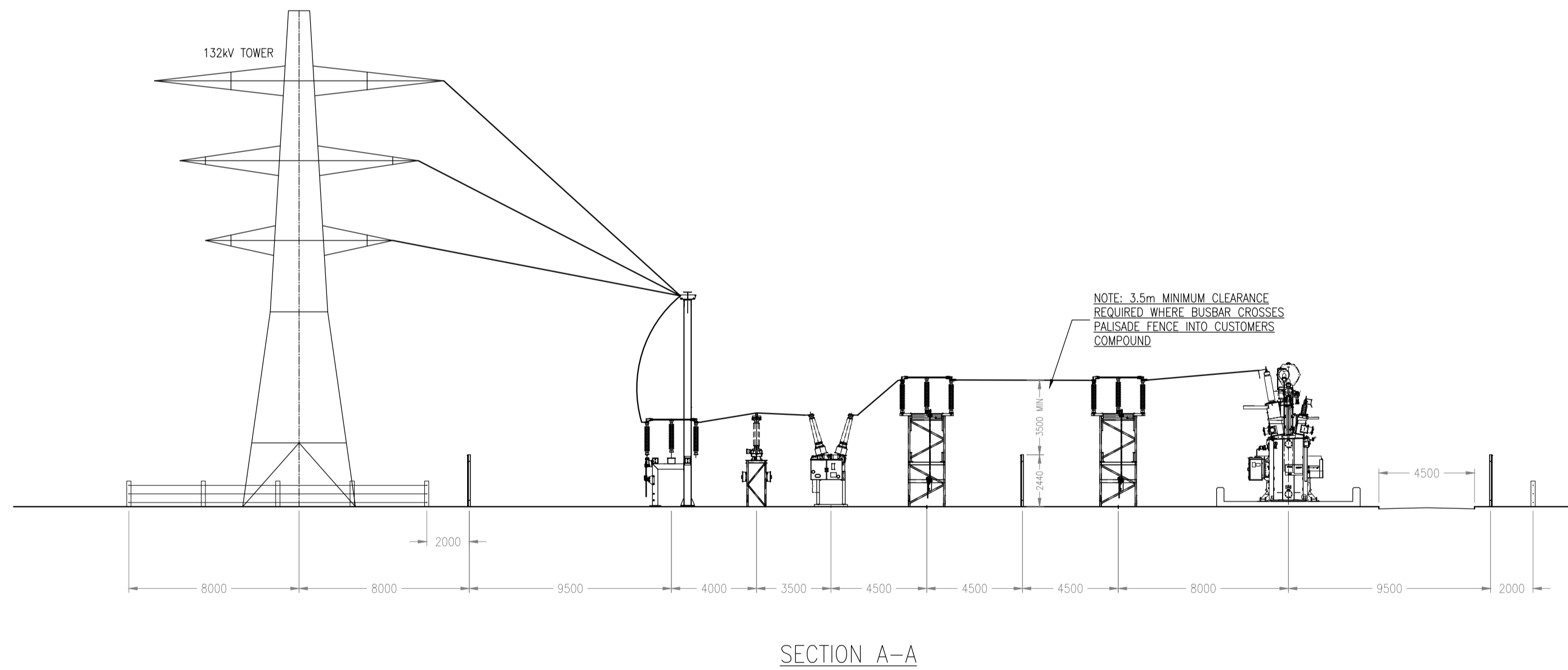
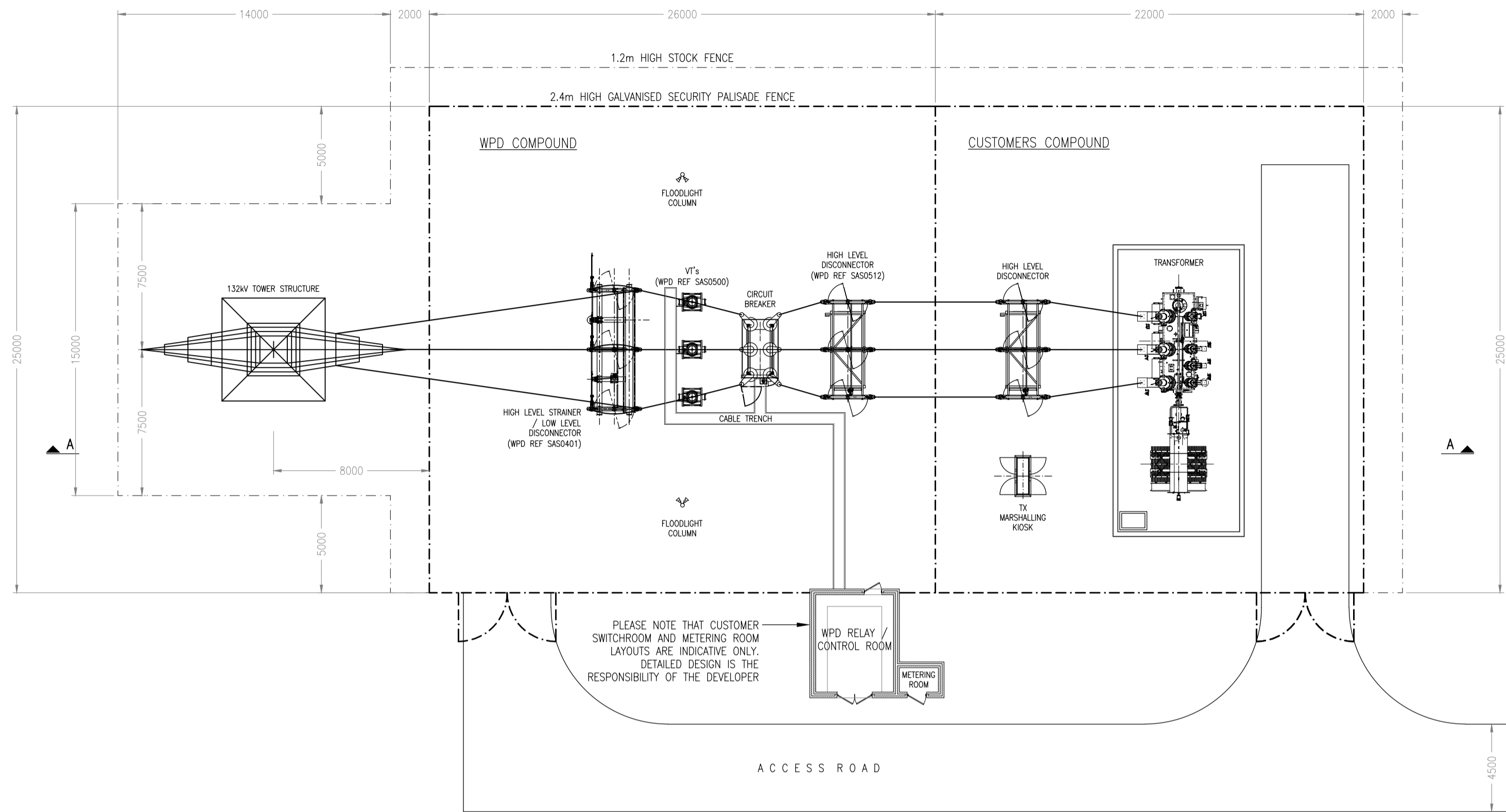


