BAB I

PENDAHULUAN

1. Latar Belakang

Untuk mewujudkan penyelenggaraan penerbangan yang selamat, aman, cepat, lancar, tertib, nyaman dan berdaya guna perlu didukung tersedianya fasilitas penerbangan yang memadai di antaranya alat bantu pendaratan visual yang meliputi lampu pendekatan (Approach Lighting), lampu pemandu peralatan visual (T-VASIS/PAPI) dan peralatan signal sebagai fasilitas alat bantu pendaratan dan tinggal landas pada malam hari maupun siang hari dalam keadaan cuaca buruk atau setiap waktu atas permintaan penerbang.

Dalam rangka pelaksanaan pembinaan penyelenggaraan fasilitas elektronika dan listrik yang meliputi perencanaan, penyediaan, pemasangan, pengoperasian dan pemeliharaan peralatan oleh Direktorat Jenderal Perhubungan Udara perlu disusun suatu Pedoman Gambar Instalasi Sistem Penerangan Bandar Udara (Airfield Lighting System) yang mengacu pada standar ICAO yang dijabarkan dalam ANNEX 14, Peraturan Umum Instalasi Listrik (PUIL) dan Standard Industri Indonesia (SII).

2. Maksud dan Tujuan

Maksud Pembuatan Standar Gambar Instalasi Sistem Penerangan Bandar Udara adalah untuk membuat acuan secara rinci gambar instalasi untuk pemasangan, penempatan dan konfigurasi peralatan tersebut dan mengikuti persyaratan standar internasional dan nasional yang berlaku.

Tujuan Pembuatan Standar Gambar Instalasi Sistem Penerangan Bandar Udara adalah agar sistem penerangan bandar udara dapat mendukung pelayanan keamanan dan keselamatan penerbangan di Bandar Udara seluruh Indonesia.

3. Ruang Lingkup Kegiatan

Standar gambar instalasi sistem penerangan bandar udara meliputi gambar sebagai berikut :

a. Ground Cable
b. Earthing System
c. Panel and Distribution Board
d. Layout of Airfield Lighting System
e. Cable Joint
f. Runway Lights
g. Taxiway Lights, Apron Lights and Turning Area Lights
h. Threshold Light MALS and Non Precission Runway
i. Threshold Lights PALS Category I
j. Threshold Lights PALS Configuration Elevated
k. Runway Threshold Indentification Lights
l. Visual Approach Slope Indicator System (VASIS)
   - T-VASIS
   - Precision Approach Path Indicator (PAPI)
m. Transformer Pits
n. Isolating Transformer
o. Approach Lighting System
p. Simple Approach Lighting System (SALS)
q. Medium Approach Lighting System (MALS)
r. Precision Approach Lighting System Category
s. Precision Approach Lighting System Configuration
t. Signal Area and Landing Tee
u. Wind Cone
v. Sirine
w. Obstruction Light
x. Traffic Light

y. AFL Switch Board, Constant Current Regulator, Marshaling Panel and Control Desk
z. Flood Light

4. Sistematika Penulisan

Dalam menyusun buku standar/pedoman gambar instalasi sistem penerangan bandar udara ini, isi buku dibagi menjadi tiga Bab sebagai berikut :

Bab I Pendahuluan, mencakup latar belakang, maksud dan tujuan, ruang lingkup pekerjaan dan sistematika penulisan.

Bab II Ketentuan Umum, mencakup pengertian-pengertian, standar acuan dan singkatan istilah.

Lampiran Gambar Instalasi Sistem Penerangan Bandar Udara

BAB II

KETENTUAN UMUM

1. Pengertian-pengertian

a. Sistem Penerangan Bandar Udara (Airfield Lighting System) adalah alat bantu pendaratan visual yang berfungsi membantu dan melayani pesawat udara yang melakukan tinggal landas, mendarat dan melakukan taxi agar dapat bergerak secara efisien dan aman. Fasilitas ini terdiri dari lampu-lampu khusus, yang memberikan isyarat dan informasi secara visual kepada penerbang, terutama pada waktu penerbang akan melakukan pendaratan atau tinggal landas. Isyarat dan informasi visual ini disediakan dengan mengatur konfigurasi, warna, dan intensitas cahaya dari lampu-lampu khusus tersebut. Pada umumnya, sewaktu akan melakukan pendaratan atau tinggal landas, penerbang lebih mengandalkan penglihatannya ke luar pesawat dari pada melihat instrumen yang terdapat dalam cockpit pesawatnya.

b. Intensitas pancaran cahaya peralatan penerangan bandar udara adalah intensitas cahaya yang dipancarkan oleh lampu penerangan bandar udara dan dapat dikelompokkan pada high intensity, medium intensity dan low intensity. Besaran intensitas pancaran cahaya tersebut harus memenuhi standar ICAO dan sesuai spesifikasi teknis yang telah ditentukan. Intensitas yang dihasilkan lampu tergantung juga pada besaran konsumsi daya (watt) lampu yang dipergunakan (high intensity : 100 Watt, 150 W dan 200 W, medium intensity : 45 Watt sampai dengan 100 Watt dan Low Intensity : 30 Watt sampai dengan 45 Watt).

c. Gambar Instalasi Sistem Penerangan Bandar Udara adalah gambar desain penempatan, konfigurasi dan pelaksanaan instalasi dari sistem penerangan bandar udara.

d. Bandar Udara adalah Bandar Udara yang dipergunakan untuk mendarat dan lepas landas pesawat udara, naik turun penumpang, dan/atau bongkar muat kargo dan/atau

pos, serta dilengkapi dengan fasilitas keselamatan penerbangan dan sebagai tempat perpindahan antar moda transportasi.

2. Standar Acuan

Pembuatan Standar Gambar Instalasi Sistem Penerangan Bandar Udara mengacu pada persyaratan yang berlaku sebagai berikut :

a. ICAO ANNEX 14, Aerodrome Design and Operation.
b. ICAO Doc 9157-AN/901 Aerodrome Design Manual, Part IV Visual Aid.
c. ICAO Doc 9157-AN/901Aerodrome Design Manual, Part V Power Supply
d. Peraturan Umum Instalasi Listrik Indonesia (PUIL)
e. Standard Industri Indonesia (SII).

3. Singkatan Istilah

Dalam pembuatan Standar Gambar Instalasi Sistem Penerangan Bandar Udara terdapat beberapa singkatan sebagai berikut :

a. ALI adalah Apron Flood Light
b. APH adalah Approach Lighting High-Intensity
c. APL adalah Approach Lighting Low-Intensity
d. APM adalah Approach Lighting Medium-Intensity
e. APS adalah Approach Side Row
f. CLB adalah Clearance Bar
g. DMB adalah Distance Marker Board
h. FOL adalah Flashing Obstruction Light
i. GSP adalah Ground Signal Panel
j. HZB adalah Hazard Beacon
k. HEL adalah Heliport Edge Lighting
l. LDI adalah Landing Direction Indicator

m. OLI adalah Obstruction Light
n. PAP adalah Precision Approach Path Indicator
o. RCL adalah Runway Centerline Lighting
p. REH adalah Runway Edge Lighting High-Intensity
q. REL adalah Runway Edge Lighting Low-Intensity
r. REM adalah Runway Edge Lighting Medium-Intensity
s. RTI adalah Runway Threshold Indication Light
t. ROB adalah Rotating Beacon
u. ROV adalah Runway Overrun
v. RWE adalah Runway End Lighting
w. SFL adalah Sequence Flashing Light
x. SIR adalah Sirine
y. STB adalah Stop Bar
z. TDZ adalah Touch Down Zone
aa. TGS adalah Taxiway Guidance System
bb. THR adalah Threshold Lighting
cc. TLP adalah Turn Loop Lighting
dd. TRL adalah Traffic Light
ee. TXA adalah Taxiway Apron Lighting
ff. TXE adalah Taxiway Edge Lighting
gg. TXC adalah Taxiway Centerline Lighting
hh. VAS adalah Visual Approach Slope Indicator System
ii. WDI adalah Wind Direction Indicator
jj. WIG adalah Wig Wag.

LAMPIRAN

GAMBAR INSTALASI SISTEM PENERANGAN BANDAR UDARA

6. Keputusan Menteri Perhubungan Nomor T.11/2/4–U Tahun 1960 tentang Peraturan-Peraturan Keselamatan Penerbangan Sipil sebagaimana telah diubah terakhir dengan Keputusan Menteri Perhubungan Nomor KM 22 Tahun 2002;

7. Keputusan Menteri Perhubungan Nomor KM. 24 Tahun 2001 tentang Struktur Organisasi dan Tata Kerja Departemen Perhubungan sebagaimana telah diubah terakhir dengan Keputusan Menteri Perhubungan Nomor KM 45 Tahun 2001;

MEMUTUSKAN :

Menetapkan : **KEPUTUSAN DIREKTUR JENDERAL PERHUBUNGAN UDARA TENTANG STANDAR GAMBAR INSTALASI SISTEM PENERANGAN BANDAR UDARA (AIRFIELD LIGHTING SYSTEM).**

PERTAMA : Setiap penyelenggara bandar udara didalam pemasangan, penempatan dan penyusunan konfigurasi peralatan harus mengacu pada Standar Gambar Instalasi Sistem Penerangan Bandar Udara (Airfield Lighting System) sebagaimana termuat dalam Lampiran Keputusan ini.

KEDUA : Standar Gambar sebagaimana dimaksud dalam DIKTUM PERTAMA, meliputi :

a. *ground cable;*
b. *earthing system;*
c. *panel and distribution board;*
d. *layout of airfield lighting system;*
e. *cable joint;*
f. *runway lights;*
g. *taxiway lights, apron lights and turning area lights;*
h. *threshold light MALS and non precission runway;*
i. *threshold lights PALS category I;*
j. *threshold lights PALS configuration elevated;*
k. *runway threshold indentification lights;*
l. *visual approach slope indicator system (VASIS);*
   - *T-VASIS;*
   - *precision approach path indicator (PAPI);*
m. *transformer pits;*
n. *isolating transformer;*
o. *approach lighting system;*
p. *simple approach lighting system (SALS);*
q. *Medium Approach Lighting System (MALS);*
r. *precision approach lighting system category;*
s. *precision approach lighting system configuration;*

D A F T A R I S I

No.	FACILITY	DRAWING NO.	SHEET	DESCRIPTION	REMARKS
I	**LIST**				
01	LIST OF DRAWING	00.00.00	11	List of Drawing	
02	EXPLANATION OF DESIGNATION	00.00.01	1	Explanation of Designation	
II	**GENERAL**				
01	GROUND CABLE	ST.01.01	1	Cable Trench Section – Size CT 1 – CT 5	
		ST.01.02	1	Cable Cross River / Drainage	
		ST.01.03	1	Cutting (Cable Duct Runway and Taxiway)	
		ST.01.04	1	Drilling (Cable Duct Runway and Taxiway)	
		ST.01.05	1	Manhole (Cable Duct Runway and Taxiway)	
		ST.01.06	1	Sign of Cable TR, TM, Series and Control	
		ST.01.07	1	Installation MOF Cable TM	
02	EARTHING SYSTEM	ST.02.01	1	Electroda Tanah / Earth Rod	
		ST.02.02	1	Cable Duct and Cubicle Foundation	
03	PANELS AND DISTRIBUTION BOARD	ST.03.01	1	Distribution Panel Wall Mounted	
III	**VISUAL AIDS**				
01	LAYOUT OF AFL	VA.01.01	1	Airfield Lighting System Layout	D

NOTE :

"B" = To Be Defined
"D" = Equal with Location

DIREKTORAT JENDERAL PERHUBUNGAN UDARA DIREKTORAT FASILITAS ELEKTRONIKA DAN LISTRIK SUB DIREKTORAT LISTRIK	U M U M	Tahun Anggaran :
List of Drawing	NOMOR GAMBAR: 00.00.00	KODE LOKASI: -
	NOMOR LEMBAR: 1/9	NOMOR URUT:
SKALA : –	DIGAMBAR :	DIPERIKSA :
DISETUJUI :		

No.	FACILITY	DRAWING NO.	SHEET	DESCRIPTION	REMARKS
02	CABLE JOINT	VA.02.01	1	Isolating Transformer and Double Joint Sleeve	
		VA.02.02	1	Connector Kit	
03	RUNWAY LIGHTS	VA.10.01	2	Runway Edge Lighting System REH 1+2 ICAO – CAT. I (II+III) Layout	
		VA.10.02	1	Installation of Elevated Lights REH (Stake Mounted)	
		VA.10.03	1	Installation of Elevated Lights REH (Base Plate Mounted)	
		VA.10.04	1	Installation of Inset Lights REH / REM	
		VA.10.05	1	Designation for REH / REM Lights and Cables	
04	TAXIWAY LIGHTS, APRON LIGHTS AND TURNING AREA LIGHTS	VA.13.01	1	Taxiway Lighting TXE for ICAO – CAT. I (II+III) Layout	
		VA.13.02	1	Installation of Elevated Lights TXE (Stake Mounted)	
		VA.13.03	1	Installation of Elevated Lights TXE (Base Plate Mounted)	
		VA.13.04	1	Installation of Inset Lights TXE	
		VA.13.05	1	Designation for TXE Lights and Cable	
05	THRESHOLD LIGHTS MALS AND NON PRECISSION RUNWAY	VA.14.01	2	Arrangement of MALS Threshold and Non Instrument R/W Threshold for R/W 30 M width (5–0–5 / 5–0–5)	
		VA.14.02	2	Arrangement of MALS Threshold and Non Instrument R/W Threshold for R/W 45 M width (7–0–7 / 7–0–7)	
		VA.14.03	2	Arrangement of MALS Threshold and Non Instrument R/W Threshold for R/W 60 M width (8–0–8 / 8–0–8)	

NOTE :

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DIREKTORAT JENDERAL PERHUBUNGAN UDARA
DIREKTORAT FASILITAS ELEKTRONIKA DAN LISTRIK
SUB DIREKTORAT LISTRIK

U M U M

Tahun Anggaran :

List of Drawing

NOMOR GAMBAR	KODE LOKASI	NOMOR LEMBAR	NOMOR URUT
00.00.00	-	2/9	

SKALA : -	DIGAMBAR :	DIPERIKSA :	DISETUJUI :

DEPARTEMEN PERHUBUNGAN
DIREKTORAT JENDERAL PERHUBUNGAN UDARA

KEPUTUSAN DIREKTUR JENDERAL PERHUBUNGAN UDARA
NOMOR : SKEP/114/VI/2002

TENTANG

STANDAR GAMBAR INSTALASI
SISTEM PENERANGAN BANDAR UDARA
(AIRFIELD LIGHTING SYSTEM)

DIREKTUR JENDERAL PERHUBUNGAN UDARA,

Menimbang :

a. bahwa dalam rangka keseragaman pemasangan peralatan penerangan bandar udara (airfield lighting) diperlukan standar gambar instalasi sistem penerangan bandar udara (airfield lighting system);

b. bahwa sehubungan dengan hal sebagaimana dimaksud dalam huruf a, perlu ditetapkan ketentuan mengenai Standar Gambar Instalasi Sistem Penerangan Bandar Udara (Airfield Lighting System), dengan Keputusan Direktur Jenderal Perhubungan Udara;

Mengingat :

1. Undang - Undang Nomor 15 Tahun 1992 tentang Penerbangan (Lembaran Negara Tahun 1992 Nomor 53, Tambahan Lembaran Negara Nomor 3481);

2. Peraturan Pemerintah Nomor 3 Tahun 2001 tentang Keamanan dan Keselamatan Penerbangan (Lembaran Negara Tahun 2001 Nomor 9, Tambahan Lembaran Negara Nomor 4075);

3. Peraturan Pemerintah Nomor 70 Tahun 2001 tentang Kebandarudaraan (Lembaran Negara Tahun 2001 Nomor 128, Tambahan Lembaran Negara Nomor 4146);

4. Keputusan Presiden Nomor 102 Tahun 2001 tentang Kedudukan, Tugas, Fungsi, Kewenangan, Susunan Organisasi dan Tata Kerja Departemen;

5. Keputusan Presiden Nomor 109 Tahun 2001 tentang Unit Organisasi dan Tugas Eselon I Departemen;

No.	FACILITY	DRAWING NO.	SHEET	DESCRIPTION	REMARKS
		VA.14.04	2	Installation of Series Transformers and Earthing,	
				eg. ETH – System Tranformer Pits size–2 THR/RWE (stake mounted)	
		VA.14.05	2	Installation of Series Transformers and Earthing,	
				eg. ETH – System Tranformer Pits size–2 THR/RWE (base plate mounted)	
		VA.14.06	1	Installation of Elevated lights THR/RWE (stake mounted)	
		VA.14.07	1	Installation of Elevated lights THR/RWE (base plate mounted)	
06	THRESHOLD LIGHTS PALS CAT. I	VA.15.01	2	Arrangement of PALS CAT. I Threshold and Non Instrument R/W Threshold	
				for R/W 30 M width (5–5–5–5–5 / 5–0–5)	
		VA.15.02	2	Arrangement of PALS CAT. I Threshold and Non Instrument R/W Threshold	
				for R/W 45 M width (5–7–7–7–5 / 7–0–7)	
		VA.15.03	2	Arrangement of PALS CAT. I Threshold and Non Instrument R/W Threshold	
				for R/W 60 M width (5–8–6–8–5 / 8–0–8)	
		VA.15.04	2	Installation of Series Transformers and Earthing,	
				eg. ETH – System Tranformer Pits size–2 THR/RWE (stake mounted)	
		VA.15.05	2	Installation of Series Transformers and Earthing,	
				eg. ETH – System Tranformer Pits size–2 THR/RWE (base plate mounted)	
		VA.15.06	2	Installation of Series Transformers and Earthing,	
				eg. ETH – System Tranformer Pits size–3 THR/RWE (stake mounted)	
		VA.15.07	2	Installation of Series Transformers and Earthing,	
				eg. ETH – System Tranformer Pits size–3 THR/RWE (base plate mounted)	
		VA.15.08	1	Installation of Inset and Elevated lights THR/RWE (Stake Mounted)	
		VA.15.09	1	Installation of Inset and Elevated lights THR/RWE (Base Plate Mounted)	

NOTE :

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DIREKTORAT JENDERAL PERHUBUNGAN UDARA DIREKTORAT FASILITAS ELEKTRONIKA DAN LISTRIK SUB DIREKTORAT LISTRIK	U M U M	Tahun Anggaran :	
List of Drawing		NOMOR GAMBAR: 00.00.00	KODE LOKASI: -
		NOMOR LEMBAR: 3/11	NOMOR URUT:
SKALA : -	DIGAMBAR :	DIPERIKSA :	DISETUJUI :

No.	FACILITY	DRAWING NO.	SHEET	DESCRIPTION	REMARKS
07	THRESHOLD LIGHTS PALS	VA.16.01	2	Arrangement of PALS Configuration (PALS CAT–I without SFL or	
	CONFIGURATION ELEVATED			with Medium Intensity lamp) (5–5–0–5–5/5–0–5)	
		VA.16.02	2	Arrangement of PALS Configuration (PALS CAT–I without SFL or	
				with Medium Intensity lamp) Threshold and Non Instrument Runway Threshold	
				for R/W 45 m Width (5–7–0–7–5/7–0–7)	
		VA.16.03	2	Arrangement of PALS Configuration (PALS CAT–I without SFL or	
				with Medium Intensity lamp) Threshold and Non Instrument Runway Threshold	
				for R/W 60 m Width (5–8–0–8–5/8–0–8)	
08	RUNWAY END IDENTIFICATION	VA.18.01	1	Installation of REIL/RTI	
	LIGHT SYSTEM (REILS)				
		VA.18.02	1	Designation for SFL/RTI Light and Cable	
		VA.18.03	1	Route of Cable Trench REIL/RTI	D
09	VISUAL APPROACH SLOPE	VA.20.01	1	Measuring Dots of Ground Elevation to Decide on Location VASI Units	
	INDICATOR SYSTEM (VASIS)				
		VA.20.02	1	VASI Foundation (3 x 200W)	
		VA.20.03	1	VASI Foundation (2 x 200W)	
		VA.20.04	1	VASI (3 x 200W) Wiring Diagram of a Single Unit	
		VA.20.05	1	VASI (2 x 200W) Wiring Diagram of a Single Unit	
		VA.20.06	1	Route of Cable Trench VASI	D
10	PRECISION APPROACH PATH INDICATOR (PAPI)	VA.24.01	1	Measuring Dots of Ground Elevation to Decide on Location PAPI Units	
		VA.24.02	2	Layout of Existing PAPI – Installation (3 x 200W)	

NOTE :

"B" = To Be Defined
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DIREKTORAT JENDERAL PERHUBUNGAN UDARA
DIREKTORAT FASILITAS ELEKTRONIKA DAN LISTRIK
SUB DIREKTORAT LISTRIK

U M U M

Tahun Anggaran :

List of Drawing

NOMOR GAMBAR	KODE LOKASI	NOMOR LEMBAR	NOMOR URUT
00.00.00	-	4/9	

SKALA : -

DIGAMBAR :

DIPERIKSA :

DISETUJUI :

No.	FACILITY	DRAWING NO.	SHEET	DESCRIPTION	REMARKS
		VA.24.03	2	Layout of Existing PAPI – Installation (2 x 200W)	
		VA.24.04	2	Layout of Existing A PAPI – Installation (3 x 200W) + (2 x 200W)	
		VA.24.05	1	Standard Distance of Location PAPI	
		VA.24.06	1	Standard Distance of Location A PAPI	
		VA.24.07	2	PAPI – Circuit and Selector	
		VA.24.08	1	A PAPI – Circuit and Selector	
		VA.24.09	1	Construction Concrete Slab PAPI	
		VA.24.10	1	Construction Concrete Slab A PAPI	
		VA.24.11	1	PAP (3 x 200W) Wiring Diagram of a Single Unit	
		VA.24.12	1	PAP (2 x 200W) Wiring Diagram of a Single Unit	
		VA.24.13	2	Typical PAP Installation, Cross Section (for PAP 3 x 200W or 2 x 200W) w/o JLS " Standard "	
		VA.24.14	1	Designation for PAP/VAS Lights and Cable	
		VA.24.15	1	PAP Foundation (3 x 200W)	
		VA.24.16	1	PAP Foundation (2 x 200W)	
		VA.24.17	1	Route of Cable Trench PAPI	D

NOTE :

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" D " = Equal with Location

DIREKTORAT JENDERAL PERHUBUNGAN UDARA
DIREKTORAT FASILITAS ELEKTRONIKA DAN LISTRIK
SUB DIREKTORAT LISTRIK

U M U M

Tahun Anggaran :

List of Drawing

NOMOR GAMBAR	KODE LOKASI	NOMOR LEMBAR	NOMOR URUT
00.00.00	-	5/9	

SKALA : -

DIGAMBAR :

DIPERIKSA :

DISETUJUI :

No.	FACILITY	DRAWING NO.	SHEET	DESCRIPTION	REMARKS
11	TRANSFORMER PITS	VA.25.01	1	Transformer pits size 1 – 1/1	
		VA.25.02	1	Transformer pits size 1 – 1/2	
		VA.25.03	1	Transformer pits size 2 – 2/1	
		VA.25.04	1	Transformer pits size 2 – 2/5	
		VA.25.05	1	Transformer pits size 2 – 2/6	
		VA.25.06	1	Transformer pits size 2 – 2/7	
		VA.25.07	1	Transformer pits size 2 – 2/8	
		VA.25.08	1	Transformer pits size 2 – 2/10	
		VA.25.09	1	Transformer pits size 3 – 2/10	
		VA.25.10	1	Transformer pits size 3 – 2/12	
		VA.25.11	1	Transformer pits size 3 – 2/13	
		VA.25.12	1	Transformer pits size 3 – 2/14	
		VA.25.13	1	Transformer pits size 3 – 2/18	
		VA.25.14	1	Copper busbar 30 x 5 mm Transformers pit size 2 and size 3	
		VA.25.15	1	Copper busbar 30 x 5 mm for Transformer pits THR size 2 and size 3	
		VA.25.16	1	Copper busbar 30 x 5 mm for Transformers pit APH size 2 and size 3	

NOTE :

"B" = To Be Defined
"D" = Equal with Location

DIREKTORAT JENDERAL PERHUBUNGAN UDARA
DIREKTORAT FASILITAS ELEKTRONIKA DAN LISTRIK
SUB DIREKTORAT LISTRIK

U M U M

Tahun Anggaran :

List of Drawing

NOMOR GAMBAR	KODE LOKASI	NOMOR LEMBAR	NOMOR URUT
00.00.00	-	6/9	

SKALA : –	DIGAMBAR :	DIPERIKSA :	DISETUJUI :

No.	FACILITY	DRAWING NO.	SHEET	DESCRIPTION	REMARKS
		VA.25.17	1	Designation for ETH of Transformer pits	
		VA.25.18	5	AFL Templete for Transformer pits (H=100 mm) inc. VAS + PAP	
12	ISOLATING TRANSFORMER	VA.26.01	1	Installation of Series Transformer and Grounding System for APH, REH, PAP/VAS, TXE	
		VA.26.02	1	Designation for ETH of Isolating Transformers, Transformers Pit and Cable	
13	APPROACH LIGHTING SYSTEM	VA.30.01	1	Designation for APH/APM Lights, Transformer Pits	
		VA.30.02	1	Installation Lamp and Construction Single Mast Approach Lights	
		VA.30.03	2	Installation Lamp and Construction Double Mast Approach Lights	
		VA.30.04	1	ICAO – Obstacle Freeness for Inner Slope of Non Instrument R/W and Non Precision Approach	
14	SIMPLE APPROACH LIGHTING SYSTEM (SALS)	VA.31.01	2	ODALS Configuration	
		VA.31.02	2	SSALS Configuration	
15	MEDIUM APPROACH LIGHTING SYSTEM (MALS)	VA.32.01	2	Measuring Dots Plan of Mast Approach Lights (MALS)	
		VA.32.02	2	Ground Elevation and Length Mast (MALS)	
		VA.32.03	2	Layout MALS Approach (Simple Approach) Horizontal Installation Tolerances	

NOTE :

"B" = To Be Defined
"D" = Equal with Location

DIREKTORAT JENDERAL PERHUBUNGAN UDARA
DIREKTORAT FASILITAS ELEKTRONIKA DAN LISTRIK
SUB DIREKTORAT LISTRIK

U M U M

Tahun Anggaran :

List of Drawing

NOMOR GAMBAR	KODE LOKASI	NOMOR LEMBAR	NOMOR URUT
00.00.00	-	7/9	

SKALA : -

DIGAMBAR :

DIPERIKSA :

DISETUJUI :

No.	FACILITY	DRAWING NO.	SHEET	DESCRIPTION	REMARKS
		VA.32.04	2	MALS Configuration	
		VA.32.05	2	MALSR Configuration	
		VA.32.06	2	MALS and MALSF Configuration	
		VA.32.07	1	Construction of Inspection Road (MALS)	
16	PRECISION APPROACH LIGHTING SYSTEM CATEGORY	VA.33.01	2	Measuring Dots Plan of Mast Approach Lights (PALS)	
		VA.33.02	2	Ground Elevation and Length Mast (PALS)	
		VA.33.03	6	Layout PALS Approach (Horizontal Installation Tolerances)	
		VA.33.04	6	Configuration of PALS	
		VA.33.05	2	ALSF–I Configuration	
		VA.33.06	–	–	
		VA.33.07	1	Construction of Inspection Road (PALS)	
17	PRECISION APPROACH LIGHTING SYSTEM CONFIGURATION	–	–	–	
18	SIGNAL AREA AND LANDING TEE	VA.40.01	1	Signal area	
		VA.40.02	1	Designation for AFL accessories ROB, WDI, LDI, SIR, ALI, OLI	
		VA.40.03	1	Paralel circuits LDI, SIR, WDI, location and cable diagram Precision Approach for Runways	

NOTE :

"B" = To Be Defined
"D" = Equal with Location

DIREKTORAT JENDERAL PERHUBUNGAN UDARA
DIREKTORAT FASILITAS ELEKTRONIKA DAN LISTRIK
SUB DIREKTORAT LISTRIK

U M U M

Tahun Anggaran :

List of Drawing

NOMOR GAMBAR	KODE LOKASI	NOMOR LEMBAR	NOMOR URUT
00.00.00	-	8 / 9	

SKALA : -

DIGAMBAR :

DIPERIKSA :

DISETUJUI :

No.	FACILITY	DRAWING NO.	SHEET	DESCRIPTION	REMARKS
19	WIND CONE	VA.41.01	1	Installation and Foundation of Wind Cone	
		VA.41.02	1	Installation Wind Cone Layout	D
20	SIRENE	VA.42.01	1	Installation and Construction of Sirene Foundation and Power Supply	
		VA.42.02	1	Installation Sirene Layout	D
21	OBSTRUCTION LIGHT	VA.43.01	1	Installation of Rotating Beacon (ROB) and Obstruction light (OLI)	
22	TRAFFIC LIGHT	-	-	-	
23	AFL SWITCH BOARD, CONSTANT CURRENT REGULATOR, MARSHALLING PANEL DAN CONTROL DESK	VA.60.01	1	Housing w. Lightning Arrester 280 V Dimension and Wiring diagram	
24	FLOOD LIGHT	VA.70.01	1	Detail Installation Flood Light and Obstruction Light of Construction Double Mast Flood Light	
		VA.70.02	1	Detail Aansluit kast, Ballast box and Construction Foundation Double Mast Flood Light	
		VA.70.03	1	Detail Installation Flatform of Construction Double Mast Flood Light	
		VA.70.04	1	Construction Foundation Single Mast and Distribution Panel Flood Light	
		VA.70.05	1	Installation Flood Light Layout	D
		VA.70.06	1	Parallel Circuits ROB, ALI, OLI, Cable Diagram	

NOTE :

"B" = To Be Defined
"D" = Equal with Location

DIREKTORAT JENDERAL PERHUBUNGAN UDARA
DIREKTORAT FASILITAS ELEKTRONIKA DAN LISTRIK
SUB DIREKTORAT LISTRIK

U M U M

Tahun Anggaran :

List of Drawing

NOMOR GAMBAR	KODE LOKASI	NOMOR LEMBAR	NOMOR URUT
00.00.00	-	9/9	

SKALA : -

DIGAMBAR :

DIPERIKSA :

DISETUJUI :

Abbreviation	Designation
ALI	Apron Lighting
APH	Approach Lighting High–Intensity
APL	Approach Lighting Low–Intensity
APM	Approach Lighting Medium–Intensity
APS	Approach Side Row
CLB	Clearance Bar
DMB	Distance Maker Board
FOL	Flashing Obstruction Light
GSP	Ground Signal Panel
HZB	Hazard Beacon
HEL	Heliport Edge Lighting
LDI	Landing Direction Indicator
OLI	Obstruction Light
PAP	Precision Approach Path Indicator
RCL	Runway Centerline Lighting
REH	Runway Edge Lighting High–Intensity
REL	Runway Edge Lighting Low–Intensity
REM	Runway Edge Lighting Medium–Intensity

Abbreviation	Designation
RTI	Runway Threshold Indification Light
ROB	Rotating Beacon
ROV	Runway Overrun
RWE	Runway End Lighting
SFL	Sequence Flash Light (Approach)
SIR	Siren
STB	Stop Bar
TDZ	Touch Down Zone
TGS	Taxiing Guidance System
THR	Threshold Lighting
TLP	Turn Loop Lighting
TRL	Traffic Light
TXA	Taxiway Apron Lighting
TXE	Taxiway Edge Lighting
TXC	Taxiway Centerline Lighting
VAS	Visual Approach Slope Indicator System
WDI	Wind Direction Indicator
WIG	Wig Wag

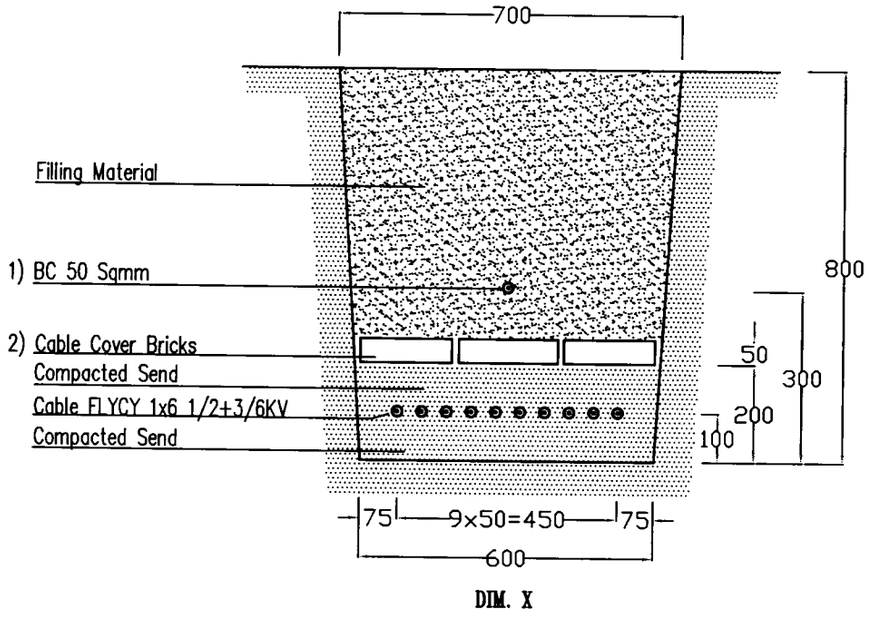
Field No.	1	2	3
Userd For Wig Wag	Landing Direction	AFL System	Running No. Of circuit
Higher Level Assignment Acc. To DIN 40719 Part 2 (6/78)	N N	A A A –	N N N
Examples	0 9 0 9 2 7 –	A P H S F L A P M R E H	1 1 1 2 2

[ ] = Used abbreviations

DIREKTORAT JENDERAL PERHUBUNGAN UDARA DIREKTORAT FASILITAS ELEKTRONIKA DAN LISTRIK SUB DIREKTORAT LISTRIK	UMUM	Tahun Anggaran
Explanation of Designation = (Higher Level Assignment)		NOMOR GAMBAR: 00.00.01 / KODE LOKASI / NOMOR LEMBAR: 1/1 / NOMOR URUT
SKALA :	DIGAMBAR :	DIPERIKSA : / DISETUJUI : KASUBDITLIS

EXAMPLE

CABLE TRENCH SIZE 2



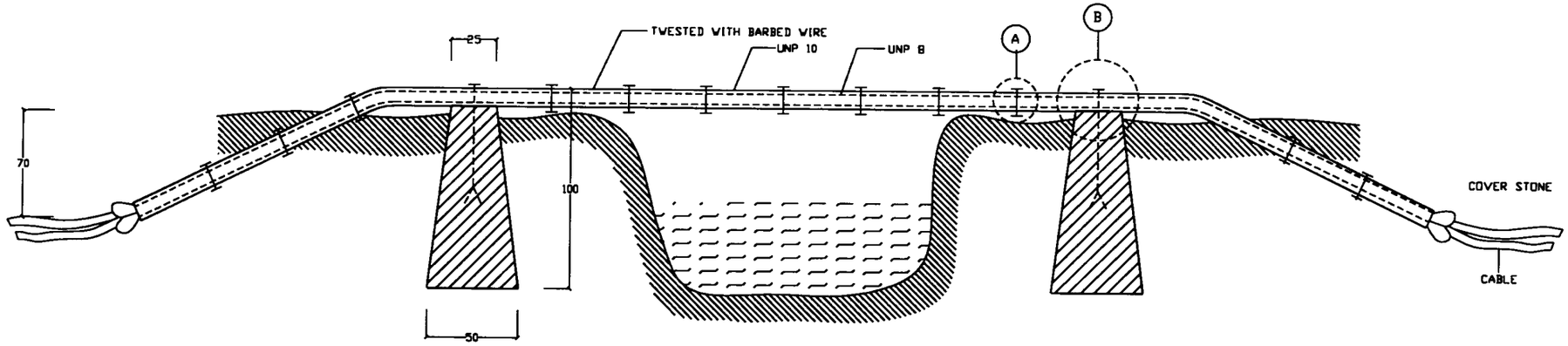
Notes :

1) Details see drawing "EARTH CONNECTION FOR–TRANSFORMERS CABLE AND LIGHTS"
2) Cable cover (bricks) laid as cable protection
   Standard dimensions : L x W x H = 200 x 100 x 50

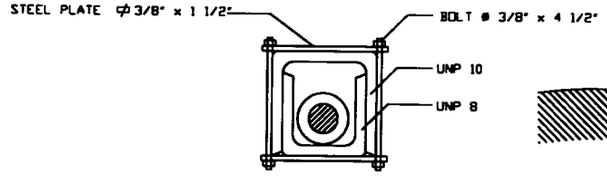
CT SIZE	DIMENSIONS X	Y	Z	No. of cables max. Single – tier	Standard bricks 2) LxWxH 200x100x50
1	400	800	600	5	1xL + 1xC Qty/m = 15 pcs
2	600	800	700	10	3xL Qty/m = 30 pcs
3	750	800	900	14	3xL + 1xC Qty/m = 35 pcs
4	850	800	1100	16	4xL Qty/m = 40 pcs
5	1050	800	1300	20	5xL Qty/m = 50 pcs

DIREKTORAT JENDERAL PERHUBUNGAN UDARA DIREKTORAT FASILITAS ELEKTRONIKA DAN LISTRIK SUB DIREKTORAT LISTRIK	UMUM	Tahun Anggaran :
Cable Trench Section – Size CT 1 – CT 5	NOMOR GAMBAR: ST.01.01	KODE LOKASI:
	NOMOR LEMBAR: 1/1	NOMOR URUT:
SKALA :	DIGAMBAR :	DIPERIKSA :
DISETUJUI :		

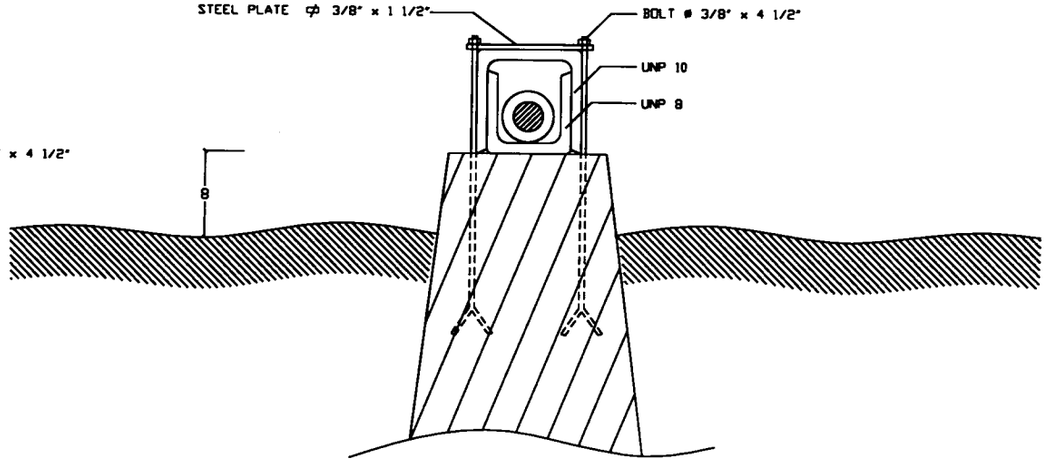
Dimensions in : mm



DETAIL A



DETAIL B



(DIMENSIONS IN Cm)

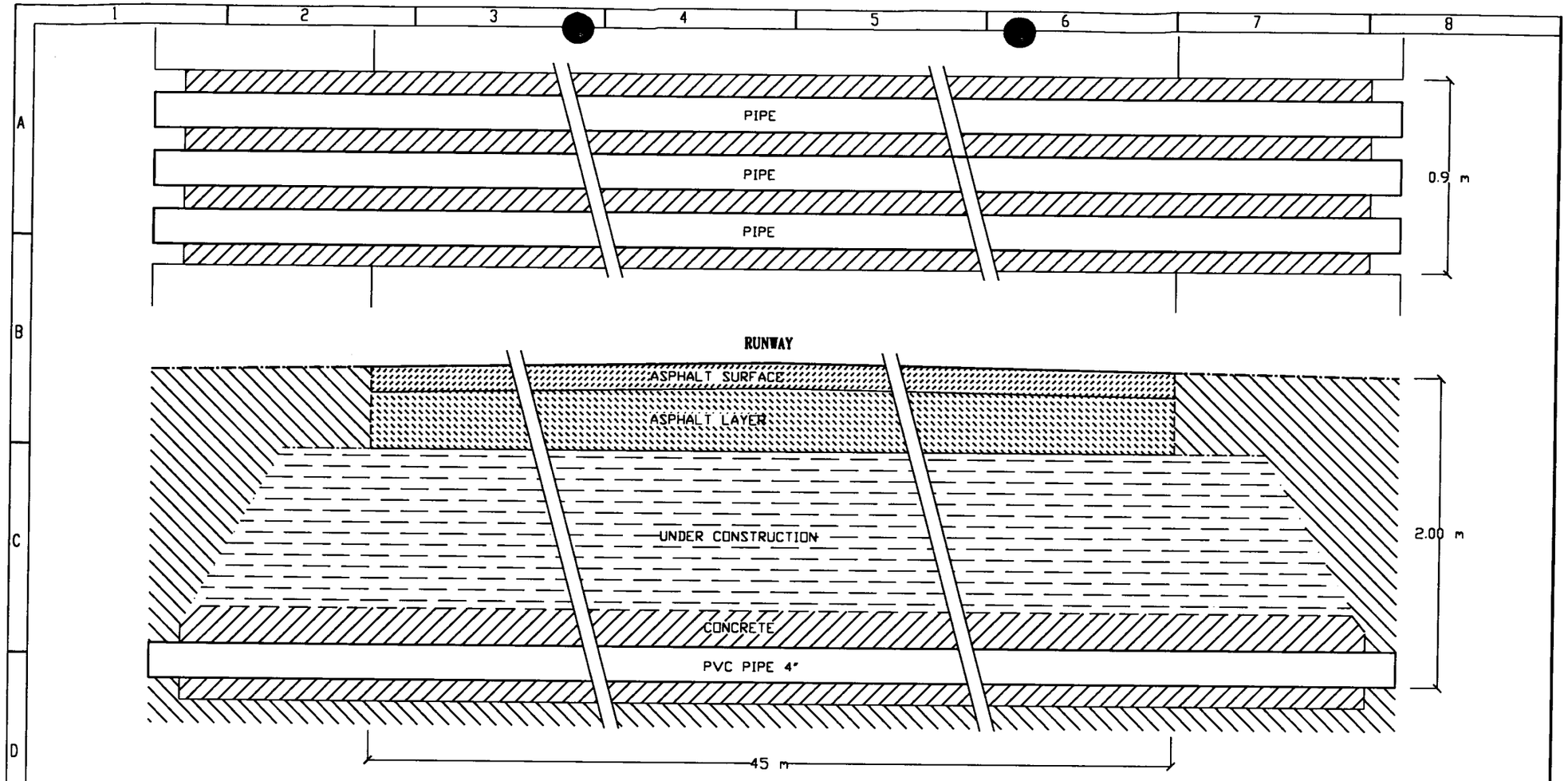
NOTE :

- DIMENSI DRAINAGE UNTUK 1 JALUR KABEL
- UNTUK JUMLAH JALUR KABEL LEBIH DARI 1, UKURAN DRAINAGE DISESUAIKAN.

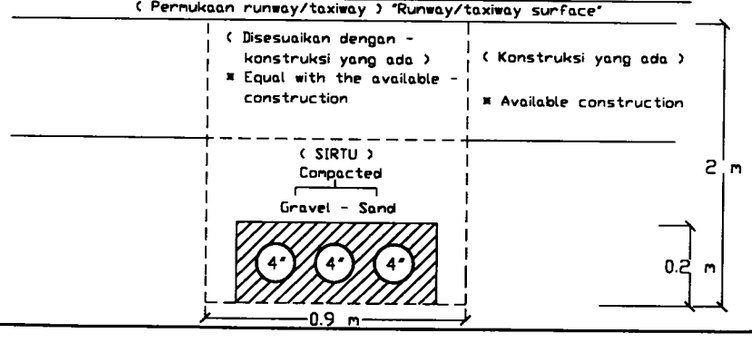
DIREKTORAT JENDERAL PERHUBUNGAN UDARA DIREKTORAT FASILITAS ELEKTRONIKA DAN LISTRIK SUB DIREKTORAT LISTRIK	UMUM	Tahun Anggaran :

Cable Cross River / Drainage	NOMOR GAMBAR	KODE LOKASI	NOMOR LEMBAR	NOMOR URUT
	ST.01.02		1 / 1	

SKALA :	DIGAMBAR :	DIPERIKSA :	DISETUJUI :

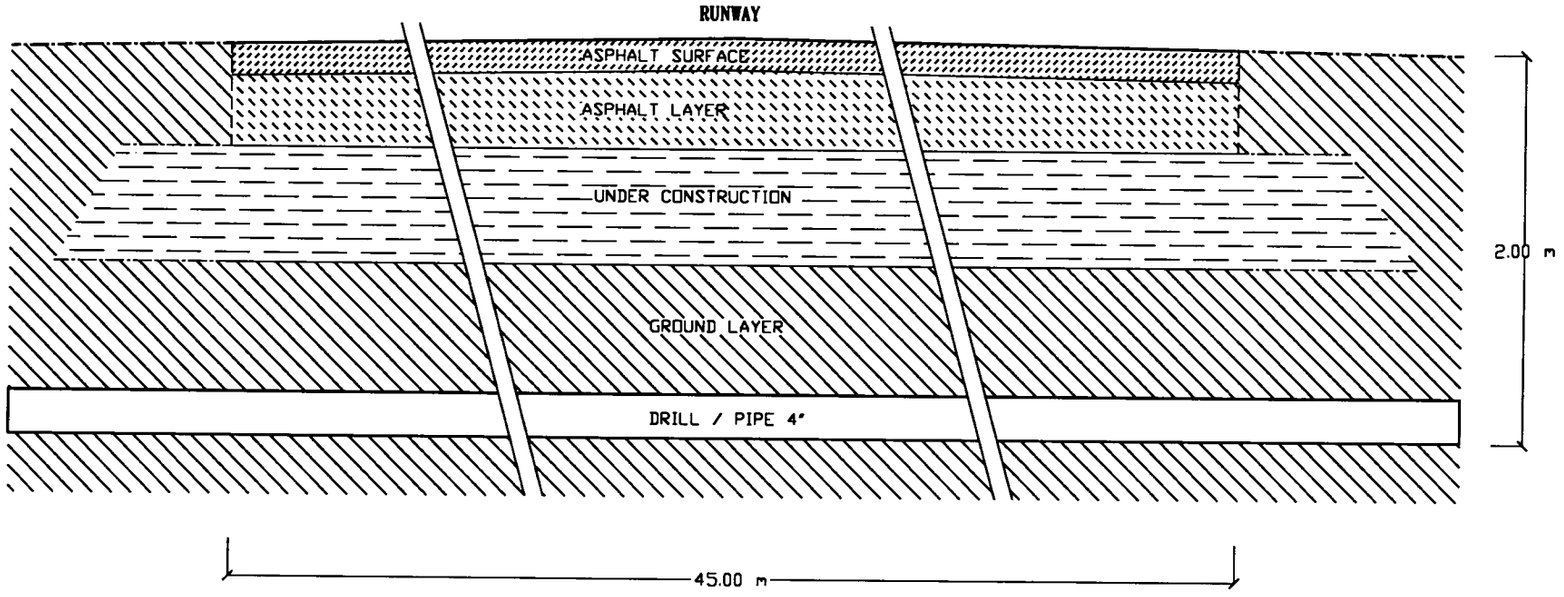


(POTONGAN MELINTANG CABLEDUCT) "CUTTING CABLEDUCT"



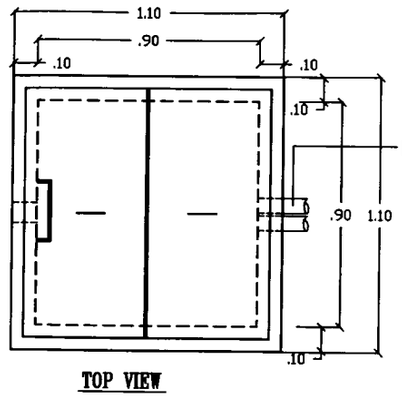
Dimensions in : m

DIREKTORAT JENDERAL PERHUBUNGAN UDARA DIREKTORAT FASILITAS ELEKTRONIKA DAN LISTRIK SUB DIREKTORAT LISTRIK	UMUM	Tahun Anggaran :
Cutting (Cable Duct Runway and Taxiway)		NOMOR GAMBAR: ST.01.03 / KODE LOKASI / NOMOR LEMBAR: 1/1 / NOMOR URUT
SKALA :	DIGAMBAR :	DIPERIKSA : / DISETUJUI :

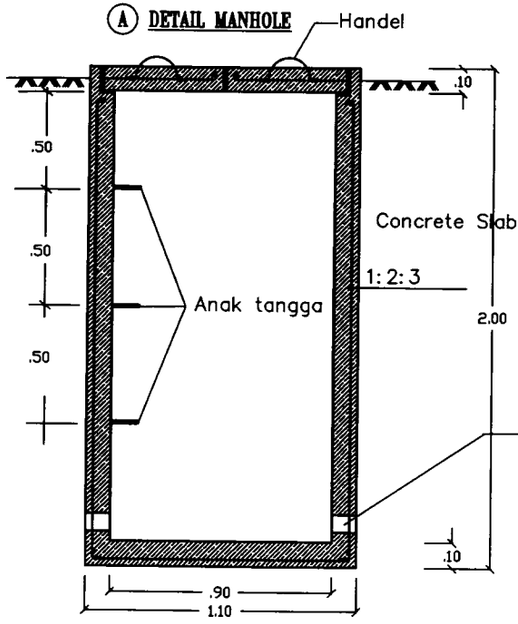


Dimensions in : m

DIREKTORAT JENDERAL PERHUBUNGAN UDARA DIREKTORAT FASILITAS ELEKTRONIKA DAN LISTRIK SUB DIREKTORAT LISTRIK	UMUM	Tahun Anggaran :
Drilling (Cable Duct Runway and Taxiway)		NOMOR GAMBAR: ST.01.04 / KODE LOKASI: / NOMOR LEMBAR: 1/1 / NOMOR URUT:
SKALA :	DIGAMBAR : / DIPERIKSA :	DISETUJUI :

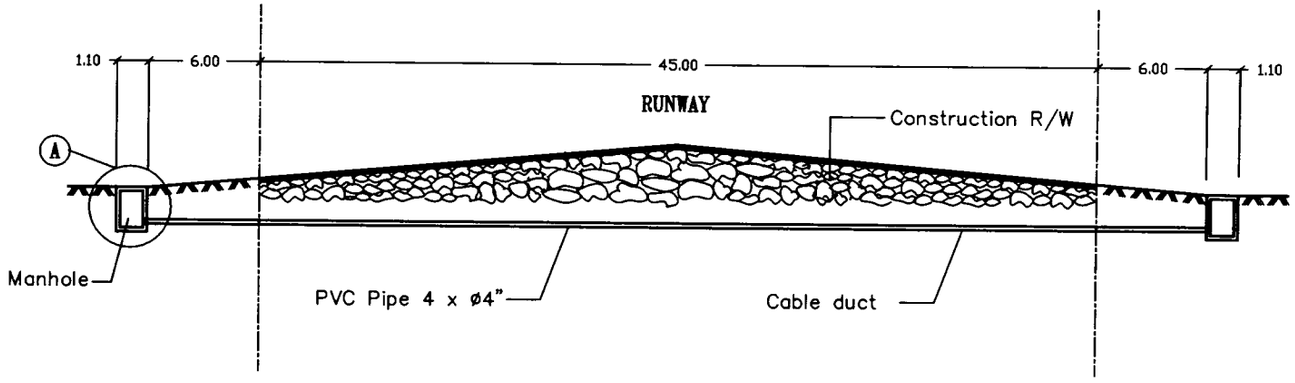


TOP VIEW



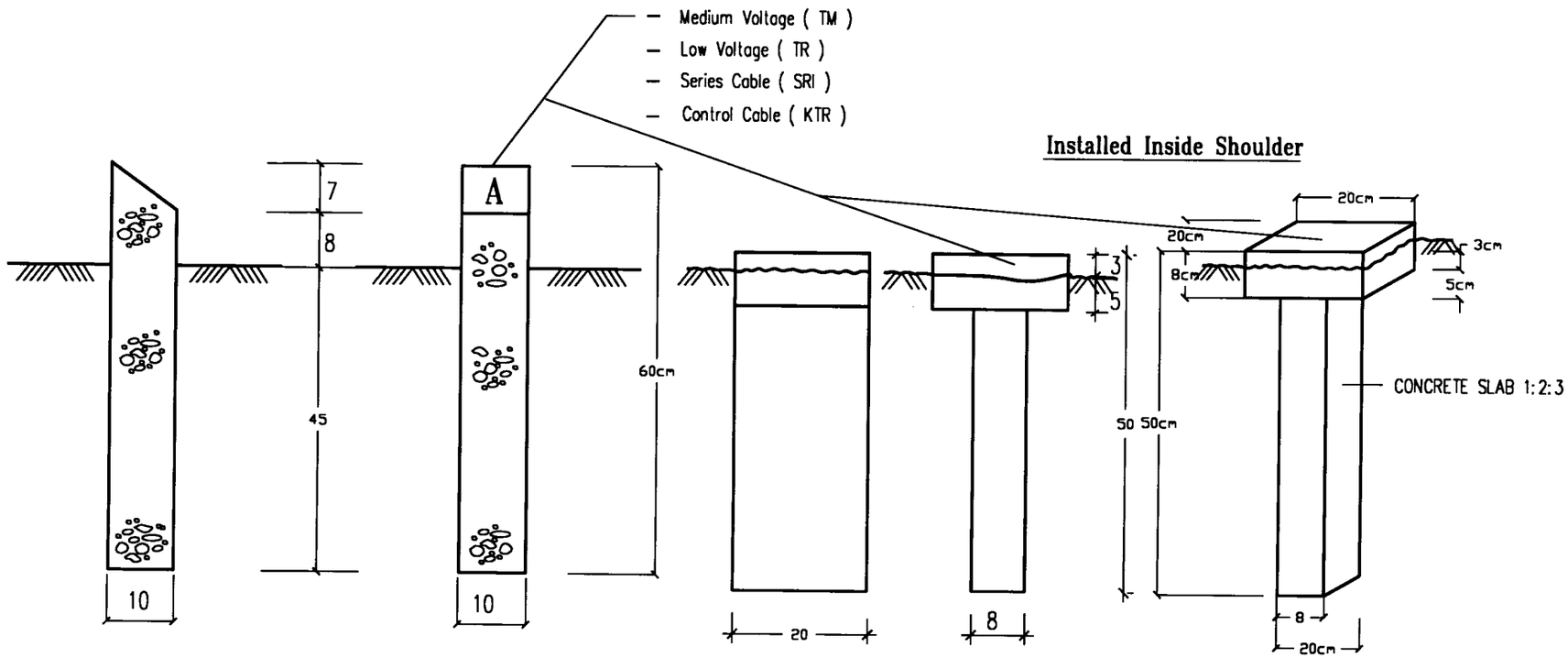
A DETAIL MANHOLE

FRONT VIEW



Dimensions in : m

DIREKTORAT JENDERAL PERHUBUNGAN UDARA DIREKTORAT FASILITAS ELEKTRONIKA DAN LISTRIK SUB DIREKTORAT LISTRIK	UMUM	Tahun Anggaran :
Manhole (Cable Duct Runway and Taxiway)		NOMOR GAMBAR: ST.01.05 / KODE LOKASI / NOMOR LEMBAR: 1/1 / NOMOR URUT
SKALA :	DIGAMBAR : / DIPERIKSA :	DISETUJUI :



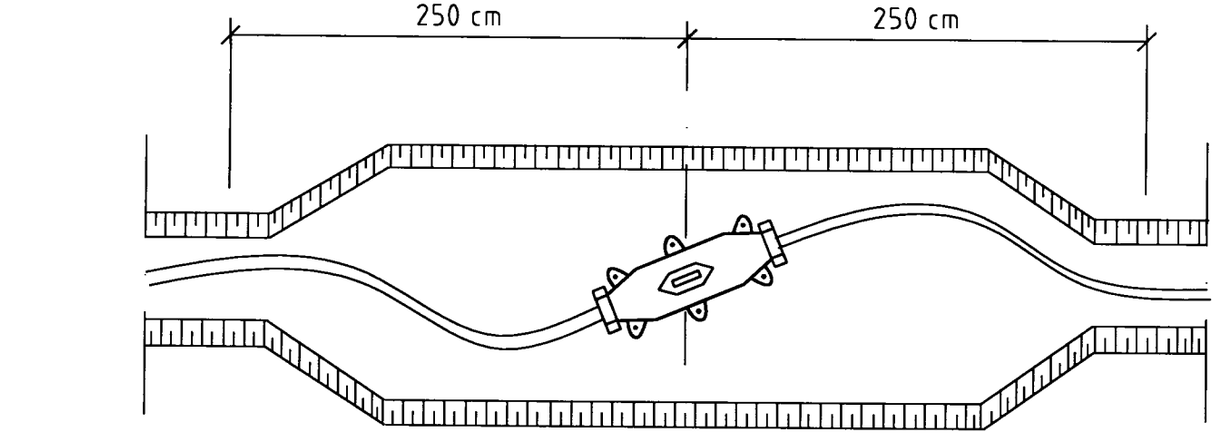
REMARKS	
For Cable TM	For Cable TR, SRI & KTR
A. TM, S- TM	A. TR/S-TR,KTR/S-KTR,SRI/S-SRI

LEGEND

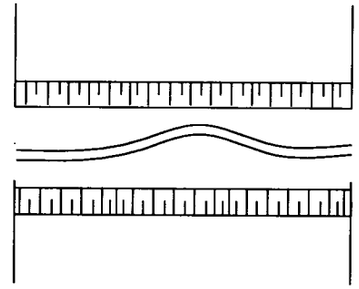
TM = Medium Voltage
TR = Low Voltage
SRI = Series Cable
KTR = Control Cable

Dimensions in : cm

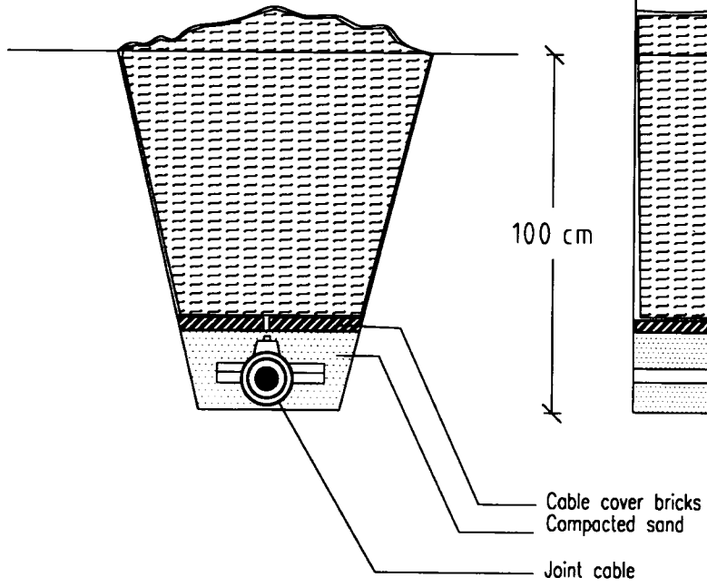
DIREKTORAT JENDERAL PERHUBUNGAN UDARA DIREKTORAT FASILITAS ELEKTRONIKA DAN LISTRIK SUB DIREKTORAT LISTRIK	UMUM	Tahun Anggaran :
Sign of Cable TR,TM, Series and Control	NOMOR GAMBAR: ST.01.06 / KODE LOKASI / NOMOR LEMBAR: 1/1 / NOMOR URUT	
SKALA :	DIGAMBAR :	DIPERIKSA : / DISETUJUI :

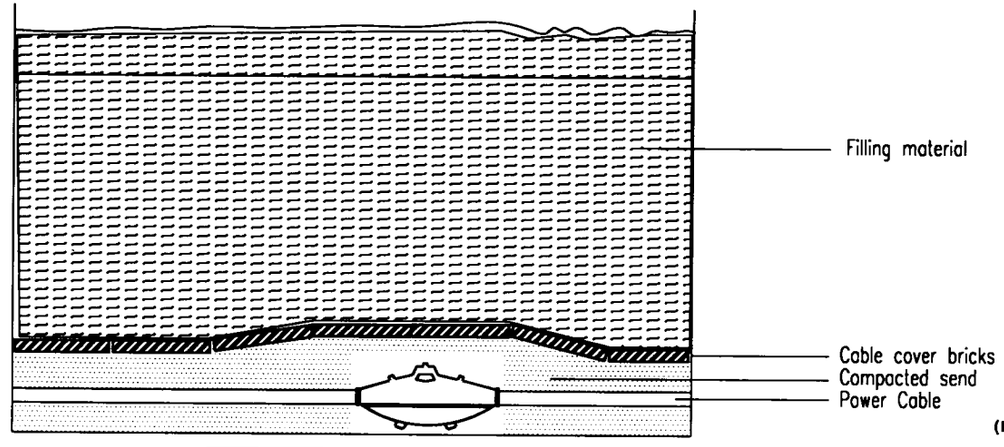


On the Left and right side of cable joint must be slinged as spare



Cable must be laid freely (not string)

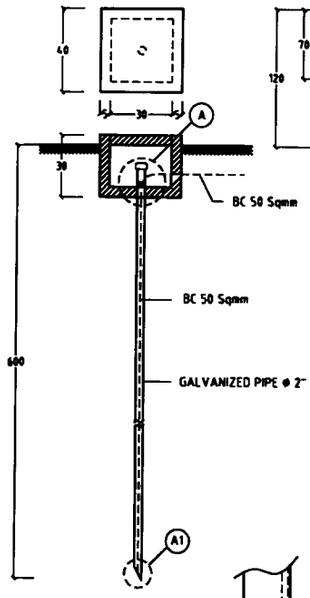


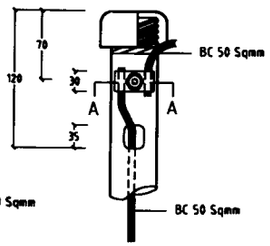


(Dimension in : cm)

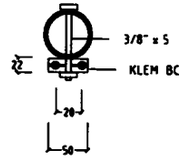
DIREKTORAT JENDERAL PERHUBUNGAN UDARA DIREKTORAT FASILITAS ELEKTRONIKA DAN LISTRIK SUB DIREKTORAT LISTRIK	U M U M	Tahun Anggaran :
Installation Mof Cable TM	NOMOR GAMBAR: ST.01.07 / KODE LOKASI / NOMOR: GAMBAR 1/1, UNIT	
SKALA :	DIGAMBAR :	DIPERIKSA : / DISETUJUI :

TYPE A

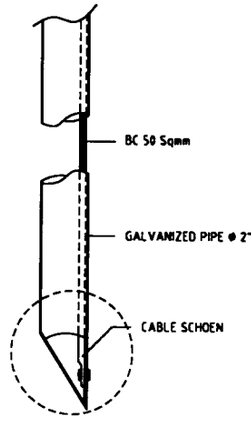




DETAIL A

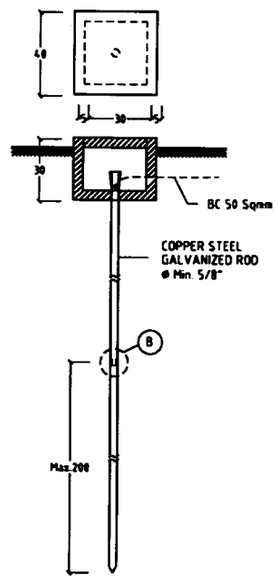


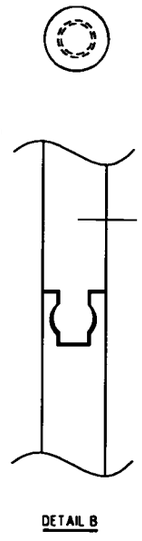
SECTION A-A



DETAIL A1

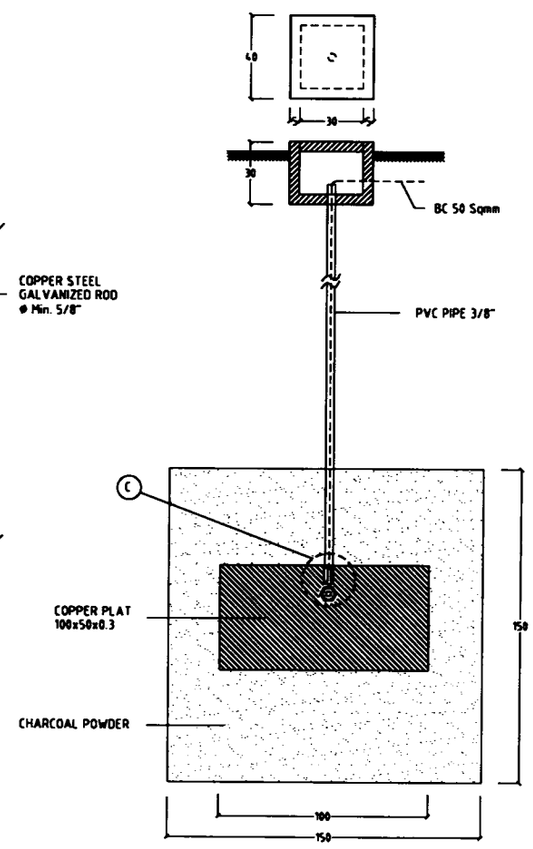
TYPE B



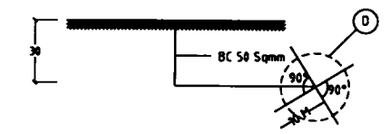


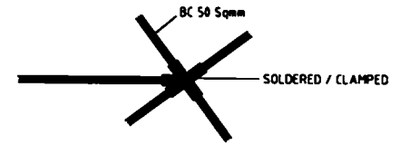
DETAIL B

TYPE C

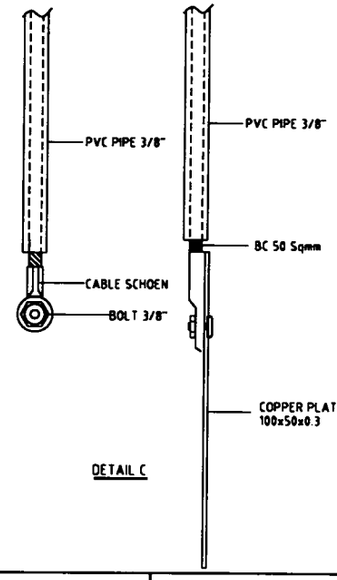


TYPE D





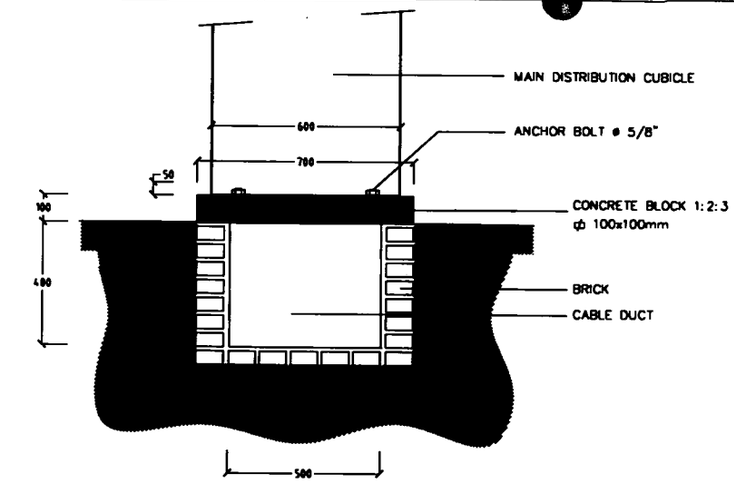
DETAIL D



DETAIL C

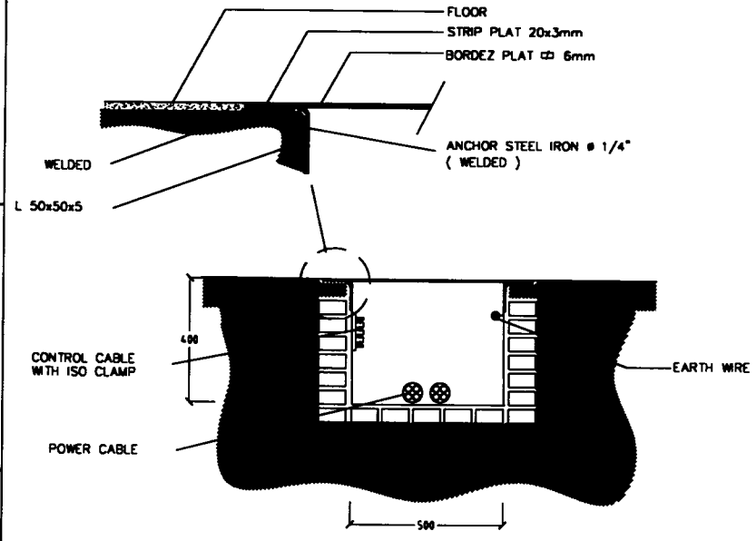
(DIMENSIONS IN Cm)

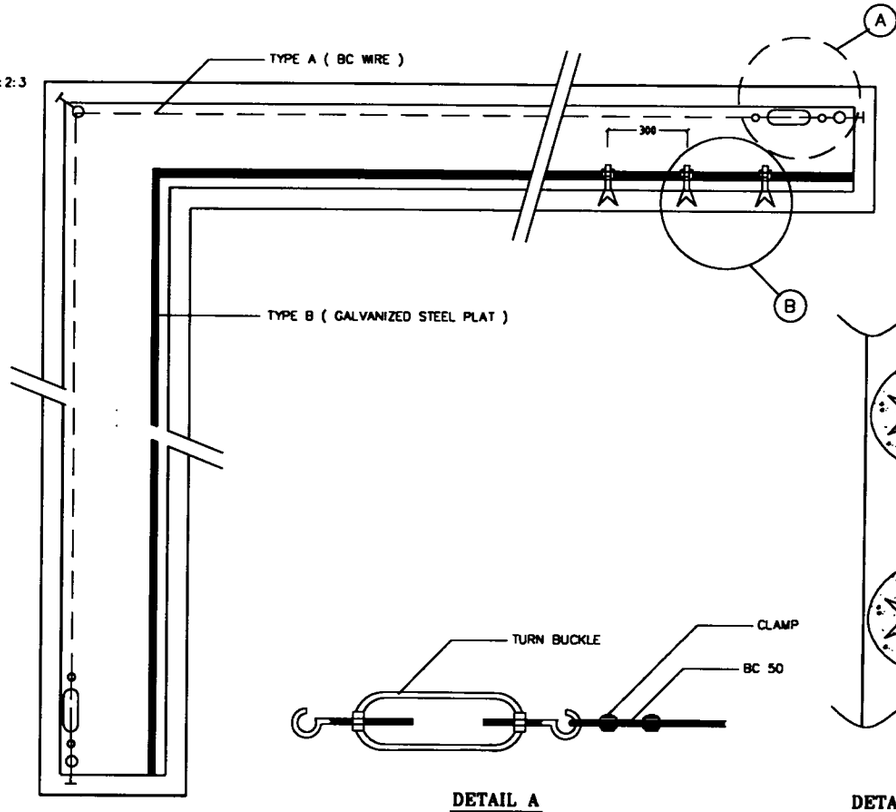
DIREKTORAT JENDERAL PERHUBUNGAN UDARA DIREKTORAT FASILITAS ELEKTRONIKA DAN LISTRIK SUB DIREKTORAT LISTRIK	U M U M		TAHUN ANGGARAN
EARTH ROD		NOMOR GAMBAR: ST.02.01	KODE LOKASI:	NOMOR URUT:
SKALA :	DIGAMBAR :	DIPERIKSA :	DISETUJUI :	



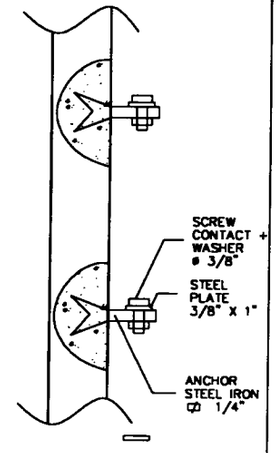
CUBICLE FOUNDATION

(DIM. : EQUAL WITH THE AVAILABLE CUBICLE)





DETAIL A



DETAIL B

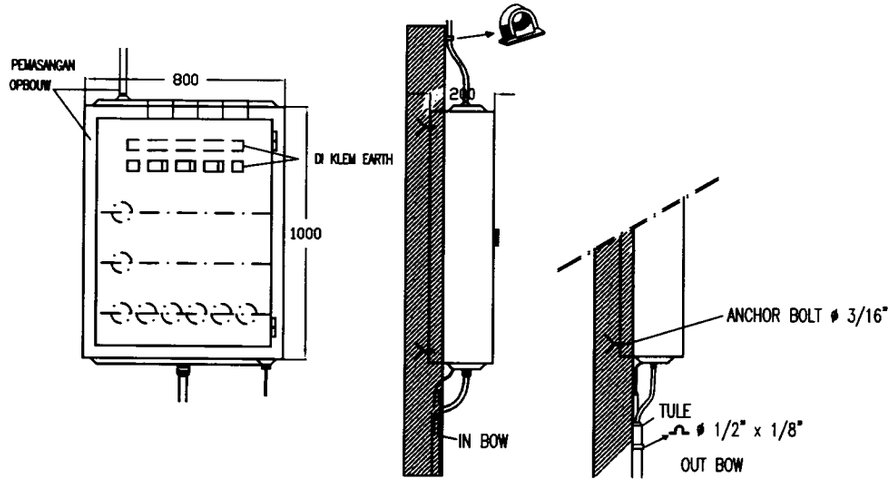
(DIMENSIONS IN mm)

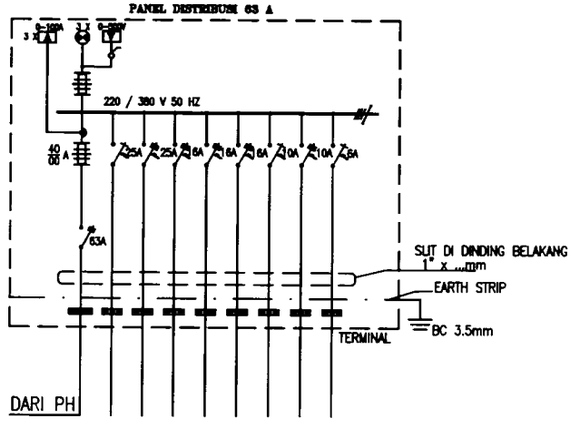
DIREKTORAT JENDERAL PERHUBUNGAN UDARA DIREKTORAT FASILITAS ELEKTRONIKA DAN LISTRIK SUB DIREKTORAT LISTRIK	UMUM	Tahun Anggaran :
Cable Duct and Cubicle Foundation	NOMOR GAMBAR: ST.02.02	KODE LOKASI: -
	NOMOR: LEMBAR: 1/1	UNIT:
SKALA :	DIGAMBAR :	DIPERIKSA :
DISETUJUI :		

PANEL WALL MOUNTED SHEET STEEL READY WIRED

INBOUW

TYPE A

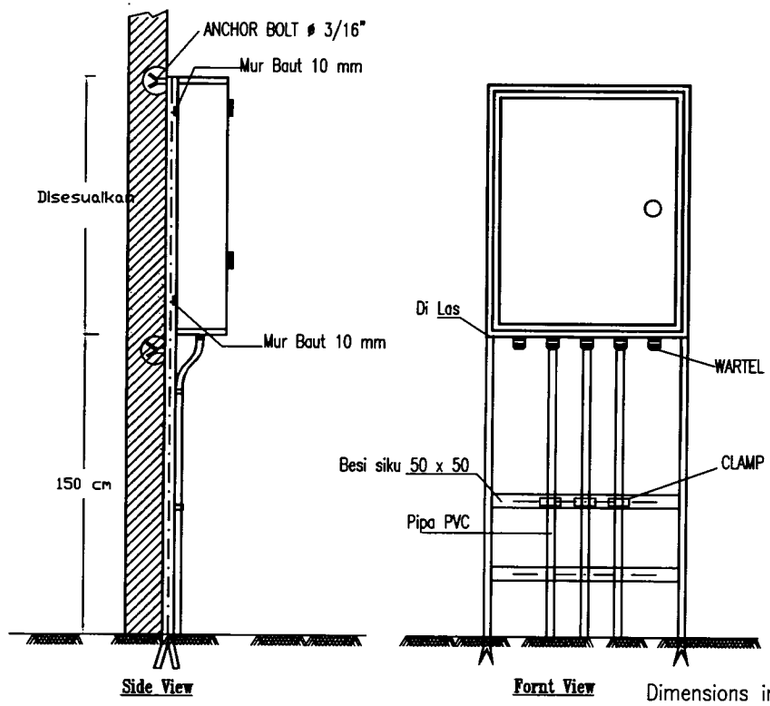




PANEL WALL MOUNTED SHEET STEEL READY WIRED

OPBOUW

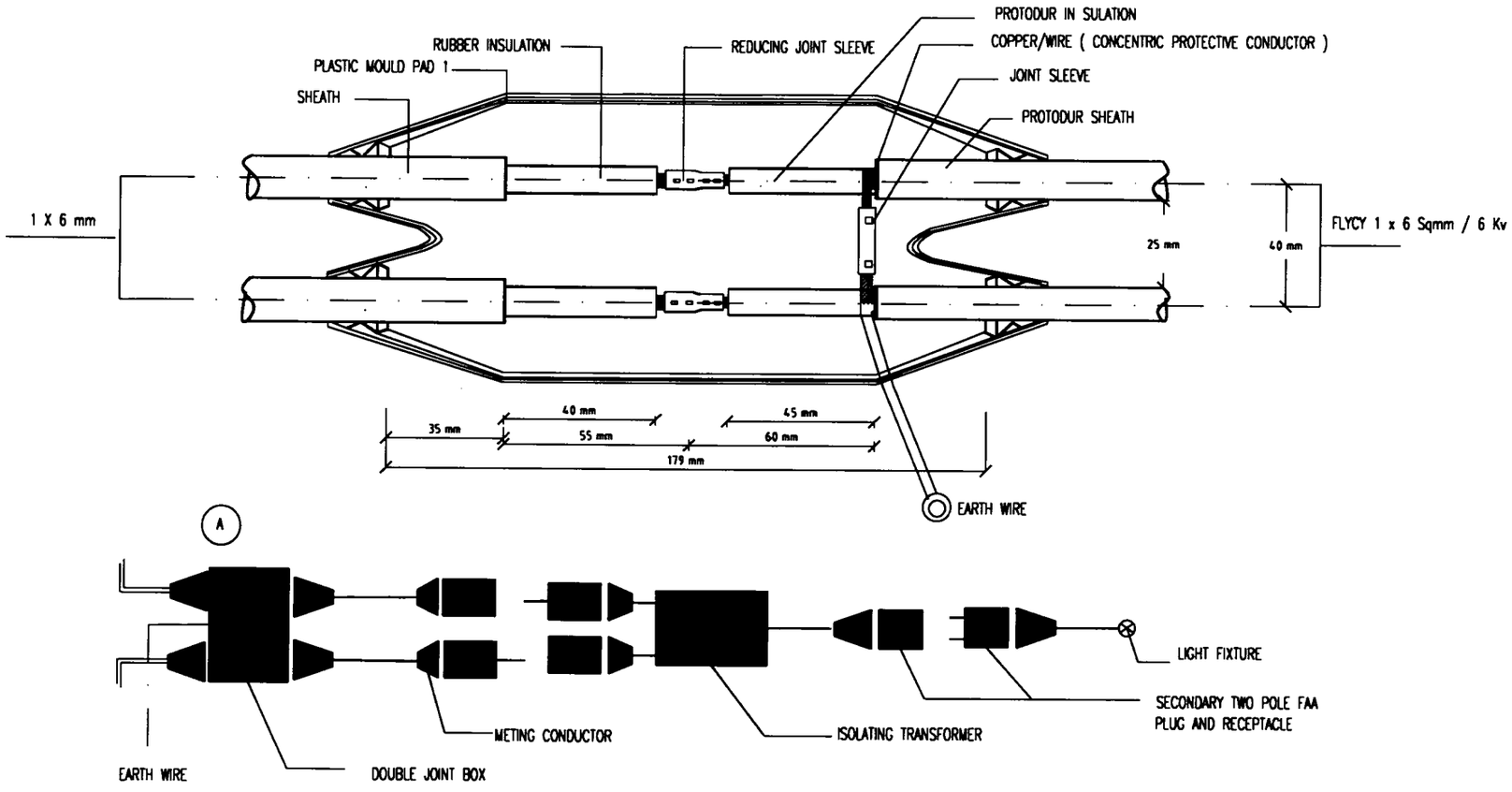
TYPE B



Dimensions in : cm

DIREKTORAT JENDERAL PERHUBUNGAN UDARA DIREKTORAT FASILITAS ELEKTRONIKA DAN LISTRIK SUB DIREKTORAT LISTRIK	UMUM	Tahun Anggaran :
Distribution Panel Wall Mounted	NOMOR GAMBAR: ST.03.01	KODE LOKASI:
	NOMOR LEMBAR: 1/1	NOMOR URUT:
SKALA :	DIGAMBAR :	DIPERIKSA :
DISETUJUI :		

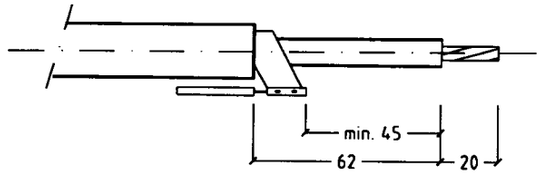
DETAIL A

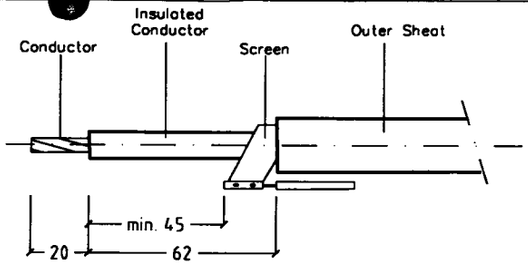


Dimensions in : mm

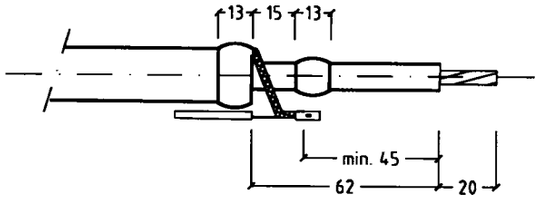
DIREKTORAT JENDERAL PERHUBUNGAN UDARA DIREKTORAT FASILITAS ELEKTRONIKA DAN LISTRIK SUB DIREKTORAT LISTRIK	U M U M	Tahun Anggaran :
Isolating Transformer and Double Joint Sleeve	NOMOR GAMBAR: VA.02.01 / KODE LOKASI / NOMOR LB: 1/1 / NOMOR URUT	
SKALA :	DIGAMBAR :	DIPERIKSA : / DISETUJUI :

