

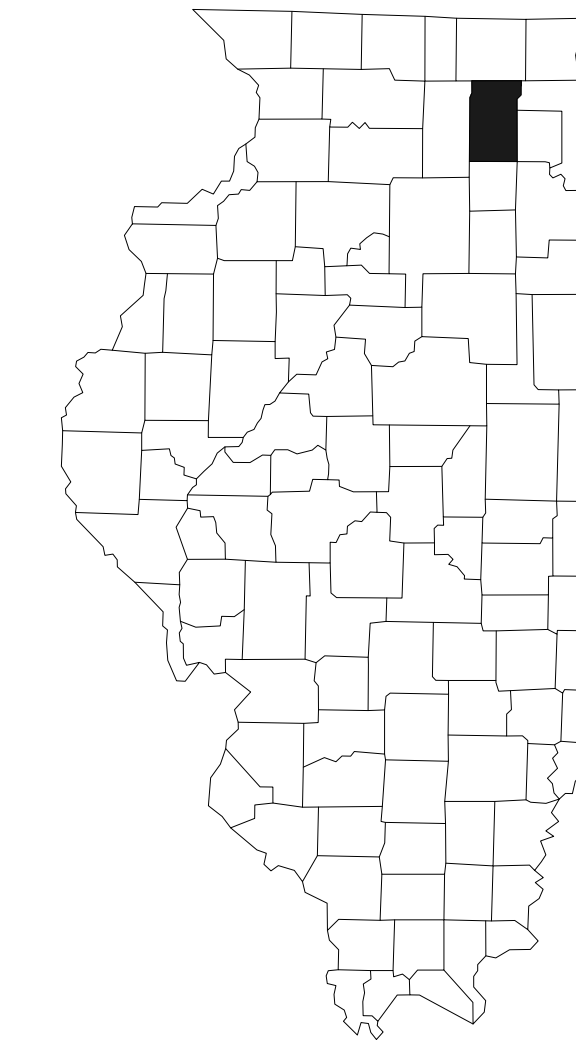
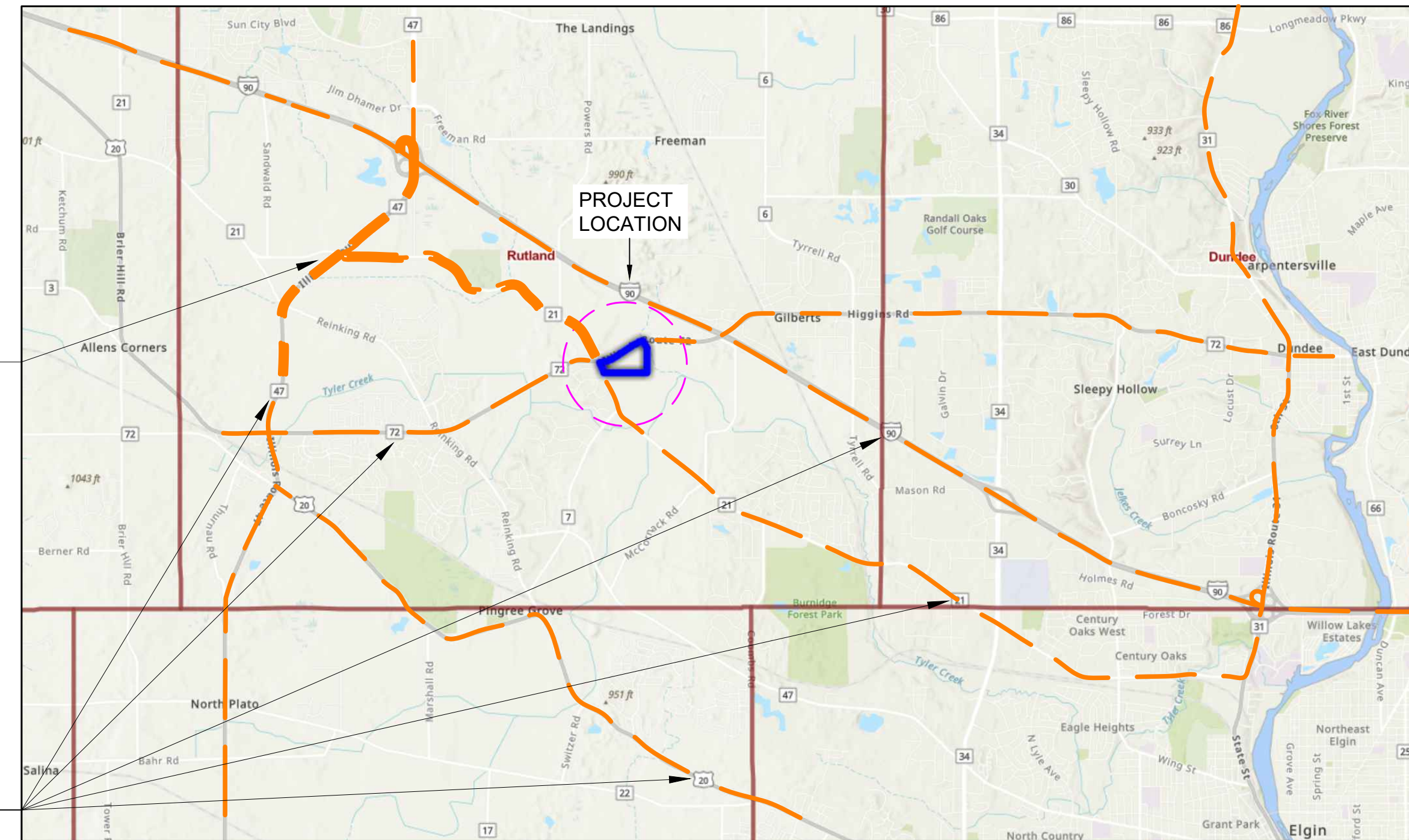
BIG TIMBER SOLAR FARM, LLC KANE COUNTY, ILLINOIS

SHEET LIST:

- DEV.01-CP COVER PAGE
- DEV.02-EC EXISTING GENERAL CONDITIONS PLAN
- DEV.03-SP NEW POWER FACILITY SITE PLAN
- DEV.04-CD CONSTRUCTION DETAILS
- DEV.05-FD FENCE DETAILS
- DEV.06-ED EQUIPMENT DETAILS

PROJECT ADDRESS PRIMARY CONSTRUCTION LOGISTICS ROUTE
VIA (IL-21) BIG TIMBER RD
HEADING EAST BY SOUTHEAST TOWARDS
(IL-72) HIGGINS RD INTERSECTION,
PARCEL LOCATED SOUTH OF (IL-72) HIGGINS RD
AT THE SOUTHEAST CORNER OF THE INTERSECTION.
SITE CONSTRUCTION ENTRANCE GATE
LOCATED OFF (IL-21) BIG TIMBER RD, ON EAST SIDE.

VARIOUS MEANS OF TRANSPORTATION ACCESS
(TYP.)

