

## APPENDIX H

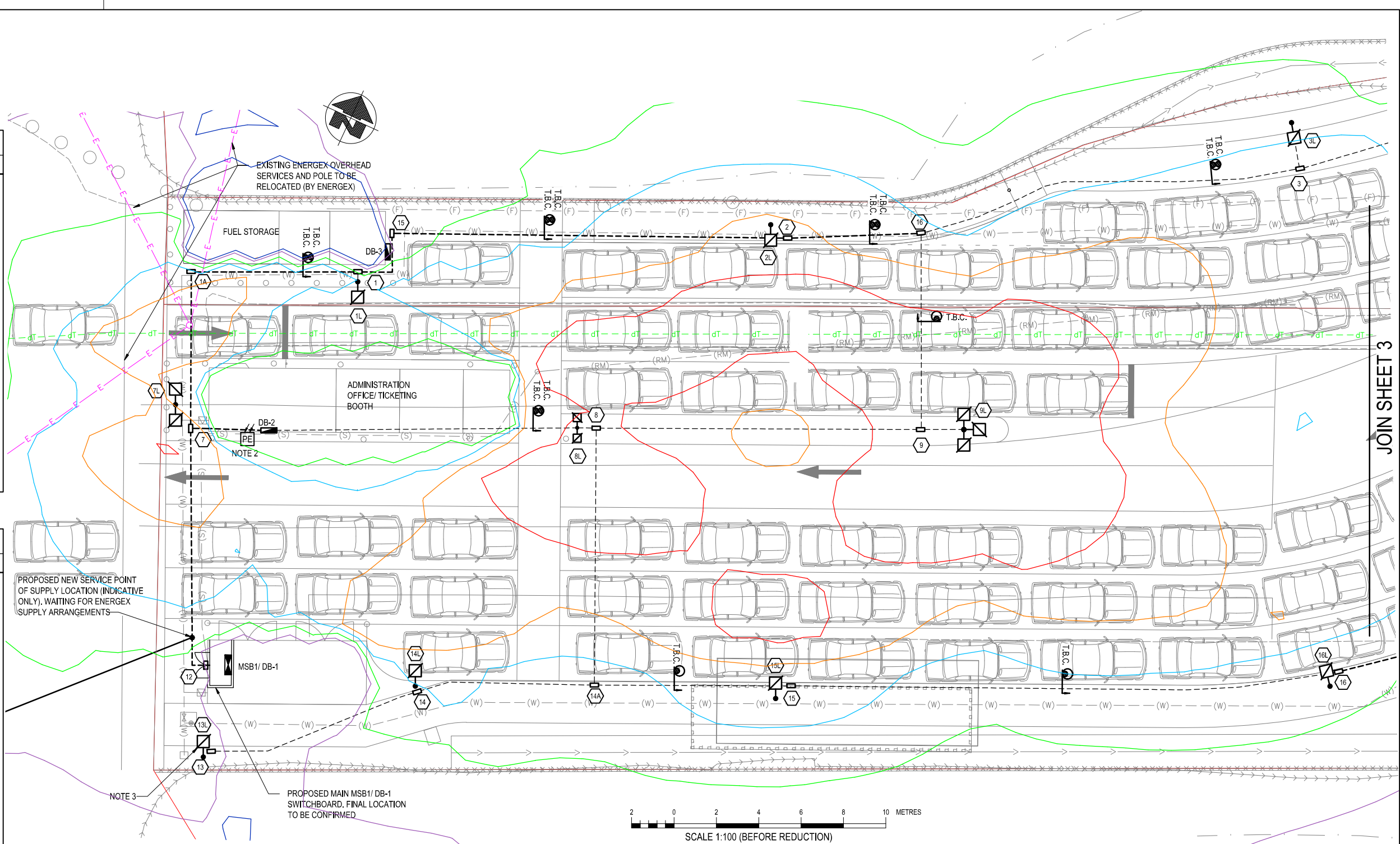
### *Electrical and Lighting Concept Design*