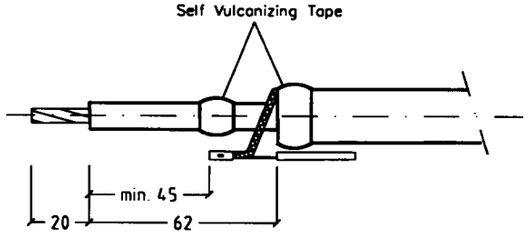
a) Cable with Metallic Tape Screen



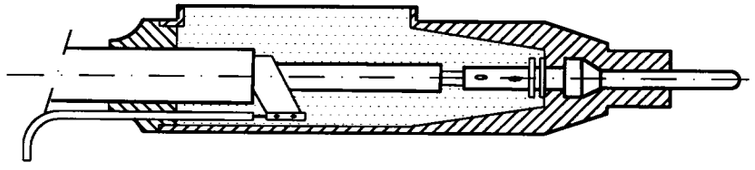


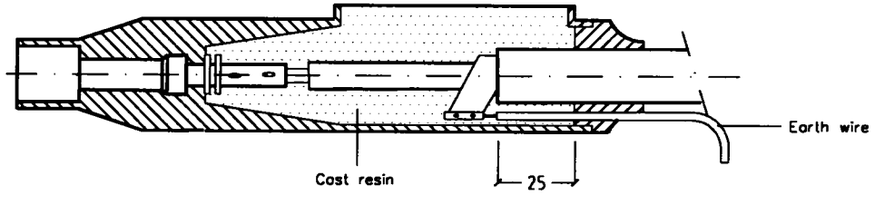
b) Cable with Braid or Wire Screen



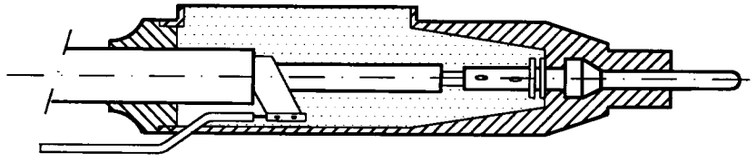


c) For Cable from 9 to 15 mm outer diameter

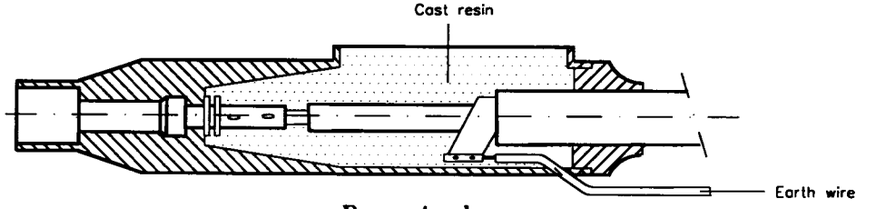




d) For Cable from 16 to 20 mm outer diameter



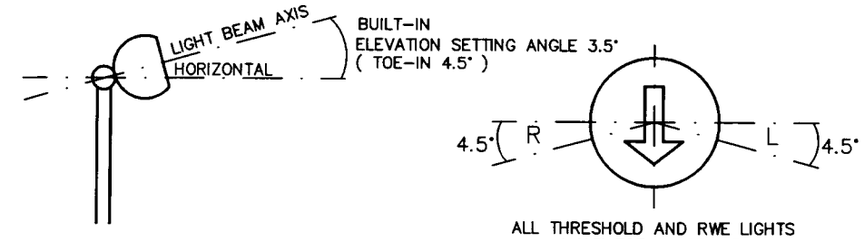
Plug



Receptacle

(DIMENSIONS IN : mm)

DIREKTORAT JENDERAL PERHUBUNGAN UDARA DIREKTRORAT FASILITAS ELEKTRONIKA DAN LISTRIK SUB DIREKTORAT LISTRIK	U M U M		Tahun Anggaran :
Connector Kit		NOMOR GAMBAR: VA.02.02	KODE LOKASI:
		NOMOR LEMBAR: 1/1	NOMOR URUT:
SKALA :	DIGAMBAR :	DIPERIKSA :	DISETUJUI :



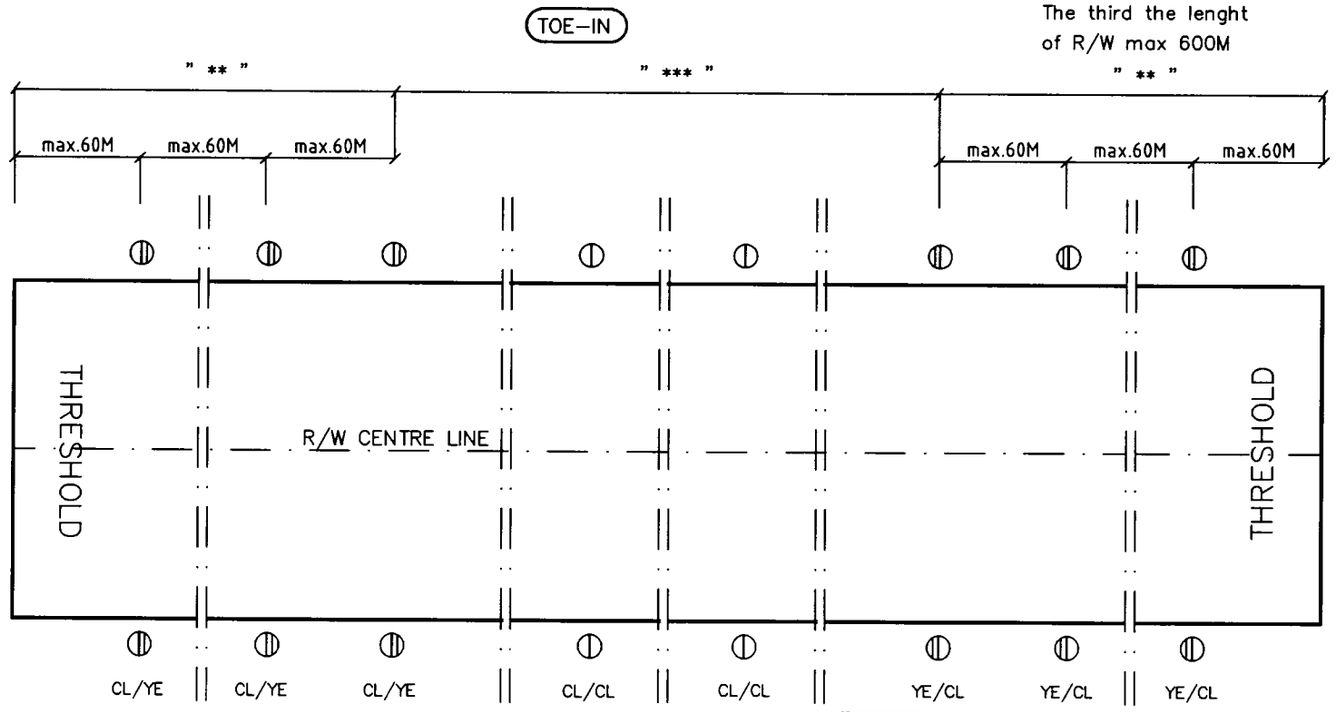
SETTING ANGLE

ALL THRESHOLD AND RWE LIGHTS
HAVE TOE-IN OF 4.5°

R/W CENTRE LINE

TOE-IN

FIXTURE MOUNTING DETAILED DRAWING						
OPTION	SYMBOL	QTY	LAMP (WATT)	REFERENCE DRAWING NUMBER	STANDARD REFERENCE	CATALOGUE SHEET
ELEV.	⊕	98*	150		ANNEX 14, TABLE 5-1	
ELEV.	⊕	98*	150		ANNEX 14, TABLE 5-1	
INSET	⊕	98*	2x150		ANNEX 14, TABLE 5-1	
INSET	⊕	98*	2x150		ANNEX 14, TABLE 5-1	
–	–	–	–		–	



NOTES :

" * " = QTY FOR 3000M RUNWAYS

" ** " = THE LAST 300M

" *** " = THE LAST OF THE RUNWAY

CL = CLEAR

YE = YELLOW

ICAO REFERENCES
CHAP. 5.3.10

DIREKTORAT JENDERAL PERHUBUNGAN UDARA
DIREKTORAT FASILITAS ELEKTRONIKA DAN LISTRIK
SUB DIREKTORAT LISTRIK

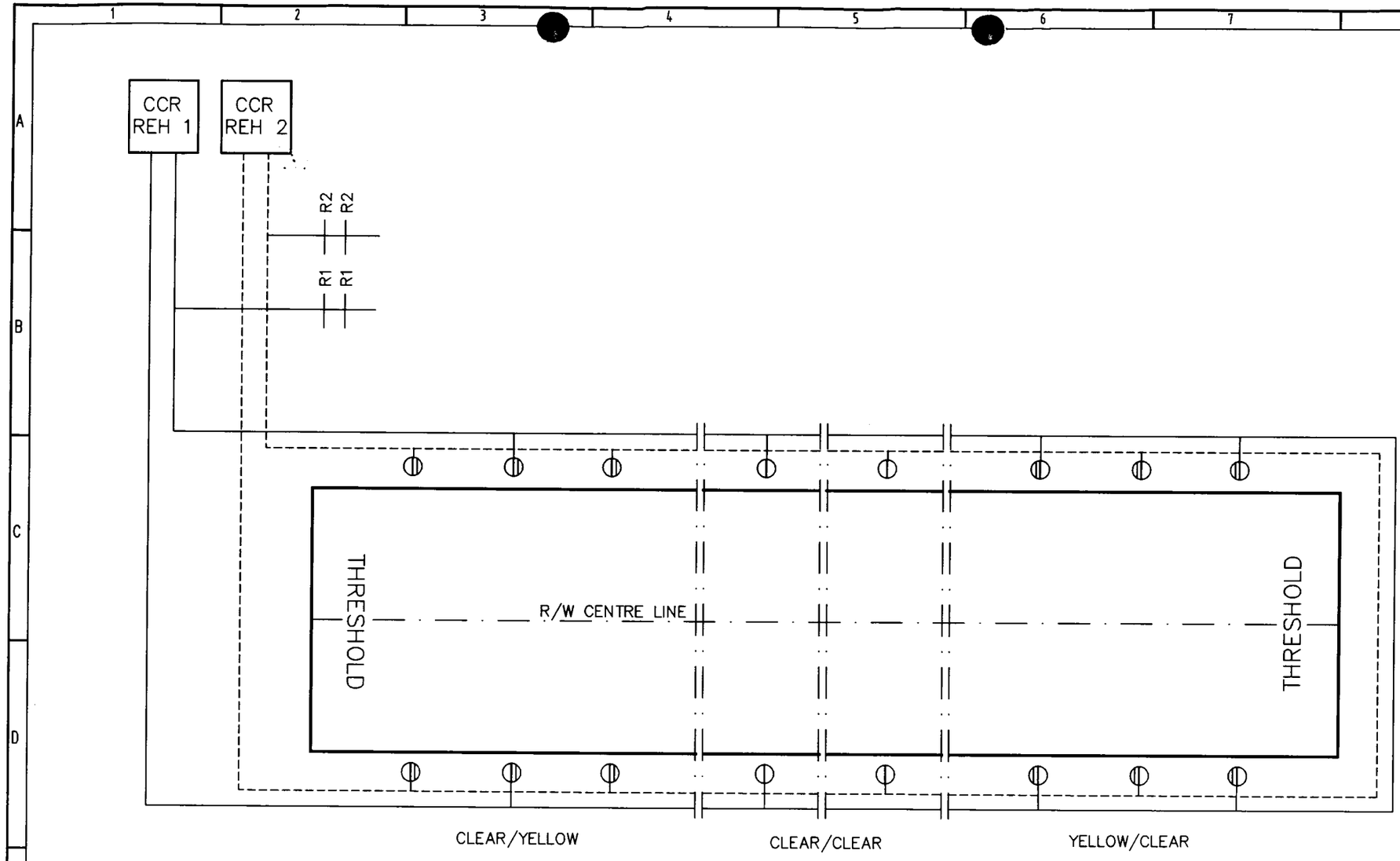
UMUM

Tahun Anggaran:

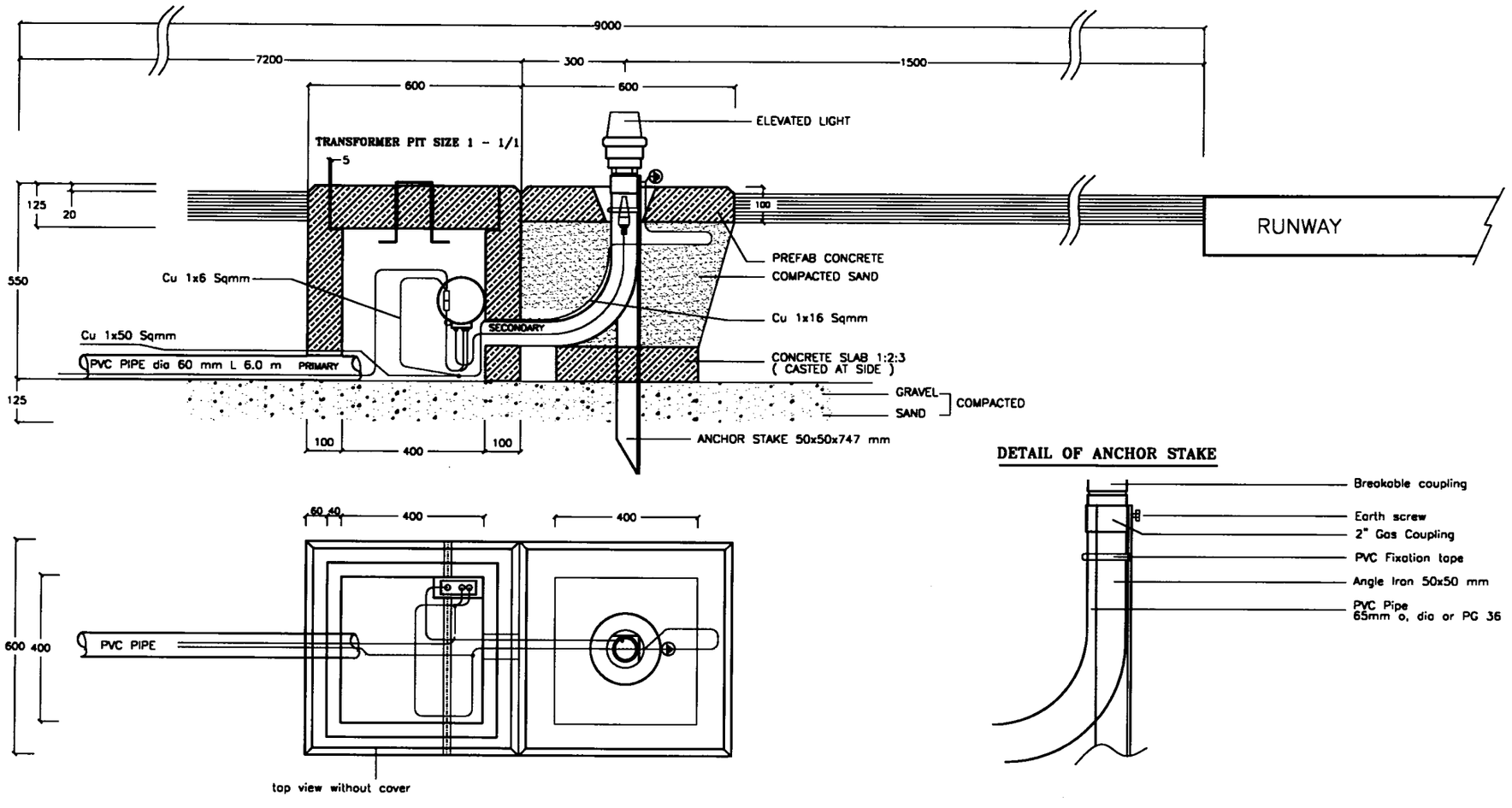
Runway Edge Lighting System REH 1+2
ICAO - CAT I (II+III)
Layout

NOMOR GAMBAR	KODE LOKASI	NOMOR LEMBAR	NOMOR URUT
VA.10.01		1/2	

SKALA :	DIGAMBAR :	DIPERIKSA :	DISETUJUI :



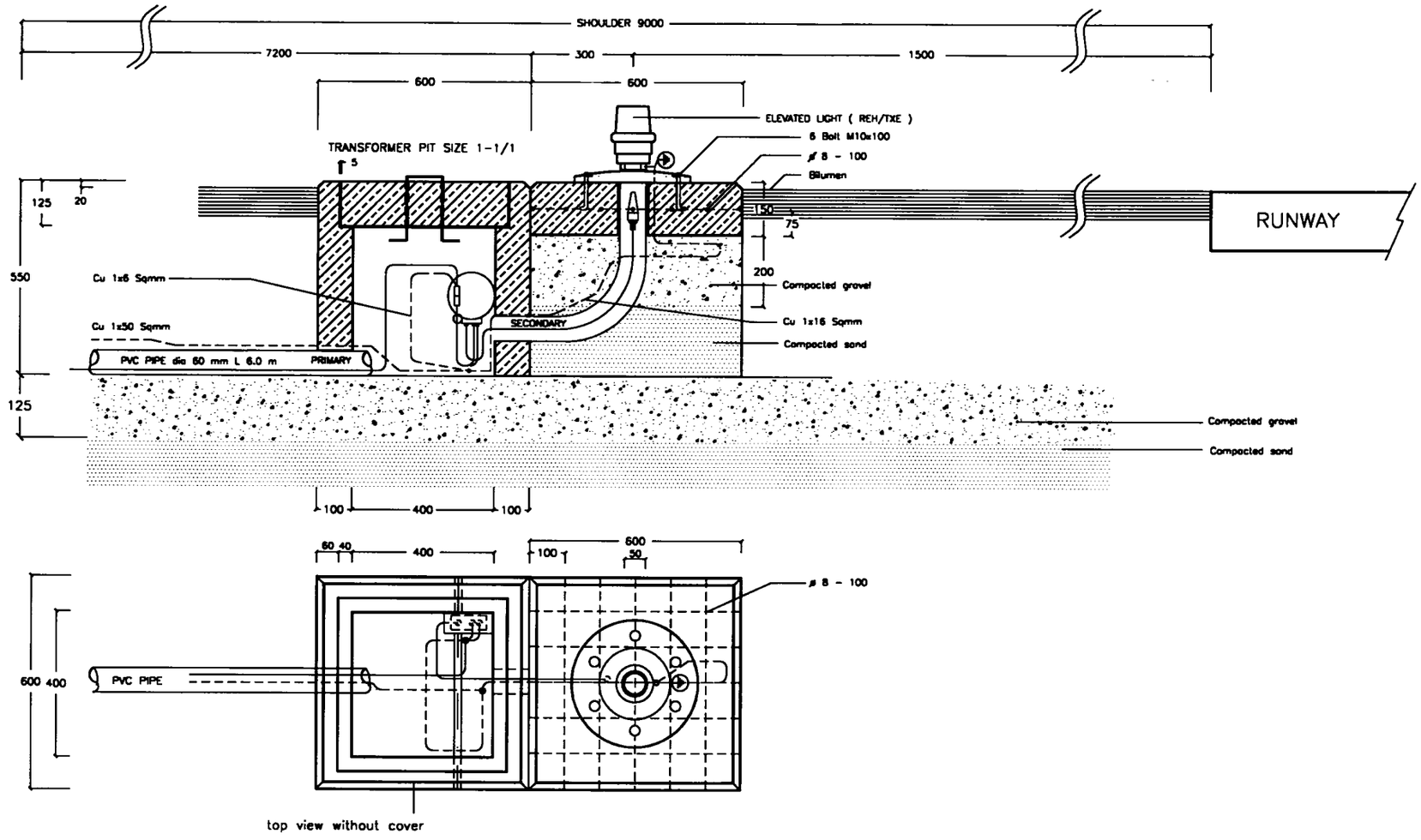
DIREKTORAT JENDERAL PERHUBUNGAN UDARA DIREKTORAT FASILITAS ELEKTRONIKA DAN LISTRIK SUB DIREKTORATE LISTRIK	UMUM	Tahun Anggaran:
Runway Edge Lighting System REH 1+2 ICAO - CAT I (II+III) Layout	NOMOR GAMBAR: VA.10.01	KODE LOKASI:
	NOMOR LEMBAR: 2/2	NOMOR URUT:
SKALA :	DIGAMBAR :	DIPERIKSA :
DISETUJUI :		



DETAIL OF ANCHOR STAKE

(DIMENSIONS IN mm)

DIREKTORAT JENDERAL PERHUBUNGAN UDARA DIREKTORAT FASILITAS ELEKTRONIKA DAN LISTRIK SUB DIREKTORAT LISTRIK	UMUM	Tahun Anggaran:
Installation of Elevated Lights - REH (Stake Mounted)		NOMOR GAMBAR: VA.10.02 / KODE LOKASI / NOMOR LEMBAR: 1/1 / NOMOR URUT
SKALA :	DIGAMBAR :	DIPERIKSA : / DISETUJUI :



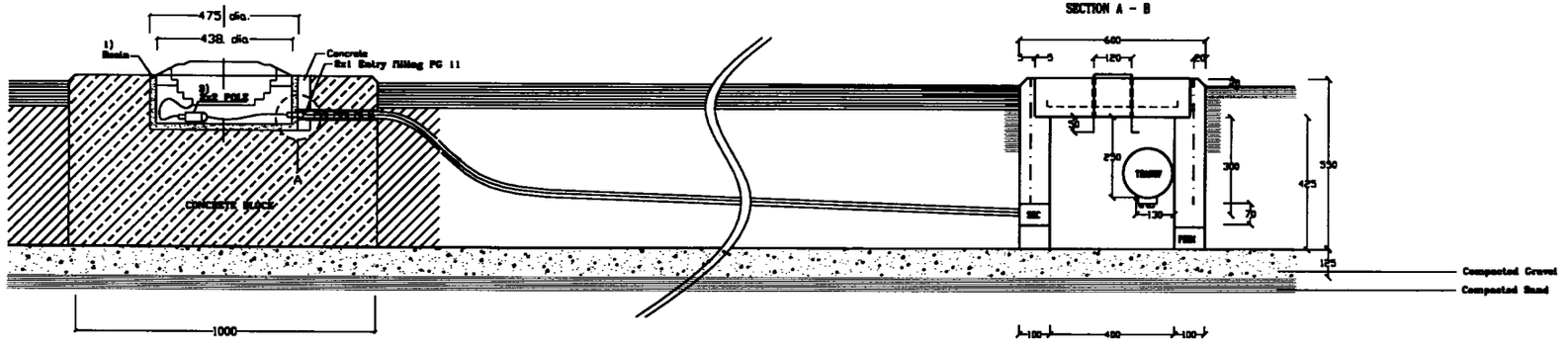
(DIMENSIONS IN mm)

DIREKTORAT JENDERAL PERHUBUNGAN UDARA DIREKTORAT FASILITAS ELEKTRONIKA DAN LISTRIK SUB DIREKTORAT LISTRIK	UMUM	Tahun Anggaran :
Installation of Elevated Lights REH (Base Plate Mounted)		NOMOR GAMBAR: VA.10.03 / KODE LOKASI / NOMOR LEMBAR: 1/1 / NOMOR URUT
SKALA :	DIGAMBAR :	DIPERIKSA : / DISETUJUI :

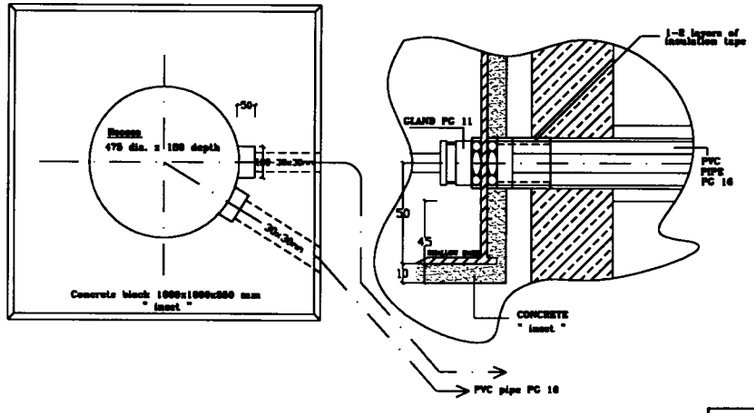
INSET LIGHT (2 LAMPS)
REH / REM

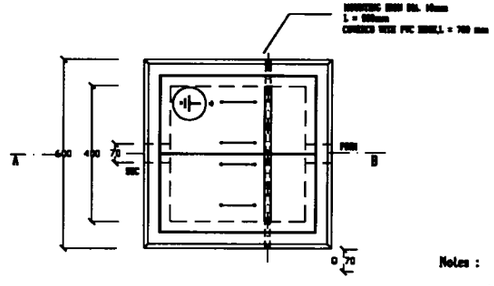
TRANSFORMER PIT SIZE 1-1/1

SECTION A - B



DETAIL A





Notes :

1) ETH sign ($\frac{1}{\pm}$) to be painted on cover, requirements as per circuit layout.

2) QUALITY OF CONCRETE : K 225

Notes :

1) = Basin / Durit
coverage qty per inset light-ring : o 2 kp.

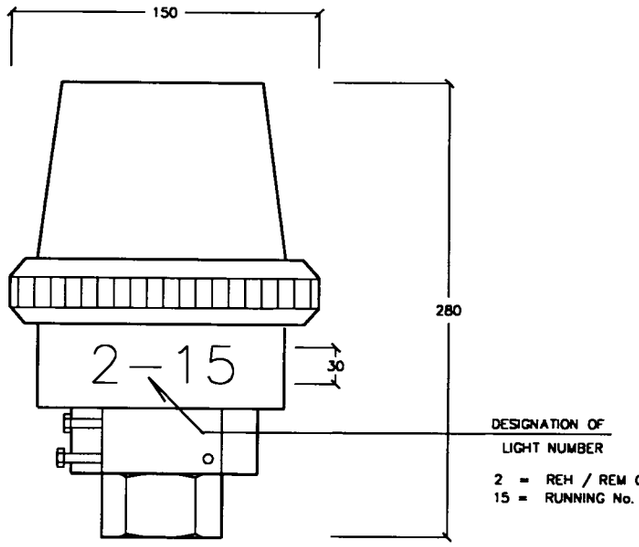
2) = 2 pole connection cable
with plug + receptacle.

3) = 2 pole cable with plug and
connector kit receptacle.

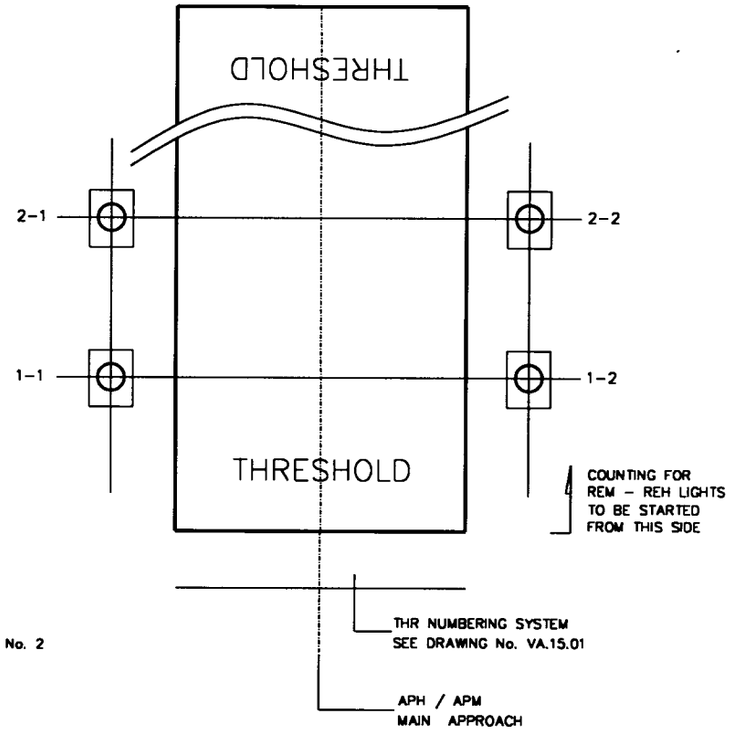
" x " = Dimensions as Required

Dimension ins : mm

DIREKTORAT JENDERAL PERHUBUNGAN UDARA DIREKTORAT FASILITAS ELEKTRONIKA DAN LISTRIK SUB DIREKTORAT LISTRIK	UMUM	Tahun Anggaran :
Installation of Inset Light REH / REM	NOMOR GAMBAR: VA.10.04	KODE LOKASI:
	NOMOR LEMBAR: 1/1	NOMOR URUT:
SKALA :	DIGAMBAR :	DIPERIKSA : / DISETUJUI :



REH / REM LIGHT



EACH LIGHT TO BE DESIGNATED WITH RUNNING NO:

CIRCUIT 1 : 1-1, 1-2, 1-3, 1-4 ETC

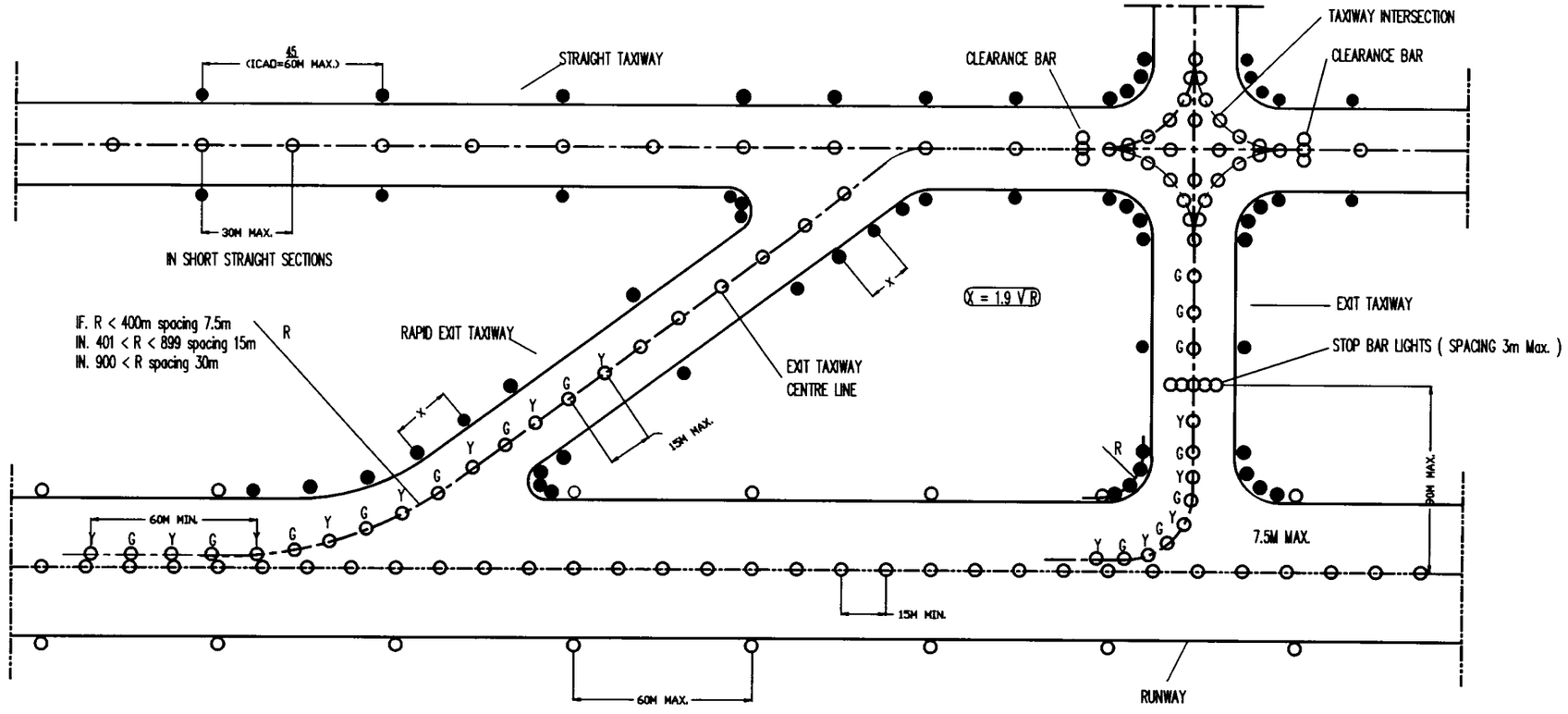
CIRCUIT 2 : 2-1, 2-2, 2-3, 2-4 ETC

NOTES :

1. OTHER TYPES AT SITE AS INDICATED
2. CABLE DASIGNATION SEE DRAWING LIST OF CABLE

(Dimensions in mm)

DIREKTORAT JENDERAL PERHUBUNGAN UDARA DIREKTORAT FASILITAS ELEKTRONIKA DAN LISTRIK SUB DIREKTORAT LISTRIK	UMUM	Tahun Anggaran :
Designation for REH/REM Lights and Cables	NOMOR GAMBAR: VA.10.05	KODE LOKASI:
	NOMOR LEMBAR: 1/1	NOMOR URUT:
SKALA :	DIGAMBAR :	DIPERIKSA :
DISETUJUI :		



NOTES :

Present use of Taxiway System for FAT 58 Ph. II Airport project is planned for ICAO – Category I only, that means Taxiway and Runway shall be equipped with elevated lights, w / o inset lights.

ON A TAXIWAY INTENDED FOR USE IN AVA CONDITIONS OF LESS THAN A VALUE OF THE ORDER OF 400 m. THE LONGITUDINAL SPACING SHOULD NOT EXCEED 15 m.

ICAO SYSTEM REFERENCE. ANNEX 14 : PARA 5.3.16 – 5.3.17

FIXTURE MOUNTING DETAILED DRAWING

OPTION	SYMBOL	Q T Y	LAMP WATT	REFERENCE DRAWING NUMBER	STANDARD REFERENCE	CATALOGUE SHEET
ELEV.	●	-	30		ICAO ANNEX 14	
INSET	○	-	45		ICAO ANNEX 14	
INSET	○	-	100		ICAO ANNEX 14	
-		-	-		-	-
-		-	-		-	-

DIREKTORAT JENDERAL PERHUBUNGAN UDARA
DIREKTORAT FASILITAS ELEKTRONIKA DAN LISTRIK
SUB DIREKTORAT LISTRIK

UMUM

Tahun Anggaran :

Taxiway Lighting TXE for ICAO CAT I (II+III)
Layout

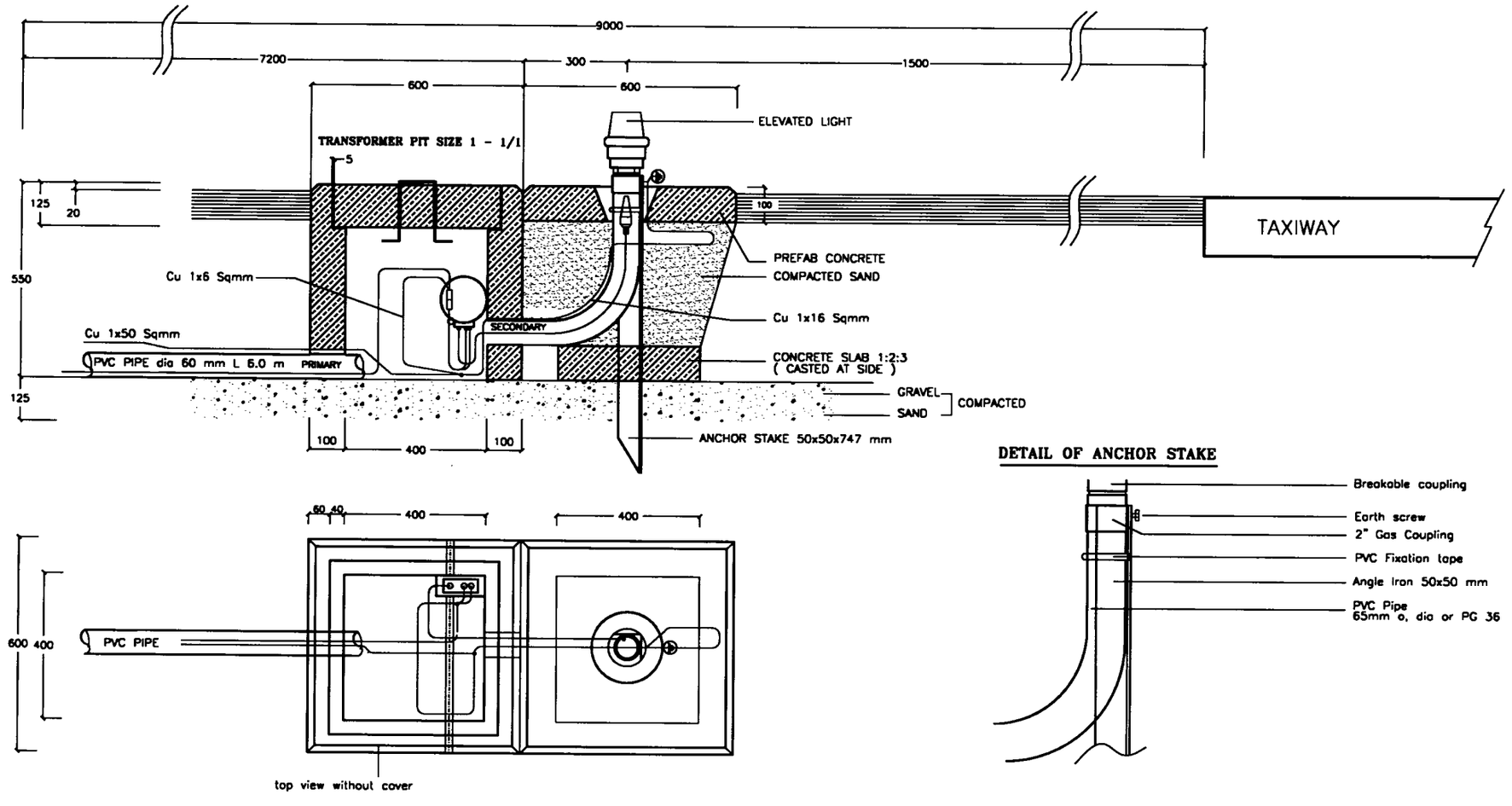
NOMOR GAMBAR	KODE LOKASI	NOMOR LEMBAR	NOMOR URUT
VA.13.01		1/1	

SKALA :

DIGAMBAR :

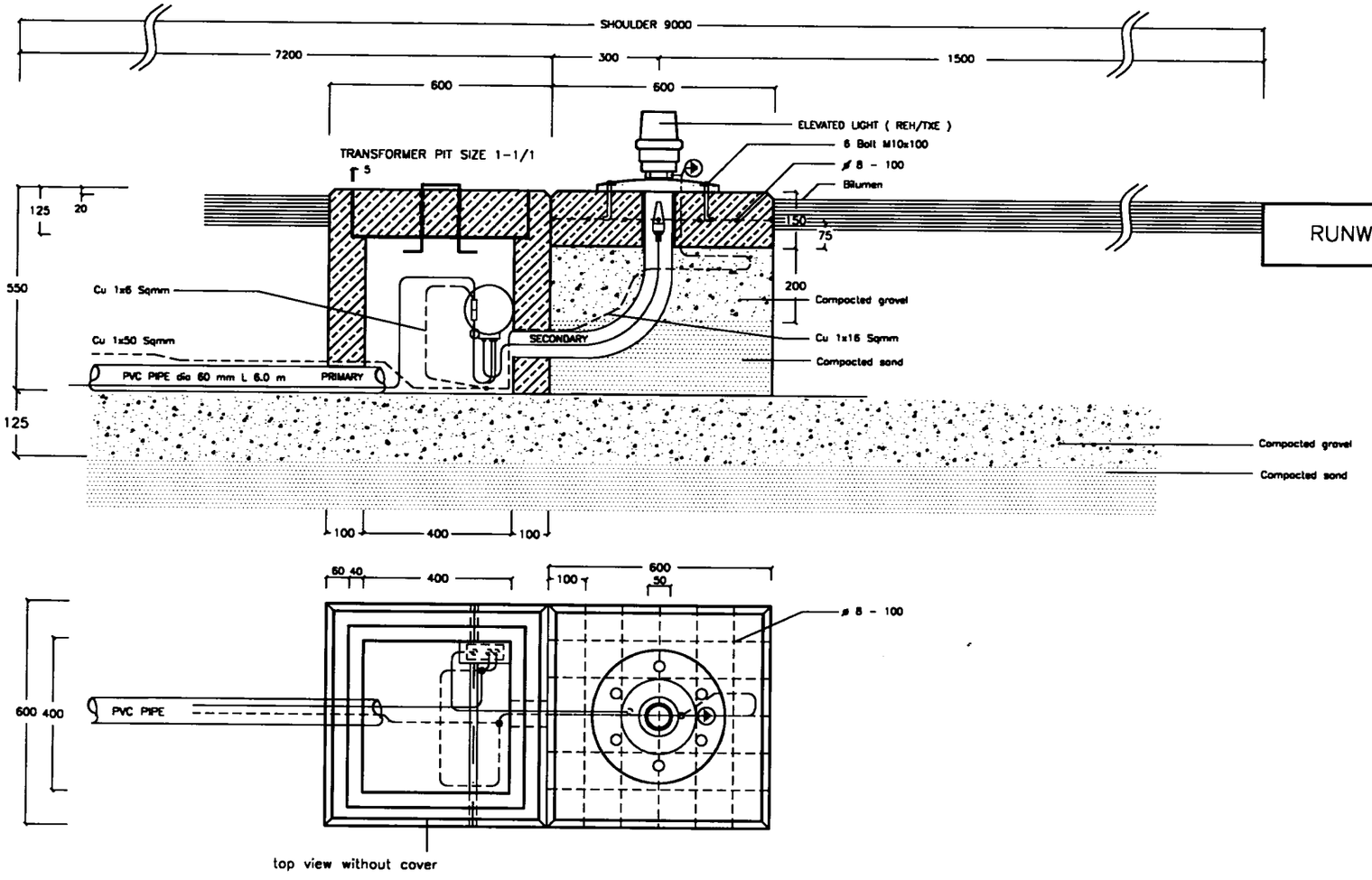
DIPERIKSA :

DISETUJUI :



(DIMENSIONS IN mm)

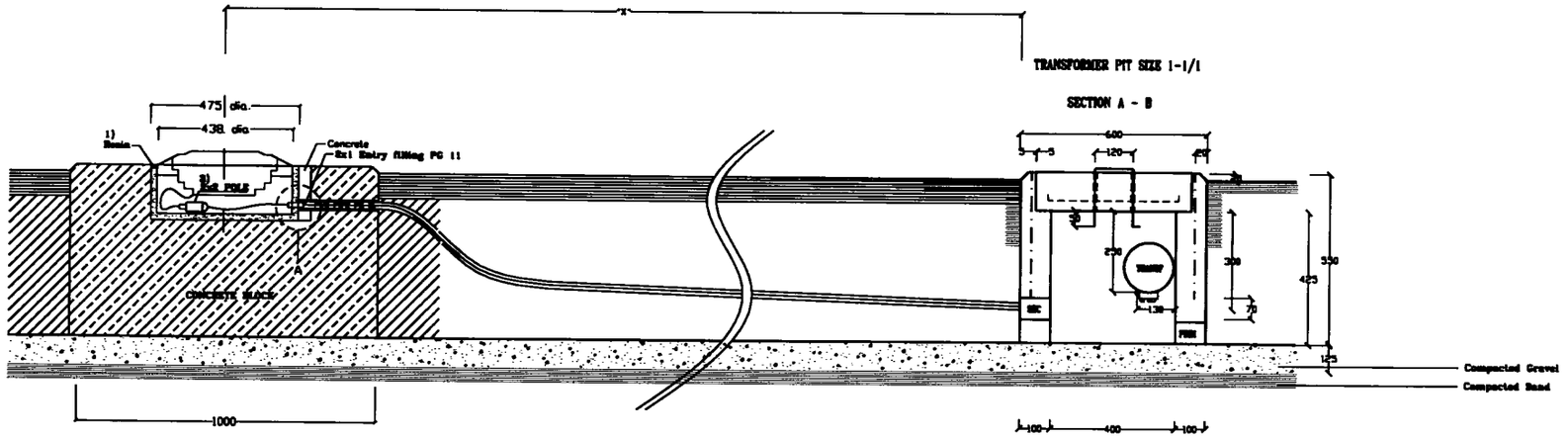
DIREKTORAT JENDERAL PERHUBUNGAN UDARA DIREKTORAT FASILITAS ELEKTRONIKA DAN LISTRIK SUB DIREKTORAT LISTRIK	UMUM	Tahun Anggaran:
Installation of Elevated Lights - TXE (Stake Mounted)		NOMOR GAMBAR: VA.13.02 / KODE LOKASI / NOMOR LEMBAR: 1/1 / NOMOR URUT
SKALA :	DIGAMBAR :	DIPERIKSA : / DISETUJUI :



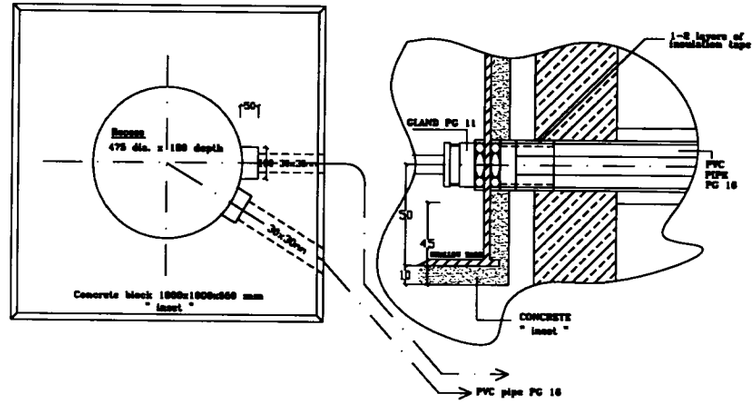
(DIMENSIONS IN mm)

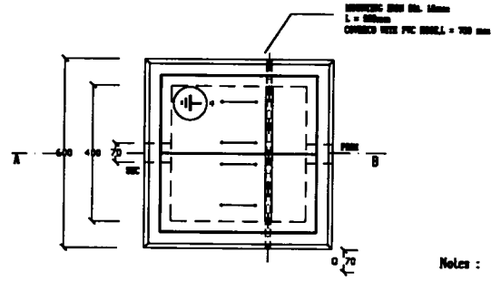
DIREKTORAT JENDERAL PERHUBUNGAN UDARA DIREKTORAT FASILITAS ELEKTRONIKA DAN LISTRIK SUB DIREKTORAT LISTRIK	UMUM	Tahun Anggaran :
Installation of Elevated Lights TXE (Base Plate Mounted)	NOMOR GAMBAR: VA.13.03 / KODE LOKASI: / NOMOR LEMBAR: 1/1 / NOMOR URUT:	
SKALA :	DIGAMBAR :	DIPERIKSA : / DISETUJUI :

INSET LIGHT (2 LAMPS)
TXE



DETAIL A





Notes :

1) ETH sign (⏚) to be painted on cover, requirements as per circuit layout.

2) QUALITY OF CONCRETE : K 225

Dimension ins : mm

Notes :

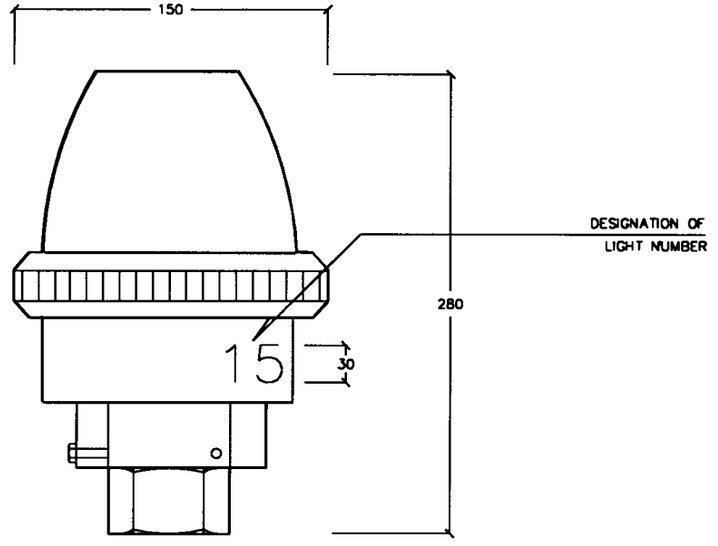
1) = Resin / Burit
average q'ty per inset light-ring : ± 2 kg.

2) = 2 pole connection cable with plug + receptacle.

3) = 2 pole cable with plug and connector kit receptacle.

" x " = Dimensions as Required

DIREKTORAT JENDERAL PERHUBUNGAN UDARA DIREKTORAT FASILITAS ELEKTRONIKA DAN LISTRIK SUB DIREKTORAT LISTRIK	UMUM	Tahun Anggaran :	
Installation of Inset Light TXE		NOMOR GAMBAR: VA.13.04	KODE LOKASI:
		NOMOR LEMBAR: 1/1	NOMOR URUT:
SKALA :	DIGAMBAR :	DIPERIKSA :	DISETUJUI :



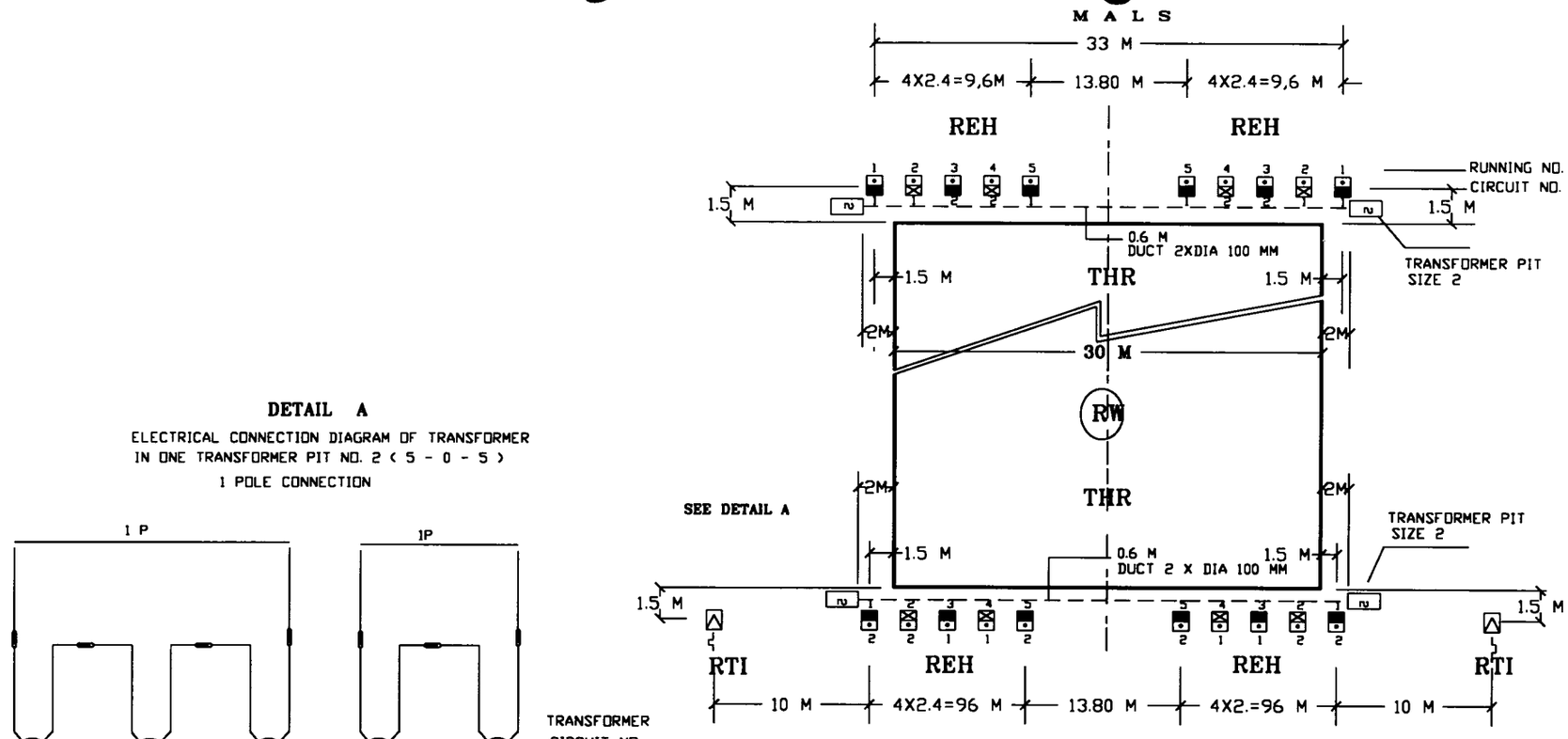
TXE LIGHT

(Dimensions in mm)

NOTES :

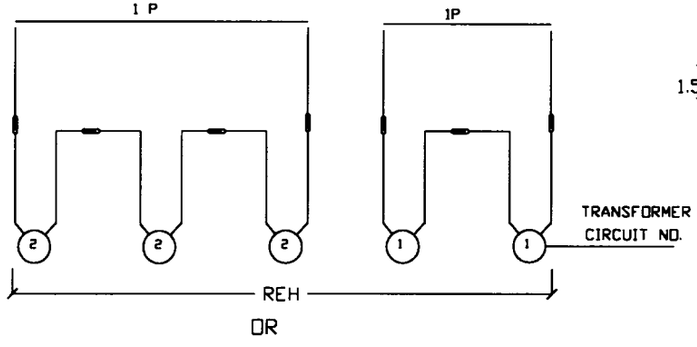
1. EACH LIGHT TO BE DESIGNATED WITH RUNNING NO. e.g
   FOR TXE 1 = 1, 2, 3 TILL X
   FOR TXE 2 = 1, 2, 3 TILL X
2. CABLE DESIGNATION SEE DRAWING LIST OF CABLE

DIREKTORAT JENDERAL PERHUBUNGAN UDARA DIREKTORAT FASILITAS ELEKTRONIKA DAN LISTRIK SUB DIREKTORAT LISTRIK	UMUM	Tahun Anggaran :	
Designation for TXE Lights and Cables		NOMOR GAMBAR: VA.13.05	KODE LOKASI:
		NOMOR LEMBAR: 1/1	NOMOR URUT:
SKALA :	DIGAMBAR :	DIPERIKSA :	DISETUJUI :

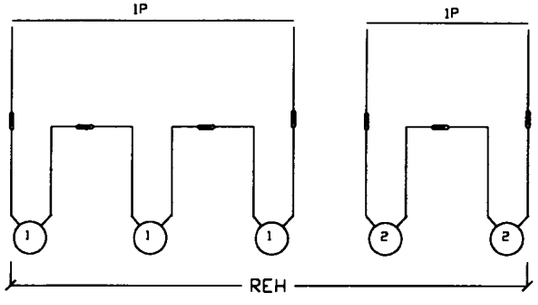


DETAIL A

ELECTRICAL CONNECTION DIAGRAM OF TRANSFORMER
IN ONE TRANSFORMER PIT NO. 2 (5 - 0 - 5)
1 POLE CONNECTION



OR



DIREKTORAT JENDERAL PERHUBUNGAN UDARA DIREKTORAT FASILITAS ELEKTRONIKA DAN LISTRIK SUB DIREKTORAT LISTRIK	UMUM	Tahun Anggaran	
Arrangement of MALS Threshold and Non Precision Runway Threshold for Runway 30 M width (5-0-5 / 5-0-5)		NOMOR GAMBAR: VA.14.01	KODE LOKASI:
		NOMOR LEMBAR: 1/2	NOMOR URUT:
SKALA :	DIGAMBAR :	DIPERIKSA :	DISETUJUI :

LEGEND

TYPE	SYMBOL & DESIGNATION	BEAM	QTY	CIRCUIT	LIGHT NO.	SEC. CABLE (1) 2X2.5 (M)	SEC. CABLE (1) 2X2.4 (M)	QTY	TRANSFORMER 6.6 / 6.6A	QTY	1 POL. CONN. KIT 5 KV QTY	280 CCM RESIN QTY	RESIN INSET L. 8 KG	CU 1X16 SQMM	CU 1X6 SQMM	EARTHING (ETH) CU P.CONN 50/16 SQMM	EARTHING (ETH) CU B.BAR 30X5
INSET	NONE																
	NONE																
ELEVATED	NONE										4	2					
	THR+RVE GN/RD 150 W 6.6A	↕	6	REH 1+2	1 3 5	3 8 13		2 2 2	150 W	6	+	+					
	THR+RVE RD/GN 150 W 6.6A	↕	6		1 3 5	3 8 13		2 2 2	150 W	6	4	2		24	48	12	
	THR GN/BC 150W 6.6A	↑	4	REH 1+2	2 4	5.5 10.5		2 2	150 W	4				16	32	8	
	THR BC/GN 150W 6.6A	↑	4		2 4	5.5 10.5		2 2	150 W	4							
	RTI UCC UDC	↓	2	RTI	1+2	-	-	-						4	-	2	
TR. - PIT	FOR SERIES-TRAN. PIT SIZE 2		4			-	-	-									4
TOTAL			-					20		20	8	4		44	80	22	4

DIREKTORAT JENDERAL PERHUBUNGAN UDARA
DIREKTORAT FASILITAS ELEKTRONIKA DAN LISTRIK
SUB DIREKTORAT LISTRIK

UMUM

Tahun Anggaran

Arrangement of MALS Threshold and Non Instrument
Runway Threshold for Runway 30 M width (5-0-5 / 5-0-5)

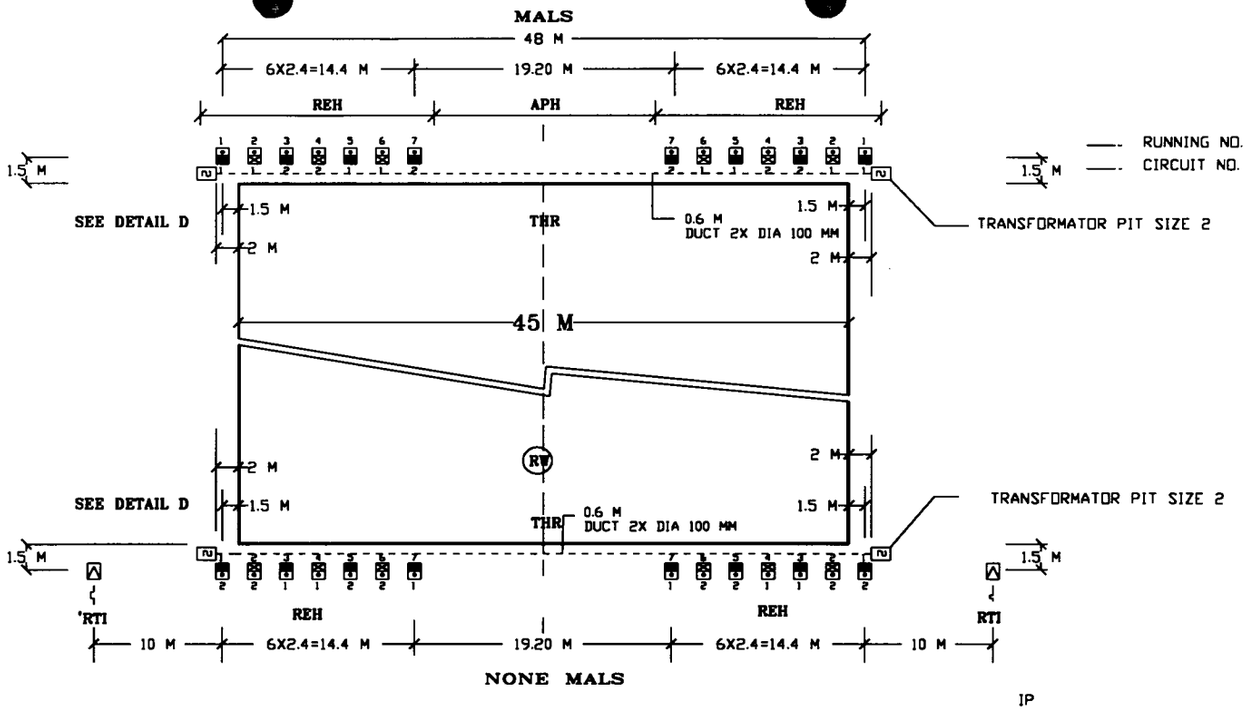
NOMOR GAMBAR	KODE LOKASI	NOMOR LEMBAR	NOMOR URUT
VA.14.01		2/2	

SKALA :

DIGAMBAR :

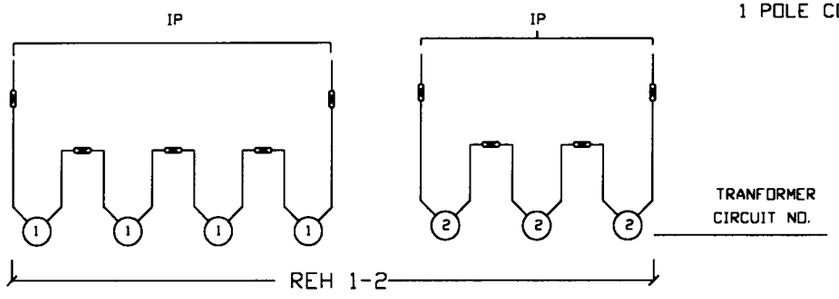
DIPERIKSA :

DISETUJUI :

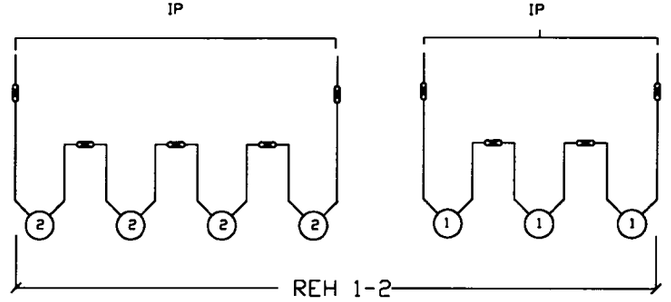


DETAIL D

ELECTRICAL CONNECTION DIAGRAM OF TRANSFORMER
IN ONE TRANSFORMER PIT NO.2 (7-0-7)
1 POLE CONNECTION KITS



OR

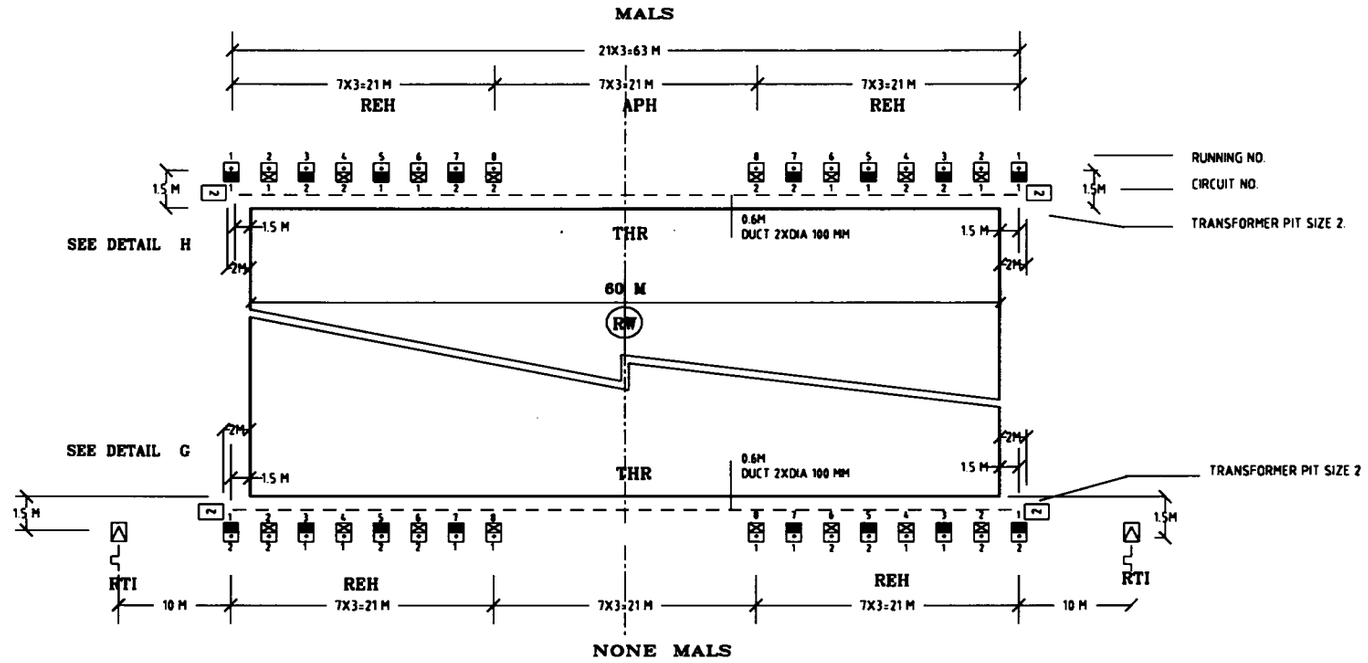


DIREKTORAT JENDERAL PERHUBUNGAN UDARA DIREKTORAT FASILITAS ELEKTRONIKA DAN LISTRIK SUB DIREKTORAT LISTRIK	UMUM	Tahun Anggaran
Arrangement of MALS Threshold and Non Precision Runway Threshold for Runway 45 M width (7-0-7 / 7-0-7)	NOMOR GAMBAR: VA.14.02	KODE LOKASI:
	NOMOR LEMBAR: 1/2	NOMOR URUT:
SKALA :	DIGAMBAR :	DIPERIKSA :
DISETUJUI :		

LEGEND

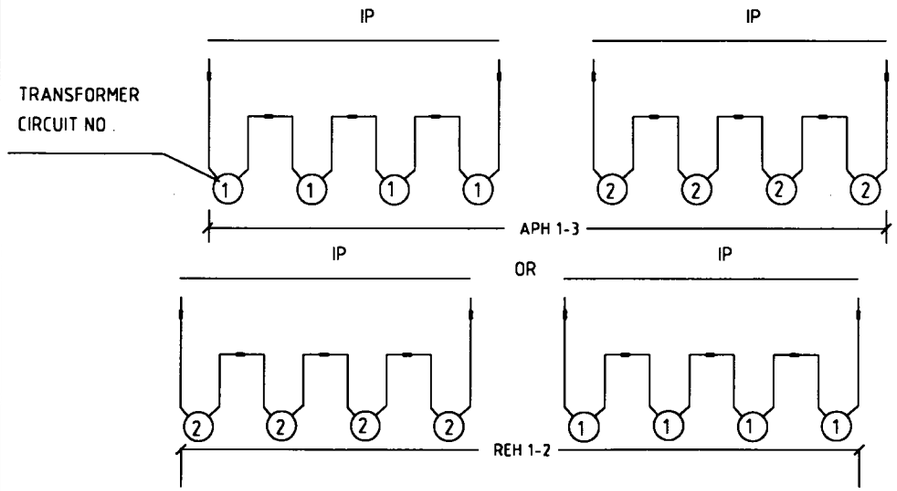
TYPE	SYMBOL & DESIGNATION	BEAM	QTY	CIRCUIT	LIGHT NO.	SEC. CABLE (1) 2X2.5 (M)	SEC. CABLE (1) 2X2.4 (M)	QTY	TRANSFORMER 6.6 / 6.6A	QTY	1 POL. CONN. KIT 5 KV QTY	280 CCM RESIN QTY	RESIN INSET L. 8 KG	CU 1X16 SQMM	CU 1X6 SQMM	EARTHING (ETH) CU P.CONN 50/16 SQMM	EARTHING (ETH) CU B.BAR 30X5
INSET	NONE																
	NONE																
ELEVATED	NONE										4	2					
	THR+RWE GN/RD 150 W 6.6A	↕	8	REH 1+2	1 3 5 7	3 8 13 -	- - - 18	2 2 2 2	150 W	8	+	+					
	THR+RWE RD/GN 150 W 6.6A	↕	8		1 3 5 7	3 8 13 -	- - - 18	2 2 2 2	150 W	8	4	2		16	32	16	
	THR GN/BC 150W 6.6A	↑	6	REH 1+2	2 4 6 -	5.5 10.5 - -	- - 15.5 -	2 2 2 2	150 W	6							
	THR BC/GN 150W 6.6A	↑	6		2 4 6 -	- - 5.5 10.5	- - - 15.5	2 2 2 2	150 W	6				24	24	12	
	RTI UCC UDC	↓	2	RTI	1+2	-	-	-						4	-	2	
TR. - PIT	FOR SERIES-TRAN. PIT SIZE 2		4			-	-	-									4
TOTAL			-					28		28	8	8	-	44	56	30	4

DIREKTORAT JENDERAL PERHUBUNGAN UDARA DIREKTORAT FASILITAS ELEKTRONIKA DAN LISTRIK SUB DIREKTORAT LISTRIK	UMUM	Tahun Anggaran	
Arrangement of MALS Threshold and Non Instrument Runway Threshold for Runway 45 M width (7-0-7 / 7-0-7)		NOMOR GAMBAR: VA.14.02	KODE LOKASI:
		NOMOR LEMBAR: 2/2	NOMOR URUT:
SKALA :	DIGAMBAR :	DIPERIKSA :	DISETUJUI :



DETAIL G

ELECTRICAL CONNECTION DIAGRAM OF TRANSFORMERS IN ONE TRANFORMER PIT NO. 2 (8-0-8)
1 POLE CONNECTOR KITS



DIREKTORAT JENDERAL PERHUBUNGAN UDARA DIREKTORAT FASILITAS ELEKTRONIKA DAN LISTRIK SUB DIREKTORAT LISTRIK	UMUM	Tahun Anggaran
Arrangement of MALS Threshold and non Instrument Runway Threshold for Runway 60 M width (8-0-8 / 8-0-8)	NOMOR GAMBAR: VA.14.03	KODE LOKASI:
	NOMOR LEMBAR: 1/2	NOMOR URUT:
SKALA :	DIGAMBAR :	DIPERIKSA :
DISETUJUI :		

LEGEND

TYPE	SYMBOL & DESIGNATION	BEAM	QTY	CIRCUIT	LIGHT NO.	SEC. CABLE (1) 2X2.5 QMM	SEC. CABLE (1) 2X2.4 QMM	QTY	TRANSFORMER 6.6 / 6.6A	QTY	1 POL. CONN. KIT 5 KV QTY	280 CCM RESIN QTY	RESIN INSET L. 8 KG	CU 1X16 SQMM	CU 1X6 SQMM	EARTHING (ETH) CU P.CONN 50/16 SQMM	EARTHING (ETH) CU B.BAR 30X5
INSET	NONE																
	NONE																
ELEVATED	NONE										4	2					
	THR+RVE L R GN/RD 150 W 6.6A	↕	8	REH 1+2	1 3 5 7	3 9 - -	- - 15 21	2 2 2 2	150 W	8	+	+					
	THR+RVE L R RD/GN 150 W 6.6A	↕	8		1 3 5 7	- - 3 9	15 21 - -	2 2 2 2	150 W	8	4	2		32	32	16	
	THR 2 L R GN/BC 150W 6.6A	↑	8	REH 1+2	2 4 6 8	6 12 - -	- - 18 24	2 2 2 2	150 W	8				32	32	16	
	THR 2 L R BC/GN 150W 6.6A	↑	8		2 4 6 8	- - 6 12	18 24 - -	2 2 2 2	150 W	8							
	RTI UCC UDC	↓	2	RTI	1+2	-	-	-						4	-	2	
TR. - PIT	2 FOR SERIES-TRAN. PIT SIZE 2		4			-	-	-									4
TOTAL			-					32		32	8	4	2	68	64	34	4

DIREKTORAT JENDERAL PERHUBUNGAN UDARA
DIREKTORAT FASILITAS ELEKTRONIKA DAN LISTRIK
SUB DIREKTORAT LISTRIK

UMUM

Tahun Anggaran

Arrangement of MALS Threshold and Non Instrument
Runway Threshold for Runway 60 M width (8-0-8 / 8-0-8)

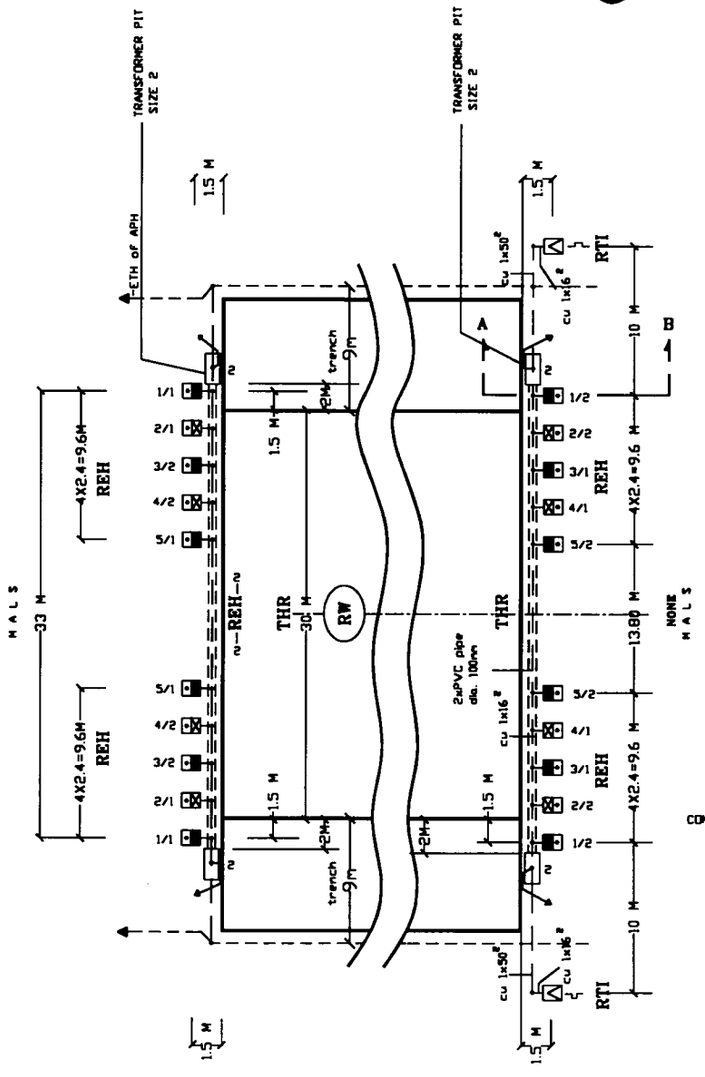
NOMOR GAMBAR	KODE LOKASI	NOMOR LEMBAR	NOMOR URUT
VA.14.03		2/2	

SKALA :

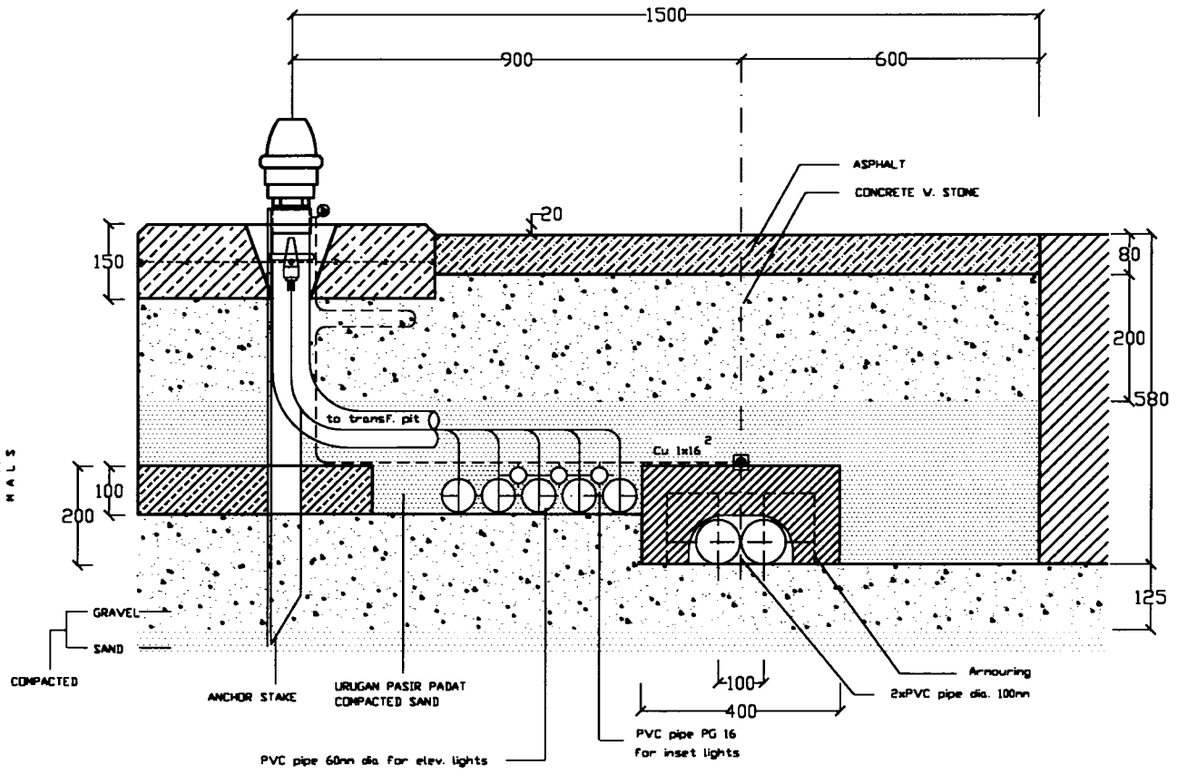
DIGAMBAR :

DIPERIKSA :

DISETUJUI :

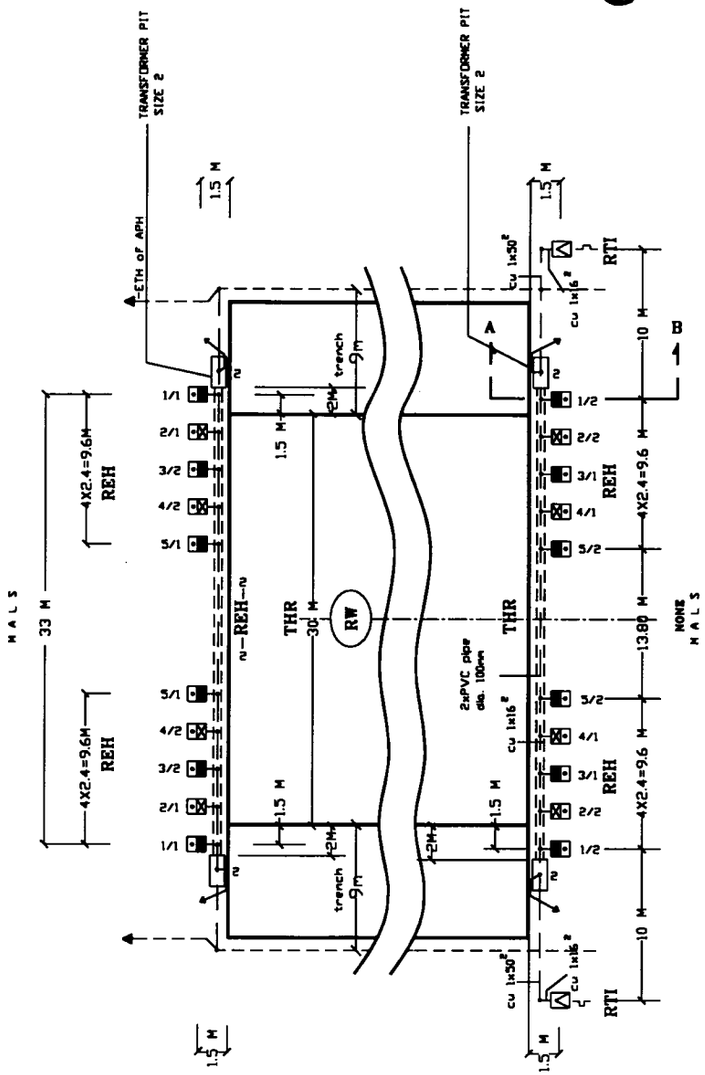


SECTION A – B

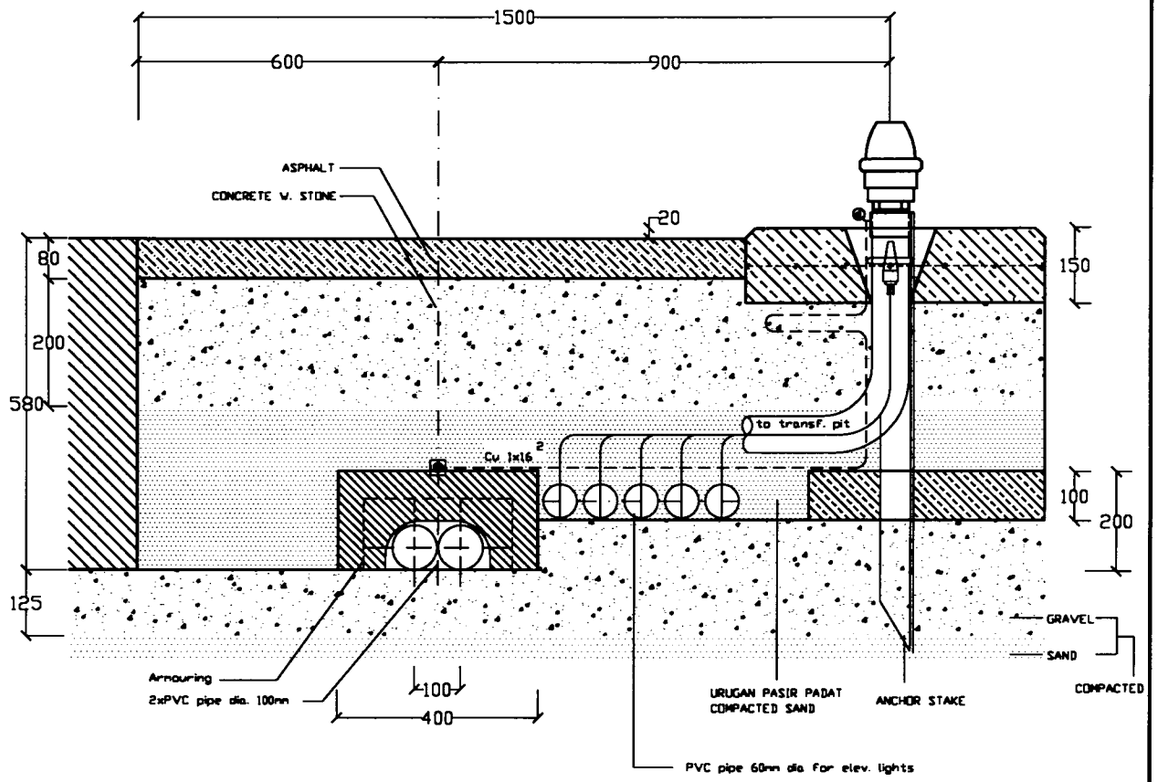


(Dimension in mm)

