



COMPANY INFORMATION

ALL ENERGY SOLAR, INC
1264 ENERGY LANE
ST PAUL, MN 55108
(800) 620-3370
INFO@ALLEENERGYSOLAR.COM

CLIENT INFORMATION

PATRICK MOENKHAUS
32308 160TH ST
ISLE, MN 56342
PO 45905

Panel Type

LG 370 BOB (USA)

of Panels

30

System Size (kW)

11.100

Ground Mount

NOTES:

- 1. (30) ENPHASE IQ7PLUS INVERTER(S)
- 2. ARRAY 1:
35° TILT. 180° AZIMUTH

AZIMUTH



REVISIONS

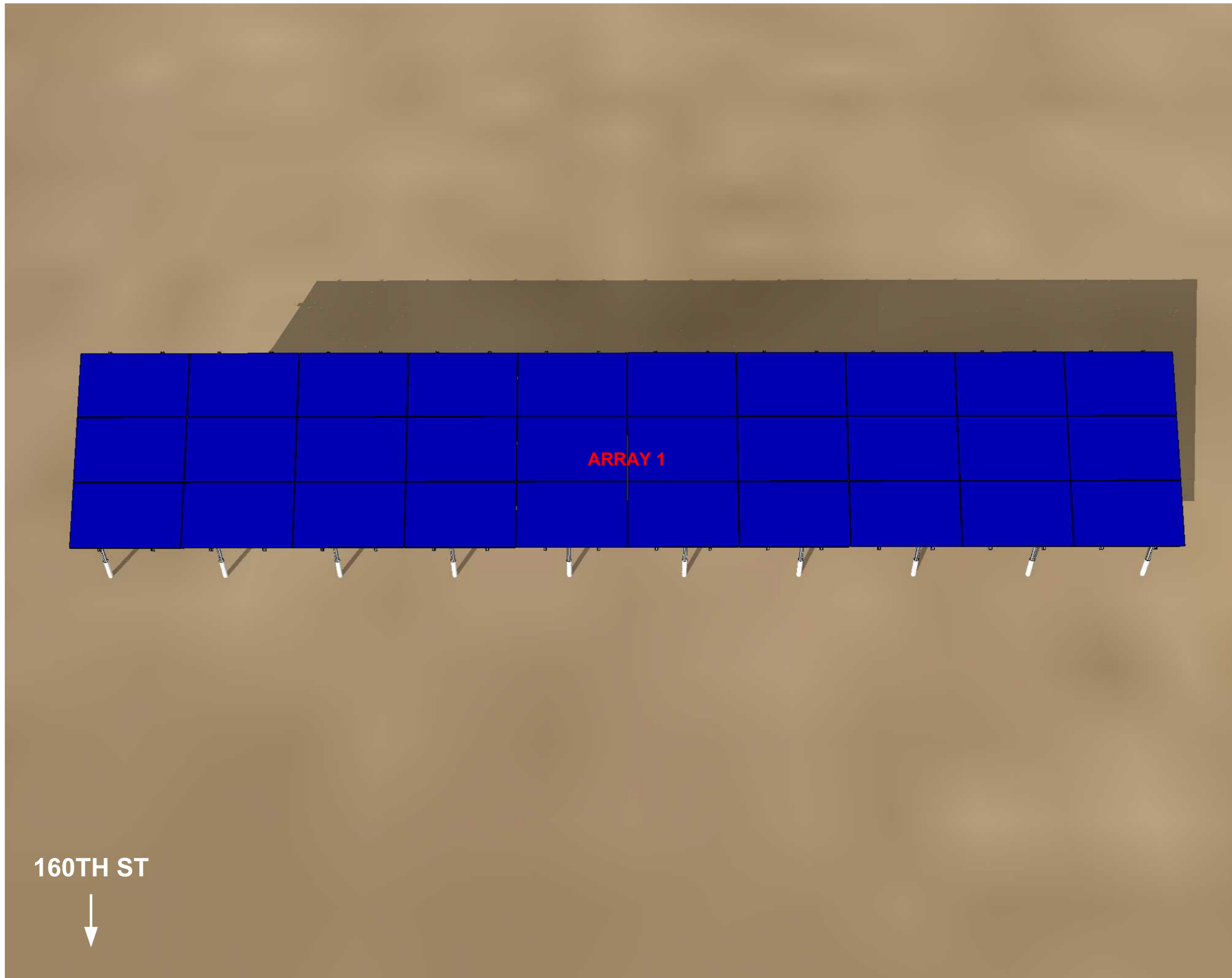
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PROJECT-PAGE TITLE

