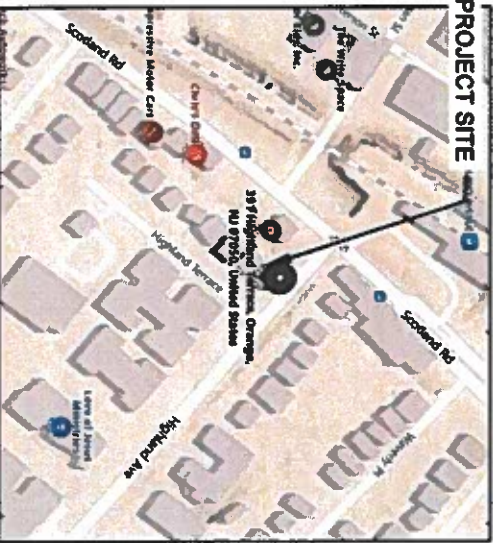
SCALE: NTS



**PROJECT SITE**

**SITE MAP**

SCALE: NTS



**PROJECT SITE**

**VICINITY MAP**

SCALE: NTS

- (E) UTILITY METER (OUTSIDE)  
# 126739755
- (E) MAIN SERVICE PANEL (INSIDE)
- (N) UNFUSED AC DISCONNECT
- (N) ENPHASE IQ COMBINER PANEL

**PROPOSED SYSTEM-2 SPECIFICATION**

SYSTEM SIZE DC	3.2 KWP
SYSTEM SIZE AC	@300 VA PEAK POWER = 2.4 KWP
SYSTEM SIZE AC	@280 VA MAX. CONT. POWER = 2.32 KWP
MODULES USED	(8)HYPERION HY-DH108P8 400WP
INVERTER USED	(8)ENPHASE IQ8PLUS-72-2-US
BRANCH CIRCUIT	1 CIRCUIT OF 8 MODULES
PACKING	ECOFASTEN ROCKIT + DECKMOUNTS

**ELECTRICAL SPECIFICATION- SYSTEM-2**

SERVICE PANEL	100A MCB WITH 125A BUSBAR
INTERCONNECTION	PV BACKFEED BREAKER
PV OCPD	20A BREAKER

**ROOF SPECIFICATION**

ROOF TYPE	COMPOSITE SHINGLE
ROOF CONDITION	GOOD
RE-ROOFING	NOT REQUIRED
RAFTERS	2"x6" @ 16" O.C.
SHEATHING	SKIP SHEATHING

**ARRAY SPECIFICATION-SYSTEM-2**

ROOF NO.	2
TILT	32°
AZIMUTH	311°
QTY	8

**ROOF COVERAGE AREA CALCULATION**

TOTAL AREA OF ROOF	1928.37 SQ. FT
TOTAL AREA OF ARRAY	294.27 SQ. FT
PERCENTAGE OF TOTAL ARRAY AREA OCCUPIED ON ROOF	15.28%

NOTE : PROVIDING ARRAYS TAKE LESS THAN 33% OF TOTAL ROOF AREA, WHEN THE ARRAYS TAKE LESS THAN 33% WE CAN JUSTIFY 18" SETBACKS FROM RIDGE



Wystling Consulting, P.I.I.C.  
76 N. Mendonbrook Drive Alpine UT 84004  
New Jersey COA 24CA28352000  
Signed 1/10/2023

REFERENCE CODES	IRC-2021-WNJ EDITION
ELECTRICAL CODE	NEC-2020
BUILDING USAGE	R - RESIDENTIAL
CONSTRUCTION	5-B UNPROTECTED
WIND EXPOSURE CATEGORY	B
WIND SPEED	120 MPH
SNOW LOAD	30 LBS/SQ.FT.