PLAN SHOWING INDICATIVE 132kV SINGLE CIRCUIT TEE-OFF CONNECTION (UNDERGROUND) (1:200)



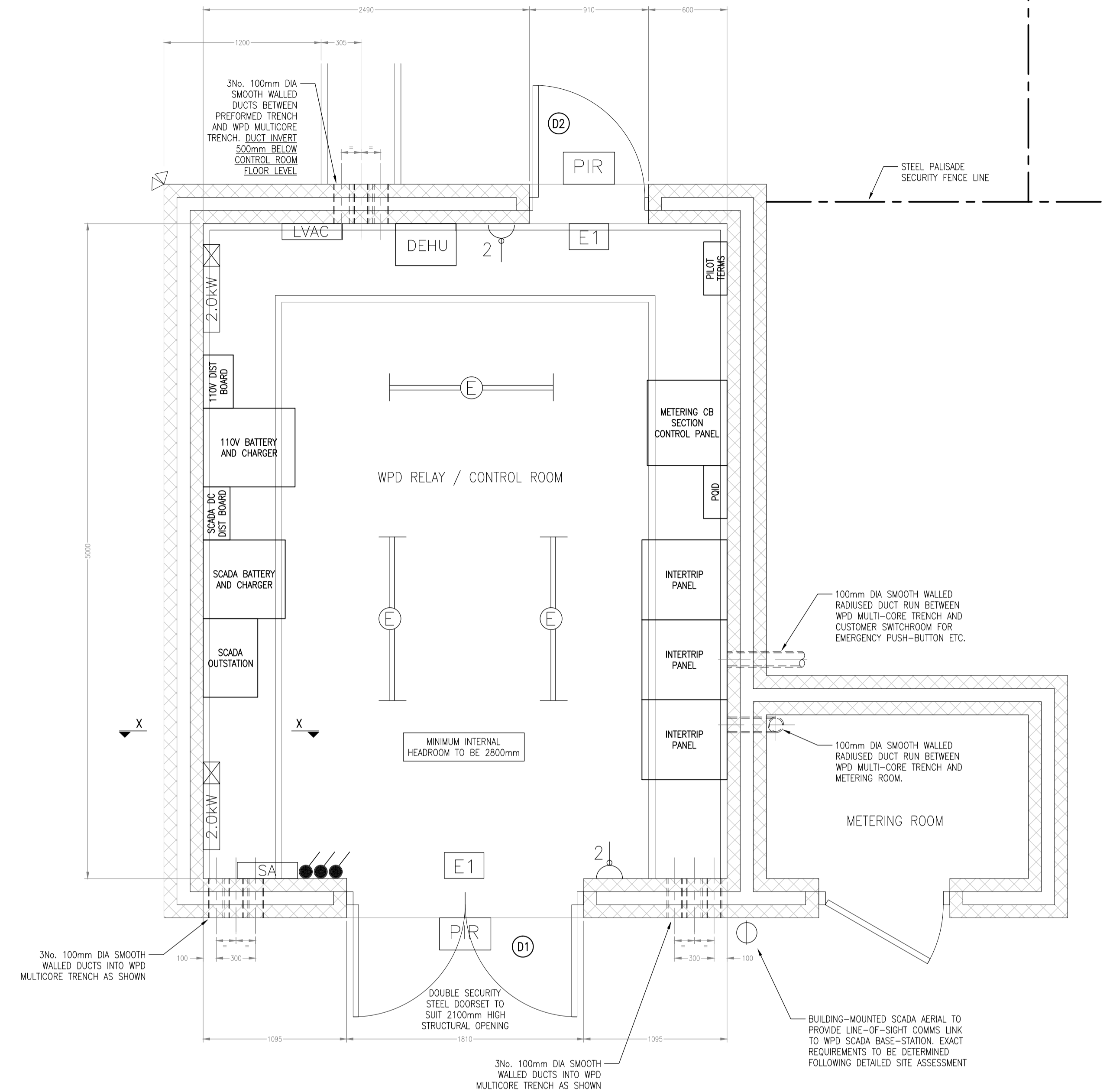
**GENERAL NOTES**

- DO NOT SCALE THIS DRAWING
- THIS DRAWING SHOULD BE READ IN CONJUNCTION WITH THE PROPOSED WPD SUBSTATION LAYOUT AND THE 132kV CONNECTION GUIDE DOCUMENT.
- THIS DRAWING IDENTIFIES THE REQUIREMENTS FOR THE WPD SUBSTATION COMPOUND AND ASSOCIATED CIRCUIT ENTRY/IES AND VEHICULAR ACCESS. IT DOES NOT DETAIL THE CUSTOMER COMPOUND TO ANY SIGNIFICANT DEGREE.
- DETAILED CIVIL DESIGN WORKS ARE THE RESPONSIBILITY OF THE CUSTOMER, BUT THE INFORMATION PROVIDED ON THIS DRAWING MAY BE INCORPORATED INTO THE CUSTOMER'S OVERALL CIVIL SITEWORKS DRAWING AS NECESSARY (ASSUMING THAT THE CUSTOMER HAS CHECKED THE VIABILITY OF THE INFORMATION TO THE PRESENTED SITE CONDITIONS).
- THIS DRAWING PRESUMES A LEVEL WPD SUBSTATION COMPOUND SURFACE. WHERE SITE CONDITIONS DICTATE, A CROSSFALL ACROSS THE SITE COMPOUND OF A MAXIMUM OF 1:60 MAY BE PROPOSED. ALTERNATIVELY, SUBJECT TO AGREEMENT, A SITE TERRACING OPTION MAY BE AVAILABLE.