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SYSTEM DETAILS

NOTES:

- 1. (30) ENPHASE IQ7PLUS INVERTER(S) = 8.7kW AC
- 2. ARRAY 1:
180° AZIMUTH, 35° TILT
(30) LG 370W = 11.1kW

ACCOUNT: 54-58-015-04
PREMISE:
METER: 300142

AZIMUTH



REVISIONS

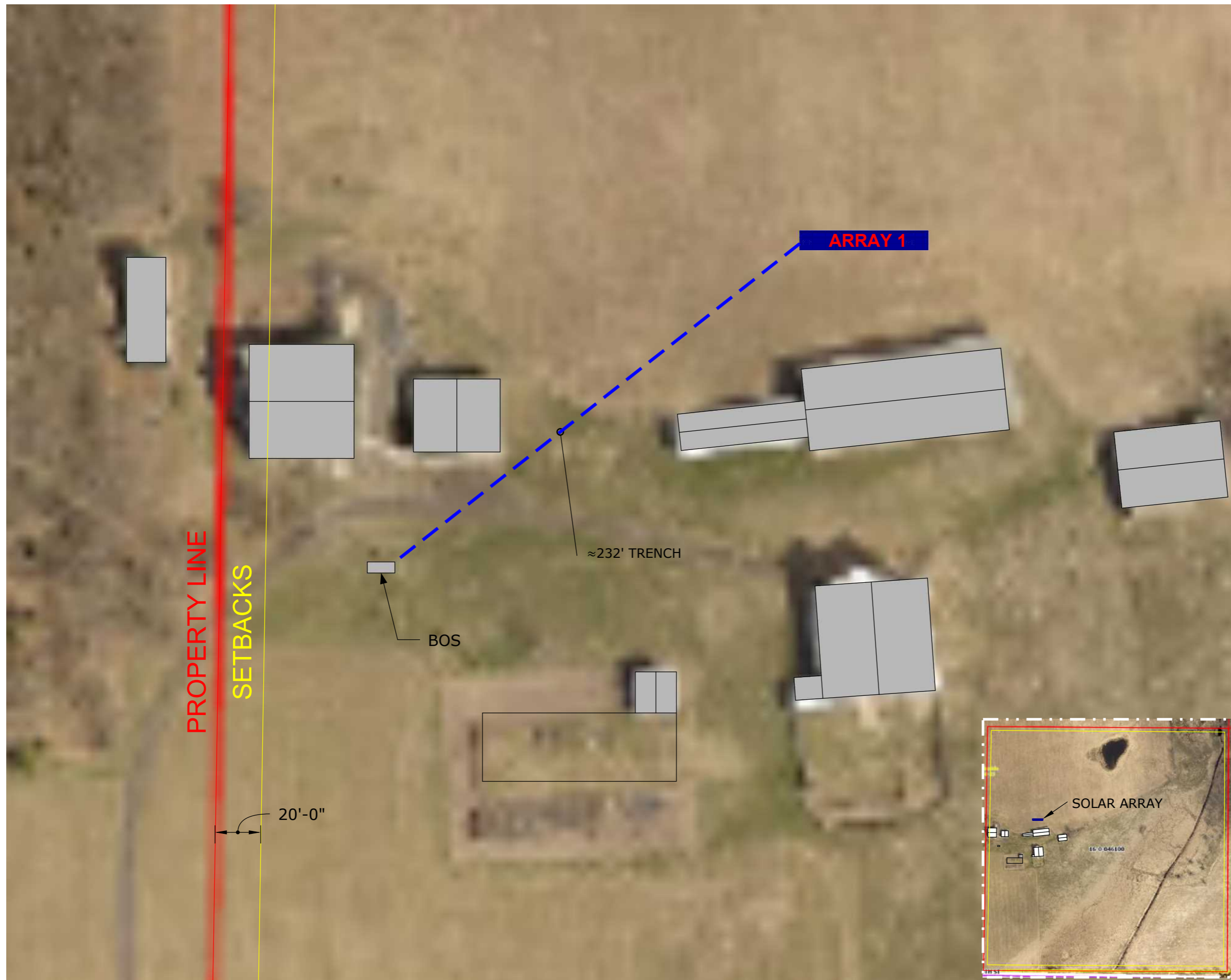
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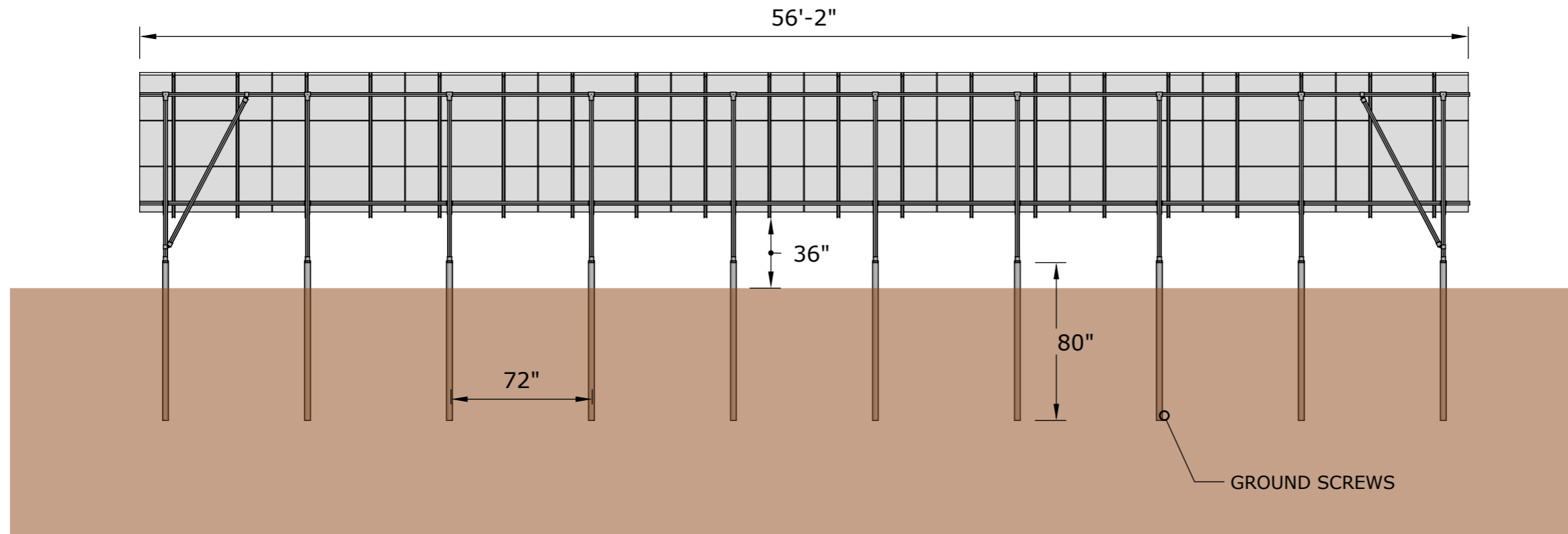
PROPERTY MAP