DIREKTORAT JENDERAL PERHUBUNGAN UDARA DIREKTORAT FASILITAS ELEKTRONIKA DAN LISTRIK SUB DIREKTORAT LISTRIK	U M U M	Tahun Anggaran :
Installation of Series Transformers and Earthing, e.g. ETH – System Transformers Pit Size 2 THR / RWE (Stake Mounted)	NOMOR GAMBAR: VA.14.04	KODE LOKASI: NOMOR LEMBAR: 1/2 NOMOR URUT:
SKALA :	DIGAMBAR :	DIPERIKSA : / DIPERIKSA :



SECTION A – B

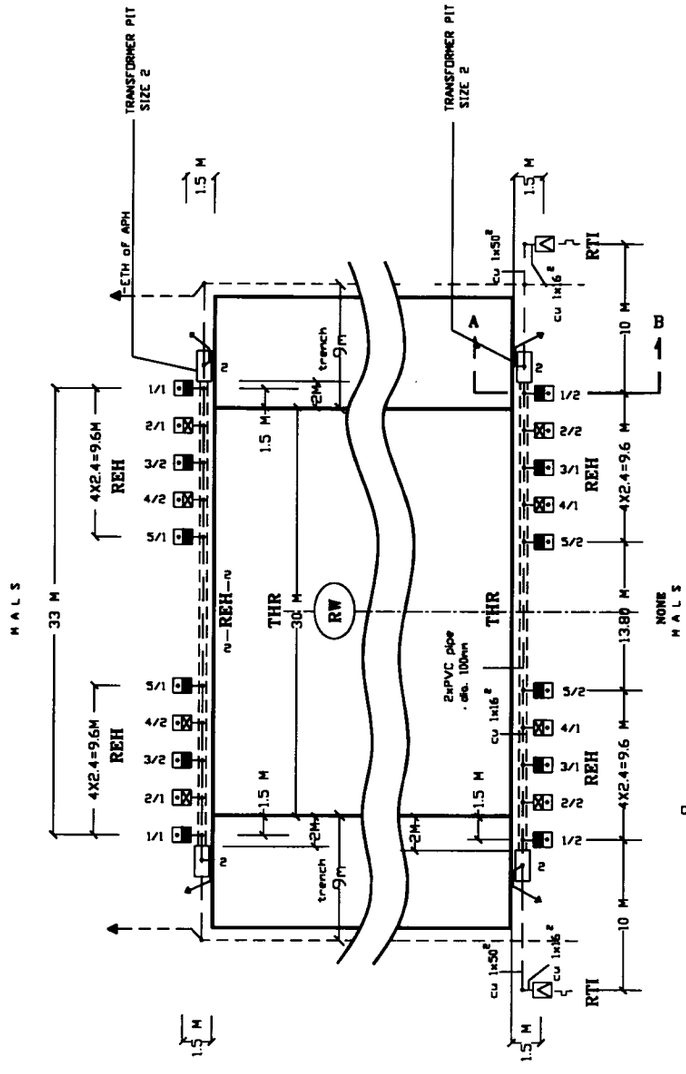


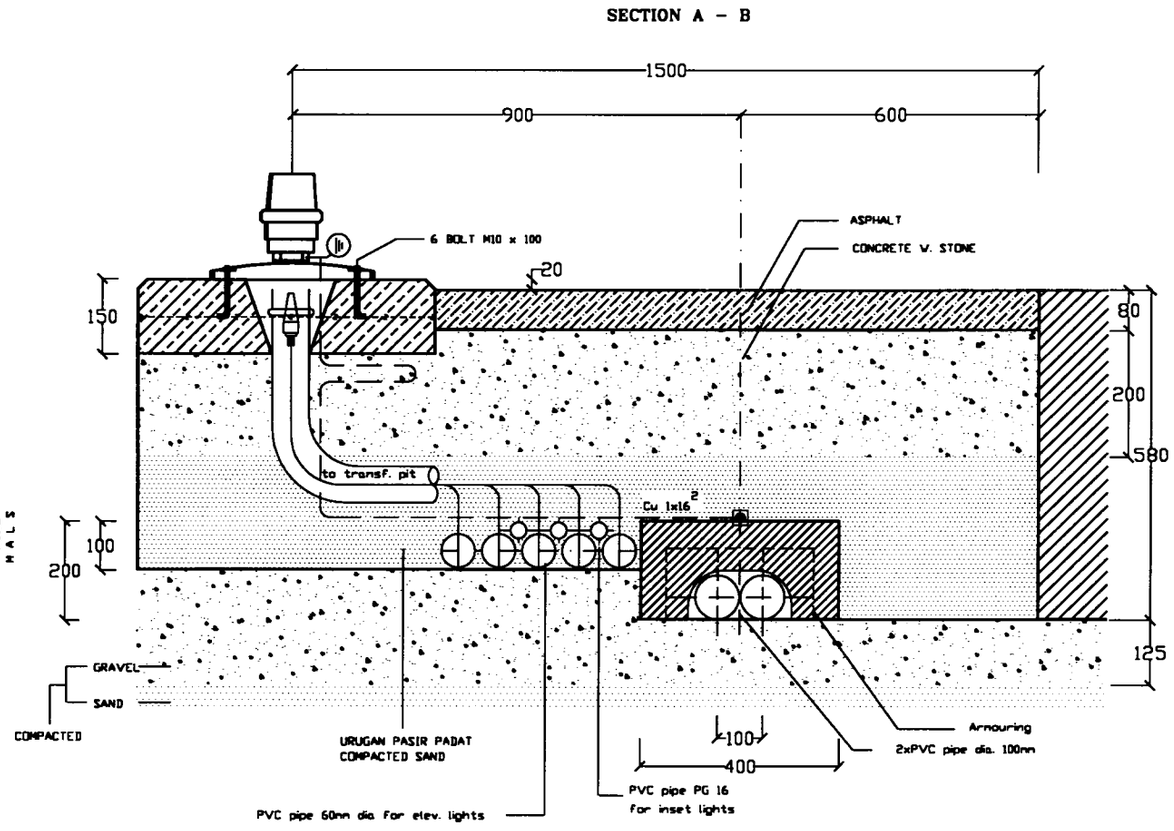
(Dimension in mm)

DIREKTORAT JENDERAL PERHUBUNGAN UDARA DIREKTORAT FASILITAS ELEKTRONIKA DAN LISTRIK SUB DIREKTORAT LISTRIK	U M U M	Tahun Anggaran :

Installation of Series Transformers and Earthing, e.g. ETH – System Transformers Pit Size 2 THR / RWE (Stake Mounted)	NOMOR GAMBAR	KODE LOKASI	NOMOR LEMBAR	NOMOR URUT
	VA.14.04		2/2	

SKALA :	DIGAMBAR :	DIPERIKSA :	DIPERIKSA :

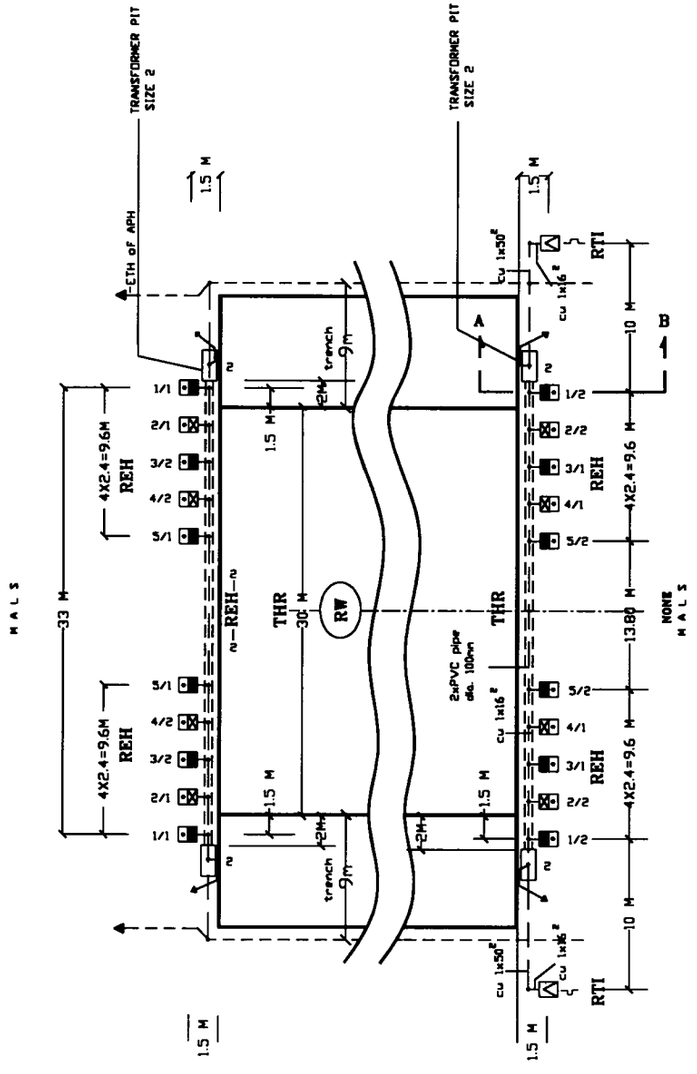




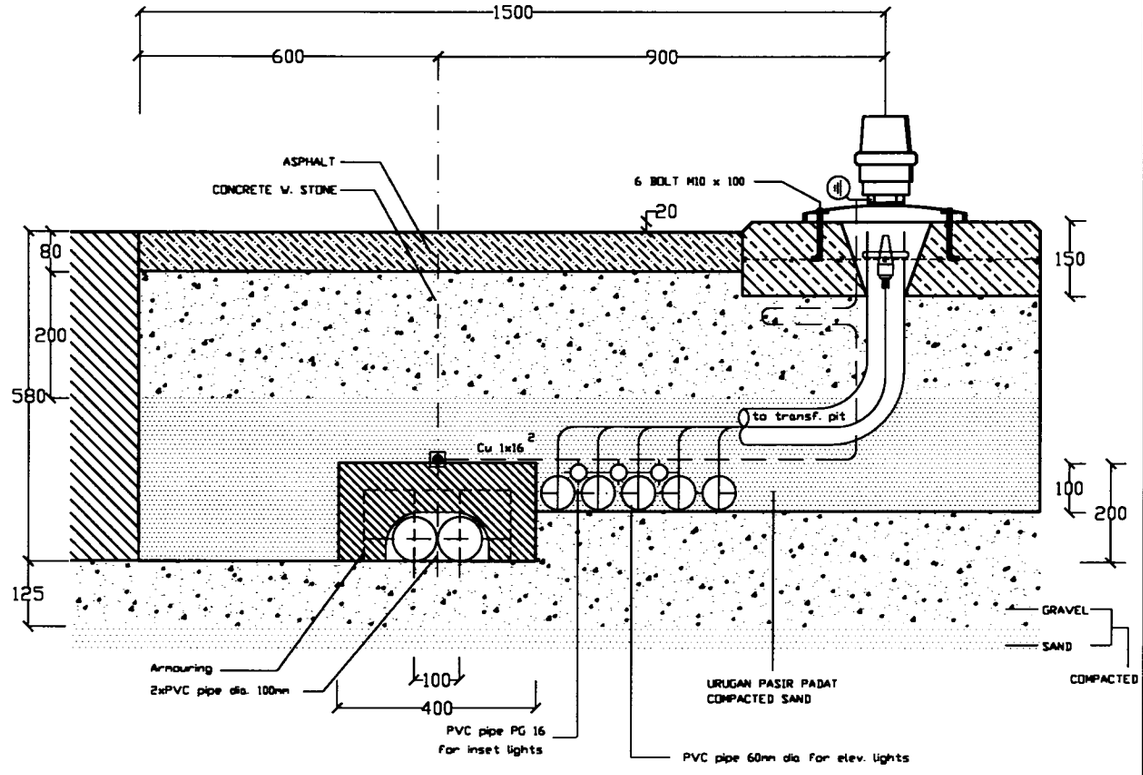
(Dimensions in : mm)

DIREKTORAT JENDERAL PERHUBUNGAN UDARA DIREKTORAT FASILITAS ELEKTRONIKA DAN LISTRIK SUB DIREKTORAT LISTRIK	UMUM	Tahun Anggaran :

Installation of Series Transformers and Earthing, e.g. ETH - System Transformers Pit size 2 THR / RWE (Base Plate Mounted)	NOMOR GAMBAR	KODE LOKASI	NOMOR LEMBAR	NOMOR URUT
	VA.14.05		1/2	
SKALA :	DIGAMBAR :	DIPERIKSA :	DIPERIKSA :	

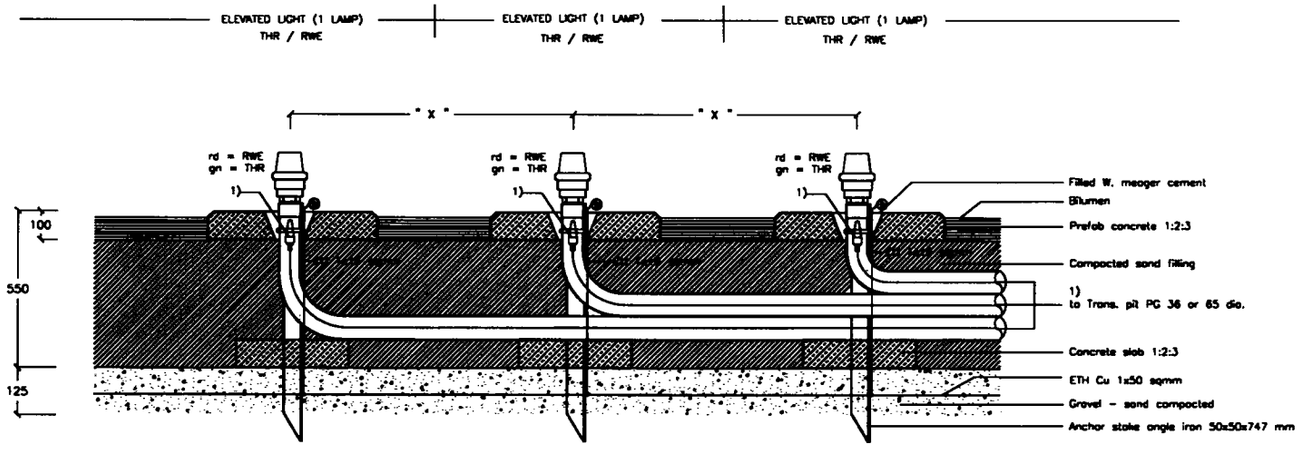


SECTION A – B



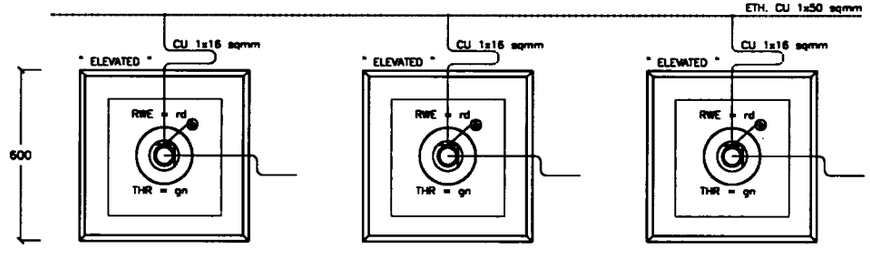
(Dimensions in : mm)

DIREKTORAT JENDERAL PERHUBUNGAN UDARA DIREKTORAT FASILITAS ELEKTRONIKA DAN LISTRIK SUB DIREKTORAT LISTRIK	UMUM	Tahun Anggaran :
Installation of Series Transformers and Earthing, e.g. ETH – System Transformers Pit size 2 THR / RWE (Base Plate Mounted)	NOMOR GAMBAR: VA.14.05	KODE LOKASI:
	NOMOR LEMBAR: 2/2	NOMOR URUT:
SKALA :	DIGAMBAR :	DIPERIKSA : / DIPERIKSA :



DETAILS OF FOUNDATION SEE DRAWING No. VA.10.02

" INSTALLATION OF ELEVATED LIGHTS "



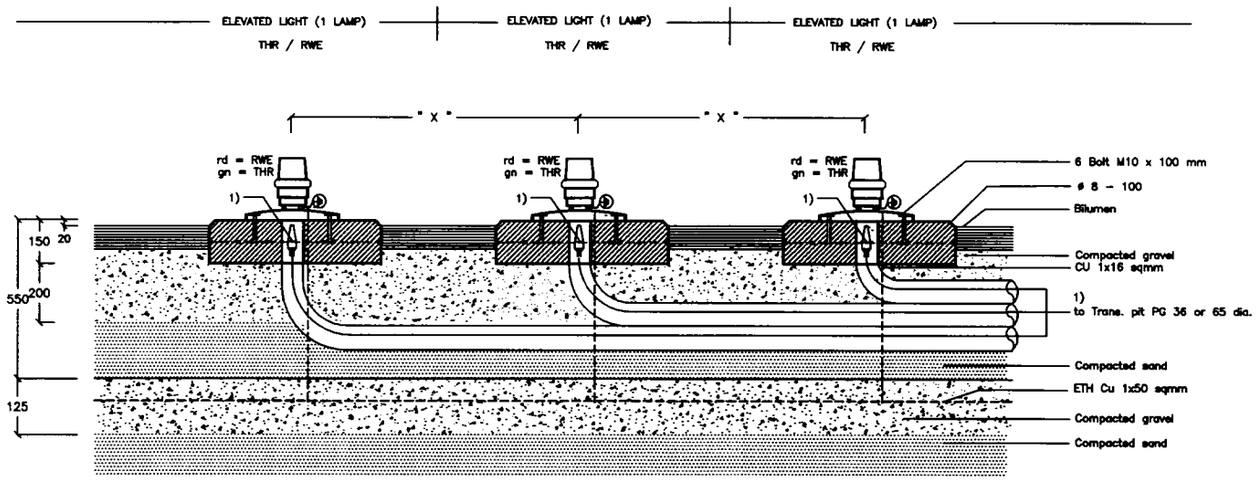
(Dimensions in mm)

Notes :

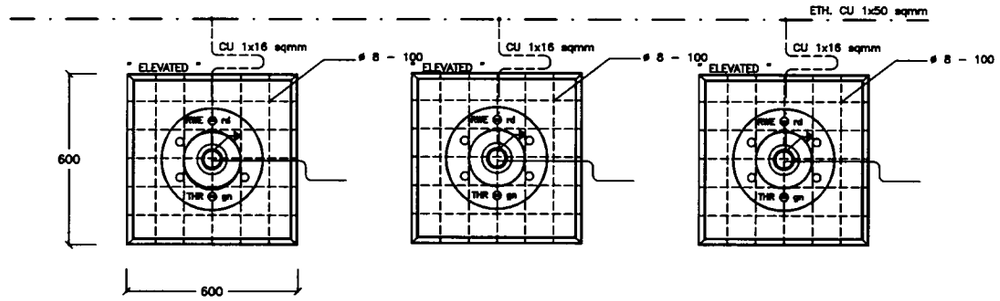
1) = 2 pole connection cable with plug + receptacle.

" x " = Dim. as per drawing " THR - Arrangement "

DIREKTORAT JENDERAL PERHUBUNGAN UDARA DIREKTORAT FASILITAS ELEKTRONIKA DAN LISTRIK SUB DIREKTORAT LISTRIK	UMUM	Tahun Anggaran :	
Installation of Elevated Lights THR/RWE (Stake Mounted)		NOMOR GAMBAR: VA.14.06	KODE LOKASI:	NOMOR LEMBAR: 1/1	NOMOR URUT:
SKALA :	DIGAMBAR :	DIPERIKSA :	DISETUJUI :		



DETAILS OF FOUNDATION SEE DRAWING VA.10.03
" INSTALLATION OF ELEVATED LIGHTS "



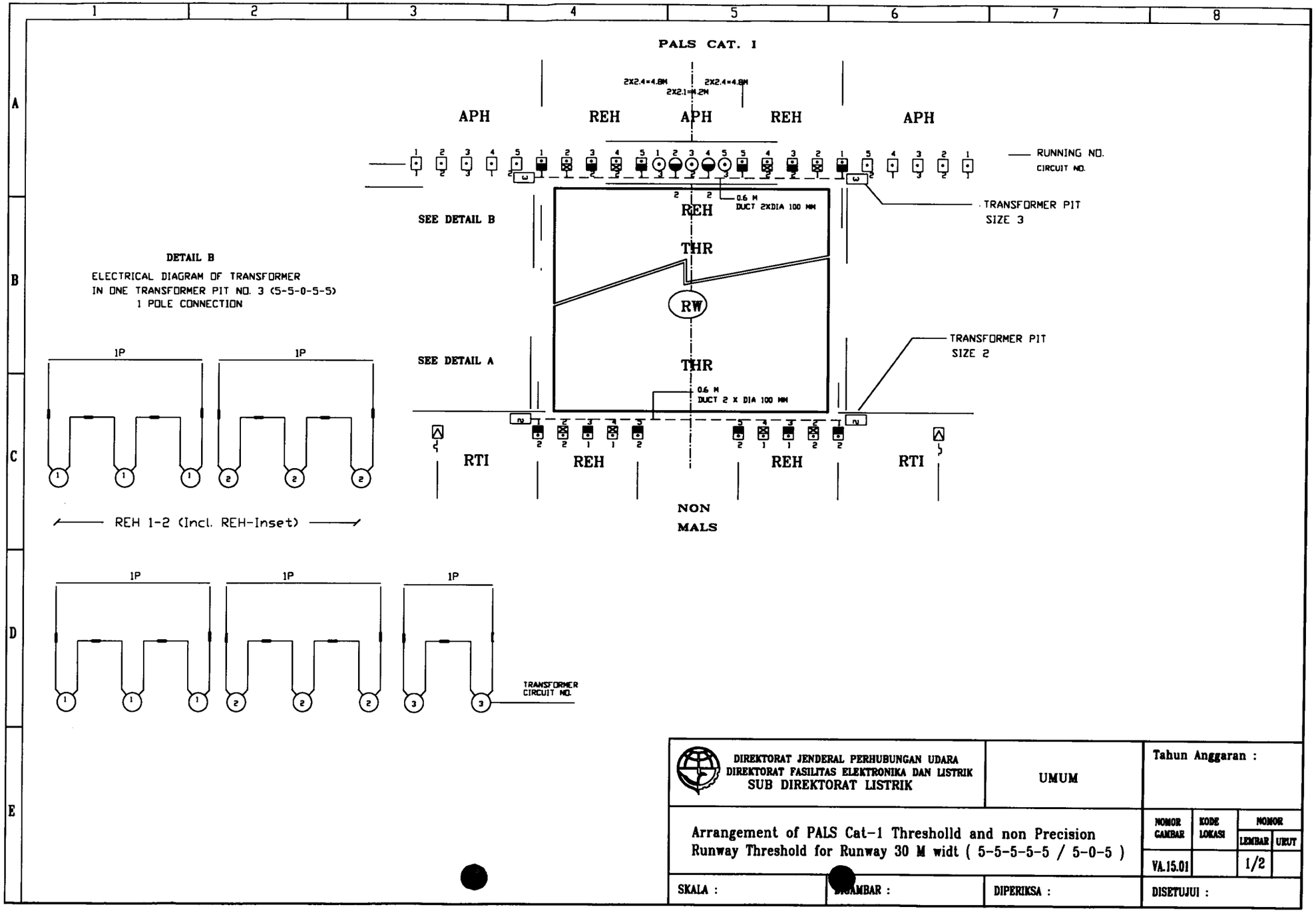
(Dimensions in mm)

Notes :

1) = 2 pole connection cable with plug + receptacle.

" X " = Dim. as per drawing " THR – Arrangement "

DIREKTORAT JENDERAL PERHUBUNGAN UDARA DIREKTORAT FASILITAS ELEKTRONIKA DAN LISTRIK SUB DIREKTORAT LISTRIK	UMUM	Tahun Anggaran :
Installation of Elevated Lights THR/RWE (Base Plate Mounted)	NOMOR GAMBAR: VA.14.07	KODE LOKASI:
	NOMOR LEMBAR: 1/1	NOMOR URUT:
SKALA :	DIGAMBAR :	DIPERIKSA :
DISETUJUI :		



DIREKTORAT JENDERAL PERHUBUNGAN UDARA DIREKTORAT FASILITAS ELEKTRONIKA DAN LISTRIK SUB DIREKTORAT LISTRIK	UMUM	Tahun Anggaran :
Arrangement of PALS Cat-1 Thresholld and non Precision Runway Threshold for Runway 30 M widt (5-5-5-5-5 / 5-0-5)	NOMOR GAMBAR: VA.15.01	KODE LOKASI:
	NOMOR LEMBAR: 1/2	NOMOR URUT:
SKALA :	DIGAMBAR :	DIPERIKSA :
		DISETUJUI :

LEGEND

TYPE	SYMBOL & DESIGNATION	BEAM	QTY	CIRCUIT	LIGHT NO.	SEC. CABLE (1) 2X2.5 (M)	SEC. CABLE (1) 2X2.4 (M)	QTY	TRANSFORMER 6.6 / 6.6A	QTY	1 POL. CONN. KIT 5 KV QTY	280 CCM RESIN QTY	RESIN INSET L. 8 KG	CU 1X16 SQMM	CU 1X6 SQMM	EARTHING (ETH) CU P.CONN 50/16 SQMM	EARTHING (ETH) CU B.BAR 30X5
INSET	GN - 1x175 W 6.6A	↑	2 1	APH 3 APH 2	1+5 3	- -	15.5 20.5	2 1	200 W	3			1				
	GN -120 RD 1x175 W +1x120w ,6.6A	↕	2	APH 1 REH 2	2+4 2+4	- -	18 18	2 2	200 W 150 W	2 2			1				
ELEVATED	GN 200W 6.6A	↑	10	APH 2 APH 1 APH 3 APH 2 APH 1	5 4 3 2 1	2 4.5 7 9.5 12	- - - - -	2 2 2 2 2	200 W	10	10	5		20	20	10	
THR+RWE	GN/RD 150 W 6.6A	↕	6	REH 1+2	1 3 5	3 8 13	- - -	2 2 2	150 W	6	+	+					
	RD/GN 150 W 6.6A	↕	6		1 3 5	3 8 13	- - -	2 2 2	150 W	6	4	2		24	24	12	
THR	GN/BC 150W 6.6A	↑	4	REH 1+2	2 4	5.5 10.5	- -	2 2	150 W	4							
	BC/GN 150W 6.6A	↑	4		2 4	5.5 10.5	- -	2 2	150 W	4				16	16	8	
RTI	UCC UDC	↓	2	RTI	1+2	-	-	-						4	-	2	
TR. - PIT	FOR SERIES-TRAN. PIT SIZE 3		2														4
	FOR SERIES-TRAN. PIT SIZE 2		2			-	-	-									2
TOTAL			-					37		37	14	7	2	64	60	32	6

DIREKTORAT JENDERAL PERHUBUNGAN UDARA
DIREKTORAT FASILITAS ELEKTRONIKA DAN LISTRIK
SUB DIREKTORAT LISTRIK

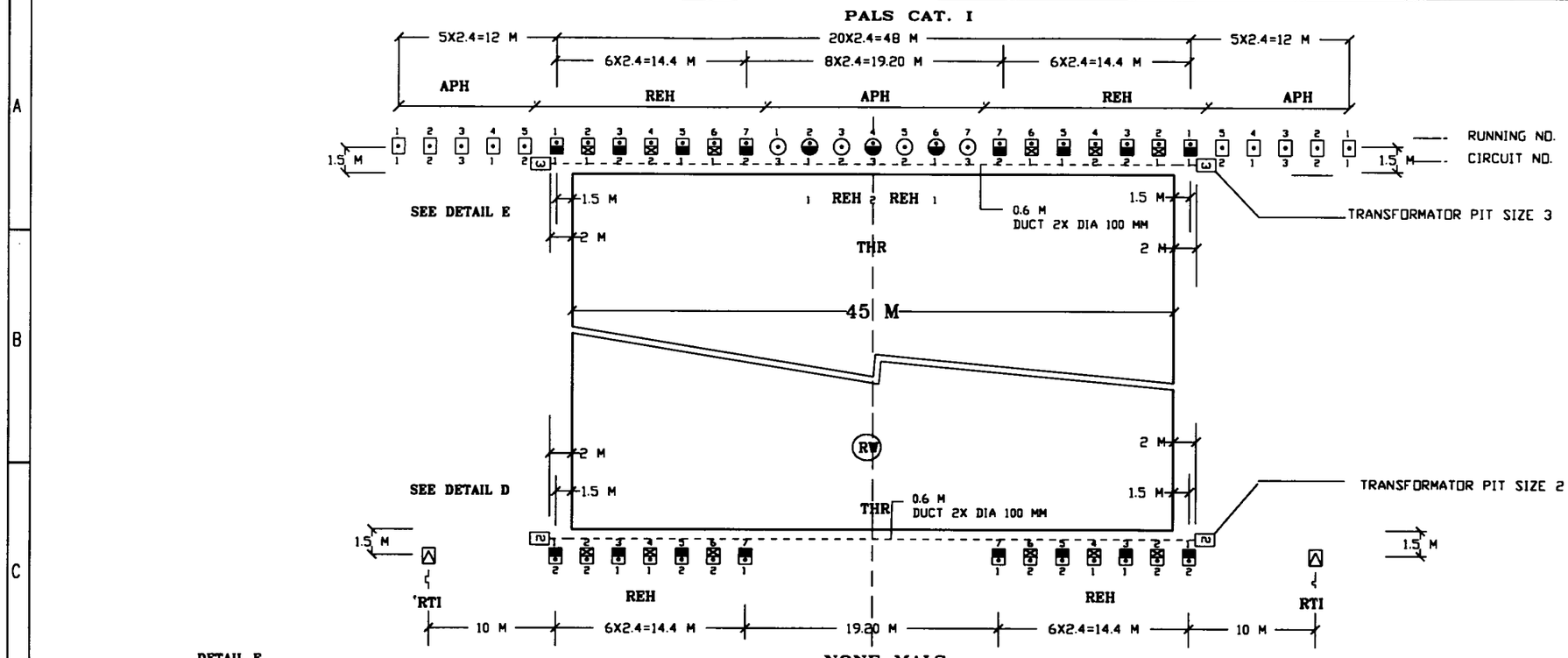
UMUM

Tahun Anggaran :

Arrangement of PALS Cat-I Threshold and non Instrument Runway Threshold for Runway 30 M width (5-5-5-5-5 / 5-0-5)

NOMOR GAMBAR	KODE LOKASI	NOMOR LEMBAR	NOMOR URUT
VA.15.01		2/2	

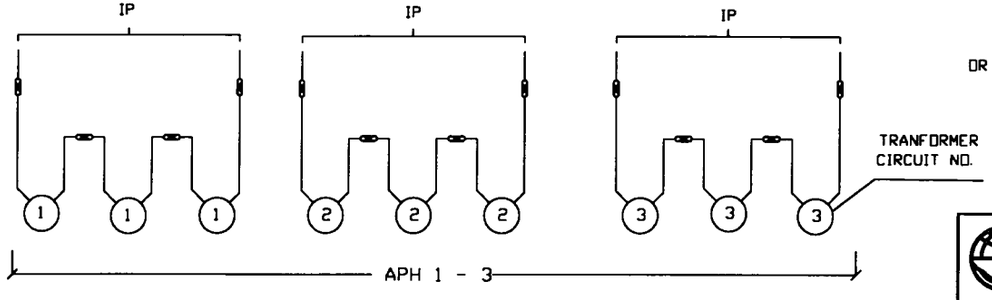
SKALA : Nts | DIGAMBAR : | DIPERIKSA : | DISETUJUI :



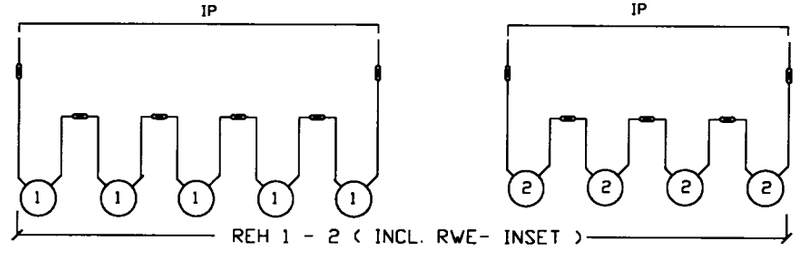
NONE MALS

DETAIL E

ELECTRICAL CONNECTION DIAGRAM OF TRANSFORMER
IN ONE TRANSFORMER PIT NO.3 (5-7-7-7-5)
1 POLE CONNECTION KITS



OR



DIREKTORAT JENDERAL PERHUBUNGAN UDARA
DIREKTORAT FASILITAS ELEKTRONIKA DAN LISTRIK
SUB DIREKTORAT LISTRIK

UMUM

Tahun Anggaran

Arrangement of PALS Cat.I Threshold and non Precision Runway
Threshold for Runway 45 M width (5-7-7-7-5 / 7-0-7)

NOMOR GAMBAR	KODE LOKASI	NOMOR LEMBAR	NOMOR URUT
VA.15.02		1/2	

SKALA :

GAMBAR :

DIPERIKSA :

DISETUJUI :

LEGEND

TYPE	SYMBOL & DESIGNATION	BEAM	QTY	CIRCUIT	LIGHT NO.	SEC. CABLE (1) 2X2.5 QD	SEC. CABLE (1) 2X2.4 QD	QTY	TRANSFORMER 6.6 / 6.6A	QTY	1 POL. CONN. KIT 5 KV QTY	200 CCM RESIN QTY	RESIN INSET L. 8 KG	CU 1X16 SQMM	CU 1X6 SQMM	EARTHING (ETH) CU P.CONN 50/16 SQMM	EARTHING (ETH) CU B.BAR 30X5
INSET	175 GN 1X175W 6.6A	↑	4	APH 3 APH 2	1+7 3+5	- -	20.5 25.5	2 2	200 W	4			1				
	175 GN 120 RD 1X175W + 1X120W 6.6A	↕	3	APH 1+ REH1+1 APH 3+ REH 2	2+6 4	- -	23 28	4 2	200 W 150 W	3 3			1				
ELEVATED	GN 200W 6.6A	↑	10	APH 2 APH 1 APH 3 APH 2 APH 1	5 4 3 2 1	2 4.5 7 9.5 12	- - - - -	2 2 2 2 2	200 W	10	10	5		20	20	10	
THR+RWE	GN/RD 150 W 6.6A	↕	8	REH 1+2	1 3 5 7	3 8 13 -	- - - 18	2 2 2 2	150 W	8	+	+					
	RD/GN 150 W 6.6A	↕	8		1 3 5 7	3 8 13 -	- - - 18	2 2 2 2	150 W	8	4	2		32	32	16	
THR	GN/BC 150W 6.6A	↑	6	REH 1+2	2 4 6	5.5 10.5 -	- - 15.5	2 2 2	150 W	6							
	BC/GN 150W 6.6A	↑	6		2 4 6	5.5 10.5 -	- - 15.5	2 2 2	150 W	6				24	24	12	
RTI	UCC UDC	↓	2	RTI	1+2	-	-	-						4	-	2	
TR. - PIT	FOR SERIES-TRAN. PIT SIZE 3		2														4
	FOR SERIES-TRAN. PIT SIZE 2		2			-	-	-									2
TOTAL			-					48		48	14	7	2	80	76	40	6

DIREKTORAT JENDERAL PERHUBUNGAN UDARA
DIREKTORAT FASILITAS ELEKTRONIKA DAN LISTRIK
SUB DIREKTORAT LISTRIK

UMUM

Tahun Anggaran

Arrangement of PALS Cat-I Threshold and non Instrument
Runway Threshold for Runway 45 M width (5-7-7-7-5 / 7-0-7)

NOMOR GAMBAR	KODE LOKASI	NOMOR LEMBAR	NOMOR URUT
VA.15.02		2/2	

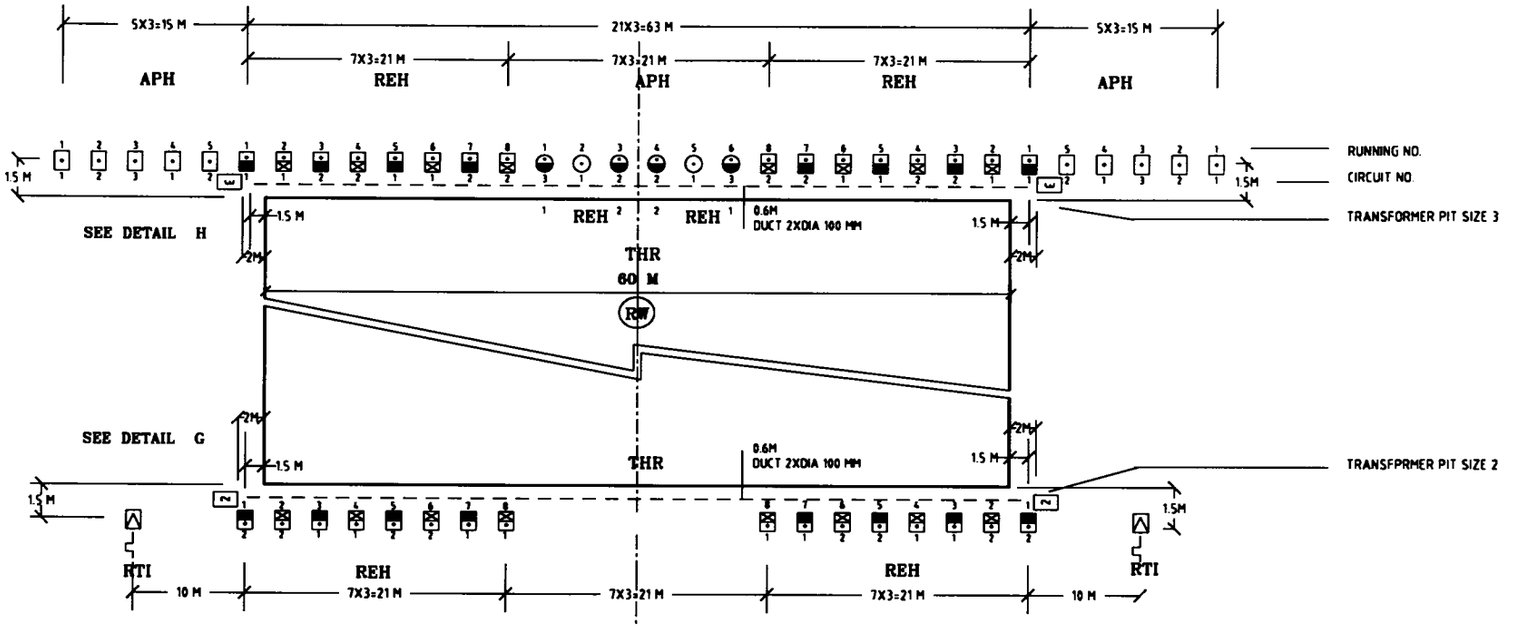
SKALA :

DIGAMBAR :

DIPERIKSA :

DISETUJUI :

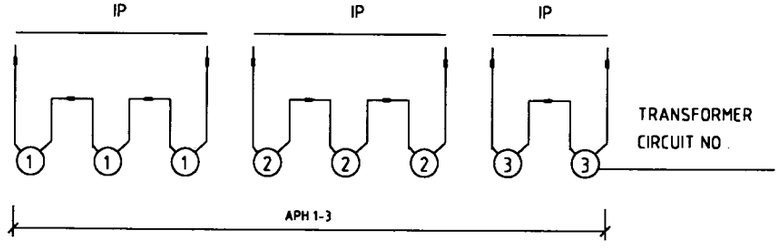
PALS CAT. I

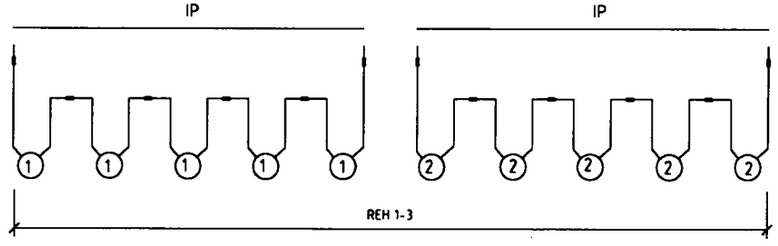


NONE MALS

DETAIL H

ELECTRICAL CONNECTION DIAGRAM OF TRANSFORMERS IN ONE TRANFORMER PIT NO. 3 (5-8-6-8-5)
1 POLE CONNECTOR KITS





DIREKTORAT JENDERAL PERHUBUNGAN UDARA DIREKTORAT FASILITAS ELEKTRONIKA DAN LISTRIK SUB DIREKTORAT LISTRIK	UMUM	Tahun Anggaran
Arrangement of PALS Cat-I Threshold and non Instrument Runway Threshold for Runway 60 M width (5-8-6-8-5 / 8-0-8)	NOMOR GAMBAR: VA.15.03	KODE LOKASI:
	NOMOR LEMBAR: 1/2	NOMOR URUT:
SKALA :	DIGAMBAR :	DIPERIKSA :
DISETUJUI :		

LEGEND

TYPE	SYMBOL & DESIGNATION	BEAM	QTY	CIRCUIT	LIGHT NO.	SEC. CABLE (1) 2X2.5 QMO	SEC. CABLE (1) 2X2.4 QMO	QTY	TRANSFORMER 6.6 / 6.6A	QTY	1 POL. CONN. KIT 5 KV QTY	280 CCM RESIN QTY	RESIN INSET L. 8 KG	CU 1X16 SQMM	CU 1X6 SQMM	EARTHING (ETH) CU P.CONN 50/16 SQMM	EARTHING (ETH) CU B.BAR 30X5
INSET	175 GN 1X175W 6.6A	↑	2	APH 1	2+5		30	2	200 W	2			1				
	175 GN 120 RD 1X175W + 1X120W 6.6A	↕	2	APH 3 APH 2	1+6 3+4	- -	27 33	4 4	200 W 150 W	4 4			1				
ELEVATED	GN 200W 6.6A	↑	10	APH 2 APH 1 APH 3 APH 2 APH 1	5 4 3 2 1	2 5 8 11 14	- - - - -	2 2 2 2 2	200 W	10	10	5		20	20	10	
THR+RWE	GN/RD 150 W 6.6A	↕	6	REH 1+2	1 3 5 7	3 9 - -	- - 15 21	2 2 2 2	150 W	8	+	+		32	32	16	
	RD/GN 150 W 6.6A	↕	6		1 3 5 7	- 3 9 -	- - - 15 21	2 2 2 2 2	150 W	8	4	2					
THR	GN/BC 150W 6.6A	↑	4	REH 1+2	2 4 6 8	6 12 - -	- - 18 24	2 2 2 2	150 W	8				32	32	16	
	BC/GN 150W 6.6A	↑	4		2 4 6 8	- - 6 12	- - - 18 24	2 2 2 2 2	150 W	8							
RTI	UCC UDC	↓	2	RTI	1+2	-	-	-						4	-	2	
TR. - PIT	FOR SERIES-TRAN. PIT SIZE 3		2														2
	FOR SERIES-TRAN. PIT SIZE 2		2			-	-	-									2
TOTAL			-					52		52	14	7	2	88	84	44	4

DIREKTORAT JENDERAL PERHUBUNGAN UDARA
DIREKTORAT FASILITAS ELEKTRONIKA DAN LISTRIK
SUB DIREKTORAT LISTRIK

UMUM

Tahun Anggaran

Arrangement of PALS Cat-I Threshold and non Instrumenent
RunwayThreshold for Runway 60 M width (5-8-6-8-5 / 8-0-8)

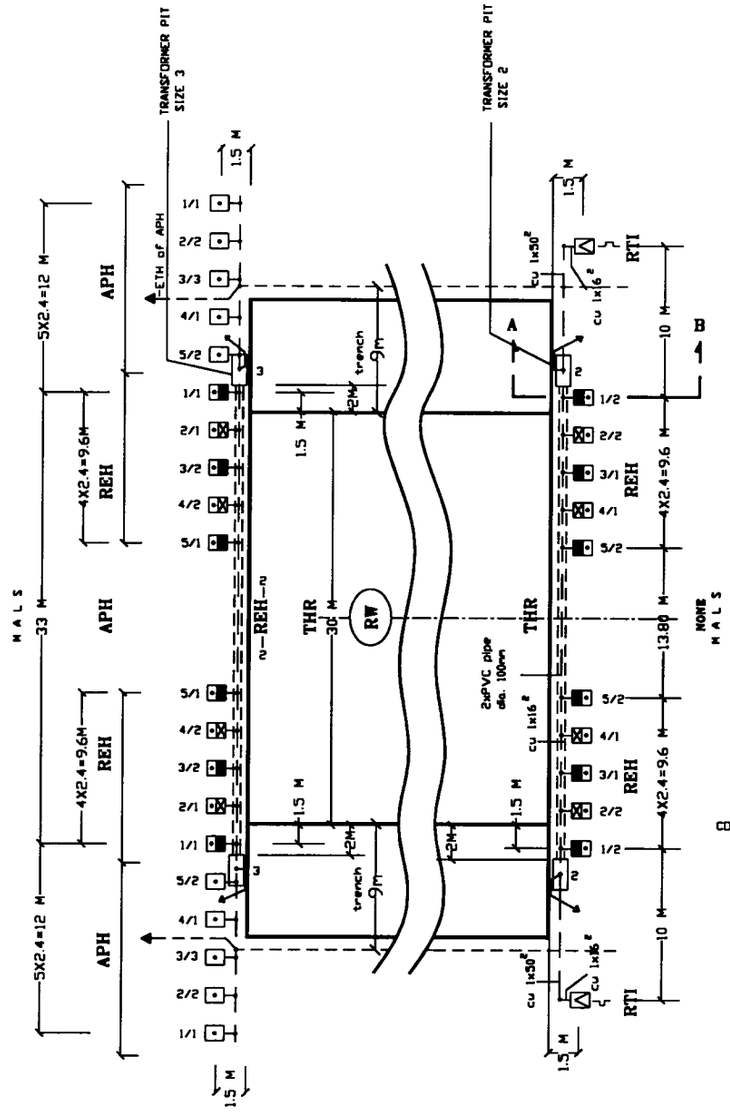
NOMOR GAMBAR	KODE LOKASI	NOMOR LEMBAR	NOMOR URUT
VA.15.03		2/2	

SKALA :

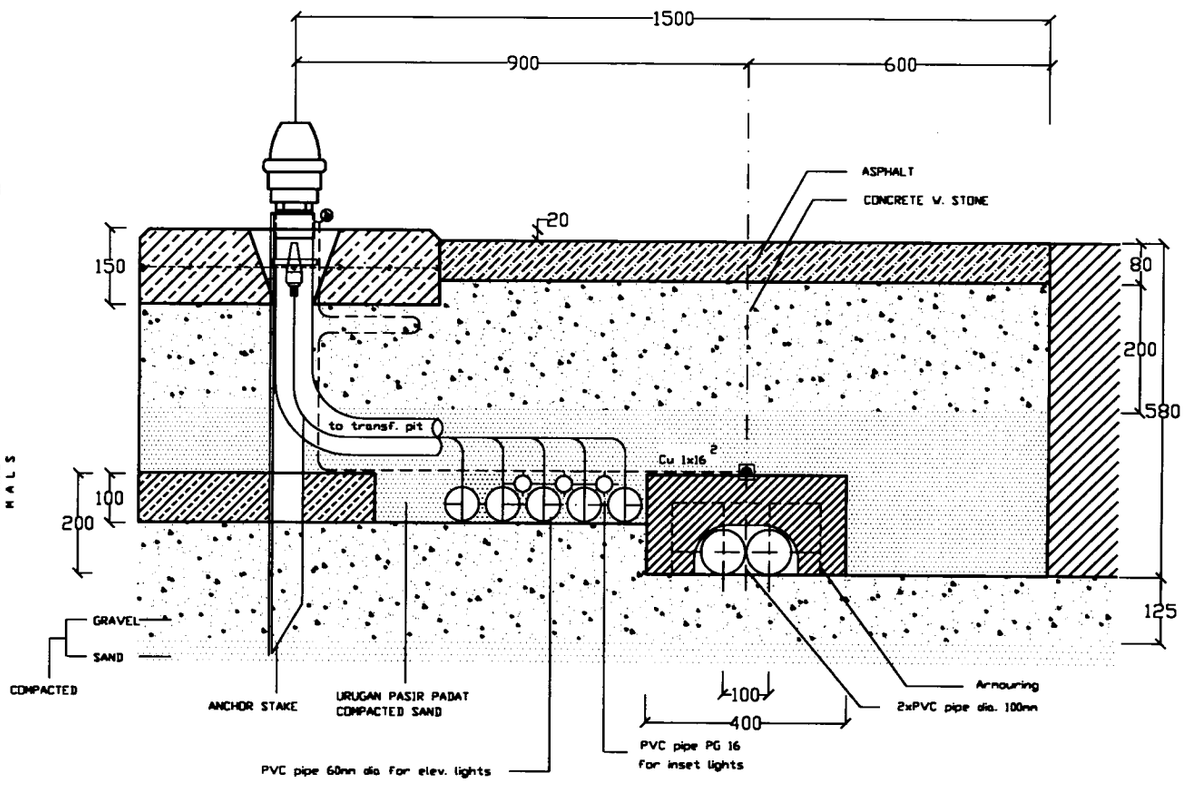
DIGAMBAR :

DIPERIKSA :

DISETUJUI :

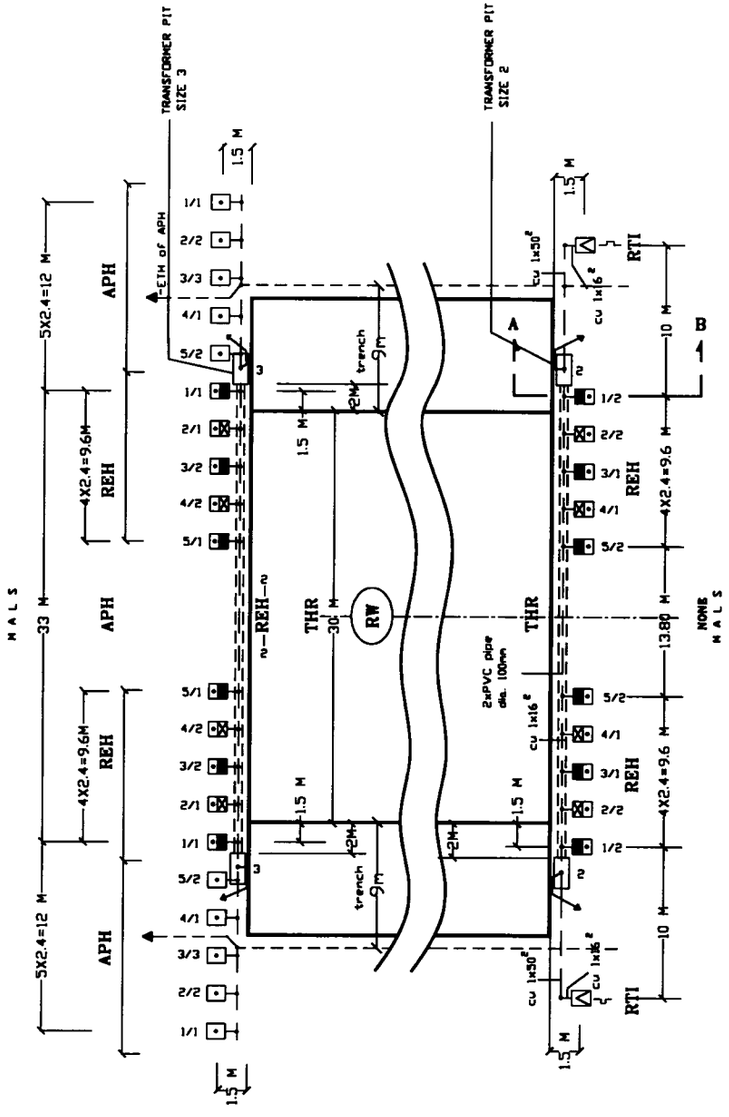


SECTION A – B

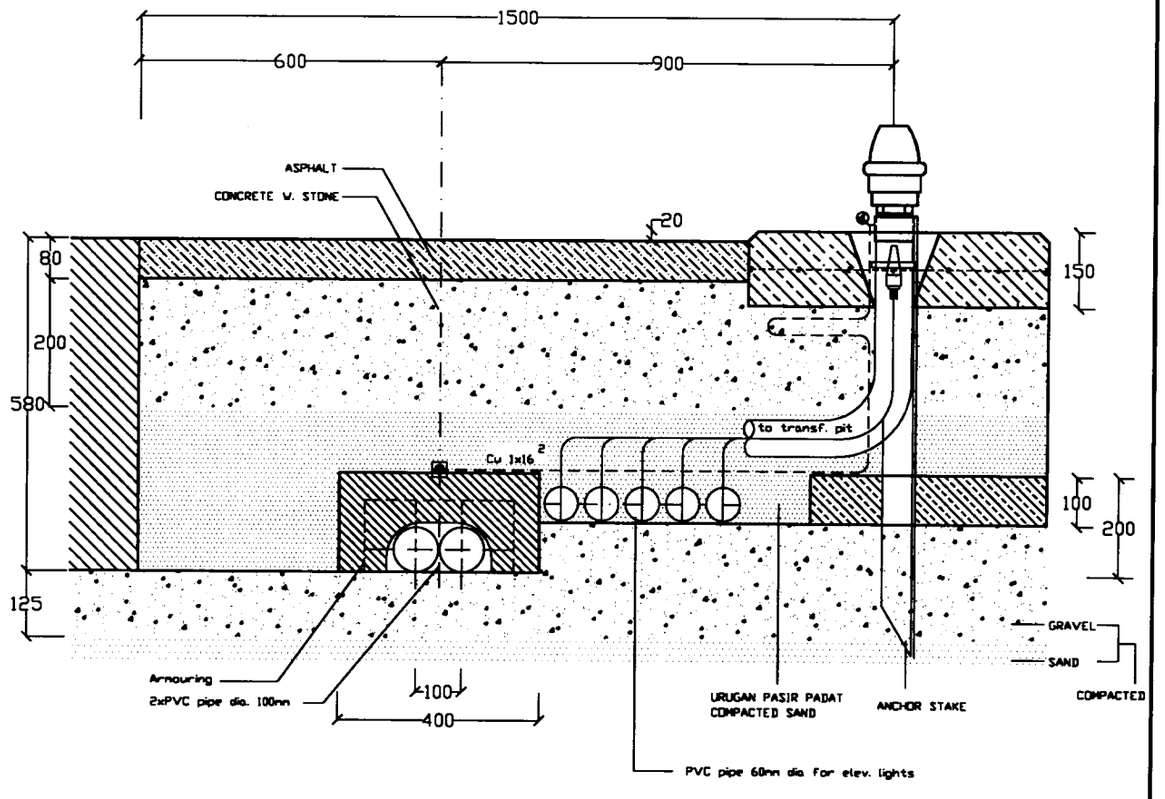


(Dimension in mm)

DIREKTORAT JENDERAL PERHUBUNGAN UDARA DIREKTORAT FASILITAS ELEKTRONIKA DAN LISTRIK SUB DIREKTORAT LISTRIK	U M U M	Tahun Anggaran :
Installation of Series Transformers and Earthing, e.g. ETH – System Transformers Pit Size 2 THR / RWE (Stake Mounted)	NOMOR GAMBAR: VA.15.04 / KODE LOKASI / NOMOR LEMBAR: 1/2 / NOMOR URUT	
SKALA :	DIGAMBAR :	DIPERIKSA : / DIPERIKSA :

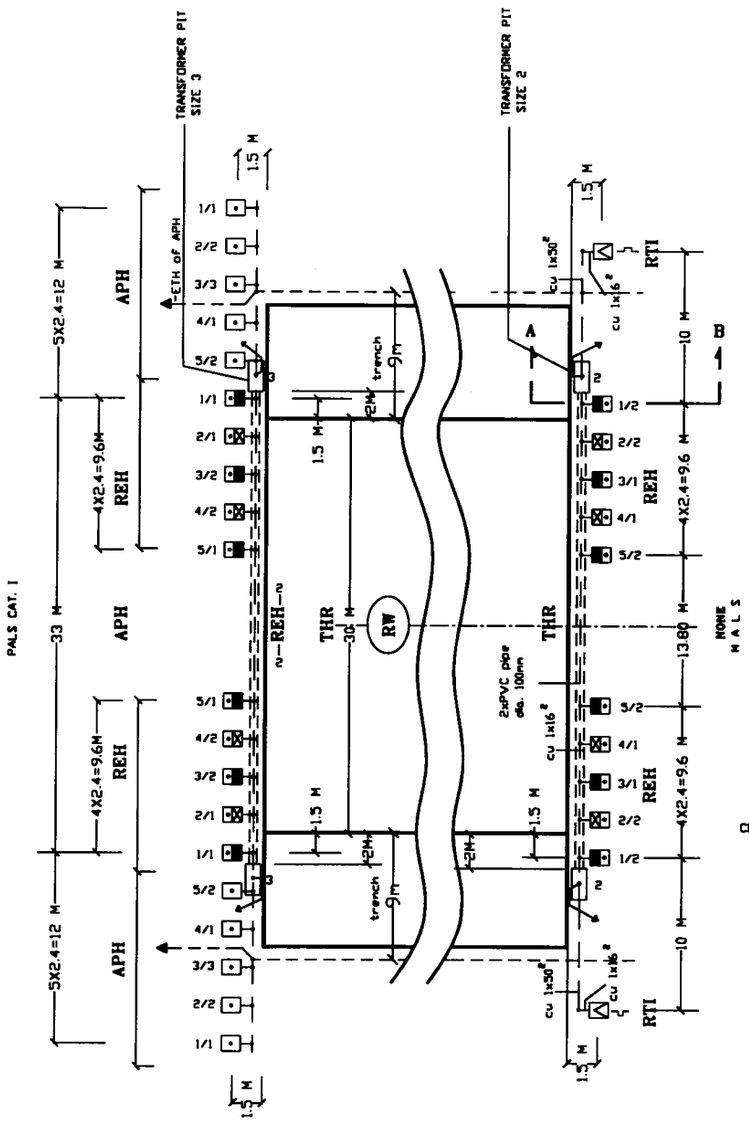


SECTION A – B

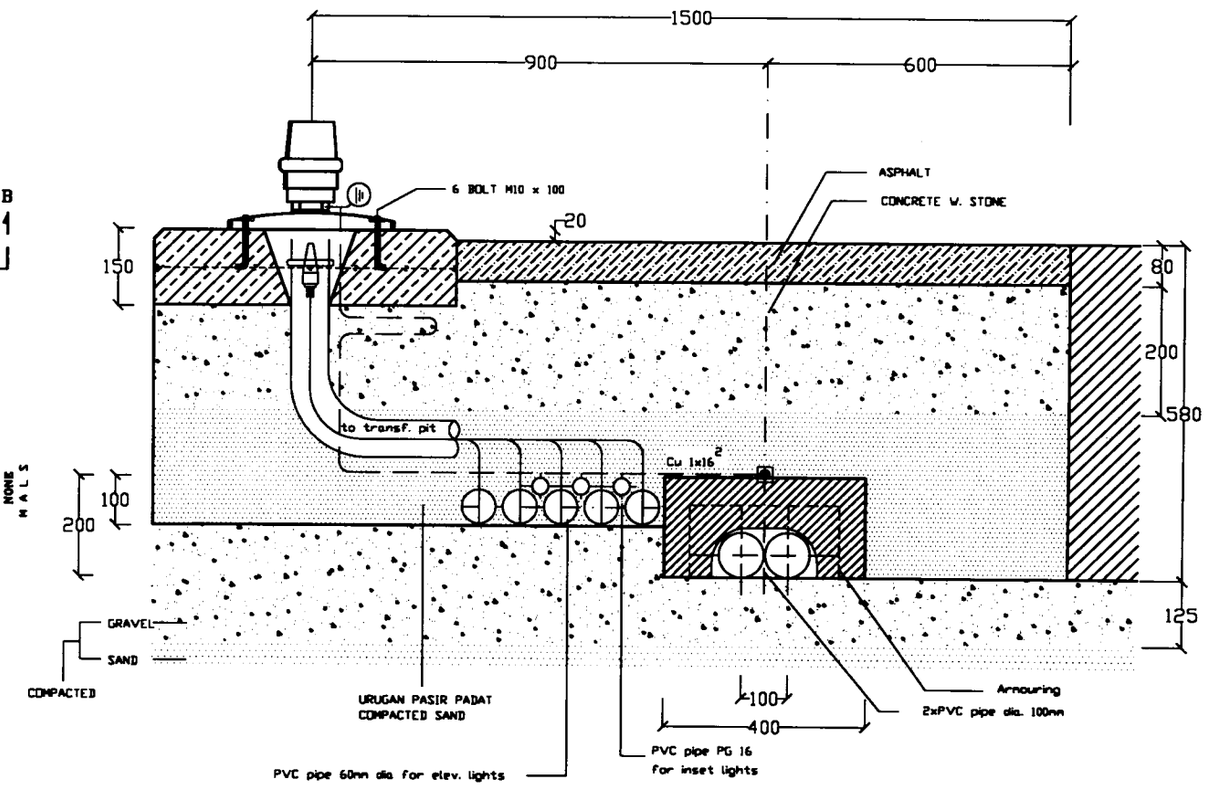


(Dimension in mm)

DIREKTORAT JENDERAL PERHUBUNGAN UDARA DIREKTORAT FASILITAS ELEKTRONIKA DAN LISTRIK SUB DIREKTORAT LISTRIK	U M U M	Tahun Anggaran :
Installation of Series Transformers and Earthing, e.g. ETH – System Transformers Pit Size 3 THR / RWE (Stake Mounted)	NOMOR GAMBAR: VA.15.04 / KODE LOKASI: / NOMOR LEMBAR: 2/2 / NOMOR URUT:	
SKALA :	DIGAMBAR :	DIPERIKSA : / DIPERIKSA :

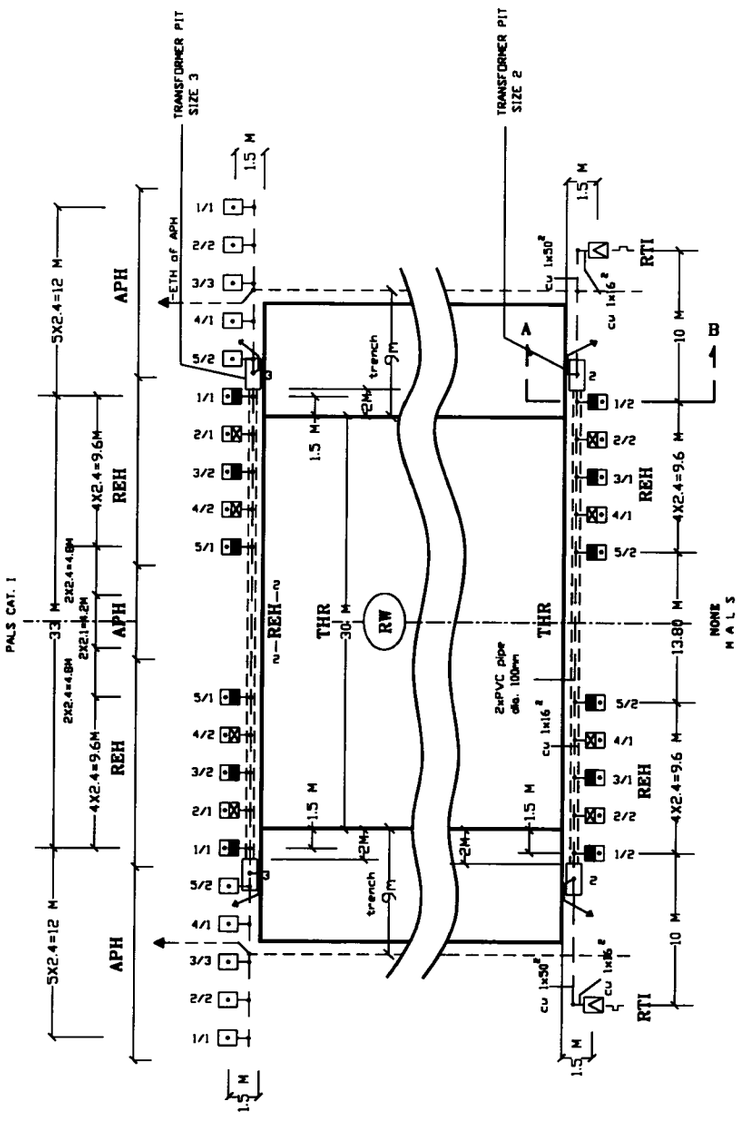


SECTION A – B

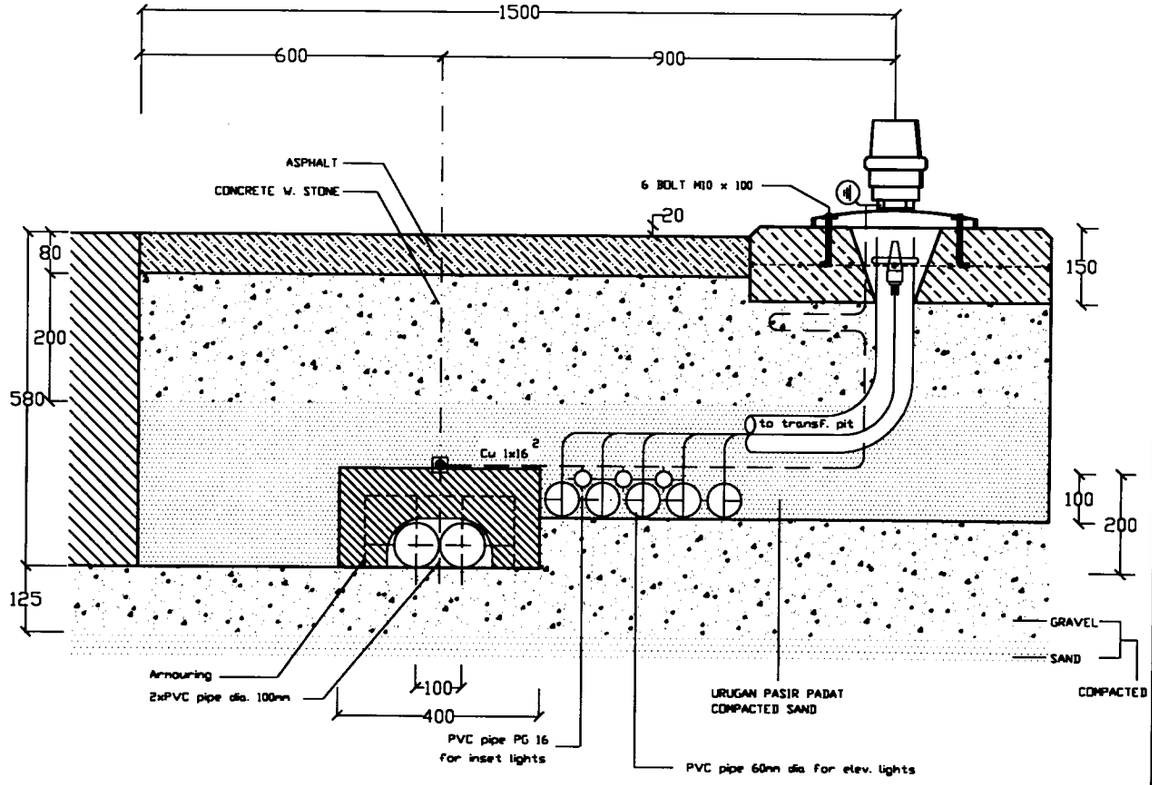


(Dimensions in : mm)

DIREKTORAT JENDERAL PERHUBUNGAN UDARA DIREKTORAT FASILITAS ELEKTRONIKA DAN LISTRIK SUB DIREKTORAT LISTRIK	UMUM	Tahun Anggaran :
Installation of Series Transformers and Earthing, e.g. ETH – System Transformers Pit size 2 THR / RWE (Base Plate Mounted)	NOMOR GAMBAR: VA.15.05	KODE LOKASI:
	NOMOR LEMBAR: 1/2	NOMOR URUT:
SKALA :	DIGAMBAR :	DIPERIKSA : / DIPERIKSA :

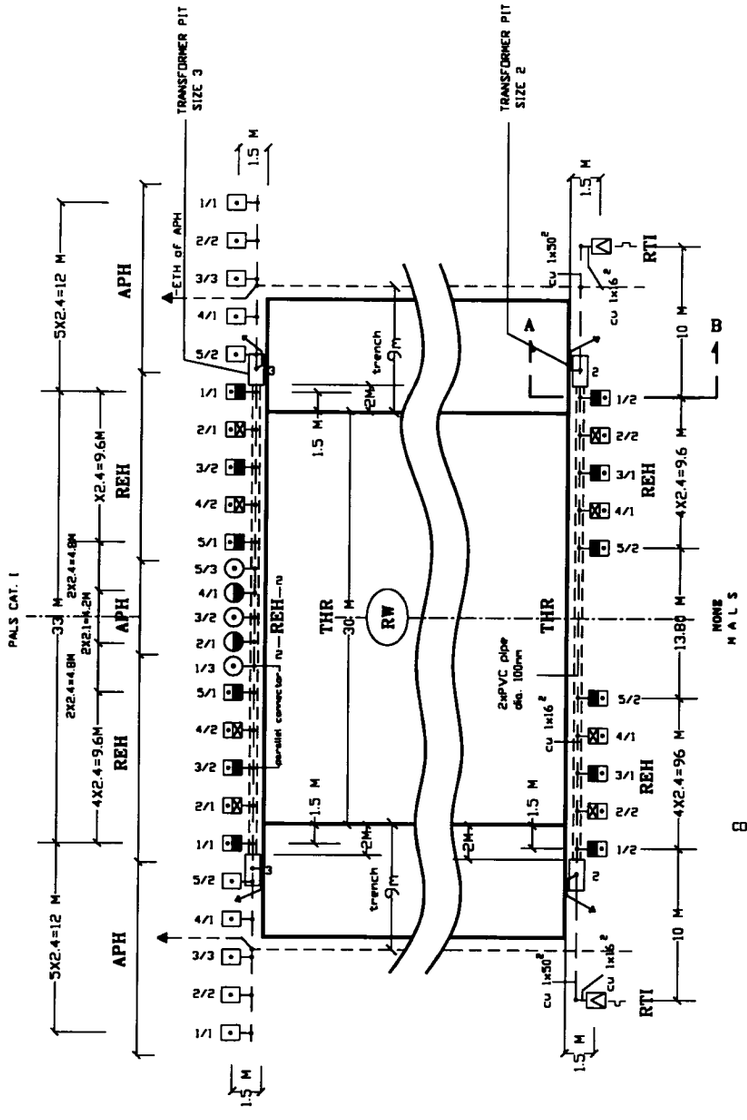


SECTION A – B

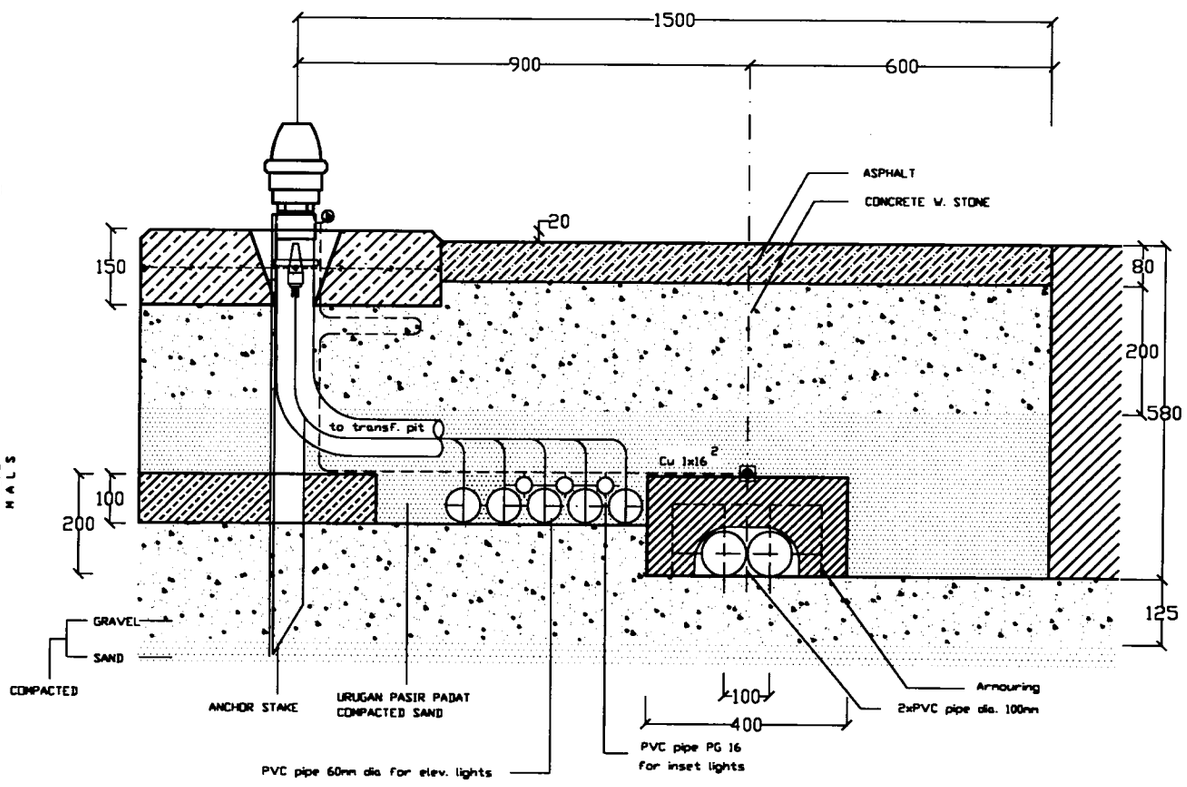


(Dimensions in : mm)

DIREKTORAT JENDERAL PERHUBUNGAN UDARA DIREKTORAT FASILITAS ELEKTRONIKA DAN LISTRIK SUB DIREKTORAT LISTRIK	UMUM	Tahun Anggaran :
Installation of Series Transformers and Earthing, e.g. ETH – System Transformers Pit size 2 THR / RWE (Base Plate Mounted)	NOMOR GAMBAR: VA.15.05	KODE LOKASI:
	NOMOR LEMBAR: 2/2	NOMOR URUT:
SKALA :	DIGAMBAR :	DIPERIKSA : / DIPERIKSA :

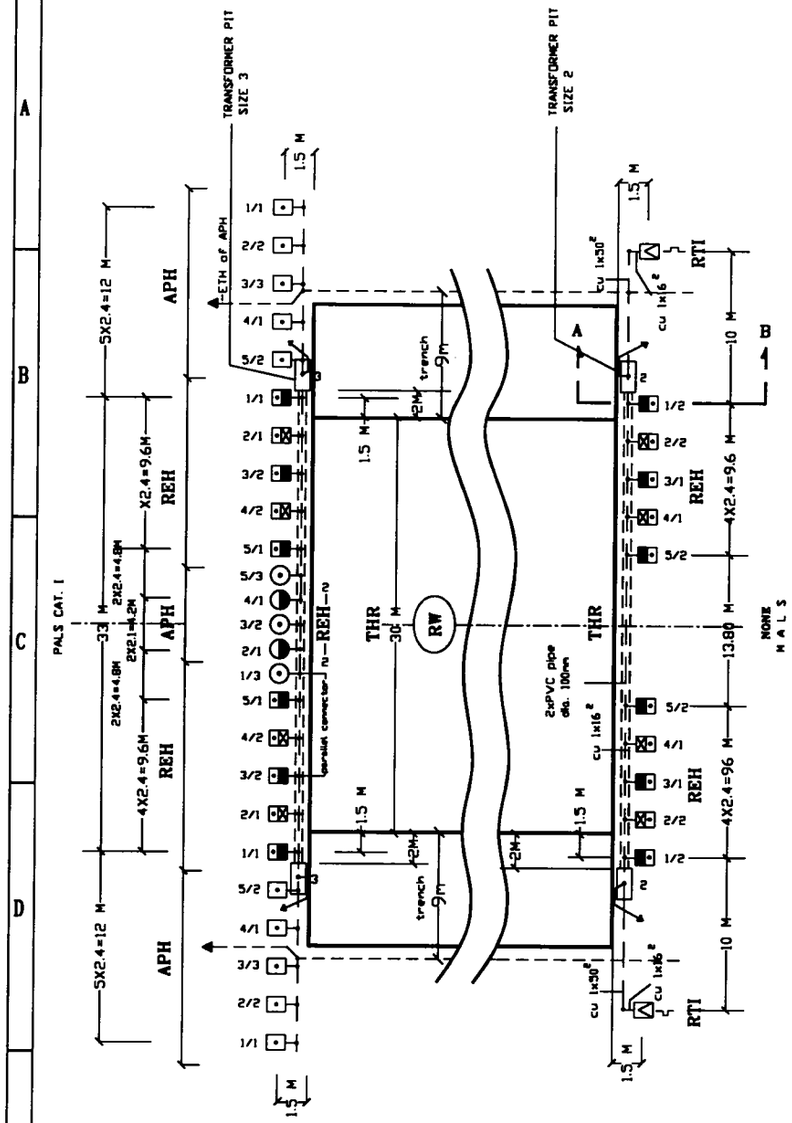


SECTION A – B

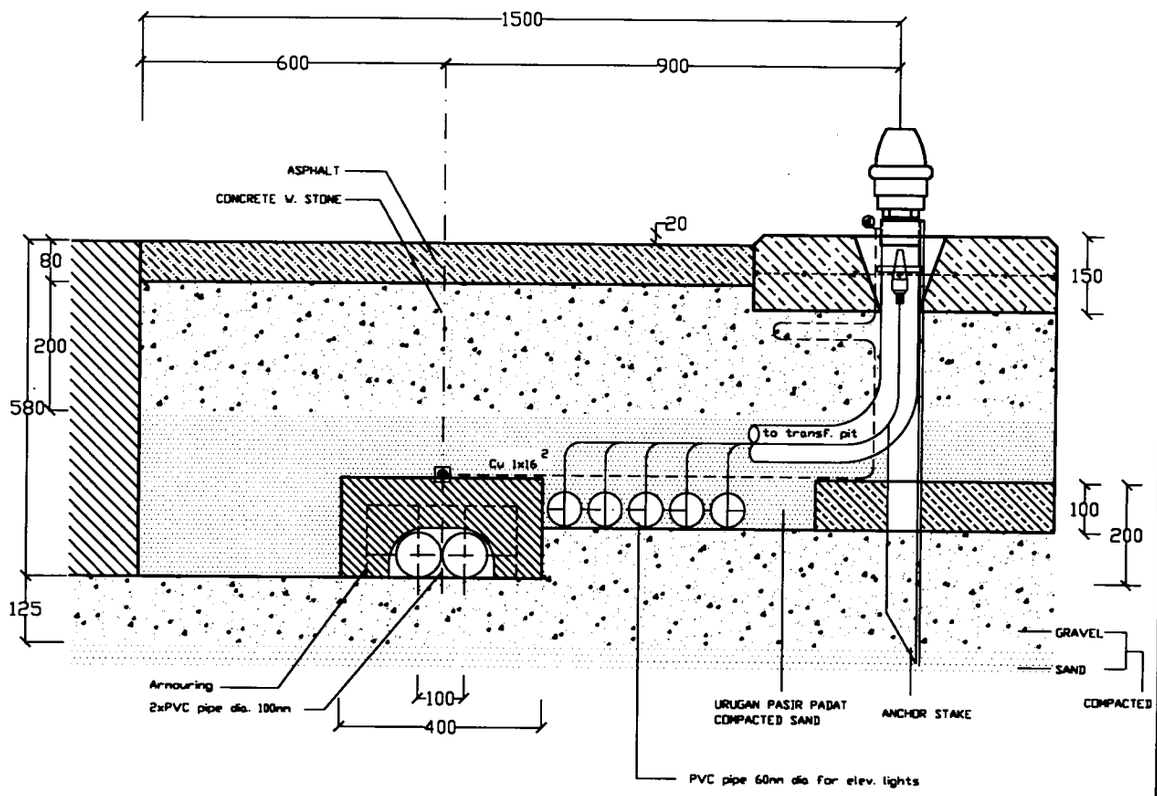


(Dimension in mm)

DIREKTORAT JENDERAL PERHUBUNGAN UDARA DIREKTORAT FASILITAS ELEKTRONIKA DAN LISTRIK SUB DIREKTORAT LISTRIK	U M U M	Tahun Anggaran :	
Installation of Series Transformers and Earthing, e.g. ETH – System Transformers Pit Size 3 THR / RWE (Stake Mounted)		NOMOR GAMBAR: VA.15.06	KODE LOKASI:	NOMOR LEMBAR: 1/2 / URUT:
SKALA :	DIGAMBAR :	DIPERIKSA :	DIPERIKSA :	