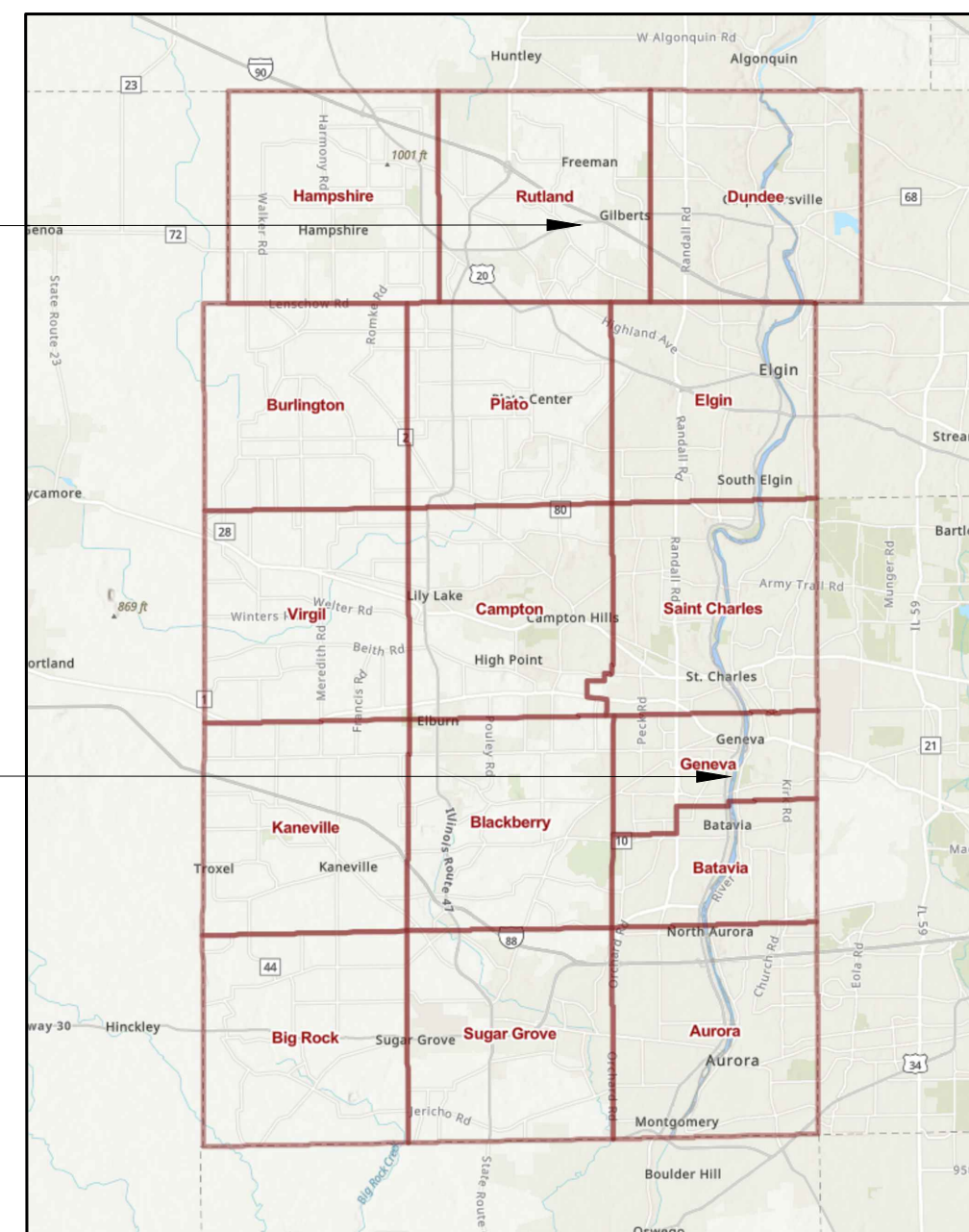


3 IDOT CONSTRUCTION LOGISTICS ROUTE(S)
NOT TO SCALE

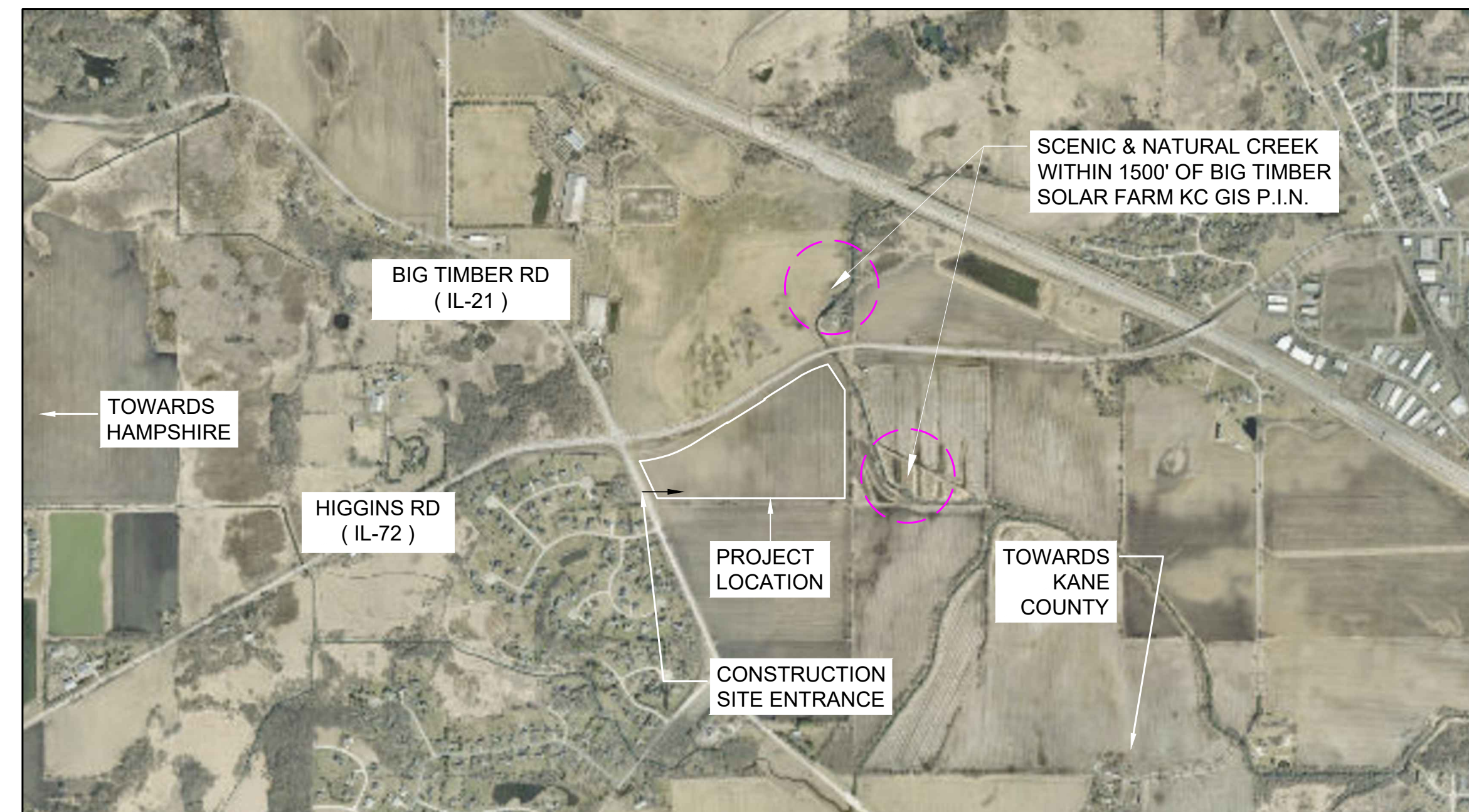
1 KANE COUNTY, IL
NOT TO SCALE

RUTLAND TWP &
PROJECT LOCATION

KANE COUNTY CLERK HOUSE



2 KANE COUNTY LOCATION PLAN
NOTE TO SCALE



4 P.I.N. VICINITY MAP
NOT TO SCALE

SITE INFORMATION	
PARCEL ZONING:	A-1 AGRICULTURE
PROJECT DESCRIPTION	
PROJECT LOCATION:	BIG TIMBER RD., HAMPSHIRE, IL 60140
PROJECT PARCEL:	46.47 Acres
P.I.N.:	02-22-400-014
UTILITY:	COMED
AC SYSTEM SIZE:	5,000 KW / 5,000 KVA
DC SYSTEM SIZE:	7,500 KW
AZIMUTH / TILT:	180° / ± 60
GCR:	40%
MODULE MODEL:	TRINA SOLAR VERTEX 550W TSM-DEG19C20
MODULE WATTAGE:	550 W
MECHANICAL SYSTEM:	HORIZONTAL TRACKER

Notes:

Date	Revision Details	PM	ENG	CHK
09/16/2024	ISSUE FOR SICUP			
04/16/2024	INITIAL DRAFT			

Engineer
ANATOLY ZELTSER
PROJECT ENGINEER
SURYA POWERED LLC
BIG TIMBER SOLAR FARM LLC
141 W. JACKSON BLVD STE 1692
CHICAGO, IL 60604

Developer
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141 W. JACKSON BLVD. STE 1692
CHICAGO, IL 60604
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Project Name & Address
BIG TIMBER SOLAR FARM
BIG TIMBER RD.
HAMPSHIRE, IL
60140
KANE COUNTY