GENERAL LEGEND	
EQUIPMENT	DESCRIPTION
	1 BY 85W LED LUMINAIRE - MASTER 6 0F2H1 S05 - AEC ILLUMINAZIONE (HBW LIGHTING), IP66, 4000K, TILT 0° CW/ 1.0m OUTREACH ON A 10m MOUNTED POLE, DIE-CAST ALUMINIUM UNI EN1706 COLOUR BLACK, GALVANISED STEEL POLE BY HBW LIGHTING (INCLUDING FOOTING DETAILS), REFER NOTE 3 FOR TO STATION 13 REQUIREMENTS.
	AS ABOVE BUT 2 BY 85W LED LUMINAIRES BACK TO BACK
	AS ABOVE BUT 3 BY 85W LED LUMINAIRES ARRANGEMENT AS SHOWN, 3 WAY MOUNTING BRACKET AND POLE BY HBW LIGHTING.
	STATION No
	PIT TYPE 4, UNLESS OTHERWISE INDICATED (REFER NOTES UNDER GROUND RETICULATION IN SHEET 1)
	UNDERGROUND CONDUIT/ CABLE ROUTE
	CONDUIT/ CABLE DETAIL
	MAIN SWITCHBOARD
	DISTRIBUTION BOARD (FINAL LOCATION TO BE CONFIRMED)
	SERVICE PILLAR

SCHEMATIC LEGEND	
EQUIPMENT	DESCRIPTION
	AUTHORITY KILOWATT HOUR METER
	MULTIFUNCTION METER
	MOULDED CASE CIRCUIT BREAKER (RATING AS SHOWN)
	CIRCUIT BREAKER (DIN RAIL MOUNT TYPE)
	RESIDUAL CURRENT OPERATED CIRCUIT BREAKER WITH OVERCURRENT PROTECTION (RCBO DIN RAIL MOUNT TYPE)
	FUSE
	SURGE ARRESTOR
	PE CELL
	CONTACTOR
	RELAY CONTACTOR
	CURRENT TRANSFORMER
	AUTO OFF MANUAL SWITCH
	CHANGE OVER SWITCH
	TIMER
	GENERATOR



ISOLINE CONTOUR LEGEND	
	1. 3 LUX ISOLINE
	2. 5 LUX ISOLINE
	3. 10 LUX ISOLINE
	4. 20 LUX ISOLINE
	5. 30 LUX ISOLINE
	6. 40 LUX ISOLINE
	7. 50 LUX ISOLINE

CALCULATION SUMMARY				
LIGHTING SUBCATEGORY	AVERAGE HORIZONTAL ILLUMINANCE (Eh)	POINT HORIZONTAL ILLUMINANCE (Eph)	ILLUMINANCE UNIFORMITY (Ue2)	POINT VERTICAL ILLUMINANCE (Epv)
PC1	14	3	≤8	≥3
PC1/ CALCULATED	39	13.2	2.2	5.6
PP1	10	2	≤5	≥1
PP1/ CALCULATED	22.6	4	1.67	1.2

- NOTES:
- FINAL SUB-BOARDS LOCATION TO BE CONFIRMED WITH SEALINK.
  - SUPPLY AND INSTALL PE CELL ON EXTERNAL WALL OF THE ADMINISTRATION BUILDING. LOCATION TO BE CONFIRMED ON SITE. SHROUD THE PE CELL TO AVOID TO HAVE IT ACTIVATED BY NEARBY ARTIFICIAL LIGHT (i.e. EXTERNAL LIGHTING).
  - FOR STATION 13 ONLY LUMINAIRE TYPE AND POLE:
    - 1x21W LED MASTER 6 0F2H1 S05 4.7-1M LUMINAIRE BY AEC ILLUMINAZIONE, IP66, 4000K, TILT 0° CW/ 0.6m OUTREACH ON A 6m MOUNTED POLE, DIE-CAST ALUMINIUM UNI EN1706 COLOUR BLACK, GALVANISED STEEL POLE BY GM POLE OR APPROVED EQUIVALENT.
  - CONFIRM POLE FOOTING REQUIREMENTS WITH POLE MANUFACTURER.