PAGE NUMBER

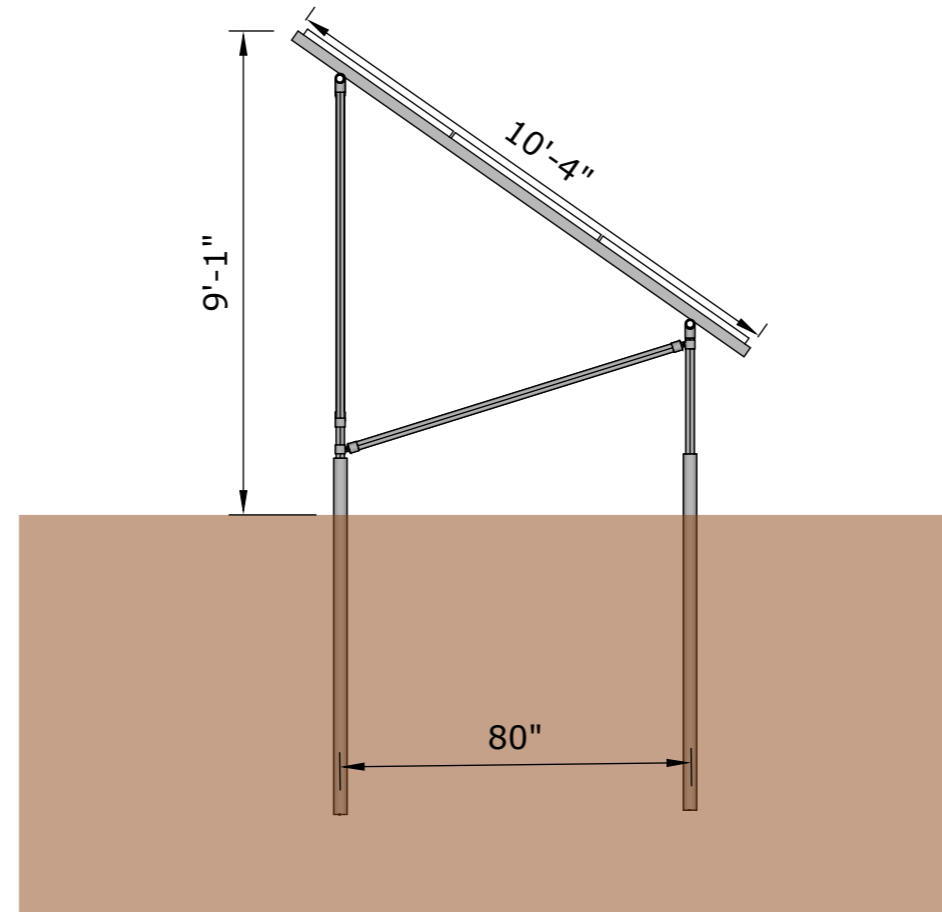
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NORTH ELEVATION



WEST ELEVATION



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SYSTEM DETAILS

NOTES:

1. ELEVATIONS MAY VARY DEPENDING ON GROUND ELEVATION BUT ARE DRAWN TO THE BEST OF OUR ABILITY

2. 353 SQ FT

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ELEVATION DRAWINGS

PAGE NUMBER

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SYSTEM DETAILS

SUNMODO MOUNTING HARDWARE:

- (20) FOOTINGS
- SEE CONFIGURATION IN DRIVE FOR ADDITIONAL MATERIALS

**STRINGING TO BE DETERMINED ON SITE*

AZIMUTH



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RAIL AND STRINGING DIAGRAM

PAGE NUMBER

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NOTES: UNLESS OTHERWISE SPECIFIED