Drawing Title
COVER PAGE
STATE COUNTY MAP,
SATELLITE LOCATION MAP,
VICINITY MAP, ROADS,
SITE PRELIMINARY INFORMATION

Project No. 8881	Drawing No. DEV.01 - CP
Paper Size 36" x 24"	Sheet No. 01

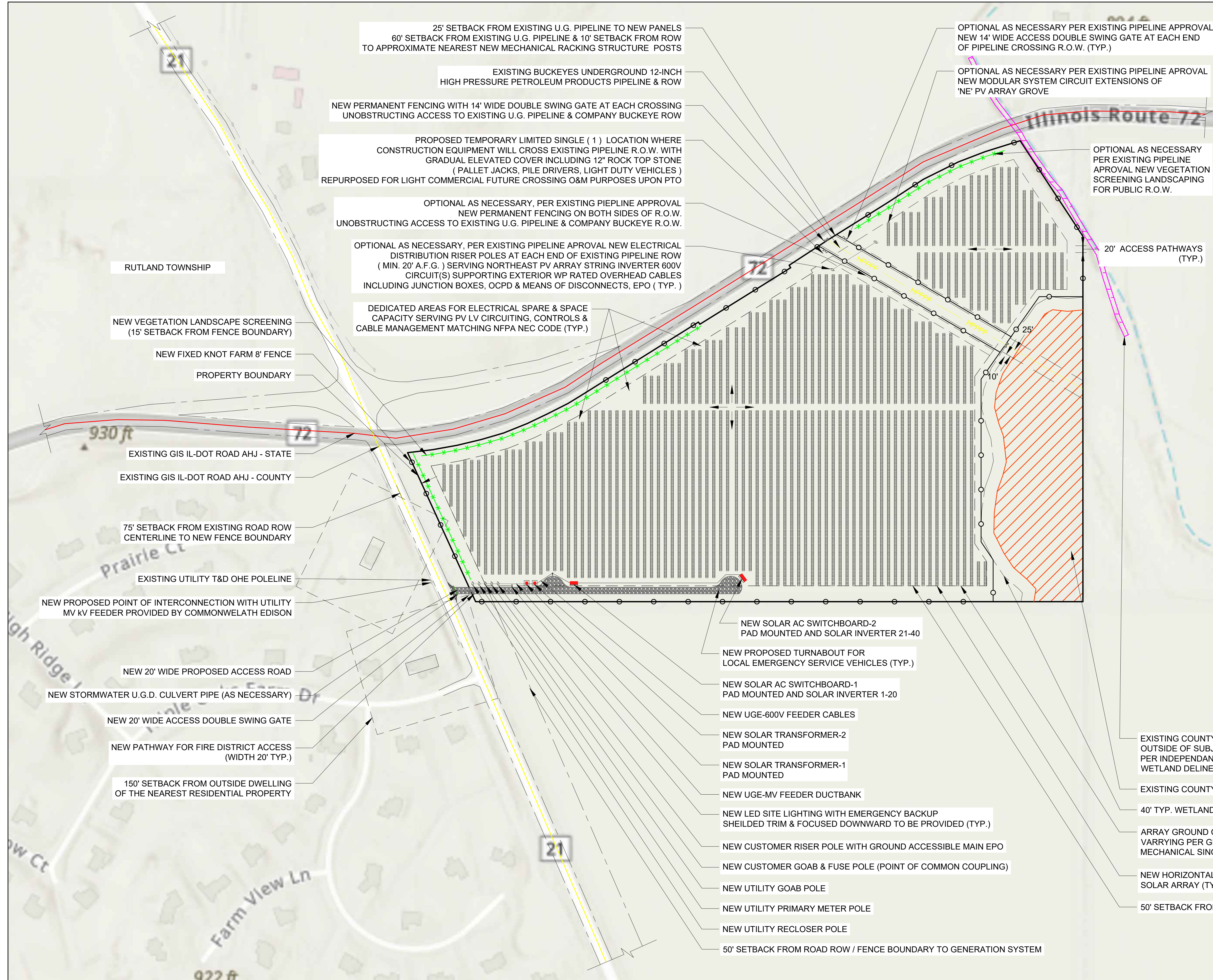


LEGEND	
	EXISTING PARCELS
	PROPERTY LINE
	EXISTING ROADS
	OHE EXISTING UTILITY OVERHEAD ELECTRIC LINE
	HPPPP EXISTING U.G. PIPELINE BUCKEYE CO.
	EXISTING COUNTY GIS ADID WETLAND
	EXISTING COUNTY GIS FLOOD ZONE

- PUD ZONING:
1. 02-22-451-005
 2. 02-27-201-004
 3. 02-27-203-002
 4. 02-27-203-007
 5. 02-27-203-006
 6. 02-27-203-004
 7. 02-27-203-003
 8. 02-27-203-001
 9. 02-27-201-002
 10. 02-27-201-001
 11. 02-22-451-002
 12. 02-22-451-004

1 EXISTING GENERAL CONDITIONS PLAN
SCALE: 1" = 149.5'

Notes:	
<p>EXISTING COUNTY GIS ADID WETLAND OUTSIDE OF SUBJECT PARCEL PER INDEPENDANT CONSULTANT WETLAND DELINEATION SURVEY OF RECORD</p> <p>EXISTING PIPELINE ROW</p> <p>EXISTING COUNTY GIS HISTORICAL FLOOD ZONE</p> <p>EXISTING COUNTY GIS TOPOGRAPHY ELEVATIONS</p>	
09/16/2024	ISSUE FOR SICUP
04/16/2024	INITIAL DRAFT
Date	Revision Details
	Revision Table
Engineer	<p>ANATOLY ZELTSER PROJECT ENGINEER SURYA POWERED LLC BIG TIMBER SOLAR FARM LLC 141 W. JACKSON BLVD STE 1692 CHICAGO, IL 60604</p>
Developer	<p>BIG TIMBER SOLAR FARM LLC 141 W. JACKSON BLVD. STE 1692 CHICAGO, IL 60604 WWW.SURYAPOWERED.COM</p>
Project Name & Address	<p>BIG TIMBER SOLAR FARM BIG TIMBER RD. HAMPSHIRE, IL 60140 KANE COUNTY</p>
Drawing Title	<p>EXISTING CONDITIONS EXISTING GENERAL CONDITIONS PLAN SHOWING ADJACENT LAND PARCELS, ZONING & P/N NUMBER, ROADS, GEOGRAPHY PROPERTIES, SATELLITE VIEW</p>
Project No.	8881
Drawing No.	DEV.02 - EC
Paper Size	36" x 24"
Sheet No.	02



LEGEND

- EXISTING PARCELS
- PROPERTY LINE
- EXISTING ROADS (AHJ: STATE - COUNTY)
- OHE EXISTING UTILITY OVERHEAD ELECTRIC LINE
- NEW FIXED FARM KNOT FENCE
- NEW VEGETATION BUFFER
- MV NEW MEDIUM VOLTAGE FEEDER
- HPPPP EXISTING U.G. PIPELINE BUCKEYE CO.
- NEW F.D. SITE ACCESS ROAD
- EXISTING COUNTY GIS ADD WETLAND
- EXISTING COUNTY GIS FLOOD ZONE

QUANTITIES

DESCRIPTION	VALUE	UNIT
ACCESS ROAD	22,158	SF
FENCE	6,076	LF
FENCE POSTS	608	EA
DOUBLE SWING GATE	1	EA
MODULE	15,828	EA
INVERTERS	40	EA
UNDERGROUND UTILITY LINE	100	LF
OVERHEAD UTILITY LINE	100	LF
EQUIPMENT PAD	700	SF

SETBACK

DESCRIPTION	VALUE	UNIT
FENCE SETBACK	0	LF
SETBACK FOR SOLAR PANELS, STRUCTURES, AND ELECTRICAL EQUIPMENT	50	LF
RESIDENT SETBACK	150	LF
WETLAND SETBACK	40	LF

IMPERVIOUS QUANTITIES

DESCRIPTION	VALUE	UNIT
ACCESS ROAD	22,158	SF
EQUIPMENT PADS	700	SF
FENCE POSTS @ 0.79 SF EACH	480.0	SF
TOTA NEW IMPERVIOUS	23,338	SF
	0.54	AC
PROJECT PARCEL AREA	46.47	AC
IMPERVIOUS PERCENTAGE	1.15%	%

Notes:

LEGAL DESCRIPTION OF THE PROJECT SITE IN RELATION TO THE DEVELOPMENT PARCEL, SUBMITTED TO KANE COUNTY OF RECORD.

WETLAND DELINEATION REPORT MAY IMPACT PV MODULE PANEL ARRAY LOCATION. WETLANDS OR FLOODZONES HAVE BEEN IDENTIFIED ON THE PROJECT SITE.

EMERGENCY TURNAROUND FOR PROPOSED ACCESS WAY STILL TO BE DETERMINED BY LOCAL EMERGENCY SERVICES.

PROPOSED ACCESSWAY IS TO BE FURTHER REVIEWED BY CIVIL ENGINEERS AND LOCAL AHJ.

PROPOSED ACCESSWAY MAY CHANGE DUE TO PUBLIC ROW.

PROPOSED WATERWAY GATE MAY BE CHANGED DUE TO PUBLIC ROW.

STORMWATER DRAINAGE PLAN PER RUTLAND-PLATO TOWNSHIP DRAINAGE DISTRICT OF RECORD.

EXISTING U.G. PIPELINE ROW NOTES & SPECIFICATIONS:

WHEN ANY CONSTRUCTION ACTIVITY IS CONDUCTED IN OR AROUND THE EXISTING U.G. PIPELINE OR RIGHT-OF-WAY PIPELINE COMPANY BUCKEYE'S ON-SITE INSPECTOR MUST BE PRESENT AT ALL TIMES. NO WORK SHALL TAKE PLACE WITHOUT A BUCKEYE ON-SITE INSPECTOR PRESENT. FOR THIS FEE-OF-CHARGE SERVICE, CONTACT LOCAL FIELD OPERATIONS MANAGER AT THE BUCKEYE FACILITY NEAREST TO YOUR PROPOSED PROJECT.

BEFORE ANY PRELIMINARY FIELD WORK OR CONSTRUCTION BEGINS IN THE VICINITY OF BUCKEYE'S PIPELINE, A DETERMINATION OF THE EXACT LOCATION AND ELEVATION OF THE PIPELINE MUST BE MADE.

FIELD TAKE OFF OF LOCATION EASEMENT TRACK & DEPTH OF EXISTING U.G. PIPELINE TO BE PROVIDED BY PIPELINE COMPANY BUCKEYE CONTRACTOR.

G.C. SHALL CONTACT AND COORDINATE WITH EXISTING PIPELINE COMPANY CONTRACTOR (BUCKEYE) ON ALL GROUND DISTURBANCES (PILE DRIVING) WITHIN 1,500' OF EXISTING U.G. PIPELINE & ROW.

CONSTRUCTION ACTIVITIES THAT GENERATE GROUND VIBRATIONS, INCLUDING, BUT WITHOUT LIMITATION, PILE DRIVING, SHEET DRIVING, SOIL COMPACTION WORK, JACKHAMMERING, OR RAMMING, SHALL BE REVIEWED BY BUCKEYE ON A CASE-BY-CASE BASIS.