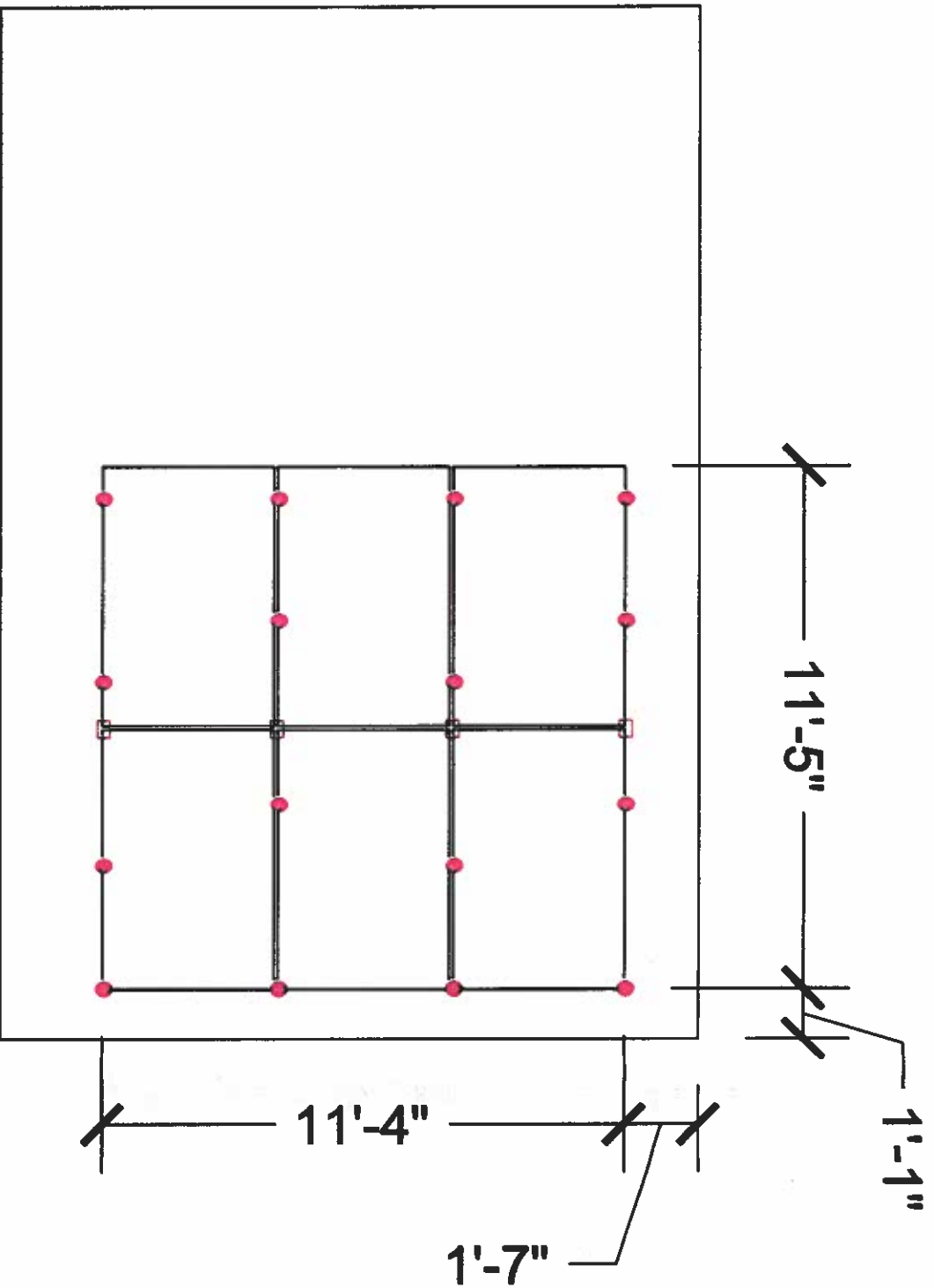
2137 Route 35  
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**Alexandra Ramirez / Alberto Pena**  
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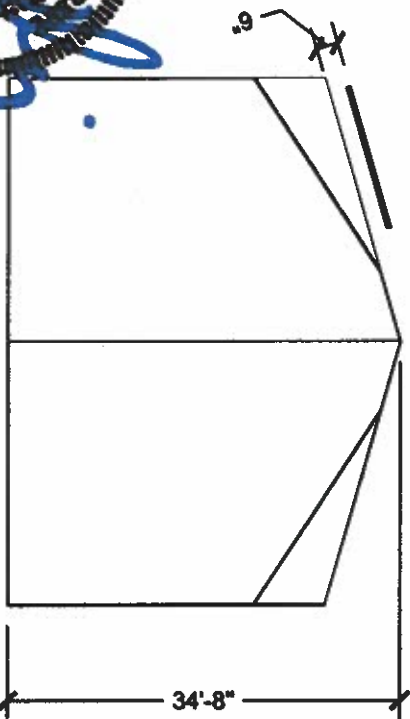
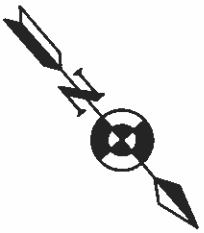
Signature with Seal

REV	DESCRIPTION	DATE	DRW BY	REV BY
1.1	MODULE CHANGED TO HYPERION 400W AND CODES UPDATED	12/22/2022	VIKAS	PARKSHIT

DATE DRAWN	09-29-2022
DRAWN BY	NIKHIL
REVIEWED BY	SHAMKA
SHEET NAME	SITE PLAN (07/27/2023)
SHEET NO.	PV-1.1



# ROOF - 1



**SIDE ELEVATION**  
SCALE: NTS

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New Jersey COA 24CA28353000  
Signed 1/10/2023



PROPOSED SYSTEM-1 SPECIFICATION	
SYSTEM SIZE DC	2.4 KWP
SYSTEM SIZE AC	@300 VA PEAK POWER = 1.8 KWP
SYSTEM SIZE AC	@290 VA MAX. CONT. POWER = 1.74 KWP
MODULES USED	(6)HYPERION HY-DH108P8 400WP
INVERTER USED	(6)ENPHASE IQ8PLUS-72-2-US
BRANCH CIRCUIT	1 CIRCUIT OF 8 MODULES
RACKING	ECOFASTEN ROCKIT + DECKMOUNTS

ELECTRICAL SPECIFICATION- SYSTEM-1	
SERVICE PANEL	100A MCB WITH 125A BUSBAR
INTERCONNECTION	PV BACKFEED BREAKER
PV OCPD	20A BREAKER

ROOF SPECIFICATION	
ROOF TYPE	COMPOSITE SHINGLE
ROOF CONDITION	GOOD
RE-ROOFING	NOT REQUIRED
RAFTERS	2"x6" @ 16" O.C.
SHEATHING	SKIP SHEATHING

ARRAY SPECIFICATION-SYSTEM-1			
ROOF NO.	TILT	AZIMUTH	QTY
1	32°	131°	8

WIND EXPOSURE CATEGORY	B
WIND SPEED	120 MPH
SNOW LOAD	30 LB/SQ.FT.

LEGEND	
	- MOUNTS
	- VENT, ATTIC FAN (ROOF OBSTRUCTION)
	- COUPLING
	- ROOF SETBACK

## ARRAY LAYOUT

SCALE: NTS



Alexandra Ramirez / Alberto Pena  
System-1: 391 Highland Ter  
Orange City, NJ, 07050  
(Lat, Long: 40.765844, 40.765844)  
System-2: 391 Highland Ter Fl 2  
Orange City, NJ, 07050  
(Lat, Long: 40.765844, 40.765844)