- THIS DRAWING IS NOT FOR CONSTRUCTION UNTIL ENGINEERING HAS REVIEWED AND STAMPED THIS DOCUMENT.
- DIMENSIONS SHOWN ARE INCHES.
- THE SELF-BONDING SYSTEM AND SINGLE GROUND LUG IS FOR USE WITH PV MODULES THAT HAVE A MAXIMUM SERIES FUSE RATING OF 30A.
- MATERIALS ARE AS SPECIFIED OR EQUIVALENT:
 HARDWARE: 304 STAINLESS STEEL
 FABRICATED EXTRUDED PARTS: 6005-T5 ALUMINUM ALLOY
 FABRICATED DIE CAST PARTS: ANSI/AA A380 ALUMINUM ALLOY
 STEEL PIPE: SCHEDULE 40 GALVANIZED
 ALUMINUM PIPE: SCHEDULE 10 ANODIZED
- THE MAXIMUM PERMISSIBLE LENGTH OF ANY STRUCTURE SHALL BE 200 FT. FOR SYSTEMS USING A SHARED RAIL CONFIGURATION, A THERMAL BREAK IS REQUIRED IN THE RAIL EVERY 40 FT. PER THE DRAWING DETAILS.
- 3LX10-35DEG-STR-GSM-AGM-BGM-PGM**
- APPROVED RAIL PROFILES VARY BASED ON ENGINEERING REQUIREMENTS. CONFIRM SELECTION WITH STRUCTURAL ENGINEER. SEE BOM IN BOTTOM RIGHT CORNER.
- K10224-XXX END CLAMP KIT OR K10299-XXX ADJ. END CLAMP KIT.
- FOUNDATION TYPES:
 GSM = GROUND SCREW GROUND MOUNT
 AGM = HELICAL AUGER GROUND MOUNT
 PGM = POST-IN-CONCRETE GROUND MOUNT
 BSM = BALLAST GROUND MOUNT

10.1 OF 1 ARRAY TYPES

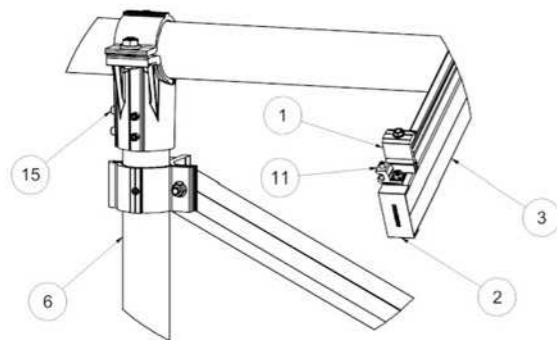
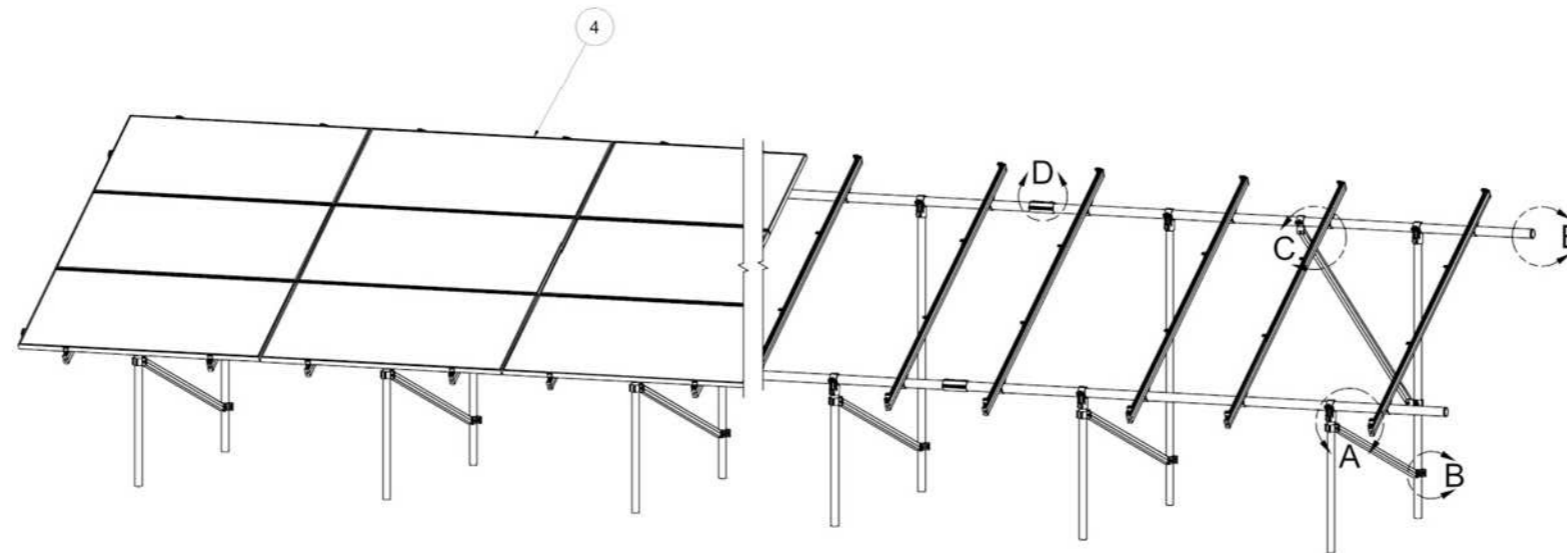
11. 1 ARRAYS TOTAL