DEEP FOUNDATIONS WHICH INCLUDE PILES, CAISSONS, DRILLED SHAFTS, BORED PILES, AND CAST-IN-PLACE PILES LOCATED WITHIN 500 FEET OF THE PIPELINE SHALL BE INSTALLED/DRILLED USING AN ALBERT.

ANY MODIFICATIONS TO AN EXISTING DRAINAGE PATTERN SHALL BE DESIGNED SUCH THAT THE EROSION OF THE PIPELINE COVER IS CONTROLLED.

ABOVEGROUND CABLES:

- A MINIMUM OF 20' OF ABOVE-GRADE CLEARANCE FOR A DISTANCE OF 20' ON EACH SIDE OF THE PIPELINE IS REQUIRED.
- MECHANICAL SUPPORTS AND SERVICE DROPS INCLUDING POLES, TOWERS, GUY WIRES, GROUND RODS, ANCHORS, ETC. ARE NOT PERMITTED WITHIN 20' OF THE PIPELINE.

FENCES AND WALLS:

- PRIVACY FENCES OR FENCES THAT PREVENT ACCESS TO THE RIGHT-OF-WAY ARE NOT PERMITTED.
- ALL OTHER FENCE INSTALLATIONS WITHIN THE RIGHT-OF-WAY WILL BE REVIEWED FOR APPROVAL BY BUCKEYE ON A CASE-BY-CASE BASIS. UPON BUCKEYE'S WRITTEN APPROVAL, FENCES SHALL BE CONSTRUCTED WITH A 14" GATE OR REMOVABLE SECTIONS ACROSS THE RIGHT-OF-WAY.
- FENCE POSTS SHALL NOT BE INSTALLED WITHIN 5' OF THE PIPELINE AND MUST BE EQUIDISTANT TO CROSSING THE PIPELINE.
- NO FENCE SHALL CROSS THE RIGHT-OF-WAY AT LESS THAN A 90-DEGREE ANGLE.
- FENCES THAT RUN PARALLEL TO THE PIPELINE SHALL BE INSTALLED OUTSIDE THE RIGHT-OF-WAY.

ATTACHMENT 1: BUCKEYE FACILITY LOCATIONS & CONTACT NUMBERS

ILLINOIS:

- ARGO (708) 258-1352
- LEMON (WEST SHORE) (888) 625-7310
- KANAWAY (618) 932-3029
- HARTFORD (618) 255-1100

ATTACHMENT 2: RIGHT OF WAY & ENCROACHMENT CONTACTS

JANA OLTHOFF - SPECIALIST, RIGHT OF WAY II
WEST REGION - NORTHERN & CENTRAL ILLINOIS,
INDIANA, WISCONSIN
(219) 741-0201

5621 WEST LINCOLN HIGHWAY
CROWN POINT, IN
J.OLTHOFF@BUCKEYE.COM

ATTACHMENT 3: STATE ONE CALL SYSTEMS (NATIONAL ONE CALL SYSTEM - DIAL 811)

ILLINOIS:

- NON-CHICAGO - JULIE, INC. - (800) 892-0123
WWW.ILLINOISCALL.COM
- CHICAGO - DIGGER - UTILITY ALERT NETWORK
(800) 744-7000
WWW.CITYOFCHICAGO.ORG/TRANS

Date	Revision Details	PM	ENG	CHK
09/16/2024	ISSUE FOR SICUP			
04/16/2024	INITIAL DRAFT			

Engineer:

ANATOLY ZELTSER
PROJECT ENGINEER
SURYA POWERED LLC
BIG TIMBER SOLAR FARM LLC
141 W. JACKSON BLVD STE 1692
CHICAGO, IL 60604

Developer:

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Chicago, IL 60604
WWW.SURYAPOWERED.COM

Project Name & Address:

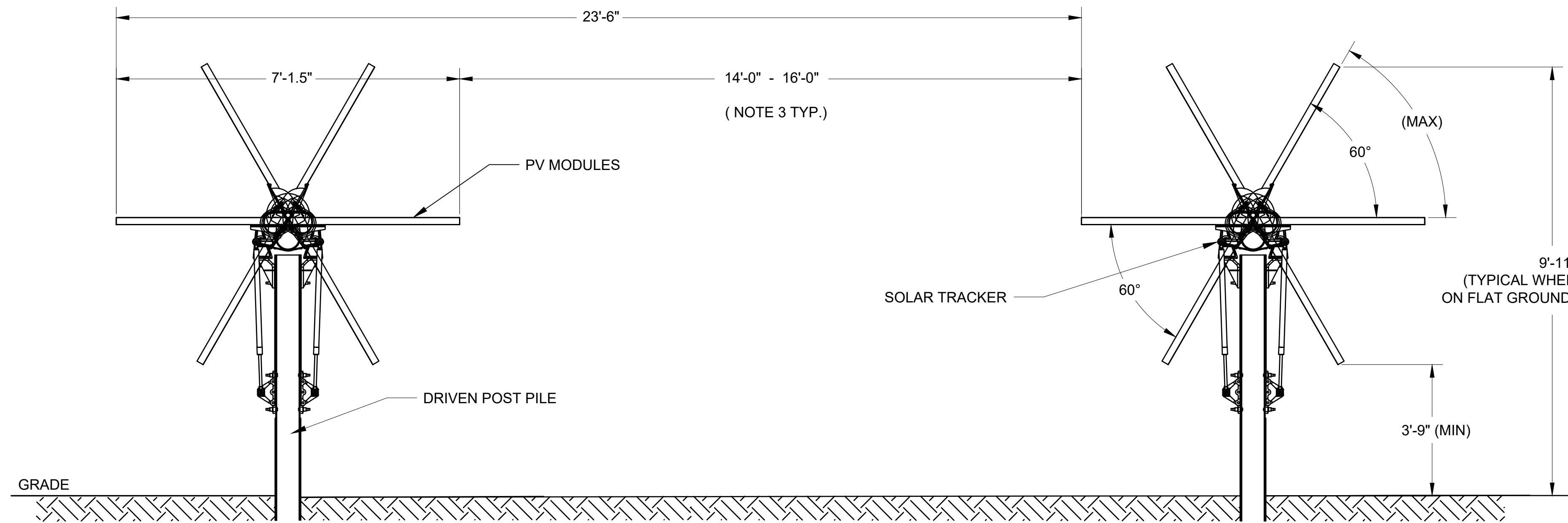
BIG TIMBER SOLAR FARM
BIG TIMBER RD.
HAMPSHIRE, IL
60140
KANE COUNTY

Drawing Title:

SITE PLAN
NEW SITE PLAN LAYOUT OF
SOLAR FARM EQUIPMENT,
INTERNAL ROADS
AND SETBACKS

Project No.	Drawing No.
8881	DEV.03 - SP

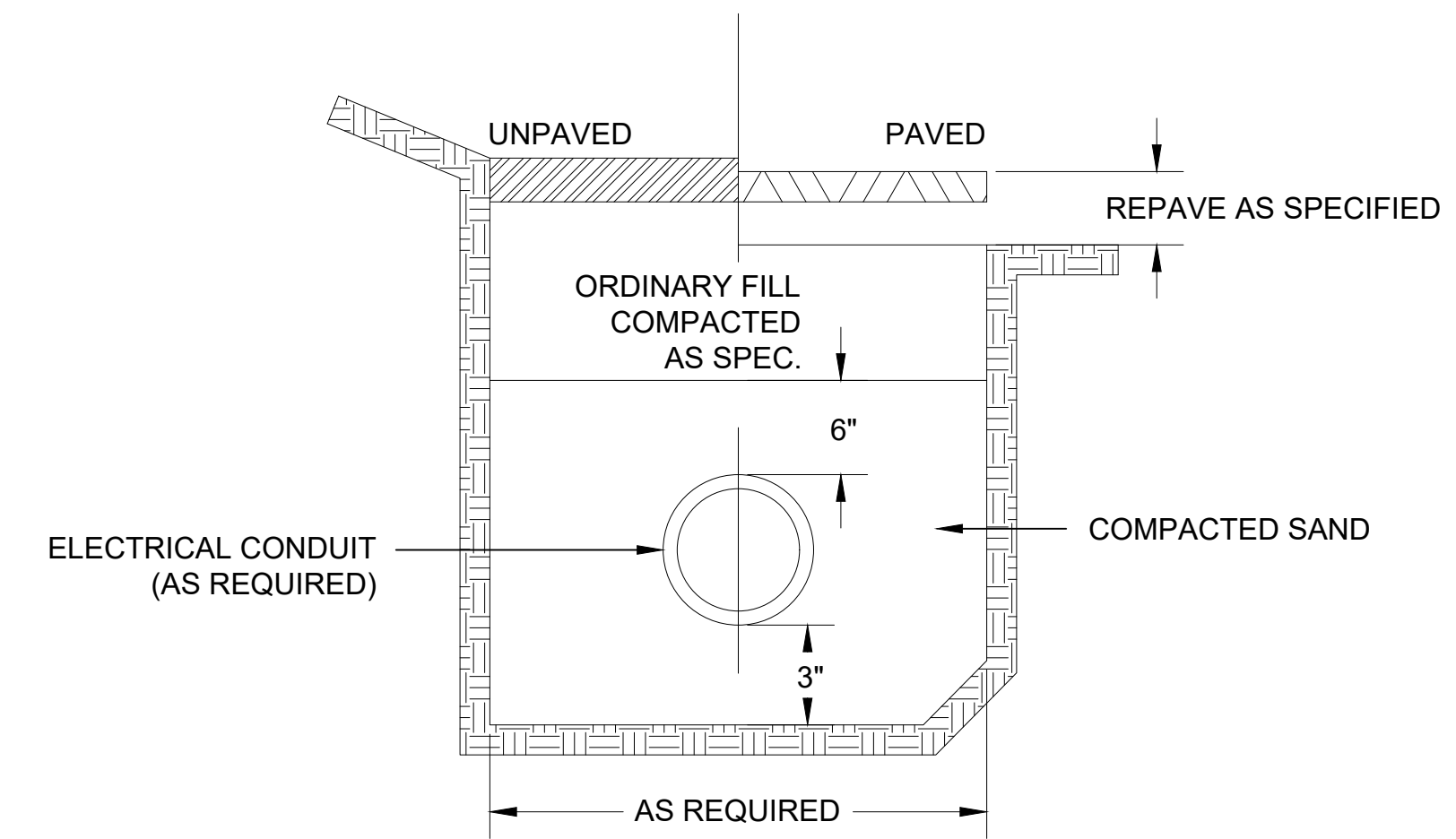
Paper Size	Sheet No.
36" x 24"	03



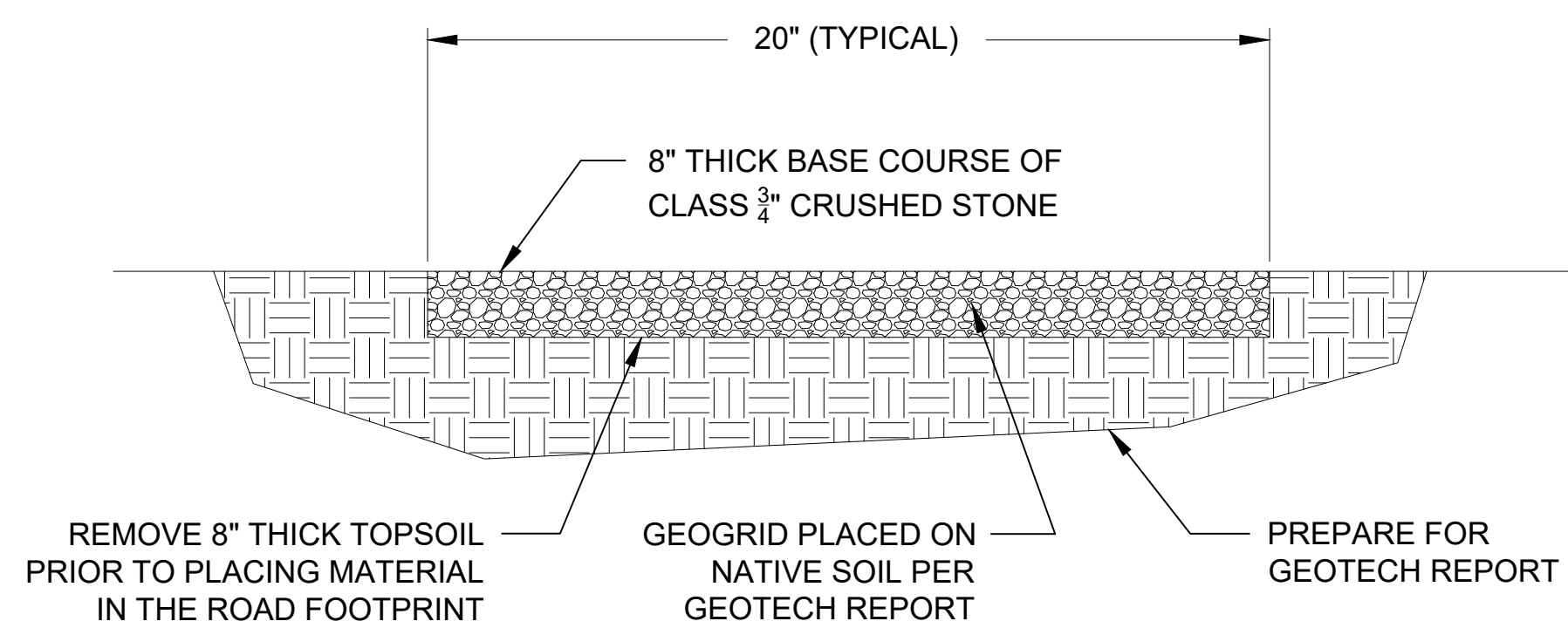
1 MECHANICAL SINGLE AXIS TRACKER RACKING STRUCTURE SYSTEM DETAIL: SCHEMATIC DESIGN
NOT TO SCALE

NOTES:

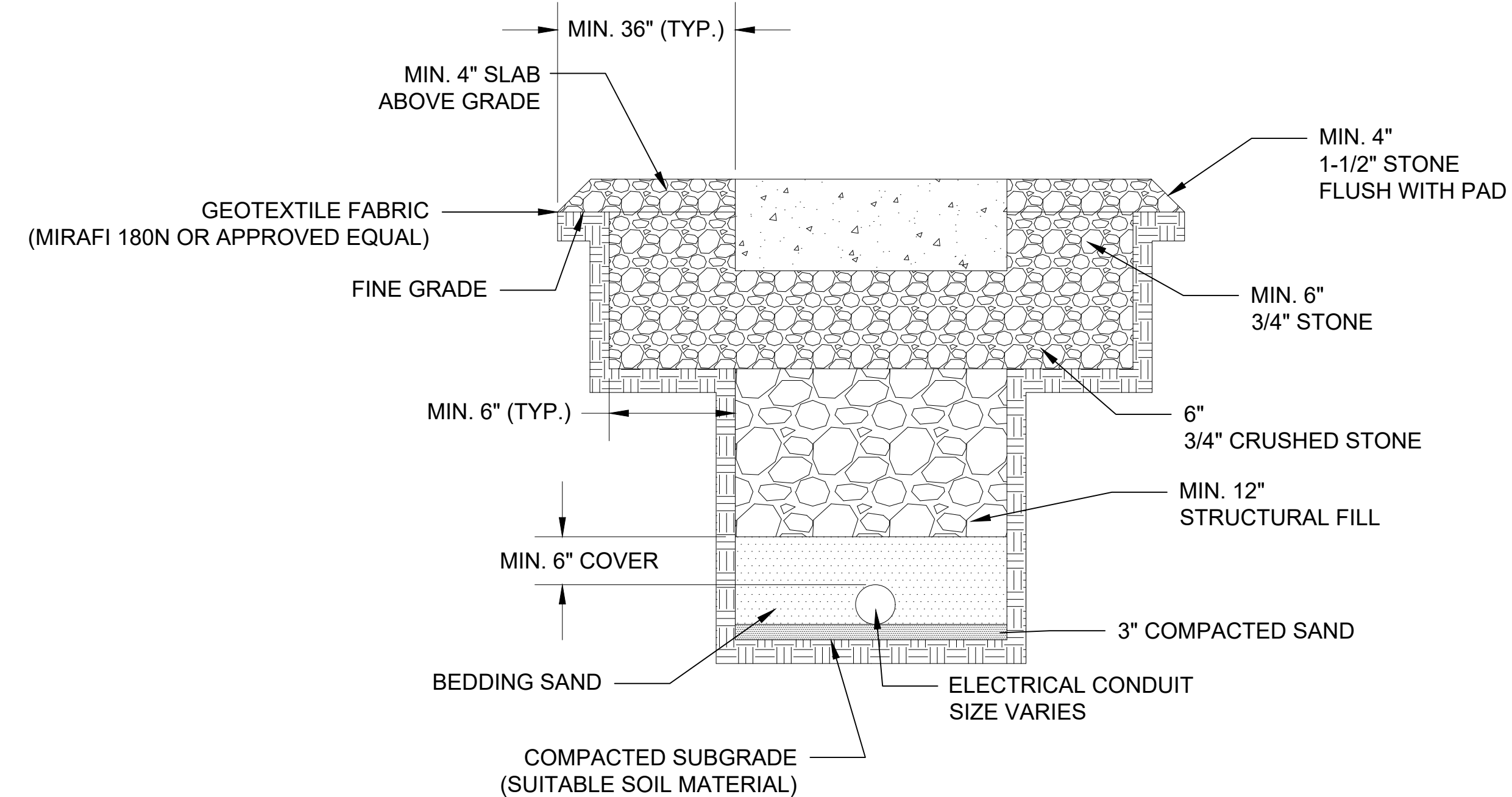
1. SINGLE AXIS TRACKER MECHANICAL RACKING SYSTEM BY AXIAL TRACKER. SEE MANUFACTURER DRAWINGS FOR ADDITIONAL DETAILS.
2. STRUCTURE DIMENSIONS SHOWN ARE TYPICAL FOR FLAT GRADE. DIMENSIONS MAY VARY WHERE SLOPES EXIST.
3. TYPICAL EACH ARRAY ROW/COLUMN INTER ROW SPACING VARYING DEPENDANT ON EXISTING GRADE ELEVATION CONDITIONS, TO BE VERIFIED IN THE FIELD BY CONTRACTOR PRIOR TO INSTALLATION PER MECHANICAL RACKING MANUFACTURERES CONSTRUCTION PLAN SET.



