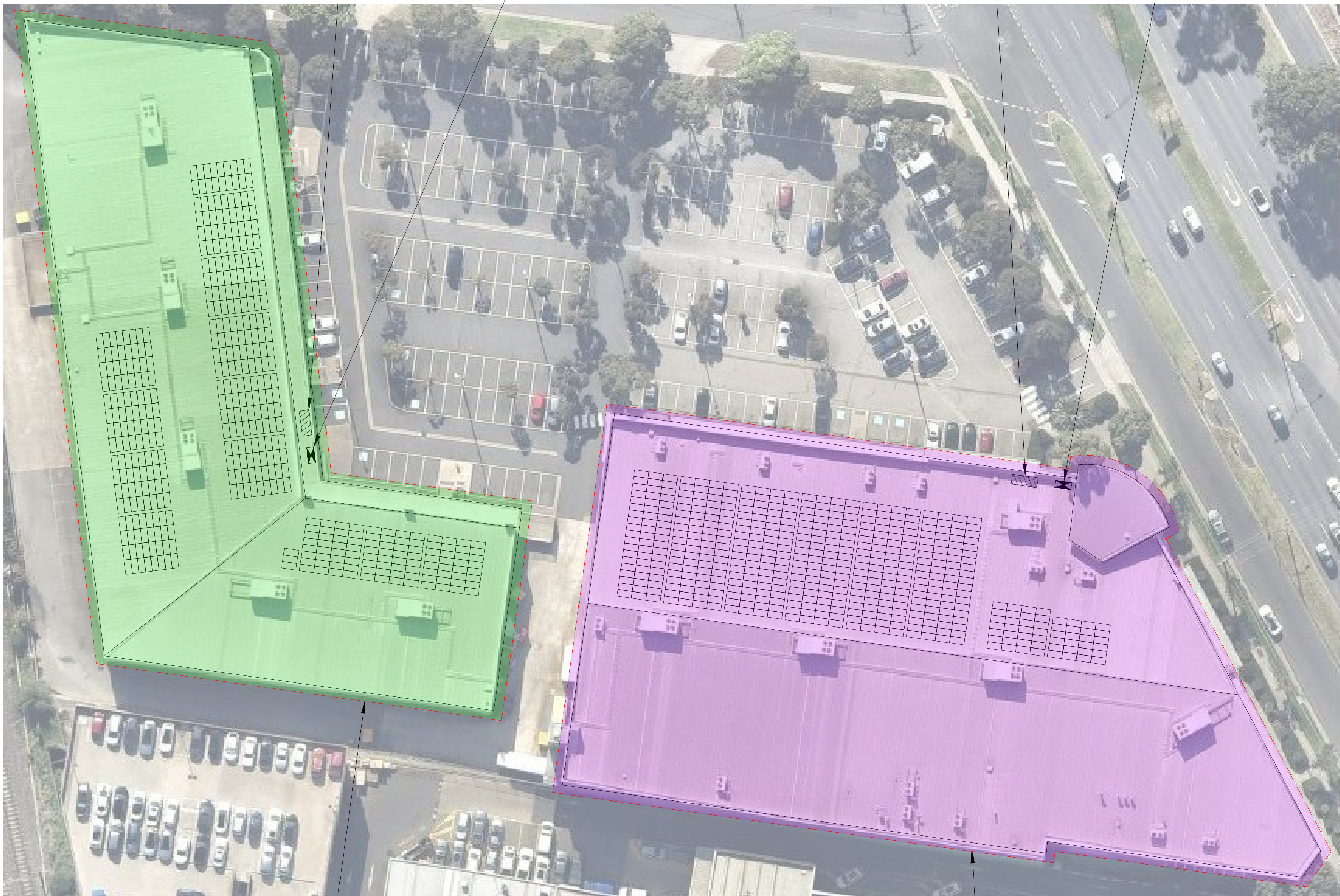
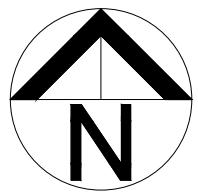




