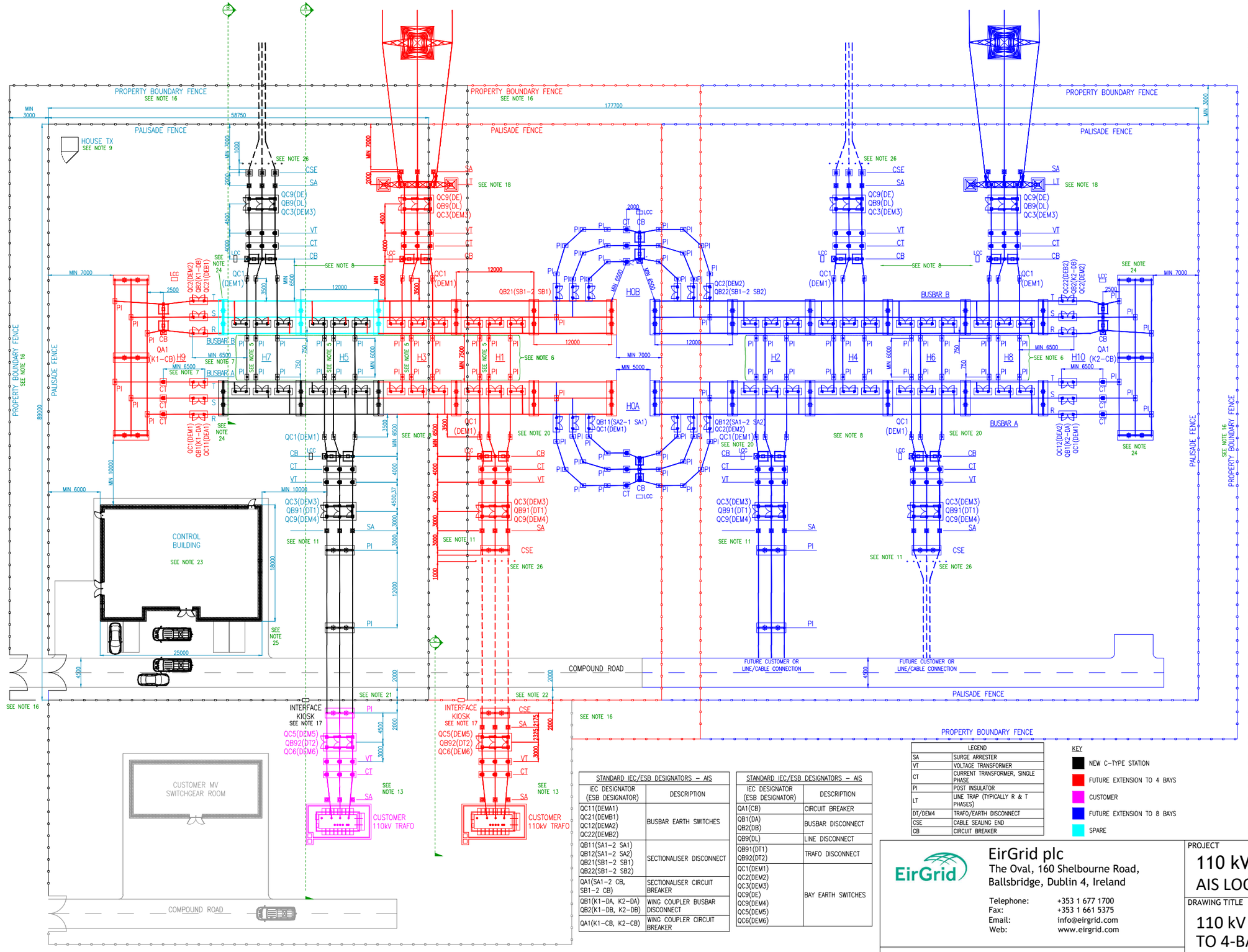

NOTE 1:
THIS IS A CONCEPTUAL DESIGN FOR GUIDANCE ONLY. ALL DIMENSIONS AND REFERENCES GIVEN ARE INDICATIVE ONLY.
LAYOUT TO BE FURTHER OPTIMISED DURING DETAILED DESIGN PENDING SPECIFIC EQUIPMENT SUPPLIER AND SITE DETAILS.

NOTE 2:
RELOCATION OR ADDITIONAL POST INSULATORS MAY BE REQUIRED, SUBJECT TO DETAIL DESIGN. NOT SHOWN FOR CLARITY.

NOTE 3:
VEHICULAR ACCESS TO ALL HV PLANT SHALL BE PERMITTED WITHOUT THE NEED FOR UNNECESSARY PROXIMITY OUTAGES. CONSIDERATION OF LV CABLE TRENCH LAYOUTS AND TRAFFIC-BEARING TRENCH COVERS SHALL BE CONSIDERED DURING DETAILED DESIGN.

