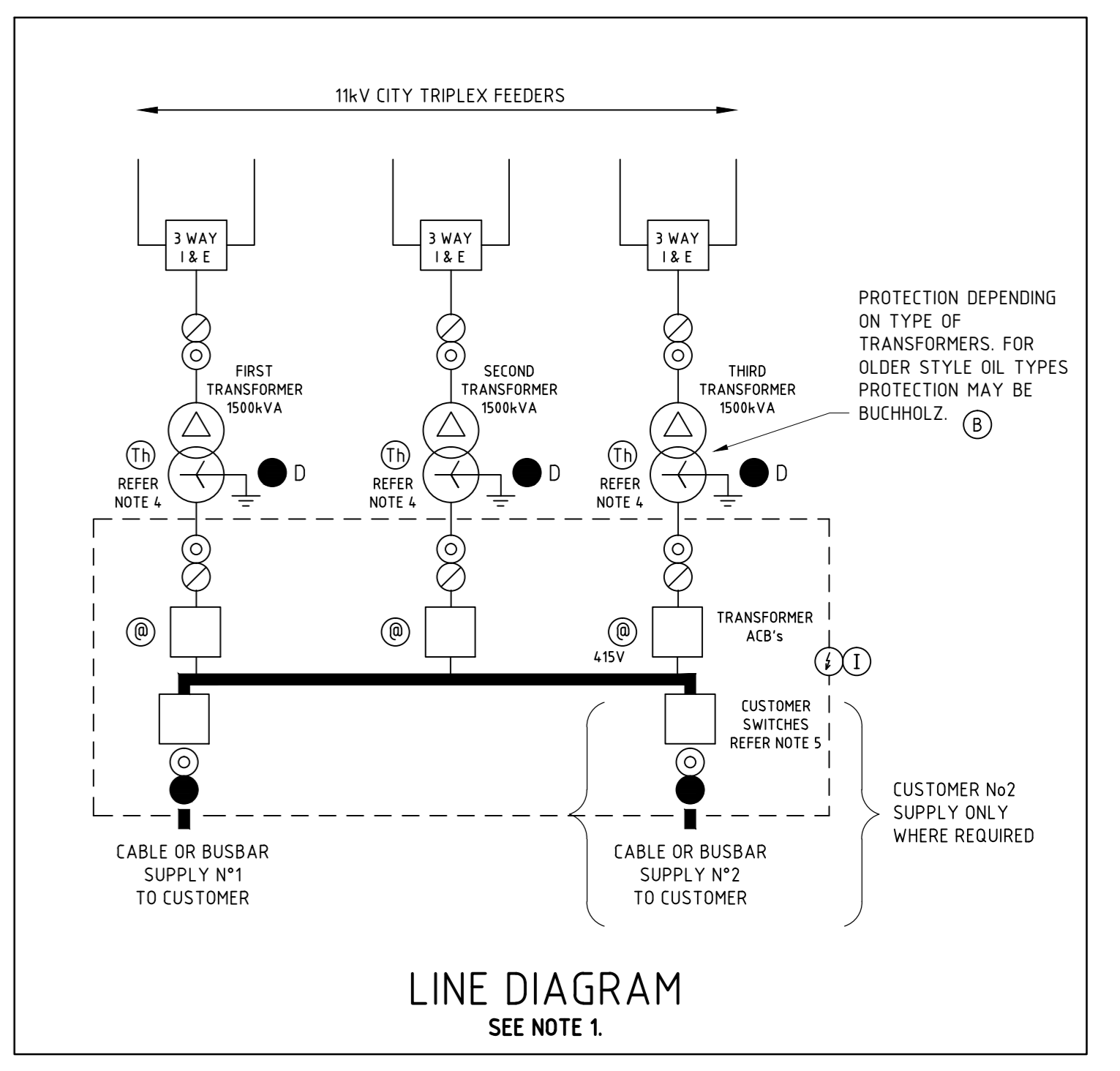


- NOTES:**
- THIS DRAWING SHOWS THE AC PROTECTION SCHEMATIC FOR CITY TYPE SUBSTATIONS WITH E TYPE LV BOARDS AND OPTICAL ARC FLASH DETECTION. IT SHOULD BE READ IN CONJUNCTION WITH NETWORK STANDARDS AND THE SUBSTATION DESIGN INFORMATION PACKAGE.
  - CITY SUBSTATIONS HAVE AN A - B CROSS IN THE LV PRIMARY CONNECTIONS. THE SECONDARY CIRCUITS HAVE BEEN AMENDED ACCORDINGLY.
  - THE 'B' END OF A LINK OR FUSE SHOWN THUS (  $\square \text{---} \text{T}$  ) INDICATES BOTTOM CONNECTION.
  - WHEN A DRY TYPE TRANSFORMER IS USED, THE THERMAL RELAY (Tn) AND A TRIP INDICATOR ARE TO BE CONNECTED. THE THERMAL RELAY IS LOCATED & SUPPLIED ON THE TRANSFORMER BY THE TRANSFORMER MANUFACTURER. THE TRIP INDICATOR IS LOCATED ON THE TRANSFORMER PROTECTION PANEL & IS SUPPLIED BY AUSGRID.
  - CUSTOMER SUPPLY IS ALWAYS TO BE BY ACB. OVERCURRENT CT'S ARE TO BE INSTALLED AS SHOWN ON THIS AC SCHEMATIC.
  - THIS AC SCHEMATIC SHOWS 1st TRANSFORMER, CUSTOMER OVERCURRENT No. 1, CUSTOMER OVERCURRENT No. 2 AND THEIR ASSOCIATED PROTECTION PANELS. 2nd AND 3rd TRANSFORMERS ARE IDENTICALLY WIRED AS 1st TRANSFORMER. DIFFERENCES EXIST WITH CABLE NAMING AND WIRE JUMPING. THIS WILL BE INSTALLED ON SITE RELEVANT TO THE ACTUAL SUBSTATION CONFIGURATION. THAT IS, LOW VOLTAGE BUSBAR CONFIGURATION AND HOW MANY CUSTOMER SUPPLY CONNECTIONS.