- THE CUSTOMER IS TO INSTALL SUFFICIENT STORM, GROUND AND SURFACE WATER DRAINAGE TO PREVENT A POTENTIAL BUILD-UP OF GROUND WATER. THIS DRAINAGE SYSTEM SHOULD CONVEY WATER TO A SUITABLE POINT OF DISPOSAL.
- NO THIRD PARTY UTILITY ASSETS ARE TO BE LOCATED BENEATH/ WITHIN THE WPD COMPOUND WITHOUT PRIOR APPROVAL.

**COMPOUND PREPARATION NOTES**

- STRIP/ EXCAVATE TOPSOIL AND VEGETABLE MATTER AND EXCAVATE TO REDUCED LEVEL AS NECESSARY
- ANY IMPORTED FILL/ EXCAVATION ARISING FROM MAKING UP REDUCED LEVELS IS TO BE SUITABLE FOR FILLING PURPOSES AND IS TO BE CONSOLIDATED IN AN APPROVED MANNER
- INSTALL TERRAM T100 (OR SIMILAR APPROVED) GEOTEXTILE MEMBRANE AS SEPARATION LAYER BETWEEN COMPOUND SUB-BASE AND SUB-GRADE. INSTALL IN FULL ACCORDANCE WITH MANUFACTURERS REQUIREMENTS
- LAY AND COMPACT MINIMUM 75mm THICK LAYER OF APPROVED WELL-GRADED HARDCORE/ SUB-BASE MATERIAL
- LAY MINIMUM 75mm THICK BED OF 20mm SINGLE-SIZED GRADED CLEAN GRANITE/ LIMESTONE CHIPPINGS AS A COMPOUND SURFACE DRESSING, SPREAD AND LAID AROUND BASES AND THE LIKE. CHIPPINGS SHOULD HAVE A WET RESISTIVITY OF NO LESS THAN 1500 OHM/m

WPD CONTROL ROOM DETAILS (1:25)

