THIS DRAWING IS FOR ELECTRICAL PURPOSES ONLY

LEGEND

- CONNECTION POINT
- EXOTHERMIC WELD
- EARTH ELECTRODE POINT
- BONDING CONDUCTOR
- EARTH CONDUCTOR
- EARTH ELECTRODE
- EARTHBAR

EARTH TERMINATION NOTES

Earth Termination System General Requirements

1. The results from the soil resistivity tests shall be used to design an earth termination system.
2. Type B Earthing arrangement shall be used for any building installation.

   The ring earth electrode (type B arrangement) should preferably:

   - Be buried at a depth of at least 0,5 m and
   - At a distance of about 1 m away from the external walls.
3. The calculation of an earth termination system shall be done in accordance with the formulae in SANS 10199

   A low earthing resistance if possible lower than 10Ω when measured at low frequency shall be obtained from an earthing termination system.
4. An earth rod shall be of length at least 7.5 m and may be extendible, if so required.
5. The material, configuration and minimum cross-sectional area of, earth electrode shall be in accordance with Table 7 of SANS 62305-3
6. Earth-termination systems shall be bonded:
   - Minimum dimensions of conductors connecting different bonding bars or with connecting bonding bars to the earth-termination system shall be in accordance Table 8 of SANS 62305-3
   - Minimum dimensions of conductors connecting internal metal installations to the bonding bar shall be in accordance with Table 9 of SANS 62305-3

LPS COMPONENTS

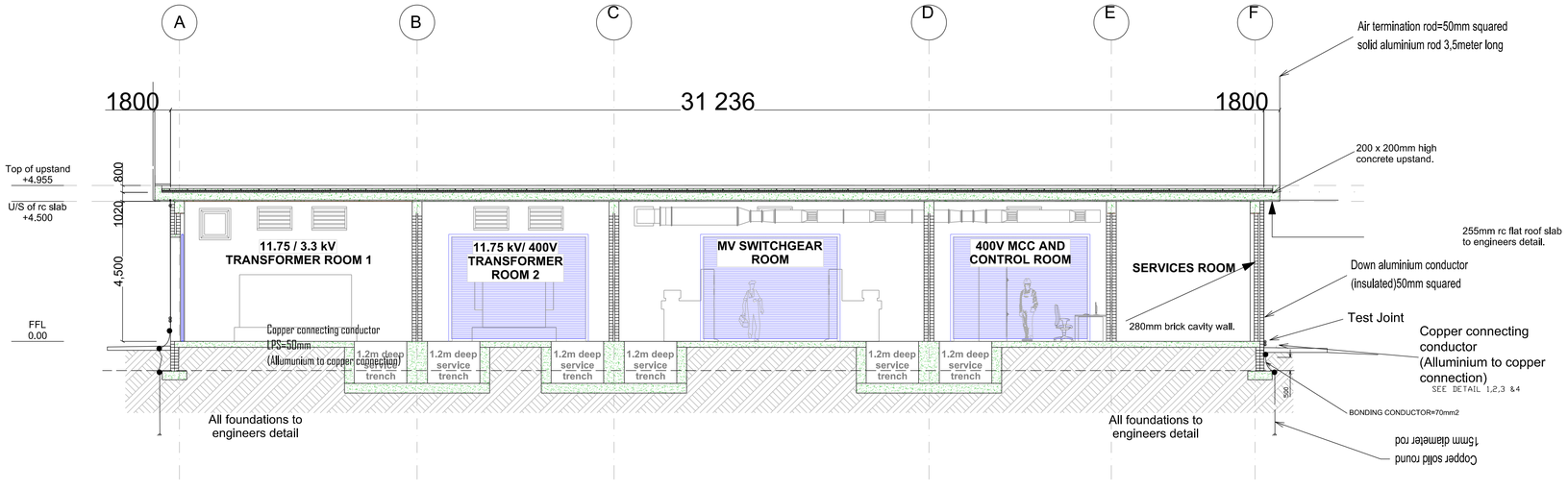
1. ONLY LIGHTNING PROTECTION SYSTEN(LPS) COMPONENTS TESTED IN ACCORDANCE WITH THE FUTURE IEC 62561 SERIES SHOULD BE USED.

DOWN CONDUCTORS

1. DOWN CONDUCTORS MUST BE INSULATED BY AT LEAST 3mm CROSS LINKED POLYETHYLENE.
2. WARNING NOTICES TO BE INSTALED TO MINIMISE THE PROBABILITY OF DOWN CONDUCTORS BEING TOUCHED
3. ALL NON CURRENT CARRYING METAL PARTS OF THE INSTALLATION TO BE BONDED TO EARTH

TEST JOINTS

1. TEST JOINTS SHOULD BE CAPABLE OF BEING OPENED WITH THE AID OF TOOL



Section A-A
Scale 1:100

CLIENT: TRANSNET national ports authority

Client Name:	
Designation & Section:	ELECTRICAL ENGINEER: PORT ENGINEERING
Client Signature:	Project Phase
Date:	
Contact No.'s:	

No.	DATE	REVISION DETAIL
00	11-12-2020	ORIGINAL
01	27-11-2022	APPROVED FOR CONSTRUCTION (AFC)

Main Contractor:

Stateway Switchboards (Pty) Ltd.
55 Second Road, Linbro Park Sandton
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TEL. +27(0) 11 021 7260
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Main Contractor:	STATEWAY SWITCHBOARDS (PTY.) LTD.
ZML Africa Drawing No.	TNPA/2020

Consultant:

Z.M.L Africa Group
Engineering Africa Forward

Site Address:
Sturrock Dry Dock, Cape Town

Building Name:
Combined Pumphouse and Graving Dock Substation

Project Description:
Sturrock Dry Dock Electrical Infrastructure Upgrades: - Sketch Plan

Drawing Description:
Earthing and Lightning Protection Layout

Drawn:	P.MAZIBUKO	Date:	16 / 02 / 2021
Designer / Checked:	M.SHEZI	Scale:	AS SHOWN
Approved:		Drawing Size:	A1
Prof Reg. No.	20110108	Revision No	01
Signature:		27/11/2022	

Drawing Number: TNPA/2020-000-E-ELSP-0002

Site & Building No.	Floor No.	Discipline & Service Type

Sheet Number	Project Number	Proposal No
002		000