PV ARRAY 02
425x JA SOLAR JAM78S10-440/MR
187.00kWp TOTAL, FLUSH-MOUNT

PV ARRAY 01
489x JA SOLAR JAM78S10-440/MR
215.16kWp TOTAL, FLUSH-MOUNT

SITE PLAN
SCALE 1:400

OVERALL SYSTEM SPECIFICATION		
MODULE	914	JA SOLAR JAM78S10-440/MR
INVERTER	11	SMA STP25000TL-30
	1	SMA STP20000TL-30
	1	SMA STP15000TL-30
DC CAPACITY	402.16	kWp
AC CAPACITY	310	kVA
DC/AC RATIO	1.30	

PERFORMANCE ESTIMATE		
PRODUCED ENERGY	574.34	MWh/YEAR
SPECIFIC PRODUCTION	1430	kWh/kWp/YEAR
PERFORMANCE RATIO PR	84.40	%

- NOTES:
- DO NOT SCALE FROM THIS DRAWING.
 - ALL DIMENSIONS ARE IN METRES AND LEVELS IN METRES UNLESS NOTED OTHERWISE. ALL DIMENSIONS TO BE VERIFIED ON SITE BY CONTRACTOR.
 - EXACT LOCATION OF ALL PARTS OF THE INSTALLATION TO BE DETERMINED BY CONTRACTOR ON SITE.
 - PRINT IN COLOUR.
 - THIS DRAWING IS BASED ON THE INFORMATION SUPPLIED TO THE DESIGNER FROM ITS CLIENTS OR SUBCONTRACTORS AND HAS BEEN PROVIDED IN ACCORDANCE WITH GSES' TERMS AND CONDITIONS.
 - ALL EXISTING EQUIPMENT LABELLED "EXISTING". ALL OTHER EQUIPMENT TO BE INSTALLED.
 - PV ARRAY PANEL QUANTITIES ARE INDICATIVE ONLY, TO BE CONFIRMED DURING DETAILED DESIGN.