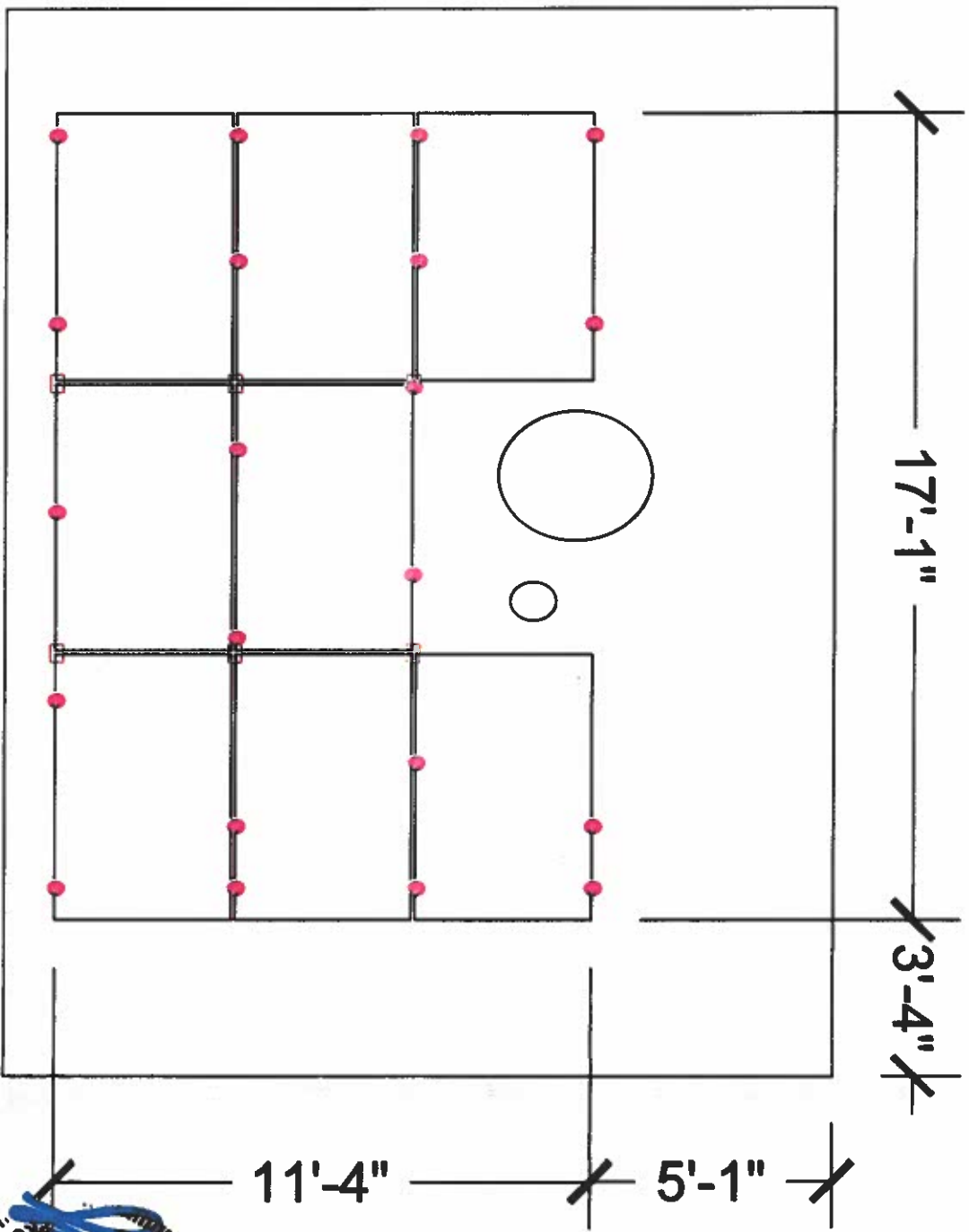
2137 Route 35  
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Tel: (732) 979-2400  
Fax: (732) 979-2401

Signature with Seal

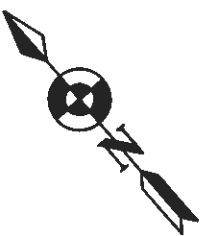
REVISIONS				
REV	DESCRIPTION	DATE	DRW BY	REV BY
1.1	MODULE CHANGED TO HYPERION 400W AND CODES UPDATED	12/22/2022	VIKAS	PAIKSHIT

DATE DRAWN	08-28-2022
DRAWN BY	NIKHIL
REVIEWED BY	SHAMNIKA
SHEET NAME	ARRAY LAYOUT (SYSTEM-1)
SHEET NO.	PV-2.0





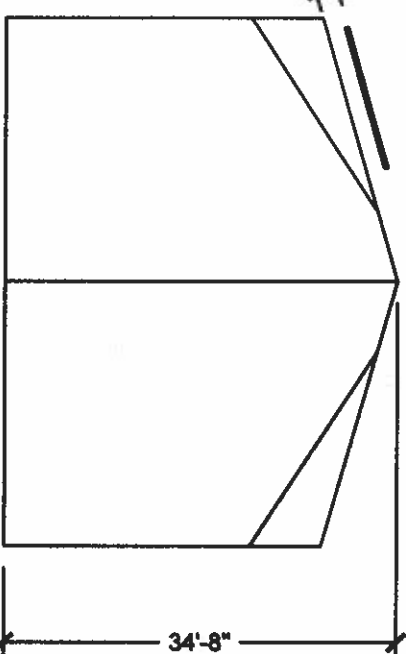
**ROOF - 2**



11'-4" 5'-1"



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New Jersey COA 24CA28351000  
Signed 1/10/2023



**SIDE ELEVATION**  
SCALE: NTS

<b>PROPOSED SYSTEM-2 SPECIFICATION</b>			
SYSTEM SIZE DC	3.2 KWP		
SYSTEM SIZE AC	@300 VA PEAK POWER = 2.4 KWP		
SYSTEM SIZE AC	@280 VA MAX. CONT. POWER = 2.32 KWP		
MODULES USED	(8)HYPERION HY-DH108P8 400WP		
INVERTER USED	(8)ENPHASE IQ8PLUS-72-2-US		
BRANCH CIRCUIT	1 CIRCUIT OF 8 MODULES		
RACKING	ECOFASTEN ROCKIT + DECKMOUNTS		
<b>ELECTRICAL SPECIFICATION- SYSTEM-2</b>			
SERVICE PANEL	100A MCB WITH 125A BUSBAR		
INTERCONNECTION	PV BACKFEED BREAKER		
PV OCPD	20A BREAKER		
<b>ROOF SPECIFICATION</b>			
ROOF TYPE	COMPOSITE SHINGLE		
ROOF CONDITION	GOOD		
RE-ROOFING	NOT REQUIRED		
RAFTERS	2"x6" @ 16" O.C.		
SHEATHING	SKIP SHEATHING		
<b>ARRAY SPECIFICATION-SYSTEM-2</b>			
ROOF NO.	TILT	AZIMUTH	QTY
2	32°	311°	8
<b>WIND EXPOSURE CATEGORY</b>		B	
<b>WIND SPEED</b>		120 MPH	
<b>SNOW LOAD</b>		30 LB/SQ.FT.	