12. K10448-001 IS AN ACCEPTABLE SUBSTITUTE FOR K10342-001 PIPE SPLICE KIT

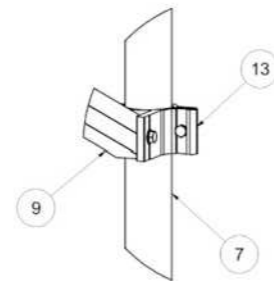
PACKET A9

Model Code	ASCE 7-16
Exposure Category	C
Wind Speed	105
Ground Snow Load	60
Tilt	35

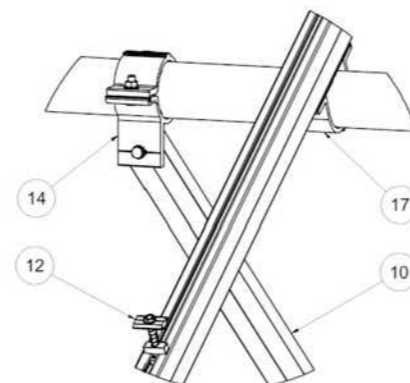
3LX10 ARRAY



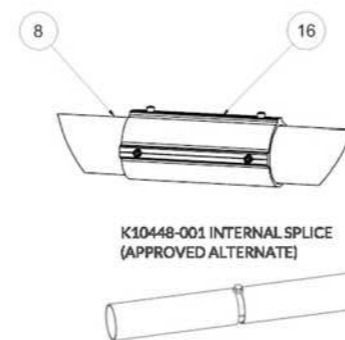
DETAIL A



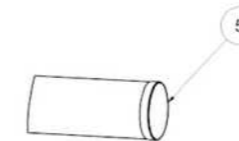
DETAIL B



DETAIL C



DETAIL D



DETAIL E

17	K10343-004	2.5" Pipe U-Clamp Kit	40
16	K10448-001	2.5" Pipe Splice Kit	10
15	K10341-002	2.5" Pipe T-Cap Kit	20
14	K10222-001	2.5" Pipe Clamp Kit	2
13	K10219-001	2" Pipe Clamp Kit	22
12	K10180-001	Universal Mid Clamp Kit	40
11	K10179-002	Grounding Lug	1
10	A50164-066	HSS E/W Tube Brace	2
9	A50164-092	HSS N/S Tube Brace	10
8	A21168-112	2.875" OD E/W Pipe Beam, 112"	12
7	A21165-060	HSS 2.375" OD Front Pipe	10
6	A21165-120	HSS 2.375" OD Rear Pipe	10
5	A20380-001	2.5" PIPE END CAP (OPTIONAL)	4
4		Panel 1,740 x1,041 x40.0mm	30
3	A20288-166-ML	Helio Rail HR300, 166"	20
2	A20297-001	Rail End Cap	40
1	K10224-140	End Clamp Kit	40