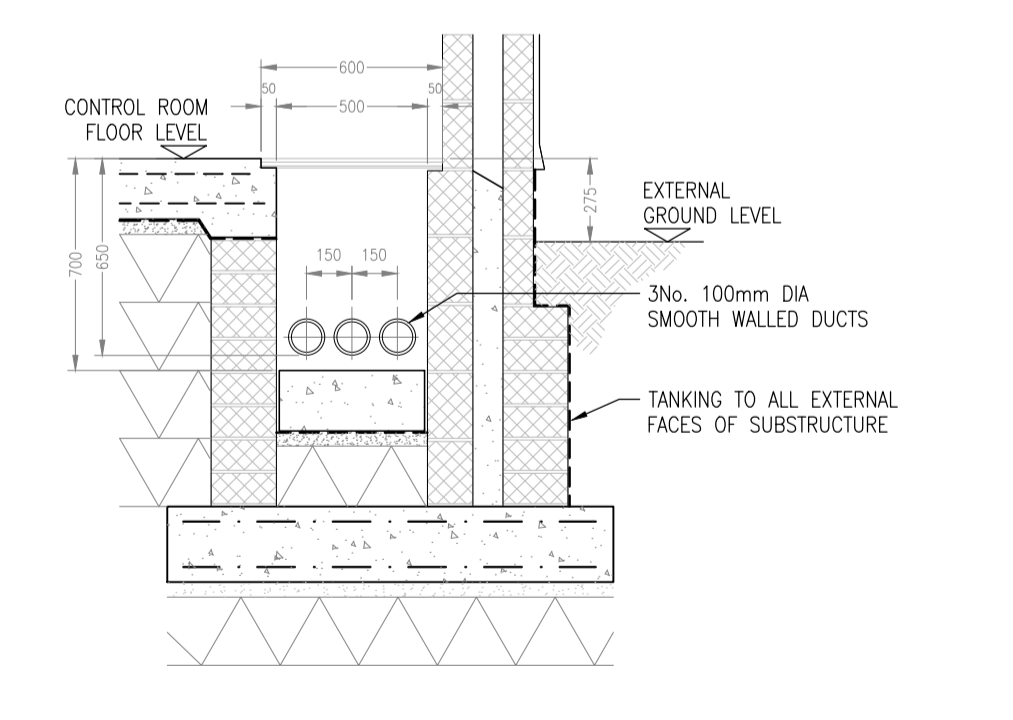


**KEY TO LVAC SYMBOLS**

- LVAC LV METALCLAD 1<sup>st</sup> DISTRIBUTION BOARD WITH 4no SPARE 20A MCB WAYS RESERVED FOR WPD USE
- D-2 13a TWIN SWITCHED SOCKET OUTLET
- D-BT BT MASTER SOCKET (DEDICATED EXT LINE)
- E TWIN 5W BATTEN FLUORESCENT LUMINAIRE WITH INTEGRAL EMERGENCY
- PIR PIR ACTIVATED 250w METAL HALIDE FLOOD LIGHT
- E1 ILLUMINATED EMERGENCY EXIT SIGN
- DEHU EBAC CD30 DEHUMIDIFIER WITH TRACE HEATED CONDENSATE DRAIN TO SUITABLE POINT OF DISPOSAL
- 2.0kW 2.0kW CONVECTOR HEATER
- SA INTRUDER ALARM (SINGLE ZONE) WITH DOOR CONTACT ACTUATION FOR ALL WPD DOORS
- 250w TWIN-HEAD METAL HALIDE FLOOD LIGHT

- D1 DOUBLE SECURITY STEEL DOORSET TO SUIT 2100mm HIGH STRUCTURAL OPENING. EXTERNAL ACCESS DEVICE TO RECEIVE WPD SUPPLIED EURO PROFILE CYLINDER. INTERNAL FIRE EXIT PANIC BARS TO BOTH LEAVES. HEAVY DUTY HOLD-OPEN DEVICES TO BE FITTED
- D2 SINGLE DOOR AS ABOVE

NOTE: EXACT REQUIREMENTS FOR WPD CONTROL, AND ASSOCIATED SCADA (AND POTENTIALLY INTERTRIPPING EQUIPMENT) ARE TO BE AGREED ON A PROJECT SPECIFIC BASIS



**CONTROL ROOM CONSTRUCTION NOTES**

- MINIMUM INTERNAL HEADROOM TO BE 2800mm
- EXTERNAL BUILDING FABRIC TO PROVIDE A MAXIMUM TARGET U VALUE OF 0.45W/m<sup>2</sup>K
- PROVIDE 8000mm<sup>2</sup> OF PASSIVE VENTILATION TO CONTROL ROOM
- PROVIDE POWER-FLOAT FINISH TO CONCRETE FLOOR
- PROVIDE ONE MIST COAT AND TWO TOP COATS OF BRILLIANT WHITE EMULSION TO INTERNAL WALLS AND CEILING
- SECURITY DOORSETS TO BE SUPPLIED BY T.S. DESIGNS (01477 571357) OR ARE TO BE OF EQUIVALENT STANDARD/ QUALITY
- WHERE THERE IS ANY RISK OF GROUND-WATER INGRESS, A SUMP OF INTERNAL DIMENSIONS 300x300x300mm SHALL BE PROVIDED WITHIN THE MULTICORE CABLE TRENCH FLOOR

Rev No	Drawn	Chk'd	App'd	Date	Revision
2	LF			31.3.14	INCREASED CLEARANCE CB 110 TO ISOLATOR 113
1	LF			6.9.13	LAYOUT REVISED TO SHOW REPOSITIONED CIRCUIT BREAKER & VT's