**CONCEPT PLAN**  
(NOT FOR CONSTRUCTION)

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B	06.04.21	PRELIMINARY ISSUE	JAR	BH	BK
A	16.03.21	PRELIMINARY ISSUE	JAR	BH	BK

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**PLANS AND DOCUMENTS**  
referred to in the PDA  
**DEVELOPMENT APPROVAL**

Approval no: DEV2021/1187  
Date: 24 June 2022



**ampflo**  
ABN 28 111 423 842  
Electrical and Telecommunications Consultants  
Phone : (07) 3372 9280  
Email : projects@ampflo.com.au  
Website : ampflo.com.au

CERTIFICATION:  
APPROVED:  
RPEQ No:  
DATE:

CHECKED: BJHYLAND

DESIGNER: J. ROBLES

ISSUE DATE: 18.08.21

PROJECT  
WEINAM ST, REDLAND BARGE TERMINAL  
REDLAND BAY  
SITE PLAN LAYOUT AND LEGEND  
SHEET 1 OF 2

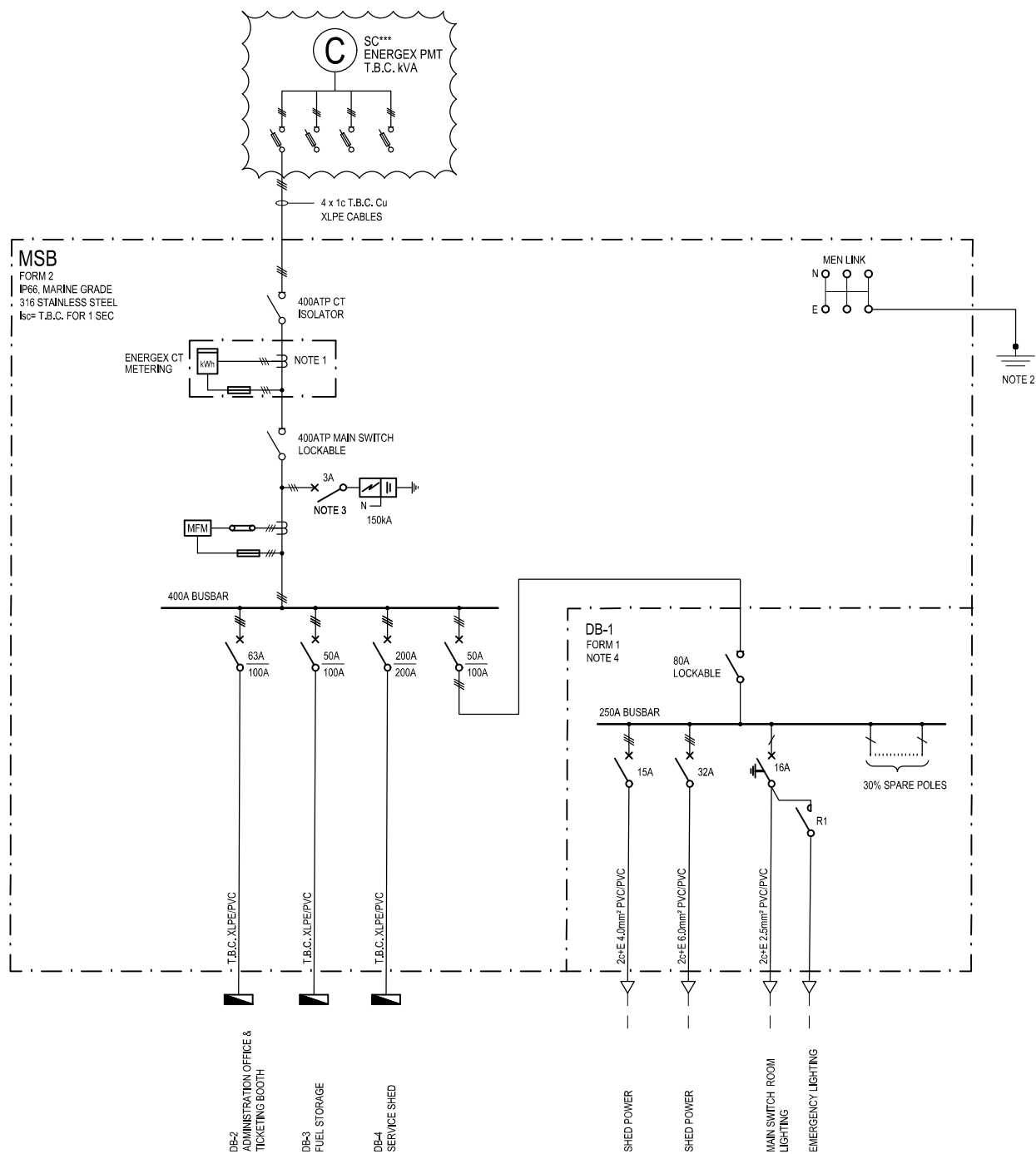
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SHEET 2 OF 5