ITEM	PART NUMBER	DESCRIPTION	QTY
SEE BOM			
SunModo Corp.			
14800 NE 65TH STREET, VANCOUVER WA 98682			
PATRICK MOENKHAUS -45905			
KYY		D	53BC83
SCALE: N.T.S.		SHEET 1 of 4	

MAX CIRCUIT LENGTH (120/240V)	15A BREAKER	20A BREAKER	
ENPHASE IQ7	12	16	(30) LG LG370N1K-A6 MODULES
ENPHASE IQ7+	9	13	(30) ENPHASE IQ7PLUS INVERTER(S)
ENPHASE IQ7X	9	12	CIRCUITS:
ENPHASE IQ7A	8	11	(3) CIRCUIT(S) OF 10 MICROS

NOTES:

1. LOCATION OF SERVICE PANEL AND ELECTRICAL EQUIPMENT ARE SHOWN. FINAL LOCATION MAY CHANGE
2. LOCATION OF SERVICE PANEL AND ADDITIONAL ELECTRICAL EQUIPMENT NOT DRAWN TO SCALE
3. PV INTERCONNECTION IS A SECONDARY INTERCONNECTION
4. **AC DISCONNECT AND PRODUCTION METER IN READILY ACCESSIBLE LOCATION WITHIN 10' OF MAIN SERVICE METER/UTILITY METER. 24/7 UNESCORTED KEYLESS ACCESS TO BE PROVIDED FOR UTILITY AC DISCONNECT, PV PRODUCTION METER, & UTILITY METER.**
5. PV EQUIPMENT SHALL BE INSTALLED IN ACCORDANCE WITH NEC 690 AND POSTED WITH APPLICABLE WARNINGS, SIGNAGE, AND PLAQUES PER NEC 705-10, 690-17, & 690-64 (b)(5).

6. CIRCUITS:

(3) CIRCUIT(S) OF 10 (20AMPS EACH)

LABELS LOCATED ON PV PRODUCTION METER, UTILITY METER, AC DISCONNECT(S), INVERTER(S), AND APPROPRIATE LABELS ON MAIN ELECTRIC SERVICE. ALL LABELS ARE PERMANENT, WEATHERPROOF, AND DURABLE

THERE ARE NO CLEARANCE ISSUES DUE TO OVERHEAD POWERLINES.

DISTANCES

SOLAR PANELS - INVERTERS: 5' MAX
 INVERTERS - PV COMBINER PANEL: 65' MAX
 PV COMBINER PANEL - IQ COMBINER PANEL: 232' MAX
 IQ COMBINER PANEL - UTILITY FUSED AC DISCONNECT: 2'
 UTILITY FUSED AC DISCONNECT - PV PRODUCTION METER: 2'
 PV PRODUCTION METER - UTILITY METER: 2'
 UTILITY METER - MAIN ELECTRIC SERVICE: 2'

CALL-OUTS:

- 1: SOLAR PANELS
- 2: INVERTERS
- 3: PV COMBINER PANEL
- 4: ENPHASE IQ COMBINER PANEL
- 5: UTILITY FUSED AC DISCONNECT
- 6: PV PRODUCTION METER
- 7: UTILITY METER
- 8: MAIN ELECTRIC SERVICE
- 9: FREEDOM HEAT OFF PEAK METER
- 10: WATER HEATING OFF PEAK METER



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SYSTEM DETAILS

NOTES:

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 180° AZIMUTH, 35° TILT
 (30) LG 370W = 11.1kW