LEGEND	
○	- VENT, ATTIC FAN (ROOF OBSTRUCTION)
□	- MOUNTS
●	- COUPLING
▨	- ROOF SETBACK

**ARRAY LAYOUT**  
SCALE: NTS

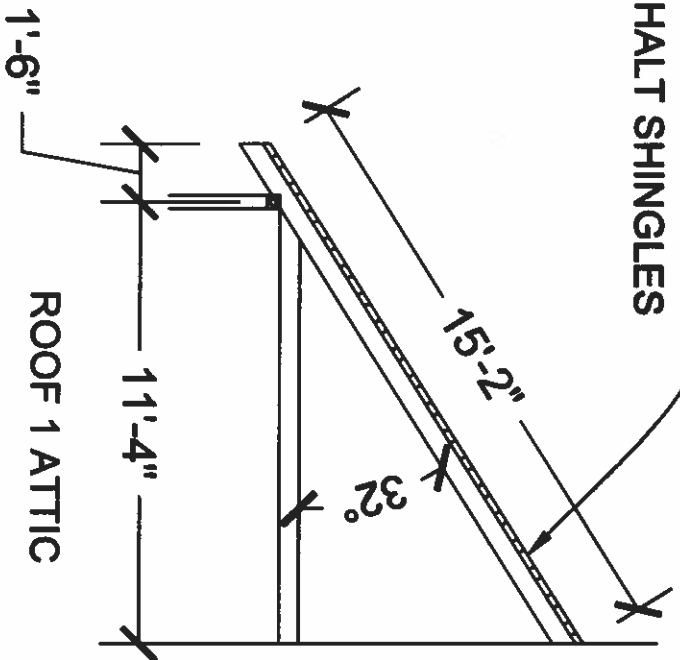
REVISIONS				
REV	DESCRIPTION	DATE	DRW BY	REV BY
1.1	MODULE CHANGED TO HYPERION 400W AND CODES UPDATED	12/22/2022	VKAS	PARKSHIT

DATE DRAWN	08-28-2022
DRAWN BY	NIKHIL
REVIEWED BY	SHAMNIKA
SHEET NAME	ARRAY LAYOUT (8V9TBK4)
SHEET NO.	PV-2.1

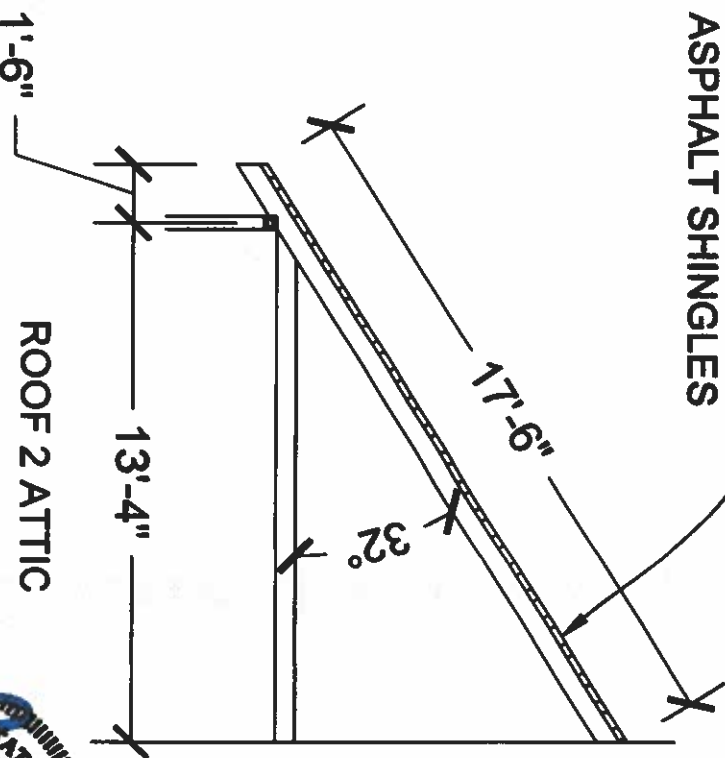
Signature with Seal Alexandra Ramirez / Alberto Pena	<b>PROJECT NAME &amp; ADDRESS</b> System-1: 391 Highland Ter Orange City, NJ, 07050 (Lat, Long: 40.765844, 40.765844) System-2: 391 Highland Ter F1 2 Orange City, NJ, 07050 (Lat, Long: 40.765844, 40.765844)

2137 Route 35  
Holmdel, NJ 07733  
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SKIP SHEATHING WITH ASPHALT SHINGLES