ORIGINAL ISSUE	Date	Scale	AS NOTED
Drawn	LF	JULY 13	
Checked			
Approved			

ORIGINAL SHEET SIZE: A1

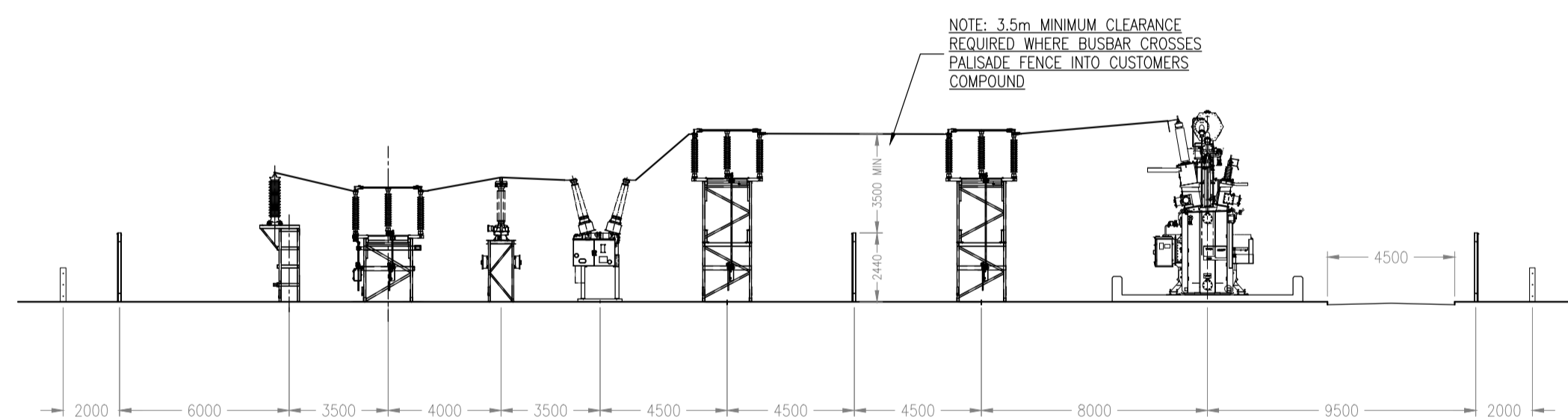
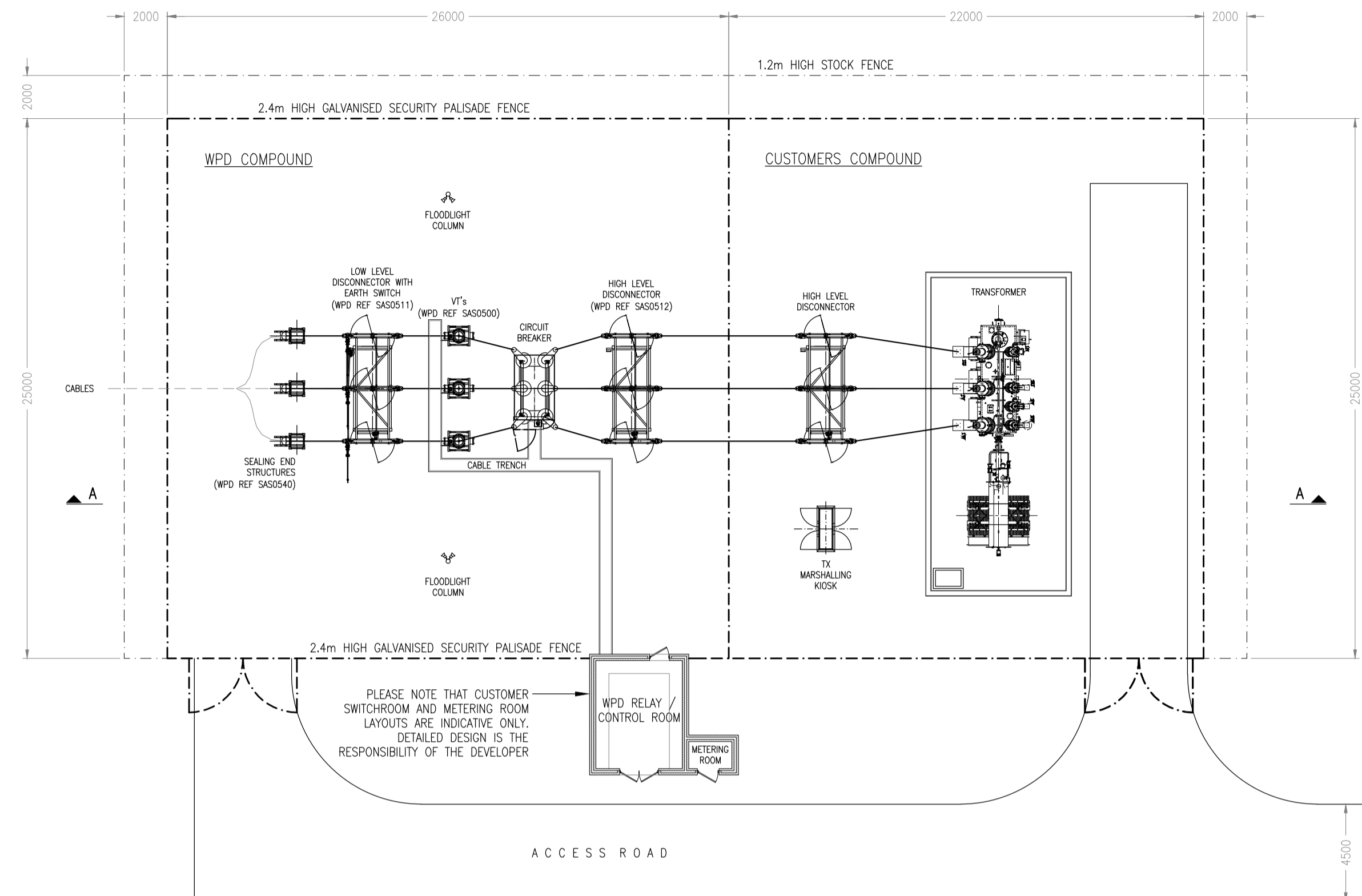
**WESTERN POWER DISTRIBUTION**  
Design Department.  
Avonbank, Feeder Road, Bristol BS2 0TB  
Tel: 0117 933 2000 Fax: 0117 933 2001.

