
Distribution Substation Manual (DSM)

Section 9 – 33kV Substation Arrangements



March 2007

Document release information

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Revision History				
Edition/Revision Number	Issue Date	Description	Endorsed By	Approved By
First Edition	June 1997	Distribution Substations Manual (DSM) issued	NA	NA
Second Edition	February 2002	Revised from First Edition	Ed Wilcox	Robert Rogerson
Third Edition	March 2007	DSM split into 10 Sections – Introduction and Sections 1 to 9	Sandeep Magan	Robert Rogerson

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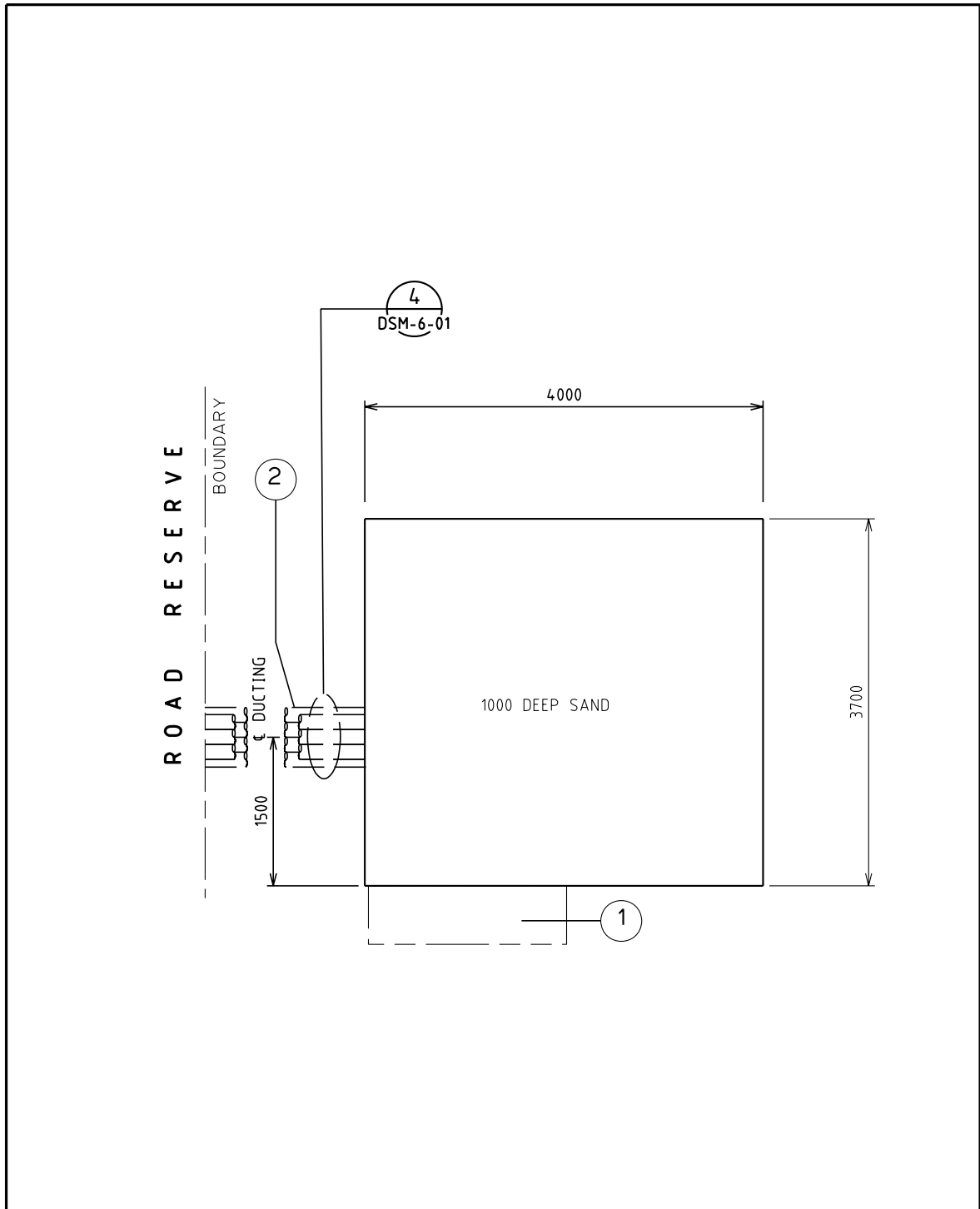
Third edition January 2007