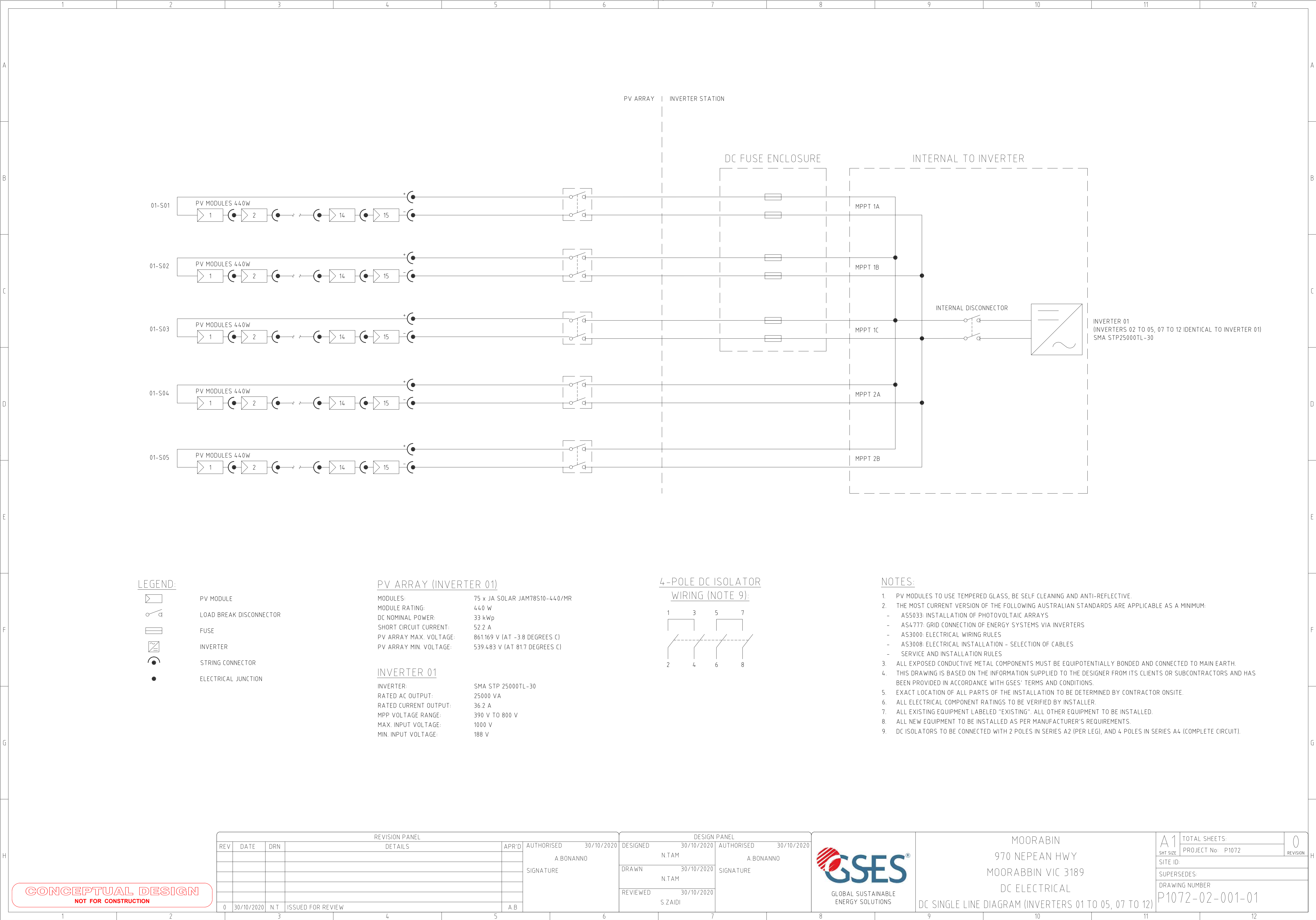
- LEGEND:
- PV MODULE
 - INVERTER STATION/PV DISTRIBUTION BOARD
 - SWITCHBOARD
 - PV ARRAY BOUNDARY

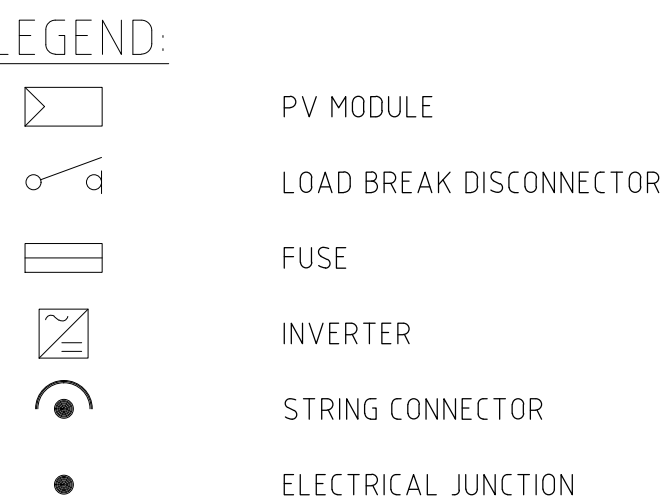
CONCEPTUAL DESIGN
NOT FOR CONSTRUCTION

REVISION PANEL				DESIGN PANEL				TOTAL SHEETS: 0	
REV	DATE	DRN	DETAILS	APR'D	AUTHORISED	DESIGNED	AUTHORISED		
					30/10/2020	30/10/2020	30/10/2020	PROJECT No: P1072	REVISION
					A BONANNO	N.TAM	A BONANNO	SITE ID:	
					SIGNATURE	N.TAM	SIGNATURE	SUPERSEDES:	
						30/10/2020		DRAWING NUMBER	
0	30/10/2020	N.T	ISSUED FOR REVIEW	A.B		S.ZAIDI		P1072-01-001-01	