  - FOR CLARITY, TRANSFORMERS ARE REFERENCED AS 1st TRANSFORMER, 2nd TRANSFORMER & 3rd TRANSFORMER. ACTUAL DESIGNATION WILL DEPEND ON WHICH CITY TRIPLEX FEEDERS ARE SUPPLYING THE DISTRIBUTION SUBSTATION. TYPICAL DESIGNATION FOR 1st, 2nd, & 3rd TRANSFORMERS ARE: 'A', 'B', 'C'; 'D', 'E', 'F'; 'G', 'H', 'J'; or 'K', 'L', 'M'. SEE DESIGN PACKAGE FOR PROJECT DETAIL.



**LINK No. LINK FUNCTION**

TL1 ~	CUSTOMER OVERCURRENT No.1 CT TEST LINKS
TL2 ~	CUSTOMER OVERCURRENT No.2 CT TEST LINKS
AC TEST LINK FUNCTION TABLE FOR CUSTOMER OVERCURRENT & EARTH FAULT PANELS	

LINK No.	LINK FUNCTION
TL2 ~	OVERCURRENT & EARTH FAULT RELAY CT TEST LINKS
TL3 ~	OVERCURRENT & EARTH FAULT RELAY DELTA TEST LINKS
TL5 ~	TRANSFORMER DIFFERENTIAL RELAY TEST LINKS
TL6 ~	TRANSFORMER PROTECTION HV CT TEST LINKS
TL7 ~	EARTH FAULT CT TEST LINKS
AC TEST LINK FUNCTION TABLE FOR TRANSFORMER PROTECTION PANELS	

TAG/NAME	MFG	CAT/NO	DESC	REF. DWG
C-DC1 L-DC2	SCHNEIDER ELECT.	MICOM P142	OVERCURRENT & EARTH FAULT RELAY	224809
DIFF	-	K3M	3 ELEMENT FUSE RELAY	115243
EB	-	-	EARTH BAR	-
LV OCKEF-A	SCHNEIDER ELECT.	PMCOM P115	OVERCURRENT & EARTH FAULT RELAY	225582
TXP-B	SCHNEIDER	SEL-751A	TRANSFORMER PROTECTION RELAY	222644
TL	EUKAGUP	MOULDED TYPE MS	BATTERY/TEST LINK	501111
VTT	MULTI CONNECT (RS COMPONENTS)	SLB4-G	INSULATED TEST PANEL SOCKETS 1x RED 23 3020 22 (404-244) 1x WHITE 23 3020 23 (404-250) 1x BLUE 23 3020 23 (404-216) 1x BLACK 23 3020 21 (404-200)	231226
X3, X4, X6, X7	UTILUX	3820	RAIL MOUNTED TERMINAL	118547
X2	UTILUX	H2238	RAIL MOUNTED TERMINAL - ORANGE	-