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9 33kV Substation Arrangements


Index of Drawings

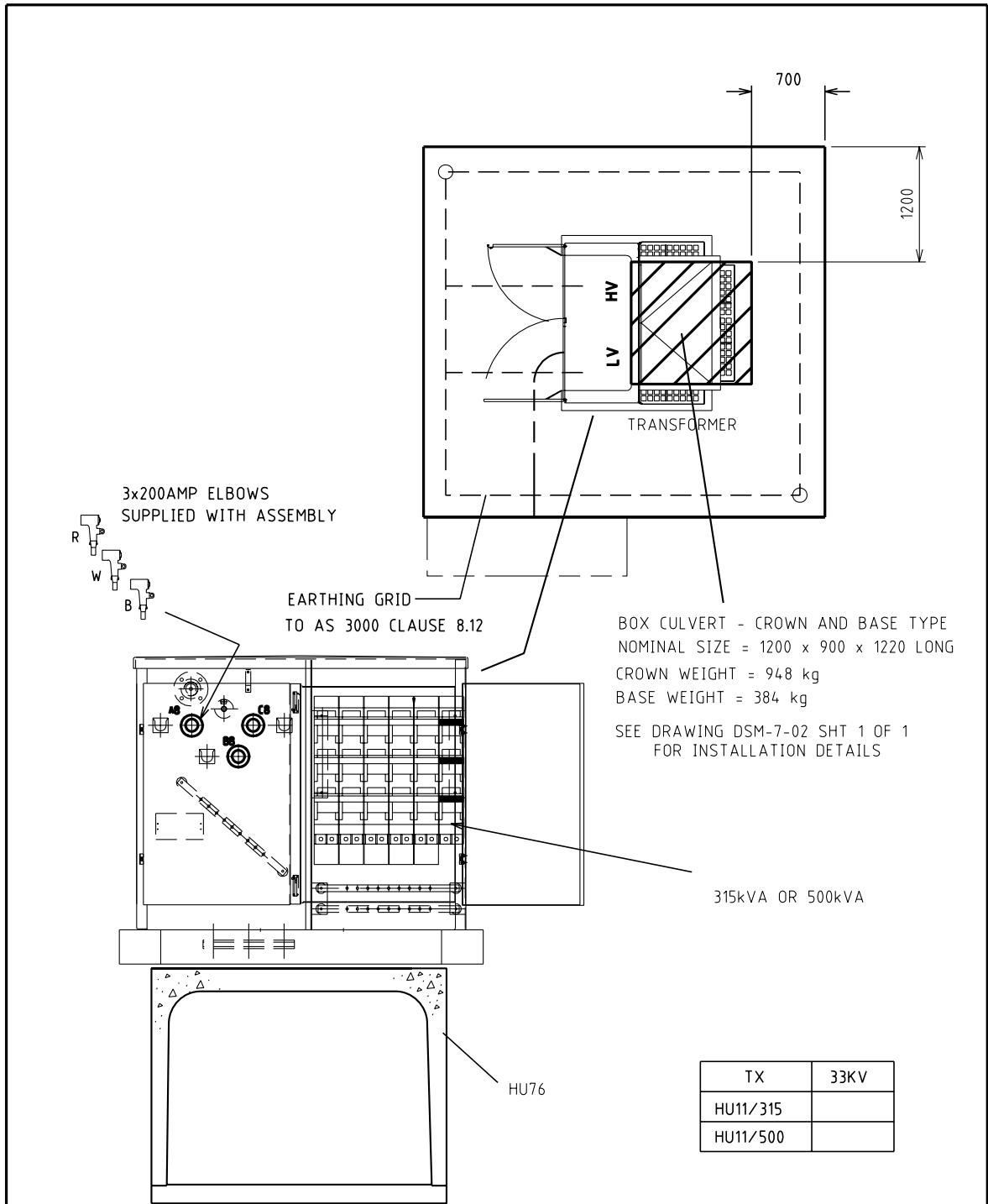
DRAWING NUMBER	DRAWING TITLE
DSM-9-01	District Substation 33kV/315-500kVA IPS Non Fire Rated
DSM-9-02	Sole Use Substation 33kV/315-500kVA IPS Non Fire Rated