MOORABIN
970 NEPEAN HWY
MOORABBIN VIC 3189
CIVIL/SITE
SITE PLAN





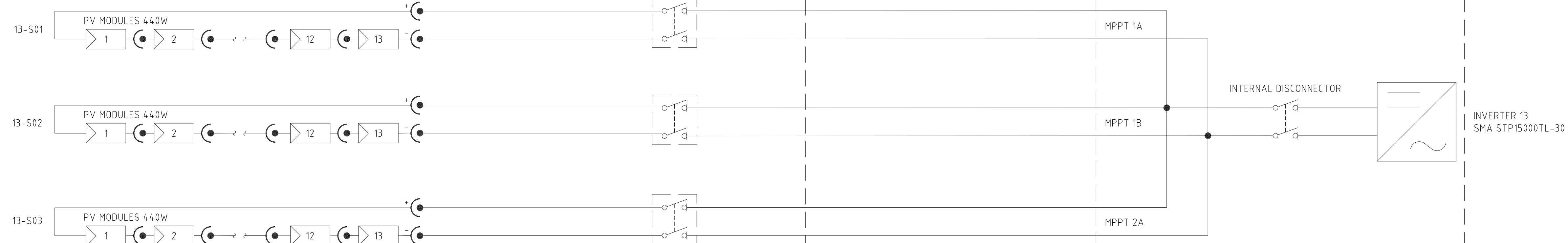
MODULES:	50 x JA SOLAR JAM78S10-440/MR
MODULE RATING:	440 W
DC NOMINAL POWER:	22 kWp
SHORT CIRCUIT CURRENT:	4176 A
PV ARRAY MAX. VOLTAGE:	746.347 V (AT -3.8 DEGREES C)
PV ARRAY MIN. VOLTAGE:	431.587 V (AT 81.7 DEGREES C)

INVERTER:	SMA STP 20000TL-30
RATED AC OUTPUT:	20000 VA
RATED CURRENT OUTPUT:	29 A
MPP VOLTAGE RANGE:	320 V TO 800 V
MAX. INPUT VOLTAGE:	1000 V
MIN. INPUT VOLTAGE:	188 V

1. PV MODULES TO USE TEMPERED GLASS, BE SELF CLEANING AND ANTI-REFLECTIVE.
2. THE MOST CURRENT VERSION OF THE FOLLOWING AUSTRALIAN STANDARDS ARE APPLICABLE AS A MINIMUM:
 - AS5033: INSTALLATION OF PHOTOVOLTAIC ARRAYS
 - AS4777: GRID CONNECTION OF ENERGY SYSTEMS VIA INVERTERS
 - AS3000: ELECTRICAL WIRING RULES
 - AS3008: ELECTRICAL INSTALLATION - SELECTION OF CABLES
 - SERVICE AND INSTALLATION RULES
3. ALL EXPOSED CONDUCTIVE METAL COMPONENTS MUST BE EQUIPOTENTIALLY BONDED AND CONNECTED TO MAIN EARTH.
4. THIS DRAWING IS BASED ON THE INFORMATION SUPPLIED TO THE DESIGNER FROM ITS CLIENTS OR SUBCONTRACTORS AND HAS BEEN PROVIDED IN ACCORDANCE WITH GSES' TERMS AND CONDITIONS.
5. EXACT LOCATION OF ALL PARTS OF THE INSTALLATION TO BE DETERMINED BY CONTRACTOR ONSITE.
6. ALL ELECTRICAL COMPONENT RATINGS TO BE VERIFIED BY INSTALLER.
7. ALL EXISTING EQUIPMENT LABELED "EXISTING". ALL OTHER EQUIPMENT TO BE INSTALLED.
8. ALL NEW EQUIPMENT TO BE INSTALLED AS PER MANUFACTURER'S REQUIREMENTS.
9. DC ISOLATORS TO BE CONNECTED WITH 2 POLES IN SERIES A2 (PER LEG), AND 4 POLES IN SERIES A4 (COMPLETE CIRCUIT).