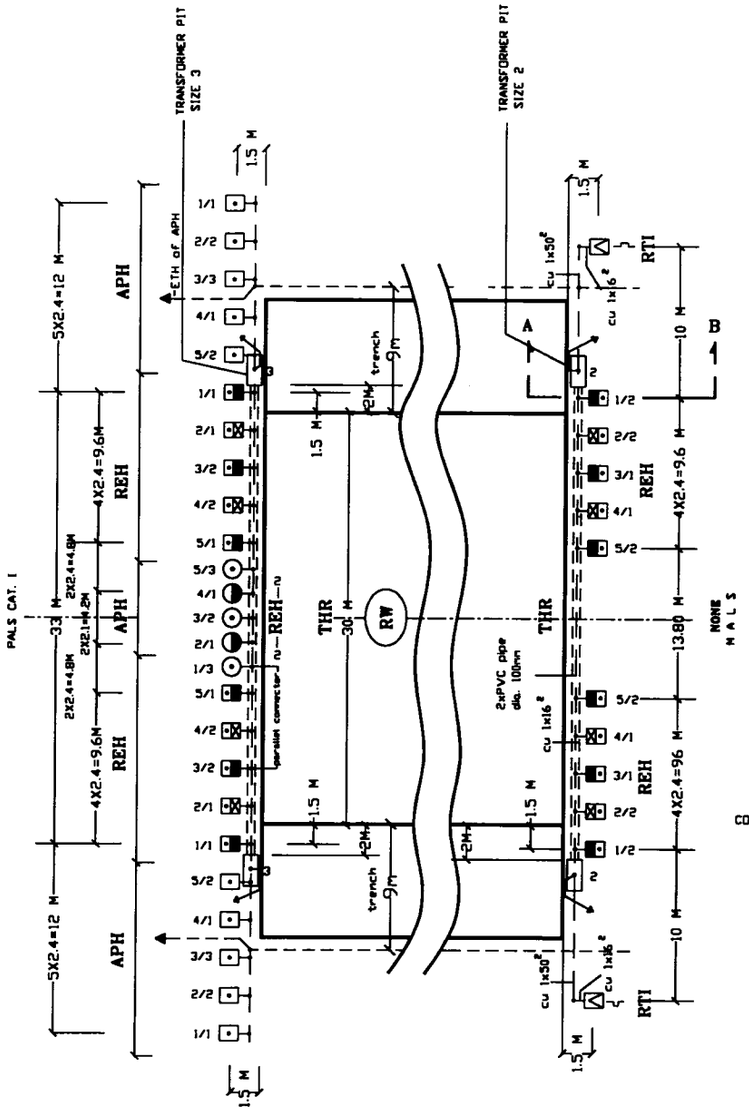


SECTION A – B

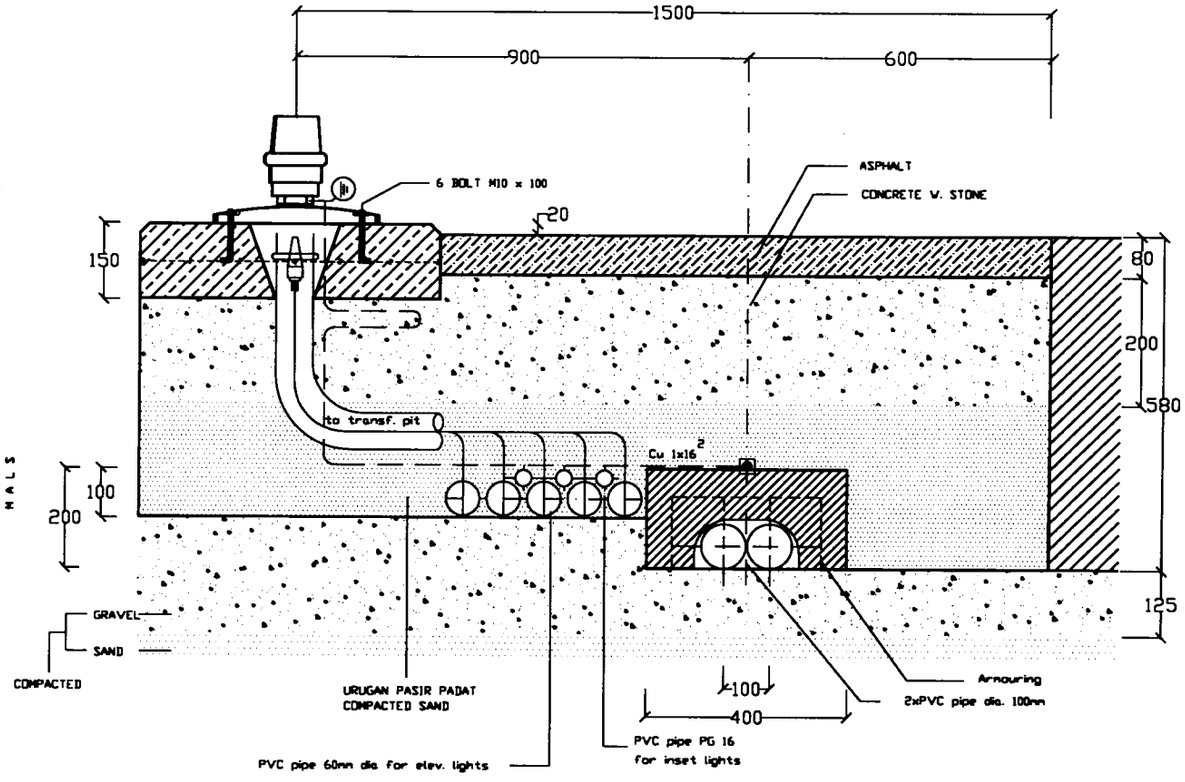


(Dimension in mm)

DIREKTORAT JENDERAL PERHUBUNGAN UDARA DIREKTORAT FASILITAS ELEKTRONIKA DAN LISTRIK SUB DIREKTORAT LISTRIK	U M U M	Tahun Anggaran :
Installation of Series Transformers and Earthing, e.g. ETH – System Transformers Pit Size 2 THR / RWE (Stake Mounted)	NOMOR GAMBAR: VA.15.06	KODE LOKASI:
	NOMOR LEMBAR: 2/2	NOMOR URUT:
SKALA :	DIGAMBAR :	DIPERIKSA : DIPERIKSA :

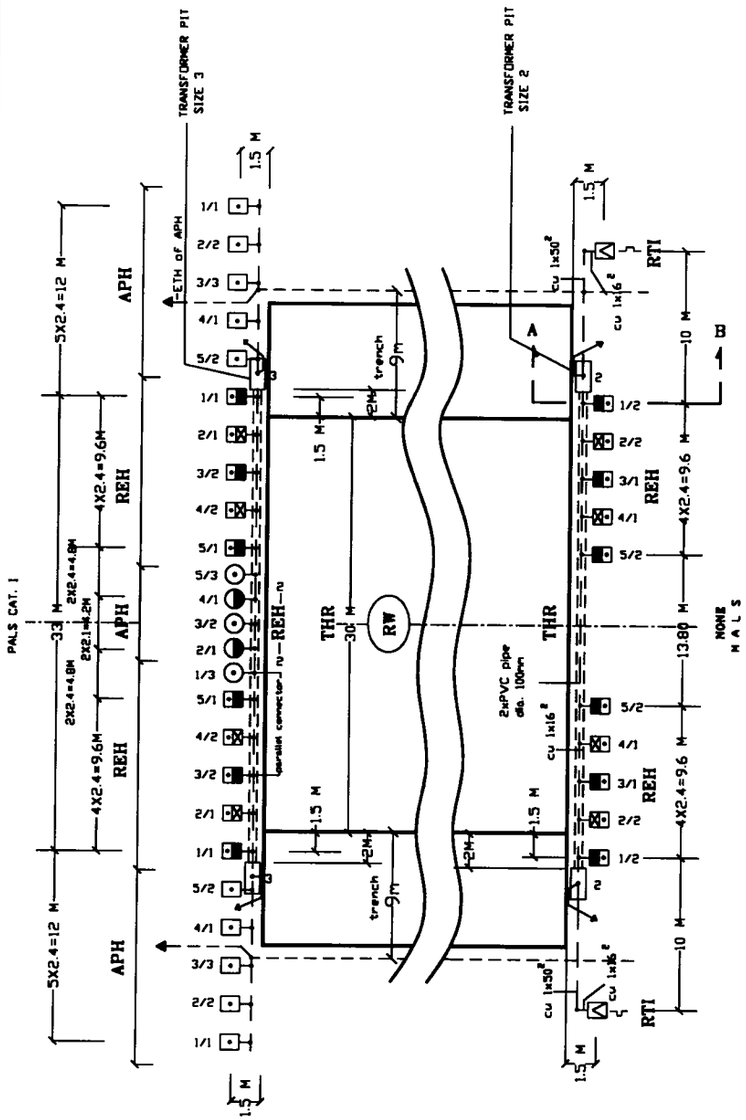


SECTION A – B

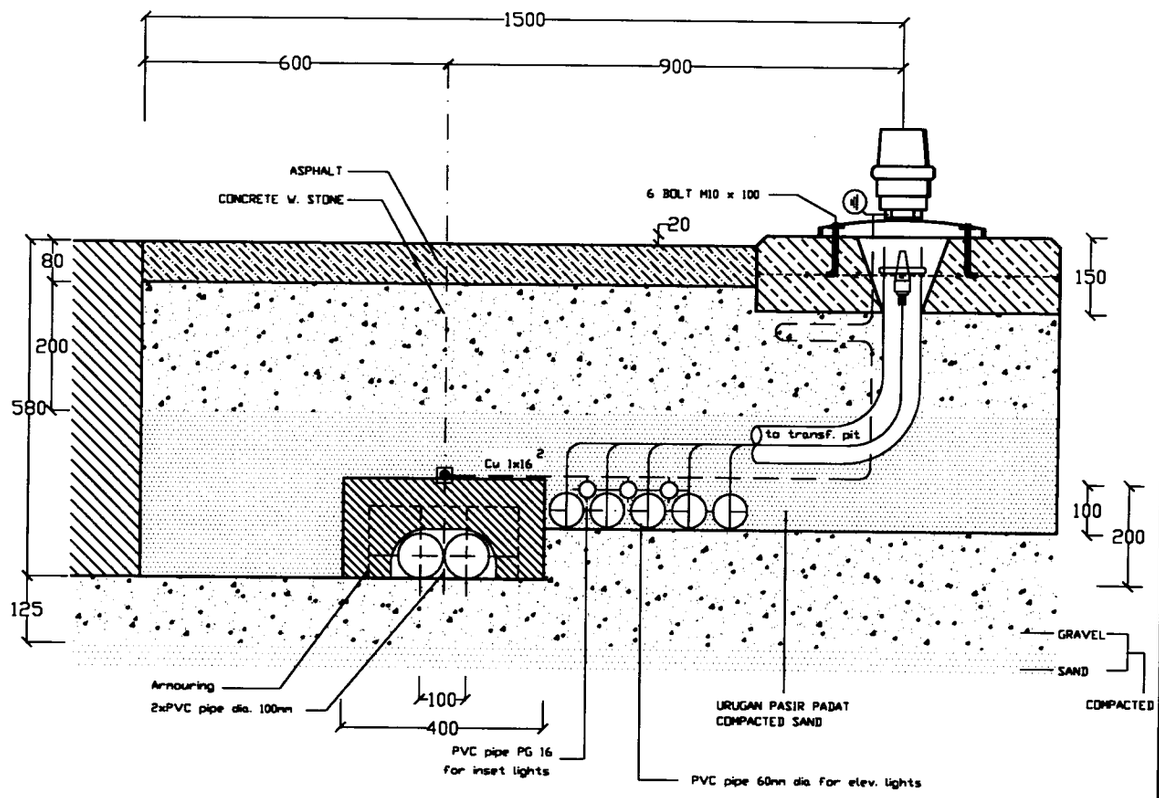


(Dimensions in : mm)

DIREKTORAT JENDERAL PERHUBUNGAN UDARA DIREKTORAT FASILITAS ELEKTRONIKA DAN LISTRIK SUB DIREKTORAT LISTRIK	UMUM	Tahun Anggaran :
Installation of Series Transformers and Earthing, e.g. ETH – System Transformers Pit size 3 THR / RWE (Base Plate Mounted)	NOMOR GAMBAR: VA.15.07	KODE LOKASI:
	NOMOR LEMBAR: 1/2	NOMOR URUT:
SKALA :	DIGAMBAR :	DIPERIKSA : / DIPERIKSA :

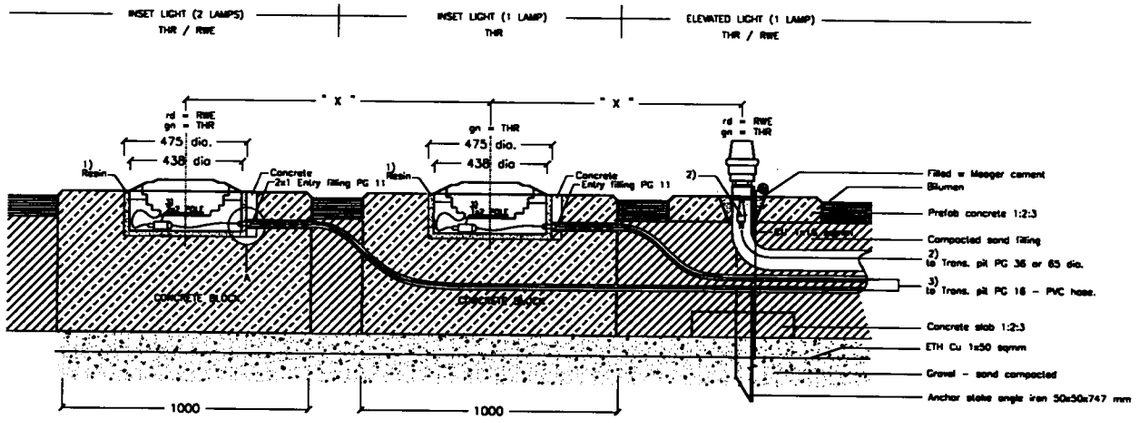


SECTION A – B



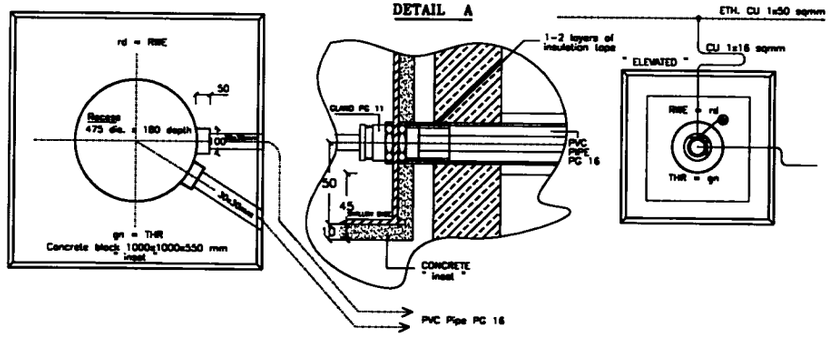
(Dimensions in : mm)

DIREKTORAT JENDERAL PERHUBUNGAN UDARA DIREKTORAT FASILITAS ELEKTRONIKA DAN LISTRIK SUB DIREKTORAT LISTRIK	UMUM	Tahun Anggaran :
Installation of Series Transformers and Earthing, e.g. ETH – System Transformers Pit size 3 THR / RWE (Base Plate Mounted)	NOMOR GAMBAR: VA.15.07	KODE LOKASI:
	NOMOR LEMBAR: 2/2	NOMOR URUT:
SKALA :	DIGAMBAR :	DIPERIKSA : / DIPERIKSA :



DETAILS OF FOUNDATION SEE DRAWING No.VA.10.02

" INSTALLATION OF ELEVATED LIGHTS "



Notes :

1) = Resin :
erevoge qty per inset light-ring : o 2 kp.

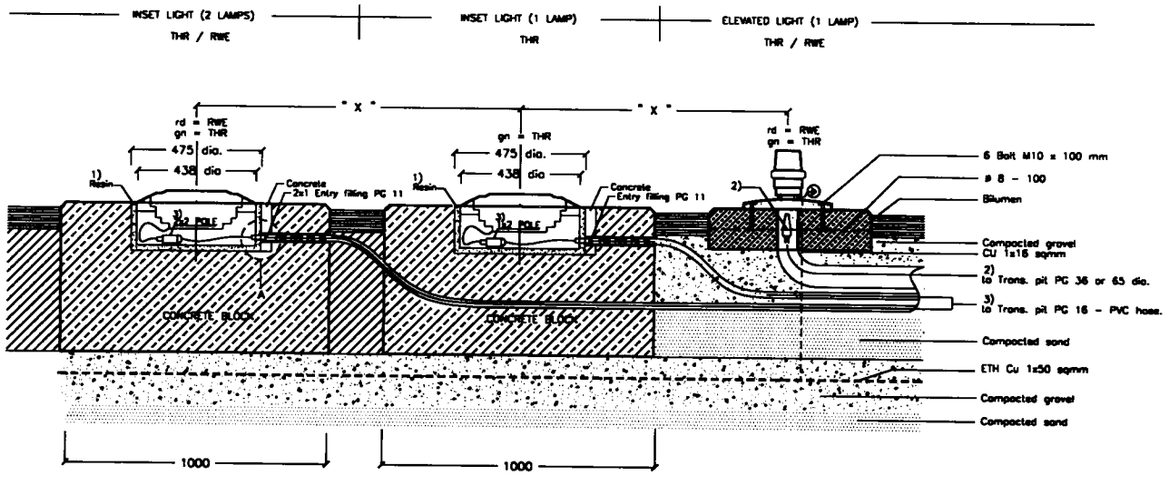
2) = 2 pole connection cable
with plug + receptacle.

3) = 2 pole cable with plug and
connector kit receptacle.

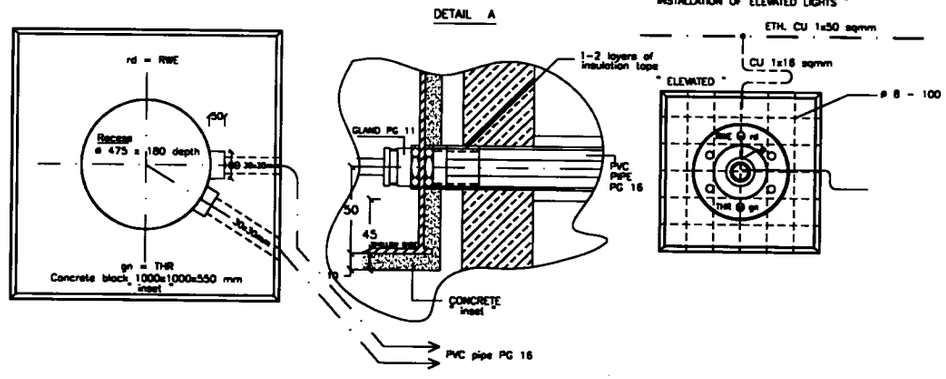
" x " = Dim. as per drawing
" THR - Arrangement "

(Dimensions in mm)

DIREKTORAT JENDERAL PERHUBUNGAN UDARA DIREKTORAT FASILITAS ELEKTRONIKA DAN LISTRIK SUB DIREKTORAT LISTRIK	UMUM	Tahun Anggaran :
Installation of Inset and Elevated Lights THR/RWE (Stake Mounted)	NOMOR GAMBAR: VA.15.08	KODE LOKASI:
	NOMOR LEMBAR: 1/1	NOMOR URUT:
SKALA :	DIGAMBAR :	DIPERIKSA :
DISETUJUI :		



DETAILS OF FOUNDATION SEE DRAWING No. VA.10.03
" INSTALLATION OF ELEVATED LIGHTS "



Notes :

1) = Resin :
evevage qty per inset light-ring : ø 2 kp.

2) = 2 pole connection cable with plug + receptacle.

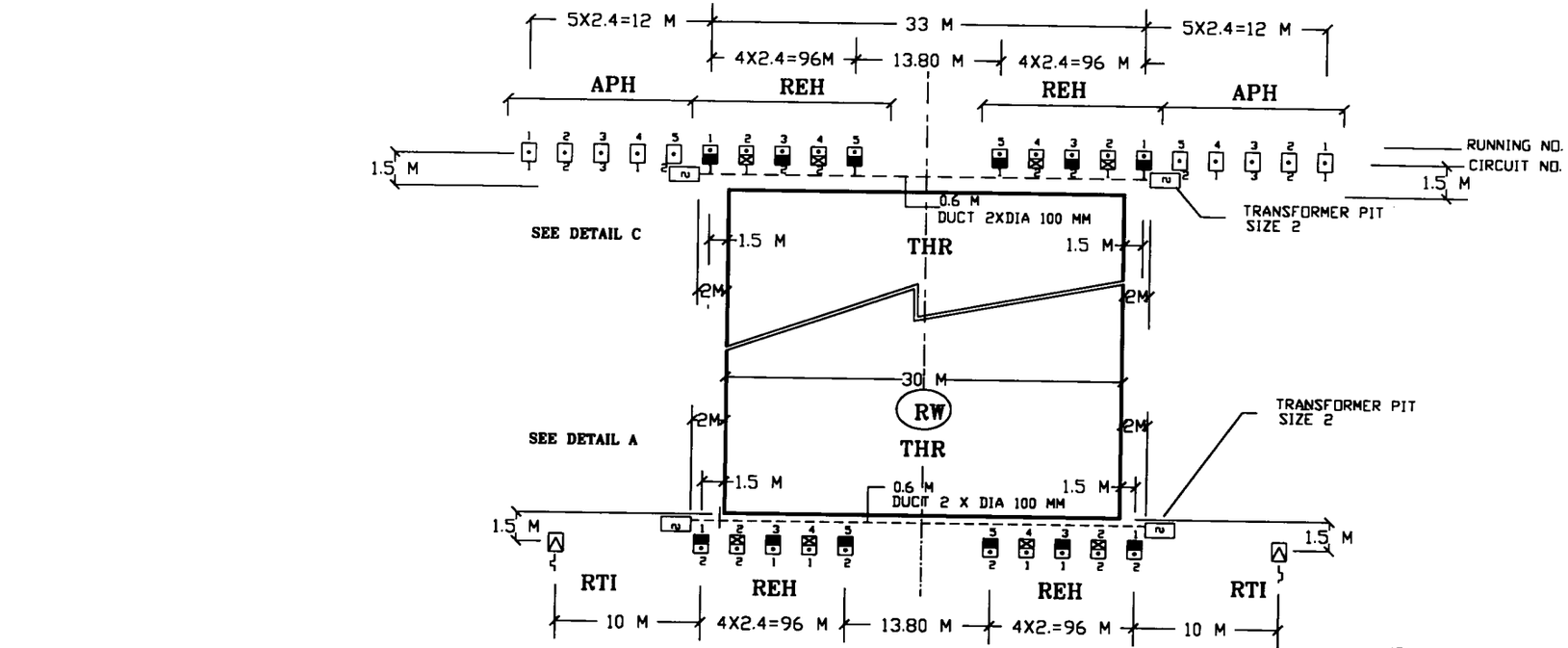
3) = 2 pole cable with plug and connector kit receptacle.

" x " = Dim. as per drawing " THR - Arrangement "

(Dimensions in mm)

DIREKTORAT JENDERAL PERHUBUNGAN UDARA DIREKTORAT FASILITAS ELEKTRONIKA DAN LISTRIK SUB DIREKTORAT LISTRIK	UMUM	Tahun Anggaran :
Installation of Inset and Elevated Lights THR/RWE (Base Plate Mounted)	NOMOR GAMBAR: VA.15.09	KODE LOKASI:
	NOMOR LEMBAR: 1/1	NOMOR URUT:
SKALA :	DIGAMBAR :	DIPERIKSA : DISETUJUI :

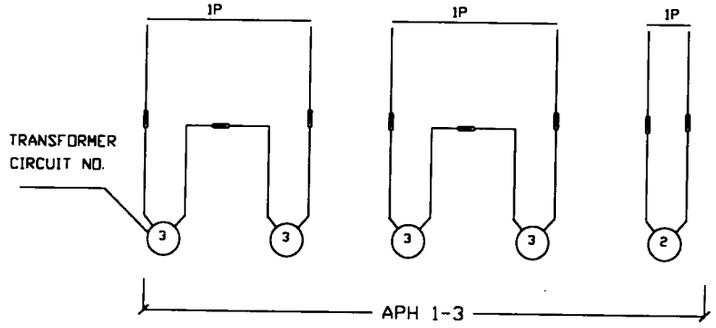
PALS CONFIGURATION
(PALS CAT.I WITHOUT SFL OR MEDIUM INTENSITY LAMP.)

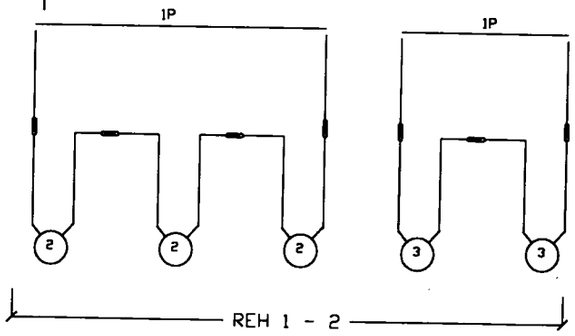


NON MALS

DETAIL C

ELECTRICAL DIAGRAM OF TRANSFORMER
IN ONE TRANSFORMER PIT NO. 3 (5-5-0-5-5)
1 POLE CONNECTION





DIREKTORAT JENDERAL PERHUBUNGAN UDARA DIREKTORAT FASILITAS ELEKTRONIKA DAN LISTRIK SUB DIREKTORAT LISTRIK	UMUM	Tahun Anggaran
Arrangement of PALS Configuration Threshold for Runway width (5-5-0-5-5 / 5-0-5)	NOMOR GAMBAR: VA.16.01	KODE LOKASI:
	NOMOR LEMBAR: 1/2	NOMOR URUT:
SKALA :	DIGAMBAR :	DIPERIKSA :
DISETUJUI :		

LEGEND

TYPE	SYMBOL & DESIGNATION	BEAM	QTY	CIRCUIT	LIGHT NO.	SEC. CABLE (1) 2X2.5 QMM	SEC. CABLE (1) 2X2.4 QMM	QTY	TRANSFORMER 6.6 / 6.6A	QTY	1 POL. CONN. KIT 5 KV QTY	280 CCM RESIN QTY	RESIN INSET L. 8 KG	CU 1X16 SQMM	CU 1X6 SQMM	EARTHING (ETH) CU P.CONN 50/16 SQMM	EARTHING (ETH) CU B.BAR 30X5
INSET	NONE																
	NONE																
ELEVATED	GN 200W 6.6A	↑	10	APH 2 APH 1 APH 3 APH 2 APH 1	5 4 3 2 1	2 4.5 7 9.5 12	- - - - -	2 2 2 2 2	200 W	10	10	5		20	20	10	
THR+RWE	GN/RD 150 W 6.6A	↕	6	REH 1+2	1 3 5	3 8 13	- - -	2 2 2	150 W	6	+	+		24	24	12	
	RD/GN 150 W 6.6A	↕	6		1 3 5	3 8 13	- - -	2 2 2	150 W	6	4	2					
THR	GN/BC 150W 6.6A	↑	4	REH 1+2	2 4	5.5 10.5	- -	2 2	150 W	4				16	16	8	
	BC/GN 150W 6.6A	↑	4		2 4	5.5 10.5	- -	2 2	150 W	4							
RTI	UCC UDC	↓	2	RTI	1+2	-	-	-						4	-	2	
TR. - PIT	FOR SERIES-TRAN. PIT SIZE 2		4			-	-	-									4
TOTAL			-					30		30	14	7		64	60	32	4

DIREKTORAT JENDERAL PERHUBUNGAN UDARA
DIREKTORAT FASILITAS ELEKTRONIKA DAN LISTRIK
SUB DIREKTORAT LISTRIK

UMUM

Tahun Anggaran

Arrangement of PALS Configuration (PALS Cat-I without SFL or with medium intensity lamp) Threshold and non Instrument Runway Threshold for Runway 30 M width (5-5-0-5-5 / 5-0-5)

NOMOR GAMBAR	KODE LOKASI	NOMOR LEMBAR	NOMOR URUT
VA.16.01		2/2	

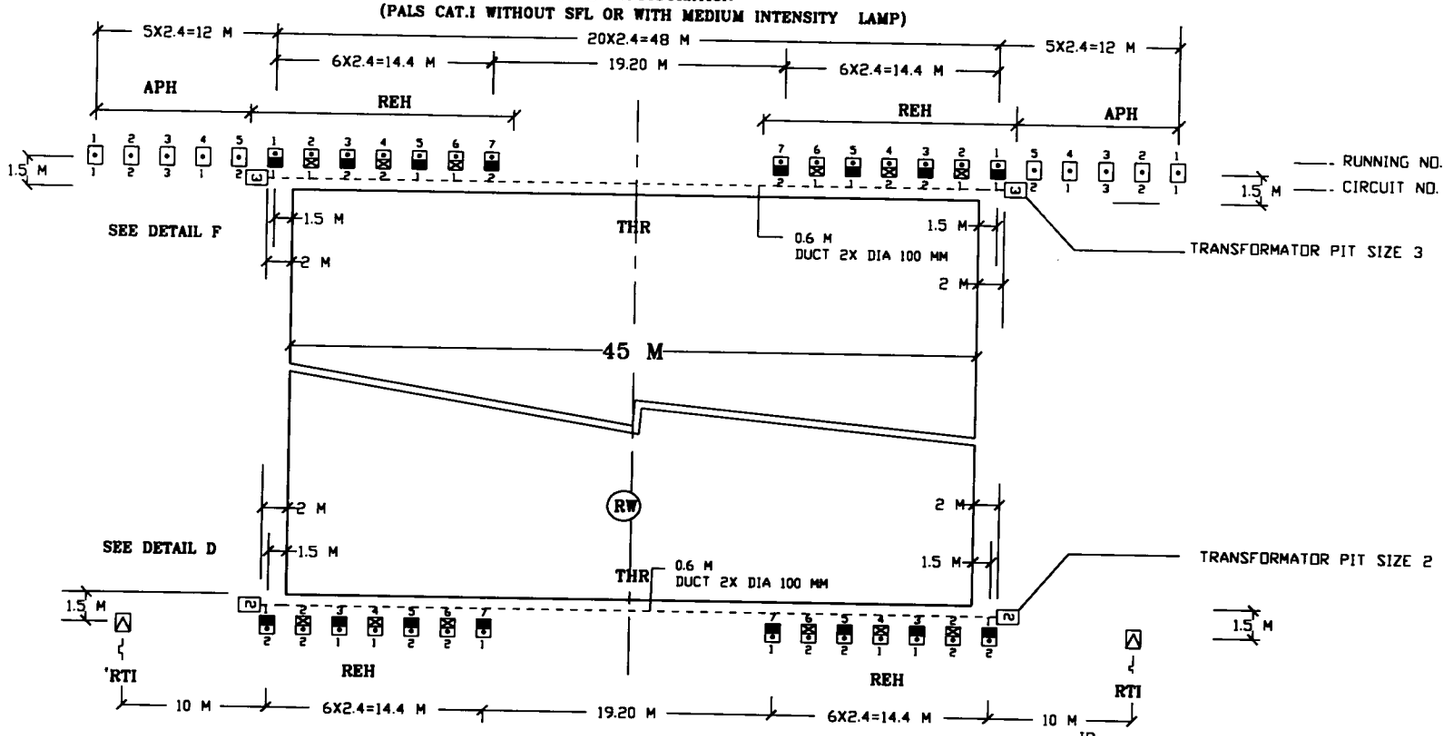
SKALA :

DIGAMBAR :

DIPERIKSA :

DISETUJUI :

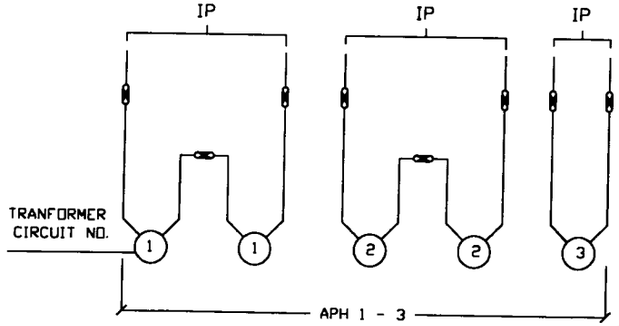
PALS CONFIGURATION
(PALS CAT.I WITHOUT SFL OR WITH MEDIUM INTENSITY LAMP)

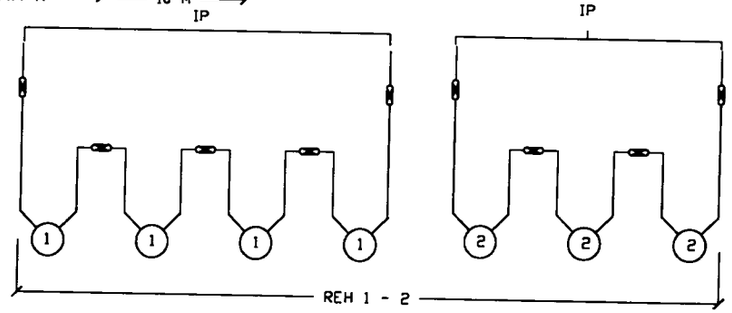


NONE MALS

DETAIL F

ELECTRICAL CONNECTION DIAGRAM OF TRANSFORMER
IN ONE TRANSFORMER PIT NO.3 (5-7-0-7-5)
1 POLE CONNECTION KITS





DIREKTORAT JENDERAL PERHUBUNGAN UDARA DIREKTORAT FASILITAS ELEKTRONIKA DAN LISTRIK SUB DIREKTORAT LISTRIK	UMUM	Tahun Anggaran
Arrangement of PALS Cat-I Configuration (PALS Cat-I without SFL with Medium Intensity lamp) Threshold and non Instrument Runway Threshold for Runway 45 M width (5-7-0-7-5 / 7-0-7)	NOMOR GAMBAR: VA.16.02	KODE LOKASI:
	NOMOR LEMBAR: 1/2	NOMOR URUT:
SKALA :	DIGAMBAR :	DIPERIKSA :
	DISETUJUI :	

LEGEND

TYPE	SYMBOL & DESIGNATION	BEAM	QTY	CIRCUIT	LIGHT NO.	SEC. CABLE (1) 2X2.5 (M)	SEC. CABLE (1) 2X2.4 (M)	QTY	TRANSFORMER 6.6 / 6.6A	QTY	1 POL. CONN. KIT 5 KV QTY	280 CCM RESIN QTY	RESIN INSET L. 8 KG	CU 1X16 SQMM	CU 1X6 SQMM	EARTHING (ETH) CU P.CONN 50/16 SQMM	EARTHING (ETH) CU B.BAR 30X5
INSET	NONE																
	NONE																
ELEVATED	GN 200W 6.6A	↑	10	APH 2 APH 1 APH 3 APH 2 APH 1	5 4 3 2 1	2 4.5 7 9.5 12	- - - - -	2 2 2 2 2	200 W	10	10	5		20	20	10	
THR+RWE	GN/RD 150 W 6.6A	↕	8	REH 1+2	1 3 5 7	3 8 13 -	- - - 18	2 2 2 2	150 W	8	+	+		32	32	16	
	RD/GN 150 W 6.6A	↕	8		1 3 5 7	- 3 8 13	18 - - -	2 2 2 2	150 W	8	4	2					
THR	GN/BC 150W 6.6A	↑	6	REH 1+2	2 4 6 .	5.5 10.5 - .	- - 15.5 .	2 2 2 .	150 W	6				24	24	12	
	BC/GN 150W 6.6A	↑	6		2 4 6 .	5.5 10.5 - .	- - 15.5 .	2 2 2 .	150 W	6							
RTI	UCC UDC	↓	2	RTI	1+2	-	-	-						4	-	2	
TR. - PIT	FOR SERIES-TRAN. PIT SIZE 3		2														2
	FOR SERIES-TRAN. PIT SIZE 2		2			-	-	-									4
TOTAL			-					38		38	14	7	2	80	76	40	6

DIREKTORAT JENDERAL PERHUBUNGAN UDARA
DIREKTORAT FASILITAS ELEKTRONIKA DAN LISTRIK
SUB DIREKTORAT LISTRIK

UMUM

Tahun Anggaran

Arrangement of PALS Configuration (PALS Cat -I without SFL with medium intensity lamp) Threshold and non Instrument Runway Threshold for Runway 45 M width (5-7-0-7-5 / 7-0-7)

NOMOR GAMBAR	KODE LOKASI	NOMOR LEMBAR	NOMOR URUT
VA.16.02		2/2	

SKALA :

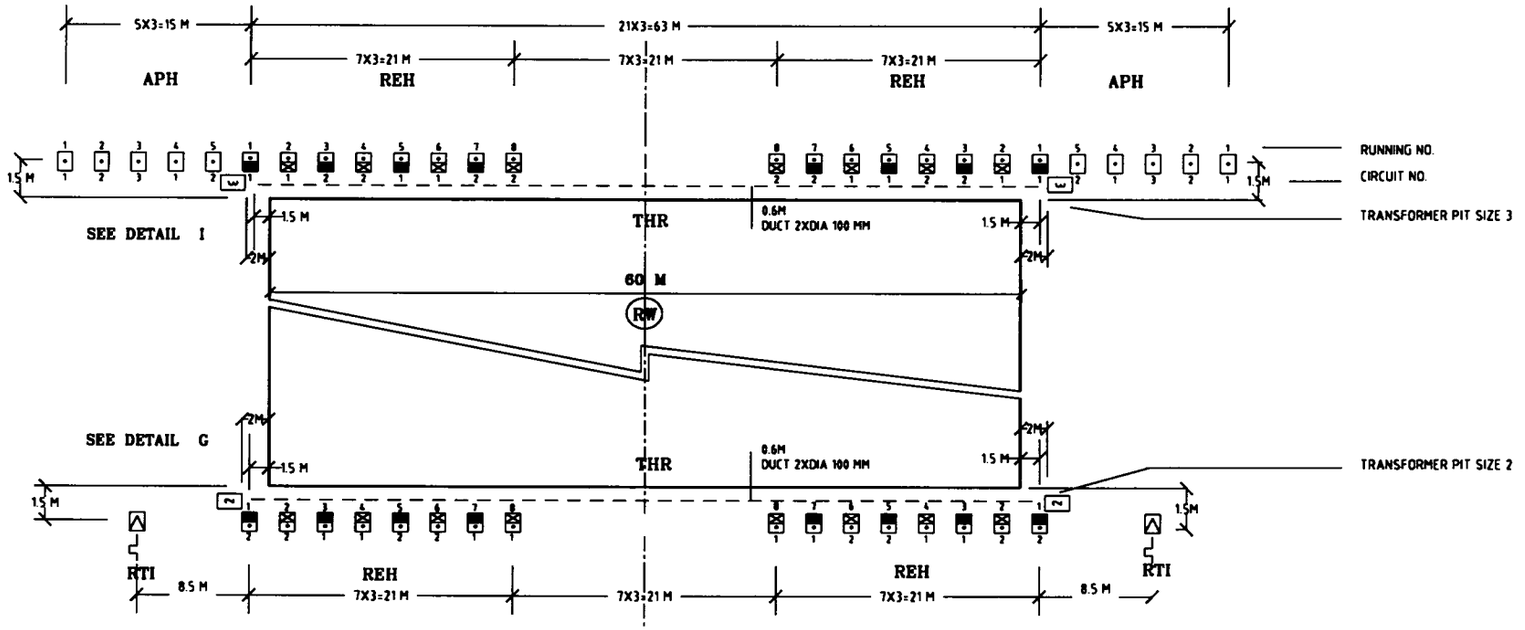
DIGAMBAR :

DIPERIKSA :

DISETUJUI :

PALS CAT. I CONFIGURATION

(PALS CAT. I WITHOUT SFL OR WITH MEDIUM INTENSITY LAMP)

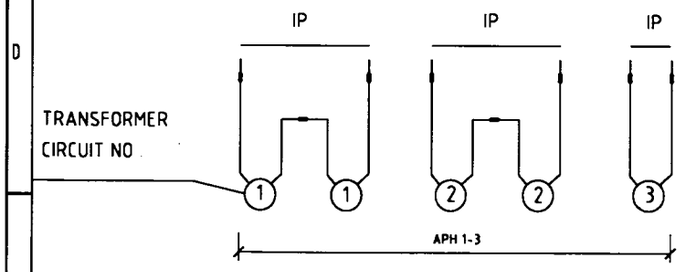


NONE MALS

DETAIL I

ELECTRICAL CONNECTION DIAGRAM OF TRANSFORMERS IN ONE TRANFORMER PIT NO. 2 (5-8-0-8-5)

1 POLE CONNECTOR KITS



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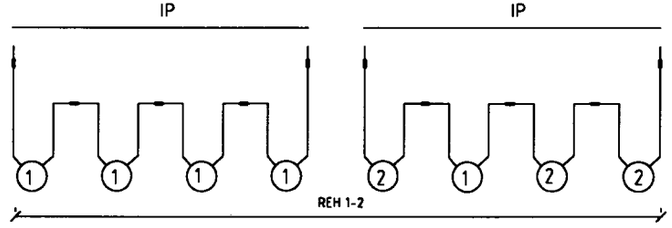


DIREKTORAT JENDERAL PERHUBUNGAN UDARA DIREKTORAT FASILITAS ELEKTRONIKA DAN LISTRIK SUB DIREKTORAT LISTRIK	UMUM	Tahun Anggaran
Arrangement of PALS Cat-I Configuration (PALS Cat-I without SFL or with Medium Intensity lamp) Threshold and non Instrument Runway Threshold for Runway 60 M width (5-8-0-8-5 / 8-0-8)	NOMOR GAMBAR: VA.16.03 / KODE LOKASI / NOMOR LEMBAR: 1/2 / NOMOR URUT	
SKALA :	DIGAMBAR :	DIPERIKSA : / DISETUJUI :

LEGEND

TYPE	SYMBOL & DESIGNATION	BEAM	QTY	CIRCUIT	LIGHT NO.	SEC. CABLE (1) 2X2.5 (M)	SEC. CABLE (1) 2X2.4 (M)	QTY	TRANSFORMER 6.6 / 6.6A	QTY	1 POL. CONN. KIT 5 KV QTY	280 CCM RESIN QTY	RESIN INSET L. 8 KG	CU 1X16 SQMM	CU 1X6 SQMM	EARTHING (ETH) CU P.CONN 50/16 SQMM	EARTHING (ETH) CU B.BAR 30X5
INSET	NONE																
	NONE																
ELEVATED	GN 200W 6.6A	↑	10	APH 2 APH 1 APH 3 APH 2 APH 1	5 4 3 2 1	2 5 8 11 14	- - - - -	2 2 2 2 2	200 W	10	10	5		20	20	10	
THR+RWE	GN/RD 150 W 6.6A	↕	8	REH 1+2	1 3 5 7	3 9 - -	- 15 21 -	2 2 2 2	150 W	8	+	+		32	32	16	
	RD/GN 150 W 6.6A	↕	8		1 3 5 7	- 3 9 -	- - 15 21	2 2 2 2	150 W	8	4	2					
THR	GN/BC 150W 6.6A	↑	6	REH 1+2	2 4 6 8	6 12 - -	- - 18 24	2 2 2 2	150 W	6				32	32	16	
	BC/GN 150W 6.6A	↑	6		2 4 6 8	- 6 12 -	- - 18 24	2 2 2 2	150 W	6							
RTI	UCC UDC	↓	2	RTI	1+2	-	-	-						4	-	2	
TR. - PIT	FOR SERIES-TRAN. PIT SIZE 3		2														2
	FOR SERIES-TRAN. PIT SIZE 2		2			-	-	-									4
TOTAL			-					42		42	14	7	2	88	84	44	6

DIREKTORAT JENDERAL PERHUBUNGAN UDARA
DIREKTORAT FASILITAS ELEKTRONIKA DAN LISTRIK
SUB DIREKTORAT LISTRIK

UMUM

Tahun Anggaran

Arrangement of PALS Cat-I Configuration (PALS Cat-I without SFL with medium intensity lamp) Threhold and non Instrument Runway Threshold for runway 60 M width (5-8-0-8-5 / 8-0-8)

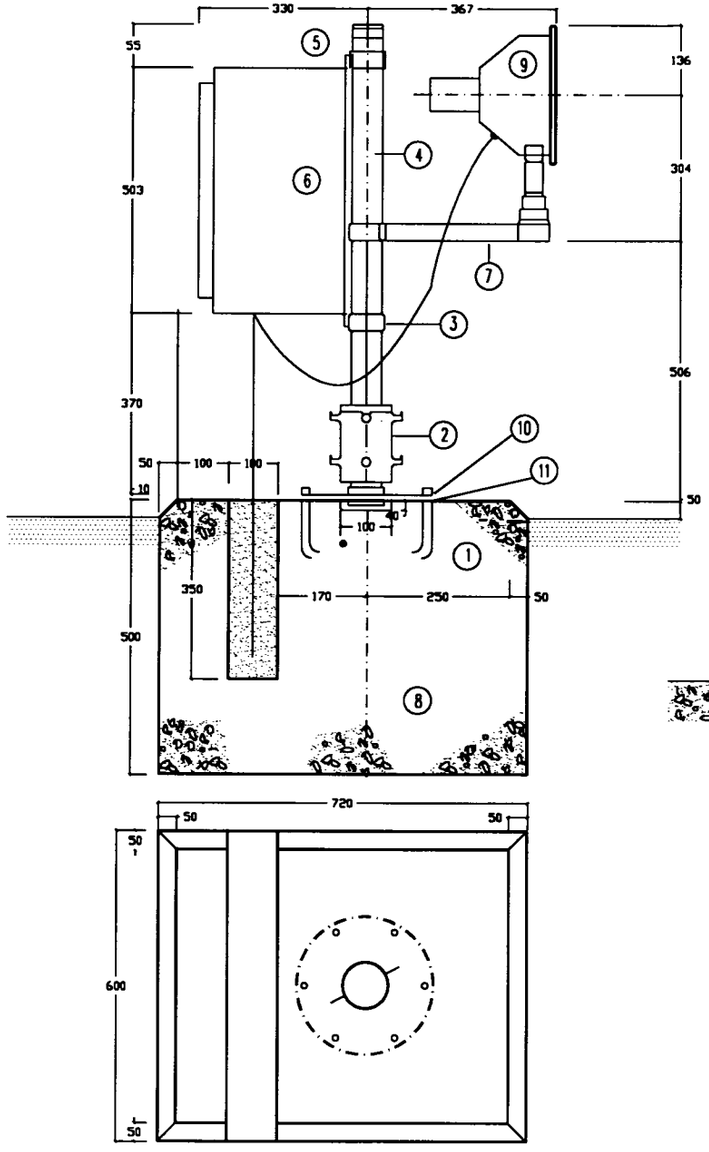
NOMOR GAMBAR	KODE LOKASI	NOMOR LEMBAR	NOMOR URUT
VA.16.03		2/2	

SKALA :

DIGAMBAR :

DIPERIKSA :

DISETUJUI :

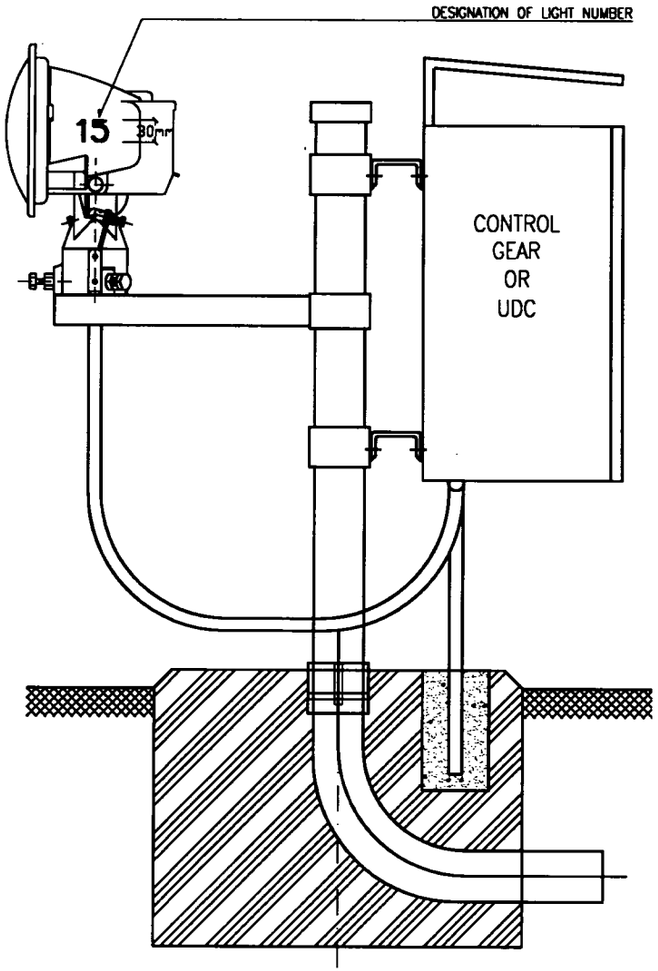


REMARKS

NO	NAME
1	ANCHOR
2	BREAKABLE COUPLING
3	STRAP
4	COLUMN
5	CROSS BAR
6	CONTROL CABINET
7	LAMPHOLDER SUPPORT
8	FOUNDATION
9	LAMP HOLDER
10	MOUNTING PLATE
11	GASKET

Dimensions in : mm

DIREKTORAT JENDERAL PERHUBUNGAN UDARA DIREKTORAT FASILITAS ELEKTRONIKA DAN LISTRIK SUB DIREKTORAT LISTRIK	UMUM	Tahun Anggaran :
Installtion of REIL / RTI	NOMOR GAMBAR: VA.18.01	KODE LOKASI:
	NOMOR LEMBAR: 1/1	NOMOR URUT:
SKALA :	DIGAMBAR :	DIPERIKSA :
DISETUJUI :		



SFL / RTI LIGHT

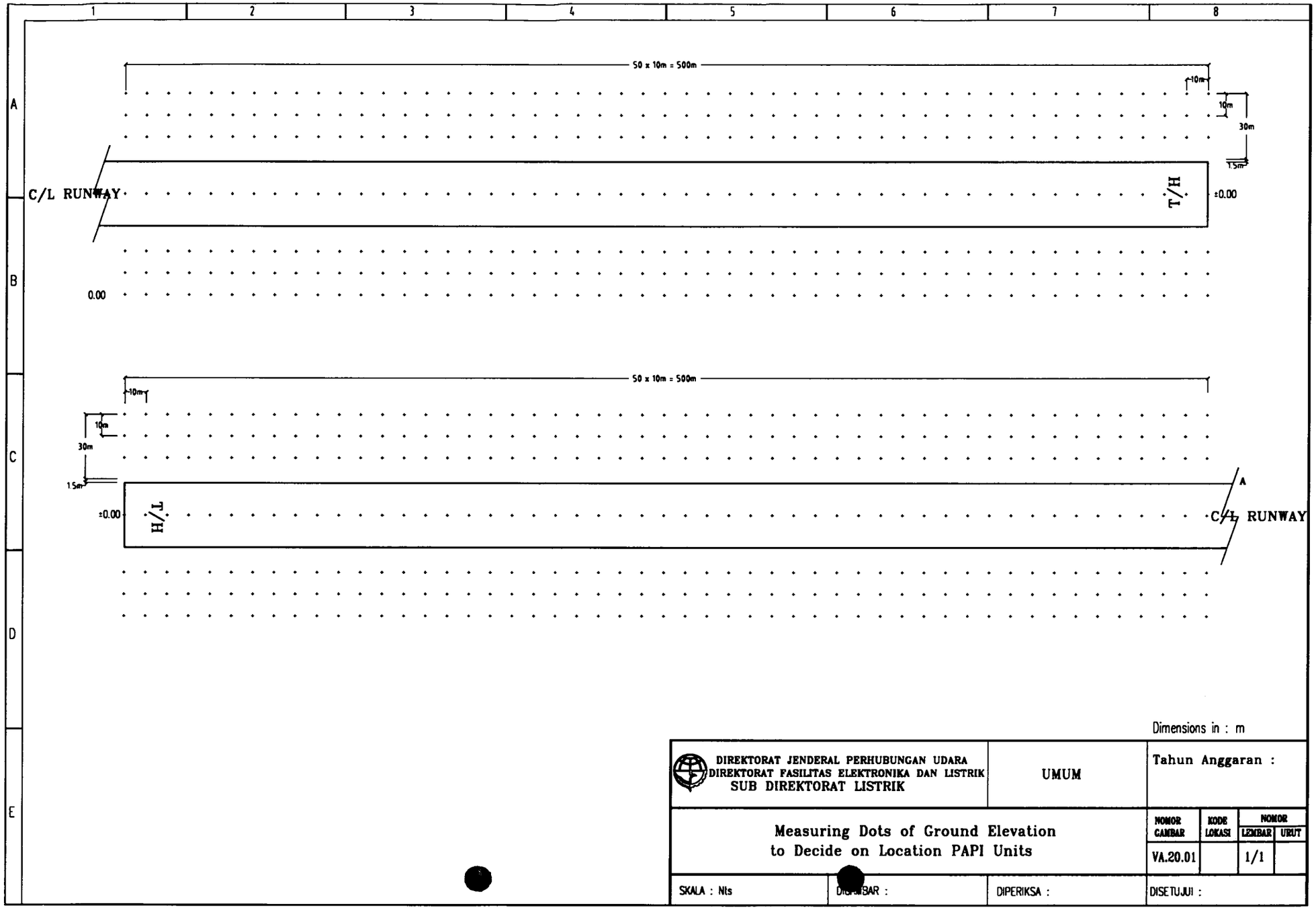
Notes :

1. SFL + RTI LIGHT TO BE DESIGNATED WITH RUNNING NUMBER :

SFL 1-23 CABLES (POWER) W511 SFL - L1/L2/L2
CABLES (CONTROL) W512 SFL - 1/../21

RTI (POWER) W513 RTI - L1
(CONTROL) W514 RTI - 1 (MASTER)
- 2 (SLAVE)

DIREKTORAT JENDERAL PERHUBUNGAN UDARA DIREKTORAT FASILITAS ELEKTRONIKA DAN LISTRIK SUB DIREKTORAT LISTRIK	UMUM	Tahun Anggaran :
Designation For SFL / RTI Lights, And Cables.	NOMOR GAMBAR: VA.18.02	KODE LOKASI:
	NOMOR LEMBAR: 1/1	NOMOR URUT:
SKALA :	DIGAMBAR :	DIPERIKSA : / DISETUJUI :

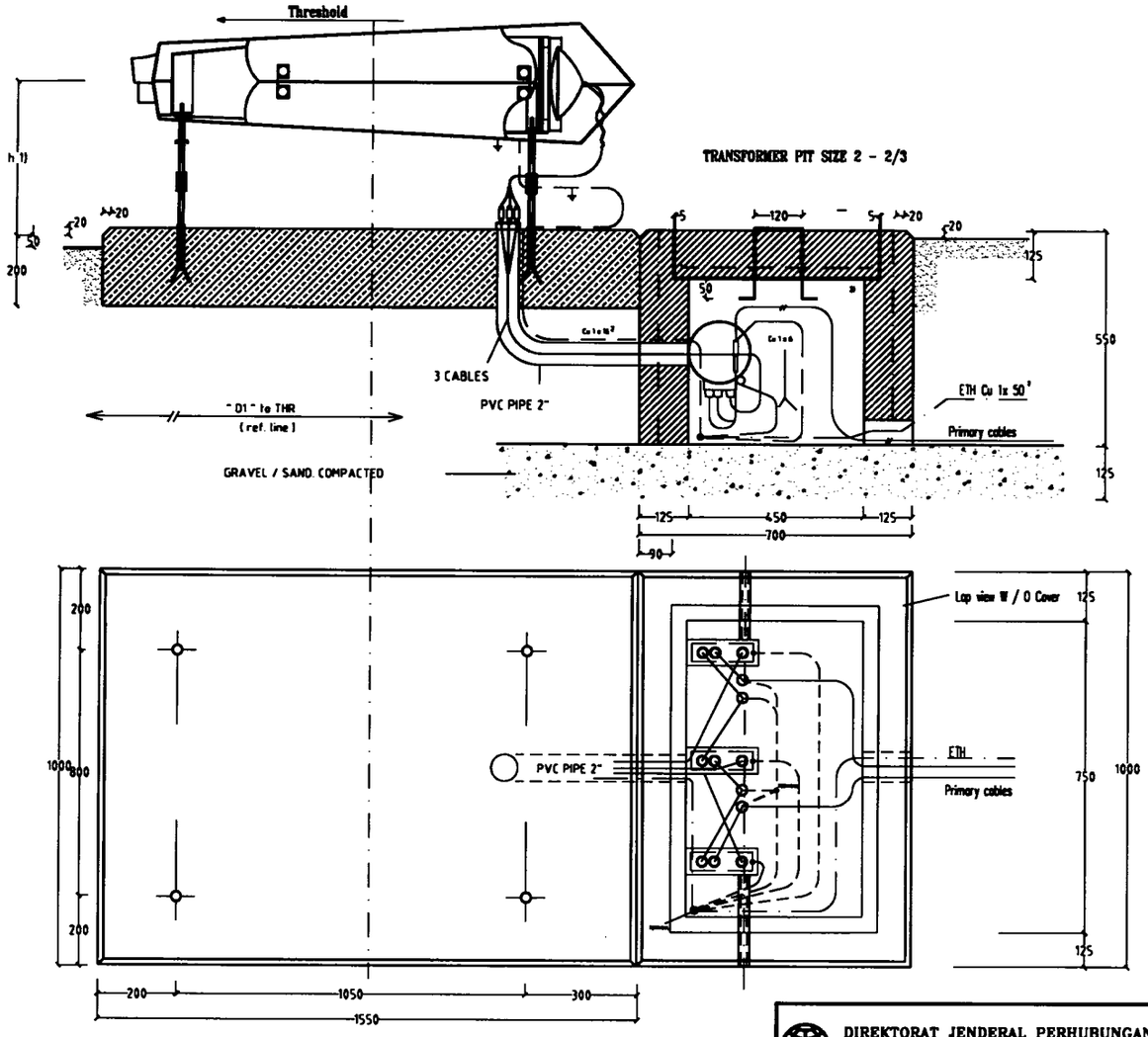


Dimensions in : m

DIREKTORAT JENDERAL PERHUBUNGAN UDARA DIREKTORAT FASILITAS ELEKTRONIKA DAN LISTRIK SUB DIREKTORAT LISTRIK	UMUM	Tahun Anggaran :

Measuring Dots of Ground Elevation to Decide on Location PAPI Units	NOMOR GAMBAR	KODE LOKASI	NOMOR LEMBAR	NOMOR URUT
	VA.20.01		1/1	

SKALA : Nts	DIGAMBAR :	DIPERIKSA :	DISETUJUI :



NOTES :

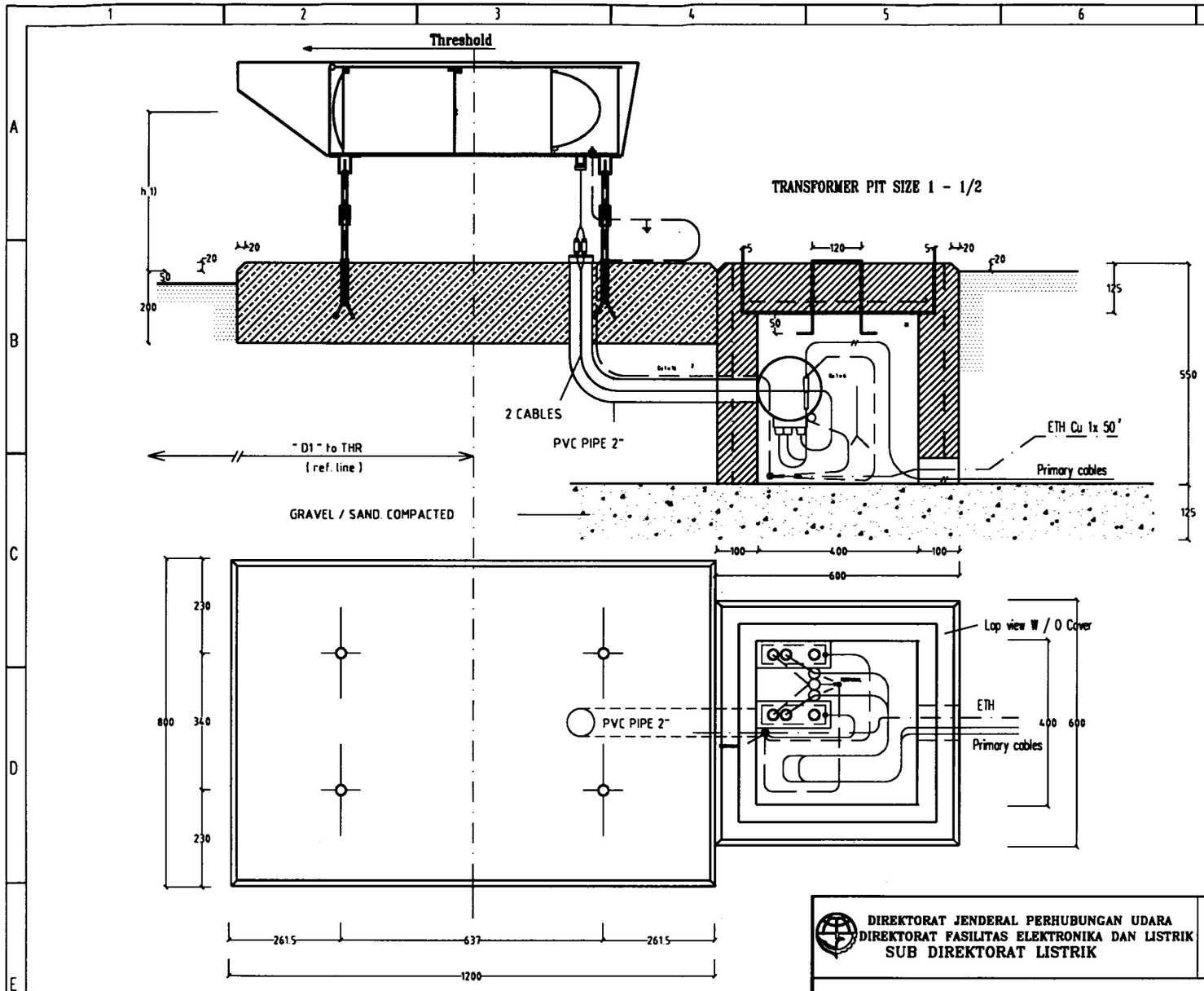
1) Has existing

2) All cables and ETH wires inside transf - pit to be provided with a loop, so that transformers can be taken out.

3) Transformers pit see drawing - P52

Dimensions in : mm

DIREKTORAT JENDERAL PERHUBUNGAN UDARA DIREKTORAT FASILITAS ELEKTRONIKA DAN LISTRIK SUB DIREKTORAT LISTRIK	UMUM	Tahun Anggaran :
VASI Foundation (3 X 200 W)	NOMOR GAMBAR: VA.20.02 / KODE LOKASI / NOMOR LEMBAR: 1/1 / NOMOR URUT	
SKALA : 1 : 10	DIGAMBAR :	DIPERIKSA : / DISETUJUI :



NOTES :

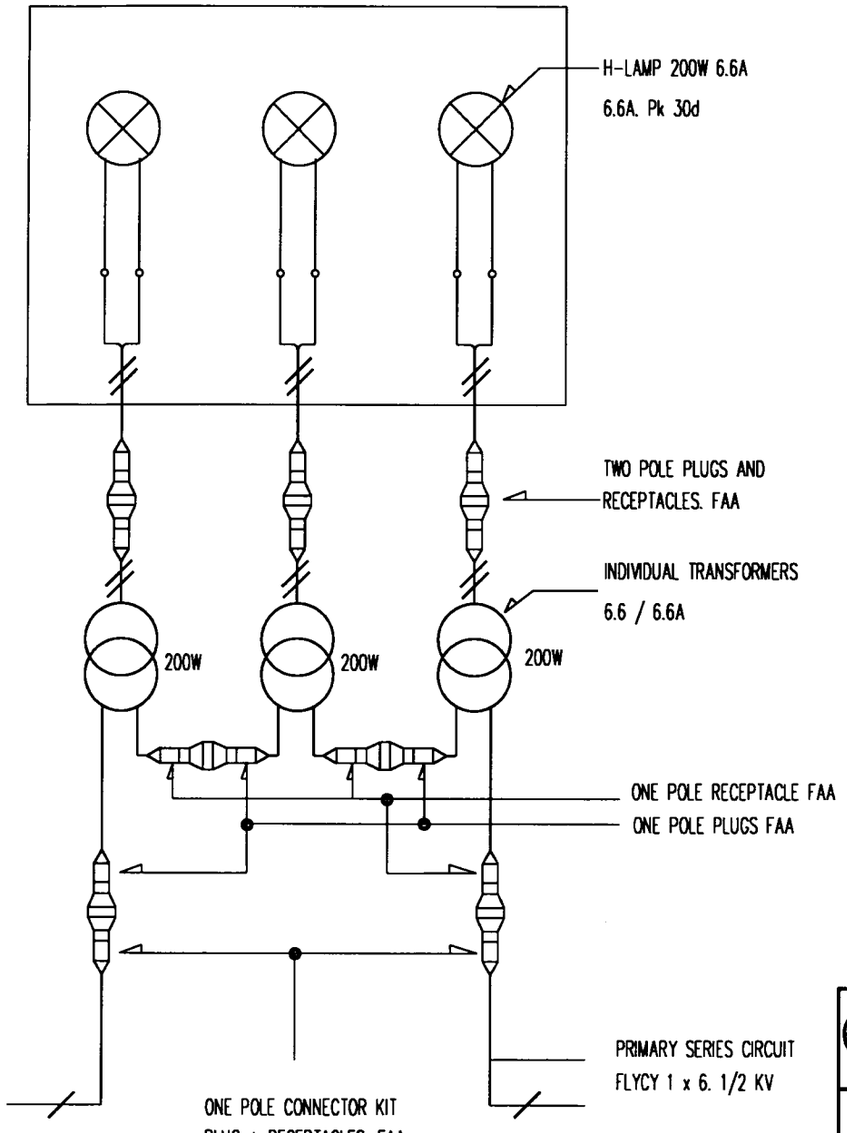
1) Has existing

2) All cables and ETH wires inside transf - pit to be provided with a loop, so that transformers can be taken out.

3) Transformers pit see drawing - P52

Dimensions in : mm

DIREKTORAT JENDERAL PERHUBUNGAN UDARA DIREKTORAT FASILITAS ELEKTRONIKA DAN LISTRIK SUB DIREKTORAT LISTRIK	UMUM	Tahun Anggaran :
VASI Foundation (2 x 200W)		NOMOR GAMBAR: VA.20.03 / KODE LOKASI / NOMOR LEMBAR: 1/1 / NOMOR URUT
SKALA : Nts	DIGAMBAR :	DIPERIKSA : / DISETUJUI :



DIREKTORAT JENDERAL PERHUBUNGAN UDARA
DIREKTORAT FASILITAS ELEKTRONIKA DAN LISTRIK
SUB DIREKTORAT LISTRIK

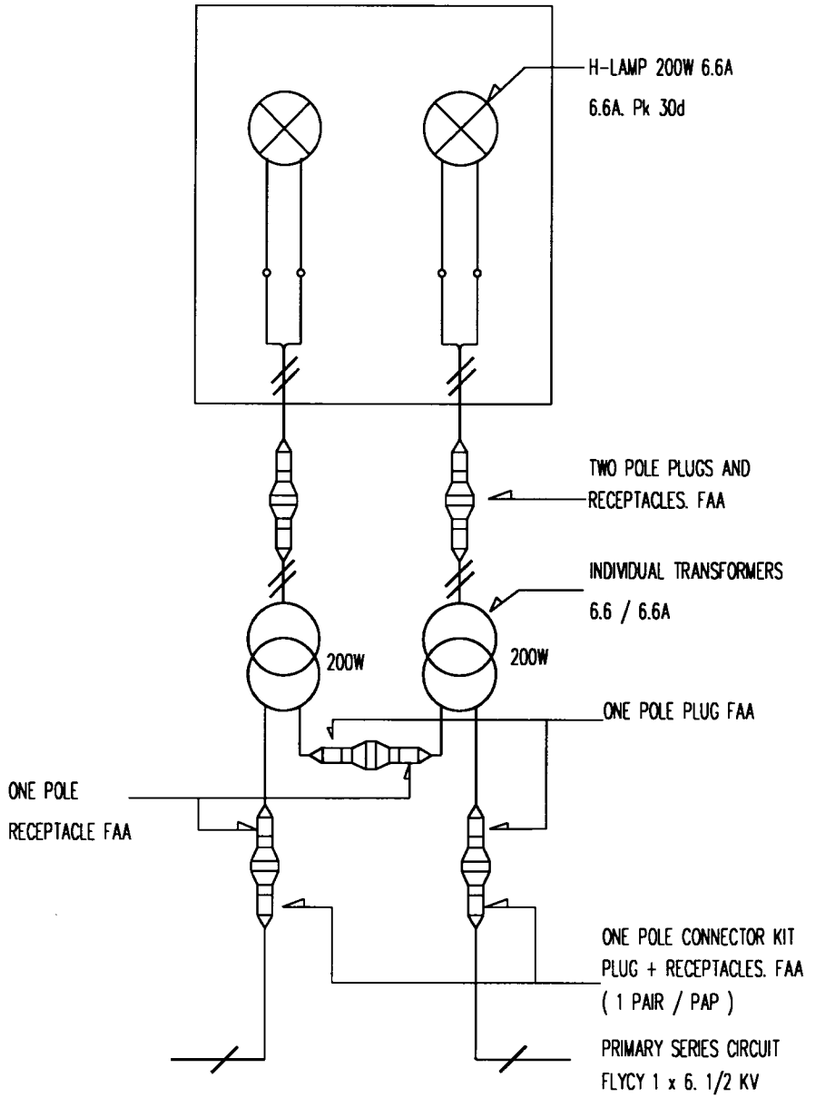
UMUM

Tahun Anggaran :

VASI (3 x 200 W)
Wiring diagram of a single unit

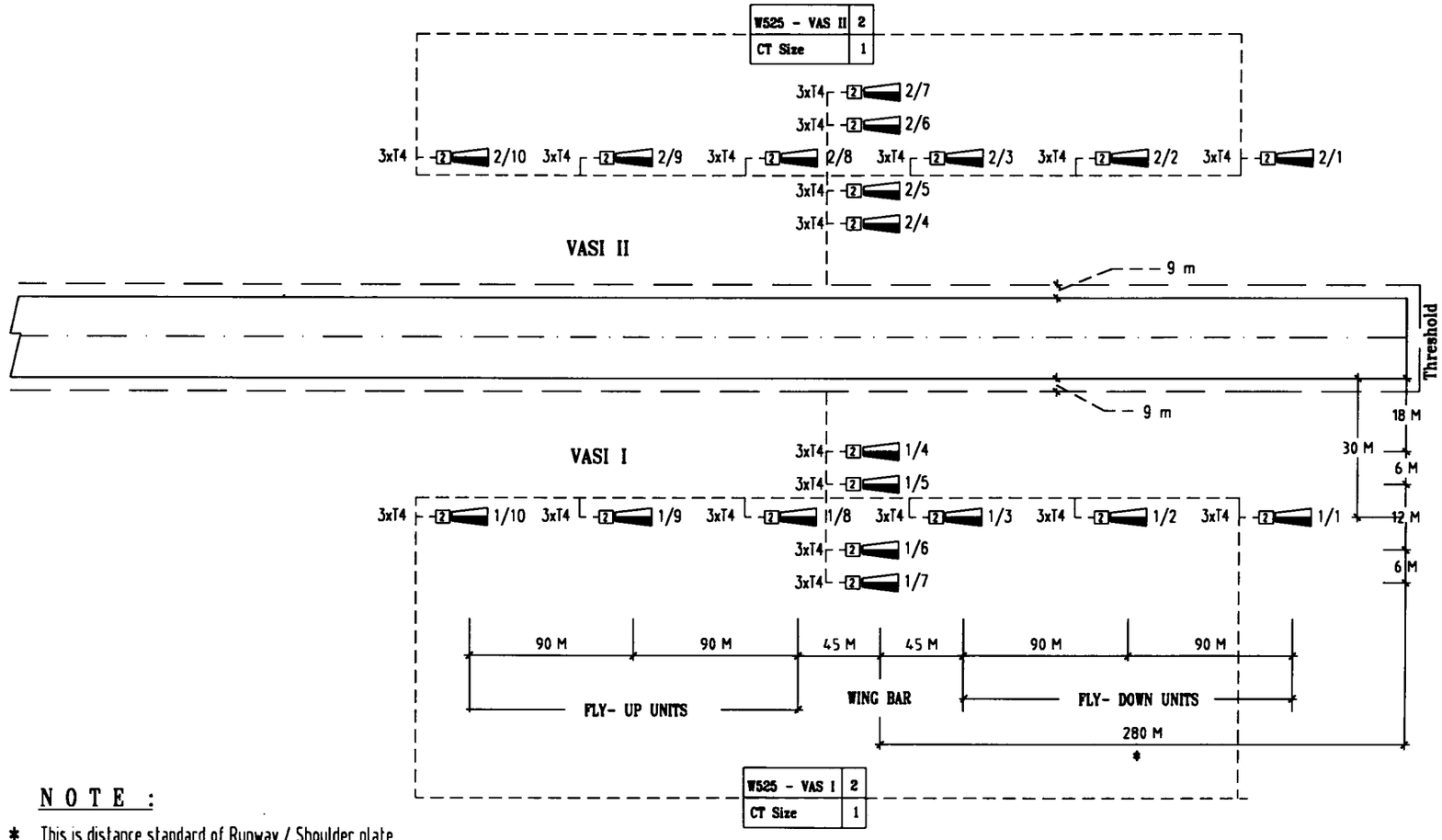
NOMOR GAMBAR	KODE LOKASI	NOMOR LEMBAR	NOMOR URUT
VA.20.04		1/1	

SKALA : 1 : 10 | DIGAMBAR : | DIPERIKSA : | DISETUJUI :



DIREKTORAT JENDERAL PERHUBUNGAN UDARA DIREKTORAT FASILITAS ELEKTRONIKA DAN LISTRIK SUB DIREKTORAT LISTRIK	UMUM	Tahun Anggaran :
VASI (2 x 200 W) Wiring Diagram of a Single Unit	NOMOR GAMBAR: VA.20.05	KODE LOKASI:
	NOMOR LEMBAR: 1/1	NOMOR URUT:
SKALA : Nts	DIGAMBAR :	DIPERIKSA :
DISETUJUI :		

DETAIL VASI



Dimensions in : m

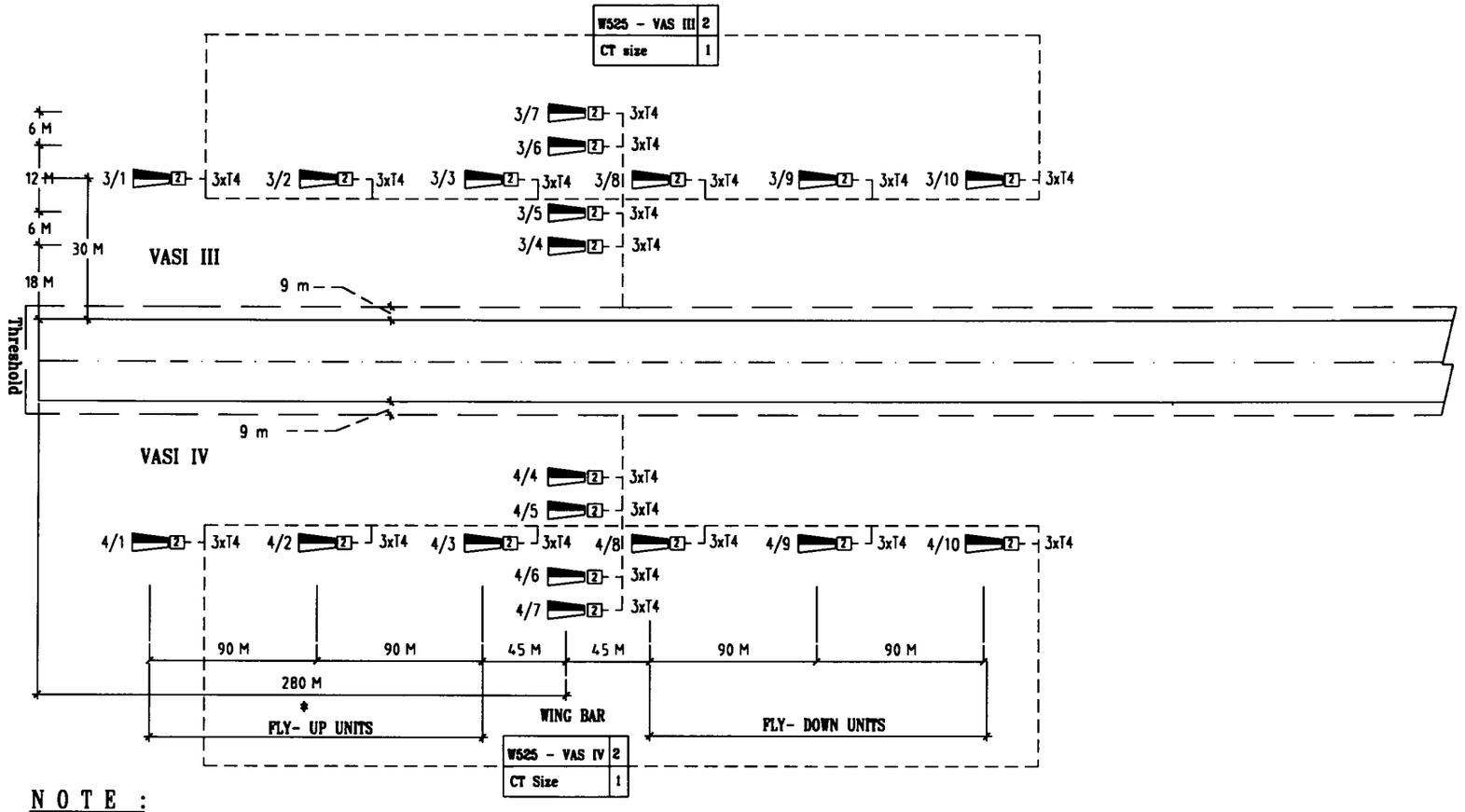
N O T E :

* This is distance standard of Runway / Shoulder plate.
The actual distance has to be recalculated again based on the glide slope of the available and the elevation of Runway / Shoulder where the VASI units will be installed.

1/2	:	Location of VASI / Number of Box VASI
3 x T4	:	Quantities of SeriesTrafo x Series Trafo 200 w
CT - 1	:	Cable Trench size 1
W 525	:	Number of Cable VASI

DIREKTORAT JENDERAL PERHUBUNGAN UDARA DIREKTORAT FASILITAS ELEKTRONIKA DAN LISTRIK SUB DIREKTORAT LISTRIK	U M U M	Tahun Anggaran :
Layout Of Existing T-VAS - Installation VAS 3 x 200w	NOMOR GAMBAR: VA.23.01	KODE LOKASI:
	NOMOR LB: 1/2	NOMOR URUT:
SKALA :	DIGAMBAR :	DIPERIKSA : / DISETUJUI :

DETAIL VASI



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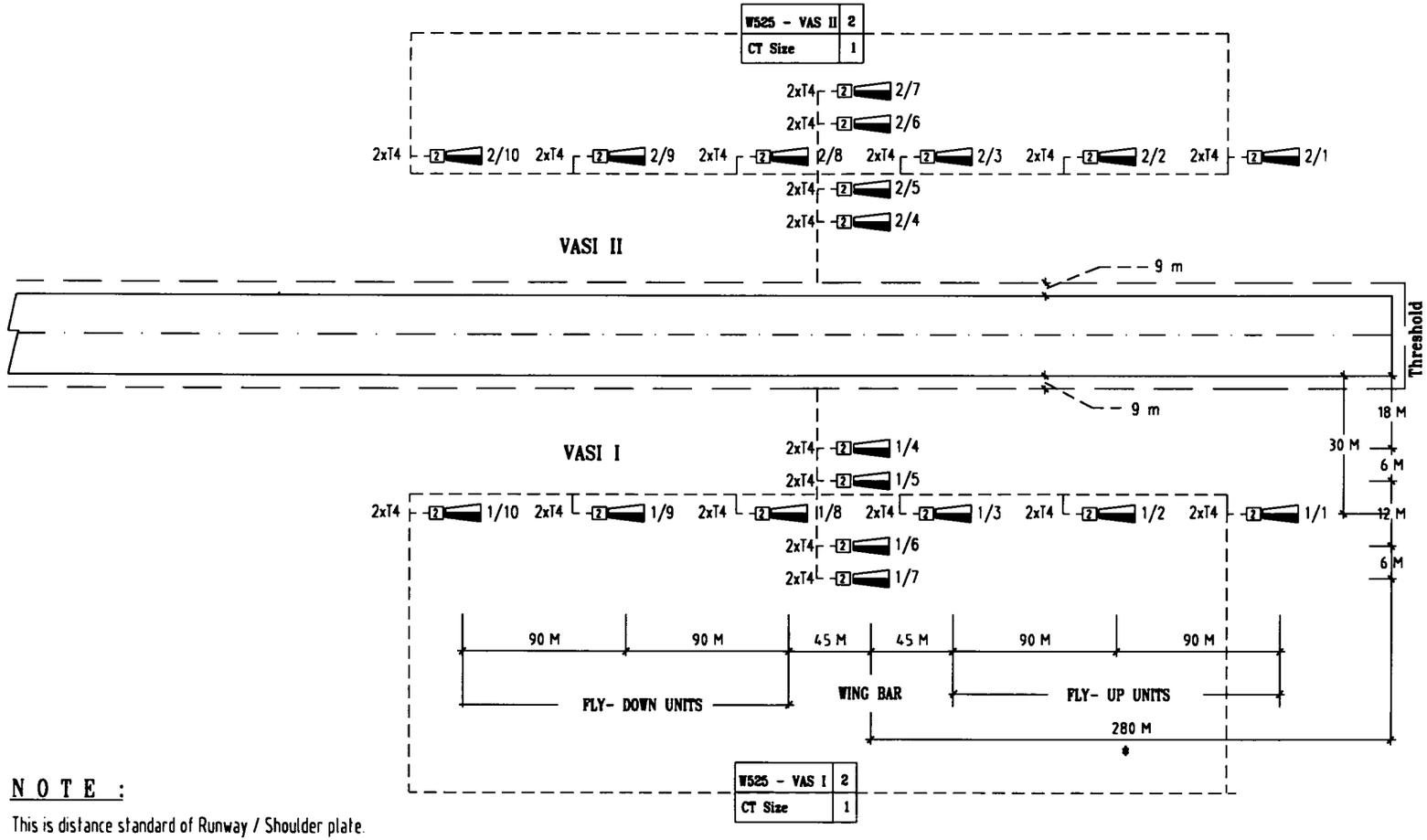
The actual distance has to be recalculated again based on the glide slope of the available and the elevation of Runway / Shoulder where the VASI units will be installed.