2 U.G. DIRECT BURIED ELECTRICAL CONDUIT TRENCH DETAIL
NOT TO SCALE



3 F.D. ACCESS ROAD DETAIL
NOT TO SCALE



4 SUBGRADE EQUIPMENT FOUNDATION DETAIL
NOT TO SCALE

Notes:

09/16/2024	ISSUE FOR S/CUP		
04/16/2024	INITIAL DRAFT		
Date	Revision Details	PM	ENG
	Revision Table		

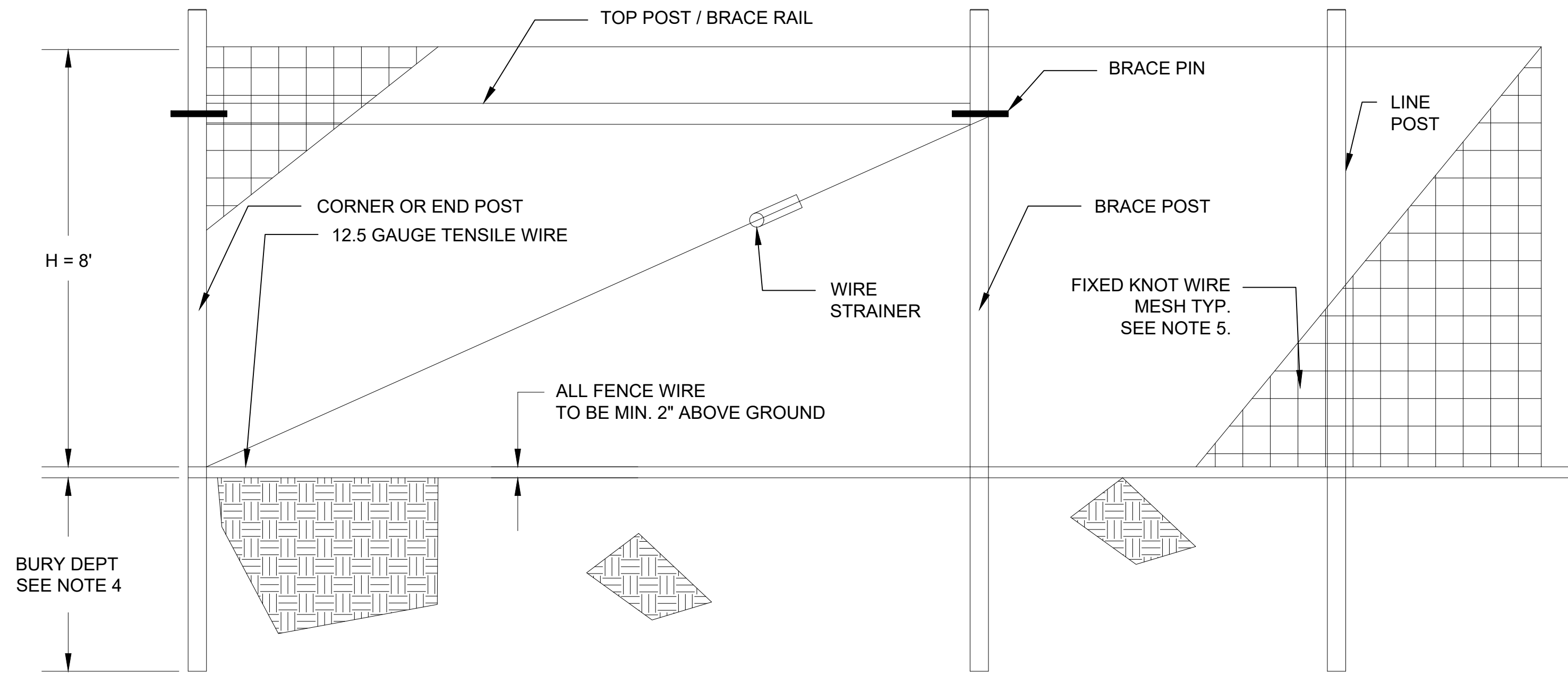
Engineer
ANATOLY ZELTSER
PROJECT ENGINEER
SURYA POWERED LLC
BIG TIMBER SOLAR FARM LLC
141 W. JACKSON BLVD STE 1692
CHICAGO, IL 60604

Developer
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CHICAGO, IL 60604
WWW.SURYAPOWERED.COM

Project Name & Address
BIG TIMBER SOLAR FARM
BIG TIMBER RD.
HAMPSHIRE, IL
60140
KANE COUNTY

Drawing Title
CONSTRUCTION DETAILS
TYPICAL DETAILS, CUT SECTIONS & ELEVATIONS OF
ACCESS ROAD, EQUIPMENT FOUNDATIONS,
PV MECHANICAL TRACKER RACKING STRUCTURE SYSTEM,
U.G. CONDUIT TRENCHING

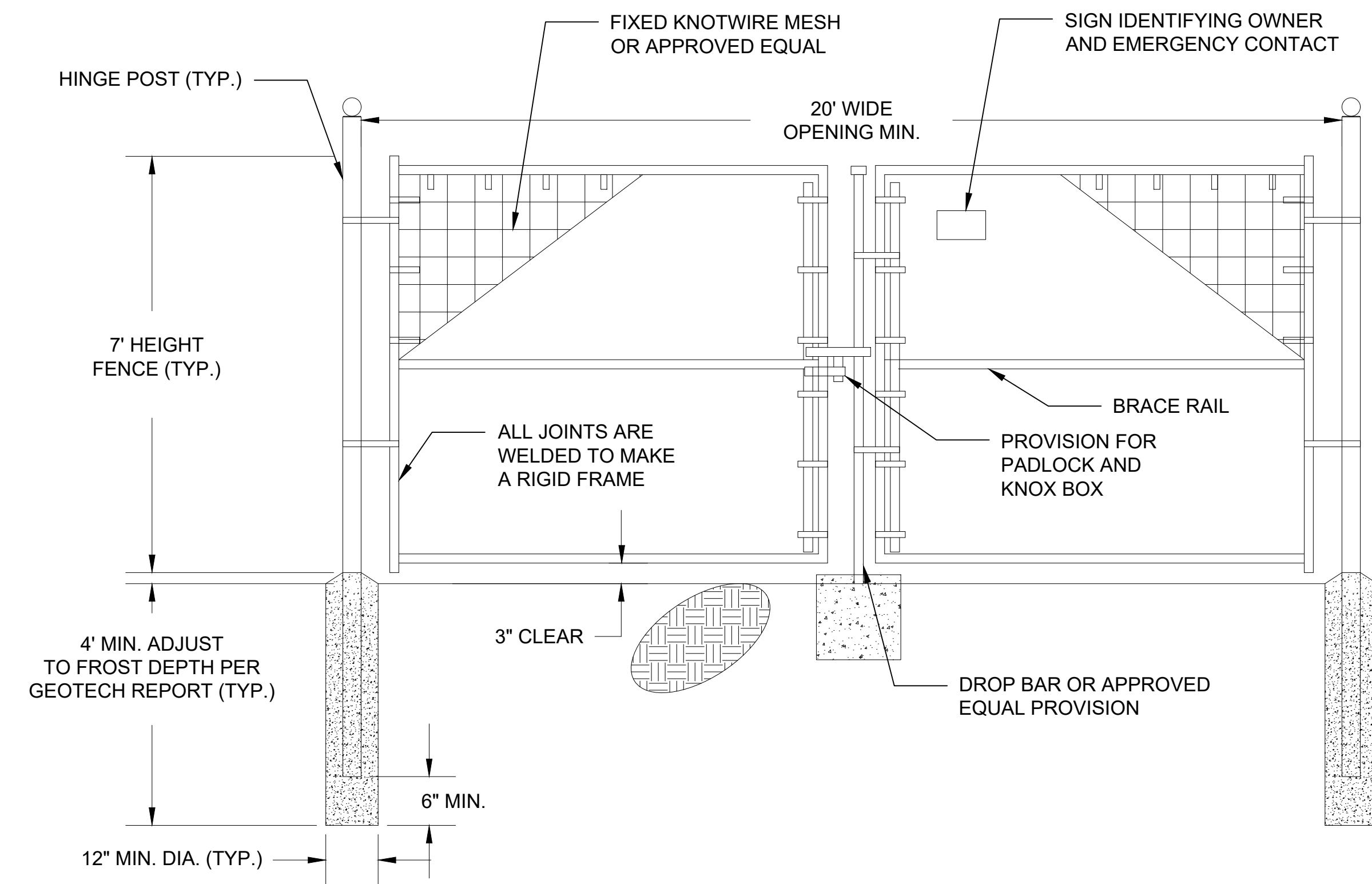
Project No. 8881	Drawing No. DEV.04 - CD
Paper Size 36" x 24"	Sheet No. 04