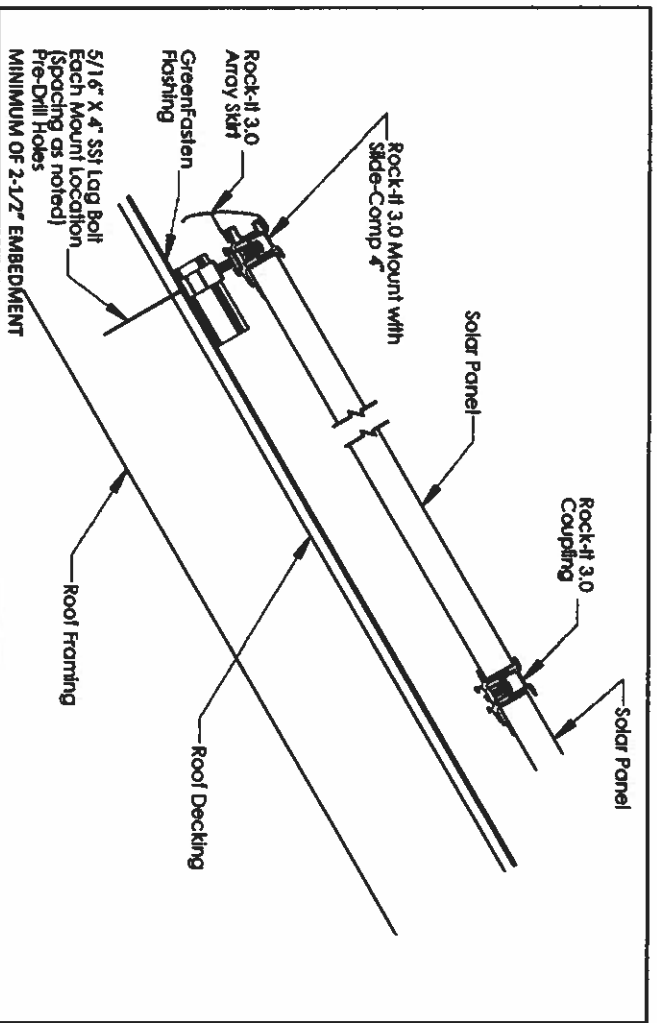


SKIP SHEATHING WITH ASPHALT SHINGLES



**ATTIC DETAILS**

SCALE: NTS



**ATTACHMENT DETAILS**

SCALE: NTS

WIND EXPOSURE CATEGORY	B	Signed 11/10/2023
WIND SPEED	120 MPH	
SNOW LOAD	30 LB/SQ.FT.	

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76 N. Meadowbrook Drive Alpine UT 84004  
New Jersey COA 24CA25352000



**KEY PLAN**

SCALE: NTS

PROPOSED SYSTEM-1 SPECIFICATION	
SYSTEM SIZE DC	2.4 KWP
SYSTEM SIZE AC	@300 VA PEAK POWER = 1.8 KWP
SYSTEM SIZE AC	@290 VA MAX. CONT. POWER = 1.74 KWP
MODULES USED	(8)HYPERION HY-DH108P8 400WP
INVERTER USED	(8)ENPHASE IQ8PLUS-72-2-US
BRANCH CIRCUIT	1 CIRCUIT OF 8 MODULES
RACKING	ECOFASTEN ROCKIT + DECKMOUNTS

PROPOSED SYSTEM-2 SPECIFICATION	
SYSTEM SIZE DC	3.2 KWP
SYSTEM SIZE AC	@300 VA PEAK POWER = 2.4 KWP
SYSTEM SIZE AC	@290 VA MAX. CONT. POWER = 2.32 KWP
MODULES USED	(8)HYPERION HY-DH108P8 400WP
INVERTER USED	(8)ENPHASE IQ8PLUS-72-2-US
BRANCH CIRCUIT	1 CIRCUIT OF 8 MODULES
RACKING	ECOFASTEN ROCKIT + DECKMOUNTS

ARRAY SPECIFICATION-SYSTEM-1	
ROOF NO.	1
TILT	32°
AZIMUTH	131°
QTY	6

ARRAY SPECIFICATION-SYSTEM-2	
ROOF NO.	2
TILT	32°
AZIMUTH	311°
QTY	8

ROOF SPECIFICATION	
ROOF TYPE	COMPOSITE SHINGLE
ROOF CONDITION	GOOD
RE-ROOFING	NOT REQUIRED
RAFTERS	2"x6" @ 16" O.C.
SHEATHING	SKIP SHEATHING

RACKING SPECIFICATION	
MIN/MAX ROOF SLOPE	1/2:12 / 12:12
MAX ANCHOR SPACING (35MM/40MM)	48"
MAX ANCHOR SPACING (32MM)	
MAX MODULE SIZE	67.89" X 44.73" X 1.23"
MODULE CANTILEVER	MAXIMUM CANTILEVER IS 1/3 BRACKET SPACING

MODULE SPECIFICATION	
MODEL	HY-DH108P8 400WP
FORMAT	67.89" ~ 44.73" ~ 1.23" (INCLUDING FRAME)
WEIGHT	52.48 LBS

**GENERAL NOTES**  
1. SOLAR PANELS SHALL NOT EXCEED ANY PART OF ROOF EDGE OR PEAK.

**PV MODULE**  
WEIGHT = 52.48 LBS.  
AREA = 67.89" x 44.73" NOMINAL (21,088 SQ.FT.)  
MODULE = 52.48 LBS. OVER 21,088 SQ.FT. = 2,489 LBS./SQ.FT.  
FOOT SPACING IS 48" O.C. ACROSS PANEL WIDTH WITH 2 ROWS PER MODULE.  
TYPICAL LAYOUT PROVIDES AN AVERAGE OF 1.6 FEET PER MODULE.

MODULE WEIGHT DISTRIBUTED PER MOUNTING FOOT = 52.48 LBS./1.6 FEET = 32.8 LBS./MTG. FOOT.