**WESTERN POWER DISTRIBUTION**

Title: INDICATIVE 132kV SINGLE CIRCUIT TEE-OFF CONNECTION (OVERHEAD)  
PROPOSED SITE LAYOUT & WPD CONTROL ROOM DETAILS

Dr. No. GCS0019-1  
Rev No. 2

PLAN SHOWING INDICATIVE 132KV SINGLE CIRCUIT TEE-OFF CONNECTION (UNDERGROUND) (1:200)



SECTION A-A

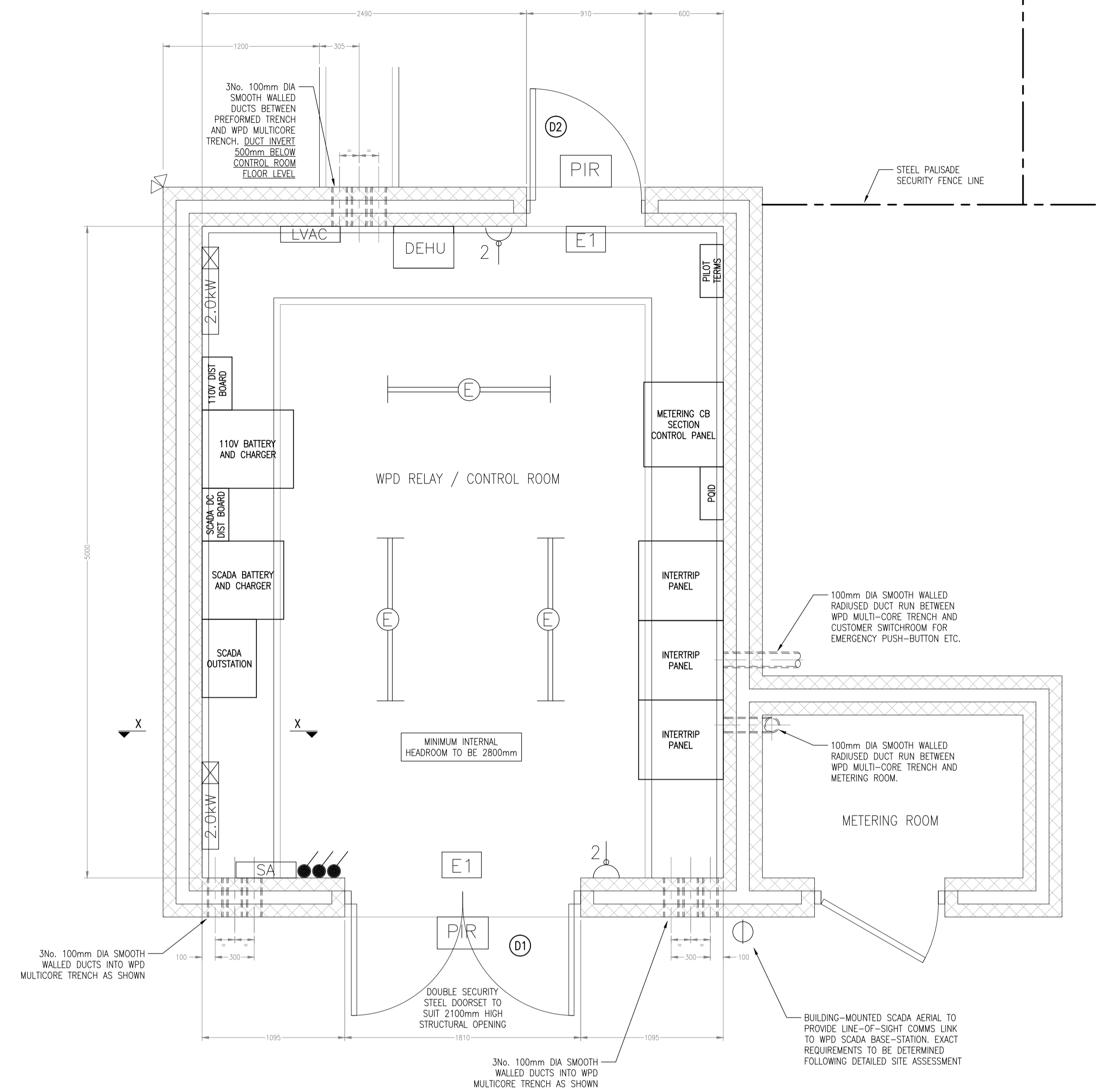
GENERAL NOTES

- DO NOT SCALE THIS DRAWING
- THIS DRAWING SHOULD BE READ IN CONJUNCTION WITH THE PROPOSED WPD SUBSTATION LAYOUT AND THE 132KV CONNECTION GUIDE DOCUMENT.
- THIS DRAWING IDENTIFIES THE REQUIREMENTS FOR THE WPD SUBSTATION COMPOUND AND ASSOCIATED CIRCUIT ENTRY/IES AND VEHICULAR ACCESS. IT DOES NOT DETAIL THE CUSTOMER COMPOUND TO ANY SIGNIFICANT DEGREE.
- DETAILED CIVIL DESIGN WORKS ARE THE RESPONSIBILITY OF THE CUSTOMER, BUT THE INFORMATION PROVIDED ON THIS DRAWING MAY BE INCORPORATED INTO THE CUSTOMER'S OVERALL CIVIL SITEWORKS DRAWING AS NECESSARY (ASSUMING THAT THE CUSTOMER HAS CHECKED THE VIABILITY OF THE INFORMATION TO THE PRESENTED SITE CONDITIONS).
- THIS DRAWING PRESUMES A LEVEL WPD SUBSTATION COMPOUND SURFACE. WHERE SITE CONDITIONS DICTATE, A CROSSFALL ACROSS THE SITE COMPOUND OF A MAXIMUM OF 1:60 MAY BE PROPOSED. ALTERNATIVELY, SUBJECT TO AGREEMENT, A SITE TERRACING OPTION MAY BE AVAILABLE.