REVISION PANEL					DESIGN PANEL				GSES® GLOBAL SUSTAINABLE ENERGY SOLUTIONS MOORABIN 970 NEPEAN HWY MOORABBIN VIC 3189 DC ELECTRICAL DC SINGLE LINE DIAGRAM (INVERTER 06)		A1 TOTAL SHEETS: PROJECT No: P1072		0 REVISION
REV	DATE	DRN	DETAILS	APPR'D	AUTHORISED	30/10/2020	DESIGNED	30/10/2020			AUTHORISED	30/10/2020	SITE ID:
					A BONANNO SIGNATURE		N TAM	30/10/2020	A BONANNO SIGNATURE				P1072-02-002-01
						DRAWN	30/10/2020	N TAM					
						REVIEWED	30/10/2020	S ZAIDI					
0	30/10/2020	N T	ISSUED FOR REVIEW	A B									

CONCEPTUAL DESIGN
NOT FOR CONSTRUCTION



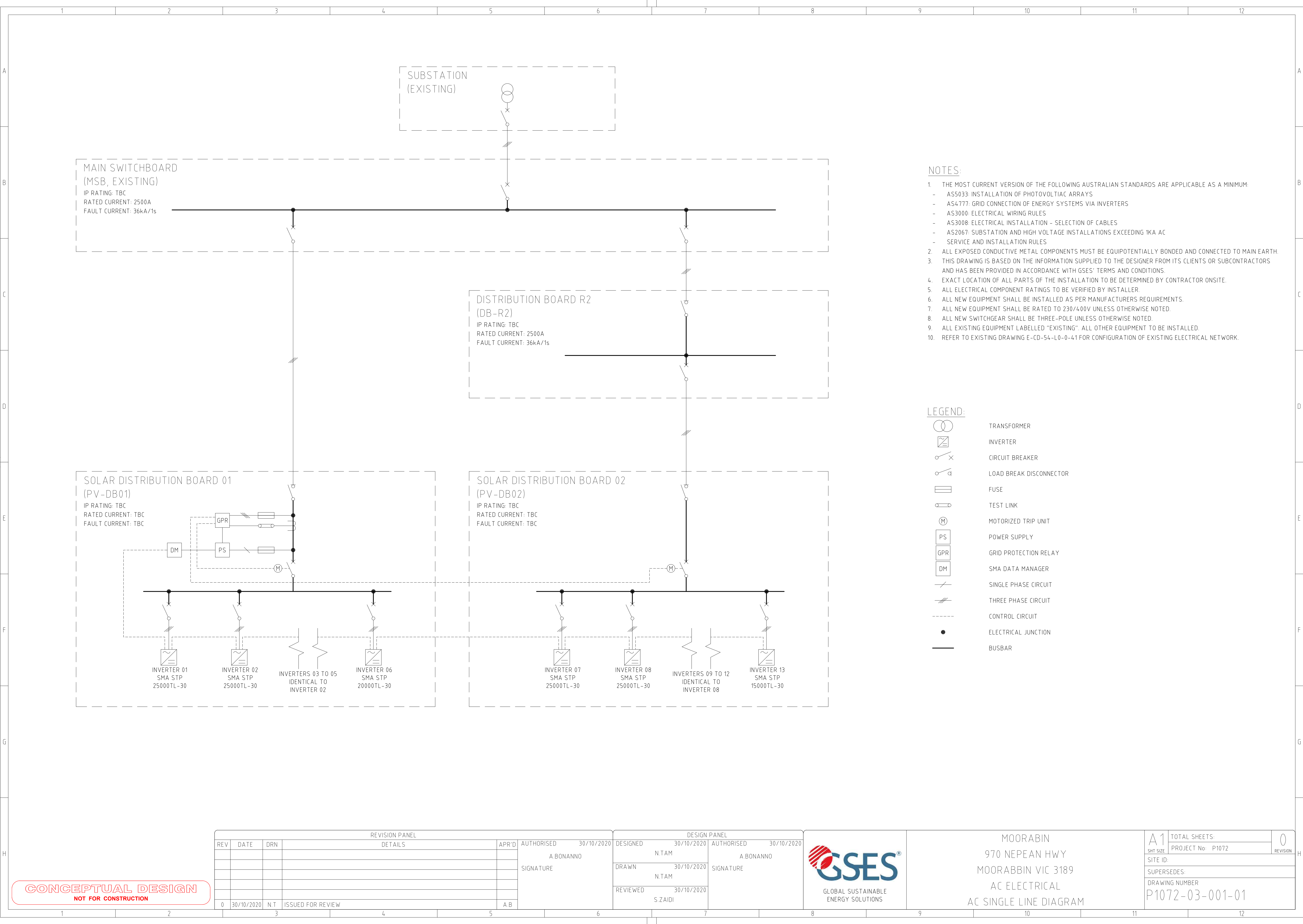
PV MODULE
LOAD BREAK DISCONNECTOR
FUSE
INVERTER
STRING CONNECTOR
ELECTRICAL JUNCTION