1 FIXED KNOT FARM FENCE DETAIL
NOT TO SCALE

NOTES:

1. INSTALL ALL FENCING COMPONENTS PER MANUFACTURERS SPECIFICATIONS.
2. ALL FENCING AND HARDWARE SHALL BE GALVANIZED, UNLESS OTHERWISE NOTED.
3. ALL SQUARE POSTS TO BE MIN. 5"X5" NOMINAL SIZE OR ROUND POST WITH MIN. 5" OR 6" DIAMETER PRESSURE TREATED WOOD OR APPROVED EQUAL. PREFER POSTS TO HAVE A CHAMFERED TOP.
4. ALL LINE POST TO BE SET TO A MIN. DEPTH OF 4' BELOW GRADE, ALL CORNER, END OR GATE POSTS SHALL BE SET TO A MIN. DEPTH OF 6' BELOW GRADE, UNLESS OTHERWISE NOTES.
5. FIXED KNOT WIRE MESH TO BE BEKAERT SOLID LOCK® PRO, 12.5 GAUGE, CLASS 3 GLAVANIZED, 6" VERTICAL SPACING OR APPROVED EQUAL.
6. BRACING IS REQUIRED AT ALL CORNER, END AND GATE POSTS, DOUBLE BRACING (TWO BRACE ASSEMBLIES IN A ROW) SHOULD BE USED FOR STRAIGHT RUNS OF FENCE THAT EXCEED 1,000 LF. AN ADDITIONAL BRACE ASSEMBLY SHOULD BE INSTALLED MID SPAN FOR STRAIGHT RUNS OF FENCE THAT EXCEED 1,320 LF. ADDITIONAL BRACING MAY BE STILL BE REQUIRED OVER UNEVEN TERRAIN, CONTRACTOR SHALL INSTALL ADDITIONAL BRACING AS NEEDED IF DEFLECTION IS NOTICED DURING TENSIONING.



2 FIXED KNOT FARM FENCE 20' WIDE DOUBLE SWING GATE DETAIL
NOT TO SCALE

NOTES:

1. INSTALL ALL FENCING COMPONENTS PER MANUFACTURER'S SPECIFICATIONS.
2. ALL FENCING AND HARDWARE SHALL BE GALVANIZED, UNLESS OTHERWISE NOTES.
3. HINGE POSTS MAY BE TIMBER IF CONTRACTOR DESIRES, TIMBER HINGE POSTS DO NOT NEED TO BE SET IN CONCRETE. UTILIZE HINGE THRU BOLTS TO CONNECT TO TIMBER HINGE POSTS OR LAG SCREWS, PER MANUFACTURERS RECOMMENDATIONS.
4. IF CONTRACTOR UTILIZES METAL HINGE POST THAN POSTS SHALL BE SET IN CONCRETE AS SHOWN IN DETAIL.
5. BRACING REQUIRED AT FOR ALL GATES. SEE FIXED KNOT FARM FENCE DETAIL.
6. FIXED KNOT WIRE MESH TO BE BEKAERT SOLIDLOCK® PRO, 12.5 GAUGE, CLASS 3 GLAVANIZED, 6" VERTICAL SPACING OR APPROVED EQUAL.
7. BRACE RAIL SHOWN FOR REFERENCE ADDITIONAL BRACE RAILS MAY BE REQUIRED (NOT SHOWN) OR TRUSS RODS MAY BE REQUIRED PER MANUFACTURER'S RECOMMENDATIONS.

Notes:
ADDITIONAL FENCING AND GATE DETAILS TO BE FURTHER REVIEWED BY THE COUNTY OF RECORD DURING BUILDING PERMIT APPROVAL. THE FOLLOWING PLAN IS CONCEPTUAL, PRELIMINARY SCHEMATIC DESIGN AND IS SUBJECT TO CHANGE.

Date	Revision Details	PM	ENG	CHK
09/16/2024	ISSUE FOR S/CUP			
04/16/2024	INITIAL DRAFT			

Engineer
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Project Name & Address
BIG TIMBER SOLAR FARM
BIG TIMBER RD.
HAMPSHIRE, IL
60140
KANE COUNTY

Drawing Title
FENCE DETAILS
TYPICAL DETAILS, CUT SECTIONS & ELEVATIONS OF FENCING & DOUBLE SWING ACCESS GATE.

Project No. 8881	Drawing No. DEV.05 - FD
Paper Size 36" x 24"	Sheet No. 05

CPS 100/125 kW, 1500 Vdc String Inverters for North America



Key Features

- NFPA 70 and NEC compliant
- Touch-safe DC Fuse holders add convenience and safety
- CPS FlexOM Gateway enables remote firmware upgrades
- Integrated AC and DC disconnect switches
- 1 MPPT with 20 fused inputs for maximum flexibility
- Copper- and aluminum-compatible AC connections
- NEMA Type 4X outdoor rated enclosure
- Advanced Smart-Grid features (CA Rule 21 certified)
- kVA headroom yields 100 kW @ 0.9 PF and 125 kW @ 0.95 PF
- Generous 1.87 (100 kW) and 1.5 (125 kW) DC/AC inverter load ratios
- Separable wire box design for fast service
- Enhanced DC wire boxes available

Standard Wire Boxes **Enhanced DC Wire Boxes**

© CHINT POWER SYSTEMS AMERICA 2024-03-AMT-NA Chint Power Systems America

Technical Data

Model Name	CPS SCH100KTL-DO/US-600	CPS SCH125KTL-DO/US-600
DC Input		
Max. PV power	187.5 kW	187.5 kW
Max. DC input voltage	1500 V	1500 V
Operating DC input voltage range	800-1450 Vdc	800-1450 Vdc
Start-up DC input voltage / power	900 V / 250 W	900 V / 250 W
Number of MPPT trackers	1	1
MPPT voltage range	870-1300 Vdc	870-1300 Vdc
Max. PV input current (per x1.25)	275 A	275 A
Number of DC inputs	Distributed Wire Box: 20 PV source circuits, positive and negative fused Centralized Wire Box: 1 input circuit, 1/2 terminations per pole, non-fused	
DC disconnection type	Load-rated DC switch	
DC surge protection	Type II MOV (with indicator/remote signaling)	
AC Output		
Rated AC output power ¹	100 kW	125 kW
Max. AC apparent power (selectable)	100 kVA (111 kVA @ PF = 0.9)	125 kVA (132 kVA @ PF = 0.95)
Rated output voltage	600 Vac	600 Vac
Output voltage range ²	528-660 Vac	528-660 Vac
Grid connection type	3Ø / P/N / N (neutral optional)	120 V / 127.0 V
Max. AC output current @ 600 Vac	96.2 / 106.8 A	120.3 / 127.0 A
Rated output frequency	60 Hz	60 Hz
Output frequency range ³	57.63 Hz	57.63 Hz
Power factor	>0.99 (±0.8 adjustable)	>0.99 (±0.8 adjustable)
Current THD	< 3%	< 3%
Max. fault current contribution (1 cycle RMS)	43.47 A	43.47 A
Max. DC/DP rating	200 A	200 A
AC disconnection type	Load-rated AC switch	
AC surge protection	Type II MOV (with indicator/remote signaling)	
System	Transformerless	
Max. efficiency	99.1%	
CEC efficiency	98.5%	
Standby / night consumption	< 4 W	
Environment	NEMA Type 4X	
Enclosure protection degree	Variable speed cooling fans	
Cooling method	Variable speed cooling fans	
Operating temperature range ⁴	-22°F to 140°F / -30°C to 60°C	
Non-operating temperature range ⁵	-40°F to 158°F / -40°C to 70°C	
Operating humidity	0-100%	
Operating altitude	8202 ft / 2500 m (no derating)	
audible noise	< 65 dBA @ 1 m and 77°F (25°C)	
Display and Communication	LED indicators, Wi-Fi and app	
User interface and display	Modbus RS485	
Inverter monitoring	CPS FlexOM Gateway (1 per 32 inverters)	
Site-level monitoring	SunSpec / CPS	
Modbus data mapping	Standard / with FlexOM Gateway	
Remote diagnostics / Firmware upgrade functions	Standard / with FlexOM Gateway	
Mechanical		
Dimensions (W x H x D)	Distributed Wire Box: 45.38" x 24.25" x 9.84" in (1150 x 616 x 250 mm) Centralized Wire Box: 39.37" x 24.25" x 9.84" in (1000 x 616 x 250 mm)	
Weight	Inverter: 121 lbs (55 kg) Distributed Wire Box: 55 lbs (25 kg) Centralized Wire Box: 33 lbs (15 kg)	
Mounting / installation angle	15-90 degrees from horizontal (vertical or angled)	
AC termination	M10 stud type terminal [3Ø] (wire range: 1/0 AWG-500 kcmil CU/AL; lugs not supplied)	
DC termination	Distributed Wire Box: Screw clamp / wire holder (wire range: #12-#6 AWG CU) Centralized Wire Box: Busbar, M10 bolts (wire range: #1 AWG-500 kcmil CU/AL, 1 termination per pole, #1 AWG-300 kcmil CU/AL, 2 terminations per pole), lugs not supplied	
Fused string inputs	Standard/Distributed Wire Boxes: 25 A fuses provided (fuse values up to 30 A acceptable) Enhanced DC Wire Boxes: 20 A fuses provided (fuse values up to 30 A acceptable)	
Safety		
Certifications and standards	UL 1741 SA/PS Ed. 3, CSA-C22.2 NO.107.1-01, IEC 1547-2018, FCC PART15	
Selectable grid standard	IEEE 1547a-2014, IEEE 1547-2018, CA Rule 21, ISO-NE	
Smart-grid features	Volt-Ride/Thru, Frequency-Ride/Thru, Ramp-Rate, Spot-Check/PF, Volt-VAR, Free-Wheel, Volt-Wait	
Warranty		
Standard	5 years	
Extended terms	10, 15, and 20 years	