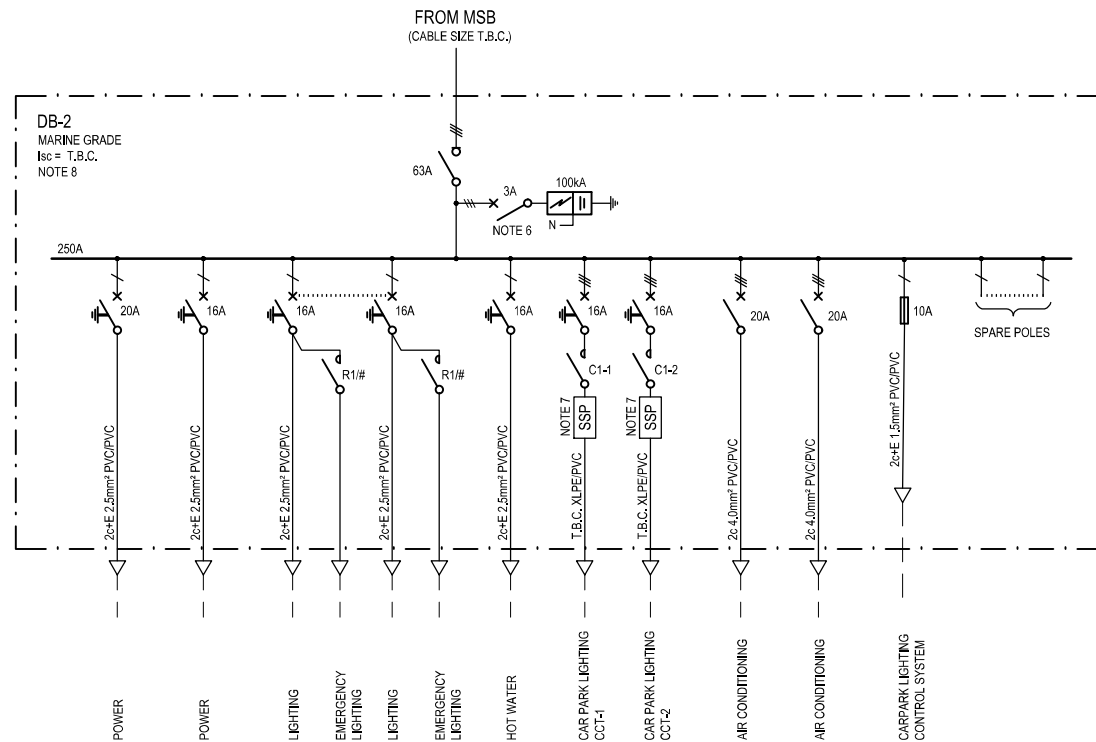
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**C**