1/2 : Location of VASI / Number of Box VASI
3 x T4 : Quantities of SeriesTrafo x Series Trafo 200 w
CT – 1 : Cable Trench size 1
W 525 : Number of Cable VASI

Dimensions in : m

DIREKTORAT JENDERAL PERHUBUNGAN UDARA DIREKTORAT FASILITAS ELEKTRONIKA DAN LISTRIK SUB DIREKTORAT LISTRIK	U M U M	Tahun Anggaran :
Layout Of Existing T-VAS – Installation VAS 3 x 200w	NOMOR GAMBAR: VA.23.01	KODE LOKASI:
	NOMOR LEMBAR: 2/2	NOMOR URUT:
SKALA :	DIGAMBAR :	DIPERIKSA : / DISETUJUI :

DETAIL VASI



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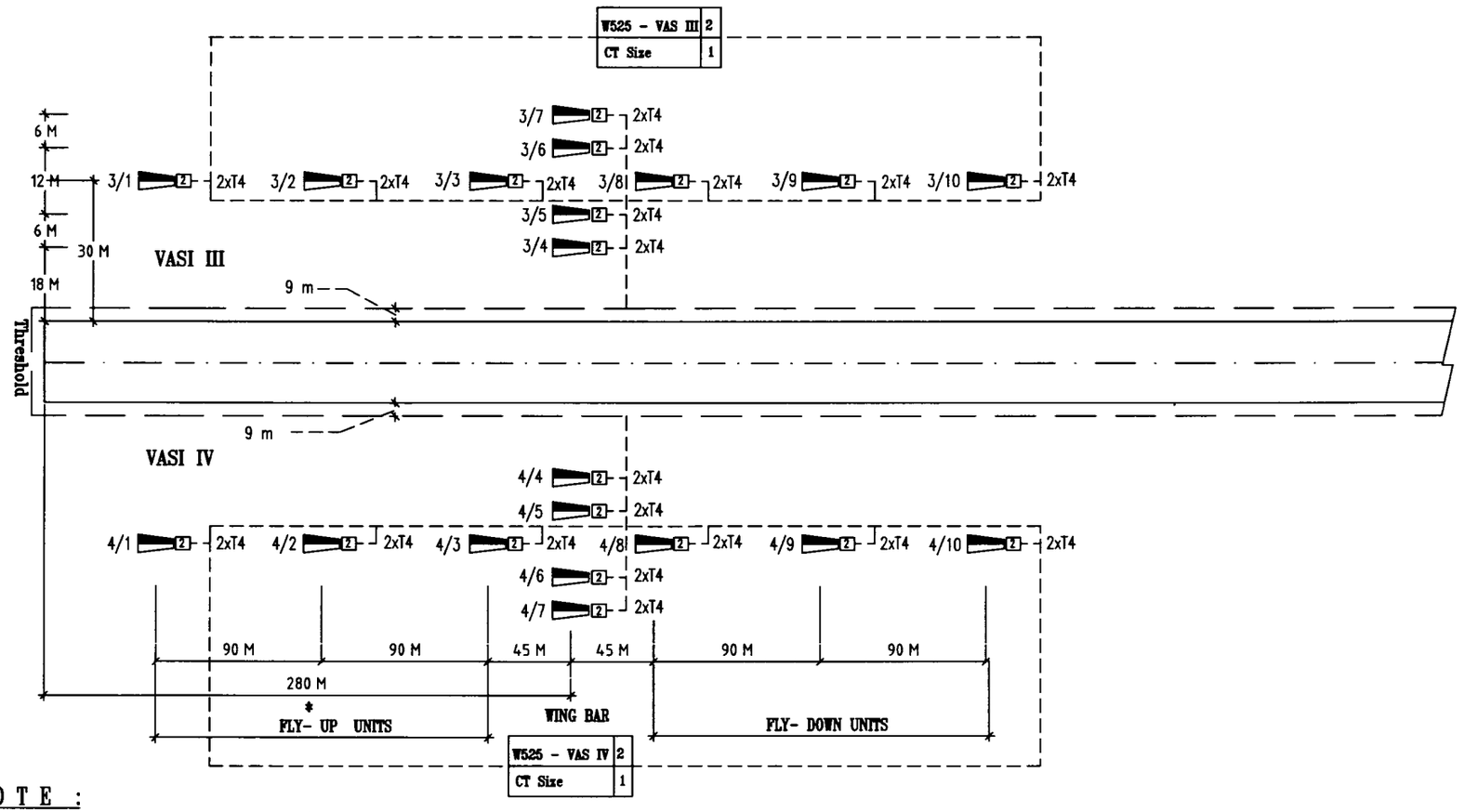
The actual distance has to be recalculated again based on the glide slope of the available and the elevation of Runway / Shoulder where the VASI units will be installed.

1/2 : Location of VASI / Number of Box VASI
2 x T4 : Quantities of SeriesTrafo x Series Trafo 200 w
CT - 1 : Cable Trench size 1
W 525 : Number of Cable VASI

Dimensions in : m

DIREKTORAT JENDERAL PERHUBUNGAN UDARA DIREKTORAT FASILITAS ELEKTRONIKA DAN LISTRIK SUB DIREKTORAT LISTRIK	U M U M	Tahun Anggaran :
Layout Of Existing T-VASI - Installation VAS 2 x 200w	NOMOR GAMBAR: VA.23.02	KODE LOKASI:
	NOMOR LB: 1/2	NOMOR URUT:
SKALA :	DIGAMBAR :	DIPERIKSA : / DISETUJUI :

DETAIL VASI



N O T E :

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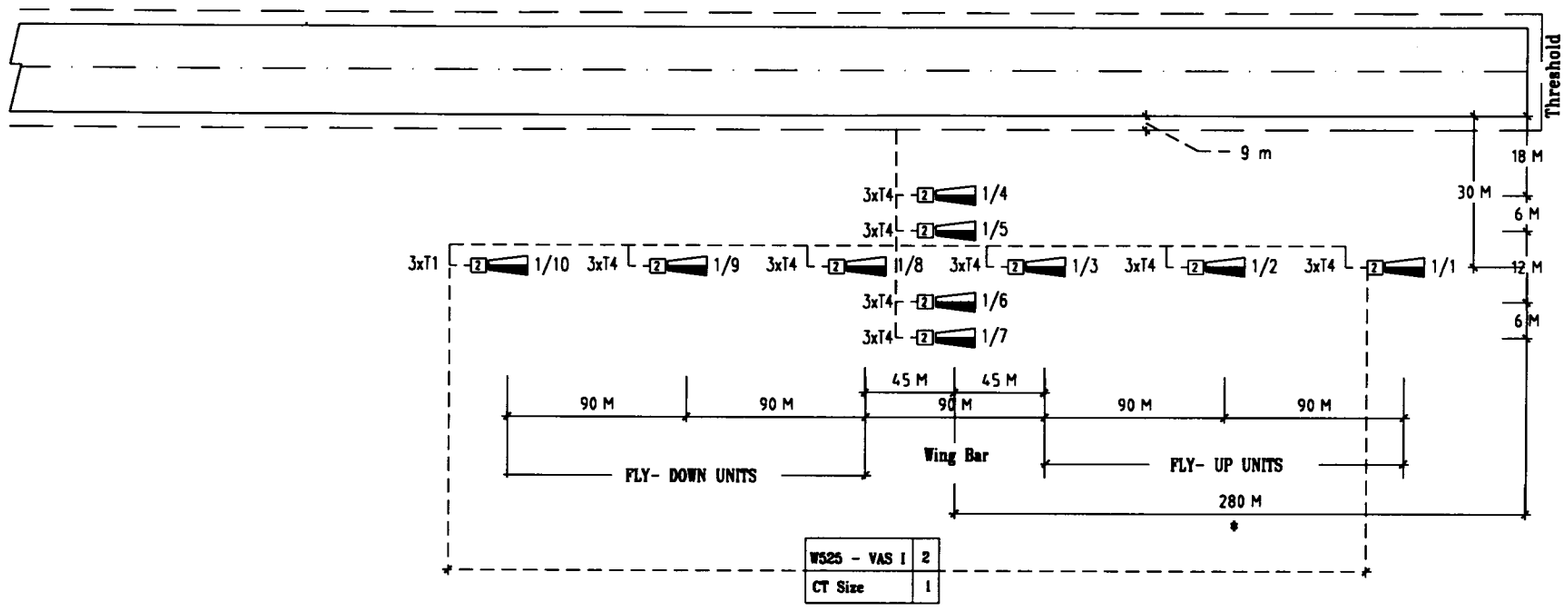
The actual distance has to be recalculated again based on the glide slope of the available and the elevation of Runway / Shoulder where the VASI units will be installed.

1/2 : Location of VASI / Number of Box VASI
2 x T4 : Quantities of SeriesTrafo x Series Trafo 200 w
CT - 1 : Cable Trench size 1
W 525 : Number of Cable VASI

Dimensions in : m

DIREKTORAT JENDERAL PERHUBUNGAN UDARA DIREKTORAT FASILITAS ELEKTRONIKA DAN LISTRIK SUB DIREKTORAT LISTRIK	U M U M	Tahun Anggaran :
Layout Of Existing T-VASI - Installation VAS 2 x 200w	NOMOR GAMBAR: VA.23.02	KODE LOKASI:
	NOMOR LEMBAR: 2/2	NOMOR URUT:
SKALA :	DIGAMBAR :	DIPERIKSA : / DISETUJUI :

DETAIL VASI



N O T E :

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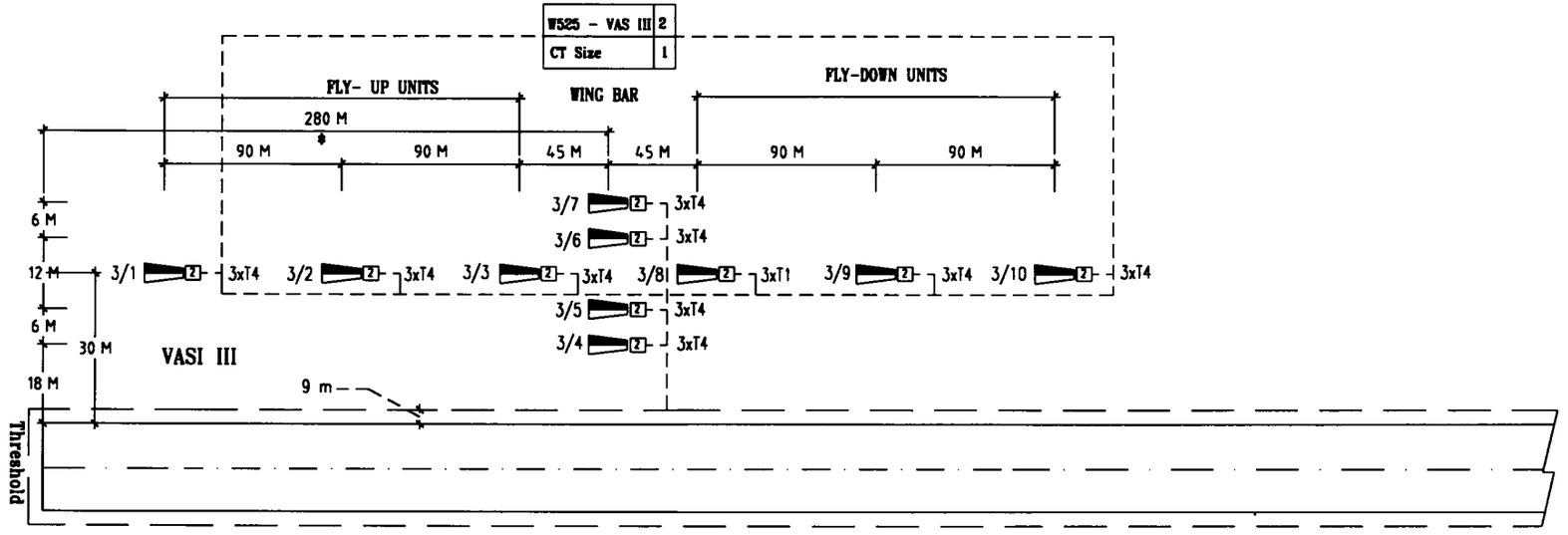
1/2 : Location of VASI / Number of Box VASI
3 x T4 : Quantities of SeriesTrafo x Series Trafo 200 w
CT - 1 : Cable Trench size 1
W 525 : Number of Cable VASI

Dimensions in : m

DIREKTORAT JENDERAL PERHUBUNGAN UDARA DIREKTORAT FASILITAS ELEKTRONIKA DAN LISTRIK SUB DIREKTORAT LISTRIK	U M U M	Tahun Anggaran :
Layout Of Existing A T-VAS - Installation VAS 3 x 200w	NOMOR GAMBAR: VA.23.03	KODE LOKASI:
	NOMOR LEMBAR: 1/2	NOMOR URUT:
SKALA :	DIGAMBAR :	DIPERIKSA : / DISETUJUI :

DETAIL VASI



N O T E :

* This is distance standard of Runway / Shoulder plate.
The actual distance has to be recalculated again based on the glide slope of the available and the elevation of Runway / Shoulder where the VASI units will be installed.

1/2 : Location of VASI / Number of Box VASI

3 x T4 : Quantities of SeriesTrafo x Series Trafo 200 w

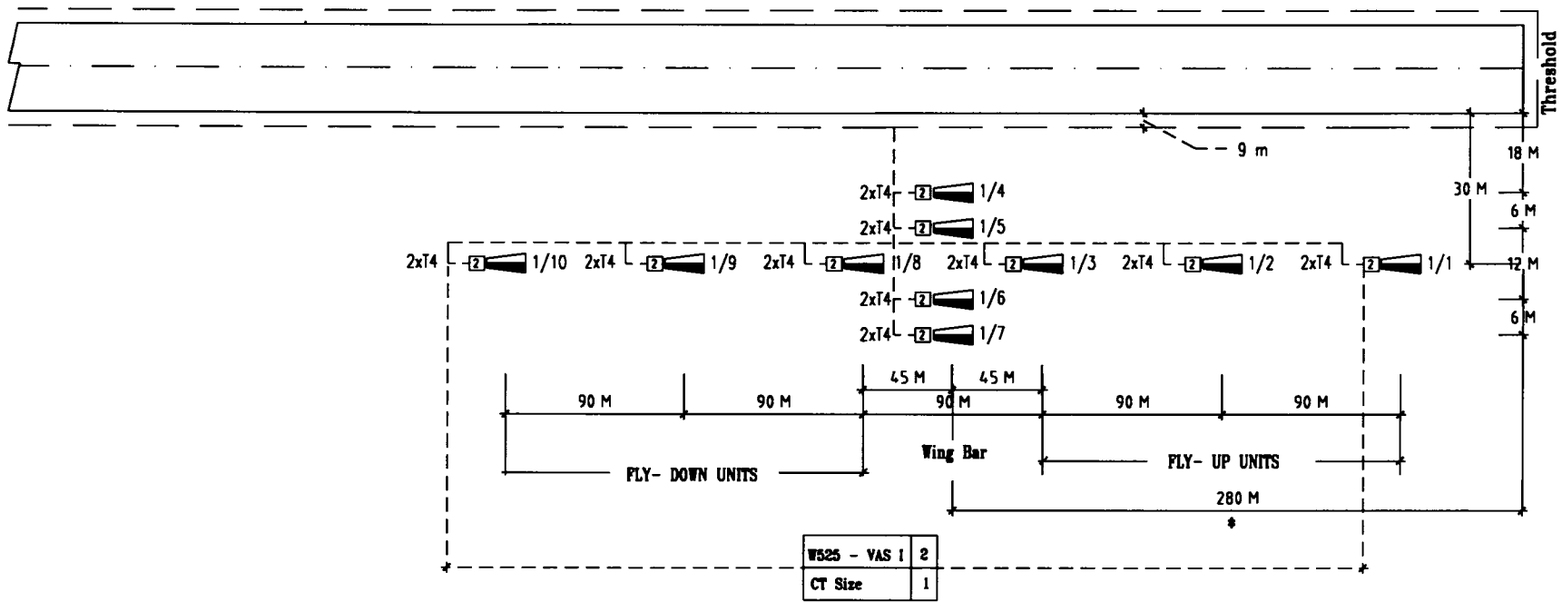
CT - 1 : Cable Trench size 1

W 525 : Number of Cable VASI

Dimensions in : m

DIREKTORAT JENDERAL PERHUBUNGAN UDARA DIREKTORAT FASILITAS ELEKTRONIKA DAN LISTRIK SUB DIREKTORAT LISTRIK	U M U M	Tahun Anggaran :
Layout Of Existing A T-VAS - Installation VAS 3 x 200w	NOMOR GAMBAR: VA.23.03	KODE LOKASI:
	NOMOR LEMBAR: 2/2	NOMOR URUT:
SKALA :	DIGAMBAR :	DIPERIKSA : / DISETUJUI :

DETAIL VASI



N O T E :

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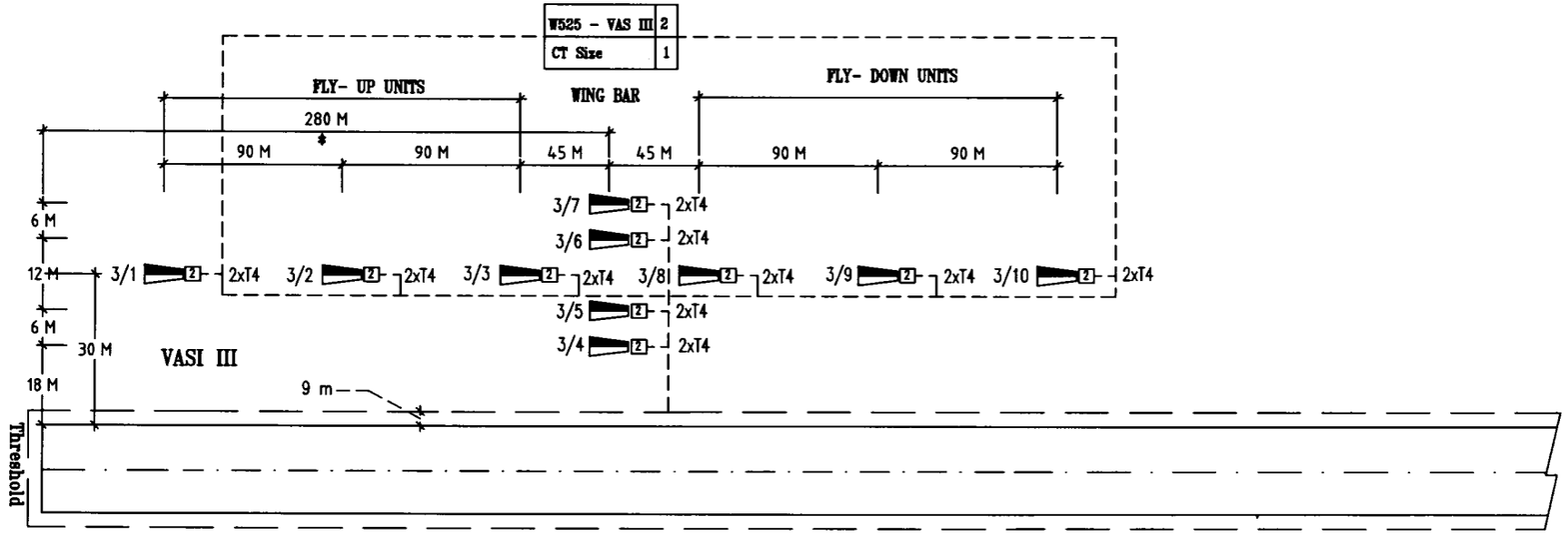
The actual distance has to be recalculated again based on the glide slope of the available and the elevation of Runway / Shoulder where the VASI units will be installed.

1/2 : Location of VASI / Number of Box VASI
2 x T4 : Quantities of SeriesTrafo x Series Trafo 200 w
CT - 1 : Cable Trench size 1
W 525 : Number of Cable VASI

Dimensions in : m

DIREKTORAT JENDERAL PERHUBUNGAN UDARA DIREKTORAT FASILITAS ELEKTRONIKA DAN LISTRIK SUB DIREKTORAT LISTRIK	U M U M	Tahun Anggaran :
Layout Of Existing A T-VASI - Installation VAS 2 x 200w	NOMOR GAMBAR: VA.23.04	KODE LOKASI:
	NOMOR LEMBAR: 1/2	NOMOR URUT:
SKALA :	DIGAMBAR :	DIPERIKSA : / DISETUJUI :

DETAIL VASI



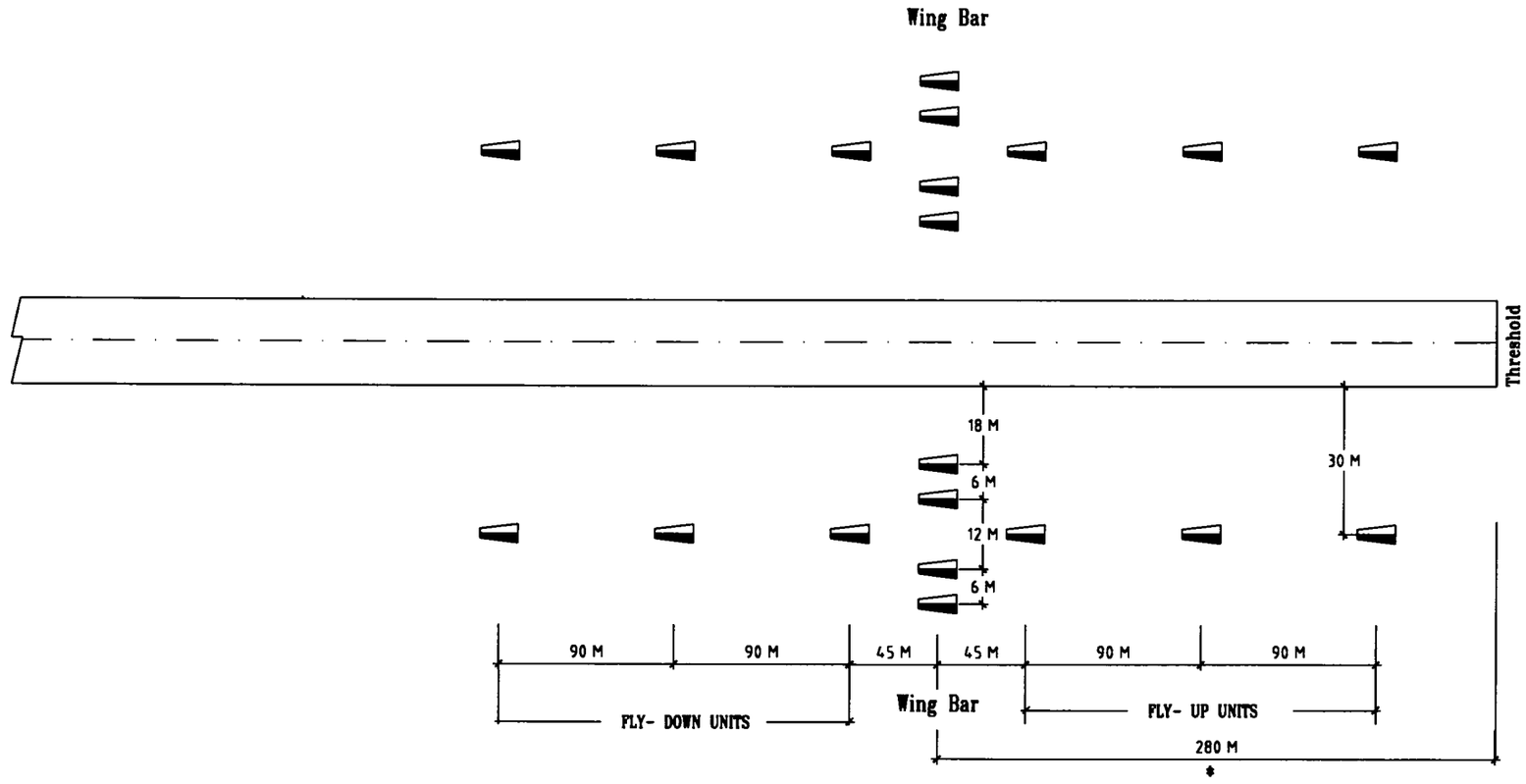
N O T E :

* This is distance standard of Runway / Shoulder plate.
The actual distance has to be recalculated again based on the glide slope of the available and the elevation of Runway / Shoulder where the VASI units will be installed.

1/2 : Location of VASI / Number of Box VASI
2 x T4 : Quantities of SeriesTrafo x Series Trafo 200 w
CT - 1 : Cable Trench size 1
W 525 : Number of Cable VASI

Dimensions in : m

DIREKTORAT JENDERAL PERHUBUNGAN UDARA DIREKTORAT FASILITAS ELEKTRONIKA DAN LISTRIK SUB DIREKTORAT LISTRIK	U M U M	Tahun Anggaran :
Layout Of Existing A T-VASI - Installation VAS 2 x 200w		NOMOR GAMBAR: VA.23.04 / KODE LOKASI / NOMOR LEMBAR: 2/2 / NOMOR URUT
SKALA :	DIGAMBAR :	DIPERIKSA : / DISETUJUI :

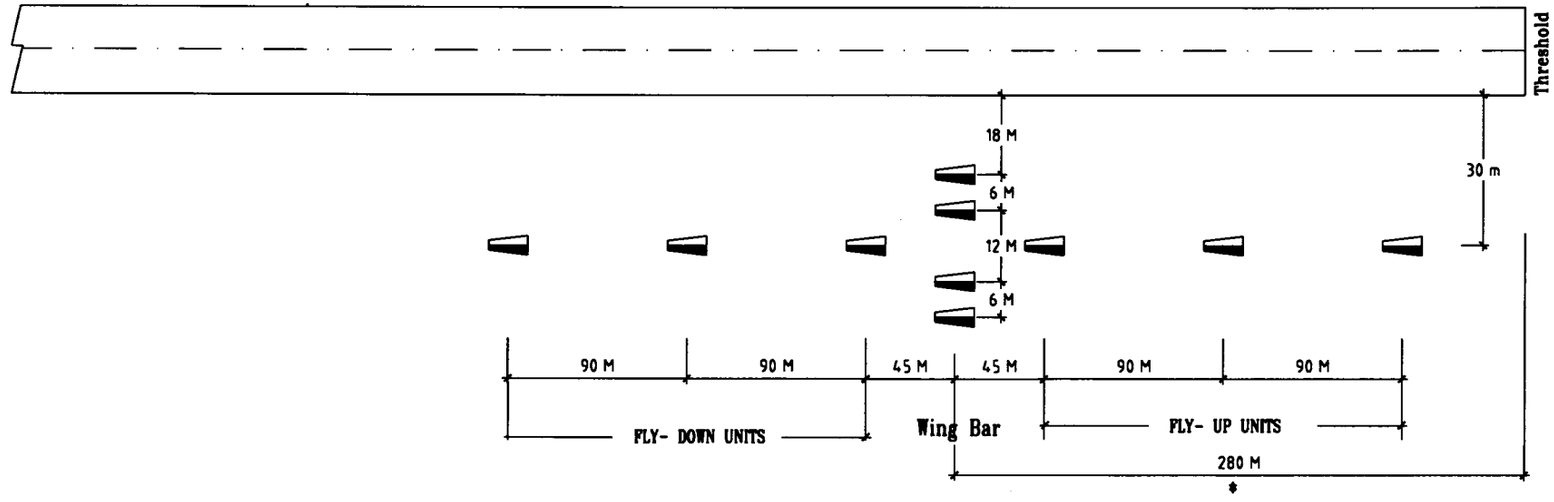


Dimensios in : m

N O T E :

* This is distance standard of Runway / Shoulder plate.
The actual distance has to be recalculated again based on the glide slope of the available and the elevation of Runway / Shoulder where the VASI units will be installed.

DIREKTORAT JENDERAL PERHUBUNGAN UDARA DIREKTORAT FASILITAS ELEKTRONIKA DAN LISTRIK SUB DIREKTORAT LISTRIK	U M U M	Tahun Anggaran :
Standard Distance of Location T-VASI	NOMOR GAMBAR: VA.23.05	KODE LOKASI:
	NOMOR LB: I/I	NOMOR URUT:
SKALA :	DIGAMBAR :	DIPERIKSA :
DISETUJUI :		

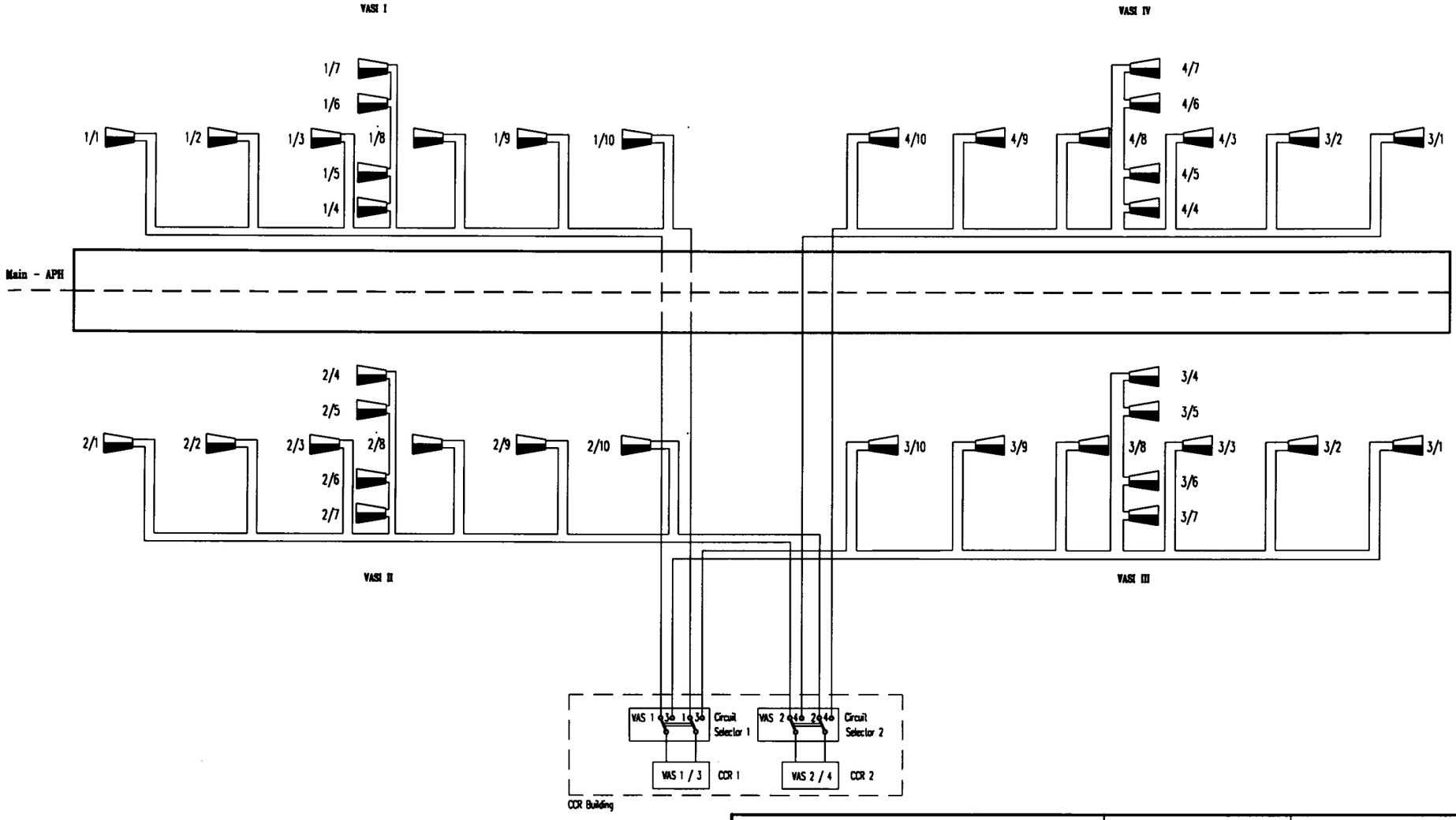


Dimensions in : m

N O T E :

* This is distance standard of Runway / Shoulder plate.
The actual distance has to be recalculated again based on the glide slope of the available and the elevation of Runway / Shoulder where the VASI units will be installed.

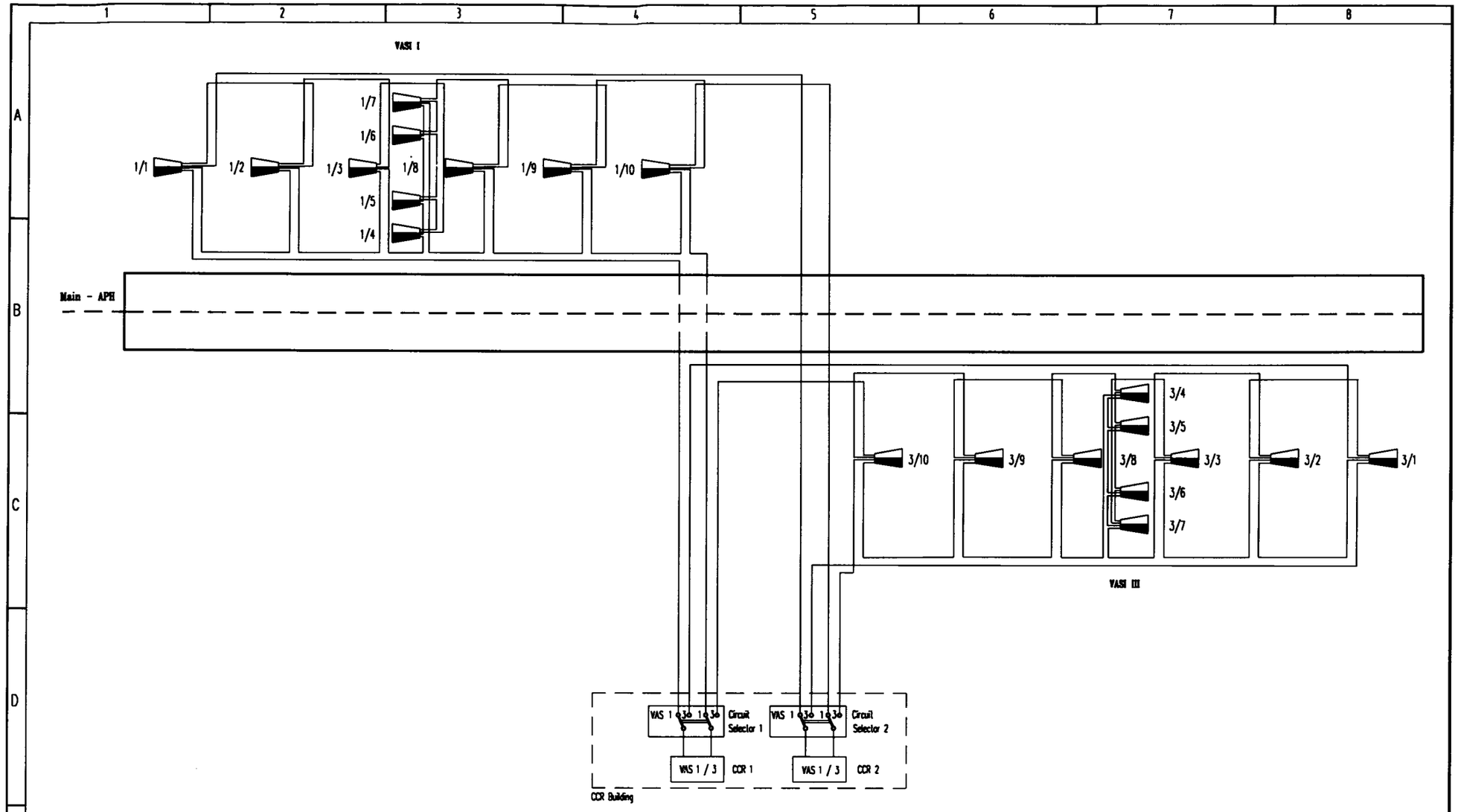
DIREKTORAT JENDERAL PERHUBUNGAN UDARA DIREKTORAT FASILITAS ELEKTRONIKA DAN LISTRIK SUB DIREKTORAT LISTRIK	U M U M	Tahun Anggaran :
Standard Distance of Location A T-VASI	NOMOR GAMBAR: VA.23.06	KODE LOKASI:
	NOMOR LB: 1/1	NOMOR URUT:
SKALA :	DIGAMBAR :	DIPERIKSA :
DISETUJUI :		



All series coble : FLYCY 1 x 6 1/2 KV

This design is valid for VAS 1 + VAS 3 (or VAS 2 + VAS 4) arrongement also

DIREKTORAT JENDERAL PERHUBUNGAN UDARA DIREKTORAT FASILITAS ELEKTRONIKA DAN LISTRIK SUB DIREKTORAT LISTRIK	UMUM	Tahun Anggaran :
T-VASI – Circuit and Selector	NOMOR GAMBAR: VA.23.07	KODE LOKASI:
	NOMOR LEMBAR: 1/1	NOMOR URUT:
SKALA :	GAMBAR :	DIPERIKSA : DISETUJUI :



All series cable : FLYCY 1 x 6 1/2 KV

This design is valid for VAS 1 + VAS 3 (or VAS 2 + VAS 4) arrangement also

DIREKTORAT JENDERAL PERHUBUNGAN UDARA
DIREKTORAT FASILITAS ELEKTRONIKA DAN LISTRIK
SUB DIREKTORAT LISTRIK

UMUM

Tahun Anggaran :

Three Bar A-T-VASI - Circuit and Selector

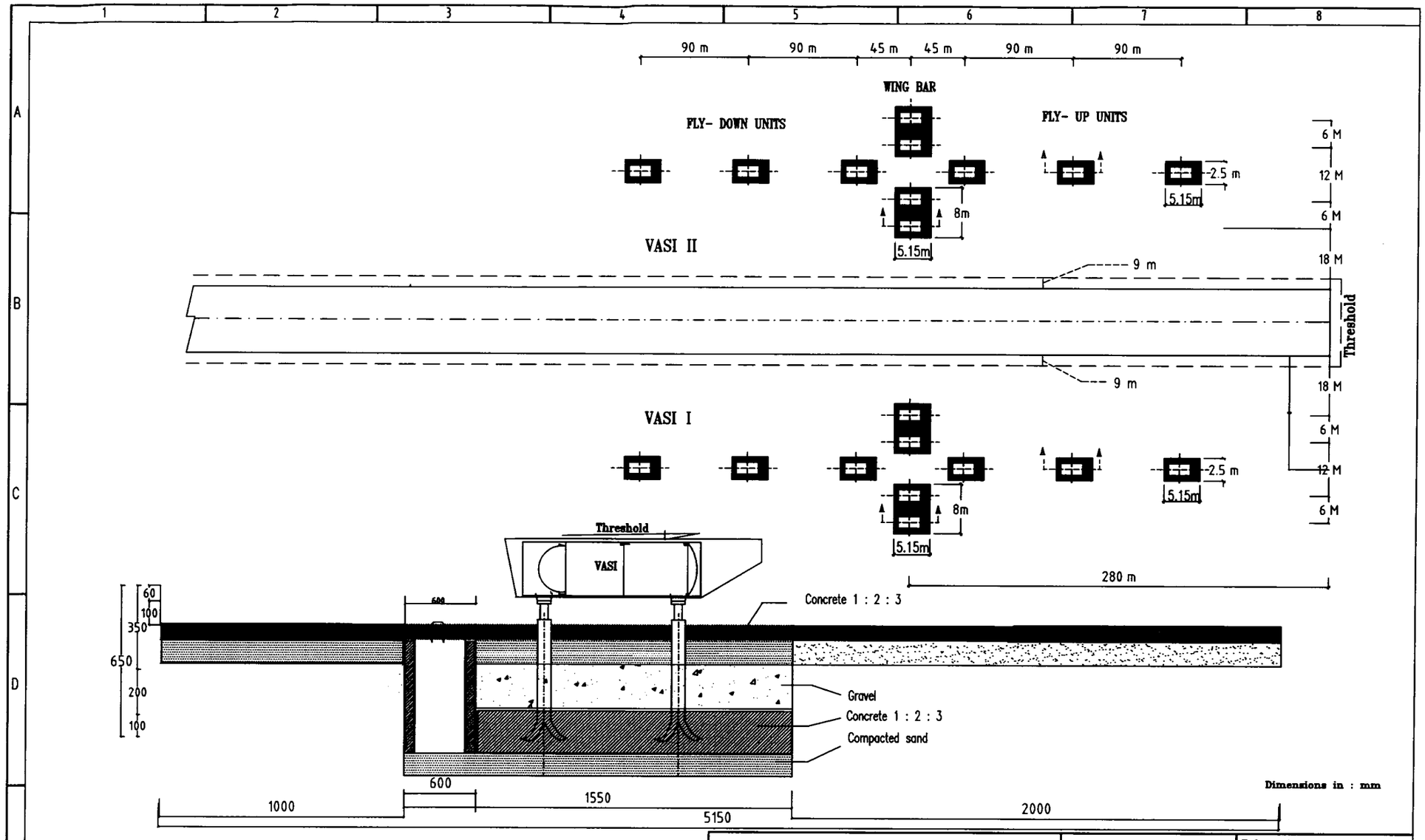
NOMOR GAMBAR	KODE LOKASI	NOMOR LEMBAR	NOMOR URUT
VA.23.08		1/1	

SKALA :

GAMBAR :

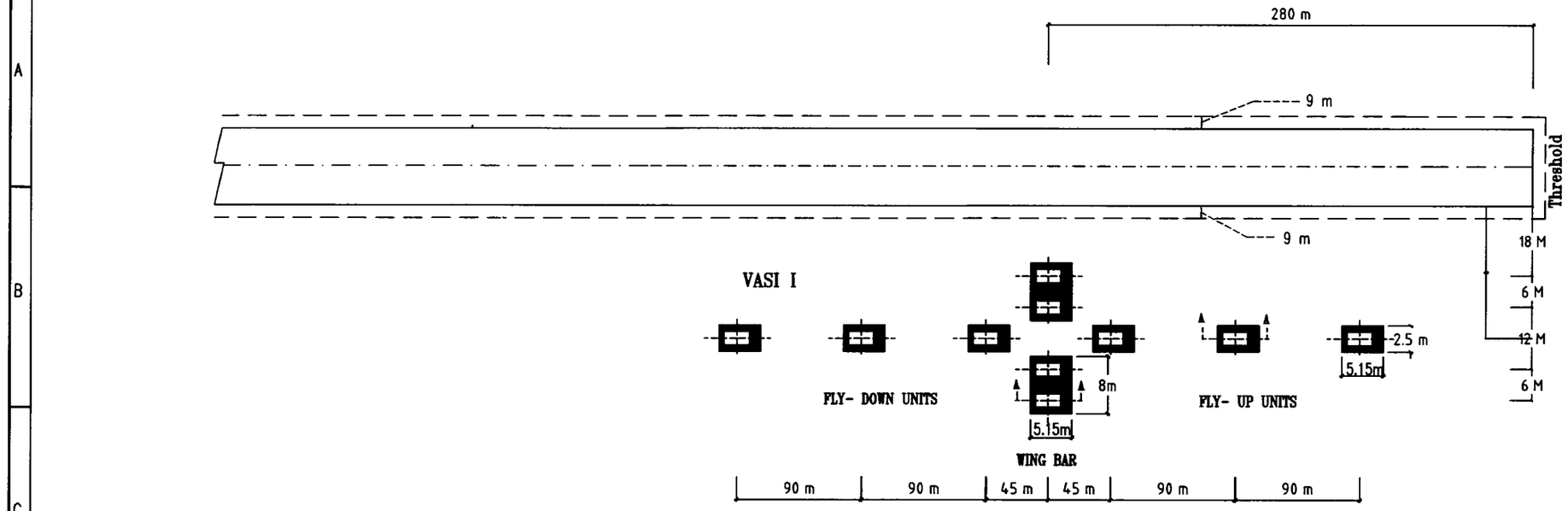
DIPERIKSA :

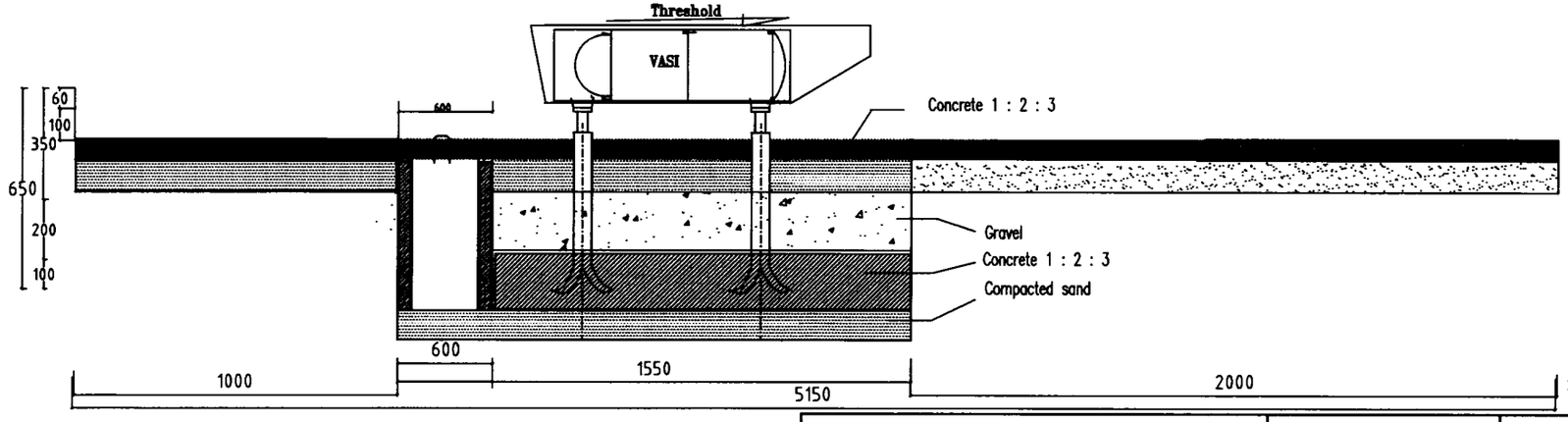
DISETUJUI :



SECTION A – A

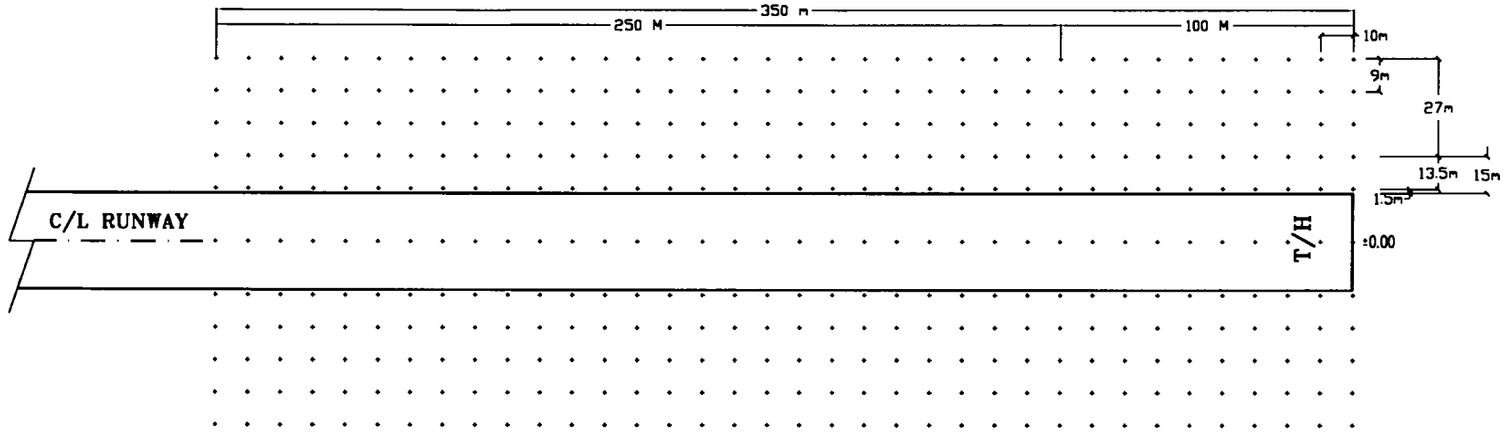
DIREKTORAT JENDERAL PERHUBUNGAN UDARA DIREKTORAT FASILITAS ELEKTRONIKA DAN LISTRIK SUB DIREKTORAT LISTRIK	UMUM	Tahun Anggaran :
Contruction Concrete Slab T- VASI	NOMOR GAMBAR: VA.23.09	KODE LOKASI:
	NOMOR LEMBAR: 1/1	NOMOR URUT:
SKALA :	DIGAMBAR :	DIPERIKSA :
DISETUJUI :		



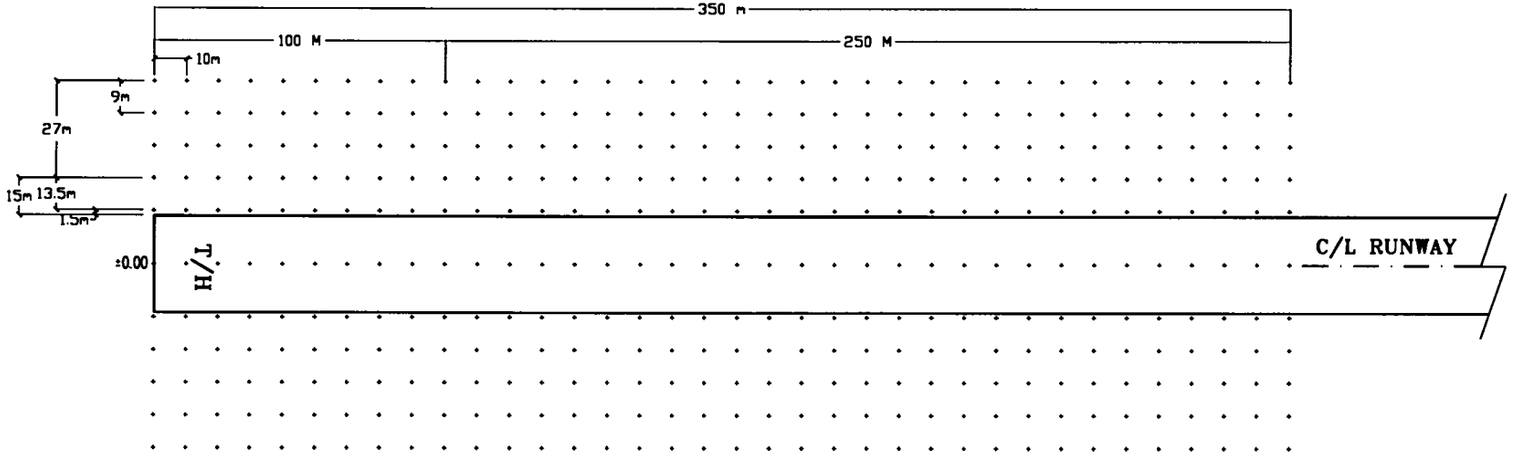


SECTION A – A

DIREKTORAT JENDERAL PERHUBUNGAN UDARA DIREKTORAT FASILITAS ELEKTRONIKA DAN LISTRIK SUB DIREKTORAT LISTRIK	UMUM	Tahun Anggaran :
Contruction Concrete Slab A-T VASI	NOMOR GAMBAR: VA.23.10	KODE LOKASI:
	NOMOR LEMBAR: 1/1	NOMOR URUT:
SKALA :	DIGAMBAR :	DIPERIKSA :
DISETUJUI :		

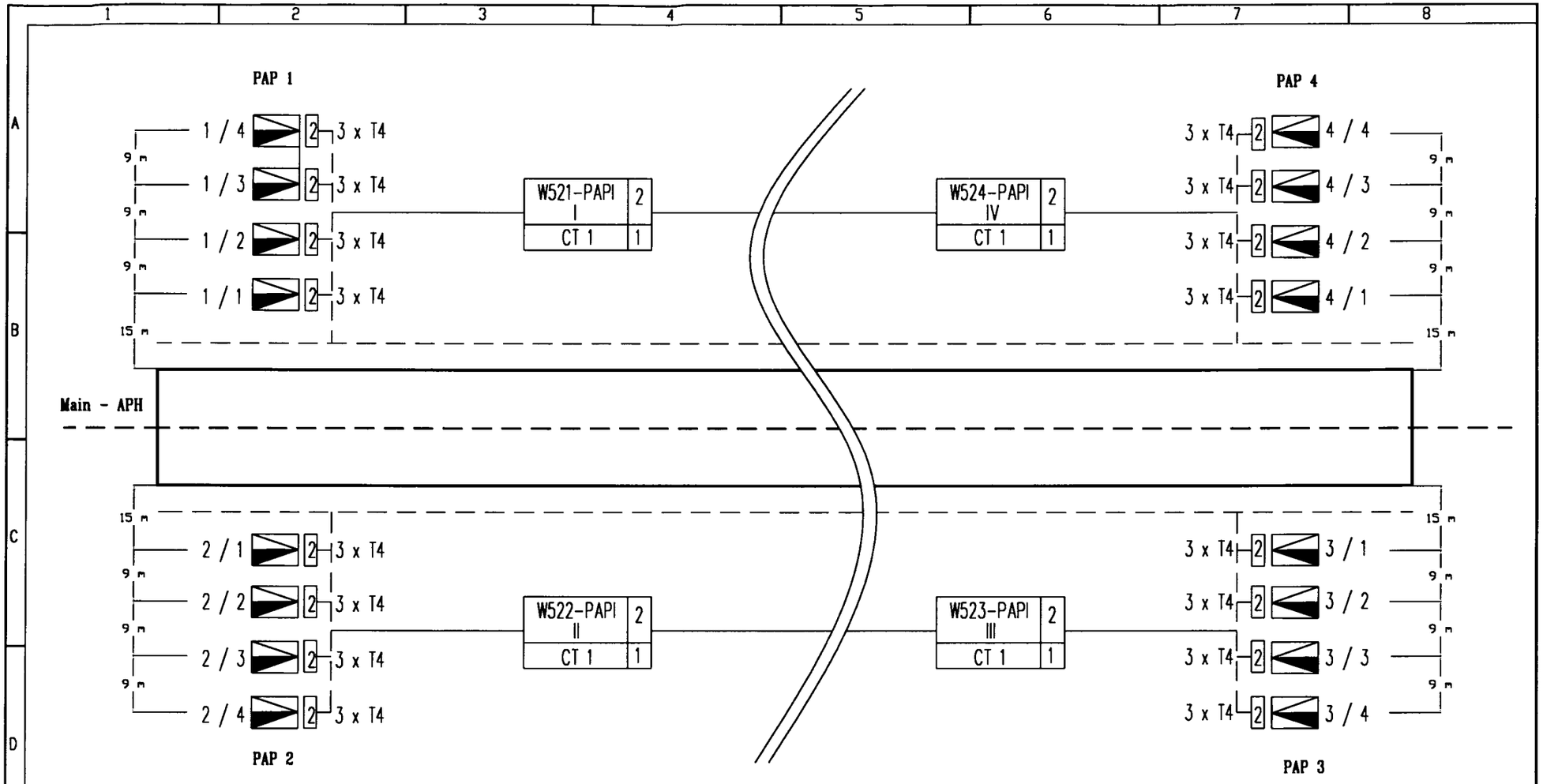


Lenght Distance to Location PAPI



Dimensions in : m

DIREKTORAT JENDERAL PERHUBUNGAN UDARA DIREKTORAT FASILITAS ELEKTRONIKA DAN LISTRIK SUB DIREKTORAT LISTRIK	UMUM	Tahun Anggaran :
Measuring Dots of ground Elevation to Decide on Location PAPI Units	NOMOR GAMBAR: VA.24.01 / KODE LOKASI: / NOMOR LEMBAR: 1/1 / NOMOR URUT:	
SKALA :	DIGAMBAR :	DIPERIKSA : / DISETUJUI :



REMARKS :

1/2 : Location of PAPI / Number of Box PAPI

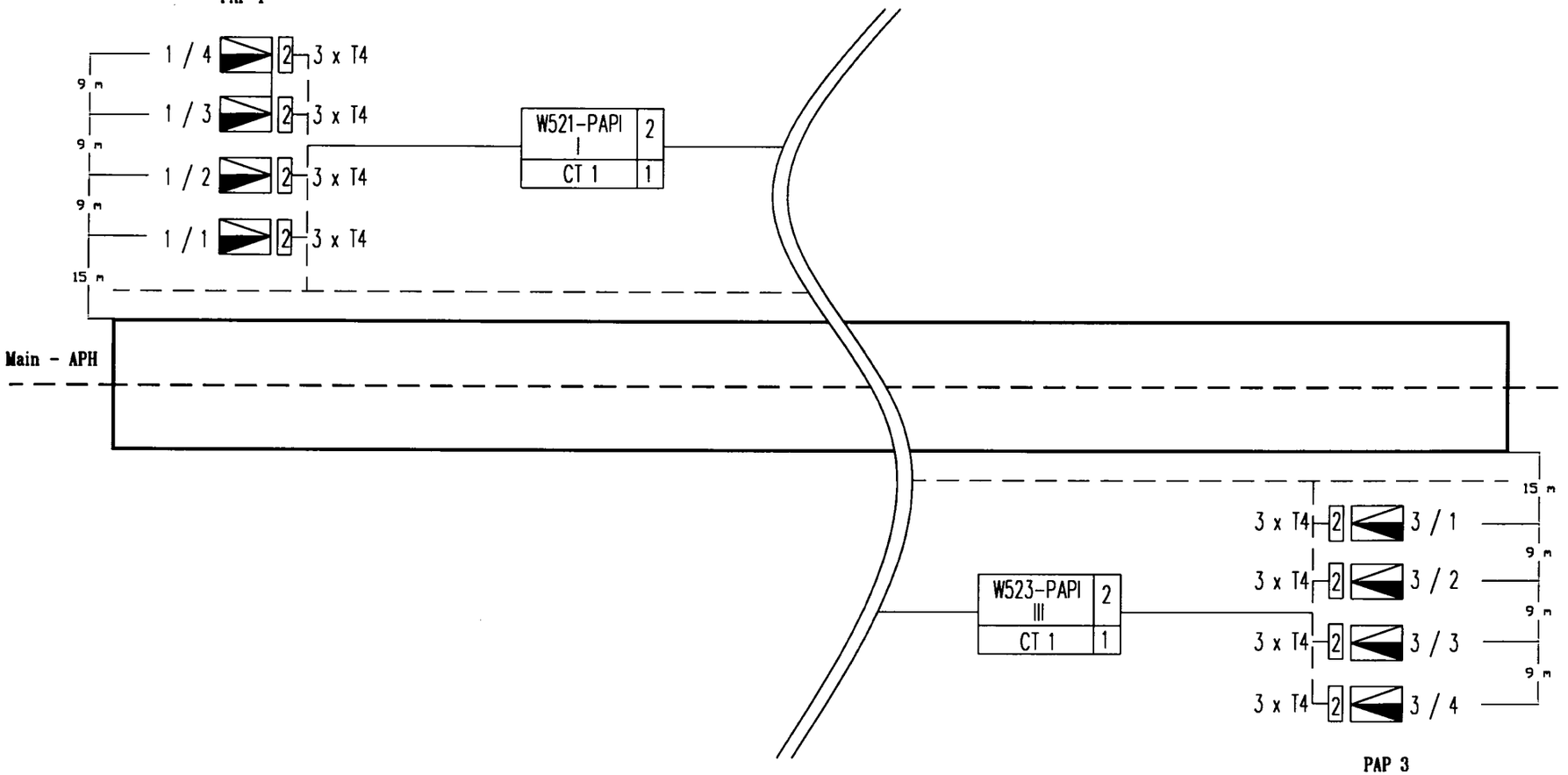
2 x T4 : Quantities of SeriesTrafo x Series Trafo 200w

CT : Cable Trench Size 1

W521-4 : Number of Cable PAPI

Dimensions in : m

DIREKTORAT JENDERAL PERHUBUNGAN UDARA DIREKTORAT FASILITAS ELEKTRONIKA DAN LISTRIK SUB DIREKTORAT LISTRIK	UMUM	Tahun Anggaran :
Layout of Existing PAPI - Installation (3 x 200W)		NOMOR GAMBAR: VA.24.02 / KODE LOKASI / NOMOR LEMBAR: 1/2 / NOMOR URUT
SKALA :	DIGAMBAR :	DIPERIKSA : / DISETUJUI :



REMARKS :

1/2 : Location of PAPI / Number of Box PAPI

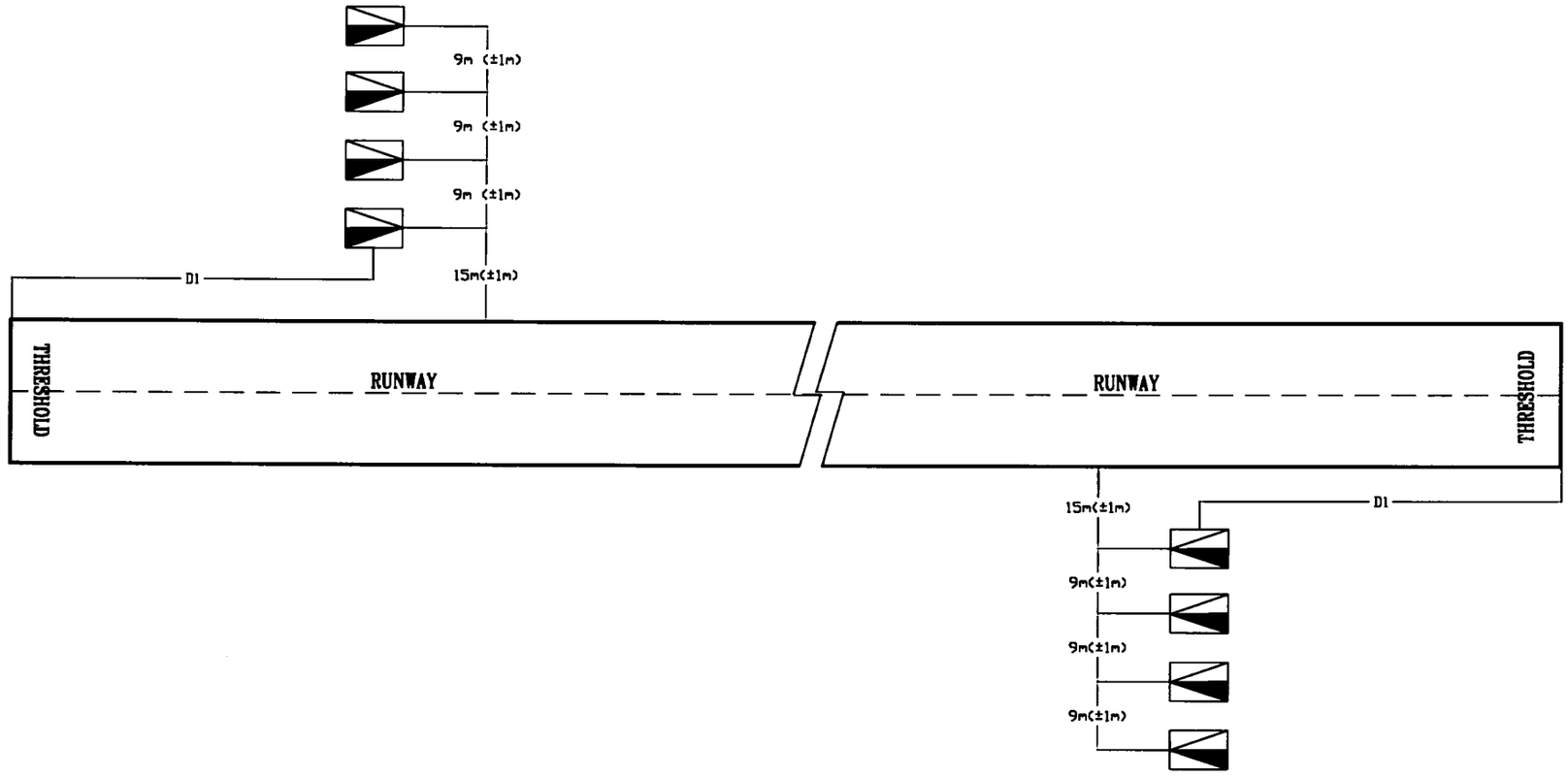
2 x T4 : Quantities of SeriesTrafo x Series Trafo 200w

CT : Cable Trench Size 1

W521-4 : Number of Cable PAPI

Dimensions in : m

DIREKTORAT JENDERAL PERHUBUNGAN UDARA DIREKTORAT FASILITAS ELEKTRONIKA DAN LISTRIK SUB DIREKTORAT LISTRIK	UMUM	Tahun Anggaran :
Layout of Existing PAPI – Installation (3 x 200W)	NOMOR GAMBAR: VA.24.02	KODE LOKASI:
	NOMOR LEMBAR: 2/2	NOMOR URUT:
SKALA :	DIGAMBAR :	DIPERIKSA :
DISETUJUI :		



LEGEND

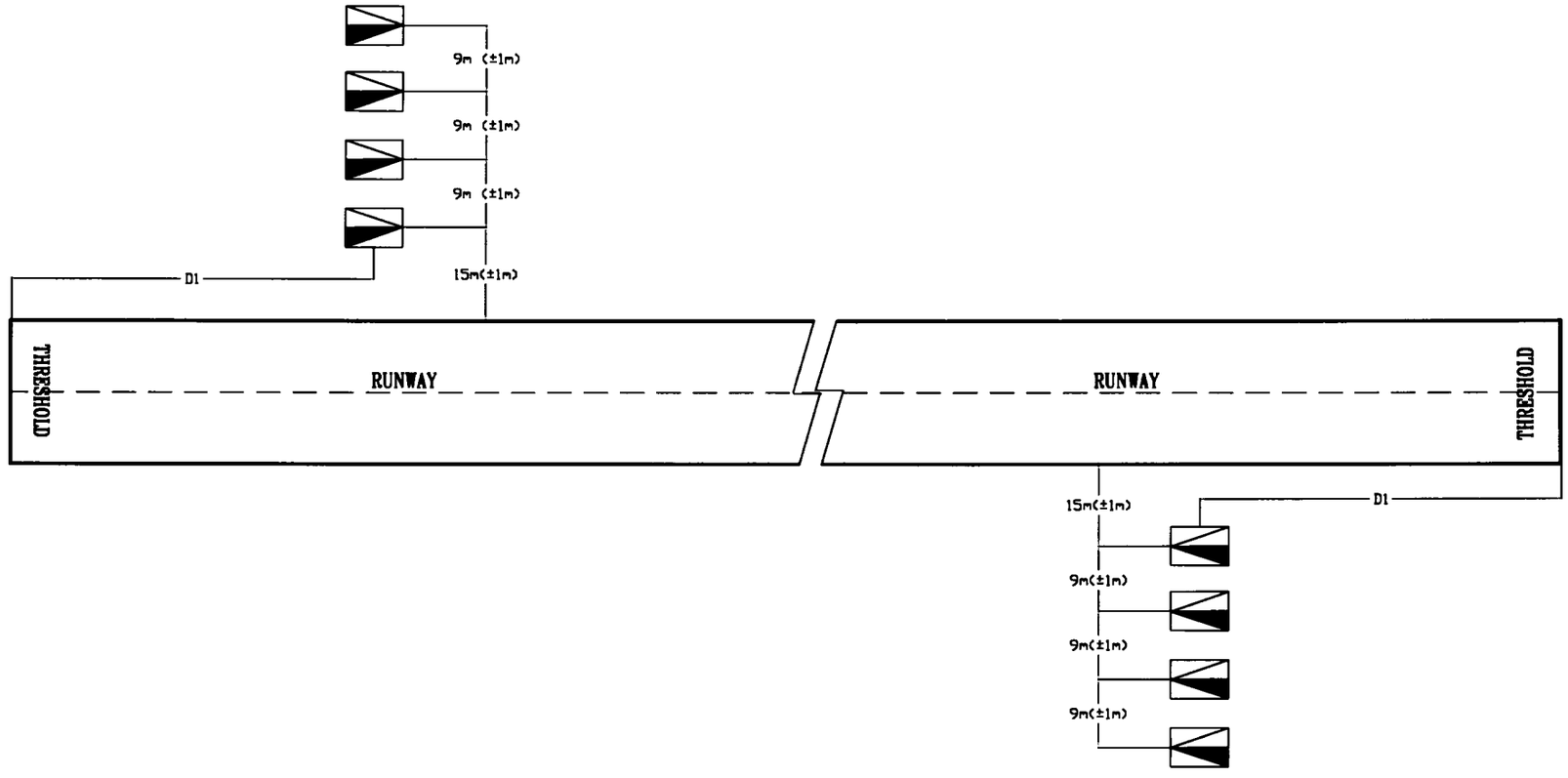
D1 The actual distance has to be recalculated again based on the glide slope of the available largest airplane and the elevation of runway / shoulder where the PAPI unit will be installed

Dimensions in : m

DIREKTORAT JENDERAL PERHUBUNGAN UDARA DIREKTORAT FASILITAS ELEKTRONIKA DAN LISTRIK SUB DIREKTORAT LISTRIK	UMUM	Tahun Anggaran :

Layout of Existing PAPI Installation (3 x 200W)	NOMOR GAMBAR	KODE LOKASI	NOMOR LEMBAR	NOMOR URUT
	VA.24.02		1/2	

SKALA :	DIGAMBAR :	DIPERIKSA :	DISETUJUI :

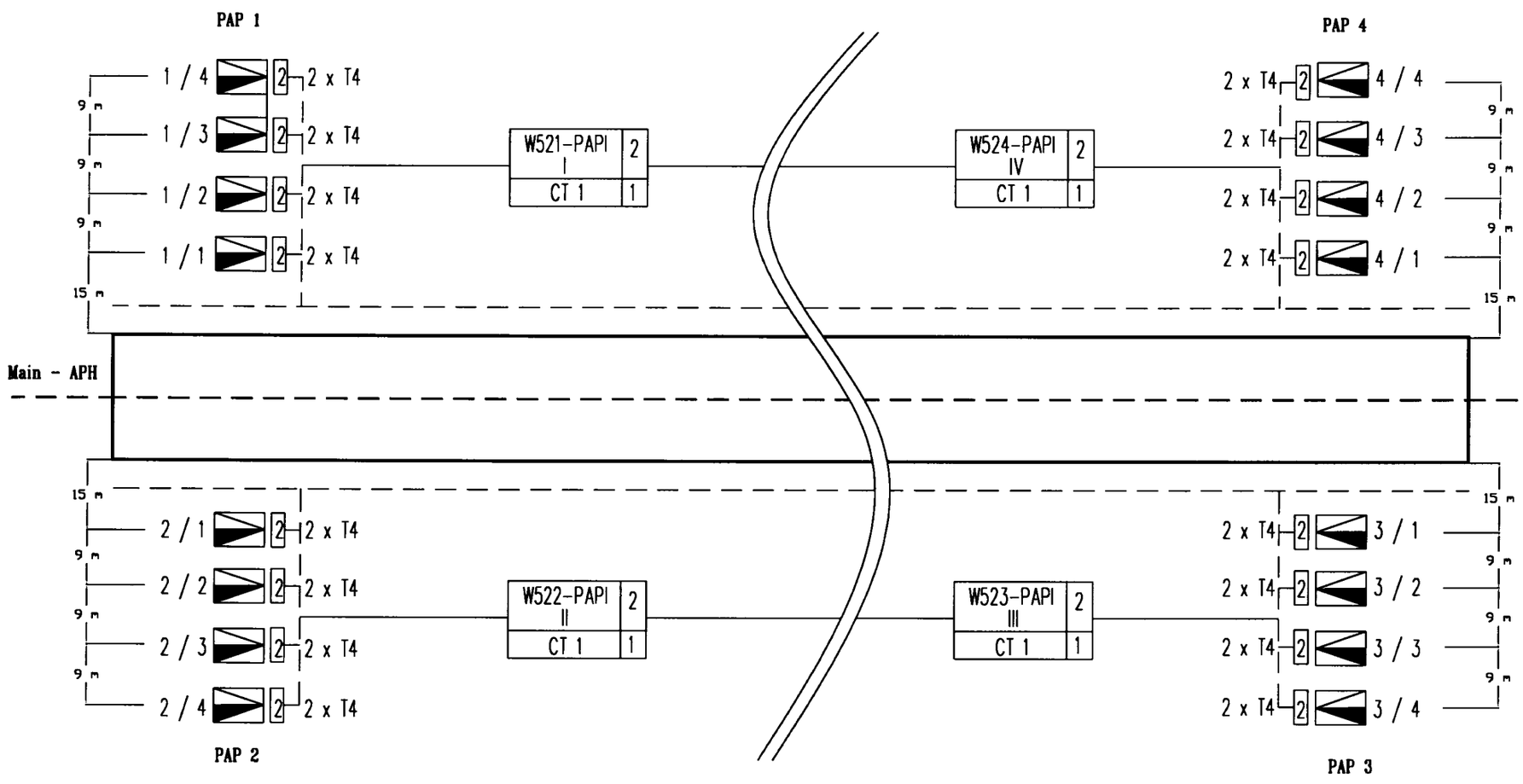


LEGEND

D1 The actual distance has to be recalculated again based on the glide slope of the available largest airplane and the elevation of runway / shoulder where the PAPI unit will be installed

Dimensions in : m

DIREKTORAT JENDERAL PERHUBUNGAN UDARA DIREKTORAT FASILITAS ELEKTRONIKA DAN LISTRIK SUB DIREKTORAT LISTRIK	UMUM	Tahun Anggaran :
Layout of Existing PAPI Installation (3 x 200W)	NOMOR GAMBAR: VA.24.02 / KODE LOKASI: / NOMOR LEMBAR: 2/2 / NOMOR URUT:	
SKALA :	DIGAMBAR :	DIPERIKSA : / DISETUJUI :



REMARKS :

1/2 : Location of PAPI / Number of Box PAPI

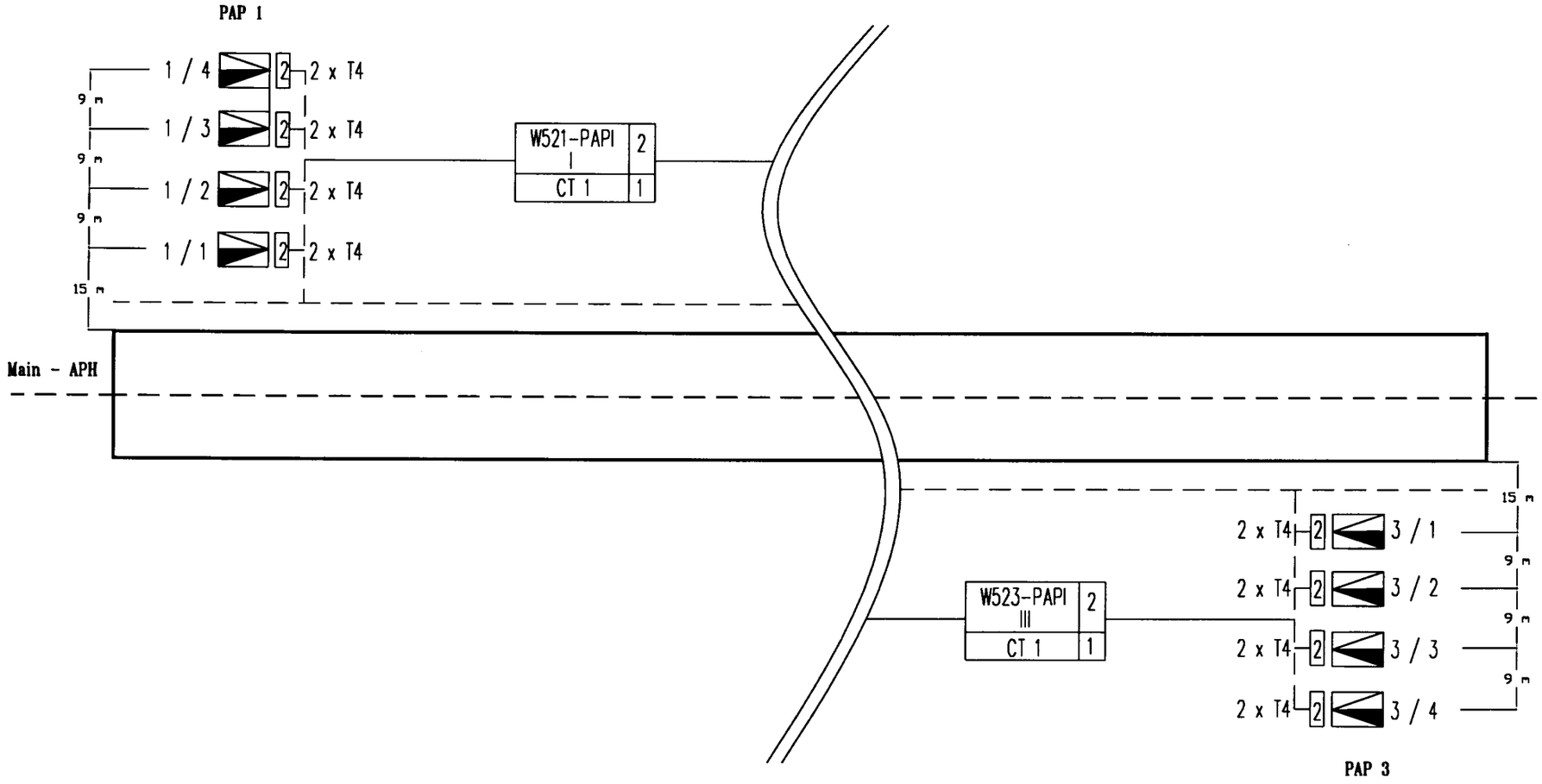
2 x T4 : Quantities of SeriesTrafo x Series Trafo 200w

CT : Cable Trench Size 1

W521-4 : Number of Coble PAPI

Dimensions in : m

DIREKTORAT JENDERAL PERHUBUNGAN UDARA DIREKTORAT FASILITAS ELEKTRONIKA DAN LISTRIK SUB DIREKTORAT LISTRIK	UMUM	Tahun Anggaran :
Layout of Existing PAPI - Installation (2 x 200W)		NOMOR GAMBAR: VA.24.03 / KODE LOKASI / NOMOR LEMBAR: 1/2 / NOMOR URUT
SKALA :	DIGAMBAR :	DIPERIKSA : / DISETUJUI :



REMARKS :

1/2 : Location of PAPI / Number of Box PAPI

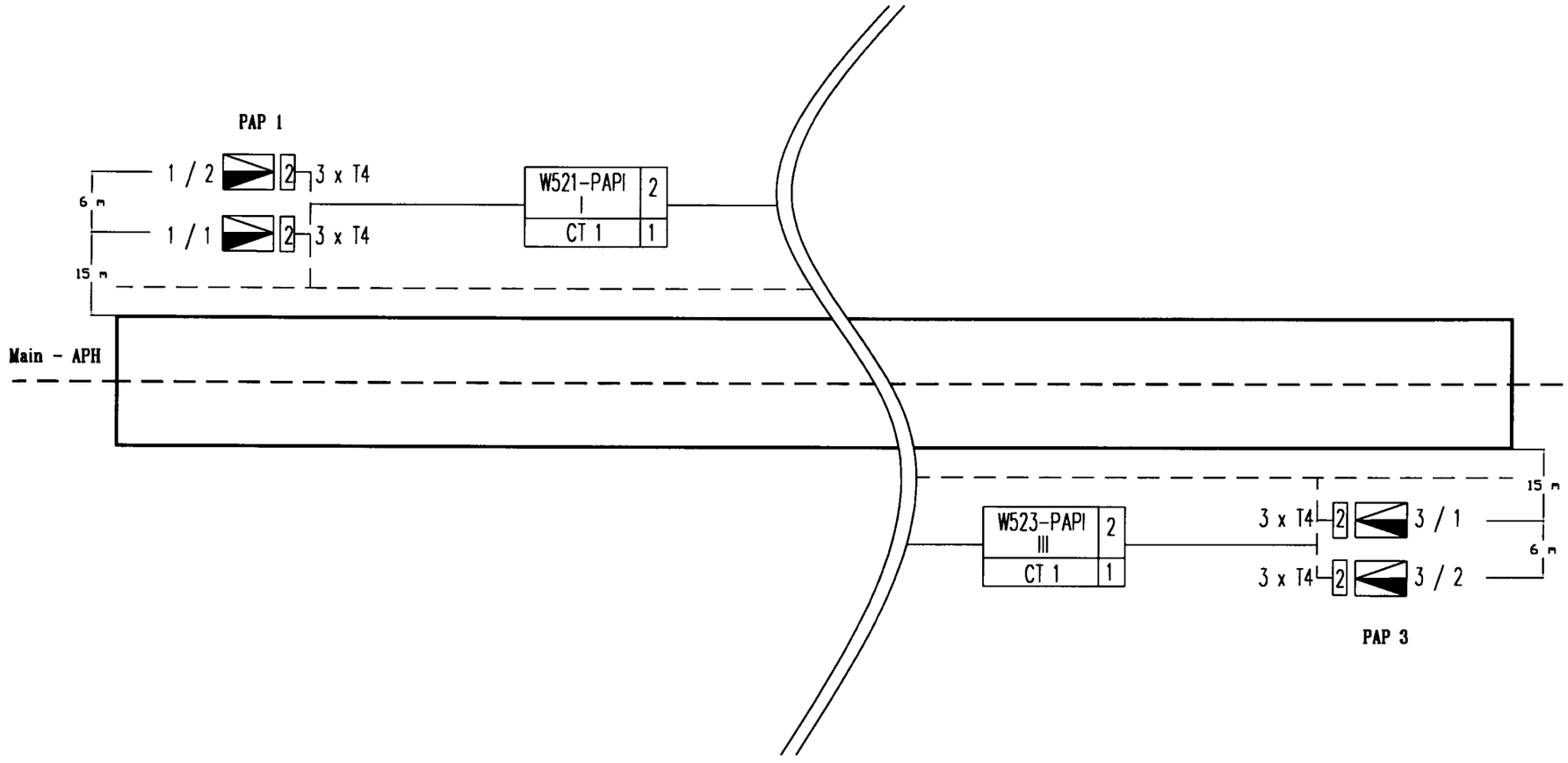
2 x T4 : Quantities of SeriesTrafo x Series Trafo 200w

CT : Cable Trench Size 1

W521-4 : Number of Cable PAPI

Dimensions in : m

DIREKTORAT JENDERAL PERHUBUNGAN UDARA DIREKTORAT FASILITAS ELEKTRONIKA DAN LISTRIK SUB DIREKTORAT LISTRIK	UMUM	Tahun Anggaran :
Layout of Existing PAPI - Installation (2 x 200W)	NOMOR GAMBAR: VA.24.03	KODE LOKASI:
	NOMOR LEMBAR: 2/2	NOMOR URUT:
SKALA :	DIGAMBAR :	DIPERIKSA :
DISETUJUI :		