**MOUNTING LOAD CALCULATION**

**Suntuity**  
2137 Route 35  
Holmdel, NJ 07733  
Tel: (732) 979-2400  
Fax: (732) 979-2401

PROJECT NAME & ADDRESS  
Alexandra Ramirez / Alberto Pena  
System-1: 391 Highland Ter  
Orange City, NJ, 07050  
(Lat, Long: 40.765844, 40.765844)  
System-2: 391 Highland Ter Fl 2  
Orange City, NJ, 07050  
(Lat, Long: 40.765844, 40.765844)

Signature with Seal

REV	DESCRIPTION	DATE	DRW BY	REV BY
1.1	MODULE CHANGED TO HYPERION 400W AND CODES UPDATED	12/22/2022	VIKAS	PARKSHIT

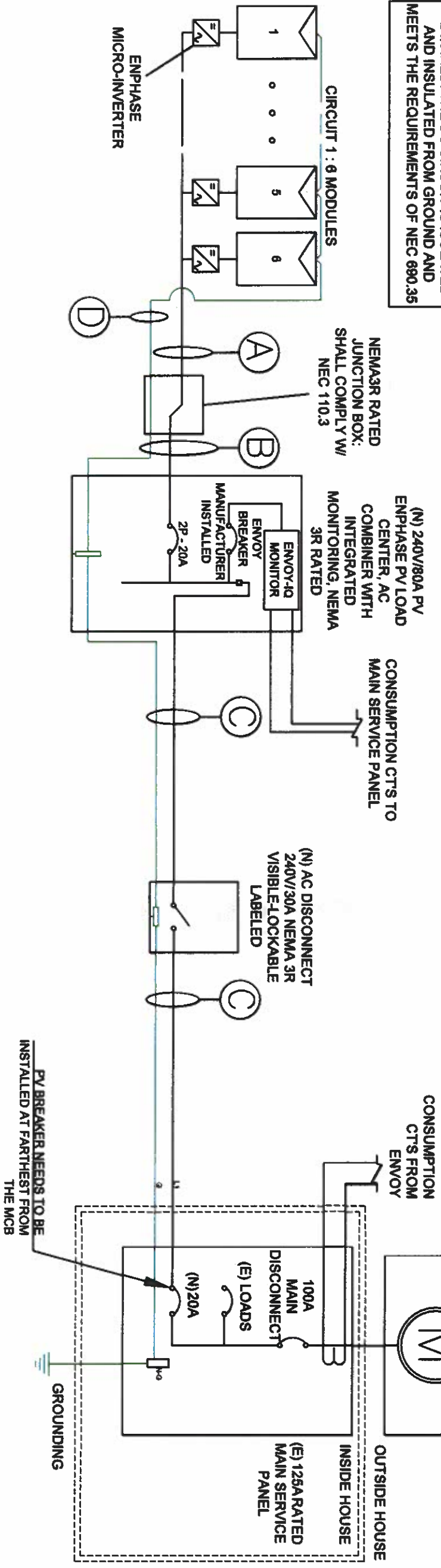
DATE DRAWN	DRAWN BY	REVIEWED BY	SHEET NAME	SHEET NO.
08-28-2022	NIKHIL	SHAMNIKA	STRUCTURAL	PV-3.0

PROPOSED SYSTEM-1 SPECIFICATION	
SYSTEM SIZE DC	2.4 KWp
SYSTEM SIZE AC	@300 VA PEAK POWER = 1.8 KWp
SYSTEM SIZE AC	@290 VA MAX. CONT. POWER = 1.74 KWp
MODULES USED	(9)HYPERION HY-DH108P8 400WP
INVERTER USED	(9)ENPHASE IQ8PLUS-72-2-US
BRANCH CIRCUIT	1 CIRCUIT OF 8 MODULES
RACKING	ECOFASTEN ROCKIT + DECKMOUNTS

ELECTRICAL SPECIFICATION- SYSTEM-1	
SERVICE PANEL	100A MCB WITH 125A BUSBAR
INTERCONNECTION	PV BACKFEED BREAKER
PV OCPD	20A BREAKER
WIND EXPOSURE CATEGORY	B
WIND SPEED	120 MPH
SNOW LOAD	30 LB/SQ.FT.

CONDUIT TAG	QTY	CONDUCTOR INFORMATION	CONDUIT TYPE	CONDUIT SIZE
A	(1)	-	ENPHASE IQ CABLE NA	NA
B	(2)	#10AWG THWN-2	PVC, EMT OR FLEX IN ATTIC	1"
C	(3)	#10AWG THWN-2 GND	PVC, EMT OR FLEX IN ATTIC	1"
D	(1)	#8AWG BARE GROUND	NA	NA

THE ENPHASE MICRO-INVERTERS HAVE INTEGRATED GROUND AND DOUBLE INSULATION, SO NO GEC OR EGC IS REQUIRED. THE DC CIRCUIT IS ISOLATED AND INSULATED FROM GROUND AND MEETS THE REQUIREMENTS OF NEC 690.35



# ELECTRICAL LINE DIAGRAM

SCALE: NTS

2137 Route 35  
Holmdel, NJ 07733  
Tel: (732) 979-2400  
Fax: (732) 979-2401

**PROJECT NAME & ADDRESS**

Alexandra Ramirez / Alberto Pena

System-1: 391 Highland Ter  
Orange City, NJ, 07050  
(Lat, Long: 40.765844, 40.765844)

System-2: 391 Highland Ter Fl 2  
Orange City, NJ, 07050  
(Lat, Long: 40.765844, 40.765844)