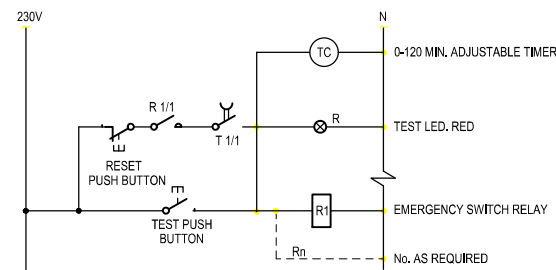


MAIN SWITCHBOARD (MSB1/DB1) SINGLE LINE DIAGRAM

RATING OF PROTECTIVE DEVICES FOR SUBMAINS TO BE PROVIDED ONCE  
ENERGEX POINT OF SUPPLY IS ARRANGEMENT IS CONFIRMED  
N.T.S



ADMINISTRATION BUILDING AND  
TICKETING BOOTH  
SUB-BOARD GENERAL ARRANGEMENT  
N.T.S



EMERGENCY LIGHTING TEST CIRCUIT  
SCHEMATIC  
N.T.S

NOTES:

1. PROVIDE REMOVABLE LINKS FOR CURRENT TRANSFORMER.
2. SUPPLY AND INSTALL STAINLESS STEEL EARTH ROD FOR THE M.E.N.
3. SUPPLY AND INSTALL SURGE PROTECTION CIRCUIT BREAKER SCB1-3-25 AND SURGE DIVERTER SDN3-150-275 (BY NOVARIS).
4. SEALINK TO CONFIRM POWER REQUIREMENT FOR DB-1.
5. CONSUMERS MAINS AND SUBMAINS CABLE SIZE TO BE CALCULATED ONCE ENERGEX CONFIRM POWER TO SITE ARRANGEMENT.
6. SUPPLY AND INSTALL SURGE PROTECTION CIRCUIT BREAKER SCB1-3-25 AND SURGE DIVERTER SDD3-100-275 (BY NOVARIS).
7. SUPPLY AND INSTALL SERIES SURGE PROTECTORS SSP3-20-50-275-A (BY NOVARIS) TO EACH OUTDOOR LIGHTING CIRCUIT.
8. TYPICAL SUB-BOARD LAYOUT. LOCATION TO BE CONFIRMED. LOAD FOR EACH INDIVIDUAL SUB-BOARD IS INDICATIVE ONLY. SEALINK TO CONFIRM SUB-BOARD POWER LAYOUT REQUIREMENTS. BOARD SHALL HAVE A MINIMUM NUMBER OF 24 POLES (TO BE CONFIRMED). BOARD SHOULD BE IP68, STAINLESS STEEL ORANGE, LOCKABLE WALL MOUNTED BOARD (NHP LEGRAND OR APPROVED EQUIVALENT). CABLE SIZE TO BE ESTIMATED ONCE ENERGEX CONFIRM POWER TO THE SITE ARRANGEMENT.