REMARKS :

1/2 : Location of PAPI / Number of Box PAPI

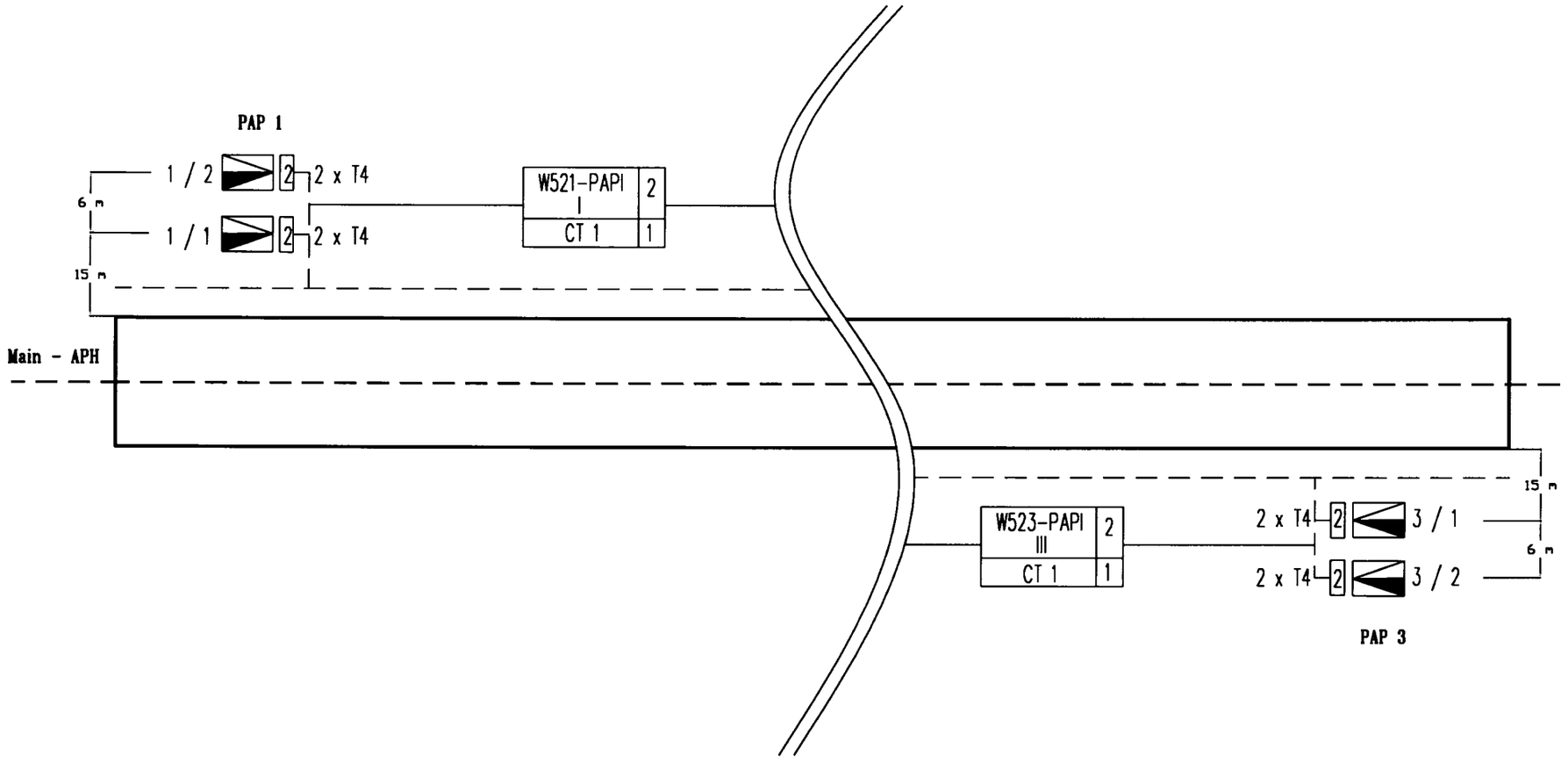
2 x T4 : Quantities of SeriesTrafo x Series Trafo 200w

CT : Cable Trench Size 1

W521-4 : Number of Cable PAPI

Dimensions in : m

DIREKTORAT JENDERAL PERHUBUNGAN UDARA DIREKTORAT FASILITAS ELEKTRONIKA DAN LISTRIK SUB DIREKTORAT LISTRIK	UMUM	Tahun Anggaran :
Layout of Existing A PAPI - Installation (3 x 200W)	NOMOR GAMBAR: VA.24.04 / KODE LOKASI / NOMOR LEMBAR: 1/2 / NOMOR URUT	
SKALA :	DIGAMBAR :	DIPERIKSA : / DISETUJUI :



REMARKS :

1/2 : Location of PAPI / Number of Box PAPI

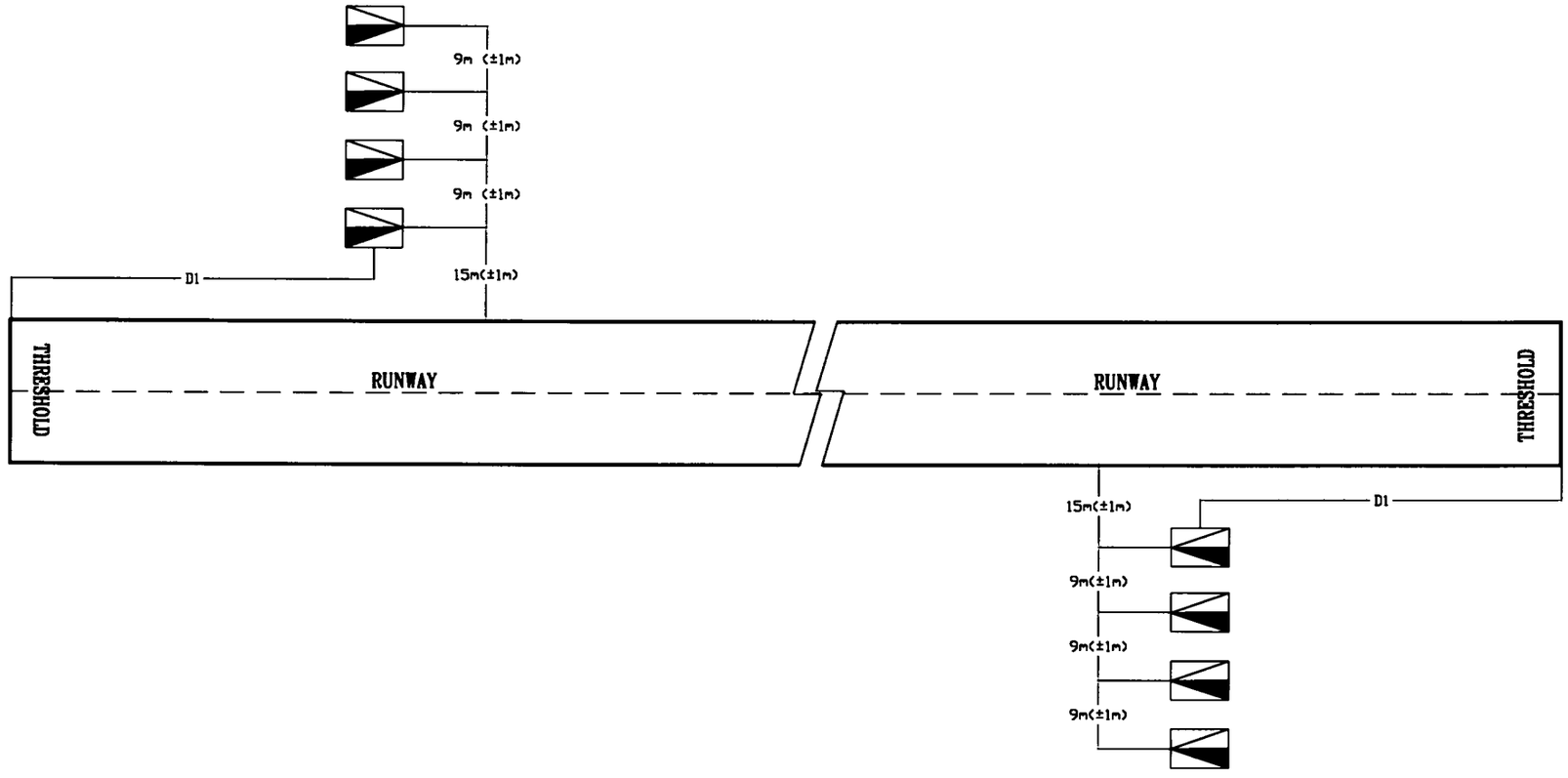
2 x T4 : Quantities of SeriesTrafo x Series Trafo 200w

CT : Cable Trench Size 1

W521-4 : Number of Cable PAPI

Dimensions in : m

DIREKTORAT JENDERAL PERHUBUNGAN UDARA DIREKTORAT FASILITAS ELEKTRONIKA DAN LISTRIK SUB DIREKTORAT LISTRIK	UMUM	Tahun Anggaran :
Layout of Existing A PAPI - Installation (2 x 200W)	NOMOR GAMBAR: VA.24.04 / KODE LOKASI / NOMOR LEMBAR: 2/2 / NOMOR URUT	
SKALA :	DIGAMBAR :	DIPERIKSA : / DISETUJUI :

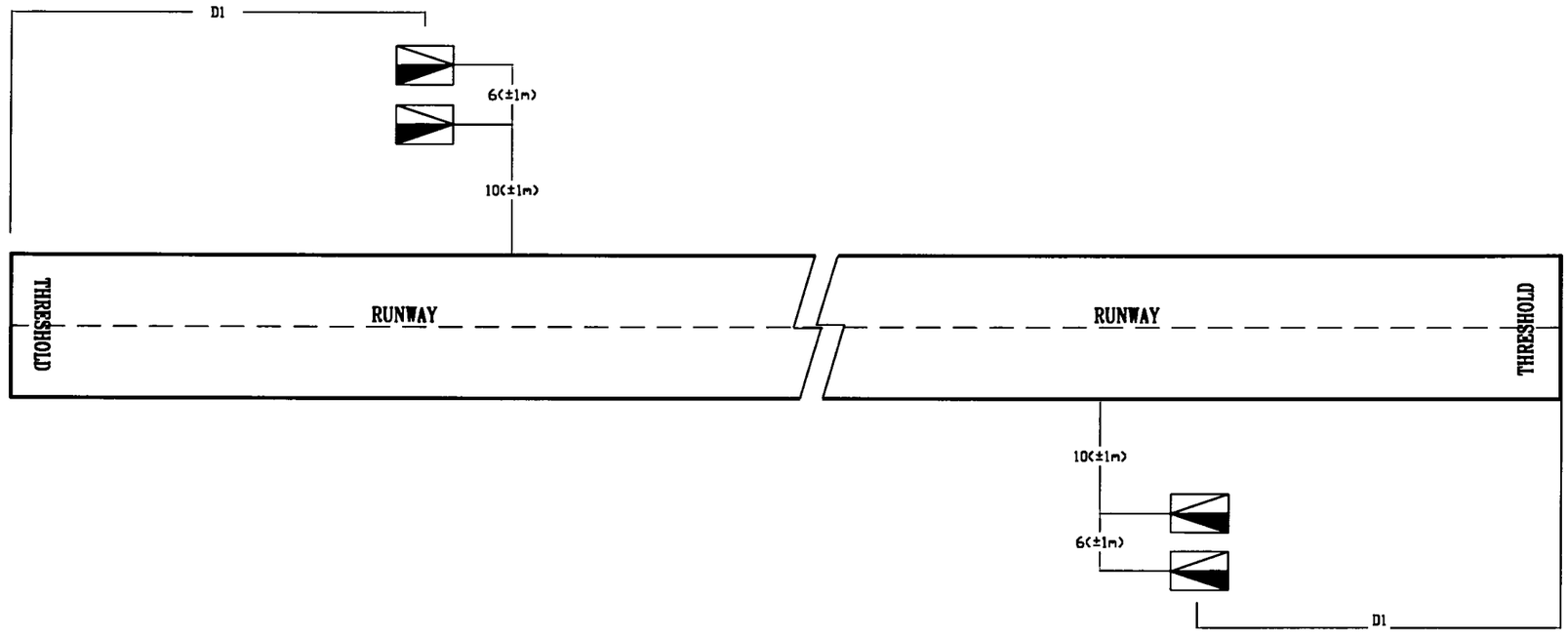


LEGEND

D1 The actual distance has to be recalculated again based on the glide slope of the available largest airplane and the elevation of runway / shoulder where the PAPI unit will be installed

Dimensions in : m

DIREKTORAT JENDERAL PERHUBUNGAN UDARA DIREKTORAT FASILITAS ELEKTRONIKA DAN LISTRIK SUB DIREKTORAT LISTRIK	UMUM	Tahun Anggaran :
Standard Distance of Location PAPI	NOMOR GAMBAR: VA.24.05 / KODE LOKASI / NOMOR LEMBAR: 1/1 / NOMOR URUT	
SKALA :	DIGAMBAR :	DIPERIKSA : / DISETUJUI :

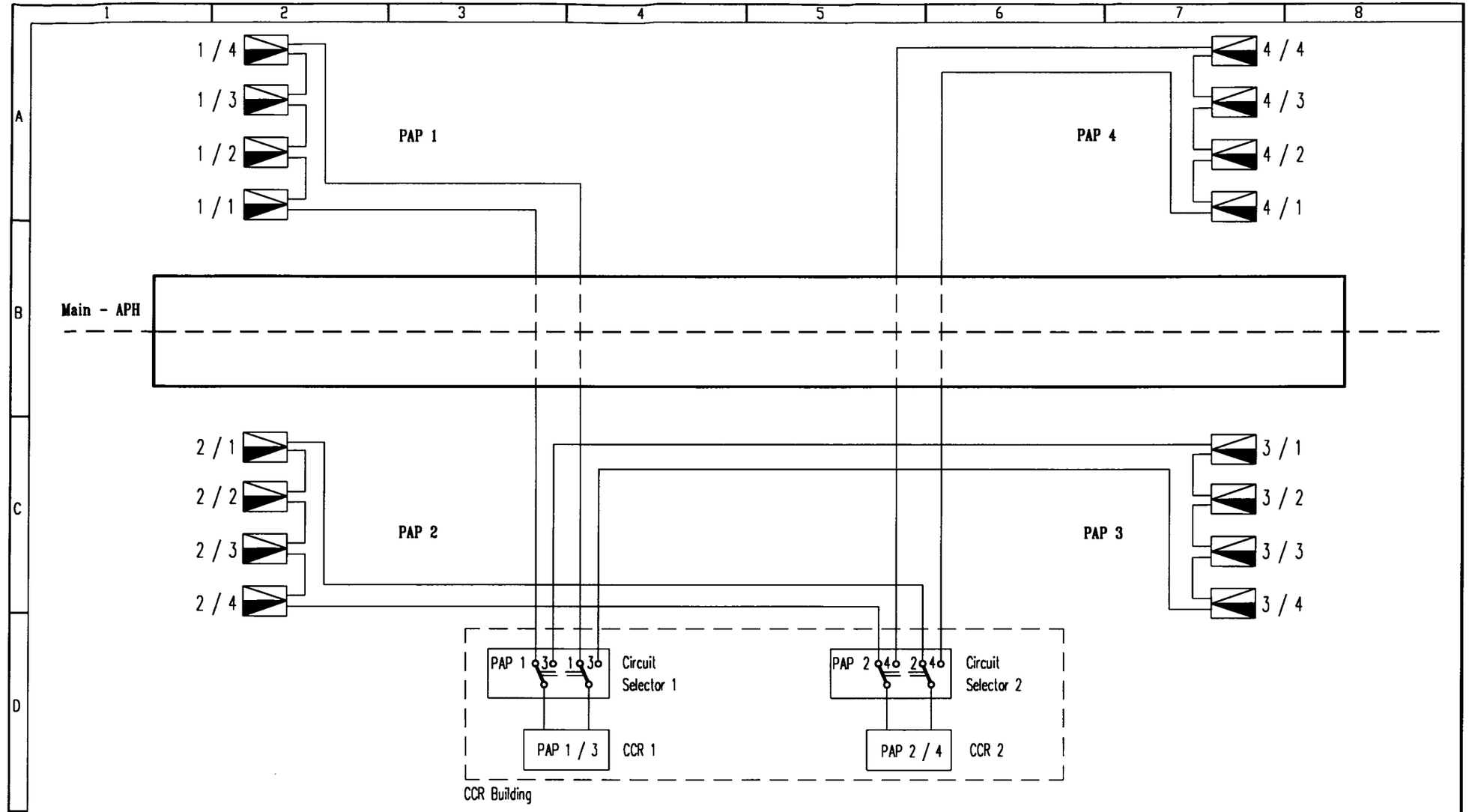


LEGEND

D1 The actual distance has to be recalculated again based on the glide slope of the available largest airplane and the elevation of runway / shoulder where the PAPI unit will be installed

Dimensions in : m

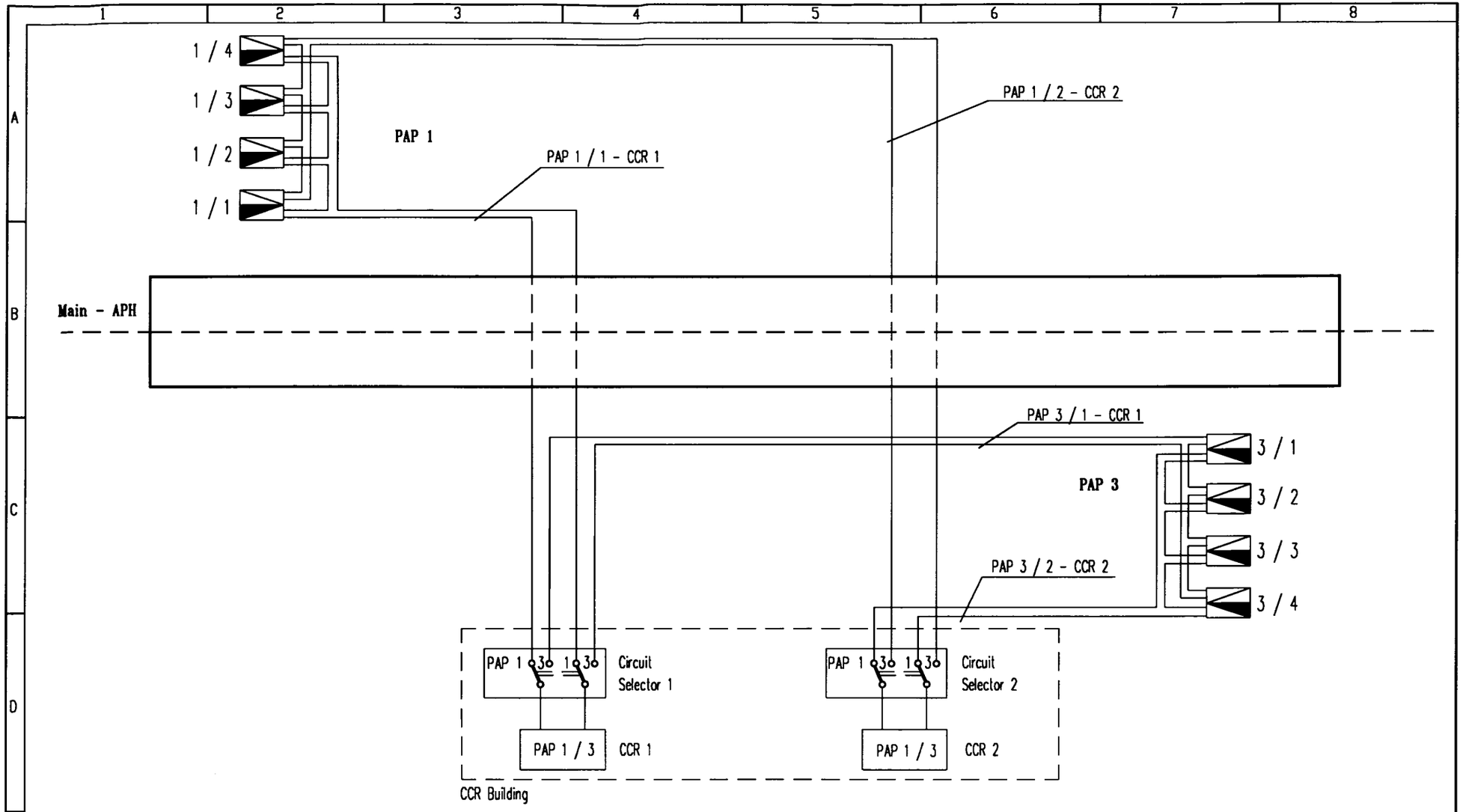
DIREKTORAT JENDERAL PERHUBUNGAN UDARA DIREKTORAT FASILITAS ELEKTRONIKA DAN LISTRIK SUB DIREKTORAT LISTRIK	UMUM	Tahun Anggaran :
Standard Distance of Location A PAPI	NOMOR GAMBAR: VA.24.06 / KODE LOKASI / NOMOR LEMBAR: 1/1 / NOMOR URUT	
SKALA :	DIGAMBAR :	DIPERIKSA : / DISETUJUI :



All series coble : FLYCY 1 x 6 1/2 KV

This design is volid for PAP 1 + PAP 3 (or PAP 2 + PAP 4) arrangement also

DIREKTORAT JENDERAL PERHUBUNGAN UDARA DIREKTORAT FASILITAS ELEKTRONIKA DAN LISTRIK SUB DIREKTORAT LISTRIK	UMUM	Tahun Anggaran :
PAPI - Circuit and Selector		NOMOR GAMBAR: VA.24.07 / KODE LOKASI / NOMOR LEMBAR: 1/2 / NOMOR URUT
SKALA :	DIGAMBAR :	DIPERIKSA : / DISETUJUI :



All series coble : FLYCY 1 x 6 1/2 KV

DIREKTORAT JENDERAL PERHUBUNGAN UDARA
DIREKTORAT FASILITAS ELEKTRONIKA DAN LISTRIK
SUB DIREKTORAT LISTRIK

UMUM

Tahun Anggaran :

PAP 1 + 3 Circuit and Selector

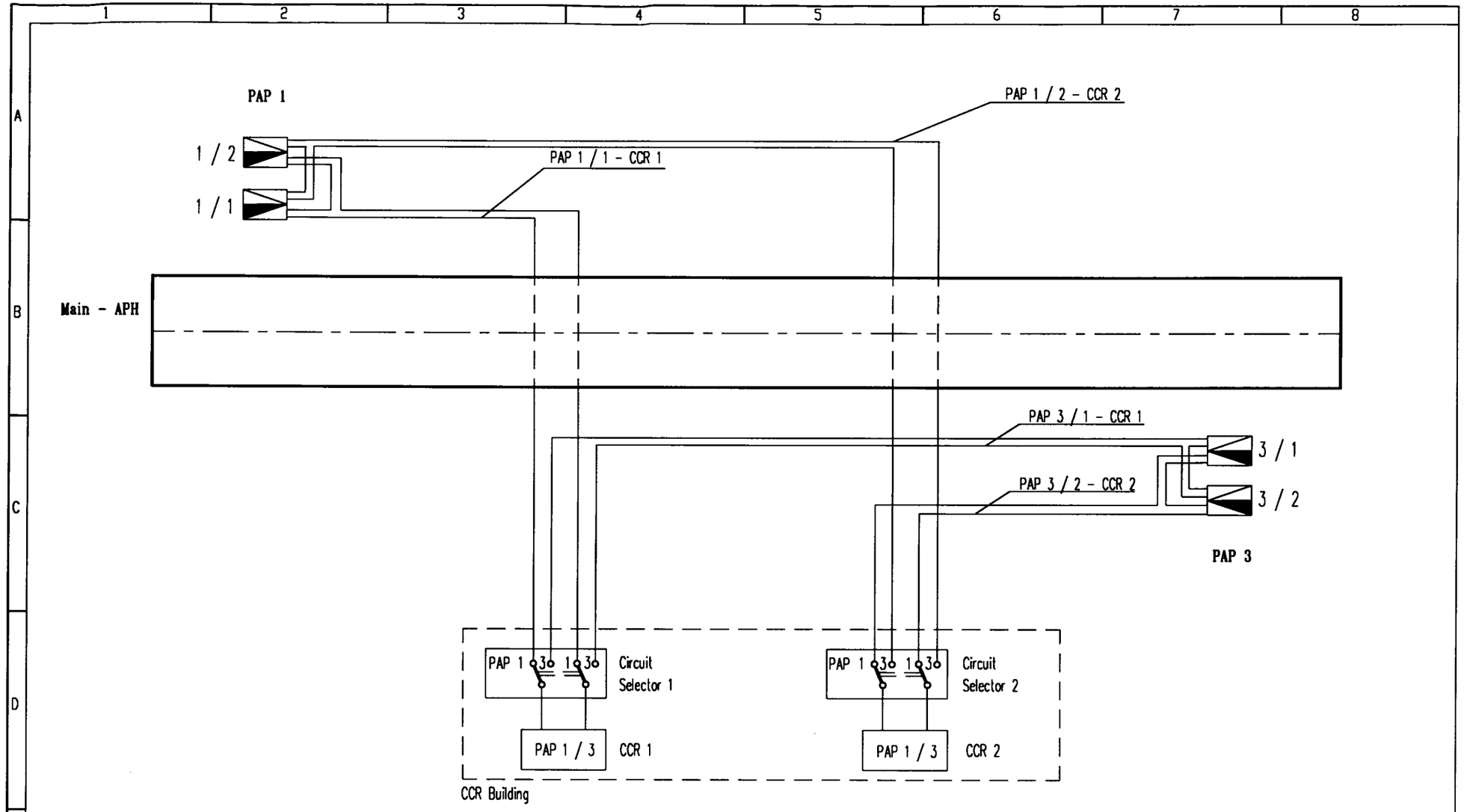
NOMOR GAMBAR	KODE LOKASI	NOMOR LEMBAR	NOMOR URUT
VA.24.07		2/2	

SKALA :

DIGAMBAR :

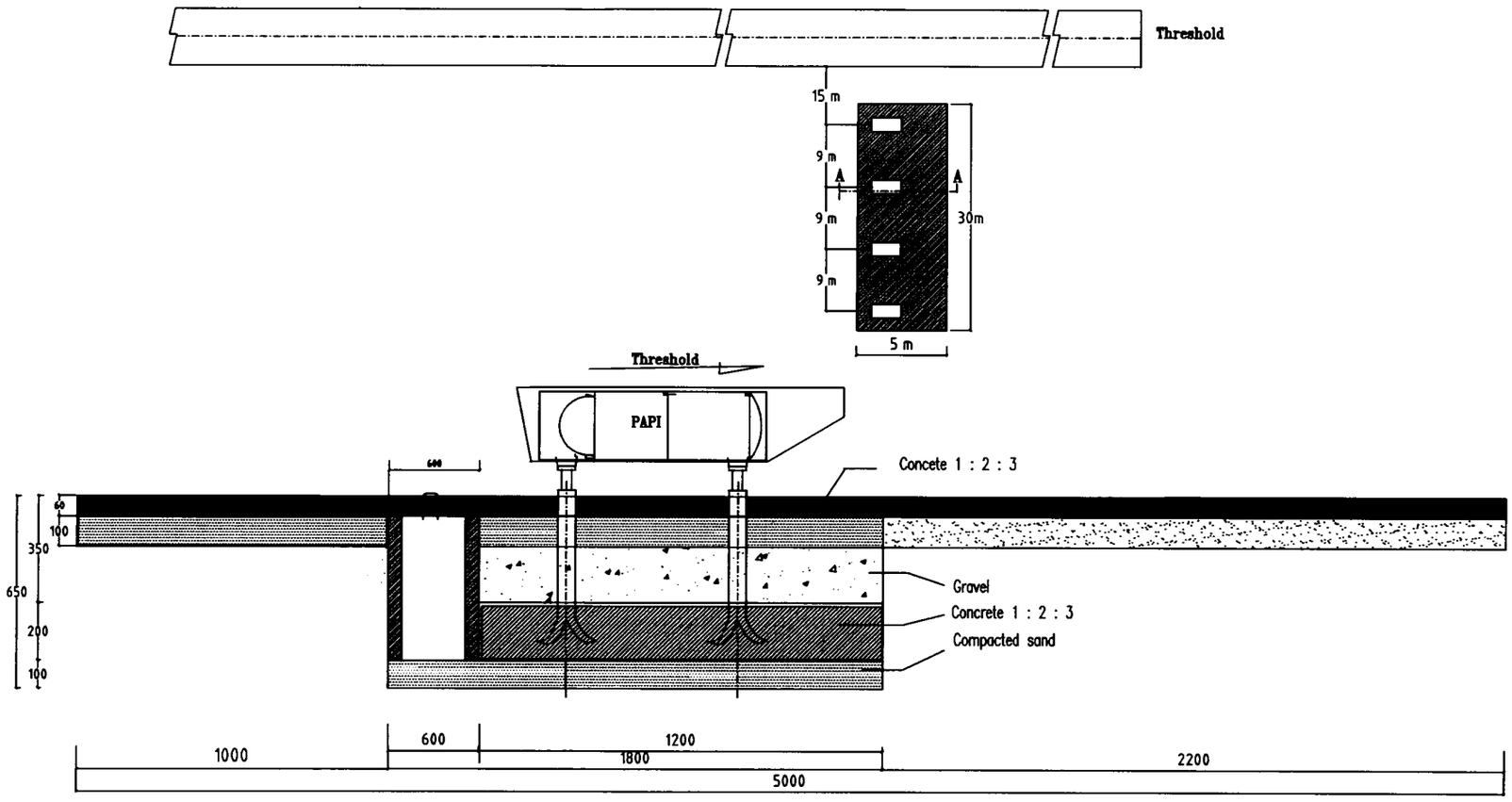
DIPERIKSA :

DISETUJUI :



All series cable : FLYCY 1 x 6 1/2 KV

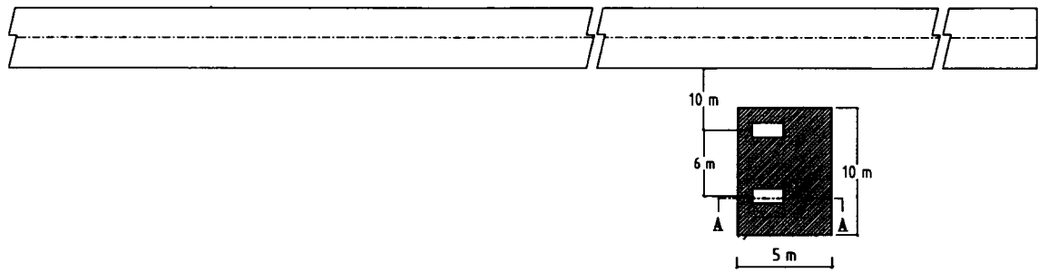
DIREKTORAT JENDERAL PERHUBUNGAN UDARA DIREKTORAT FASILITAS ELEKTRONIKA DAN LISTRIK SUB DIREKTORAT LISTRIK	UMUM	Tahun Anggaran :
A - PAP - Circuit and Selector	NOMOR GAMBAR: VA.24.08	KODE LOKASI:
	NOMOR LEMBAR: 1/1	NOMOR URUT:
SKALA :	DIGAMBAR :	DIPERIKSA :
DISETUJUI :		

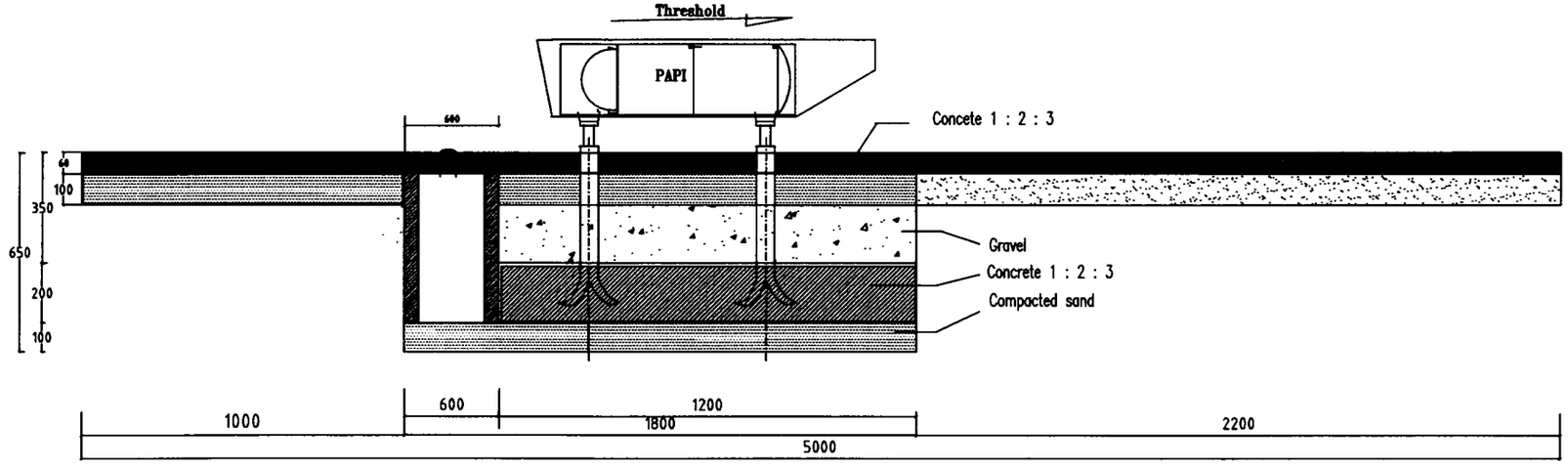


SECTION A – A

Dimensions in : mm

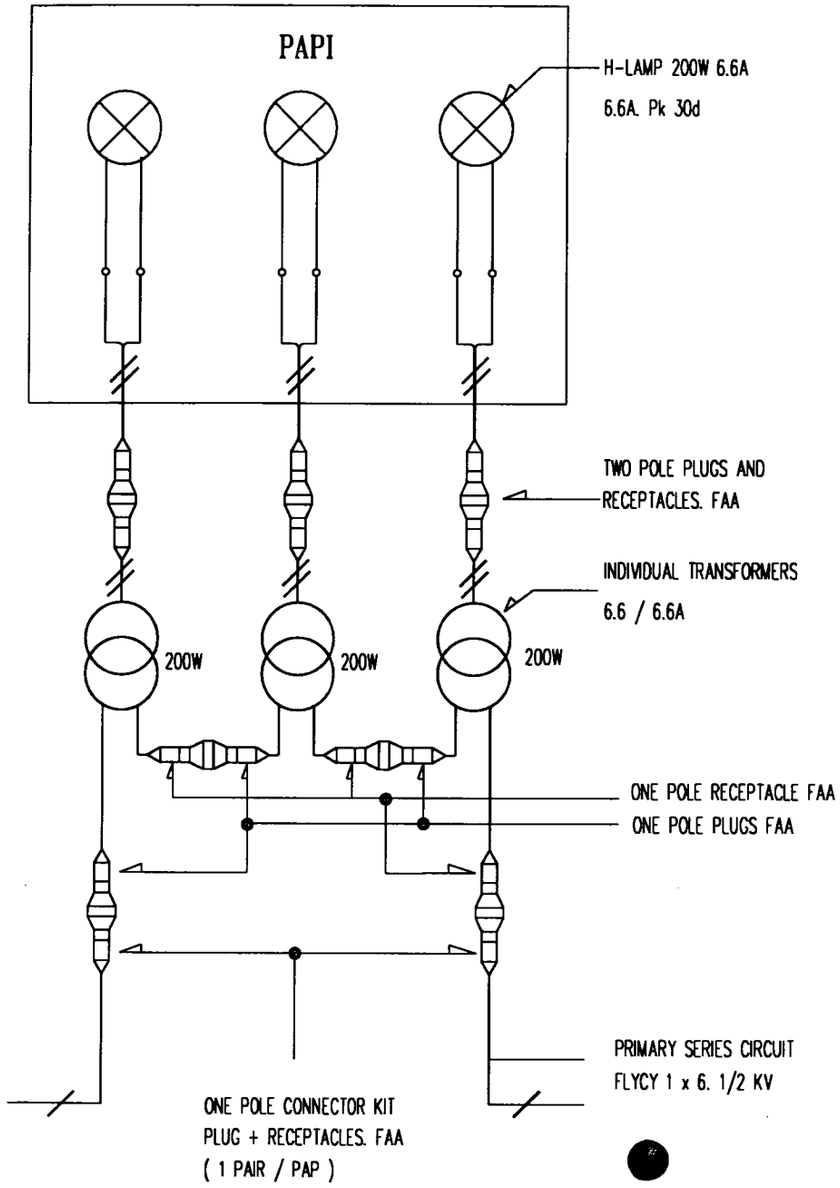
DIREKTORAT JENDERAL PERHUBUNGAN UDARA DIREKTORAT FASILITAS ELEKTRONIKA DAN LISTRIK SUB DIREKTORAT LISTRIK	UMUM	Tahun Anggaran :
Contruction Concrete Slab PAPI	NOMOR GAMBAR: VA.24.09	KODE LOKASI:
	NOMOR LEMBAR: 1/1	NOMOR URUT:
SKALA :	DIGAMBAR :	DIPERIKSA :
		DISETUJUI :



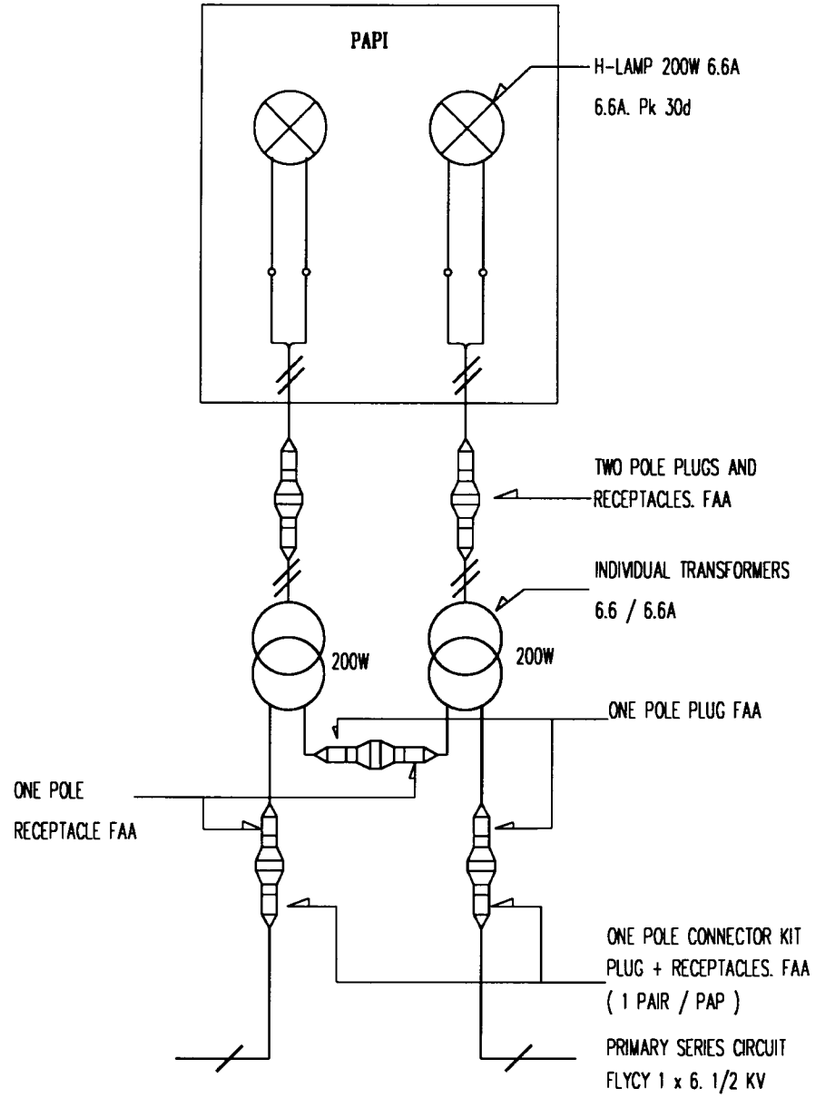


SECTION A – A

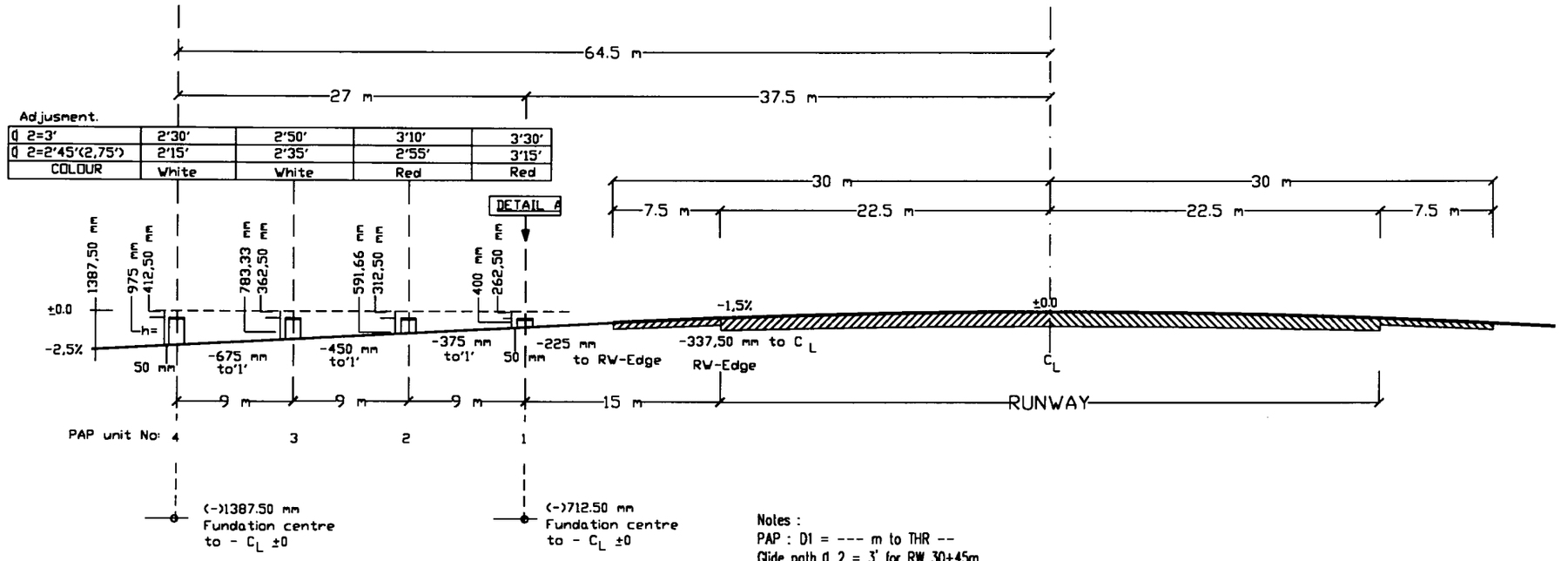
DIREKTORAT JENDERAL PERHUBUNGAN UDARA DIREKTORAT FASILITAS ELEKTRONIKA DAN LISTRIK SUB DIREKTORAT LISTRIK	UMUM	Tahun Anggaran :
Contruction Concrete Slab A – PAPI	NOMOR GAMBAR: VA.24.10	KODE LOKASI:
	NOMOR LEMBAR: 1/1	NOMOR URUT:
SKALA :	DIGAMBAR :	DIPERIKSA :
DISETUJUI :		



DIREKTORAT JENDERAL PERHUBUNGAN UDARA DIREKTORAT FASILITAS ELEKTRONIKA DAN LISTRIK SUB DIREKTORAT LISTRIK	UMUM	Tahun Anggaran :
PAP (3 x 200W) Wiring diagram of a single unit	NOMOR GAMBAR: VA.24.11 / KODE LOKASI / NOMOR LEMBAR: 1/1 / NOMOR URUT	
SKALA :	DIGAMBAR :	DIPERIKSA : / DISETUJUI :

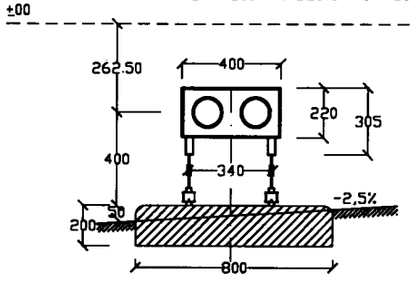


DIREKTORAT JENDERAL PERHUBUNGAN UDARA DIREKTORAT FASILITAS ELEKTRONIKA DAN LISTRIK SUB DIREKTORAT LISTRIK	UMUM	Tahun Anggaran :
PAP (2 x 200W) Wiring diagram of a single unit	NOMOR GAMBAR: VA.24.12 / KODE LOKASI / NOMOR LEMBAR: 1/1 / NOMOR URUT	
SKALA :	DIGAMBAR :	DIPERIKSA : / DISETUJUI :

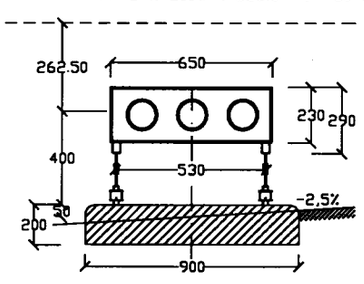


Adjusment.				
∢ 2=3'	2'30'	2'50'	3'10'	3'30'
∢ 2=2'45'(2,75')	2'15'	2'35'	2'55'	3'15'
COLOUR	White	White	Red	Red

DETAIL A for PAP No.1
PAP 2 x 200W (scale : 1 : 50)



DETAIL A for PAP No.1
PAP 3 x 200W (scale : 1 : 50)



Notes :
PAP : D1 = --- m to THR --
Glide path ∢ 2 = 3' for RW 30+45m
∢ 2 = 2'45' (2,75') for RW 30+45m

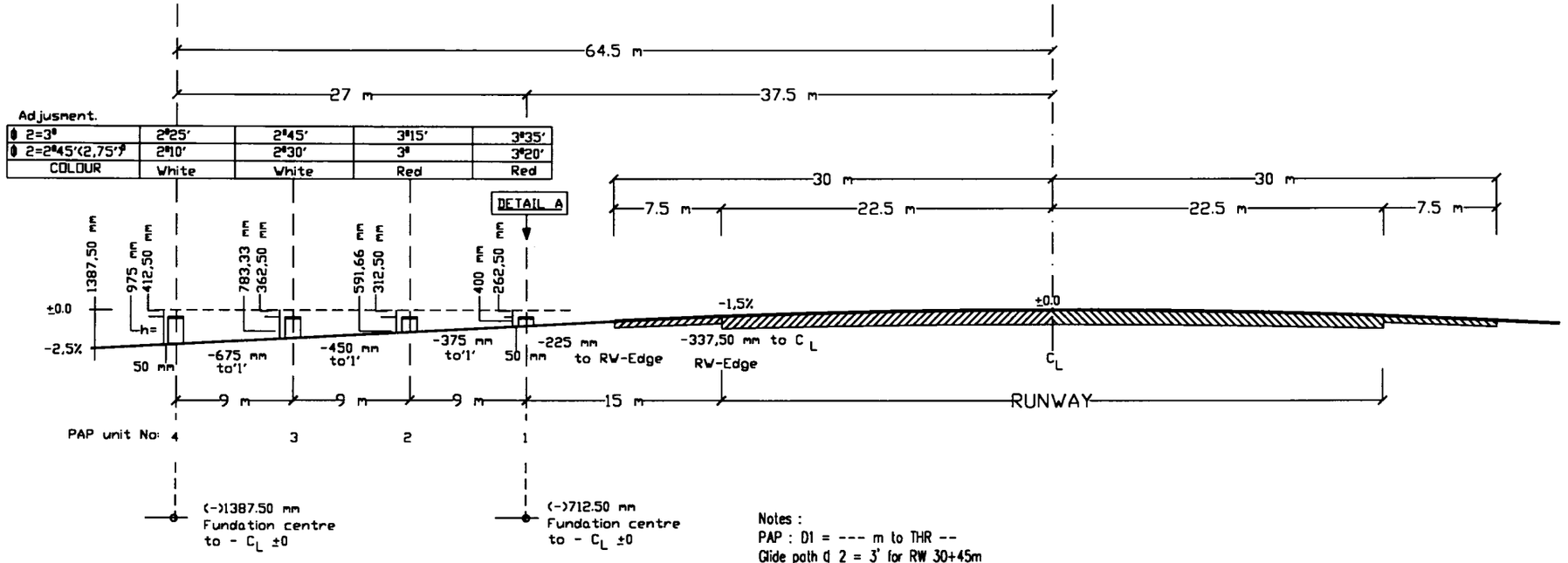
- Dimensions
  Installation heights PAP and slopes in mm (-)

Dimensions in : m

DIREKTORAT JENDERAL PERHUBUNGAN UDARA DIREKTORAT FASILITAS ELEKTRONIKA DAN LISTRIK SUB DIREKTORAT LISTRIK	UMUM	Tahun Anggaran :

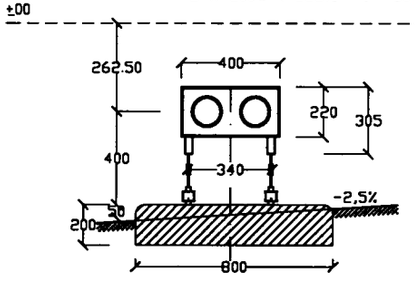
TYPICAL PAP - installation,cros section (for PAP 2 x 200W or 3 x 200W) w/o ILS ' Standard '	NOMOR GAMBAR	KODE LOKASI	NOMOR LEMBAR	NOMOR URUT
	VA.24.13		1/2	

SKALA :	GAMBAR :	DIPERIKSA :	DISETUJUI :

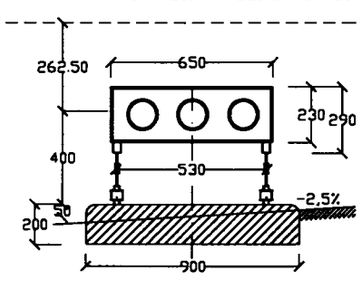


Adjusment.				
ϕ 2=3°	2°25'	2°45'	3°15'	3°35'
ϕ 2=2°45'(2,75')	2°10'	2°30'	3°	3°20'
COLOUR	White	White	Red	Red

DETAIL A for PAP No.1
PAP 2 x 200W (scale : 1 : 50)



DETAIL A for PAP No.1
PAP 3 x 200W (scale : 1 : 50)



Notes :
PAP : D1 = --- m to THR --
Glide path ϕ 2 = 3' for RW 30+45m
ϕ 2 = 2'45' (2,75') for RW 30+45m

- Dimensions
  Installation heights PAP and slopes in mm (-)

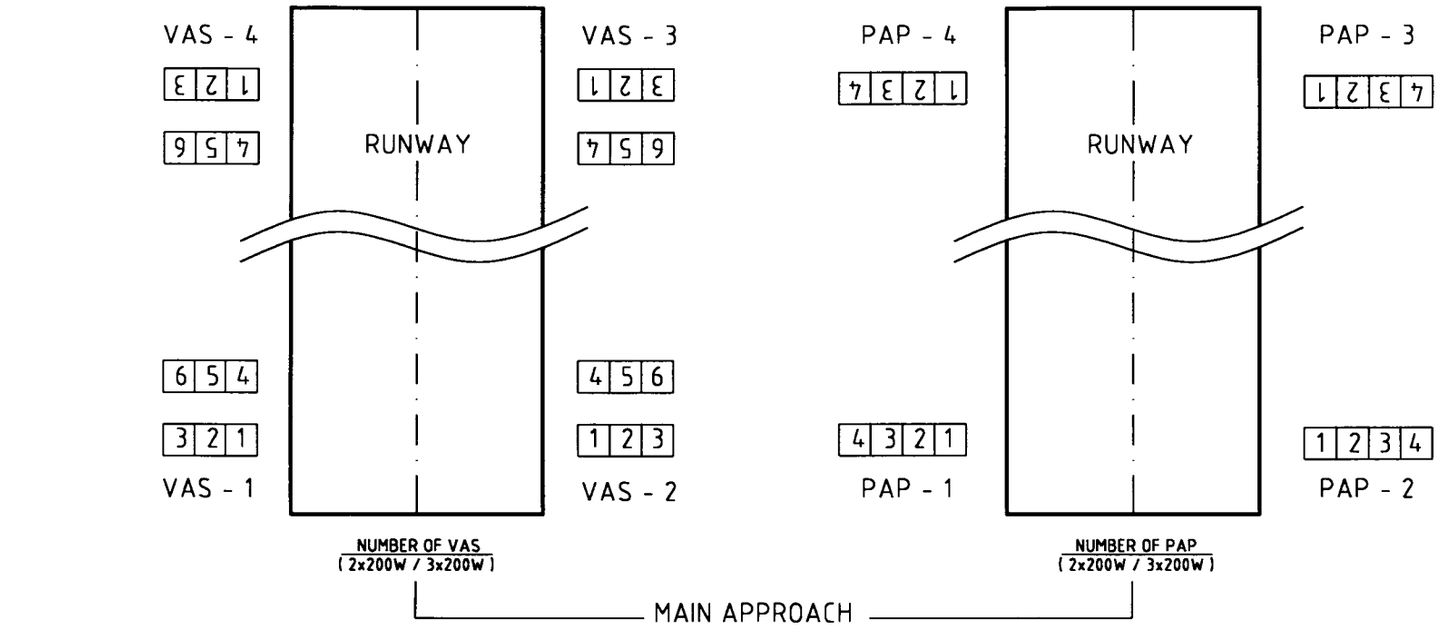
Dimensions in : m

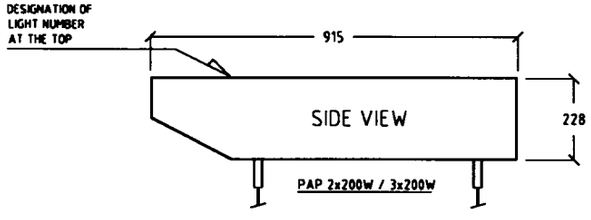
DIREKTORAT JENDERAL PERHUBUNGAN UDARA DIREKTORAT FASILITAS ELEKTRONIKA DAN LISTRIK SUB DIREKTORAT LISTRIK	UMUM	Tahun Anggaran :

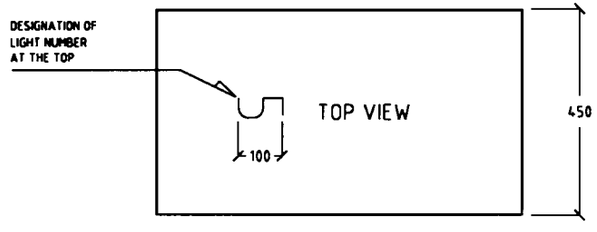
TYPICAL PAP – installation,cros section
(for PAP 2 x 200W or 3 x 200W) with ILS
' Standard '

NOMOR GAMBAR	KODE LOKASI	NOMOR LEMBAR	NOMOR URUT
VA.24.13		2/2	

SKALA :	GAMBAR :	DIPERIKSA :	DISETUJUI :





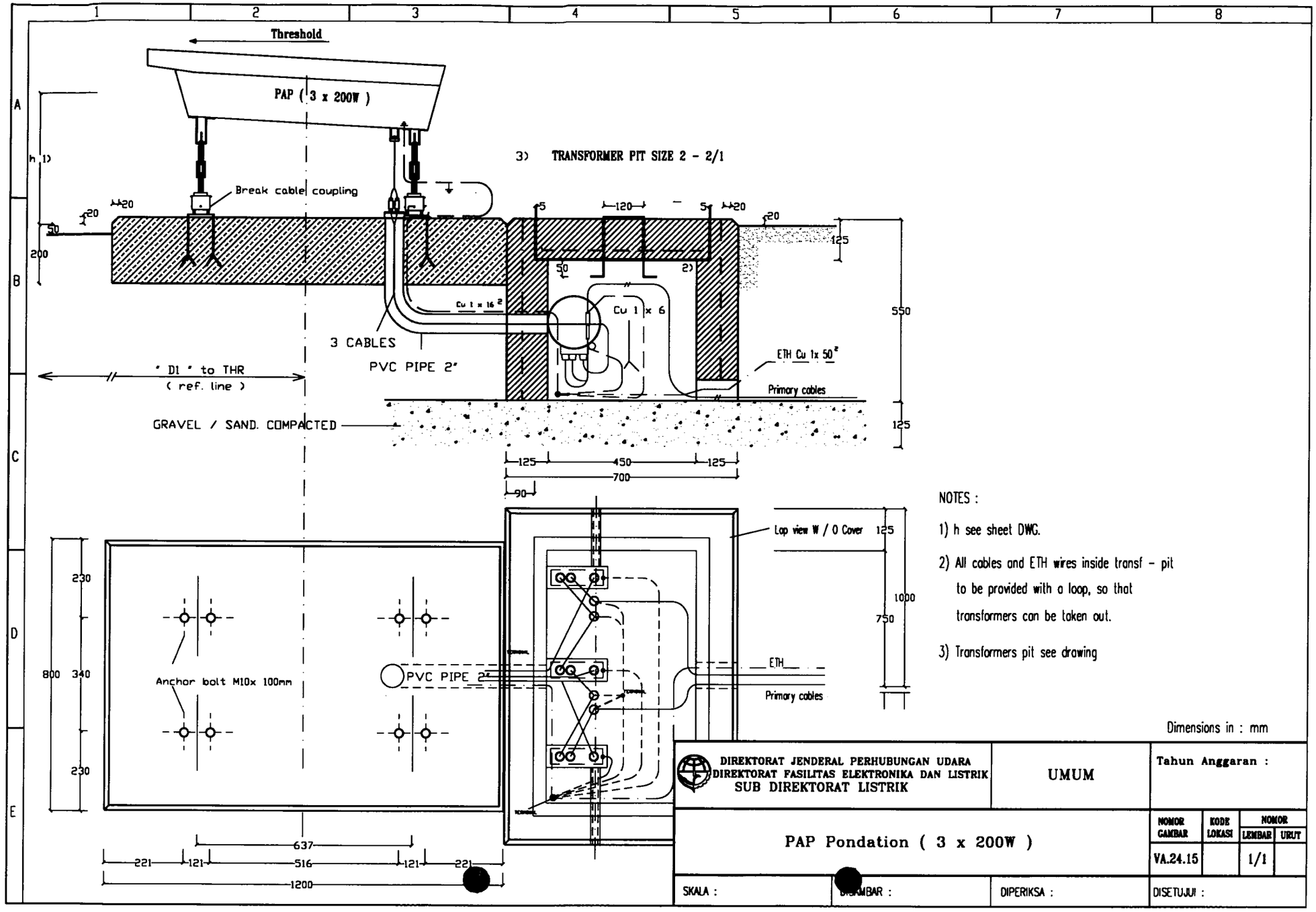


NOTES :

1. EACH LIGHT TO BE DESIGNATED WITH RUNNING NO. AS MENTIONED ABOVE
2. CABLE DESIGNATION SEE DRAWING LIST OF CABLE
3. OTHER TYPES AT SITE AS INDICATION

(Dimension in mm)

DIREKTORAT JENDERAL PERHUBUNGAN UDARA DIREKTORAT FASILITAS ELEKTRONIKA DAN LISTRIK SUB DIREKTORAT LISTRIK	UMUM	Tahun Anggaran :
Designation for PAP/VAS Lights and Cables	NOMOR GAMBAR: VA.24.14	KODE LOKASI: -
	NOMOR LEMBAR: 1/1	NOMOR URUT: -
SKALA :	GAMBAR :	DIPERIKSA :
DISETUJUI :		



NOTES :

1) h see sheet DWG.

2) All cables and ETH wires inside transf - pit to be provided with a loop, so that transformers can be taken out.

3) Transformers pit see drawing

Dimensions in : mm

DIREKTORAT JENDERAL PERHUBUNGAN UDARA
DIREKTORAT FASILITAS ELEKTRONIKA DAN LISTRIK
SUB DIREKTORAT LISTRIK

UMUM

Tahun Anggaran :

PAP Pondation (3 x 200W)

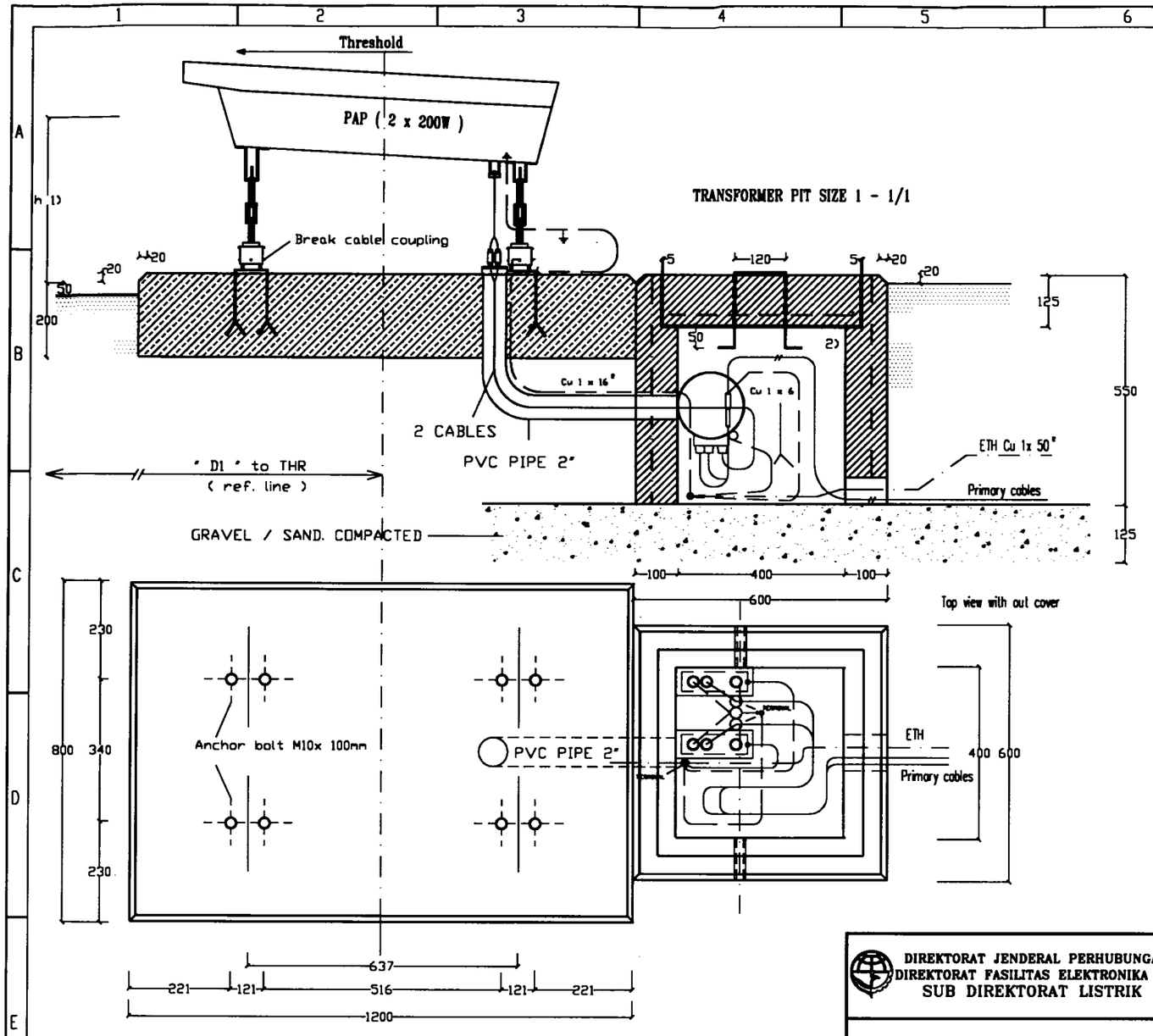
NOMOR GAMBAR	KODE LOKASI	NOMOR LEMBAR	NOMOR URUT
VA.24.15		1/1	

SKALA :

GAMBAR :

DIPERIKSA :

DISETUJUI :



NOTES :

1) h see sheet DWG.

2) All cables and ETH wires inside transf - pit to be provided with a loop, so that transformers can be taken out.

3) Transformers pit see drawing

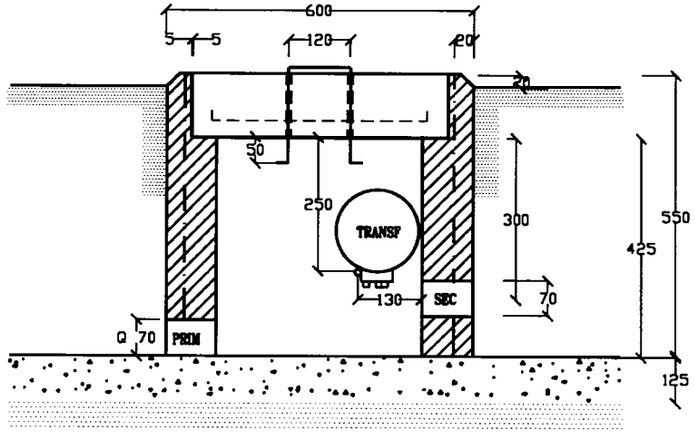
Dimensions in : mm

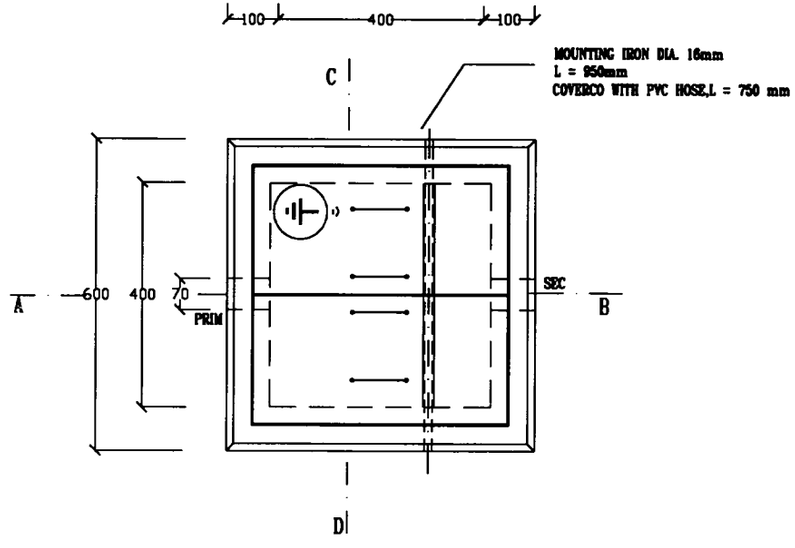
DIREKTORAT JENDERAL PERHUBUNGAN UDARA DIREKTORAT FASILITAS ELEKTRONIKA DAN LISTRIK SUB DIREKTORAT LISTRIK	UMUM	Tahun Anggaran :

PAP Pondastion (2 x 200W)	NOMOR GAMBAR	KODE LOKASI	NOMOR LEMBAR	NOMOR URUT
	VA.24.16		1/1	

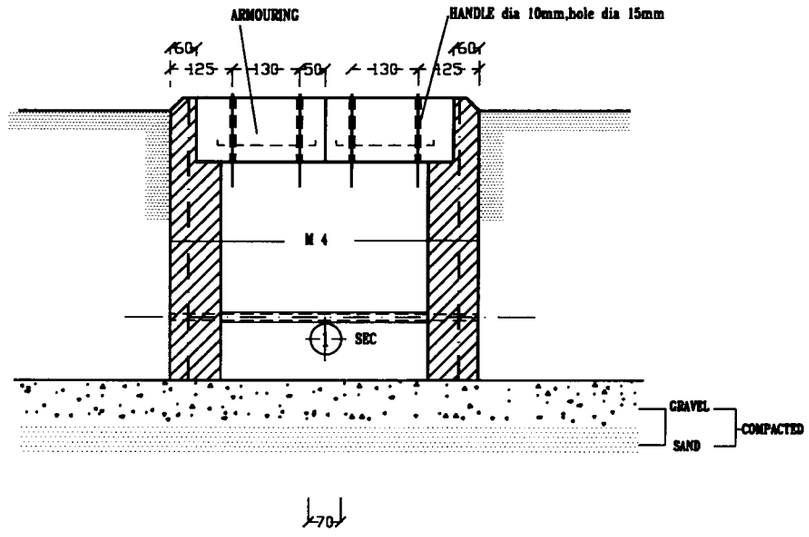
SKALA :	DIGAMBAR :	DIPERIKSA :	DISETUJUI :

SECTION A - B





SECTION C - D



Notes :

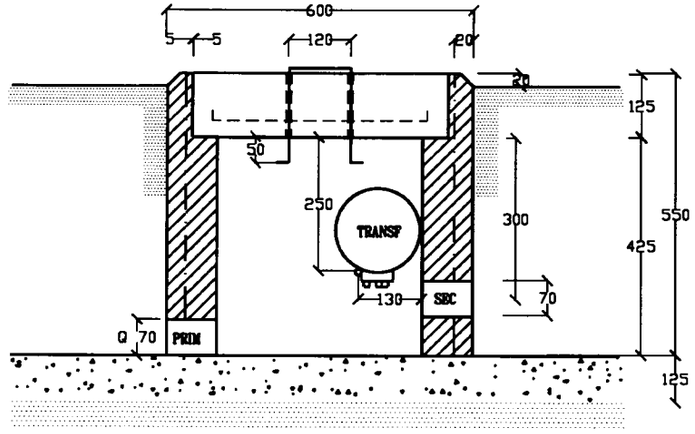
1) ETH sign (⏚) to be painted on cover, requirements as per circuit layout.

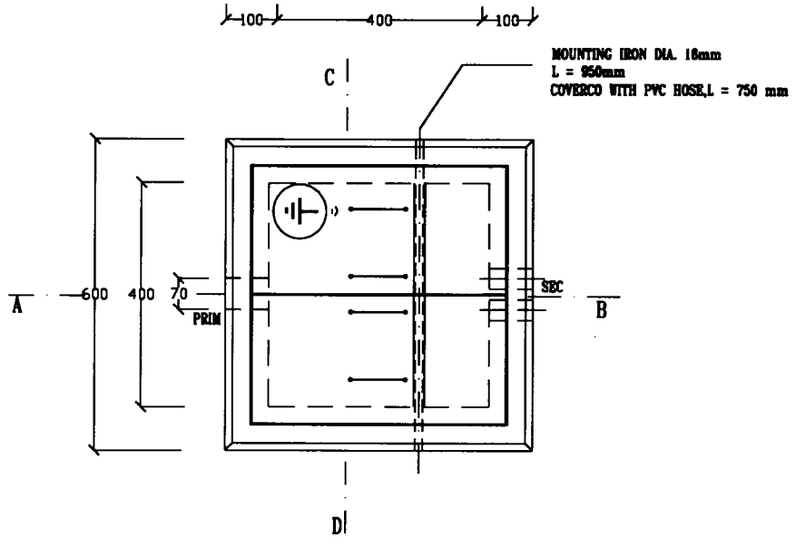
2) QUALITY OF CONCRETE : K 225

Dimension ins : mm

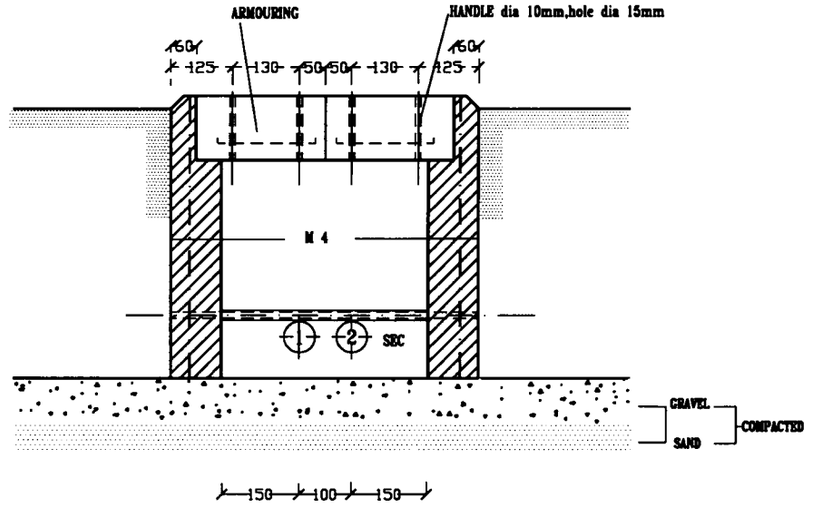
DIREKTORAT JENDERAL PERHUBUNGAN UDARA DIREKTORAT FASILITAS ELEKTRONIKA DAN LISTRIK SUB DIREKTORAT LISTRIK	UMUM	Tahun Anggaran :
Transformers PIT size 1 - 1/1 REH. TXE. (for 1 - 2 Transformers)	NOMOR GAMBAR: VA.25.01	KODE LOKASI:
	NOMOR LEMBAR: 1/1	NOMOR URUT:
SKALA :	DIGAMBAR :	DIPERIKSA : DISETUJUI :

SECTION A - B





SECTION C - D



Notes :

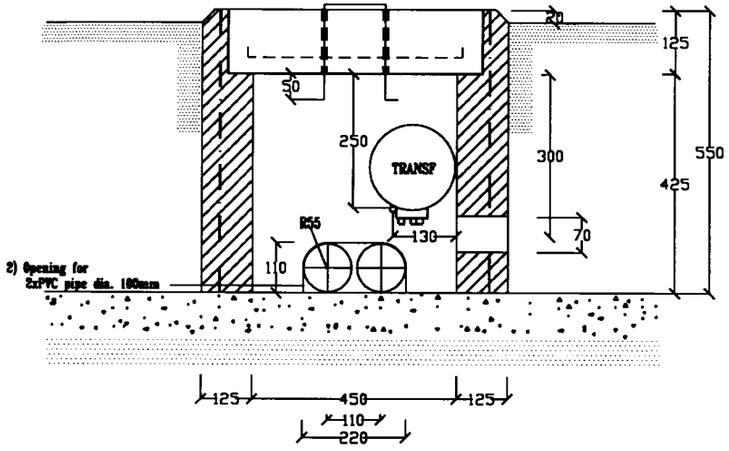
1) ETH sign (⏚) to be painted on cover, requirements as per circuit layout.

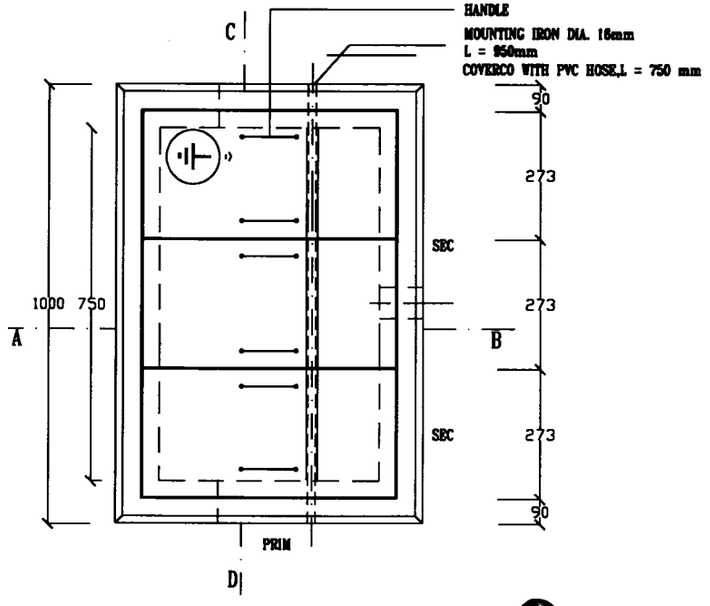
2) QUALITY OF CONCRETE : K 225

Dimension ins : mm

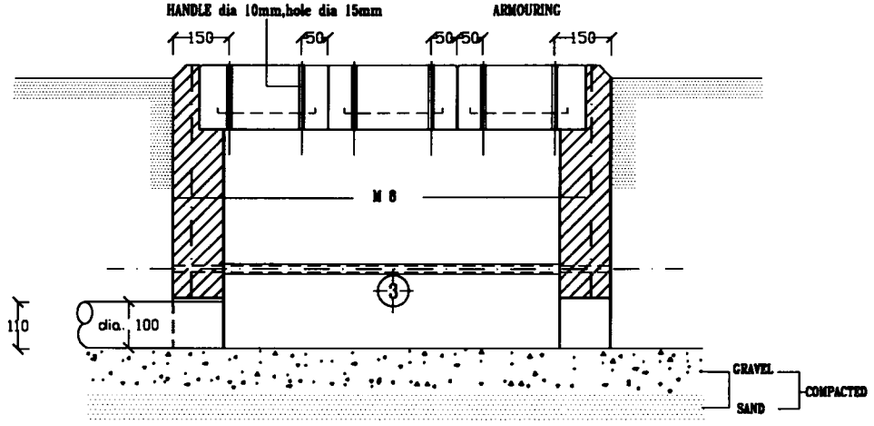
DIREKTORAT JENDERAL PERHUBUNGAN UDARA DIREKTORAT FASILITAS ELEKTRONIKA DAN LISTRIK SUB DIREKTORAT LISTRIK	UMUM	Tahun Anggaran :
Transformers PIT size 1 - 1/2 (PAP / VASI for 2 x 200W) (for 1 - 2 Transformers)	NOMOR GAMBAR: VA.25.02	KODE LOKASI:
	NOMOR LEMBAR: 1/1	NOMOR URUT:
SKALA :	DIGAMBAR :	DIPERIKSA :
DISETUJUI :		

SECTION A - B





SECTION C - D



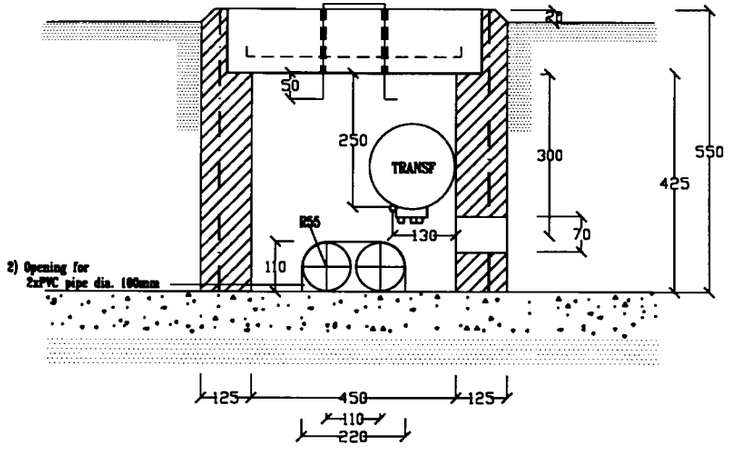
Notes :

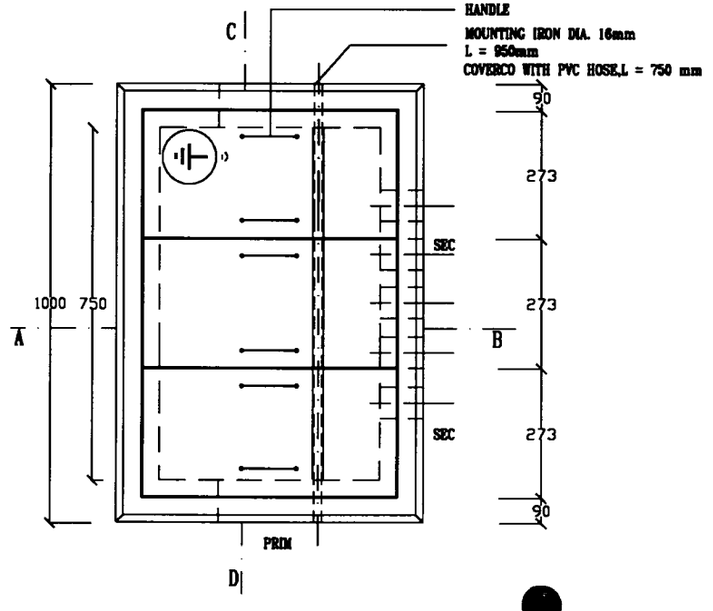
1) ETH sign (⏚) to be painted on cover, requirements as per circuit layout.
2) Opening for 2xPVC pipe dia. 100mm
3) QUALITY OF CONCRETE : K 225

Dimension ins : mm

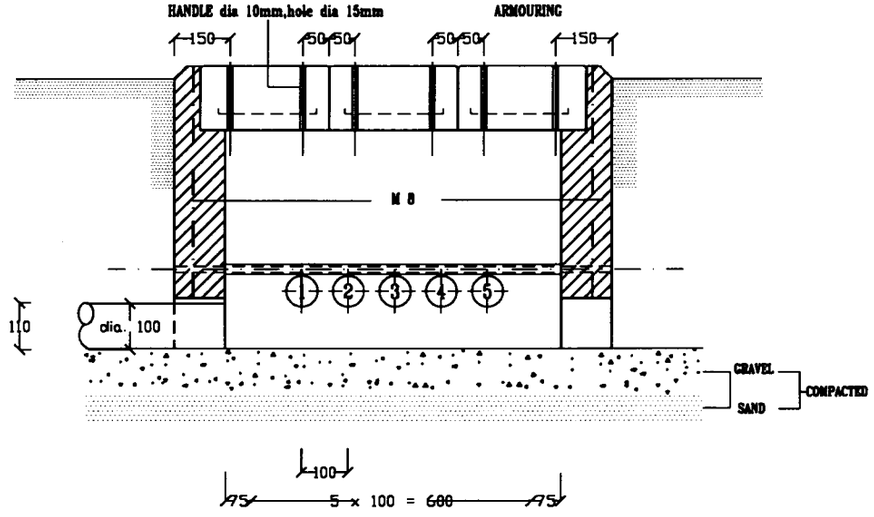
DIREKTORAT JENDERAL PERHUBUNGAN UDARA DIREKTORAT FASILITAS ELEKTRONIKA DAN LISTRIK SUB DIREKTORAT LISTRIK	UMUM	Tahun Anggaran :
Transformers PIT size 2 - 2/3 (PAP / VASI for 3 x 200W) (for 1 - 2 Transformers)	NOMOR GAMBAR: VA.25.03 / KODE LOKASI / NOMOR LEMBAR: 1/1 / NOMOR URUT	
SKALA :	DIGAMBAR :	DIPERIKSA : / DISETUJUI :

SECTION A - B





SECTION C - D



Notes :

1) ETH sign (⏚) to be painted on cover, requirements as per circuit layout.