Signature with Seal

*Vincent Vellucci*

**NAME: VINCENT VELLUCCI**

**LICENSE NO: Electric #34EB01572800**

REV	DESCRIPTION	DATE	DRW BY	REV BY
1.1	MODULE CHANGED TO HYPERION 400W AND CODES UPDATED	12/22/2022	VIKAS	PARKSHIT

DATE DRAWN	09-28-2022
DRAWN BY	NIKHIL
REVIEWED BY	SHAMIKA
SHEET NAME	ELECTRICAL LINE DIAGRAM (8/5/24-1)
SHEET NO.	PV-4.0

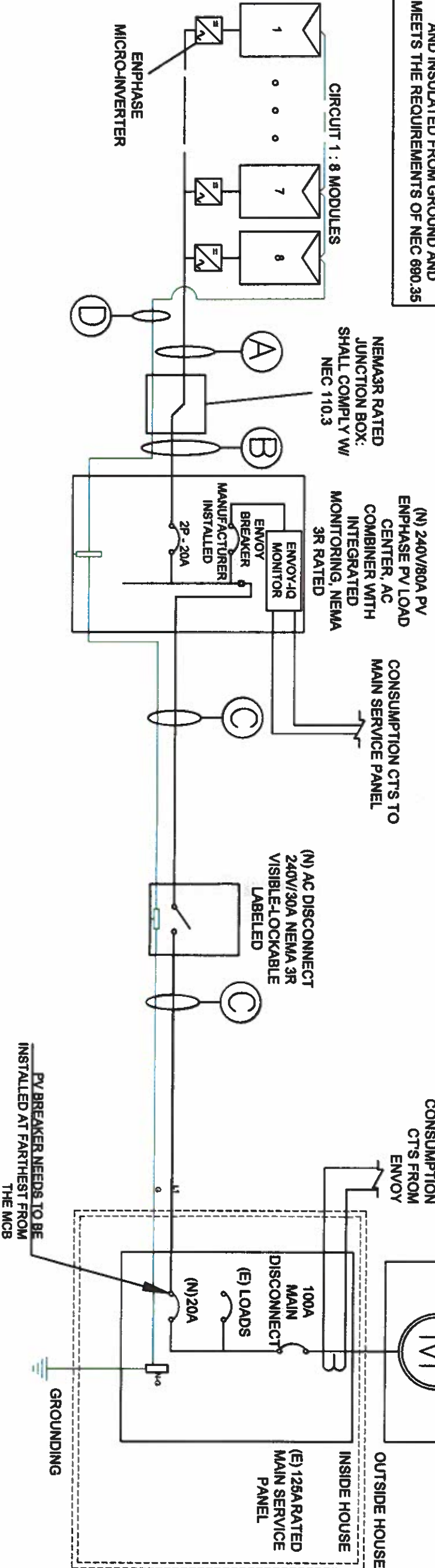


PROPOSED SYSTEM-2 SPECIFICATION	
SYSTEM SIZE DC	3.2 KWP
SYSTEM SIZE AC	@300 VA PEAK POWER = 2.4 KWP
SYSTEM SIZE AC	@290 VA MAX. CONT. POWER = 2.32 KWP
MODULES USED	(8)HYPERION HY-DH108P8 400WP
INVERTER USED	(8)ENPHASE IQ8PLUS-72-2-US
BRANCH CIRCUIT	1 CIRCUIT OF 8 MODULES
RACKING	ECOFASTEN ROCKIT + DECKMOUNTS

ELECTRICAL SPECIFICATION- SYSTEM-2	
SERVICE PANEL INTERCONNECTION	100A MCB WITH 125A BUSBAR PV BACKFEED BREAKER
PV OCPD	20A BREAKER
WIND EXPOSURE CATEGORY	B
WIND SPEED	120 MPH
SNOW LOAD	30 LBS/SQ.FT.

CONDUIT TAG	QTY	CONDUCTOR INFORMATION	CONDUIT TYPE	CONDUIT SIZE
A	(1)	-	ENPHASE IQ CABLE	NA
B	(2)	#10AWG THWN-2	PVC, EMT OR FLEX IN ATTIC	1"
C	(3)	#10AWG THWN-2	PVC, EMT OR FLEX IN ATTIC	1"
D	(1)	#8AWG THWN-2 GND	FLEX IN ATTIC	1"
	(1)	#8AWG BARE GROUND	NA	NA

THE ENPHASE MICRO-INVERTERS HAVE INTEGRATED GROUND AND DOUBLE INSULATION, SO NO GEC OR EGC IS REQUIRED. THE DC CIRCUIT IS ISOLATED AND INSULATED FROM GROUND AND MEETS THE REQUIREMENTS OF NEC 690.35



# ELECTRICAL LINE DIAGRAM

SCALE: NTS



2137 Route 35  
Holmdel, NJ 07733  
Tel: (732) 979-2400  
Fax: (732) 979-2401

PROJECT NAME & ADDRESS

Alexandra Ramirez / Alberto Pena  
System-1: 391 Highland Ter  
Orange City, NJ, 07050  
(Lat, Long: 40.765844, 40.765844)  
System-2: 391 Highland Ter Fl 2  
Orange City, NJ, 07050  
(Lat, Long: 40.765844, 40.765844)

Signature with Seal

Vincent Vellucci

NAME: VINCENT VELLUCCI

LICENSE NO: Electric #34EB01572800

REV	DESCRIPTION	DATE	DRW BY	REV BY
1.1	MODULE CHANGED TO HYPERION 400W AND CODES UPDATED	12/22/2022	VIKAS	PARKSHIT

DATE DRAWN	08-26-2022
DRAWN BY	NIKHIL
REVIEWED BY	SHAMNIKA
SHEET NAME	ELECTRICAL LINE DIAGRAM
SHEET NO.	PV-4.1



SOLAR MODULE SPECIFICATIONS	
MANUFACTURER / MODEL #	HYPERION HY-DH108P8 400WP
VMP	31.01 V
IMP	12.9 A
VOC	37.07 V
ISC	13.79 A
INVERTER SPECIFICATIONS	
MANUFACTURER	ENPHASE
MODEL NO.	IQ8PLUS-72-2-US
MAX DC INPUT VOLTAGE	60 V
MAX OUTPUT POWER	280 VA
PEAK OUTPUT POWER	300 VA
NOMINAL AC OUTPUT VOLTAGE	240 V
NOMINAL AC OUTPUT CURRENT	1.21 A
TEMPERATURE DETAILS	
RECORD LOW TEMP	-15°
AMBIENT TEMP (HIGH TEMP 2%)	34°