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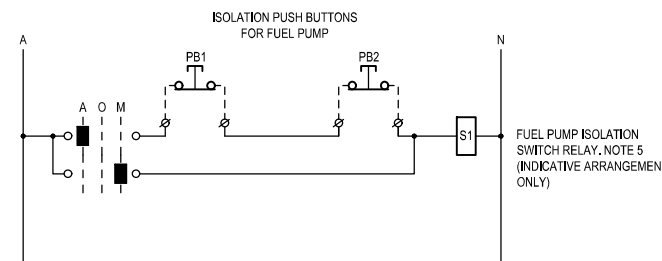
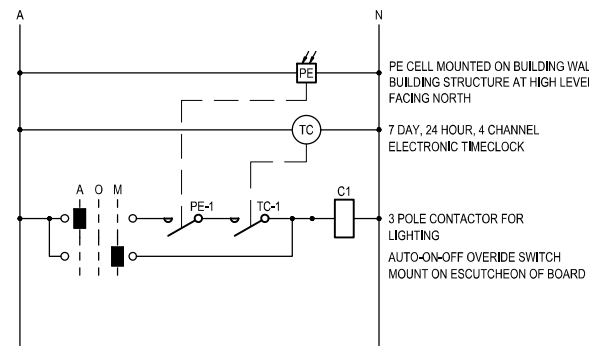
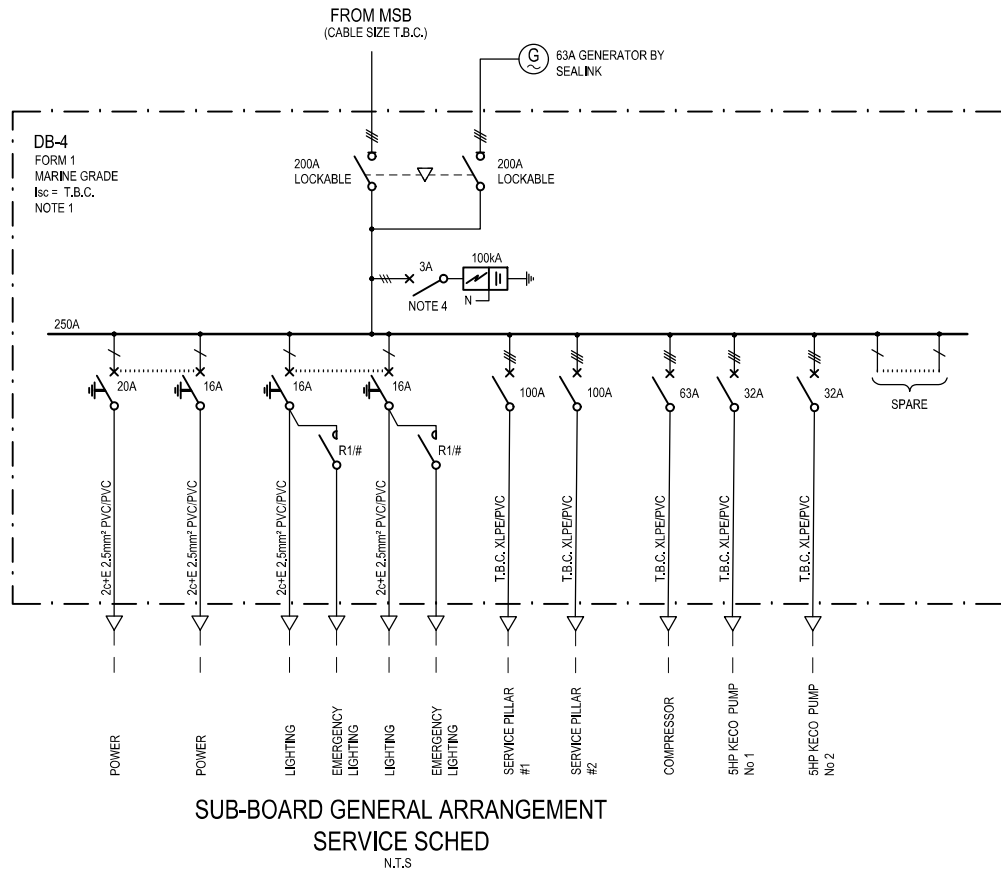