- ① - SITE FOR CUSTOMERS MAIN DISTRIBUTION BOARD
- ② - DUCTING REQUIRED IF LAND REQUIREMENT IS SET BACK FROM ROAD RESERVE BOUNDARY.
7 - 125 ID HEAVY DUTY DUCTS - AS3000 CLAUSE 3.16.3.1 (CATEGORY 'A' WIRING SYSTEM)

THIS DRAWING TO BE READ IN CONJUNCTION WITH THE SUBSTATION INSTALLATION REQUIREMENTS - DSB 95/6

 Western Power NETWORK ENGINEERING BRANCH DISTRIBUTION SUBSTATION MANUAL	DISTRICT SUBSTATION 33kV / 315 - 500kVA IPS NON FIRE RATED	DRAWING No. DSM-9-01	
	CIVIL & LAND REQUIREMENTS	DATE: 01/03/98	REVISION:

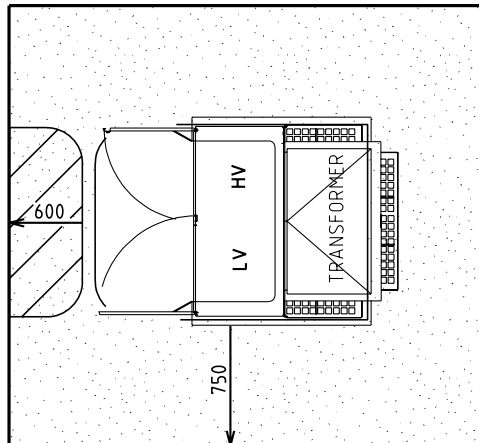


NOTES:

1. HU11 COMES WITH 5 x FUSEWAYS INSTALLED.
2. 1 x LU14 NEEDED WITH EACH FUSEWAY, WHEN USED AS STREET FEED.
3. HU11 IS SUPPLIED WITH 3x200AMP NON LOAD BREAK ELBOWS.

THIS DRAWING TO BE READ IN CONJUNCTION WITH THE SUBSTATION INSTALLATION REQUIREMENTS - DSB 95/6

<p>Western Power NETWORK ENGINEERING BRANCH DISTRIBUTION SUBSTATION MANUAL</p>	<p>DISTRICT SUBSTATION 33kV / 315 - 500kVA IPS NON FIRE RATED EQUIPMENT & INSTALLATION DETAILS</p>	DRAWING No.	
		DSM-9-01	
		SHEET 2 OF 4	
		DATE:	REVISION:
		01/10/99	A