NOTE 4:
LIGHTNING MAST, LV TRENCH DUCT ROUTES, MARSHALLING/INTERFACE CABINETS AND LIGHTING FIXTURES SHALL BE CONSIDERED DURING DETAIL DESIGN.

NOTE 5 (AS ILLUSTRATED ON DRAWING):
TWO PHASES OF THE LOW LEVEL BAY CONDUCTORS ARE ARRANGED CLOSER TOGETHER TO AVOID UNNECESSARY PROXIMITY OUTAGES ON ADJACENT BAYS. TO BE REPEATED FOR ALL BAYS.

NOTE 6 (AS ILLUSTRATED ON DRAWING):
INDEPENDENT SUPPORTED SPAN ON LOW LEVEL BAY CONDUCTORS BETWEEN DA AND DB. CONNECTOR ON PI SHALL BE A "T" TYPE CONNECTOR RATHER THAN A PASS THROUGH CONNECTOR SUCH THAT IT SHALL BE CAPABLE OF CONNECTING TWO SECTIONS OF CONDUCTOR TOGETHER. PI AND SPAN TO BE INSTALLED ON ALL FUTURE BAYS IN THE C-TYPE (PHASE 1) STATION.

NOTE 7 (AS ILLUSTRATED ON DRAWING):
DISTANCE BETWEEN CT AND CB ON WING COUPLER TO BE A MINIMUM OF 6500mm FROM THE BUSBAR SIDE OF THE OPEN DISCONNECTOR. DISTANCE BETWEEN DISCONNECTOR AND ADJACENT LOW LEVEL BAY CONDUCTOR TO BE A MINIMUM OF 6500mm.

NOTE 8 (AS ILLUSTRATED ON DRAWING):
6500mm DISTANCE REQUIRED BETWEEN BUSBAR AND CB ON EACH BAY.

NOTE 9:
REFER TO THE AUXILIARY SUPPLY FUNCTIONAL SPECIFICATION XDS-GFS-008-001 FOR LV POWER SUPPLY REQUIREMENTS. THE SECONDARY MAINS LV SUPPLY IS TO BE PROVIDED FROM THE LOCAL MV DISTRIBUTION NETWORK. THIS CAN BE VIA A POLE MOUNTED TRANSFORMER LOCATED OUTSIDE THE PALISADE FENCE OR VIA A GROUND MOUNTED TRANSFORMER IN A KIOSK LOCATED INSIDE THE PALISADE FENCE. THE PRECISE LOCATION OF THE POLE MOUNTED TRANSFORMER AND THE GROUND MOUNTED TRANSFORMER, AS THE CASE MAY BE, ARE SITE SPECIFIC AND WILL BE BY AGREEMENT WITH EIRGRID.

NOTE 10:
THIS LAYOUT RELATES PRIMARILY TO NEW SUBSTATIONS AND SIGNIFICANT EXTENSIONS PROJECTS. OTHER DEVELOPMENT OF EXISTING SUBSTATIONS (BROWN-FIELD) SHALL MAKE ALL REASONABLE EFFORTS TO BRING THE ARRANGEMENT IN LINE WITH THIS STANDARD (INCREASED CLEARANCES, NEW WRAP-AROUND COUPLER, AND SECTIONALISER CONFIGURATION). THE DEVELOPMENT SHALL NOT WORSEN ANY EXISTING O&M CLEARANCES WHICH MAY NOT BE IN ACCORDANCE WITH THIS STANDARD LAYOUT.

NOTE 11:
MANDATORY REQUIREMENTS FOR SA PRIOR TO EIRGRID/CUSTOMER BOUNDARY.

NOTE 12:
MANDATORY REQUIREMENTS FOR SA AT CUSTOMER END TAO CABLE. CUSTOMER TO DEMONSTRATE THAT TAO CABLE IS SUITABLY PROTECTED FROM OVERVOLTAGES.

NOTE 13:
REQUIREMENT & POSITION OF CT/VT AND TRANSFORMER SA IN THE CUSTOMER COMPOUND IS TO BE DETERMINED BY THE CUSTOMER. IT IS THE RESPONSIBILITY OF THE CUSTOMER TO ENSURE THAT THEIR TRANSFORMER IS SUITABLY PROTECTED FROM OVER VOLTAGES.

NOTE 14:
MINIMUM ELECTRICAL CLEARANCES SHALL COMPLY AS OUTLINED IN EIRGRID GENERAL REQUIREMENTS SPECIFICATION XDS-GFS-00-001.

NOTE 15:
PHASE ROTATION ON INCOMING CIRCUITS IS INDICATIVE AND SHALL BE VERIFIED BASED ON PARTICULAR PROJECT REQUIREMENTS.