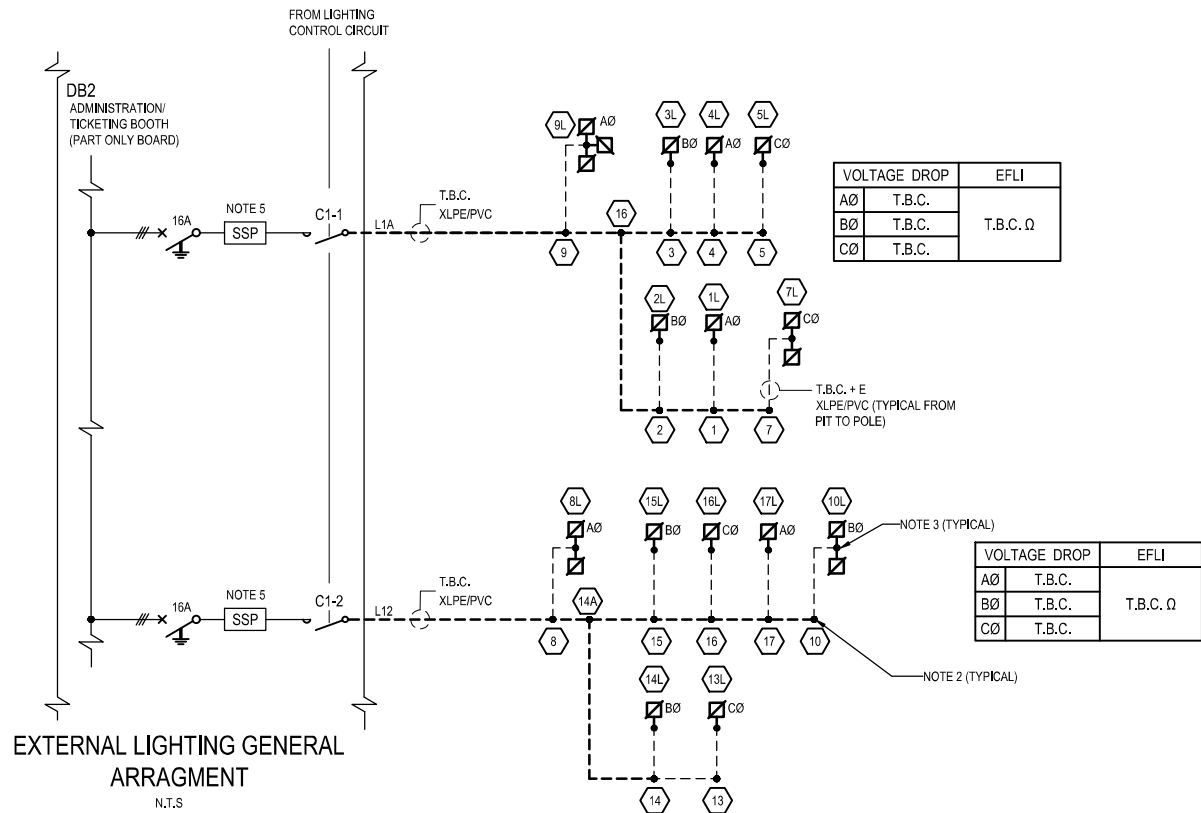
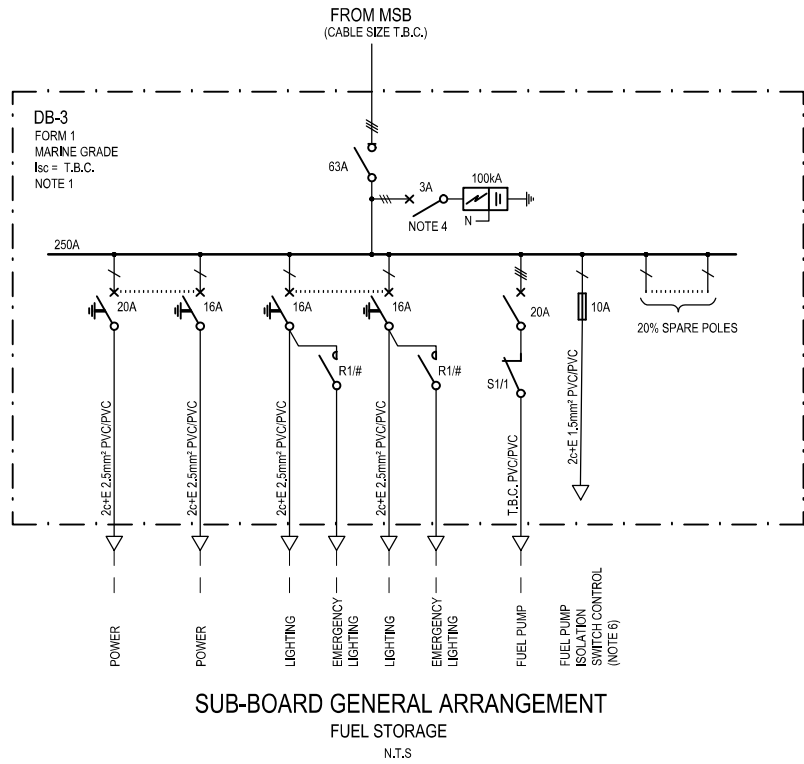
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Date: 24 June 2022