MODULES:	39 x JA SOLAR JAM78S10-440/MR
MODULE RATING:	440 W
DC NOMINAL POWER:	17.16 kWp
SHORT CIRCUIT CURRENT:	31.32 A
PV ARRAY MAX. VOLTAGE:	746.347 V (AT -3.8 DEGREES C)
PV ARRAY MIN. VOLTAGE:	467.552 V (AT 81.7 DEGREES C)

INVERTER:	SMA STP 15000TL-30
RATED AC OUTPUT:	15000 VA
RATED CURRENT OUTPUT:	21.7 A
MPP VOLTAGE RANGE:	240 V TO 800 V
MAX. INPUT VOLTAGE:	1000 V
MIN. INPUT VOLTAGE:	188 V

1. PV MODULES TO USE TEMPERED GLASS, BE SELF CLEANING AND ANTI-REFLECTIVE.
2. THE MOST CURRENT VERSION OF THE FOLLOWING AUSTRALIAN STANDARDS ARE APPLICABLE AS A MINIMUM:
 - AS5033: INSTALLATION OF PHOTOVOLTAIC ARRAYS
 - AS4777: GRID CONNECTION OF ENERGY SYSTEMS VIA INVERTERS
 - AS3000: ELECTRICAL WIRING RULES
 - AS3008: ELECTRICAL INSTALLATION - SELECTION OF CABLES
 - SERVICE AND INSTALLATION RULES
3. ALL EXPOSED CONDUCTIVE METAL COMPONENTS MUST BE EQUIPOTENTIALLY BONDED AND CONNECTED TO MAIN EARTH.
4. THIS DRAWING IS BASED ON THE INFORMATION SUPPLIED TO THE DESIGNER FROM ITS CLIENTS OR SUBCONTRACTORS AND HAS BEEN PROVIDED IN ACCORDANCE WITH GSES' TERMS AND CONDITIONS.
5. EXACT LOCATION OF ALL PARTS OF THE INSTALLATION TO BE DETERMINED BY CONTRACTOR ONSITE.
6. ALL ELECTRICAL COMPONENT RATINGS TO BE VERIFIED BY INSTALLER.
7. ALL EXISTING EQUIPMENT LABELED "EXISTING". ALL OTHER EQUIPMENT TO BE INSTALLED.
8. ALL NEW EQUIPMENT TO BE INSTALLED AS PER MANUFACTURER'S REQUIREMENTS.
9. DC ISOLATORS TO BE CONNECTED WITH 2 POLES IN SERIES A2 (PER LEG) AND 4 POLES IN SERIES A4 (COMPLETE CIRCUIT).