**CONDUCTOR AMPACITY BEFORE COMBINER PANEL:**

EXPECTED WIRE TEMP (in Celsius)	34°	NEC CODES	
TEMP. CORRECTION PER TABLE	310.15(B)(2)(a)	0.96	
NO. OF CURRENT CARRYING CONDUCTORS	-	2	
CONDUIT FILL CORRECTION PER NEC	310.15(B)(3)(a)	1	
CIRCUIT CONDUCTOR SIZE	-	10 AWG	
CIRCUIT CONDUCTOR AMPACITY	310.15(B)(16)	35A	
REQUIRED CIRCUIT CONDUCTOR AMPACITY	NEC 690.8(A&B)	9.075A	
1.25 X MAX OUTPUT CURRENT			
DERATED AMPACITY OF CIRCUIT CONDUCTOR	NEC TABLE 310.15(B)(2)(a) 310.15(B)(16) 310.15(B)(3)(a)	33.6A	

**CONDUCTOR AMPACITY AFTER COMBINER PANEL:**

EXPECTED WIRE TEMP (in Celsius)	34°	NEC CODES	
TEMP. CORRECTION PER TABLE	310.15(B)(2)(a)	0.96	
NO. OF CURRENT CARRYING CONDUCTORS	-	3	
CONDUIT FILL CORRECTION	310.15(B)(3)(a)	1	
CIRCUIT CONDUCTOR SIZE	-	10 AWG	
CIRCUIT CONDUCTOR AMPACITY	310.15(B)(16)	35A	
REQUIRED CIRCUIT CONDUCTOR AMPACITY	NEC 690.8(A&B)	9.075A	
1.25 X MAX OUTPUT CURRENT			
DERATED AMPACITY OF CIRCUIT CONDUCTOR	NEC TABLE 310.15(B)(2)(a) 310.15(B)(16) 310.15(B)(3)(a)	33.6A	
TEMP. CORRECTION X CONDUIT FILL CORRECTION X CIRCUIT CONDUCTOR AMPACITY			
SELECTED OCPD	NEC 240.6(A)	20A	

**ELECTRICAL NOTES**

- 1.) ALL EQUIPMENT TO BE LISTED BY UL OR OTHER NRTL, AND LABELED FOR ITS APPLICATION.
- 2.) ALL CONDUCTORS SHALL BE COPPER, RATED FOR 600 V AND 90 DEGREE C WET ENVIRONMENT.
- 3.) WIRING, CONDUIT, AND RACEWAYS MOUNTED ON ROOFTOPS SHALL BE ROUTED DIRECTLY TO, AND LOCATED AS CLOSE AS POSSIBLE TO THE NEAREST RIDGE, HIP, OR VALLEY.
- 4.) WORKING CLEARANCES AROUND ALL NEW AND EXISTING ELECTRICAL EQUIPMENT SHALL COMPLY WITH NEC 110.26.
- 5.) DRAWINGS INDICATE THE GENERAL ARRANGEMENT OF SYSTEMS. CONTRACTOR SHALL FURNISH ALL NECESSARY OUTLETS, SUPPORTS, FITTINGS AND ACCESSORIES TO FULFILL APPLICABLE CODES AND STANDARDS.
- 6.) WHERE SIZES OF JUNCTION BOXES, RACEWAYS, AND CONDUITS ARE NOT SPECIFIED, THE CONTRACTOR SHALL SIZE THEM ACCORDINGLY.
- 7.) ALL WIRE TERMINATIONS SHALL BE APPROPRIATELY LABELED AND READILY VISIBLE.
- 8.) MODULE GROUNDING CLIPS TO BE INSTALLED BETWEEN MODULE FRAME AND MODULE SUPPORT RAIL, PER THE GROUNDING CLIP MANUFACTURER'S INSTRUCTION.
- 9.) MODULE SUPPORT RAIL TO BE BONDED TO CONTINUOUS COPPER G.E.C. VIA WEBB LUG OR ILSCO GBL-4DBT LAY-IN LUG.
- 10.) THE POLARITY OF THE GROUNDED CONDUCTORS IS NEGATIVE



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Signature with Seal

*Vincent Vellucci*

**NAME: VINCENT VELLUCCI**  
**LICENSE NO: Electric #34EB01572800**

REVISIONS				
REV	DESCRIPTION	DATE	DRW BY	REV BY
1.1	MODULE CHANGED TO HYPERION 400W AND CODES UPDATED.	12/22/2022	VIKAS	PARIKSHIT

DATE DRAWN	06-26-2022
DRAWN BY	NIKHIL
REVIEWED BY	SHAMNIKA
SHEET NAME	ELECTRICAL CALCULATION (SYSTEM-1)
SHEET NO.	PV-5.0

**SOLAR MODULE SPECIFICATIONS**

MANUFACTURER / MODEL #	HYPERION HY-DH108P6 400Wp
VMP	31.01 V
IMP	12.9 A
VOC	37.07 V
ISC	13.79 A

**INVERTER SPECIFICATIONS**

MANUFACTURER	ENPHASE
MODEL NO.	IO8PLUS-72-2-US
MAX DC INPUT VOLTAGE	60 V
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PEAK OUTPUT POWER	300 VA
NOMINAL AC OUTPUT VOLTAGE	240 V
NOMINAL AC OUTPUT CURRENT	1.21 A

**TEMPERATURE DETAILS**

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CIRCUIT CONDUCTOR SIZE	-	10 AWG
CIRCUIT CONDUCTOR AMPACITY	310.15(B)(16)	35A
REQUIRED CIRCUIT CONDUCTOR AMPACITY	NEC 690.8(A&B)	12.1A
1.25 X MAX OUTPUT CURRENT	NEC TABLE 310.15(B)(2)(a) 310.15(B)(16) 310.15(B)(3)(a)	33.6A

**CONDUCTOR AMPACITY AFTER COMBINER PANEL:**

EXPECTED WIRE TEMP (in Celsius)	NEC CODES	34°
TEMP. CORRECTION PER TABLE	310.15(B)(2)(a)	0.96
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1.1	12/22/2022	MODULE CHANGED TO HYPERION 400W AND CODES UPDATED	VIKAS	PARKSHIT

DATE DRAWN	08-26-2022
DRAWN BY	NIKHIL
REVIEWED BY	SHAMIKA
SHEET NAME	ELECTRICAL CALCULATION (REVISED)
SHEET NO.	PV-5.1