1) See user manual for further information regarding MPPT voltage range when operating at non-unity PF.
2) 10 kV active power derating begins at 1157 Vdc when MPPT is in Volt. 125 kW active power derating begins at 1074 Vdc when PF = 0.95 and MPPT is in Volt, and at 1137 Vdc when PF = 1 and MPPT is in Volt.
3) The "output voltage range" and "output frequency range" may differ according to the specific grid standard.
4) Data configurations must not be corner-grounded.
5) See user manual for further information regarding non-operating conditions.
6) Firmware version 1.0.0 or later required.

2 EQUIPMENT SPECIFICATION CUT SHEET DETAIL: STRING INVERTER 125 KWATT (DC) NOT TO SCALE

Vertex BIFACIAL DUAL GLASS MONOCRYSTALLINE MODULE

PRODUCT: TSM-DEG10C-20 PRODUCT RANGE: 535-555W

555W MAXIMUM POWER OUTPUT **0~+5W** POSITIVE POWER TOLERANCE **21.2%** MAXIMUM EFFICIENCY

High customer value

- Lower LCOE (Levelized Cost Of Energy), reduced BOS (Balance of System) cost, shorter payback time
- Lowest guaranteed first year and annual degradation
- Designed for compatibility with existing mainstream system components
- Higher return on investment

High power up to 555W

- Up to 21.2% module efficiency with high density interconnect technology
- Multi-busbar technology for better light trapping effect, lower series resistance and improved current collection

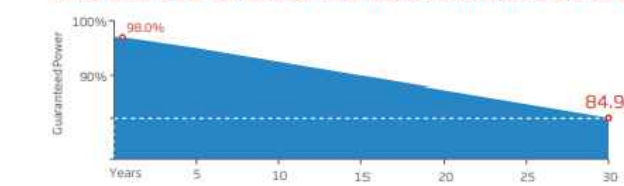
High reliability

- Minimized micro-cracks with innovative non-destructive cutting technology
- Enhanced PID resistance through cell process and module material control
- Resistant to harsh environments such as salt, ammonia, sand, high temperature and high humidity areas
- Mechanical performance up to 5400 Pa positive load and 2400 Pa negative load

High energy yield

- Excellent IAM (Incident Angle Modifier) and low irradiation performance, validated by 3rd party certifications
- The unique design provides optimized energy production under inter-row shading conditions
- Lower temperature coefficients (-0.34%) and operating temperature
- Up to 25% additional power gain from back side depending on albedo

Trina Solar's Vertex Bifacial Dual Glass Performance Warranty



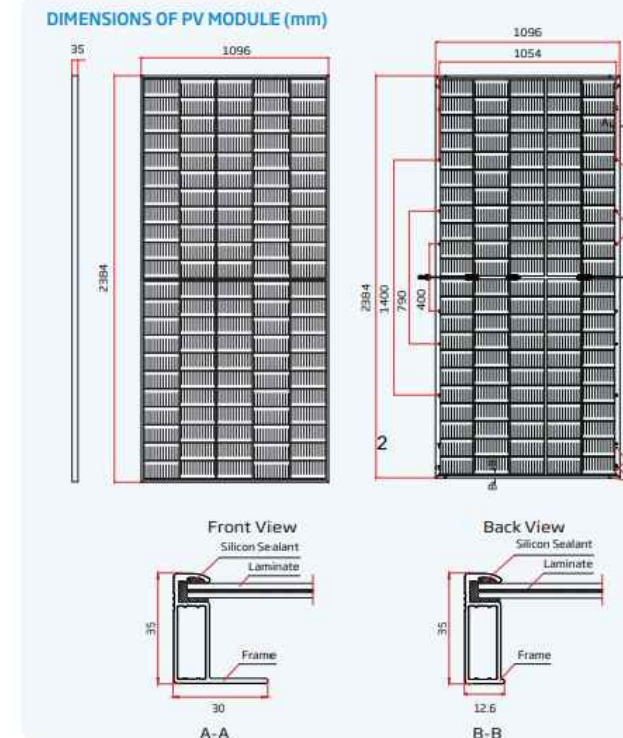
Comprehensive Products and System Certificates

ISO 9001:2015 RECB1730/RECE1701/RECE1716/UL1617/90 ISO 14001:2015 Quality Management System ISO 45001:2018 Occupational Health and Safety Management System

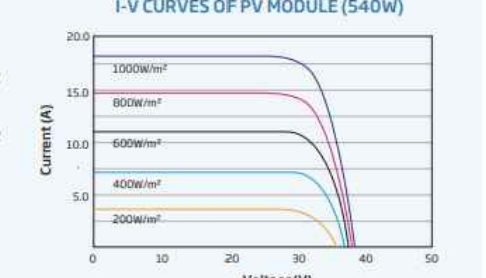
Trinasolar

Vertex BIFACIAL DUAL GLASS MONOCRYSTALLINE MODULE

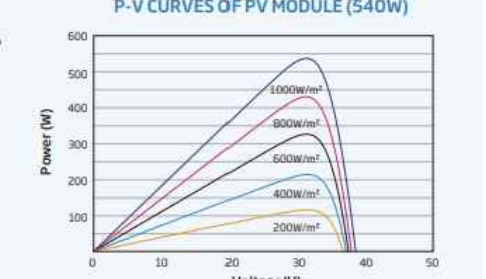
DIMENSIONS OF PV MODULE (mm)



I-V CURVES OF PV MODULE (540W)



P-V CURVES OF PV MODULE (540W)



ELECTRICAL DATA (STC)

Power Watts (Peak)	535	540	545	550	555
Power Tolerance (Peak)	0	+5			
Maximum Power Voltage (V _{mp})	31.2	31.4	31.6	31.8	32.0
Maximum Power Current (A _{mp})	17.06	17.11	17.16	17.21	17.26
Open Circuit Voltage (V _{oc})	37.5	37.7	37.9	38.1	38.3
Short Circuit Current (A _{sc})	18.24	18.30	18.35	18.39	18.43
Module Efficiency (m ² /W)	20.5	20.7	20.9	21.0	21.2

Mechanical Data

Parameter	Value
Peak Power Watts (Peak)	573, 578, 583, 589, 594
Maximum Power Voltage (V)	31.2, 31.4, 31.6, 31.8, 32.0
Maximum Power Current (A)	18.36, 18.41, 18.45, 18.50, 18.56
Open Circuit Voltage (V)	37.5, 37.7, 37.9, 38.1, 38.3
Short Circuit Current (A)	18.52, 18.58, 18.63, 18.68, 18.72
Infinite Voltage (per panel)	100%

TEMPERATURE RATINGS

Parameter	Value
Operating Temperature	-40~+60°C
Maximum System Voltage	1500V DC (IEC)
Temperature Coefficient of P _{max}	-0.26%/°C
Temperature Coefficient of I _{sc}	0.046%/°C

WARRANTY

Parameter	Value
12 year Product Workmanship Warranty	Modules per box: 32 pieces
30 year Power Warranty	Modules per 40' container: 527 pieces
2% first year degradation	
0.45% Annual Power Attenuation	

CAUTION: READ SAFETY AND INSTALLATION INSTRUCTIONS BEFORE USING THE PRODUCT.

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1 EQUIPMENT SPECIFICATION CUT SHEET DETAIL: PV MODULE 550 WATT (DC) NOT TO SCALE

Notes:
ADDITIONAL EQUIPMENT SPECIFICATION DETAILS TO BE FURTHER REVIEWED BY THE COUNTY OF RECORD DURING BUILDING PERMIT APPROVAL. THE FOLLOWING PLAN IS CONCEPTUAL, PRELIMINARY SCHEMATIC DESIGN AND IS SUBJECT TO CHANGE.

Date	Revision Details	PM ENG CHK
09/16/2024	ISSUE FOR S/C/UP	
04/16/2024	INITIAL DRAFT	

Engineer

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PROJECT ENGINEER
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Project Name & Address
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BIG TIMBER RD.
HAMPSPERE, IL
60140
KANE COUNTY

Drawing Title
EQUIPMENT DETAILS
TYPICAL DETAILS, CUT SHEETS & SPECIFICATIONS OF PV MODULE & STRING INVERTER EQUIPMENT.

Project No.	Drawing No.
8881	DEV.06 - ED
Paper Size	Sheet No.
36" x 24"	06