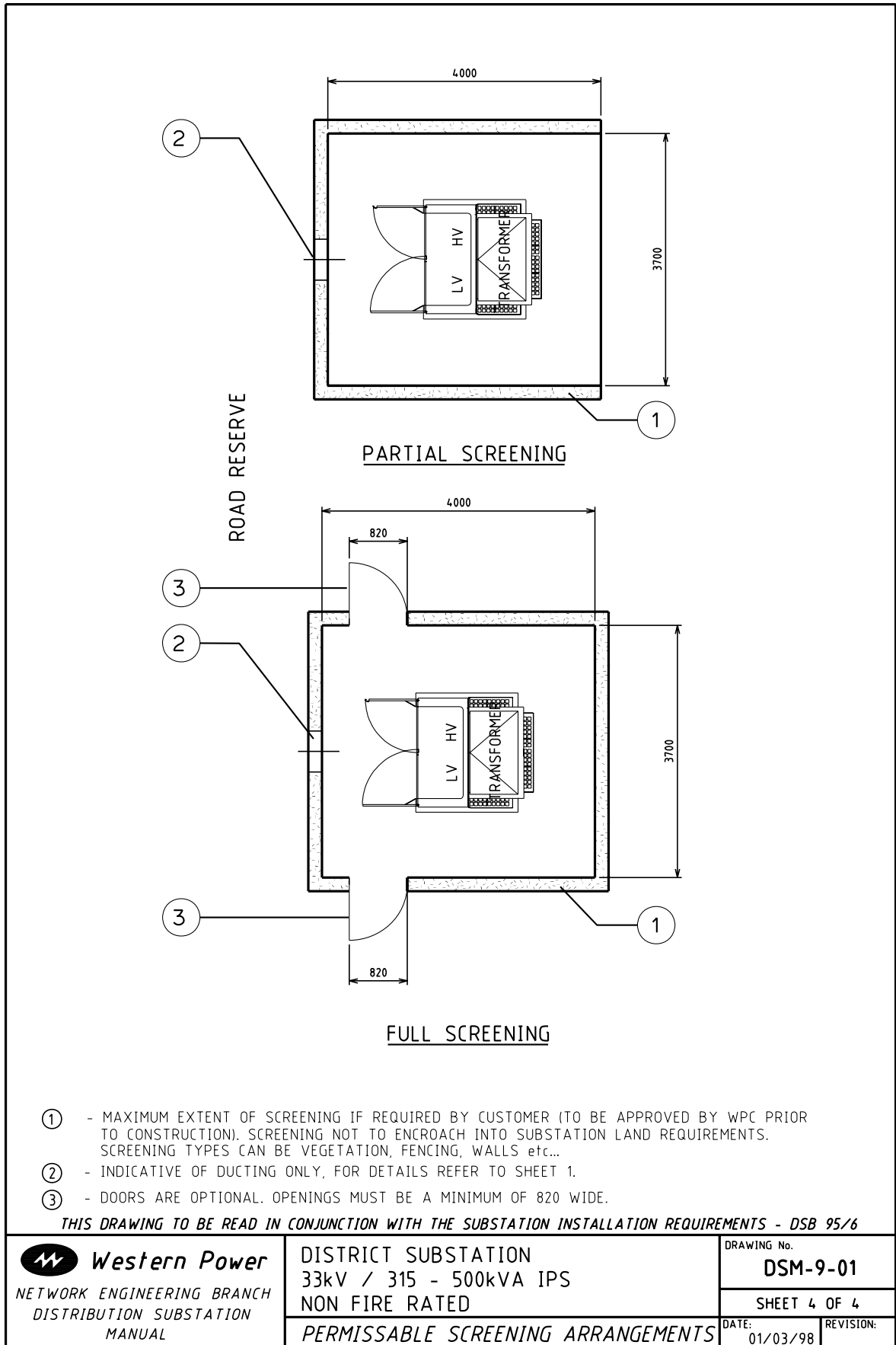
MINIMUM CLEARANCE REQUIRED FOR EARTHING PURPOSES.
REFER DCM MANUAL SUB ASSEMBLY SA122.