- THE CUSTOMER IS TO INSTALL SUFFICIENT STORM, GROUND AND SURFACE WATER DRAINAGE TO PREVENT A POTENTIAL BUILD-UP OF GROUND WATER. THIS DRAINAGE SYSTEM SHOULD CONVEY WATER TO A SUITABLE POINT OF DISPOSAL.
- NO THIRD PARTY UTILITY ASSETS ARE TO BE LOCATED BENEATH/ WITHIN THE WPD COMPOUND WITHOUT PRIOR APPROVAL.

COMPOUND PREPARATION NOTES

- STRIP/ EXCAVATE TOPSOIL AND VEGETABLE MATTER AND EXCAVATE TO REDUCED LEVEL AS NECESSARY
- ANY IMPORTED FILL/ EXCAVATION ARISING FROM MAKING UP REDUCED LEVELS IS TO BE SUITABLE FOR FILLING PURPOSES AND IS TO BE CONSOLIDATED IN AN APPROVED MANNER
- INSTALL TERRAM T100 (OR SIMILAR APPROVED) GEOTEXTILE MEMBRANE AS SEPARATION LAYER BETWEEN COMPOUND SUB-BASE AND SUB-GRADE. INSTALL IN FULL ACCORDANCE WITH MANUFACTURERS REQUIREMENTS
- LAY AND COMPACT MINIMUM 75mm THICK LAYER OF APPROVED WELL-GRADED HARDCORE/ SUB-BASE MATERIAL
- LAY MINIMUM 75mm THICK BED OF 20mm SINGLE-SIZED GRADED CLEAN GRANITE/ LIMESTONE CHIPPINGS AS A COMPOUND SURFACE DRESSING, SPREAD AND LAID AROUND BASES AND THE LIKE. CHIPPINGS SHOULD HAVE A WET RESISTIVITY OF NO LESS THAN 1500 OHM/m

WPD CONTROL ROOM DETAILS (1:25)