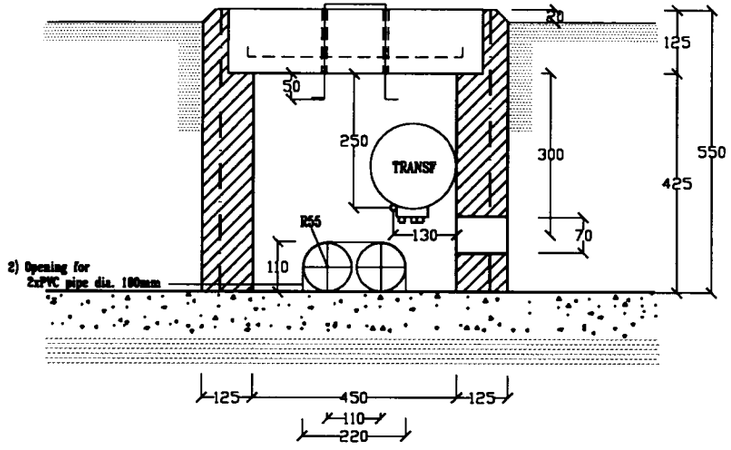
2) Opening for 2xPVC pipe dia. 100mm

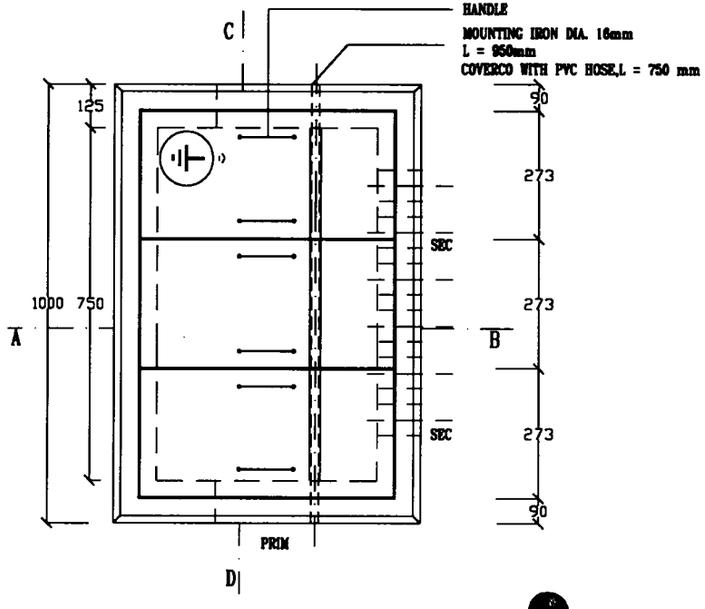
3) QUALITY OF CONCRETE : K 225

Dimension ins : mm

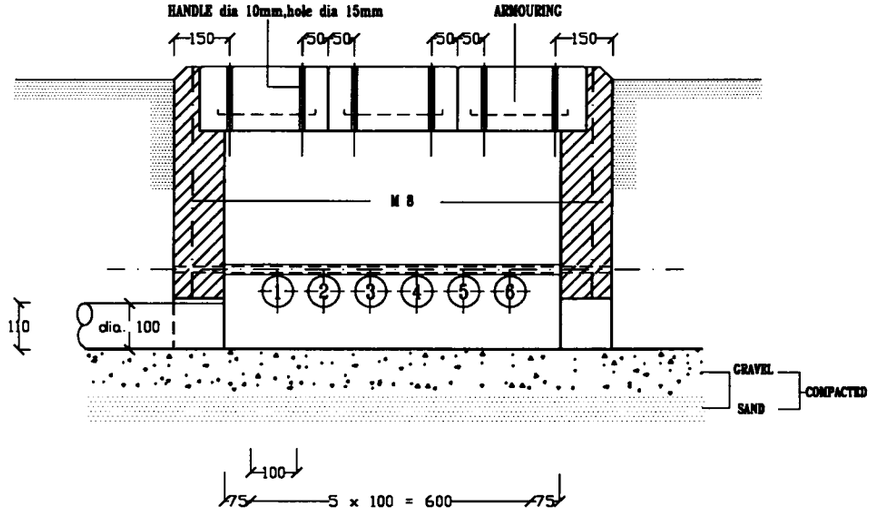
DIREKTORAT JENDERAL PERHUBUNGAN UDARA DIREKTORAT FASILITAS ELEKTRONIKA DAN LISTRIK SUB DIREKTORAT LISTRIK	UMUM	Tahun Anggaran :
Transformers PIT size 2 - 2/5 (-APH. THR/RWE for none instr. RW 30m) (for 2 - 10 Transformers)	NOMOR GAMBAR: VA.25.04	KODE LOKASI:
	NOMOR LEMBAR: 1/1	NOMOR URUT:
SKALA :	DIGAMBAR :	DIPERIKSA : DISETUJUI :

SECTION A - B





SECTION C - D



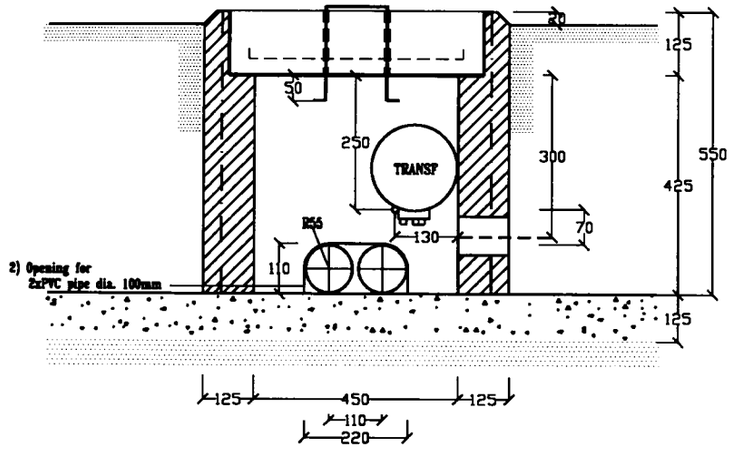
Notes :

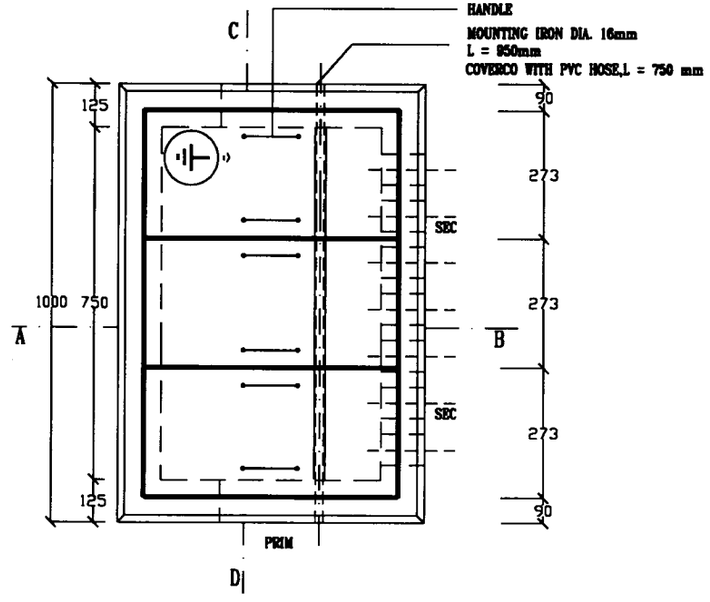
1) ETH sign (⏚) to be painted on cover, requirements as per circuit layout.
2) Opening for 2xPVC pipe dia. 100mm
3) QUALITY OF CONCRETE : K 225

Dimension ins : mm

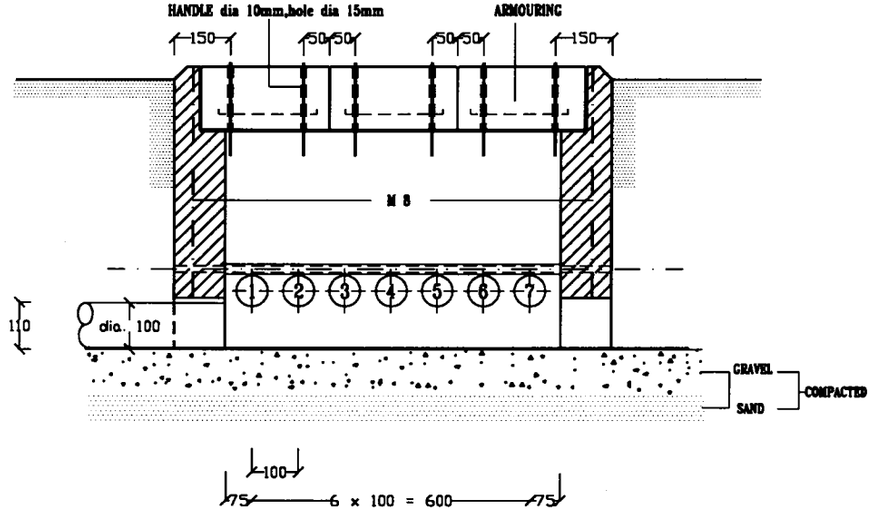
DIREKTORAT JENDERAL PERHUBUNGAN UDARA DIREKTORAT FASILITAS ELEKTRONIKA DAN LISTRIK SUB DIREKTORAT LISTRIK	UMUM	Tahun Anggaran :
Transformers PIT size 2 - 2/6 (-THR / RWE for none instr. RW 45m) (for 2 - 10 Transformers)	NOMOR GAMBAR: VA.25.05 / KODE LOKASI / NOMOR LEMBAR: 1/1 / NOMOR URUT	
SKALA :	DIGAMBAR :	DIPERIKSA : / DISETUJUI :

SECTION A - B





SECTION C - D



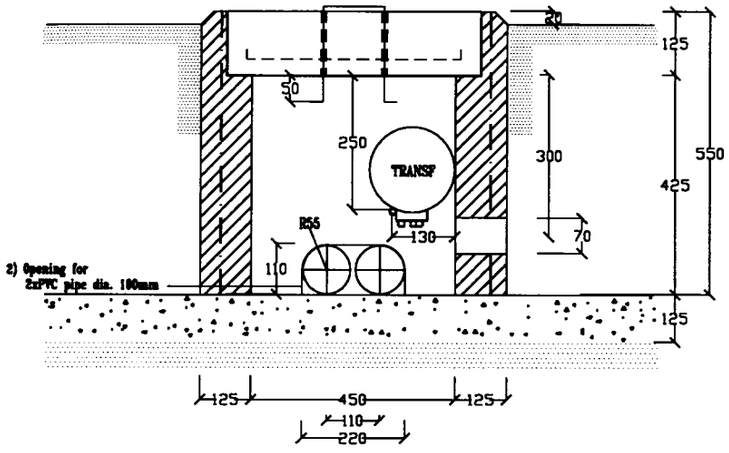
Notes :

1) ETH sign (⏚) to be painted on cover, requirements as per circuit layout.
2) Opening for 2xPVC pipe dia. 100mm
3) QUALITY OF CONCRETE : K 225

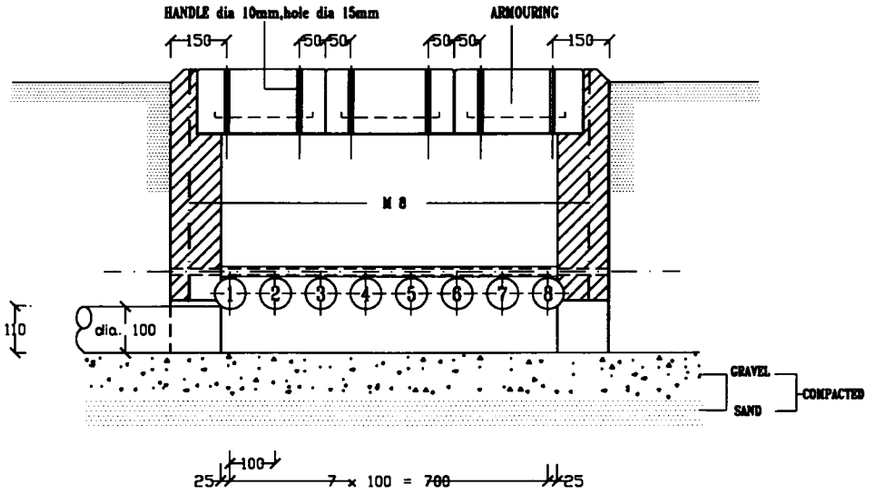
Dimension ins : mm

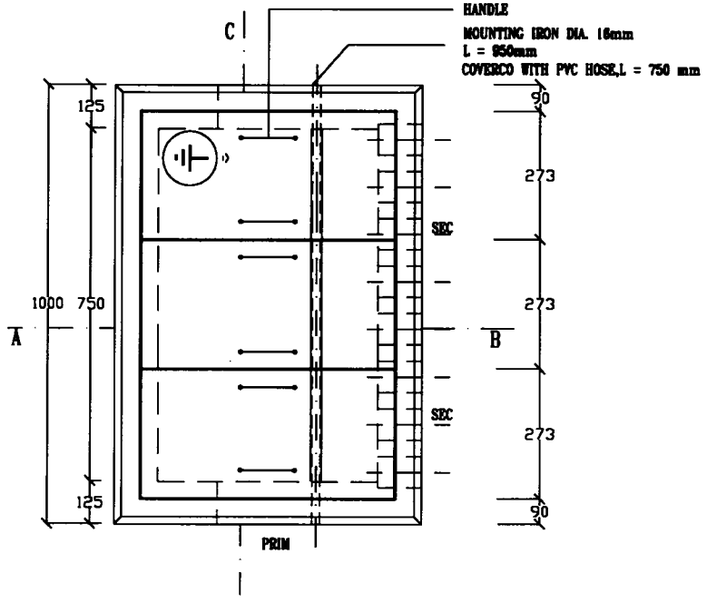
DIREKTORAT JENDERAL PERHUBUNGAN UDARA DIREKTORAT FASILITAS ELEKTRONIKA DAN LISTRIK SUB DIREKTORAT LISTRIK	UMUM	Tahun Anggaran :
Transformers PIT size 2 - 2/7 (-THR / RWE for none instr. RW 45m) (for 2 - 10 Transformers)	NOMOR GAMBAR: VA.25.06	KODE LOKASI:
	NOMOR LEMBAR: 1/1	NOMOR URUT:
SKALA :	DIGAMBAR :	DIPERIKSA : DISETUJUI :

SECTION A - B



SECTION C - D





Notes :

1) ETH sign (⏚) to be painted on cover, requirements as per circuit layout.

2) Opening for 2xPVC pipe dia. 100mm

3) QUALITY OF CONCRETE : K 225

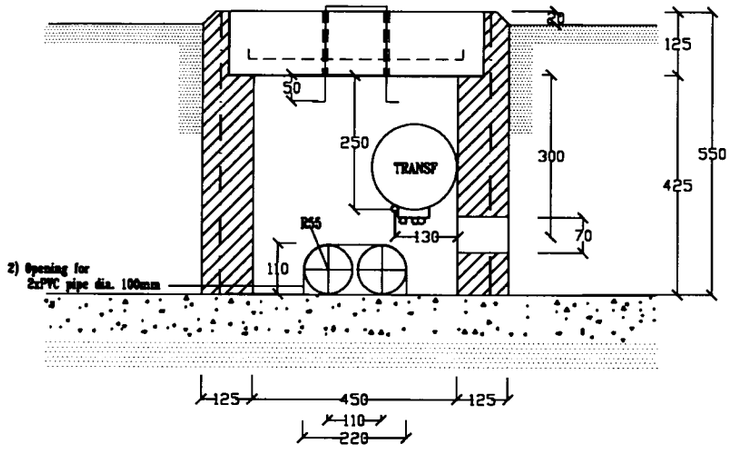
Dimension ins : mm

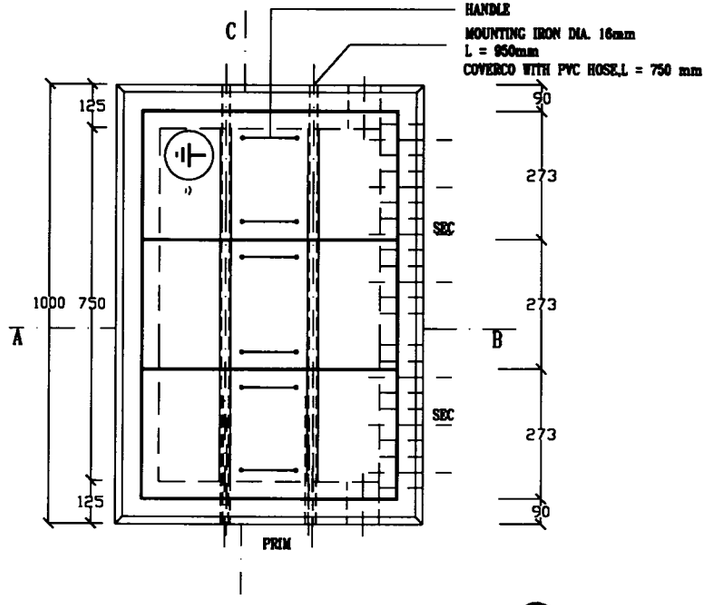
DIREKTORAT JENDERAL PERHUBUNGAN UDARA DIREKTORAT FASILITAS ELEKTRONIKA DAN LISTRIK SUB DIREKTORAT LISTRIK	UMUM	Tahun Anggaran :

Transformers PIT size 2 - 2/8 (-THR / RWE for none instr. RW 60m) (for 2 - 10 Transformers)	NOMOR GAMBAR	KODE LOKASI	NOMOR LEMBAR	NOMOR URUT
	VA.25.07		1/1	

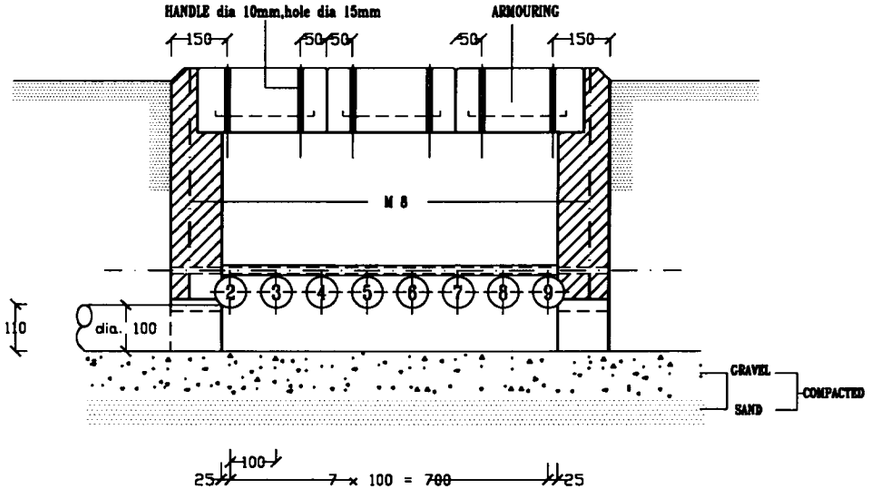
SKALA :	DIGAMBAR :	DIPERIKSA :	DISETUJUI :

SECTION A - B





SECTION C - D

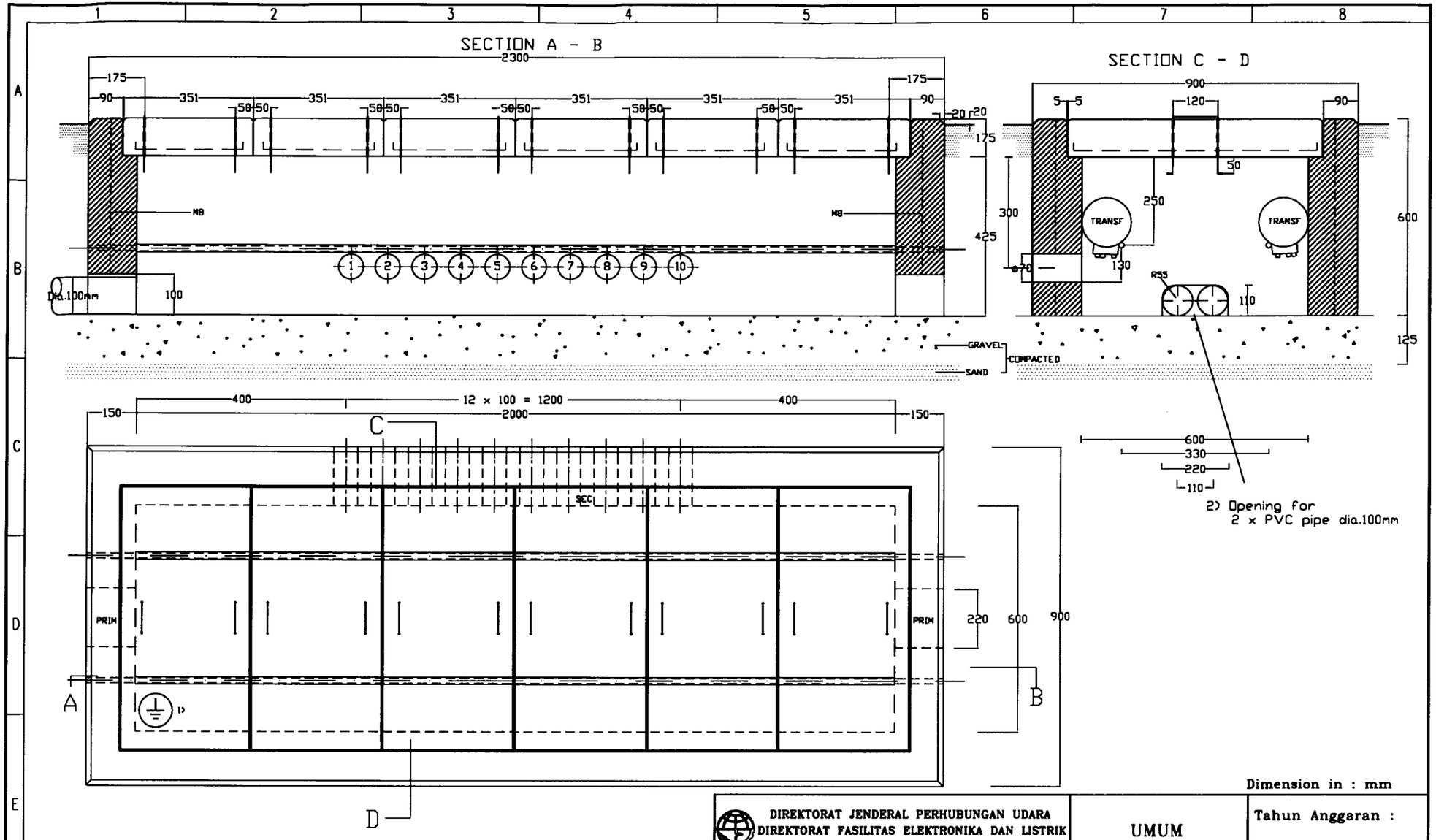


Notes :

1) ETH sign (⏚) to be painted on cover, requirements as per circuit layout.
2) Opening for 2xPVC pipe dia. 100mm
3) QUALITY OF CONCRETE : K 225

Dimension ins : mm

DIREKTORAT JENDERAL PERHUBUNGAN UDARA DIREKTORAT FASILITAS ELEKTRONIKA DAN LISTRIK SUB DIREKTORAT LISTRIK	UMUM	Tahun Anggaran :
Transformers PIT size 2 - 2/10 (-THR / RWE for none instr. RW) (for 2 - 10 Transformers)	NOMOR GAMBAR: VA.25.08	KODE LOKASI:
	NOMOR LEMBAR: 1/1	NOMOR UKUT:
SKALA :	DIGAMBAR :	DIPERIKSA :
DISETUJUI :		

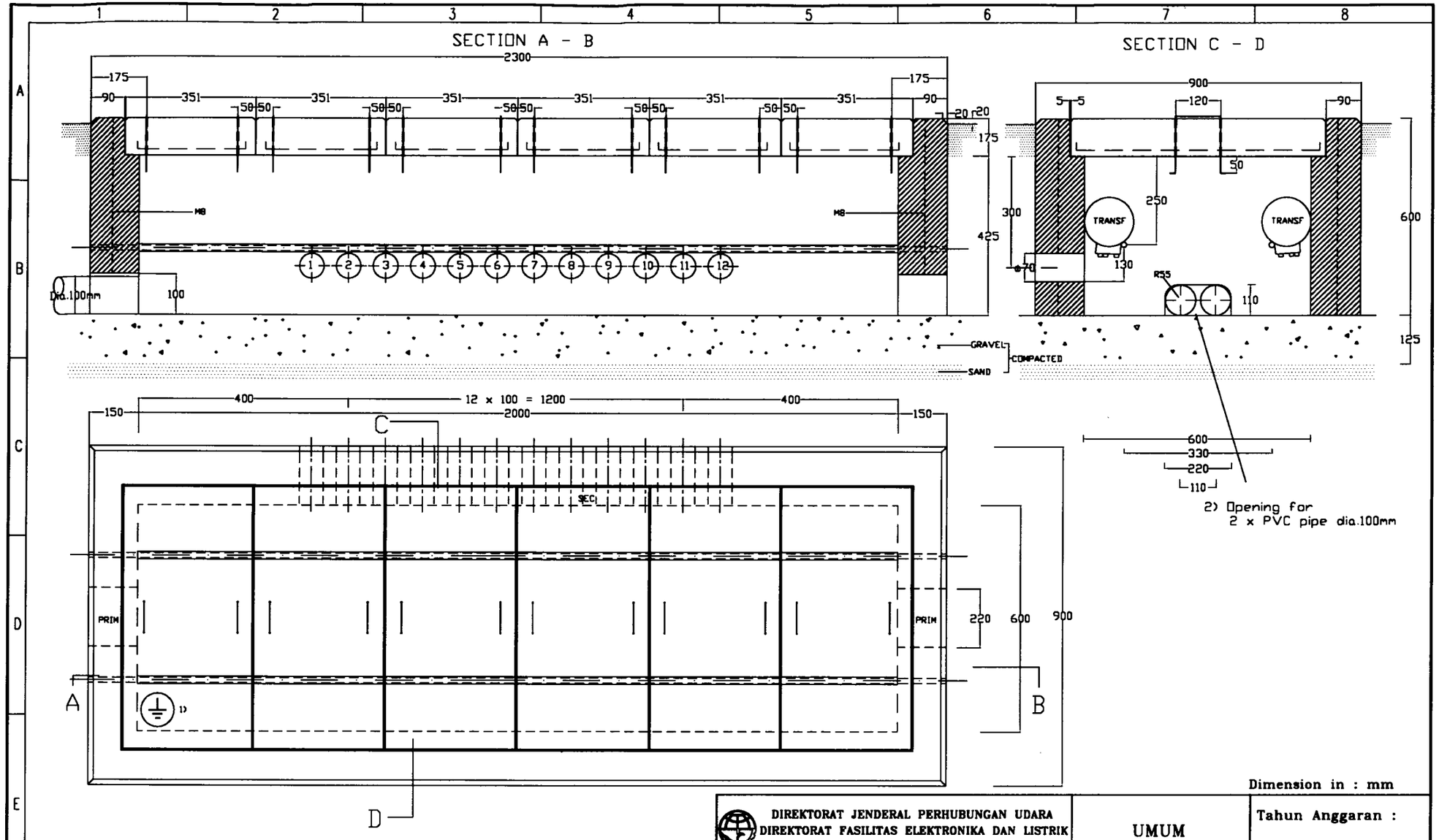


Notes :

1) ETH Sign ($\frac{1}{\pm}$) to be painted on cover requirements as per circuit layout
2) Opening for 2xPVC pipe dia.100mm
3) QUALITY OF CONCRETE : K 225

Dimension in : mm

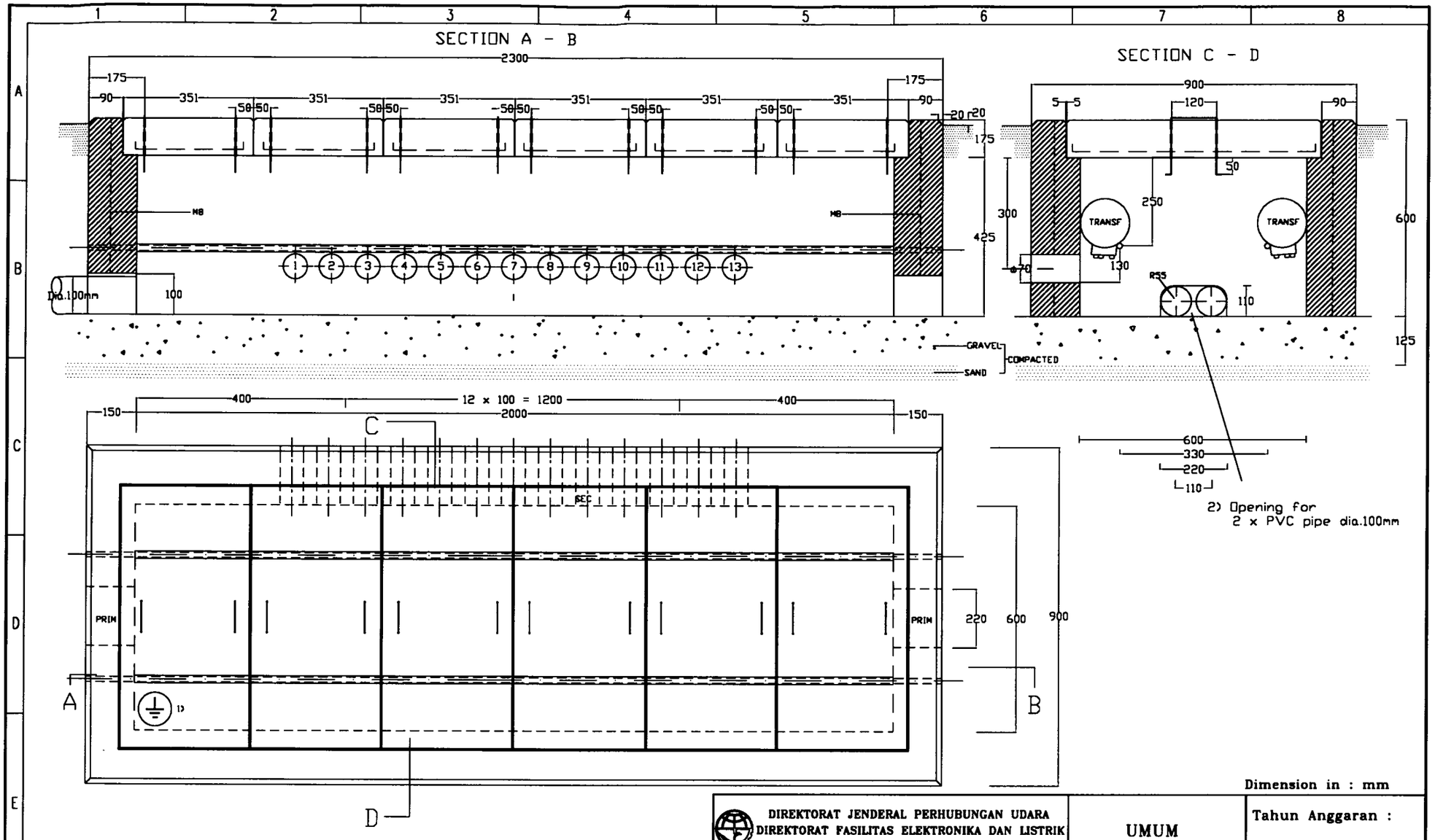
DIREKTORAT JENDERAL PERHUBUNGAN UDARA DIREKTORAT FASILITAS ELEKTRONIKA DAN LISTRIK SUB DIREKTORAT LISTRIK	UMUM	Tahun Anggaran :
Transformers Pit size 3 - 2/10 (THR) for prec. APH - RW 45m + none inst. RW 60 (for 11-20 Transformers)	NOMOR GAMBAR: VA.25.09	KODE LOKASI:
	NOMOR LEMBAR: 1/1	NOMOR URUT:
SKALA :	DIGAMBAR :	DIPERIKSA : / DISETUJUI :



Notes :
1) ETH Sign (⏚) to be painted on cover
requirements as per circuit layout
2) Opening for 2xPVC pipe dia.100mm
3) QUALITY OF CONCRETE : K 225

Dimension in : mm

DIREKTORAT JENDERAL PERHUBUNGAN UDARA DIREKTORAT FASILITAS ELEKTRONIKA DAN LISTRIK SUB DIREKTORAT LISTRIK	UMUM	Tahun Anggaran :
Transformers Pit size 3 - 2/12 (THR) for prec. APH - RW 45m + none inst. RW 60 (for 11-20 Transformers)	NOMOR GAMBAR: VA.25.10	KODE LOKASI:
	NOMOR LEMBAR: 1/1	NOMOR URUT:
SKALA :	DIGAMBAR :	DIPERIKSA :
		DISETUJUI :

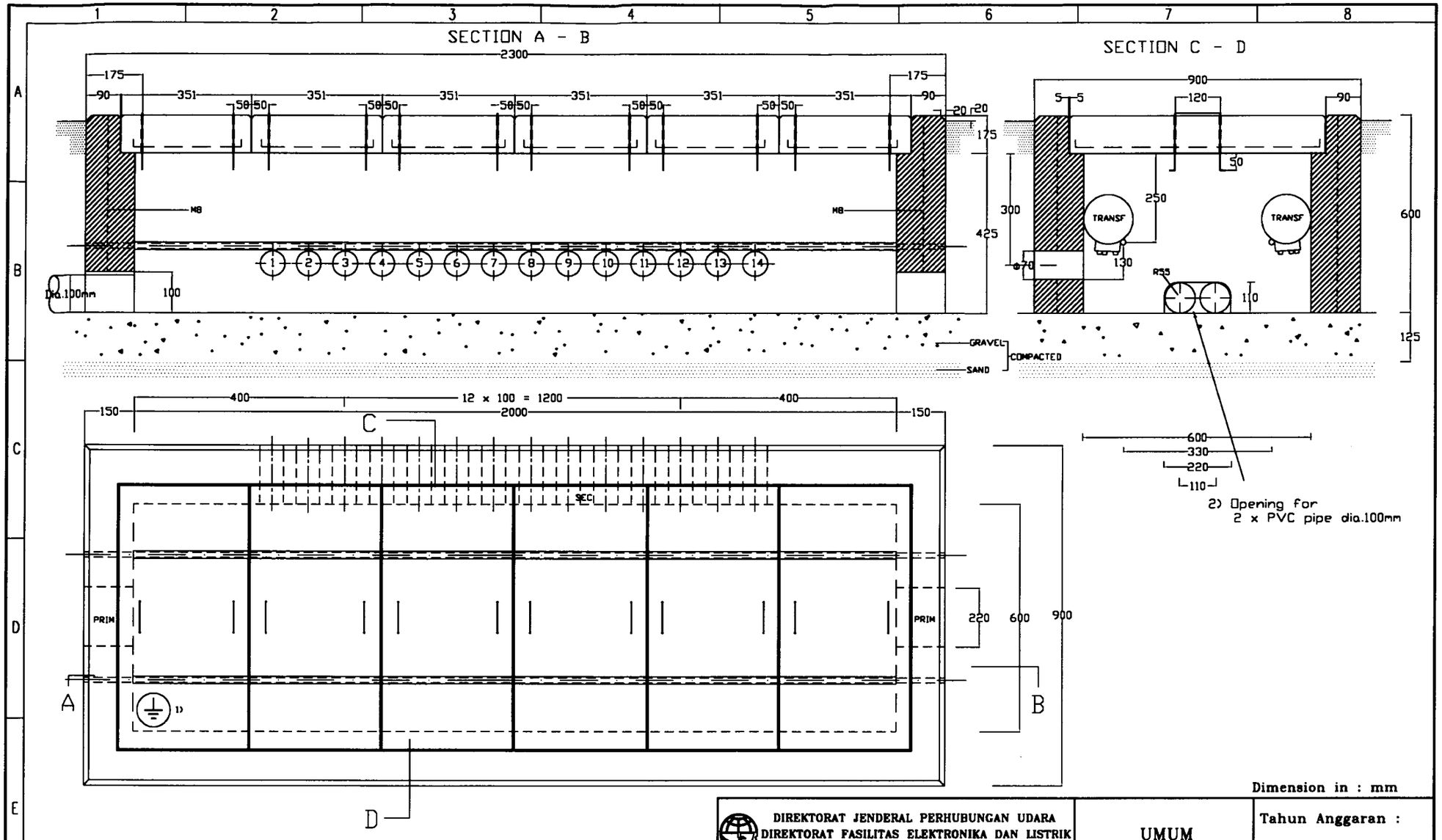


Notes :

1) ETH Sign (⏚) to be painted on cover requirements as per circuit layout
2) Opening for 2xPVC pipe dia.100mm
3) QUALITY OF CONCRETE : K 225

Dimension in : mm

DIREKTORAT JENDERAL PERHUBUNGAN UDARA DIREKTORAT FASILITAS ELEKTRONIKA DAN LISTRIK SUB DIREKTORAT LISTRIK	UMUM	Tahun Anggaran :
Transformers Pit size 3 - 2/13 (THR) for prec. APH - RW 45m + none inst. RW 60 (for 11-20 Transformers)	NOMOR GAMBAR: VA.25.11	KODE LOKASI:
	NOMOR LEMBAR: 1/1	NOMOR URUT:
SKALA :	DIGAMBAR :	DIPERIKSA : / DISETUJUI :



Notes :

1) ETH Sign (⏚) to be painted on cover requirements as per circuit layout
2) Opening for 2xPVC pipe dia.100mm
3) QUALITY OF CONCRETE : K 225

Dimension in : mm

DIREKTORAT JENDERAL PERHUBUNGAN UDARA
DIREKTORAT FASILITAS ELEKTRONIKA DAN LISTRIK
SUB DIREKTORAT LISTRIK

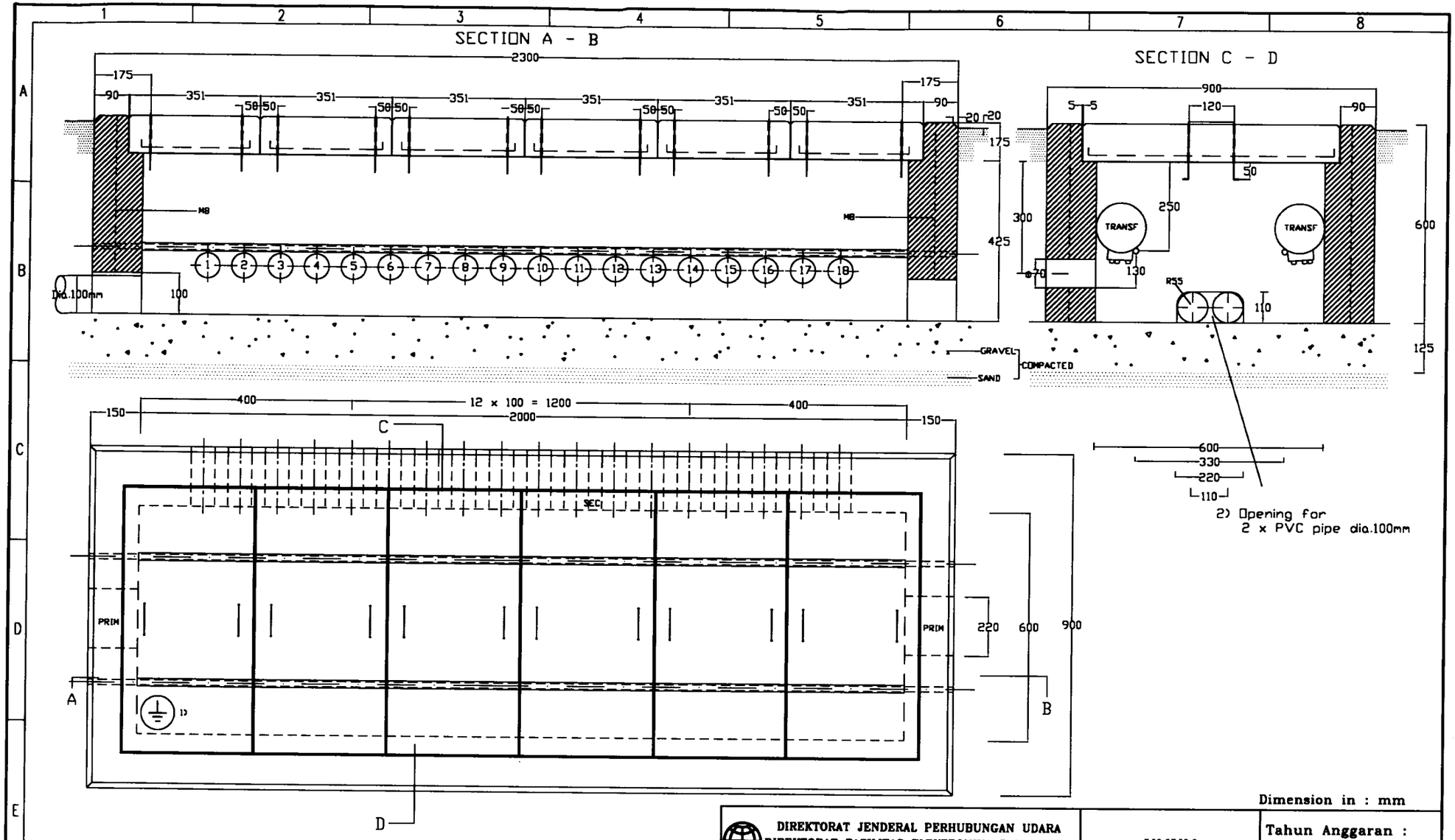
UMUM

Tahun Anggaran :

Transformers Pit size 3 - 2/14
(THR) for prec. APH - RW 45m + none inst.
RW 60 (for 11-20 Transformers)

NOMOR GAMBAR	KODE LOKASI	NOMOR LEMBAR	NOMOR URUT
VA.25.12		1/1	

SKALA :	DIGAMBAR :	DIPERIKSA :	DISETUJUI :

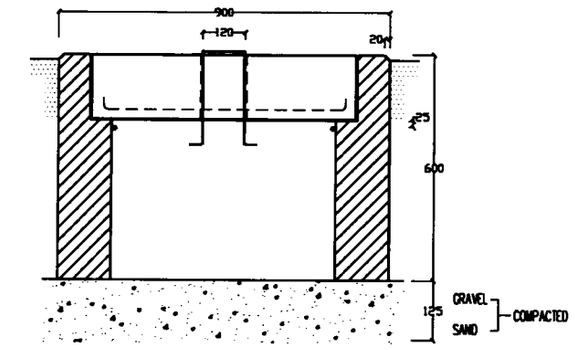


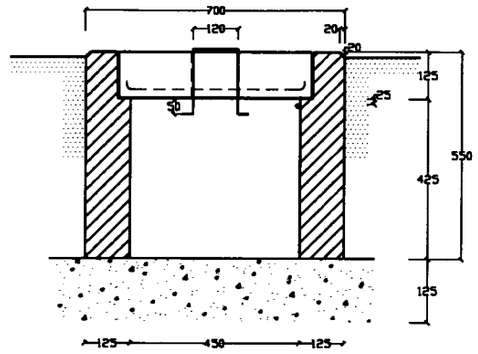
Notes :

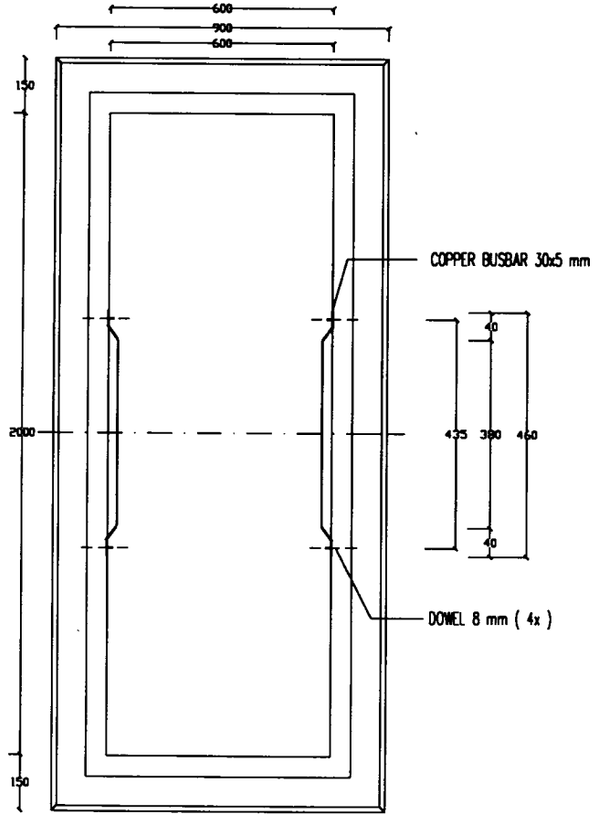
1) ETH Sign ($\perp$) to be painted on cover requirements as per circuit layout
2) Opening for 2xPVC pipe dia.100mm
3) QUALITY OF CONCRETE : K 225

Dimension in : mm

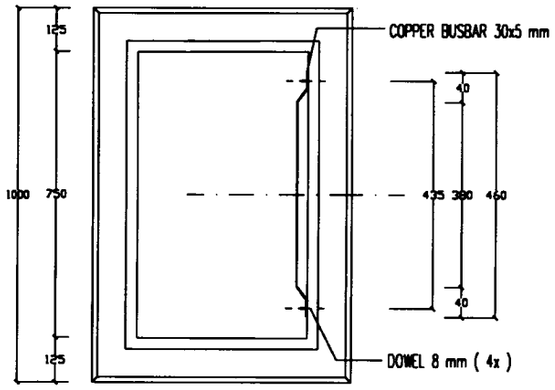
DIREKTORAT JENDERAL PERHUBUNGAN UDARA DIREKTORAT FASILITAS ELEKTRONIKA DAN LISTRIK SUB DIREKTORAT LISTRIK	UMUM	Tahun Anggaran :
Transformers Pit size 3 - 2/18 (THR) for prec. APH - RW 45m + none inst. RW 60 (for 11-20 Transformers)	NOMOR GAMBAR: VA.25.13	KODE LOKASI:
	NOMOR LEMBAR: 1/1	NOMOR URUT:
SKALA :	DIGAMBAR :	DIPERIKSA :
DISETUJUI :		







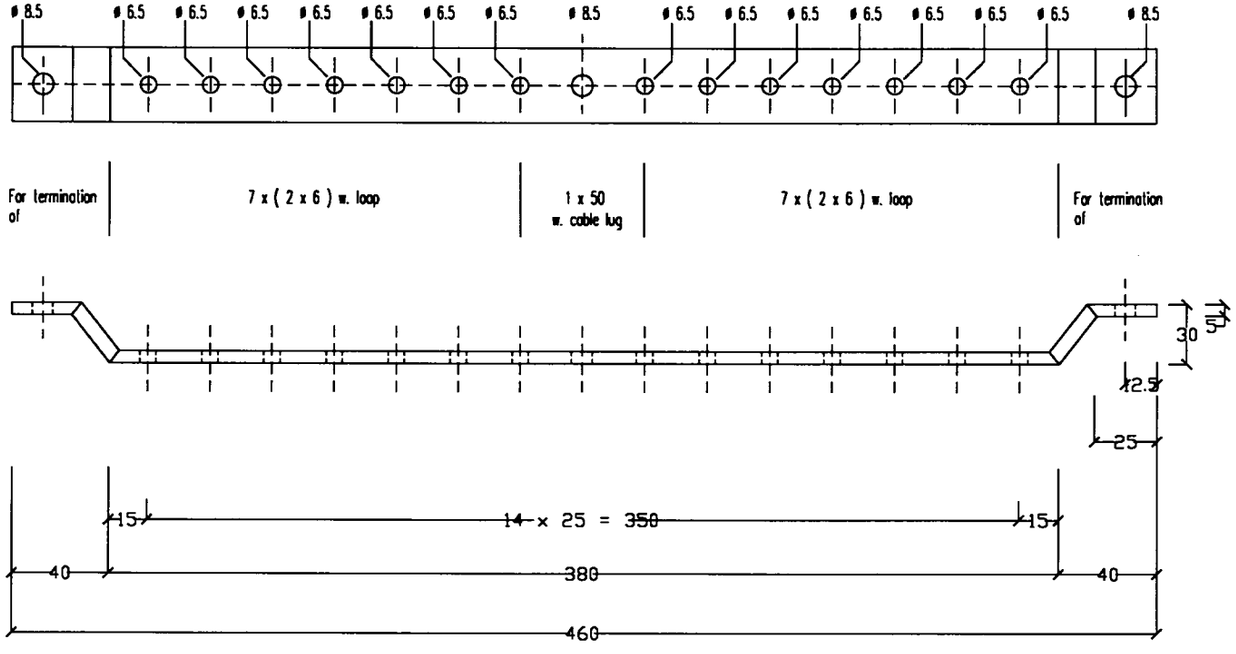
1) transformers pit No.3 c/w 2xETH copper busbar 30x5 (15 terminal cable)



1) transformers pit No.3 c/w 1xETH copper busbar 30x5 (15 terminal cable)

DIREKTORAT JENDERAL PERHUBUNGAN UDARA DIREKTORAT FASILITAS ELEKTRONIKA DAN LISTRIK SUB DIREKTORAT LISTRIK	UMUM	Tahun Anggaran :
Copper Busbar 30 x 5 mm for Transformers Pit Size 2 and Size 3	NOMOR GAMBAR: VA.25.14 / KODE LOKASI / NOMOR LEMBAR: 1/1 / NOMOR URUT	
SKALA :	GAMBAR :	DIPERIKSA : / DISETUJUI :

Incl. following accessories per 1 busbar :	2 x dowel (PVC) dia. 8 mm 2 x screw dia. 8 x 50 mm 14 x screw M6 x 20 mm + contact washer + washer + nut M6 1 x screw M8 x 20 mm + contact washer + washer + nut M8 Mat. ateel gal. chr



Notes :

Copper busbar 30 x 5 mm

Qty. Transformers pit size 2 : 1pc per pit

Qty. Transformers pit size 3 : 2pc per pit

DIREKTORAT JENDERAL PERHUBUNGAN UDARA
DIREKTORAT FASILITAS ELEKTRONIKA DAN LISTRIK
SUB DIREKTORAT LISTRIK

UMUM

Tahun Anggaran :

Copper busbar 30 x 5 mm for Transformers pits THR size 2 and size 3

NOMOR GAMBAR	KODE LOKASI	NOMOR LEMBAR	NOMOR URUT
VA.25.15		1/1	

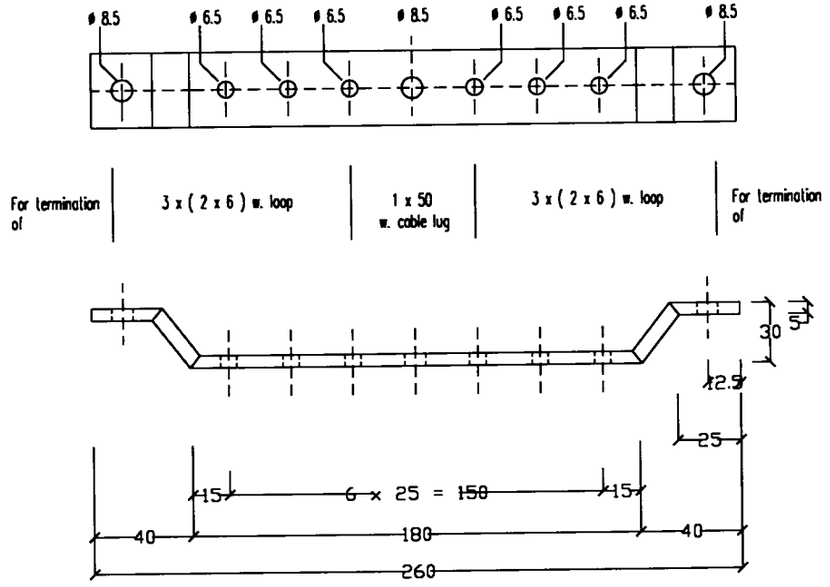
SKALA :

DIGAMBAR :

DIPERIKSA :

DISETUJUI :

Incl. following accessories per 1 busbar :	2 x dowel (PVC) dia. 8 mm 2 x screw dia. 6 x 50 mm 6 x screw M6 x 20 mm + contact washer + washer + nut M6 1 x screw M8 x 20 mm + contact washer + washer + nut M8 Mat. ateel gal. chr



Notes :

Copper busbar 30 x 5 mm

Qty. Transformers pit size 2 : 1pc per pit

DIREKTORAT JENDERAL PERHUBUNGAN UDARA
DIREKTORAT FASILITAS ELEKTRONIKA DAN LISTRIK
SUB DIREKTORAT LISTRIK

UMUM

Tahun Anggaran :

Copper Busbar 30 x 5 mm for Transformers Pit APH Size 2 and Size 3

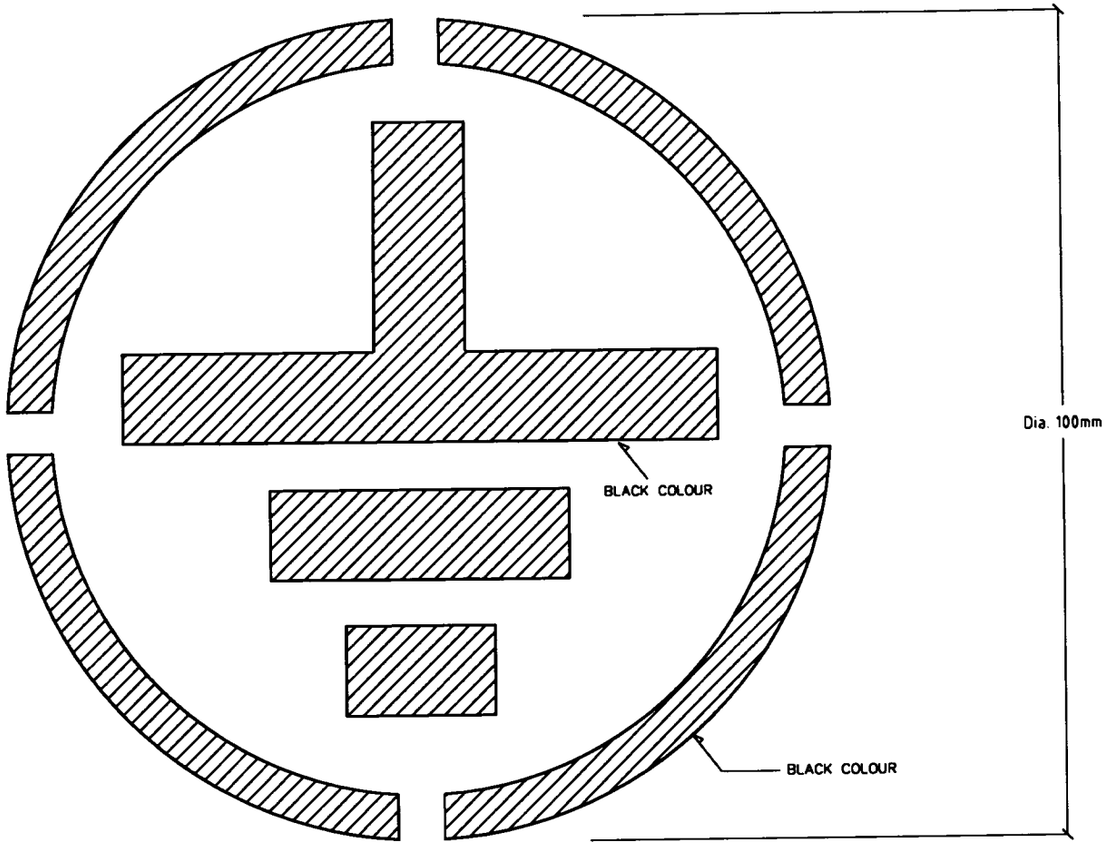
NOMOR GAMBAR	KODE LOKASI	NOMOR LEMBAR	NOMOR URUT
VA.25.16		1/1	

SKALA :

DIGAMBAR :

DIPERIKSA :

DISETUJUI :



EARTHING DESIGNATION

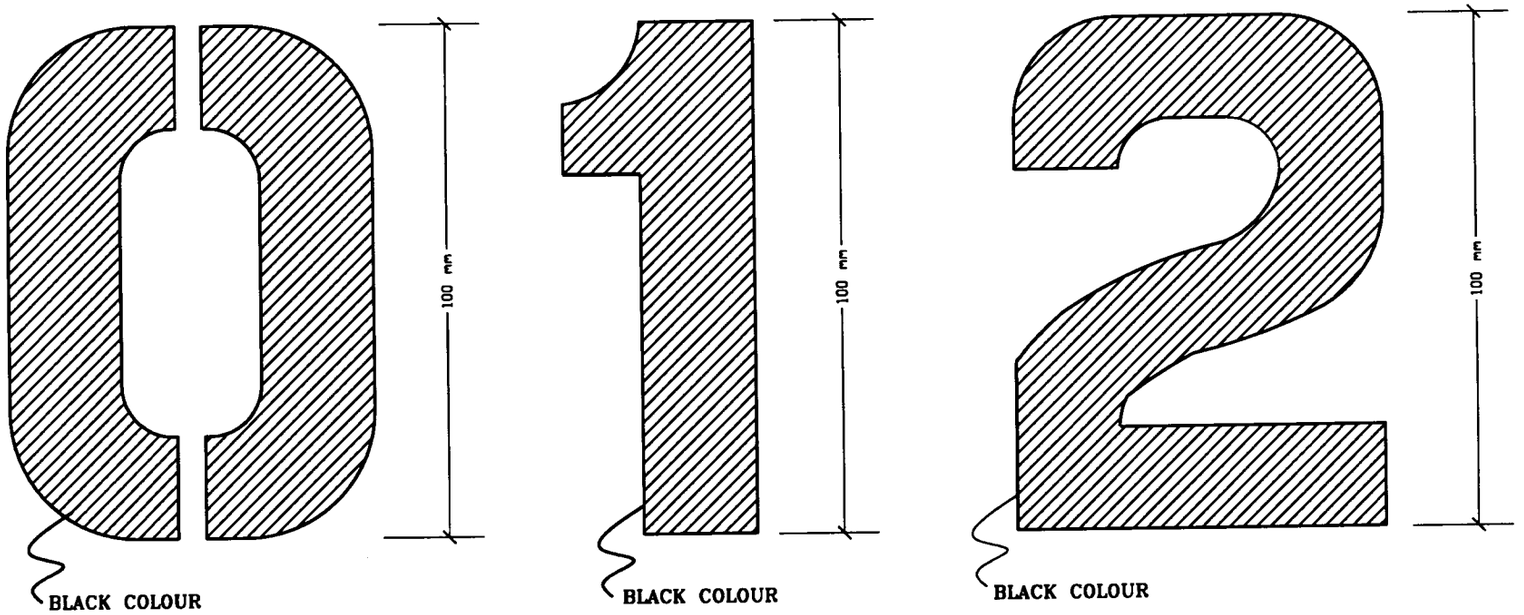
NOTES :

EART DESIGNATION SHOULD BE MADE ON :

+ THR TRANSFORMER PITS
+ EVERY 300M ON TRANSFORMER PITS OF REH, TXE, APH, PAP, ETC.
+ THE TOP OF TRANSFORMER COVER

(Dimensions in mm)

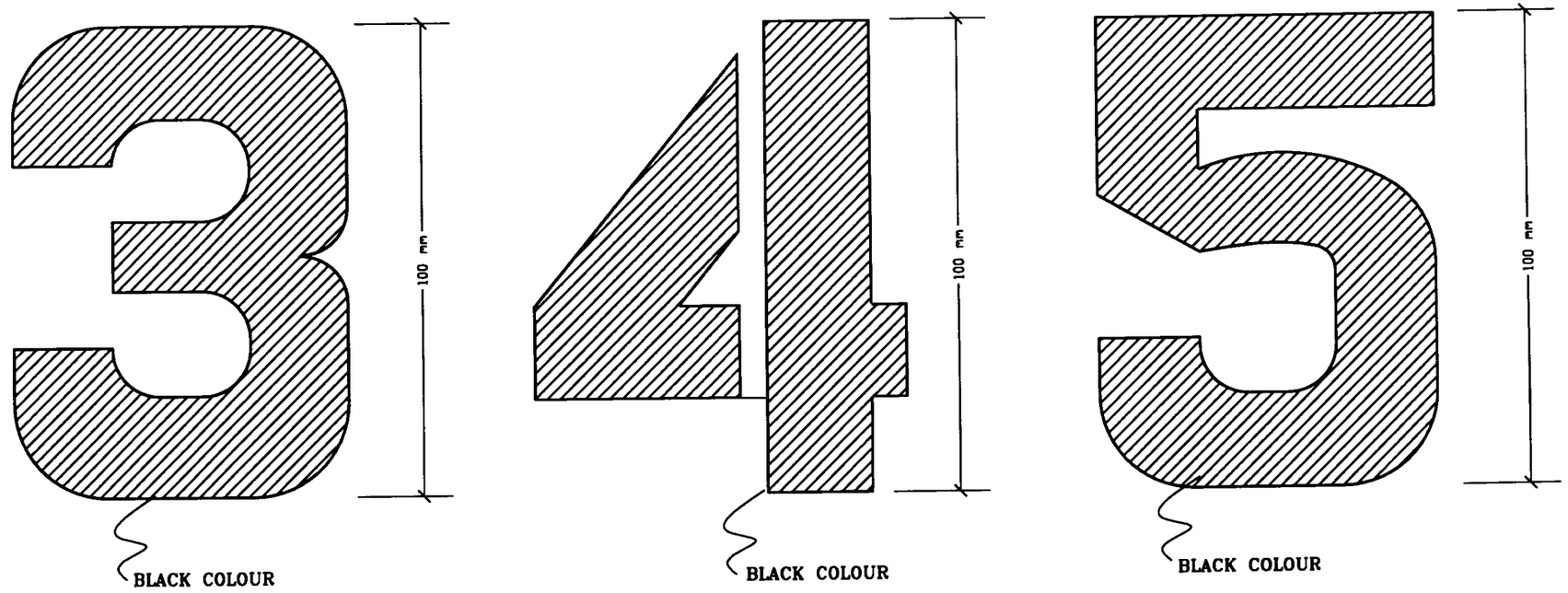
DIREKTORAT JENDERAL PERHUBUNGAN UDARA DIREKTORAT FASILITAS ELEKTRONIKA DAN LISTRIK SUB DIREKTORAT LISTRIK	UMUM	Tahun Anggaran :
Designation for ETH of Transformer Pits		NOMOR GAMBAR: VA.25.17 / KODE LOKASI / NOMOR LEMBAR / NOMOR URUT
SKALA :	DIGAMBAR :	DIPERIKSA : / DISETUJUI :



TEMPLATE NUMBER 0, 1, 2.
FOR TRANSFORMER PIT DESIGNATION
Incl. VAS + PAP

Dimensions in : mm

DIREKTORAT JENDERAL PERHUBUNGAN UDARA DIREKTORAT FASILITAS ELEKTRONIKA DAN LISTRIK SUB DIREKTORAT LISTRIK	UMUM	Tahun Anggaran :
AFL Template for Transformer Pit (H-100mm) Incl. VAS + PAP	NOMOR GAMBAR: VA.25.18	KODE LOKASI:
	NOMOR LEMBAR: 1/5	NOMOR URUT:
SKALA :	DIGAMBAR :	DIPERIKSA :
DISETUJUI :		



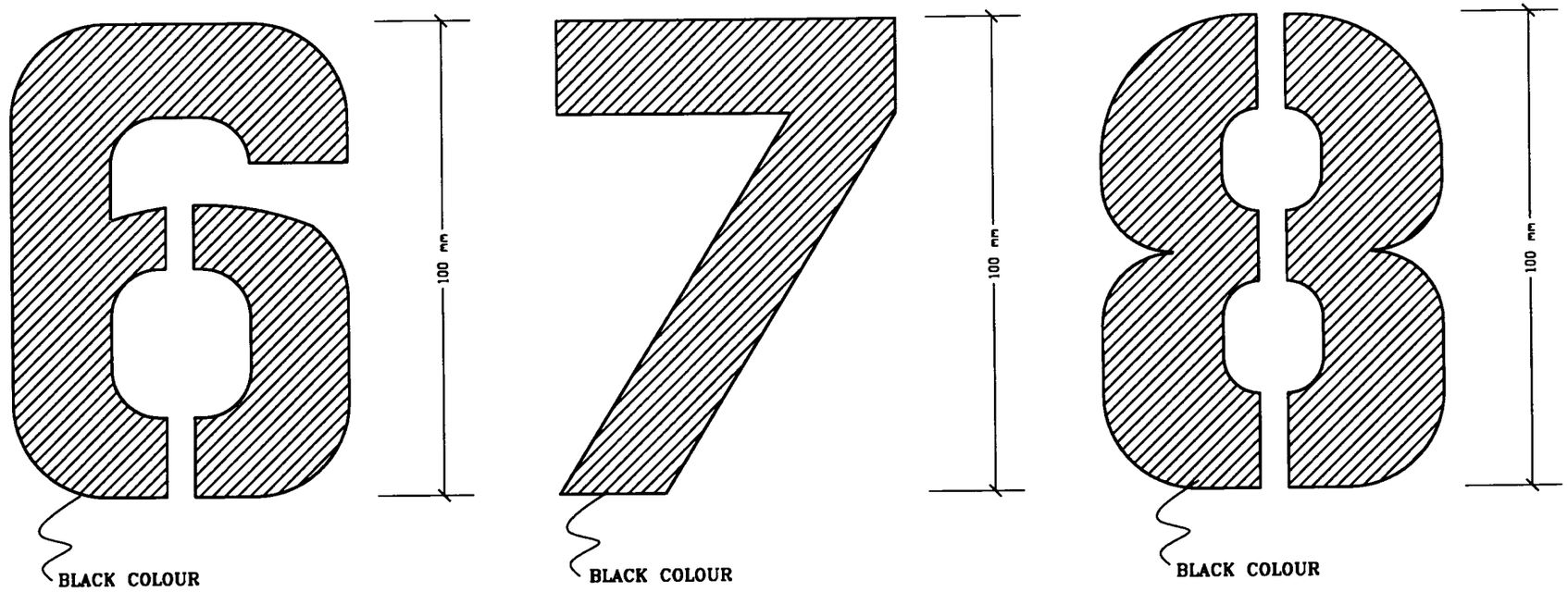
TEMPLATE NUMBER 3, 4, 5.
FOR TRANSFORMER PIT DESIGNATION
Incl. VAS + PAP

Dimensions in : mm

DIREKTORAT JENDERAL PERHUBUNGAN UDARA DIREKTORAT FASILITAS ELEKTRONIKA DAN LISTRIK SUB DIREKTORAT LISTRIK	UMUM	Tahun Anggaran :

AFL Template for Transformer Pit (H-100mm) Incl. VAS + PAP	NOMOR GAMBAR	KODE LOKASI	NOMOR LEMBAR	NOMOR URUT
	VA.25.18		2/5	

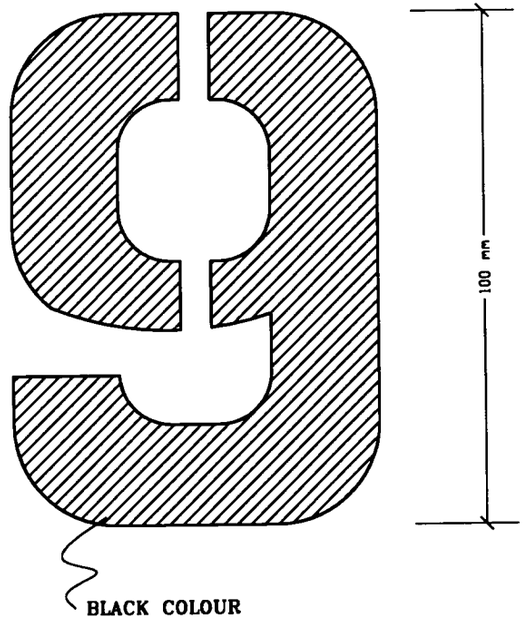
SKALA :	DIGAMBAR :	DIPERIKSA :	DISETUJUI :



TEMPLATE NUMBER 6, 7, 8.
FOR TRANSFORMER PIT DESIGNATION
Incl. VAS + PAP

Dimensions in : mm

DIREKTORAT JENDERAL PERHUBUNGAN UDARA DIREKTORAT FASILITAS ELEKTRONIKA DAN LISTRIK SUB DIREKTORAT LISTRIK	UMUM	Tahun Anggaran :
AFL Template for Transformer Pit (H-100mm) Incl. VAS + PAP	NOMOR GAMBAR: VA.25.18	KODE LOKASI:
	NOMOR LEMBAR: 3/5	NOMOR URUT:
SKALA :	DIGAMBAR :	DIPERIKSA :
DISETUJUI :		



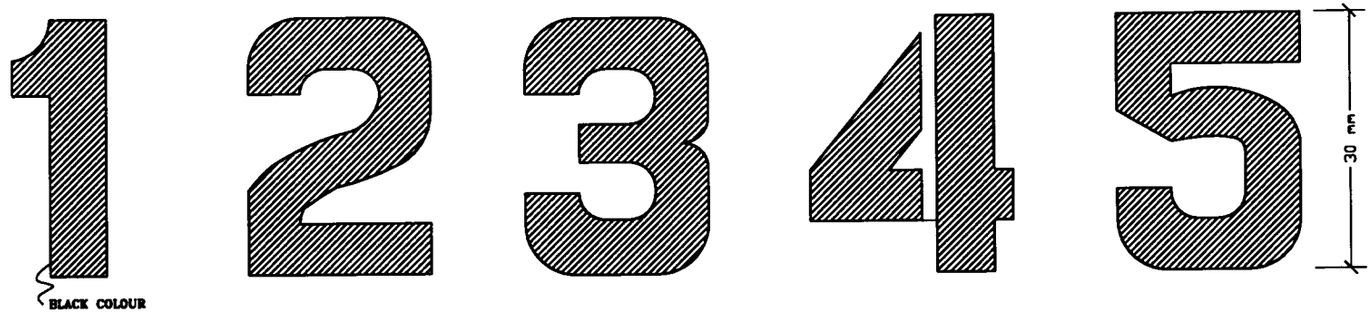
TEMPLATE NUMBER 9.
FOR TRANSFORMER PIT DESIGNATION
Incl. VAS + PAP

Dimensions in : mm

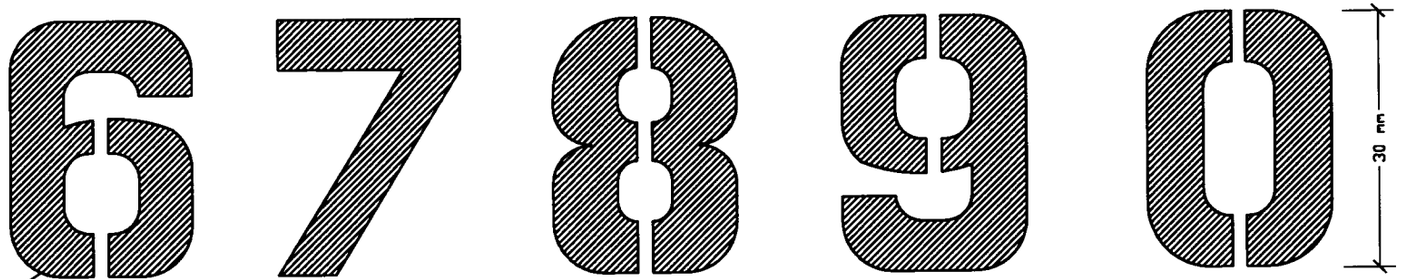
DIREKTORAT JENDERAL PERHUBUNGAN UDARA DIREKTORAT FASILITAS ELEKTRONIKA DAN LISTRIK SUB DIREKTORAT LISTRIK	UMUM	Tahun Anggaran :

AFL Template for Transformer Pit (H-100mm) Incl. VAS + PAP	NOMOR GAMBAR	KODE LOKASI	NOMOR LEMBAR	NOMOR URUT
	VA.25.18		4/5	

SKALA :	DIGAMBAR :	DIPERIKSA :	DISETUJUI :



BLACK COLOUR



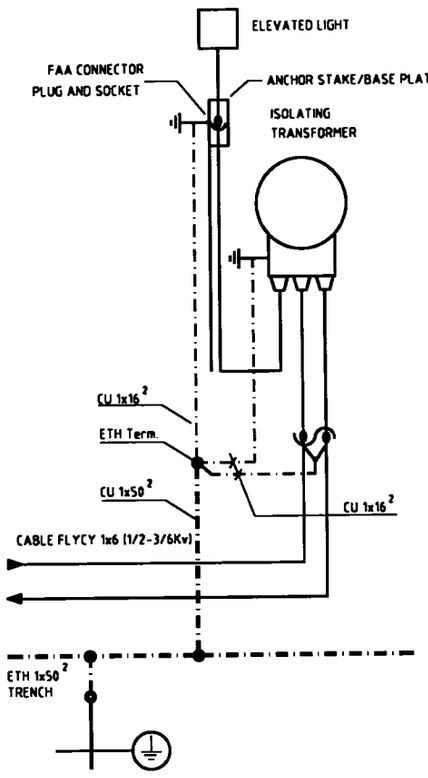
BLACK COLOUR

TEMPLATE NUMBER 1, 2, 3, 4, 5, 6, 7, 8, 9, 0.
FOR ALL NOS. OF LIGHT. AND ACCESSORIES DESIGNATION EXCEPT. PAP / VAS.