TITLE	DWG No.
EPOXY RESIN ENCASED PROTECTION CURRENT TRANSFORMER OUTLINE AND DETAILS	125190
RMCB SUBSTATIONS WITH E TYPE LV BOARD WITH OPTICAL ARC FLASH DETECTION FIBRE LOOPING AND GENERAL MOUNTING DETAILS	221350 Sns
CITY DISTRIBUTION SUBSTATIONS WITH E TYPE LV BOARD AND OAFD CUSTOMER ACB INTERNAL WIRING AND ACB PANEL CONTROL WIRING SCHEMATIC	221390 Sns2
CITY DISTRIBUTION SUBSTATIONS WITH E TYPE LV BOARD AND OAFD TRANSFORMER ACB INTERNAL WIRING AND ACB PANEL CONTROL WIRING SCHEMATIC	221390 Sns1
CITY DISTRIBUTION SUBSTATIONS WITH E TYPE LV BOARD, OAFD, & CUSTOMER OC No.1 PROTECTION, DISTRIBUTION AUTOMATION CONTROL PANEL WIRING & CABLING	221389 Sns2
CITY DISTRIBUTION SUBSTATIONS WITH E TYPE LV BOARD, OAFD, & CUSTOMER OC No.1 & No.2 PROTECTION, DISTRIBUTION AUTOMATION CONTROL PANEL WIRING & CABLING	221389 Sns1
CITY DISTRIBUTION SUBSTATIONS WITH E TYPE LV BOARD AND OAFD DISTRIBUTION LOCAL AUTOMATION CONTROL PANEL LAYOUT AND LABEL DETAILS	221388 Sns1
CITY DISTRIBUTION SUBSTATIONS WITH E TYPE LV BOARD AND OAFD 5500VA TX'S AND VENTILATION FAN AC SERVICE BOARD LAYOUT, WIRING, & CONNECTIONS	221387 Sns1
CITY DISTRIBUTION SUBSTATIONS WITH E TYPE LV BOARD AND OPTICAL ARC FLASH DETECTION CABLE SCHEDULE	221386 Sns2
CITY DISTRIBUTION SUBSTATIONS WITH E TYPE LV BOARD AND OPTICAL ARC FLASH DETECTION CABLE CONNECTIONS	221386 Sns1
CITY DISTRIBUTION SUBSTATIONS WITH E TYPE LV BOARD AND OAFD CUSTOMER OC No.1 (8 No.2) PROTECTION PANEL WIRING AND CABLE CONNECTIONS	221385 Sns1
CITY DISTRIBUTION SUBSTATIONS WITH E TYPE LV BOARD, OIL TYPE TX, & OAFD, TRANSFORMER PROTECTION PANEL CABLE CONNECTION DIAGRAM	221384 Sns2
CITY DISTRIBUTION SUBSTATIONS WITH E TYPE LV BOARD, DRY TYPE TX, & OAFD, TRANSFORMER PROTECTION PANEL CABLE CONNECTION DIAGRAM	221384 Sns1
CITY DISTRIBUTION SUBSTATIONS WITH E TYPE LV BOARD, OIL TYPE TX, & OAFD, TRANSFORMER PROTECTION PANEL WIRING & CABLING	221383 Sns2
CITY DISTRIBUTION SUBSTATIONS WITH E TYPE LV BOARD, DRY TYPE TX, & OAFD, TRANSFORMER PROTECTION PANEL WIRING & CABLING	221383 Sns1
CITY DISTRIBUTION SUBSTATIONS WITH E TYPE LV BOARD & OAFD, TRANSFORMERS AND CUSTOMER OVERCURRENT PROTECTION FREE STANDING PANELS LABEL DETAILS	221382 Sns1
CITY DISTRIBUTION SUBSTATIONS WITH OPTICAL ARC FLASH DETECTION (E TYPE LV) TRANSFORMERS AND CUSTOMER OVERCURRENT FREE STANDING PANELS LAYOUT DETAILS	221381 Sns1
CITY DISTRIBUTION SUBSTATIONS WITH E TYPE LV BOARD AND OAFD, DLAC PANEL SCHEMATIC, GENERAL DC SUPPLIES INTER-PANEL WIRING, FIBRE COMMS & CABLING DIAGRAM	221380 Sns4
CITY DISTRIBUTION SUBSTATIONS WITH E TYPE LV BOARD AND OPTICAL ARC FLASH DETECTION CUSTOMER OVERCURRENT DC SCHEMATIC	221380 Sns3
CITY DISTRIBUTION SUBSTATIONS WITH E TYPE LV BOARD, & OPTICAL ARC FLASH DETECTION TRANSFORMER DC SCHEMATIC	221380 Sns2
CITY DISTRIBUTION SUBSTATIONS WITH E TYPE LV BOARD AND OPTICAL ARC FLASH DETECTION AC SCHEMATIC	221380 Sns1

**REFERENCE DRAWINGS**

SCALE	N/A
DESIGNED	-
DRAWN	E.KAIROUZ/L.MARTINUZZI
CHECKED	C.MURPHY
APPROVED	C.MURPHY
DATE	27-08-2015
PROJECT No.	-
PROJECT NUMBER	OPEX-6923-1

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**CITY DISTRIBUTION SUBSTATIONS WITH E TYPE LV BOARD AND OPTICAL ARC FLASH DETECTION AC SCHEMATIC**

DRAWING No **227380** SHEET 1 AMD 1 SIZE A0

C&P - DISTRIBUTION SUBSTATIONS

20111014  
E.KAIROUZ  
C.MURPHY  
C.MURPHY  
APPROVED

**LEGEND**

X3, X4, X6, X7  
X2