NOTE 16:
A DETAILED ARRANGEMENT SHALL CONSIDER PROXIMITY OF THE PROPERTY BOUNDARY FENCE TO THE PALISADE FENCE, ENSURING THAT IT CANNOT BE USED AS A CLIMBING AID TO SCALE THE PALISADE FENCE. ARRANGEMENT SHALL BE SITE SPECIFIC AND SHALL BE AGREED WITH EIRGRID DURING THE DETAILED DESIGN PHASE.

NOTE 17 (AS ILLUSTRATED ON DRAWING):
INTERFACE KIOSK LOCATION IS INDICATIVE. FINAL POSITION TO BE AGREED.

NOTE 18 (AS ILLUSTRATED ON DRAWING):
FOR OHL BAYS WHERE A LINE TRAP IS NOT REQUIRED, THE SA SHOULD BE LOCATED UNDER THE OHL GANTRY.

NOTE 19:
THE CUSTOMER SHOULD ALLOW SPACE FOR A FUTURE TRANSFORMER CONNECTION IN THE AREA ADJACENT TO THE CUSTOMER COMPOUND AND TRANSMISSION STATION.

NOTE 20:
BUSBAR EARTH SWITCHES AND THEIR CORRESPONDING SECTIONALISER DISCONNECTS ARE HOUSED ON THE SAME STRUCTURE.

NOTE 21:
EXAMPLE OF "OVER THE FENCE" CUSTOMER CONNECTION.

NOTE 22:
EXAMPLE OF "UNDER THE FENCE" CUSTOMER CONNECTION.

NOTE 23:
REFER TO XDN-CR-STND-H-001 FOR INDICATIVE CONTROL ROOM LAYOUT.

NOTE 24:
WHERE INDICATED, ENDPOINTS OF BUSBARS AND OTHER RIGID CONDUCTORS TO EXTEND A MINIMUM OF 1m BEYOND THE FINAL POINT OF SUPPORT.

NOTE 25:
DUCTING AND SPACE PROVISION TO BE INCLUDED FOR 2 FUTURE FREESTANDING ELECTRIC VEHICLE CHARGING POINTS.

NOTE 26:
REMOVABLE BOLLARDS/CRASH BARRIER TO PROTECT CABLE SEALING ENDS FROM VEHICLES.

STANDARD IEC/ESB DESIGNATORS – AIS	
IEC DESIGNATOR (ESB DESIGNATOR)	DESCRIPTION
QC11(DEMA1) QC21(DEMB1) QC12(DEMA2) QC22(DEMB2)	BUSBAR EARTH SWITCHES
QB11(SA1-2 SA1) QB12(SA1-2 SA2) QB21(SB1-2 SB1) QB22(SB1-2 SB2)	SECTIONALISER DISCONNECT
QA1(SA1-2 CB, SB1-2 CB)	SECTIONALISER CIRCUIT BREAKER
QB1(K1-DA, K2-DA) QB2(K1-DB, K2-DB)	WING COUPLER BUSBAR DISCONNECT
QA1(K1-CB, K2-CB)	WING COUPLER CIRCUIT BREAKER

STANDARD IEC/ESB DESIGNATORS – AIS	
IEC DESIGNATOR (ESB DESIGNATOR)	DESCRIPTION
QA1(CB)	CIRCUIT BREAKER
QB1(DA) QB2(DB)	BUSBAR DISCONNECT
QB9(DL)	LINE DISCONNECT
QB91(DT1) QB92(DT2)	TRAFO DISCONNECT
QC1(DEM1) QC2(DEM2) QC3(DEM3) QC9(DE) QC9(DEM4) QC5(DEM5) QC6(DEM6)	BAY EARTH SWITCHES

LEGEND	
SA	SURGE ARRESTER
VT	VOLTAGE TRANSFORMER
CT	CURRENT TRANSFORMER, SINGLE PHASE
PI	POST INSULATOR
LT	LINE TRAP (TYPICALLY R & T PHASES)
DT/DEM4	TRAFO/EARTH DISCONNECT
CSE	CABLE SEALING END
CB	CIRCUIT BREAKER

KEY
- NEW C-TYPE STATION
- FUTURE EXTENSION TO 4 BAYS
- CUSTOMER
- FUTURE EXTENSION TO 8 BAYS
- SPARE

REV	DESC	DRAWN	CHK'D	APP'D	DATE
02	DRAWING TITLE CHANGE	CRC	DG	NC	04/10/2024
01	REVISED AFTER ESB DUE DILIGENCE	CRC	DG	NC	30/09/2024

DRAWING IS NOT TO SCALE - IF IN DOUBT, ASK

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PROJECT
110 kV STATION DESIGN STANDARD
AIS LOOP STATION

DRAWING TITLE
110 kV AIS 2-BAY STATION EXTENDABLE TO 4-BAY & 8-BAY CONFIGURATIONS PLAN VIEW

No of Shts	SIZE	SCALE
1	A3	N/A

DRAWING NUMBER	SHEET	REV
XDN-LAY-ELV-STND-H-013	001	02