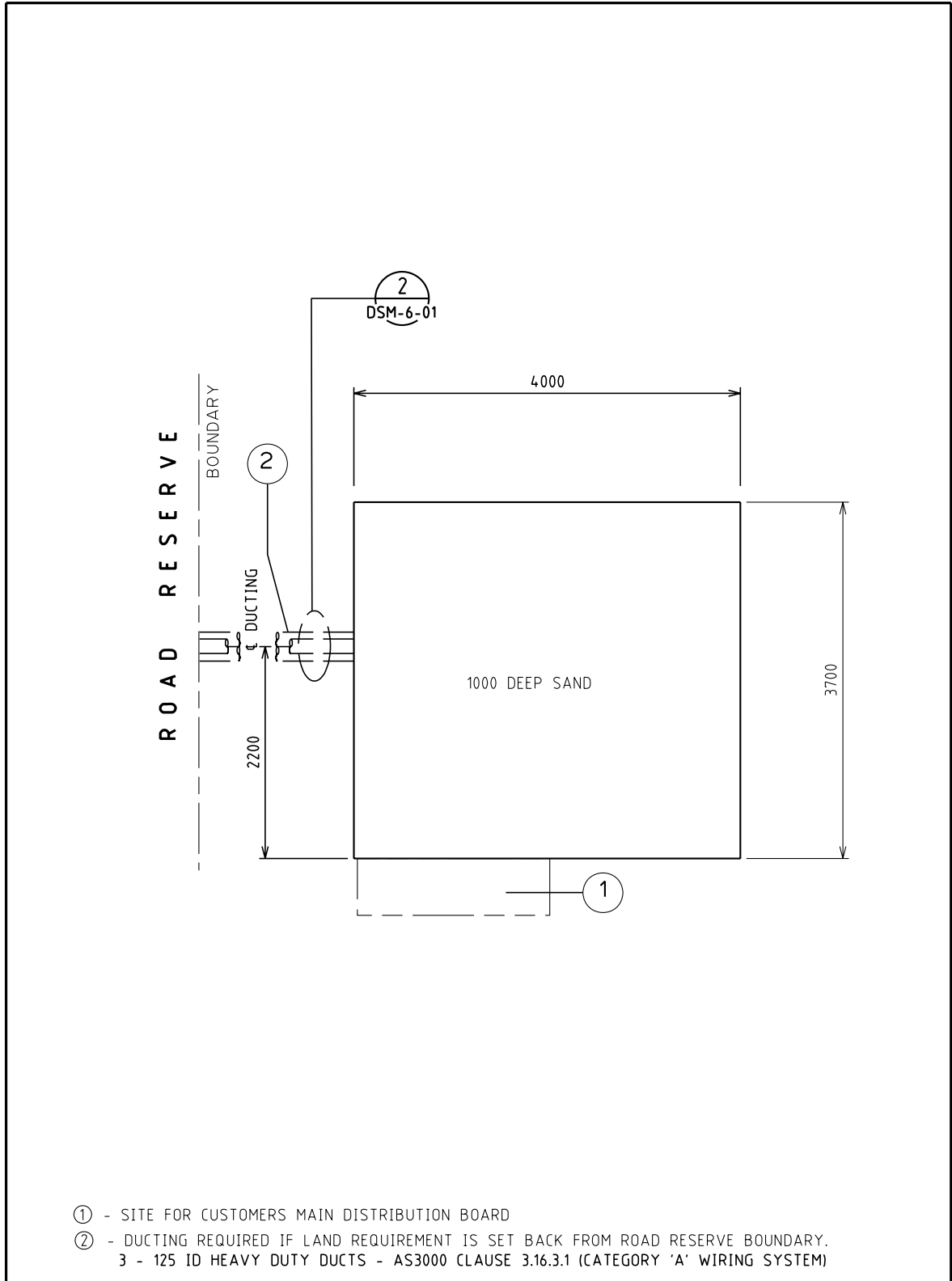
MINIMUM CLEARANCE REQUIRED FOR OPERATIONAL PURPOSES
AS 3000 CLAUSE 2.21.2


THIS DRAWING TO BE READ IN CONJUNCTION WITH THE SUBSTATION INSTALLATION REQUIREMENTS - DSB 95/6

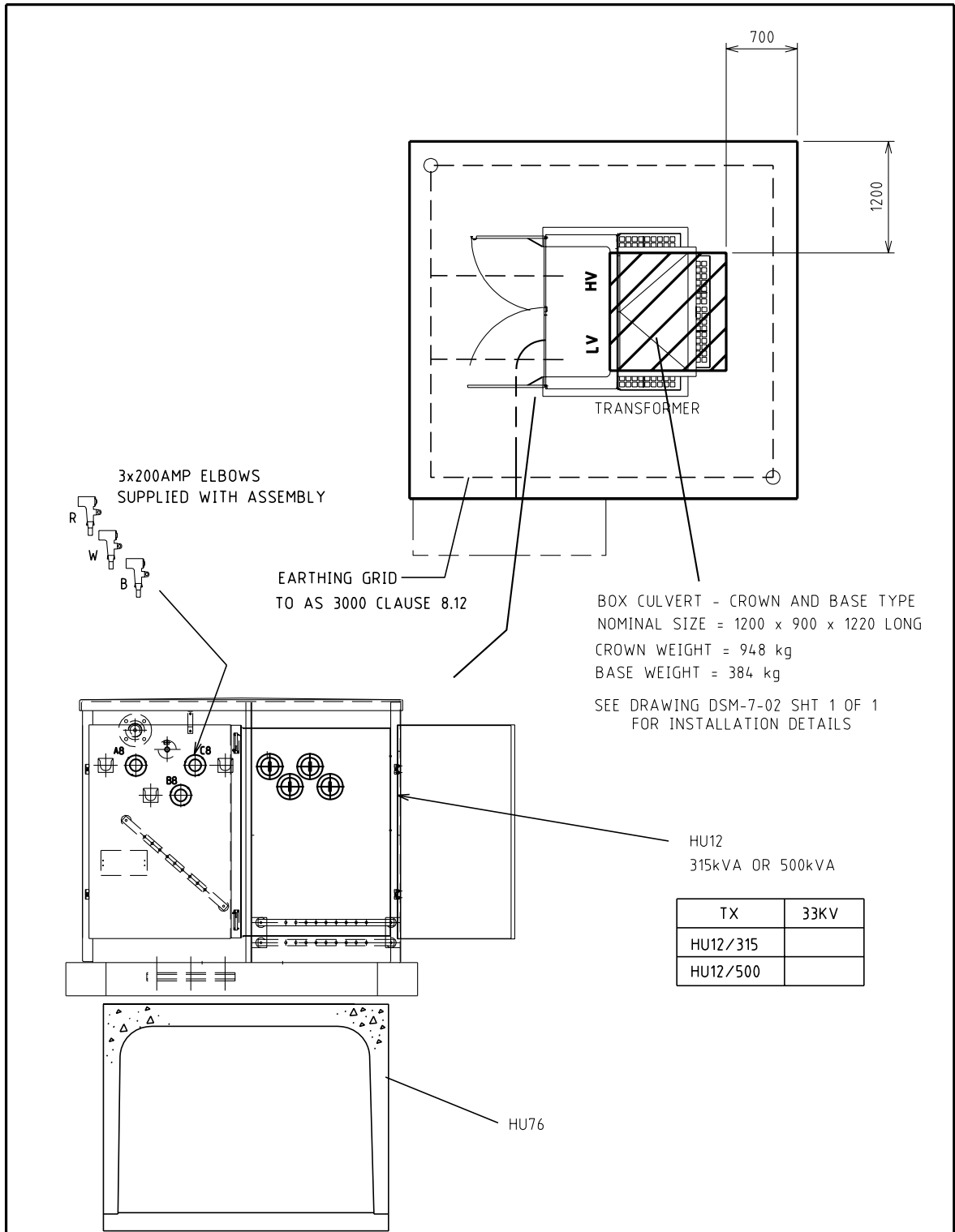
 Western Power NETWORK ENGINEERING BRANCH DISTRIBUTION SUBSTATION MANUAL	DISTRICT SUBSTATION 33kV / 315 - 500kVA IPS NON FIRE RATED OPERATIONAL CLEARANCES	DRAWING No. DSM-9-01	
		SHEET 3 OF 4	
		DATE: 01/03/98	REVISION:



- ① - MAXIMUM EXTENT OF SCREENING IF REQUIRED BY CUSTOMER (TO BE APPROVED BY WPC PRIOR TO CONSTRUCTION). SCREENING NOT TO ENCR OACH INTO SUBSTATION LAND REQUIREMENTS. SCREENING TYPES CAN BE VEGETATION, FENCING, WALLS etc...
- ② - INDICATIVE OF DUCTING ONLY, FOR DETAILS REFER TO SHEET 1.
- ③ - DOORS ARE OPTIONAL. OPENINGS MUST BE A MINIMUM OF 820 WIDE.




 Western Power NETWORK ENGINEERING BRANCH DISTRIBUTION SUBSTATION MANUAL	SOLE USE SUBSTATION 33kV / 315 - 500kVA IPS NON FIRE RATED	DRAWING No. DSM-9-02	
	CIVIL & LAND REQUIREMENTS	SHEET 1 OF 4	
		DATE: 01/03/98	REVISION:

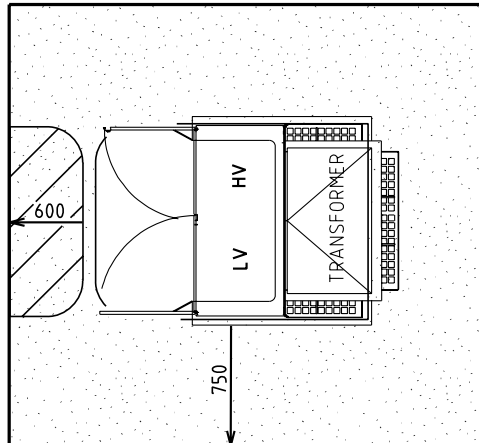


NOTES:

1. HU12 IS SUPPLIED WITH 3x200AMP NON LOAD BREAK ELBOWS.

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 Western Power NETWORK ENGINEERING BRANCH DISTRIBUTION SUBSTATION MANUAL	SOLE USE SUBSTATION 33kV / 315 - 500kVA IPS NON FIRE RATED EQUIPMENT & INSTALLATION DETAILS	DRAWING No.	
		DSM-9-02	
		SHEET 2 OF 4	
		DATE:	REVISION:
		01/10/99	A