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 METER: 300142

AZIMUTH



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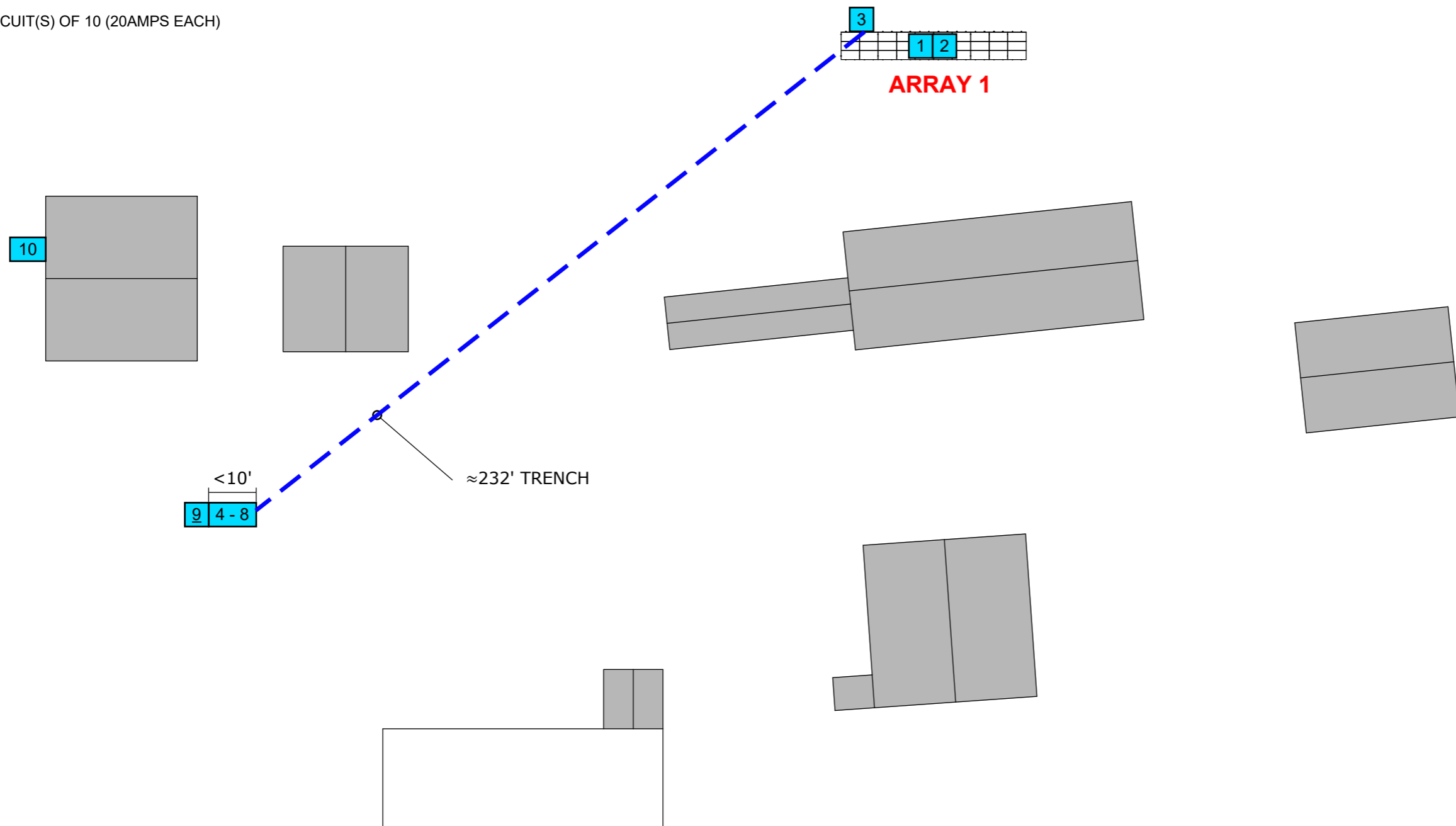
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SITE MAP

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← 1,740'
 COUNTY ROAD 47

160TH ST