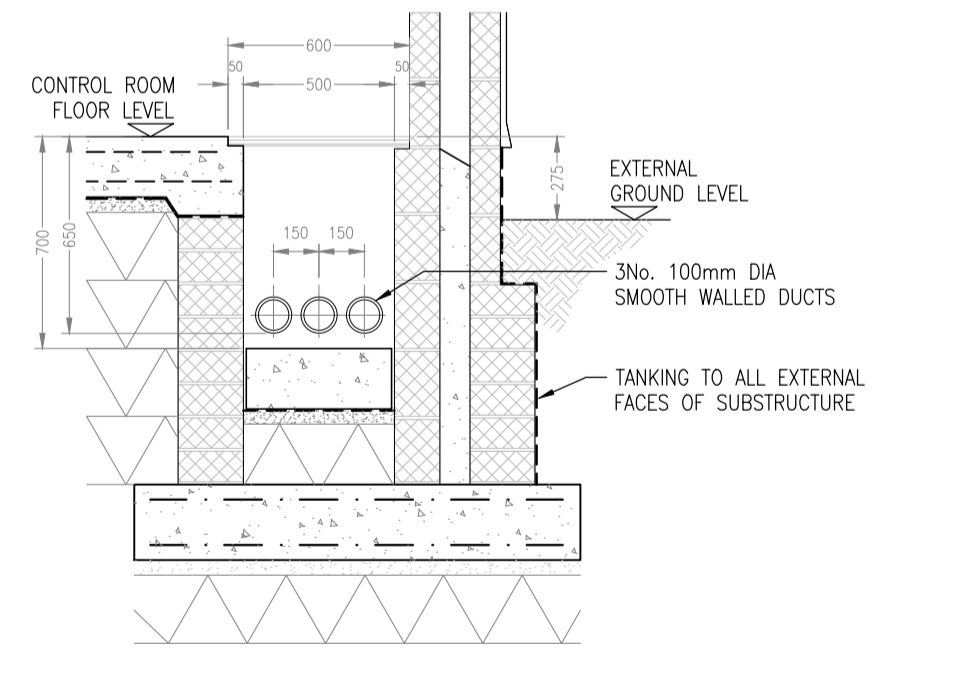


KEY TO LVAC SYMBOLS

- LVAC LV METALCLAD 1 $\phi$  DISTRIBUTION BOARD WITH 4NO SPARE 20A MCB WAYS RESERVED FOR WPD USE
- D<sup>2</sup> 13 $\phi$  TWIN SWITCHED SOCKET OUTLET
- D-BT BT MASTER SOCKET (DEDICATED EXT LINE)
- E TWIN 5W BATTEN FLUORESCENT LUMINAIRE WITH INTEGRAL EMERGENCY
- PIR PIR ACTIVATED 250W METAL HALIDE FLOOD LIGHT
- E1 ILLUMINATED EMERGENCY EXIT SIGN
- DEHU EBAC CD30 DEHUMIDIFIER WITH TRACE HEATED CONDENSATE DRAIN TO SUITABLE POINT OF DISPOSAL
- Single gang light switch (ONE FOR BUILDING EXT LIGHTING, 1 FOR COMPOUND LIGHTING AND 1 FOR ALL INTERNAL WITH EMERGENCY TEST SOCKET)
- 2.0kW 2.0kW CONVECTOR HEATER
- SA INTRUDER ALARM (SINGLE ZONE) WITH DOOR CONTACT ACTUATION FOR ALL WPD DOORS
- 250w TWIN-HEAD METAL HALIDE FLOOD LIGHT

- D1 DOUBLE SECURITY STEEL DOORSET TO SUIT 2100mm HIGH STRUCTURAL OPENING. EXTERNAL ACCESS DEVICE TO RECEIVE WPD SUPPLIED EURO PROFILE CYLINDER. INTERNAL FIRE EXIT PANIC BARS TO BOTH LEAVES. HEAVY DUTY HOLD-OPEN DEVICES TO BE FITTED
- D2 SINGLE DOOR AS ABOVE

NOTE: EXACT REQUIREMENTS FOR WPD CONTROL, AND ASSOCIATED SCADA (AND POTENTIALLY INTERTRIPPING EQUIPMENT) ARE TO BE AGREED ON A PROJECT SPECIFIC BASIS



CONTROL ROOM CONSTRUCTION NOTES

- MINIMUM INTERNAL HEADROOM TO BE 2800mm
- EXTERNAL BUILDING FABRIC TO PROVIDE A MAXIMUM TARGET U VALUE OF 0.45W/m<sup>2</sup>K
- PROVIDE 8000mm<sup>2</sup> OF PASSIVE VENTILATION TO CONTROL ROOM
- PROVIDE POWER-FLOAT FINISH TO CONCRETE FLOOR
- PROVIDE ONE MIST COAT AND TWO TOP COATS OF BRILLIANT WHITE EMULSION TO INTERNAL WALLS AND CEILING
- SECURITY DOORSETS TO BE SUPPLIED BY T.S. DESIGNS (01477 571357) OR ARE TO BE OF EQUIVALENT STANDARD/ QUALITY
- WHERE THERE IS ANY RISK OF GROUND-WATER INGRESS, A SUMP OF INTERNAL DIMENSIONS 300x300x300mm SHALL BE PROVIDED WITHIN THE MULTICORE CABLE TRENCH FLOOR

Rev No	Drawn	Chk'd	App'd	Date	Revision
2	LF			31.3.14	INCREASED CLEARANCE CB 110 TO ISOLATOR 113
1	LF			6.9.13	LAYOUT REVISED TO SHOW REPOSITIONED CIRCUIT BREAKER & VT'S

ORIGINAL ISSUE	Date	WESTERN POWER DISTRIBUTION Design Department. Avonbank, Feeder Road, Bristol BS2 0TB Tel: 0117 933 2000 Fax: 0117 933 2001.	
Drawn	LF	JULY 13	
Checked			Title INDICATIVE 132KV SINGLE CIRCUIT TEE-OFF CONNECTION (UNDERGROUND) PROPOSED SITE LAYOUT & WPD CONTROL ROOM DETAILS
Approved			
SCALE:	AS NOTED		Drg. No. GCS0019-2 Rev No. 2
ORIGINAL SHEET SIZE: A1			