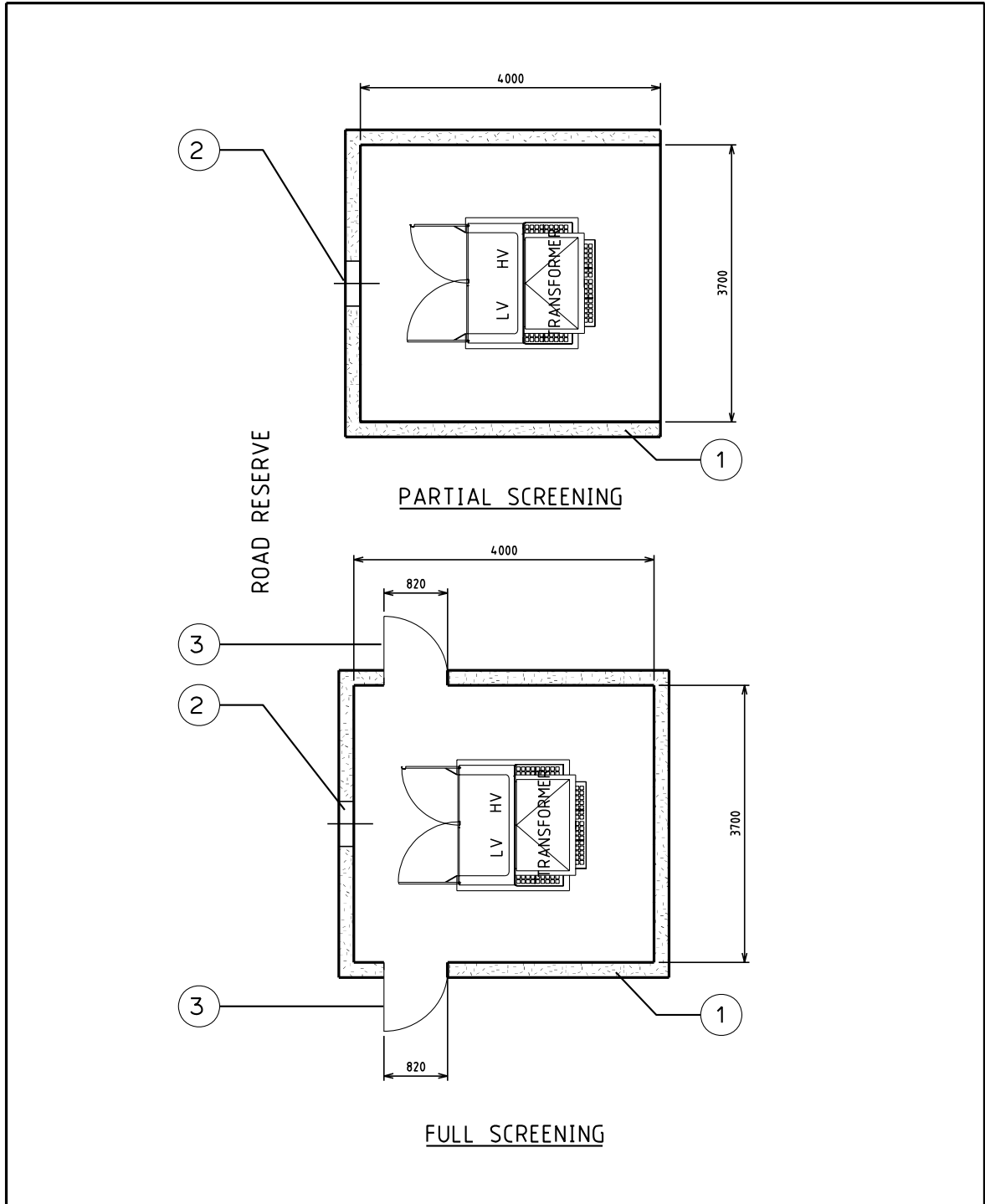
MINIMUM CLEARANCE REQUIRED FOR EARTHING PURPOSES.
REFER DCM MANUAL SUB ASSEMBLY SA122.



MINIMUM CLEARANCE REQUIRED FOR OPERATIONAL PURPOSES
AS 3000 CLAUSE 2.21.2


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 Western Power NETWORK ENGINEERING BRANCH DISTRIBUTION SUBSTATION MANUAL	SOLE USE SUBSTATION 33kV / 315 - 500kVA IPS NON FIRE RATED	DRAWING No. DSM-9-02	
	OPERATIONAL CLEARANCES	DATE: 01/03/98	REVISION:



- ① - MAXIMUM EXTENT OF SCREENING IF REQUIRED BY CUSTOMER (TO BE APPROVED BY WPC PRIOR TO CONSTRUCTION). SCREENING NOT TO ENCR OACH INTO SUBSTATION LAND REQUIREMENTS. SCREENING TYPES CAN BE VEGETATION, FENCING, WALLS etc...
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THIS DRAWING TO BE READ IN CONJUNCTION WITH THE SUBSTATION INSTALLATION REQUIREMENTS - DSB 95/6

 Western Power NETWORK ENGINEERING BRANCH DISTRIBUTION SUBSTATION MANUAL	SOLE USE SUBSTATION 33kV / 315 - 500kVA IPS NON FIRE RATED PERMISSABLE SCREENING ARRANGEMENTS	DRAWING No.	
		DSM-9-02	
		DATE:	REVISION:
		01/03/98	