REVISION PANEL					DESIGN PANEL					 GLOBAL SUSTAINABLE ENERGY SOLUTIONS		MOORABIN 970 NEPEAN HWY MOORABBIN VIC 3189 DC ELECTRICAL DC SINGLE LINE DIAGRAM (INVERTER 13)		A1 SHT SIZE TOTAL SHEETS: PROJECT No: P1072 0 REVISION	
REV	DATE	DRN	DETAILS	APR'D	AUTHORISED 30/10/2020 A BONANNO	DESIGNED 30/10/2020 N T AM	AUTHORISED 30/10/2020 A BONANNO							SITE ID:	
					SIGNATURE	DRAWN 30/10/2020 N T AM	SIGNATURE							SUPERSEDES:	
						REVIEWED 30/10/2020 S ZAIDI								DRAWING NUMBER	
0	30/10/2020	N.T	ISSUED FOR REVIEW	A.B										P1072-02-003-01	



- NOTES:
- THE MOST CURRENT VERSION OF THE FOLLOWING AUSTRALIAN STANDARDS ARE APPLICABLE AS A MINIMUM:
 - AS5033: INSTALLATION OF PHOTOVOLTAIC ARRAYS
 - AS4777: GRID CONNECTION OF ENERGY SYSTEMS VIA INVERTERS
 - AS3000: ELECTRICAL WIRING RULES
 - AS3008: ELECTRICAL INSTALLATION – SELECTION OF CABLES
 - AS2067: SUBSTATION AND HIGH VOLTAGE INSTALLATIONS EXCEEDING 1kA AC
 - SERVICE AND INSTALLATION RULES
 - ALL EXPOSED CONDUCTIVE METAL COMPONENTS MUST BE EQUIPOTENTIALLY BONDED AND CONNECTED TO MAIN EARTH.
 - THIS DRAWING IS BASED ON THE INFORMATION SUPPLIED TO THE DESIGNER FROM ITS CLIENTS OR SUBCONTRACTORS AND HAS BEEN PROVIDED IN ACCORDANCE WITH GSES' TERMS AND CONDITIONS.
 - EXACT LOCATION OF ALL PARTS OF THE INSTALLATION TO BE DETERMINED BY CONTRACTOR ONSITE.
 - ALL ELECTRICAL COMPONENT RATINGS TO BE VERIFIED BY INSTALLER.
 - ALL NEW EQUIPMENT SHALL BE INSTALLED AS PER MANUFACTURERS REQUIREMENTS.
 - ALL NEW EQUIPMENT SHALL BE RATED TO 230/400V UNLESS OTHERWISE NOTED.
 - ALL NEW SWITCHGEAR SHALL BE THREE-POLE UNLESS OTHERWISE NOTED.
 - ALL EXISTING EQUIPMENT LABELLED "EXISTING". ALL OTHER EQUIPMENT TO BE INSTALLED.
 - REFER TO EXISTING DRAWING E-CD-54-L0-0-41 FOR CONFIGURATION OF EXISTING ELECTRICAL NETWORK.

- LEGEND:
- TRANSFORMER
 - INVERTER
 - CIRCUIT BREAKER
 - LOAD BREAK DISCONNECTOR
 - FUSE
 - TEST LINK
 - MOTORIZED TRIP UNIT
 - POWER SUPPLY
 - GRID PROTECTION RELAY
 - SMA DATA MANAGER
 - SINGLE PHASE CIRCUIT
 - THREE PHASE CIRCUIT
 - CONTROL CIRCUIT
 - ELECTRICAL JUNCTION
 - BUSBAR

REVISION PANEL					DESIGN PANEL							MOORABIN		A1	TOTAL SHEETS:		0	
REV	DATE	DRN	DETAILS		APR'D	AUTHORISED	30/10/2020	DESIGNED	30/10/2020			AUTHORISED	30/10/2020		SHT SIZE	PROJECT No: P1072		REVISION
						A BONANNO		N TAM				A BONANNO						
						SIGNATURE		N TAM				SIGNATURE						
								REVIEWED	30/10/2020									
0	30/10/2020	N.T	ISSUED FOR REVIEW		A.B			S.ZAIDI				GLOBAL SUSTAINABLE ENERGY SOLUTIONS		DRAWING NUMBER		P1072-03-001-01		
													P1072-03-001-01					