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DESIGNER: J. ROBLES	ISSUE DATE: 18.08.21

PROJECT WEINAM ST, REDLAND BARGE TERMINAL REDLAND BAY MSB SCHEMATIC	DRAWING: A211037	ISSUE C
PROJECT: 211037	SHEET 4 OF 5	





- NOTES:
1. TYPICAL SUB-BOARD LAYOUT, LOCATION TO BE CONFIRMED, LOAD FOR EACH INDIVIDUAL SUB-BOARD IS INDICATIVE ONLY. SEALINK TO CONFIRM SUB-BOARD POWER LAYOUT REQUIREMENTS. BOARD SHALL HAVE A MINIMUM NUMBER OF 24 POLES (TO BE CONFIRMED), BOARD SHOULD BE IP66, STAINLESS STEEL ORANGE, LOCKABLE WALL MOUNTED BOARD (NHP LEGRAND OR APPROVED EQUIVALENT), CABLE SIZE TO BE ESTIMATED ONCE ENERGEX CONFIRM POWER TO THE SITE ARRANGEMENT.
  2. TYPE 4 PIT. SUPPLY AND INSTALL UNDERGROUND WATERPROOF JUNCTION BOX (BY FULTON INDUSTRIES AUSTRALIA IP68 DOME TYPE, SIMILAR TO THE ONES USE BY TMR OR ENERGEX FOR THE STREET LIGHTING), PIT AS PER NOTES IN SHEET No 1, FOR UNDERGROUND RETICULATION.
  3. SUPPLY AND INSTALL THE FOLLOWING ITEMS AT THE BASE OF EACH POLE:
    - 10A CIRCUIT BREAKER (DIN RAIL TYPE)
    - 10A SWITCH (DIN RAIL TYPE)
    - SINGLE PHASE SERIES SURGE PROTECTOR SSP1-16-15-275
  4. SUPPLY AND INSTALL SURGE PROTECTION CIRCUIT BREAKER SCB1-3-25 AND SURGE DIVERTER SDD3-100-275 (BY NOVARIIS).
  5. FUEL PUMP ISOLATION PUSH BUTTONS, INSTALLATION AND WIRING ARRANGEMENT BY ELECTRICAL CONTRACTOR, LOCATIONS TO BE CONFIRMED ON SITE.
  6. SUB-BOARD FEEDING THE FUEL PUMP TO BE CONFIRMED, CURRENTLY SHOWN BEING FED FROM FUEL STORAGE BOARD. SEALINK/ PENSAR TO CONFIRM.

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PROJECT  
WEINAM ST, REDLAND BARGE TERMINAL  
REDLAND BAY  
DBs SCHEMATIC AND EXTERNAL LIGHTING  
ARRANGEMENT

DRAWING: A211037

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SHEET 5 OF 5

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