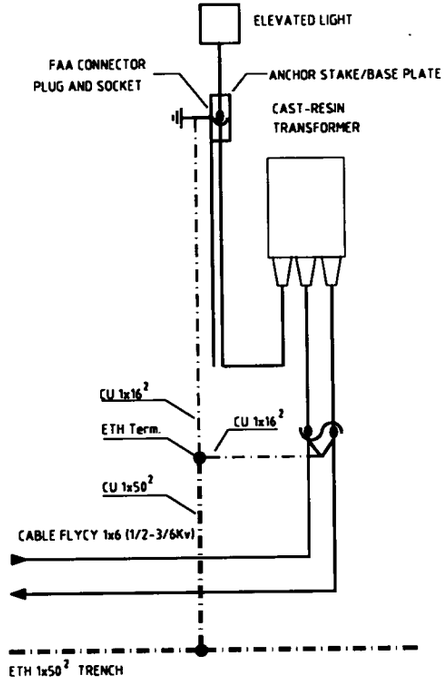
Dimensions in : mm

DIREKTORAT JENDERAL PERHUBUNGAN UDARA DIREKTORAT FASILITAS ELEKTRONIKA DAN LISTRIK SUB DIREKTORAT LISTRIK	UMUM	Tahun Anggaran :
AFL Template for Lights (H - 30 mm) Except. VAS + PAP	NOMOR GAMBAR: VA.25.18 / KODE LOKASI: / NOMOR LEMBAR: 5/5 / NOMOR URUT:	
SKALA :	DIGAMBAR :	DIPERIKSA : / DISETUJUI :

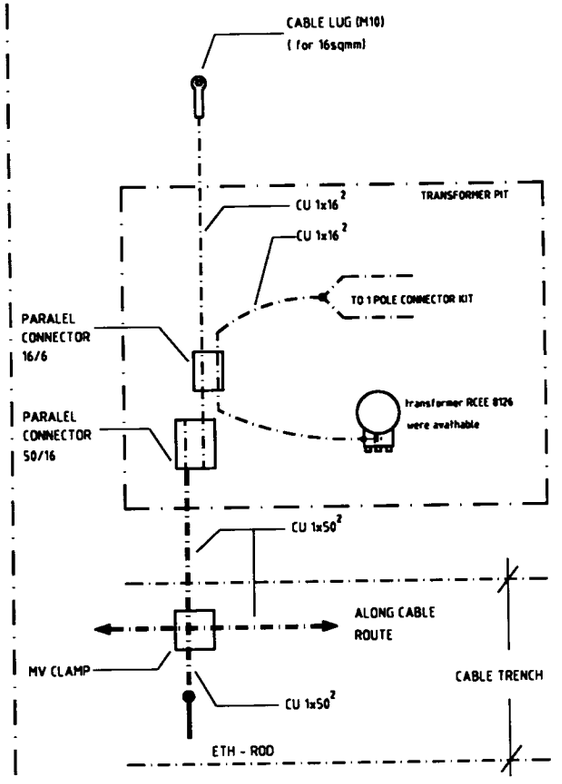
APH/APM/APL REH. PAP/VAS. TXE



APH/APM/APL REH. PAP/VAS. TXE



ETH DETAIL



Average Requirements
Qty per transformer + light
Sqmm - length
6^2 - 2m
16^2 - 2m
50^2 - 6m
ACC. 1 Set Clamps + lugs
ALL 300M 1 Rod

NOTE :

ALL 300M ALONG EACH CABLE TRENCH AN EARTHING ROD (L = 1M) TO BE CONNECTED

SEE INSTALLATION DRAWING

AN EARTH RESISTANCE OF 2 SHOULD BE MAINTAINED AT SPECIAL WORSE AREAS AN EXCEPTION CAN BE MADE, BUT INSTRUCTIONS OF DGAC ARE REQUIRED

DIREKTORAT JENDERAL PERHUBUNGAN UDARA
DIREKTORAT FASILITAS ELEKTRONIKA DAN LISTRIK
SUB DIREKTORAT LISTRIK

UMUM

Tahun Anggaran :

Installation of series transformers and grounding system for APH,REH,PAP/VAS,TXE

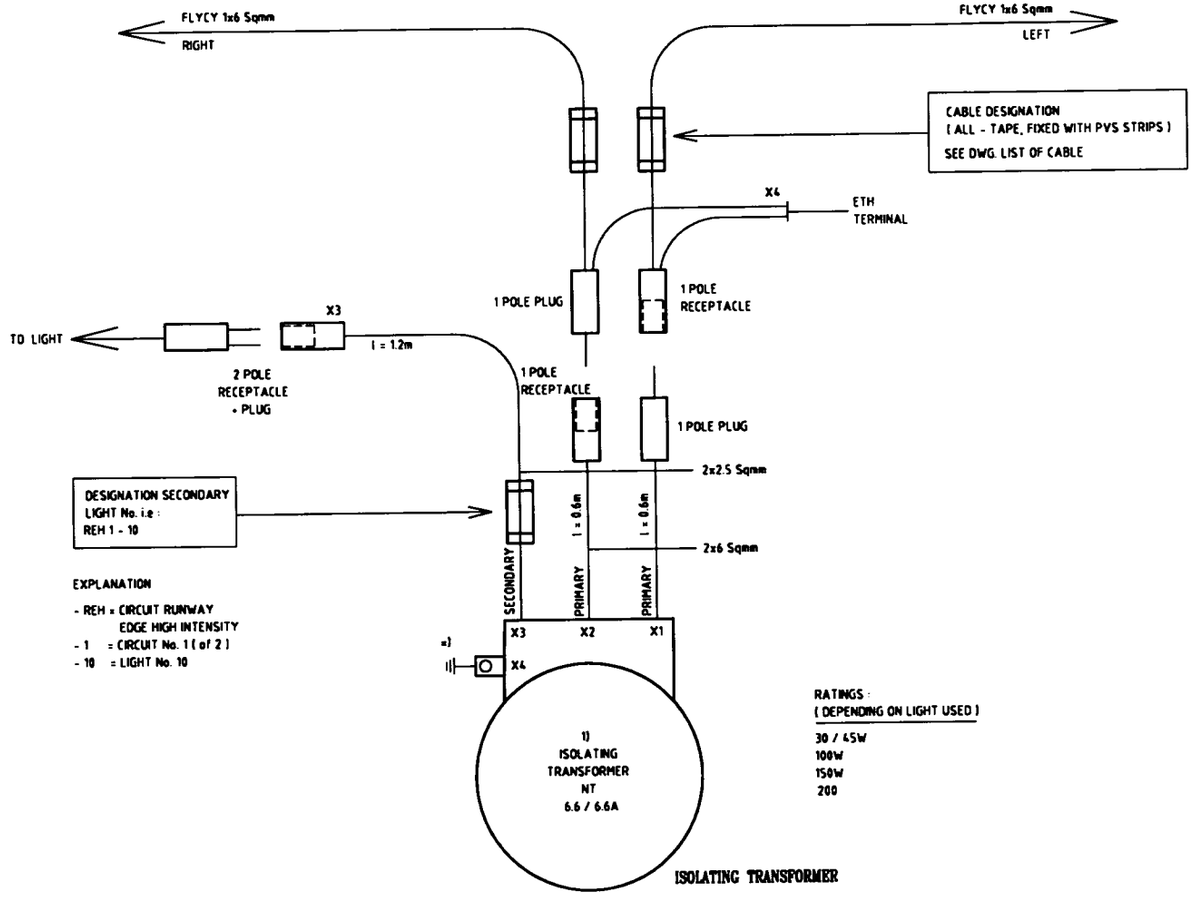
NOMOR GAMBAR	KODE LOKASI	NOMOR LEMBAR	NOMOR URUT
VA.26.01		1/1	

SKALA :

DIGAMBAR :

DIPERIKSA :

DISETUJUI :



EXPLANATION

- REH = CIRCUIT RUNWAY EDGE HIGH INTENSITY
- 1 = CIRCUIT No. 1 (of 2)
- 10 = LIGHT No. 10

RATINGS :
(DEPENDING ON LIGHT USED)

30 / 45W
100W
150W
200

NOTES :

*) EARTH TERMINAL x4, CONNECTION SEE DWG. No. VA.10.05
1) TRANFORMER TYPE NT ARE WITHOUT ETH TERMINAL

DIREKTORAT JENDERAL PERHUBUNGAN UDARA
DIREKTORAT FASILITAS ELEKTRONIKA DAN LISTRIK
SUB DIREKTORAT LISTRIK

UMUM

Tahun Anggaran:

Designation for ETH of Isolating Transformers, Transformer Pits and Cables

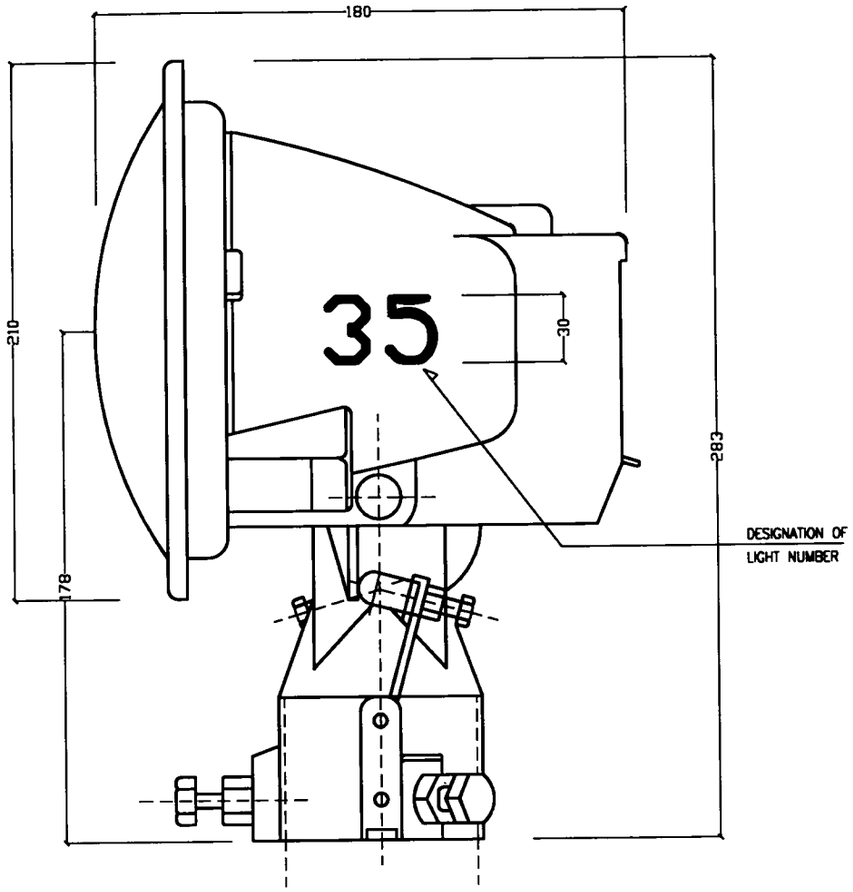
NOMOR GAMBAR	KODE LOKASI	NOMOR LEMBAR	NOMOR URUT
VA.26.02		1/1	-

SKALA :

DIGAMBAR :

DIPERIKSA :

DISETUJUI :

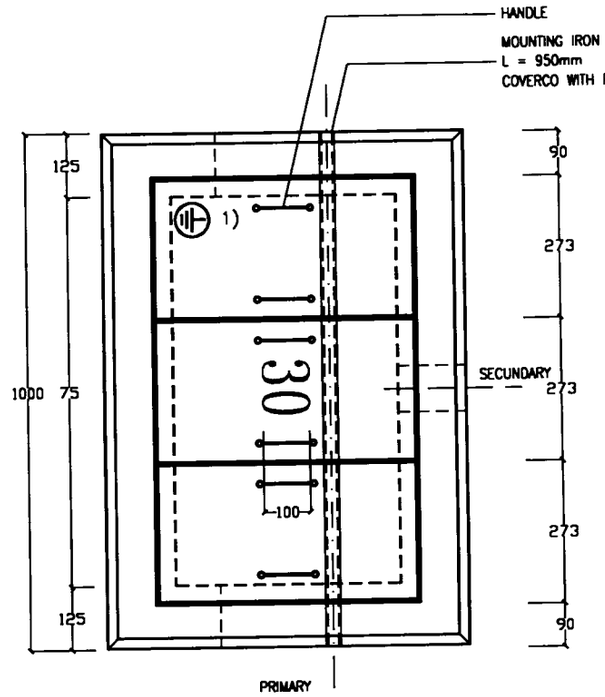


APH LIGHT

EACH LIGHT TO BE DESIGNATION WITH RUNNING NO :

MALS : 2 CIRCUIT (APM 1+2) : UNEVEN = 1, 3, 5, 7 ETC
EVEN = 2, 4, 6, 8 ETC

PALS : 3 CIRCUIT (APH - 1, 2, 3) : BAR1=1-5, BAR2=6-10 ETC 1 CIRCUIT OF BAR (5 LIGHT ARRANGEMENT)
NUMBER OF BAR ON PITS ONLY (COVER OF PIT)



TRANSFORMERS PIT SIZE – 2

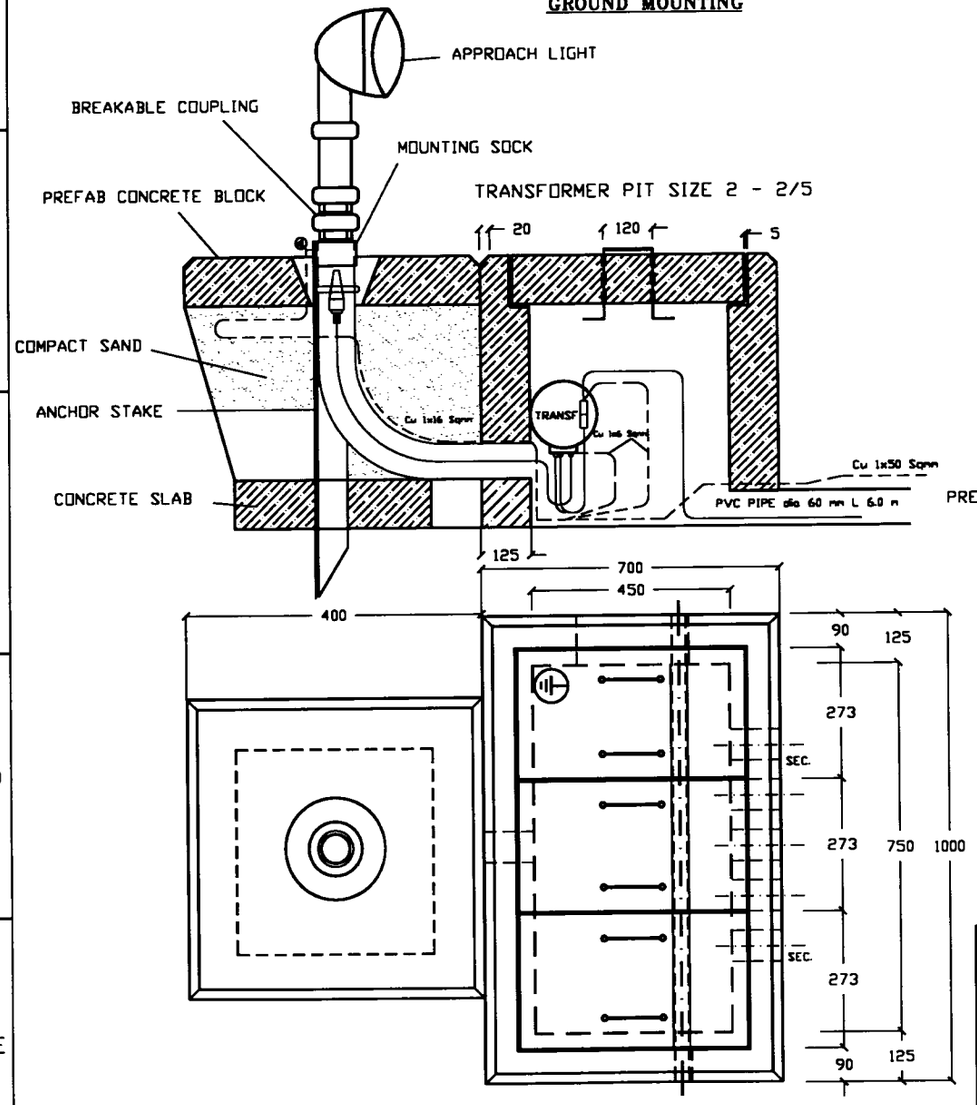
= ETH SYMBOL INDICATES THAT ONE ETH ROD IS CONNECTED AT THIS PLACE (APPROV - ALL 300M)

30 = e.g. BAR No. 30 AT OF PALS SYSTEM

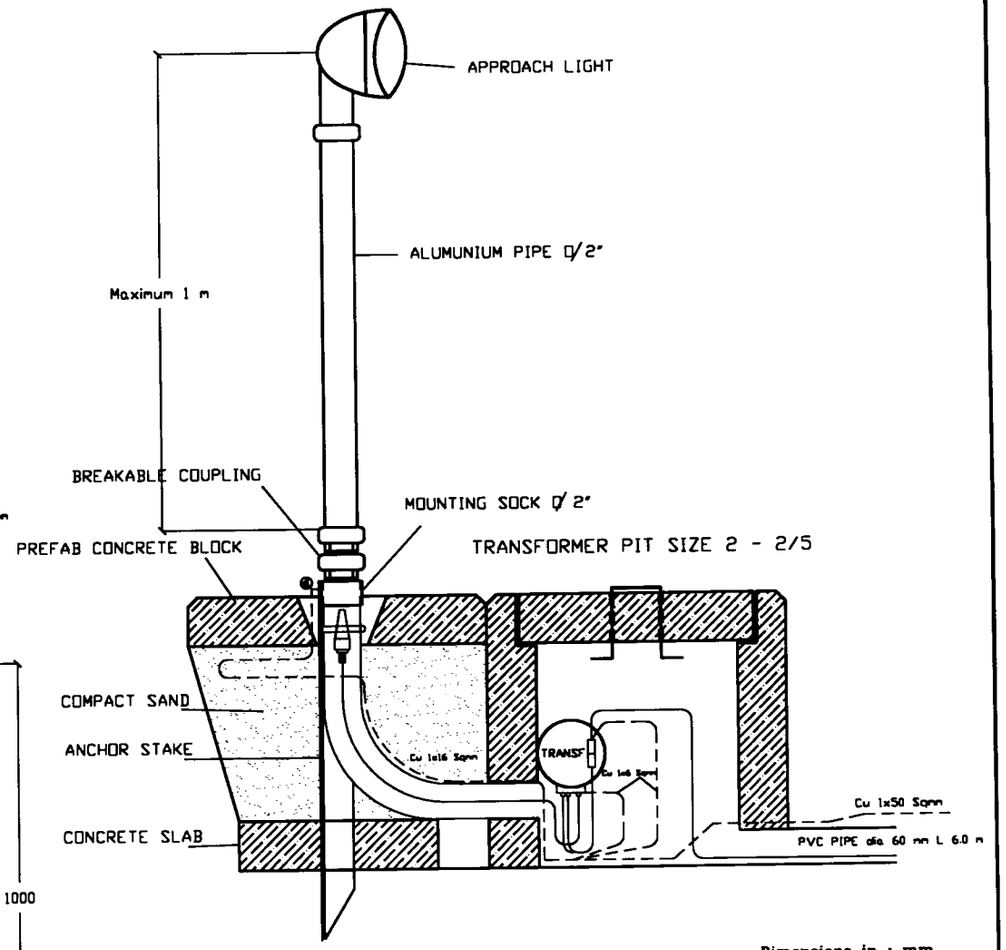
Dimension in : mm

DIREKTORAT JENDERAL PERHUBUNGAN UDARA DIREKTORAT FASILITAS ELEKTRONIKA DAN LISTRIK SUB DIREKTORAT LISTRIK	UMUM	Tahun Anggaran :
Designation For APH/APM Lights, Transformer Pits	NOMOR GAMBAR: VA.30.01	KODE LOKASI:
	NOMOR LEMBAR: 1/1	NOMOR URUT:
SKALA :	DIGAMBAR :	DIPERIKSA :
DISETUJUI :		

GROUND MOUNTING

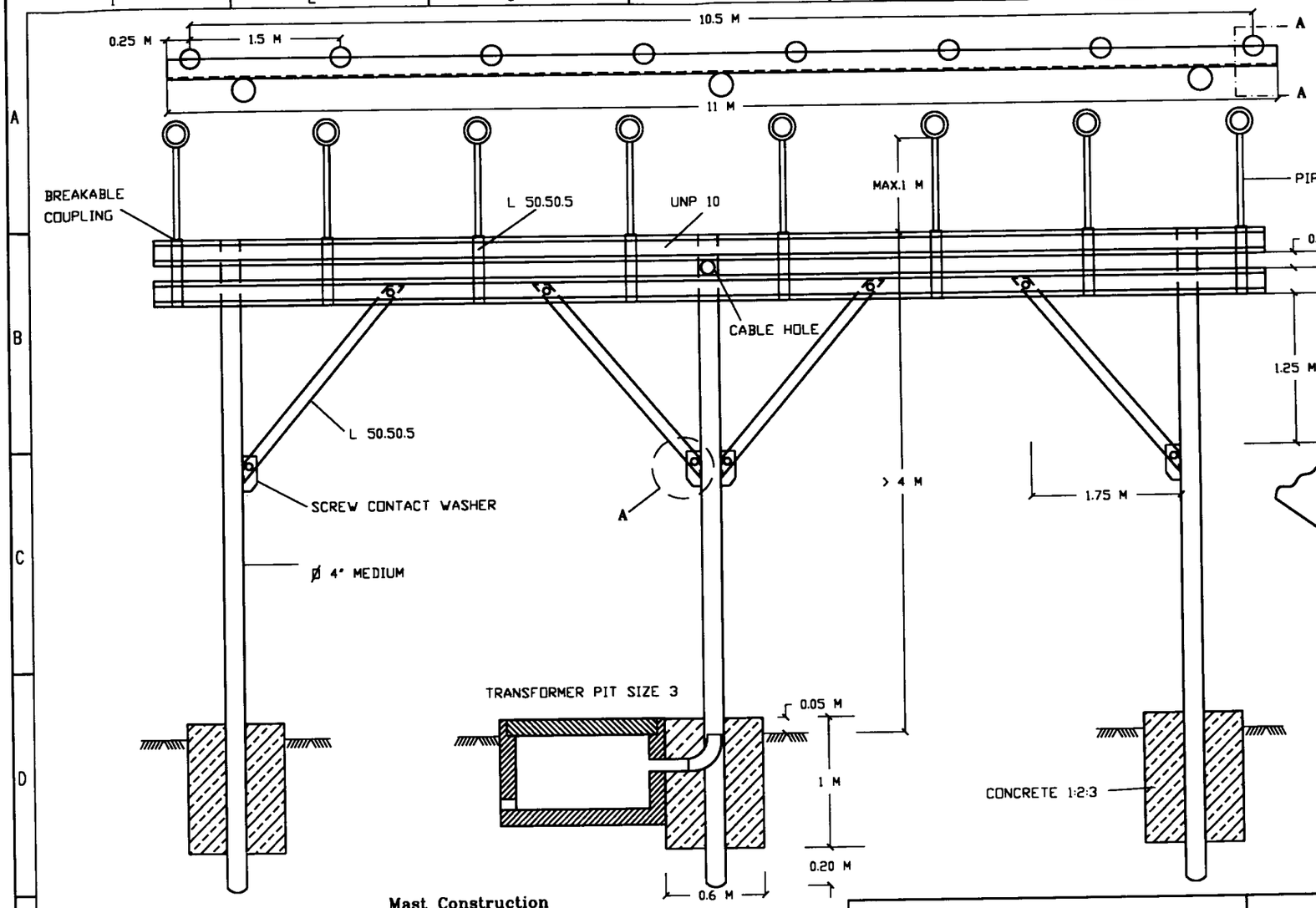


Single Mast



Dimensions in : mm

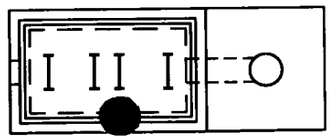
DIREKTORAT JENDERAL PERHUBUNGAN UDARA DIREKTORAT FASILITAS ELEKTRONIKA DAN LISTRIK SUB DIREKTORAT LISTRIK	UMUM	Tahun Anggaran :
Installation Lamp and Construction Single Mast Approach Light	NOMOR GAMBAR: VA.30.02 / KODE LOKASI / NOMOR LEMBAR: 1/1 / NOMOR URUT	
SKALA :	DIGAMBAR :	DIPERIKSA : / DISETUJUI :



Mast Construction

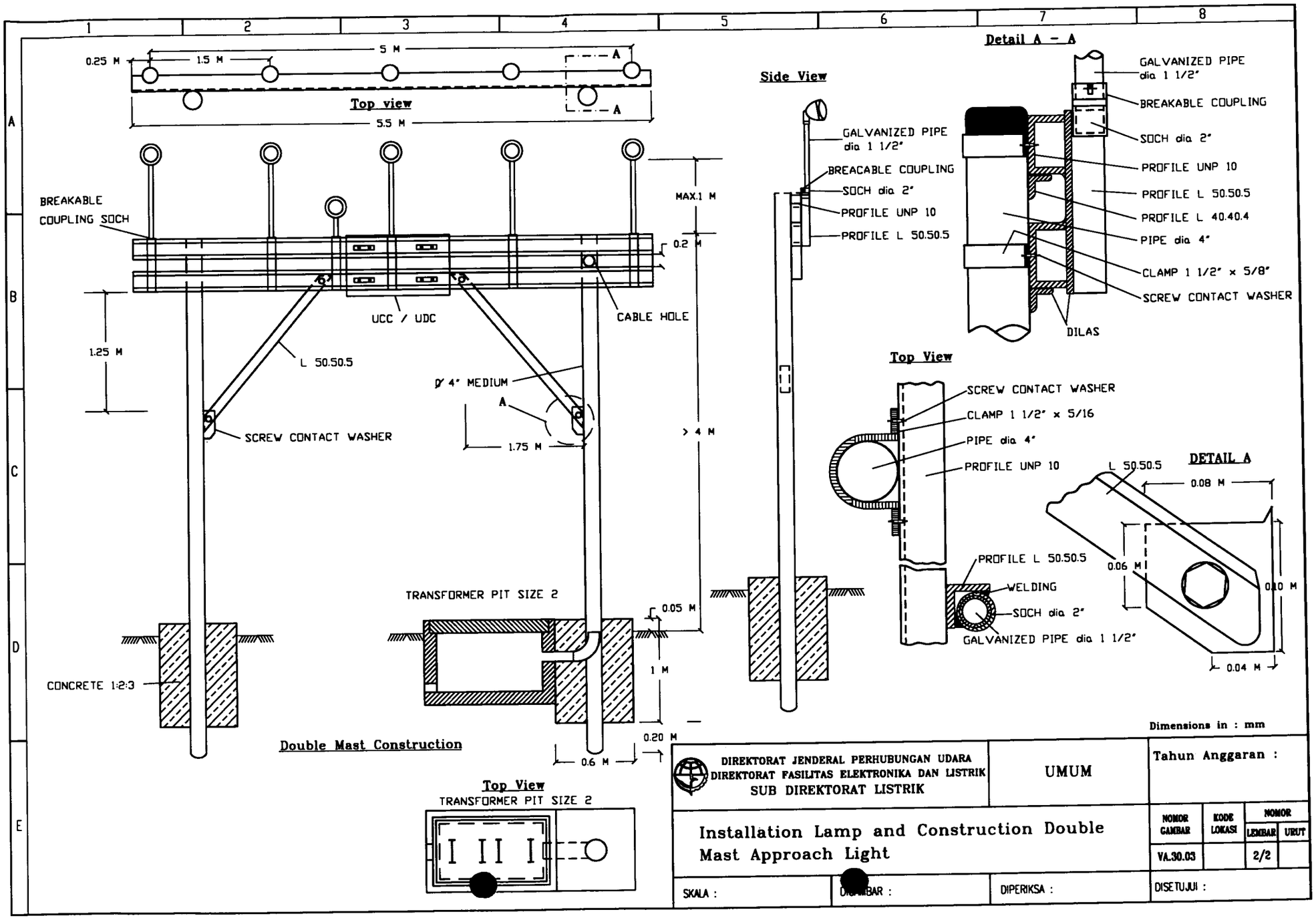
Top View

TRANSFORMER PIT SIZE 3



Dimensions in : mm

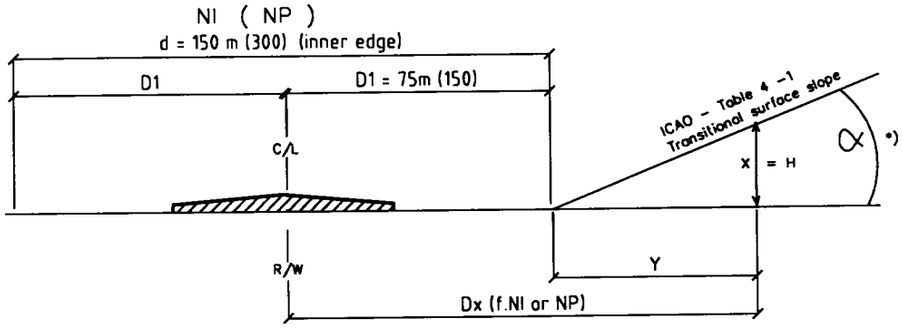
DIREKTORAT JENDERAL PERHUBUNGAN UDARA DIREKTORAT FASILITAS ELEKTRONIKA DAN LISTRIK SUB DIREKTORAT LISTRIK	UMUM	Tahun Anggaran :
Installation Lamp and Construction Threeple Mast Approach Light	NOMOR GAMBAR: VA.30.03	KODE LOKASI:
	NOMOR LEMBAR: 1/2	NOMOR URUT:
SKALA :	DIGAMBAR :	DIPERIKSA :
DISETUJUI :		


0.25 M
1.5 M
5 M
5.5 M
A
A
Top view
BREAKABLE
COUPLING SOCH
MAX.1 M
0.2 M
UCC / UDC
CABLE HOLE
1.25 M
L 50.50.5
Ø 4" MEDIUM
A
SCREW CONTACT WASHER
1.75 M
> 4 M
TRANSFORMER PIT SIZE 2
0.05 M
1 M
CONCRETE 1:2:3
0.20 M
0.6 M
Double Mast Construction
Top View
TRANSFORMER PIT SIZE 2
Side View
GALVANIZED PIPE
dia 1 1/2"
BREACABLE COUPLING
SOCH dia 2"
PROFILE UNP 10
PROFILE L 50.50.5
Detail A - A
GALVANIZED PIPE
dia 1 1/2"
BREAKABLE COUPLING
SOCH dia 2"
PROFILE UNP 10
PROFILE L 50.50.5
PROFILE L 40.40.4
PIPE dia 4"
CLAMP 1 1/2" x 5/8"
SCREW CONTACT WASHER
DILAS
Top View
SCREW CONTACT WASHER
CLAMP 1 1/2" x 5/16
PIPE dia 4"
PROFILE UNP 10
PROFILE L 50.50.5
WELDING
SOCH dia 2"
GALVANIZED PIPE dia 1 1/2"
DETAIL A
L 50.50.5
0.08 M
0.06 M
0.10 M
0.04 M
Dimensions in : mm
DIREKTORAT JENDERAL PERHUBUNGAN UDARA
DIREKTORAT FASILITAS ELEKTRONIKA DAN LISTRIK
SUB DIREKTORAT LISTRIK
UMUM
Tahun Anggaran :
Installation Lamp and Construction Double Mast Approach Light
NOMOR GAMBAR
VA.30.03
KODE LOKASI
NOMOR
LEMBAR
2/2
URUT
SKALA :
DIGAMBAR :
DIPERIKSA :
DISETUJUI :

NI = None Instrument Approach Runway, D1 = 75m

NP = None Precission Approach Runway, D1 = 150m

NI Dx = D1+Y D1 = 75m	NP Dx = D1+Y D1 = 150m	Y (m)	x = 0.143xY (m)	Remarks f. x = H e.g. for eqtm. / buildg.
75 85 95 105	150 160 170 180	0 10 20 30	0 1.43 2.86 4.29	
115 125 135	190 200 210	40 50 60	5.72 7.15 8.58	WDI H ~ 7.8m
145 155 165	220 230 240	70 80 90	10.01 11.44 12.87	e.g. Power House
175 185 195	250 260 270	100 110 120	14.30 15.73 17.16	ALI H = 1.16m
205 215 225	280 290 300	130 140 150	18.59 20.02 21.45	Terminal Buildings 20 –21m
235 245 255 265	310 320 330 340	160 170 180	23.88 24.31 25.74	Tower 23 – 24m Terminal Buildings 25 – 26m
275 285 295 305	350 360 370 380	190 200 210	27.17 28.60 30.03	Greater Terminal Buildings 29 – 30m
325 375 425 475	400 450 500 550	250 300 350 400	35.75 42.90 50.05 57.20	Tower 35 – 36m Maintenance Halls
525 575	600 650	450 500	65.35 71.50	



*) Transitional slopes :

$\alpha 1$ = 14.3% ≙ 8.14° f. NI – R/W No. 3 + 4 + NP – R/W No. 3 + 4 and Precission Approach Cat I – III

($\alpha 2$ = 20% ≙ 11.30° f. NI – R/W No. 1 + 2 + NP – R/W No. 1 + 2)

$\frac{X}{Y} = \alpha 1$ (14.3%)
X = $\alpha 1$ (14.3%) x Y = 0.143 x Y

DIREKTORAT JENDERAL PERHUBUNGAN UDARA
DIREKTORAT FASILITAS ELEKTRONIKA DAN LISTRIK
SUB DIREKTORAT LISTRIK

UMUM

Tahun Anggaran :

ICAO – Obstacle freeness
(ICAO RW Code 3+4, table 4.1) for inner
Slope of Non Instrument RW (NI) +
Non Precission APH (NP)

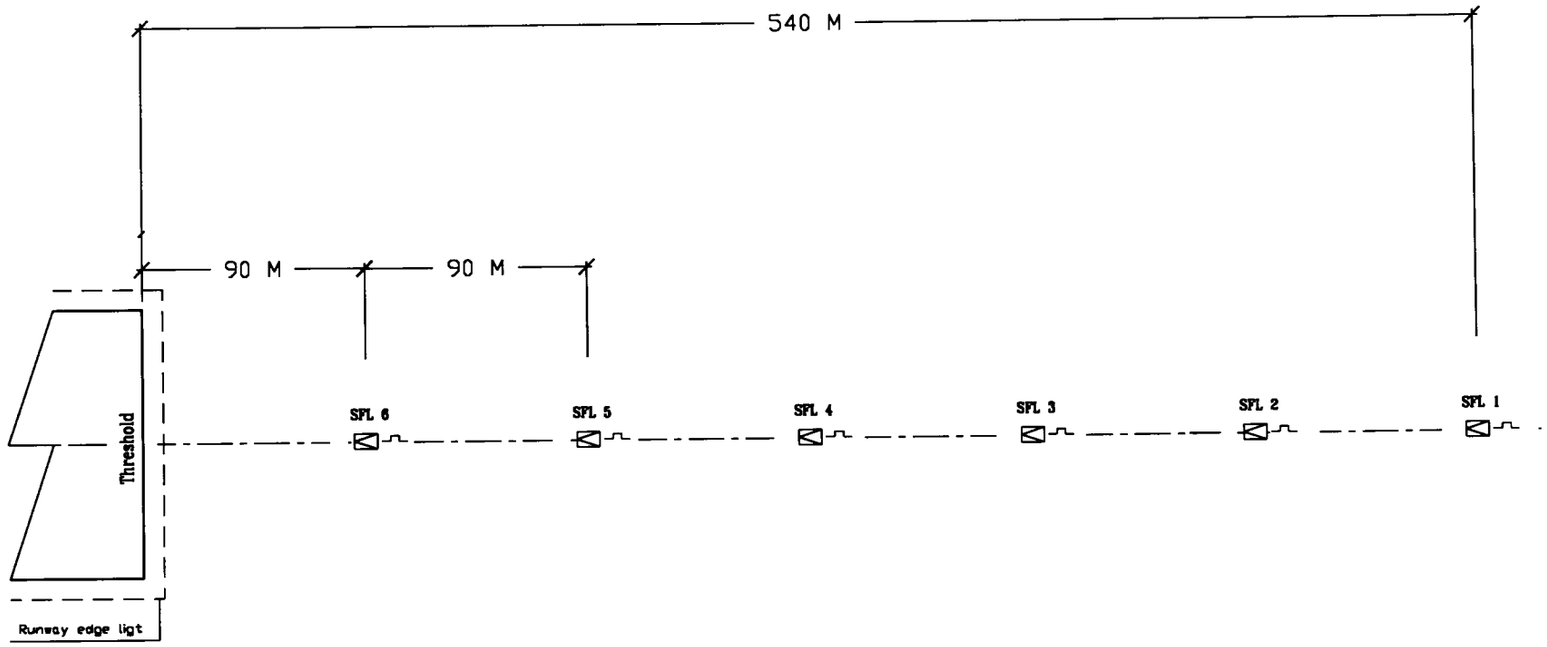
NOMOR GAMBAR	KODE LOKASI	NOMOR LEMBAR	NOMOR URUT
VA.30.04		1/1	

SKALA :

GAMBAR :

DIPERIKSA :

DISETUJUI :



Dimensions in : m

REMARKS			TYPE	COLOR	POWER (6.6 A)	QTY (pcs)
LEGEND	ABBREV	DESCRIPTION	E : Elevated I : Inset			
	SFL	Sequence flashing light	E	Clear	60 ws	6

DIREKTORAT JENDERAL PERHUBUNGAN UDARA
DIREKTORAT FASILITAS ELEKTRONIKA DAN LISTRIK
SUB DIREKTORAT LISTRIK

UMUM

Tahun Anggaran ;

ODALS Configuration

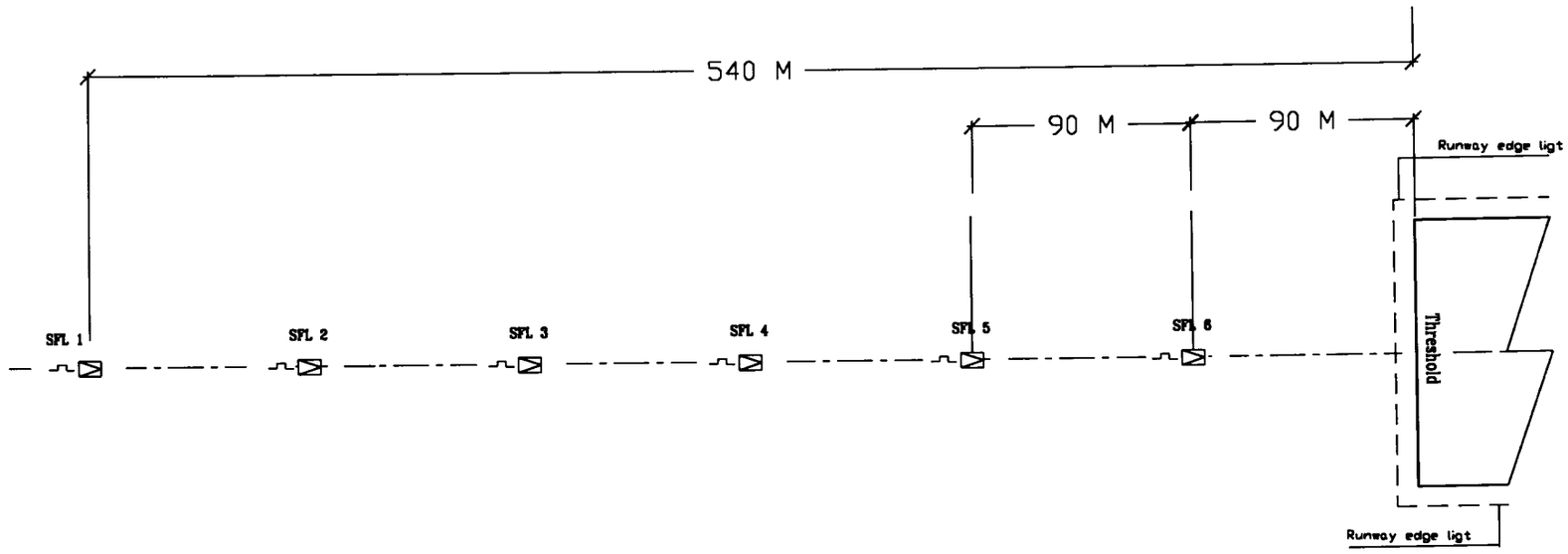
NOMOR GAMBAR	KODE LOKASI	NOMOR LEMBAR	NOMOR URUT
VA.31.01		1/2	

SKALA :

DIGAMBAR :

DIPERIKSA :

DISETUJUI :



Dimensions in : m

REMARKS			TYPE	COLOR	POWER (6.6 A)	QTY (pcs)
LEGEND	ABBREV.	DESCRIPTION	E : Elevated I : Inset			
	SFL	Sequence Flashing light	E	Clear	60 ws	6

DIREKTORAT JENDERAL PERHUBUNGAN UDARA
DIREKTORAT FASILITAS ELEKTRONIKA DAN LISTRIK
SUB DIREKTORAT LISTRIK

UMUM

Tahun Anggaran ;

ODALS Configuration

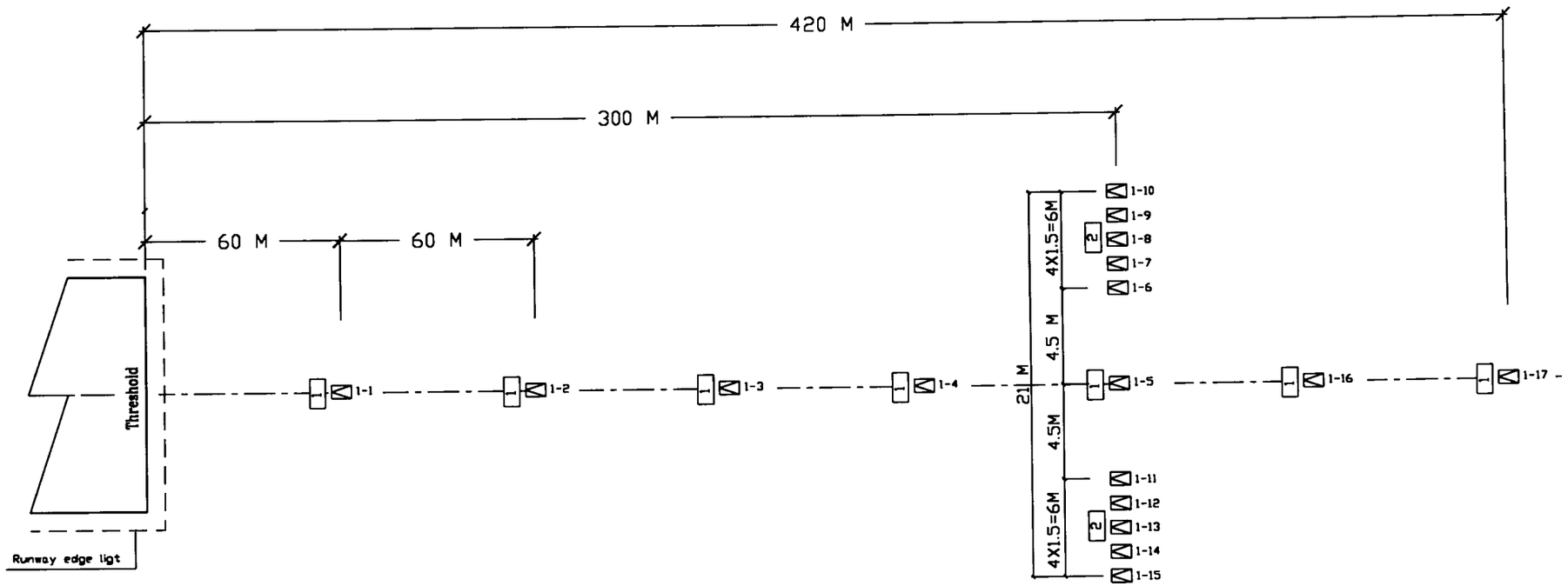
NOMOR GAMBAR	KODE LOKASI	NOMOR LEMBAR	NOMOR URUT
VA.31.01		2/2	

SKALA :

DIGAMBAR :

DIPERIKSA :

DISETUJUI :



REMARKS			TYPE	COLOR	POWER (6.6 A)	QTY (pcs)
LEGEND	ABBREV.	DESCRIPTION	E : Elevated I : Inset			
⊠	APM	Approach lighting medium int.	E	Clear	45/100	17
⊠ 1-2		CCT 1 Nomor Lampu 2				
⊠ 1-3		CCT 1 Nomor Lampu 3				
1		Bak trafo ukuran 1				7
2		Bak trafo ukuran 2				2

Dimensions in : m

DIREKTORAT JENDERAL PERHUBUNGAN UDARA
DIREKTORAT FASILITAS ELEKTRONIKA DAN LISTRIK
SUB DIREKTORAT LISTRIK

UMUM

Tahun Anggaran :

SSALS Configuration

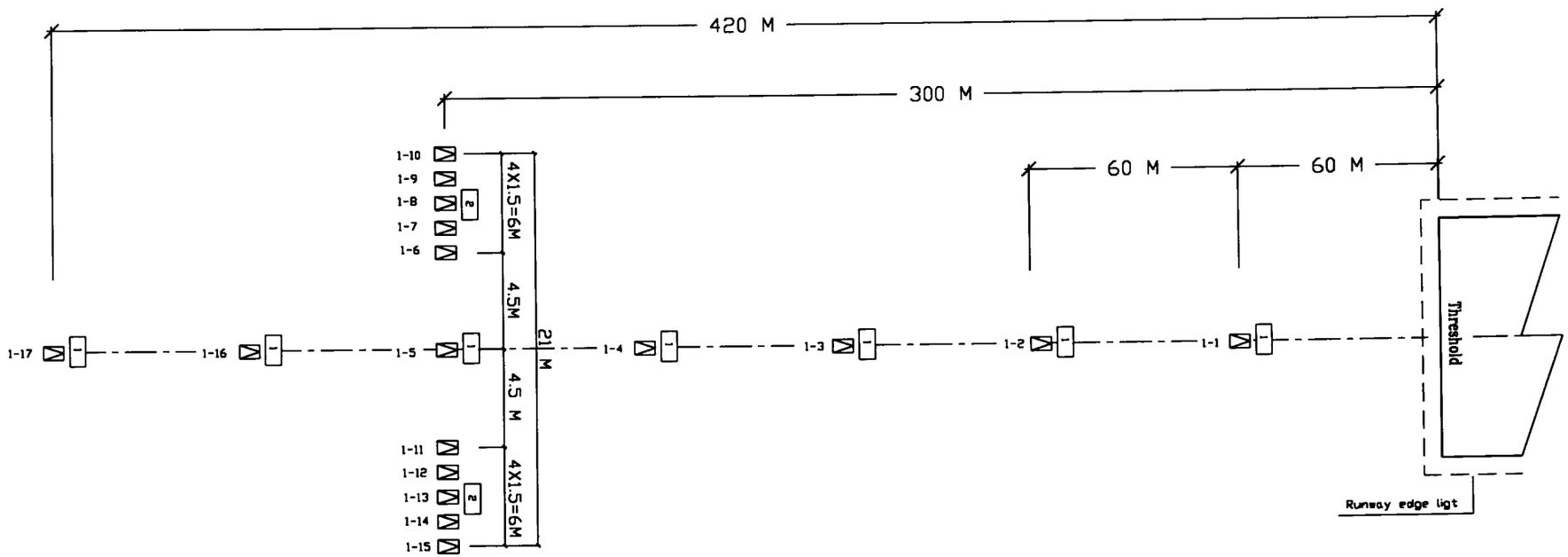
NOMOR GAMBAR	KODE LOKASI	NOMOR LEMBAR	NOMOR URUT
VA.31.02		1/2	

SKALA :

DIGAMBAR :

DIPERIKSA :

DISETUJUI :



Dimensions in : m

REMARKS			TYPE	COLOR	POWER (6.6 A)	QTY (pcs)
LEGEND	ABBREV.	DESCRIPTION	E : Elevated I : Inset			
	APM	Approach lighting medium int.	E	Clear	45/100	17
1-2		CCT 1 Nomor Lampu 2				
1-3		CCT 1 Nomor Lampu 3				
1		Bak trafo ukuran 1				7
2		Bak trafo ukuran 2				2

DIREKTORAT JENDERAL PERHUBUNGAN UDARA
DIREKTORAT FASILITAS ELEKTRONIKA DAN LISTRIK
SUB DIREKTORAT LISTRIK

UMUM

Tahun Anggaran :

SSALS Configuration

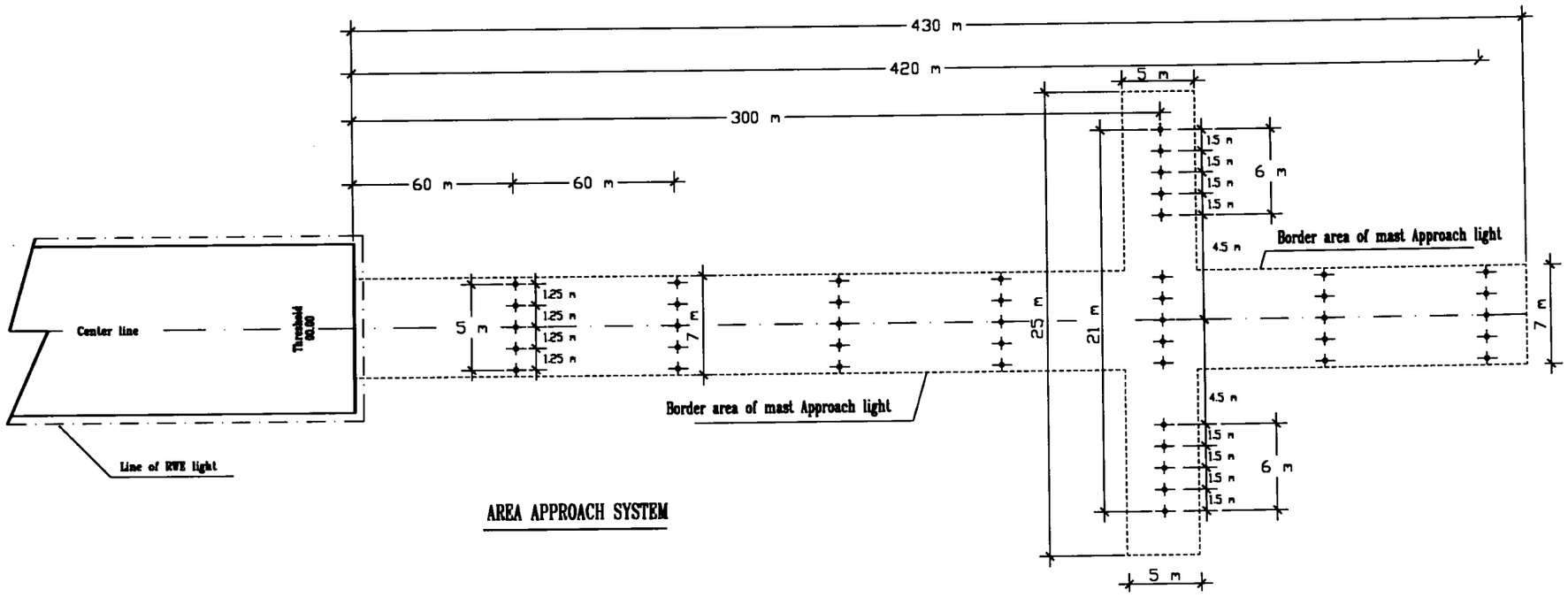
NOMOR GAMBAR	KODE LOKASI	NOMOR LEMBAR	NOMOR URUT
VA.31.02		2/2	

SKALA :

DIGAMBAR :

DIPERIKSA :

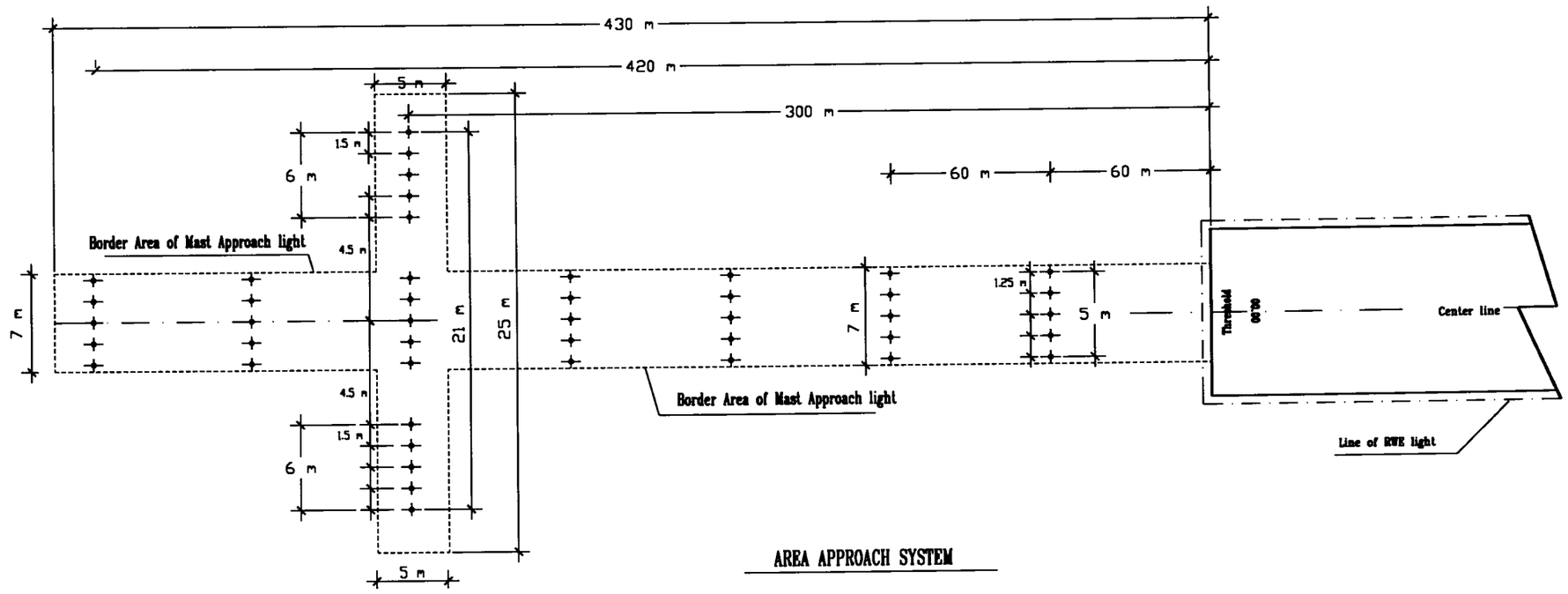
DISETUJUI :



AREA APPROACH SYSTEM

(Dimensions in m)

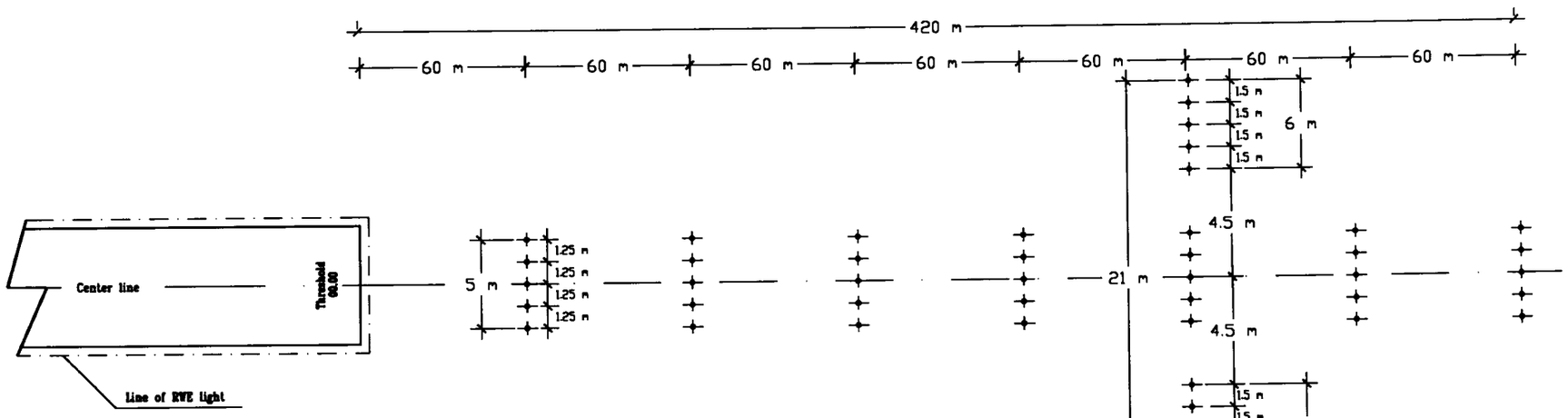
DIREKTORAT JENDERAL PERHUBUNGAN UDARA DIREKTORAT FASILITAS ELEKTRONIKA DAN LISTRIK SUB DIREKTORAT LISTRIK	UMUM	Tahun Anggaran :
Measuring Dots Plan of Mast Approach Light (MALS)	NOMOR GAMBAR: VA.32.01 / KODE LOKASI: / NOMOR LEMBAR: 1/2 / NOMOR URUT:	
SKALA :	DIGAMBAR :	DIPERIKSA : / DISETUJUI :



AREA APPROACH SYSTEM

(Dimensions in m)

DIREKTORAT JENDERAL PERHUBUNGAN UDARA DIREKTORAT FASILITAS ELEKTRONIKA DAN LISTRIK SUB DIREKTORAT LISTRIK	UMUM	Tahun Anggaran :
Measuring Dots Plan of Mast Approach Light (MALS)	NOMOR GAMBAR: VA.32.01 / KODE LOKASI: / NOMOR LEMBAR: 2/2 / NOMOR URUT:	
SKALA :	DIGAMBAR :	DIPERIKSA : / DISETUJUI :



Barret No.	THR	1	2	3	4	5	6	7
Distance Betwean Barrets (Mt)	0.00	60	120	180	240	300	360	420
Distance To Threshold (Mt)	0.00							
Vertical Ground Level	0.00							
Fondation Upper Level								
Ground Level Relative to Threshold	0.00							
Slope Of Light Point								
Level Of Light Point	0.00							
Length of Columm or Mast	0.00							
Inset = IN, Eleveted = EL Column = CL, Mast = MA								

(Dimensions in m)

DIREKTORAT JENDERAL PERHUBUNGAN UDARA
DIREKTORAT FASILITAS ELEKTRONIKA DAN LISTRIK
SUB DIREKTORAT LISTRIK

UMUM

Tahun Anggaran :

Ground Elevation and Length Mast (MALS)

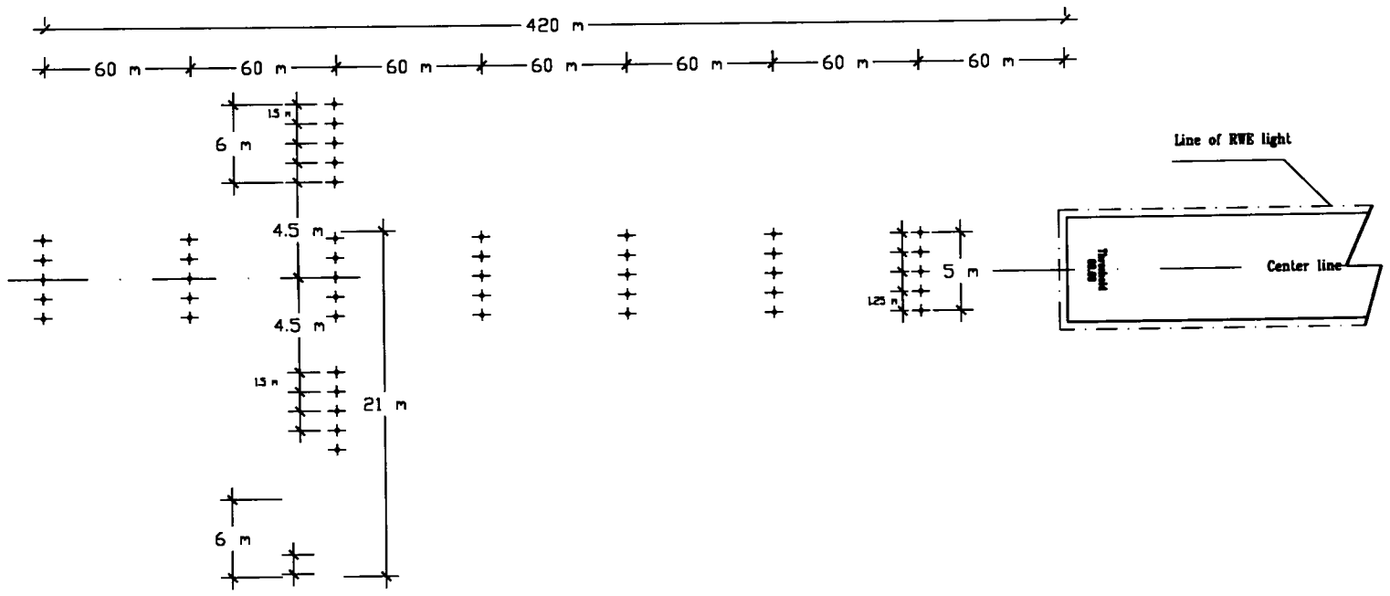
NOMOR GAMBAR	KODE LOKASI	NOMOR LEMBAR	NOMOR URUT
VA.32.02		1/2	

SKALA :

DIGAMBAR :

DIPERIKSA :

DISETUJUI :



7	6	5	4	3	2	1	THR	Barret No.
420	360	300	240	180	120	60	0.00	Distance Betwean Barrets (Mt)
							0.00	Distance To Threshold (Mt)
							0.00	Vertical Ground Level
								Fondation Upper Level
							0.00	Ground Level Relative to Threshold
								Slope Of Light Point
							0.00	Level Of Light Point
							0.00	Length of Columm or Mast
								Inset = IN, Eleveted = EL Column = CL, Mast = MA

(Dimensions in m)

DIREKTORAT JENDERAL PERHUBUNGAN UDARA
DIREKTORAT FASILITAS ELEKTRONIKA DAN LISTRIK
SUB DIREKTORAT LISTRIK

UMUM

Tahun Anggaran :

Ground Elevation and Length Mast MALS

NOMOR GAMBAR	KODE LOKASI	NOMOR LEMBAR	NOMOR URUT
VA.32.02		2/2	

SKALA :

DIGAMBAR :

DIPERIKSA :

DISETUJUI :

*) 1 PACKG. = 5 PAIRS

LEGEND

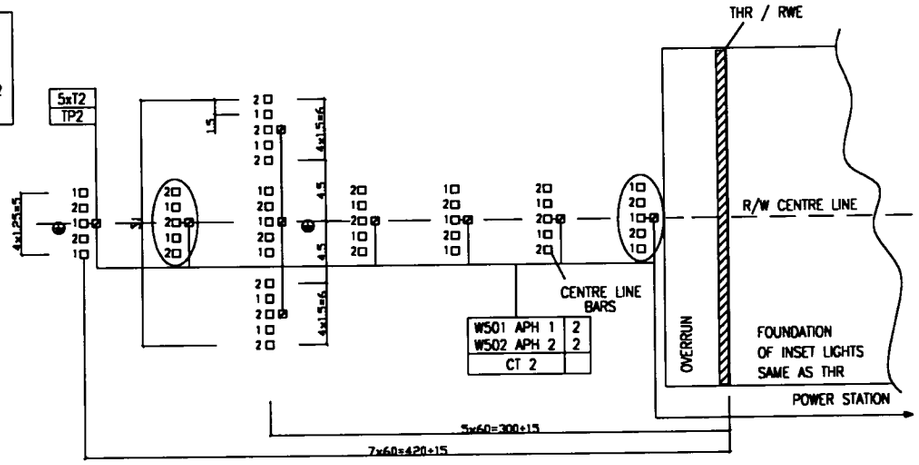
1POLE.CONDUIT 3 W PCS	1POLE.CONDUIT 3 W PACKG	1POLE.CONDUIT 5 W PCS	1POLE.CONDUIT 5 W PACKG	CIRCUIT	OPTION	SYMBOL	QTY	TRANSFORMERS W	TRANSFORMERS TYPE	TRANSFORMERS A	LAMP	LIGHT TYPE	CATALOGUE No.
-	*)	18	*) 4	APH	ELEV	□	45	100	12	6.6/6.6	100W-6.6A	CL7/IR	W/O TOP LIGHT
-	-	(2)		Tr - Pit	-	■	9	10 pcs		-	-	SIZE 2	

Light + transformers / circuit
APH 1 = 22
APH 2 = 23

BARRETTE - NO.		1	2	3	4	5	6	7
TYPE	(1)	G	G	G	G	G	G	G
CIRCUIT APH		1+2	1+2	1+2	1+2	1+2	1+2	1+2
APH < @	(2)		+9°			+5.5°		
TRANSFORMER PIT SIZE		3	3	2	2	2	2	2
TRANSFORMER								5x12 each barrette
ETH - BAR		1	1	1	1	1	1	1

Lights + Transf / circuit		
APL	=	45 pcs
APH 1	=	36 pcs
APH 2	=	36 pcs

Designation per row :
. Barerette No on Transformers pit size 3 (1-32)
. each light : 1-1, 2-1, 1-2, 2-2, 1-3 for barrette 1
2-3, 1-4, 2-4, 1-5, 2-5 for barrette 2
. ETH, were indicated at transformers pit



DIM. IN METER

① TYPE OF INSTALLATION

G = GROUND
I = INSET
M = MALS
P = POLE

② APL : ONE CIRCUIT ONLY (APL)
FOR LIGHTS INDICATED BY □
(= CENTRE OF EACH BARRETTE +300m WING BAR)

DIREKTORAT JENDERAL PERHUBUNGAN UDARA
DIREKTORAT FASILITAS ELEKTRONIKA DAN LISTRIK
SUB DIREKTORAT LISTRIK

UMUM

Tahun Anggaran :

Layout MALS Approach (Simple APPR)
Horizontal Installation Tolerances

NOMOR GAMBAR	KODE LOKASI	NOMOR LEMBAR	NOMOR URUT
VA.32.03		1/2	

SKALA :
DIGAMBAR :
DIPERIKSA :
DISETUJUI :

LEGEND

*) 1 PACKG. ≙ 5 PAIRS

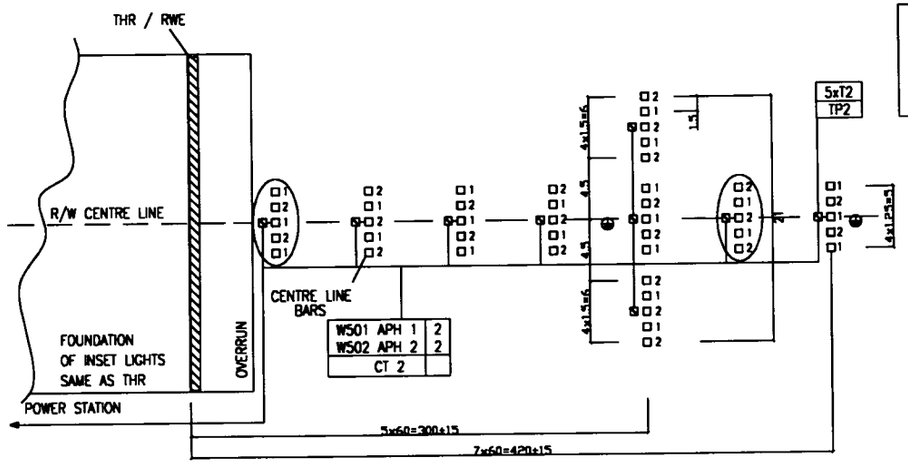
CATALOGUE No.	LIGHT TYPE		LAMP	TRANSFORMERS A	TRANSFORMERS TYPE	TRANSFORMERS W	QTY	SYMBOL	OPTION	CIRCUIT	1 POLE CONDUIT 5 kv PACKG	1 POLE CONDUIT 5 kv PCS	1 POLE CONDUIT 3 kv PACKG	1 POLE CONDUIT 3 kv PCS
	TOP LIGHT W/O	CL2W	100W-6.6A	6.6/6.6	12	108	45	○	01V	APH	*) 4	16	*)	-
		SIZE 2	-	-		10 pcs	9	⊞	-	Tr - PR		(2)	-	-

Lights + Travel / circuit	
APL	= 45 pcs
APH 1	= 56 pcs
APH 2	= 56 pcs

7	8	5	4	3	2	1	BARRETTE - NO.
G	G	G	G	G	G	G	TYPE (1)
1+2	1+2	1+2	1+2	1+2	1+2	1+2	CIRCUIT APH
		+0.5°			+0°		APH + ⊘ (2)
2	2	2	2	2	2	2	TRANSFORMER PIT SIZE
5of2 each barrette							TRANSFORMER
1	1	1	1	1	1	1	ETH - BAR

Light + transformers / circuit
APH 1 = 22
APH 2 = 23

Designation per row :
. Barerette No on Transformers pit size 3 (1-32)
. each light : 1-1, 2-1, 1-2, 2-2, 1-3 for barrette 1
2-3, 1-4, 2-4, 1-5, 2-5 for barrette 2
. ETH, were indicated at transformers pit



DIM. IN METER

① TYPE OF INSTALLATION
G = GROUND
I = INSET
M = MALS
P = POLE

② APL : ONE CIRCUIT ONLY (APL)
FOR LIGHTS INDICATED BY □
(= CENTRE OF EACH BARRETTE +300m WING BAR)

DIREKTORAT JENDERAL PERHUBUNGAN UDARA
DIREKTORAT FASILITAS ELEKTRONIKA DAN LISTRIK
SUB DIREKTORAT LISTRIK

UMUM

Tahun Anggaran :

Layout MALS Approach (Simple APPR)
Horizontal Installation Tolerances

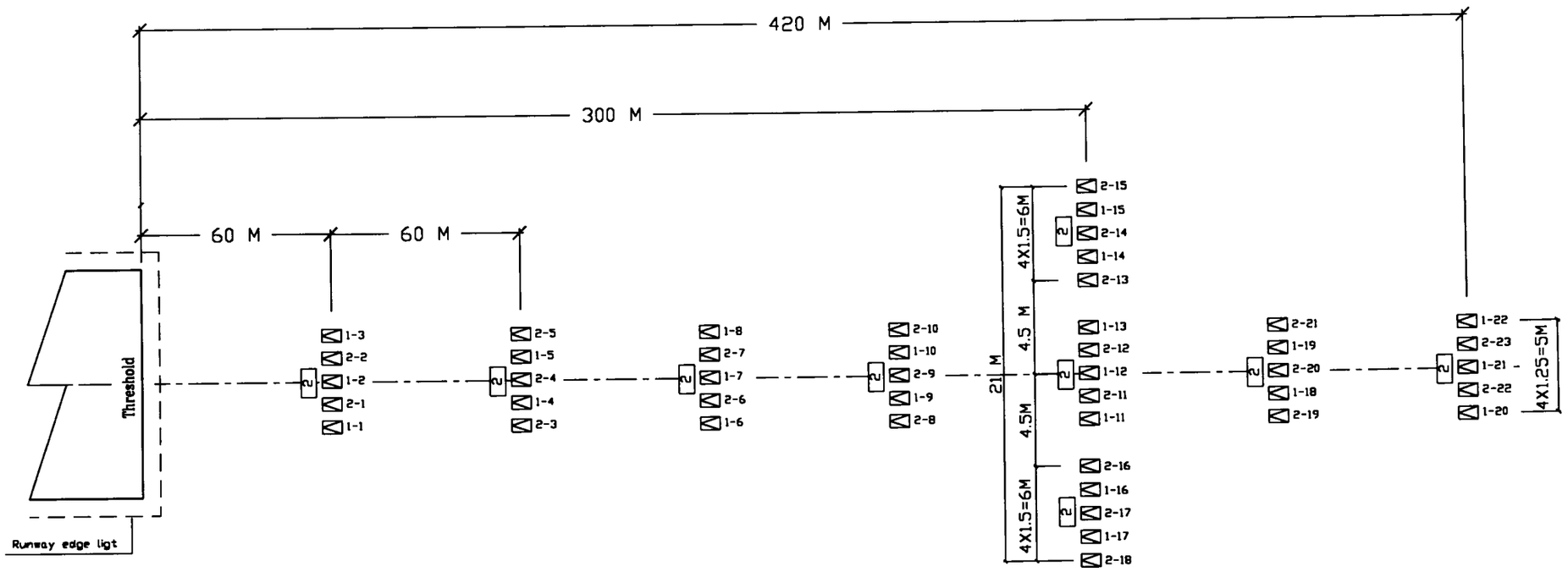
NOMOR GAMBAR	KODE LOKASI	NOMOR LEMBAR	NOMOR URUT
VA.32.03		2/2	

SKALA :

DIGAMBAR :

DIPERIKSA :

DISETUJUI :



REMARKS			TYPE	COLOR	POWER (6.6 A)	QTY (pcs)
LEGEND	ABBREV	DESCRIPTION	E : Elevated I : Inset			
⊠	APM	Approach lighting medium int.	E	Clear	45/100	45
⊠ 1-3		CCT 1 Nomor Lampu 3				
⊠ 2-3		CCT 2 Nomor Lampu 3				
[2]		Bak trafo ukuran 2				

Dimensions in : M

DIREKTORAT JENDERAL PERHUBUNGAN UDARA
DIREKTORAT FASILITAS ELEKTRONIKA DAN LISTRIK
SUB DIREKTORAT LISTRIK

UMUM

Tahun Anggaran :

MALS Configuration

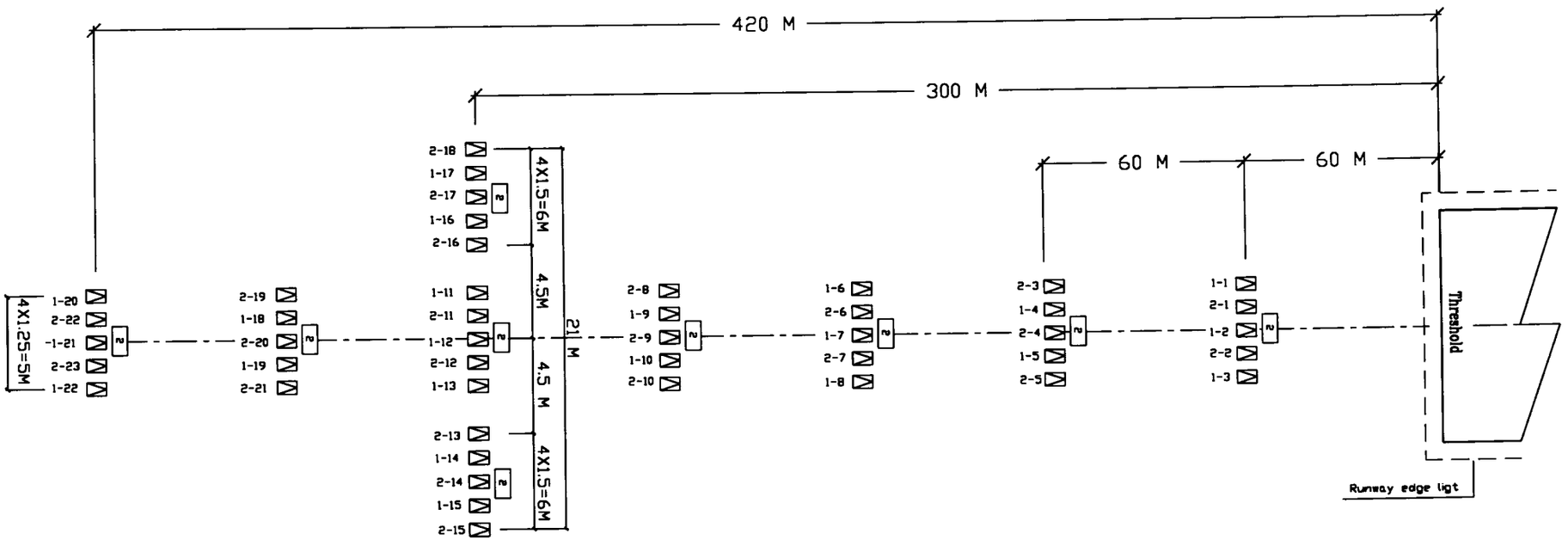
NOMOR GAMBAR	KODE LOKASI	NOMOR LEMBAR	NOMOR URUT
VA.32.04		1/2	

SKALA :

DIGAMBAR :

DIPERIKSA :

DISETUJUI :



Dimensions in : M

REMARKS			TYPE	COLOR	POWER (6.6 A)	QTY (pcs)
LEGEND	ABBREV	DESCRIPTION	E : Elevated I : Inset			
	APM	Approach lighting medium int.	E	Clear	45/100	45
1-3		CCT 1 Nomor Lampu 3				
2-3		CCT 1 Nomor Lampu 3				
2		Bak trafo ukuran 2				

DIREKTORAT JENDERAL PERHUBUNGAN UDARA
DIREKTORAT FASILITAS ELEKTRONIKA DAN LISTRIK
SUB DIREKTORAT LISTRIK

UMUM

Tahun Anggaran :

MALS Configuration

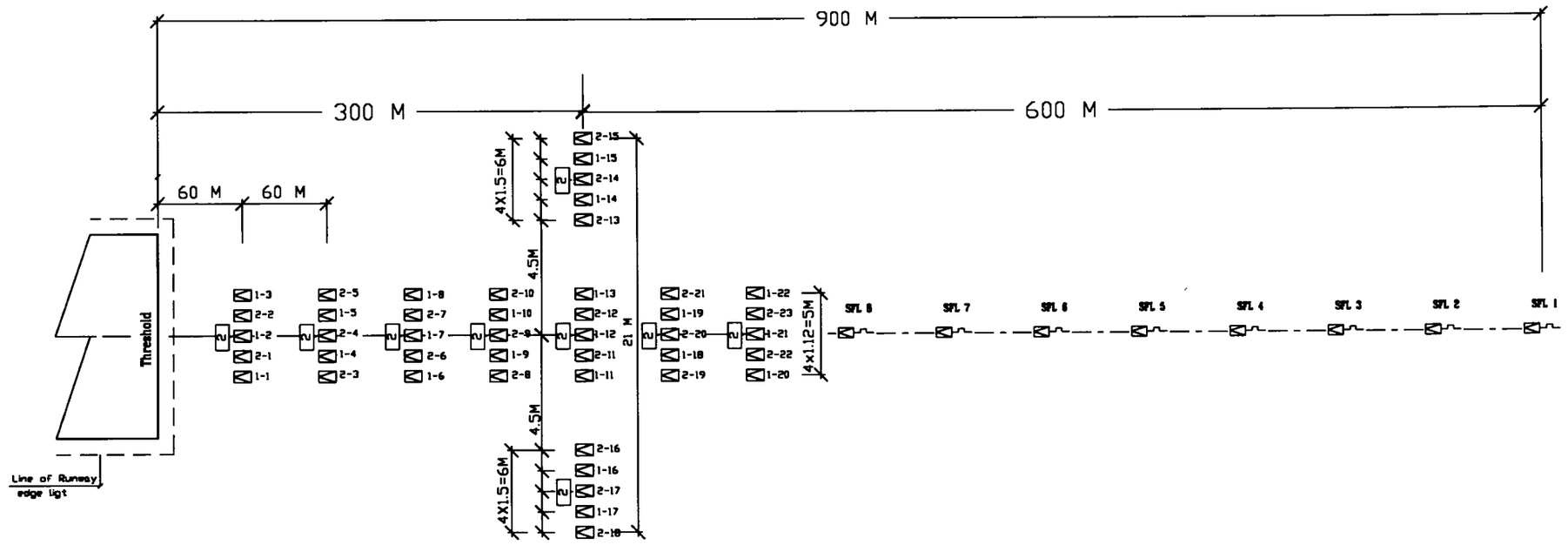
NOMOR GAMBAR	KODE LOKASI	NOMOR LEMBAR	NOMOR URUT
VA.32.04		2/2	

SKALA :

DIGAMBAR :

DIPERIKSA :

DISETUJUI :



REMARKS			TYPE	COLOR	POWER (6.6 A)	QTY (pcs)
LEGEND	ABBREV	DESCRIPTION	E : Elevated I : Inset			
	APM	Approach lighting medium int.	E	Clear	45/100	45
	SFL	Sequence flashing light	E	Clear	60 ws	8
1-3		CCT 1 Monor Lampu 3				
2-3		CCT 2 Monor Lampu 3				
2		Bak trafo Ukuran 2				

Dimensions in : m

DIREKTORAT JENDERAL PERHUBUNGAN UDARA
DIREKTORAT FASILITAS ELEKTRONIKA DAN LISTRIK
SUB DIREKTORAT LISTRIK

UMUM

Tahun Angaran :

MALSR Configuration

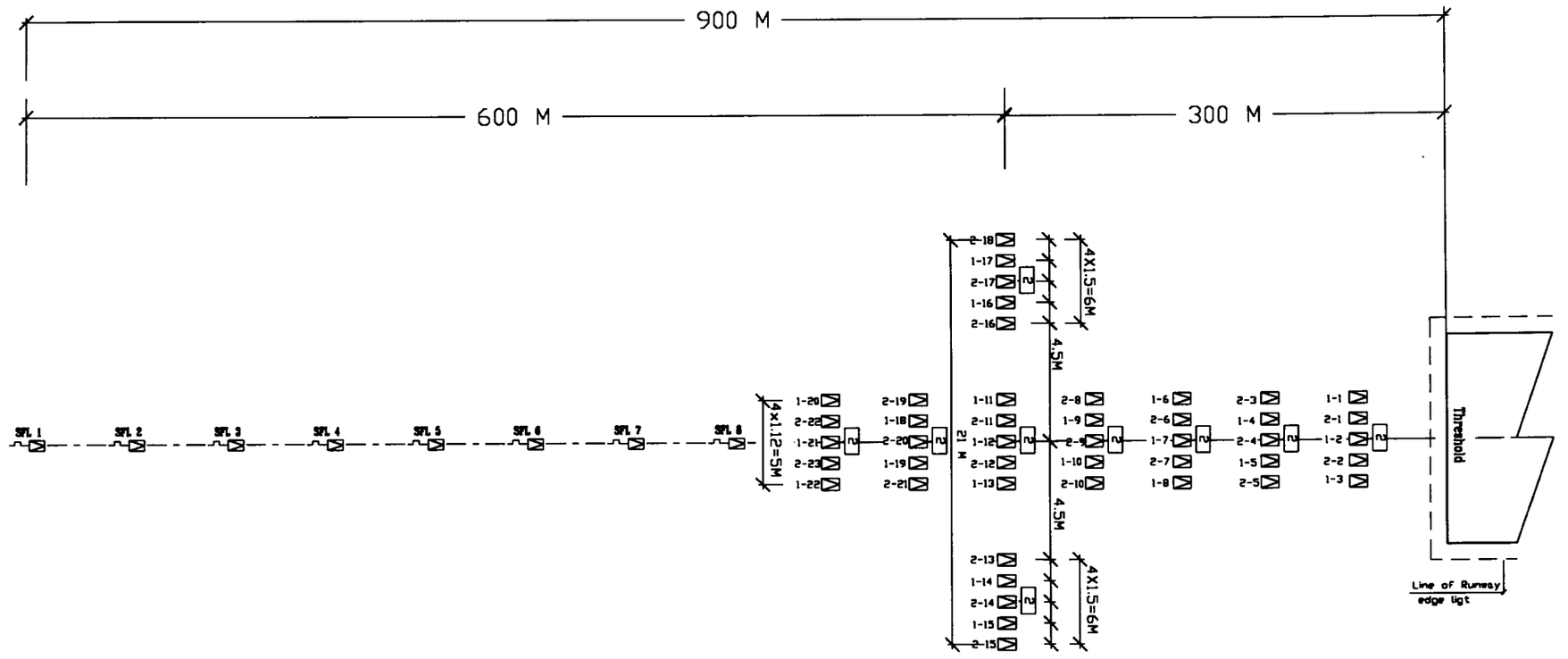
NOMOR GAMBAR	KODE LOKASI	NOMOR LEMBAR	NOMOR URUT
VA.32.05		1/2	

SKALA :

DIGAMBAR :

DIPERIKSA :

DISETUJUI :



REMARKS			TYPE	COLOR	POWER (6.6 A)	QTY (pcs)
LEGEND	ABBREV	DESCRIPTION	E : Elevated I : Inset			
	APM	Approach lighting medium int.	E	Clear	45/100	45
	SFL	Sequence Flashing light	E	Clear	60 ws	8
1-3		CCT 1 Nomor Lampu 3				
2-3		CCT 2 Nomor Lampu 3				
2		Bak trafo Ukuran 2				

Dimensions in : m

DIREKTORAT JENDERAL PERHUBUNGAN UDARA
DIREKTORAT FASILITAS ELEKTRONIKA DAN LISTRIK
SUB DIREKTORAT LISTRIK

UMUM

Tahun Angaran :

MALSR Configuration

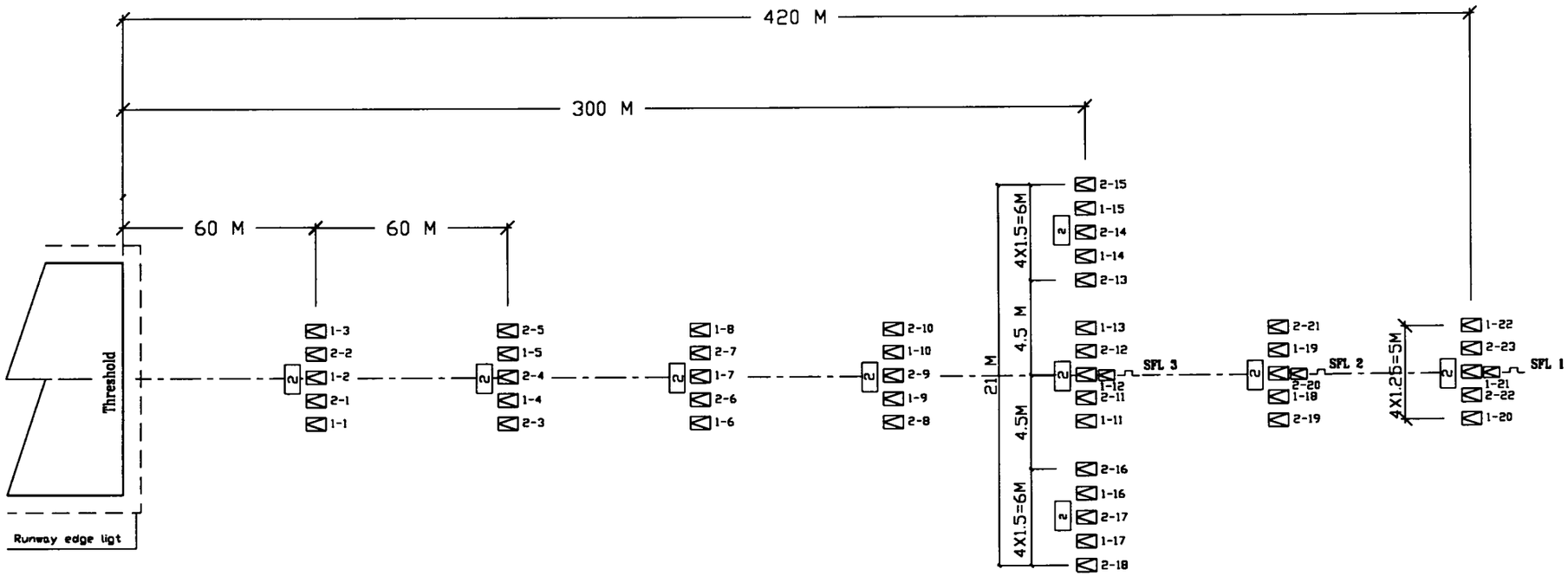
NOMOR GAMBAR	KODE LOKASI	NOMOR LEMBAR	NOMOR URUT
VA.32.05		2/2	

SKALA :

DIGAMBAR :

DIPERIKSA :

DISETUJUI :



REMARKS			TYPE	COLOR	POWER (6.6 A)	QTY (pcs)
LEGEND	ABBREV.	DESCRIPTION	E : Elevated I : Inset			
	APM	Approach lighting nesdun int.	E	Clear	45/100	45
	SFL	Sequence flashing light	E	Clear	60 ws	3
1-3		CCT 1 Nomor Lampu 3				
2-3		CCT 2 Nomor Lampu 3				
2		Tak trafo ukuran 2				

Dimensions in : M

DIREKTORAT JENDERAL PERHUBUNGAN UDARA
DIREKTORAT FASILITAS ELEKTRONIKA DAN LISTRIK
SUB DIREKTORAT LISTRIK

UMUM

Tahun Anggaran :

MALS and MALSF Configuration

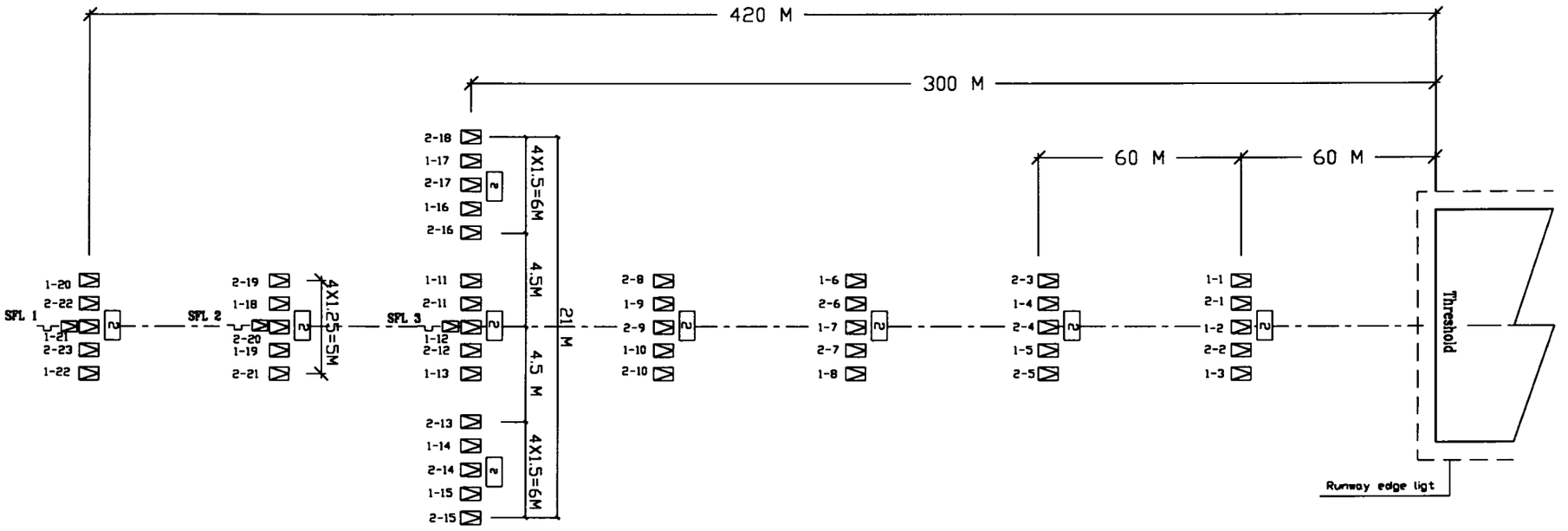
NOMOR GAMBAR	KODE LOKASI	NOMOR LEMBAR	NOMOR URUT
VA.32.06		1/2	

SKALA :

DIGAMBAR :

DIPERIKSA :

DISETUJUI :



REMARKS			TYPE	COLOR	POWER (6.6 A)	QTY (pcs)
LEGEND	ABBREV	DESCRIPTION	E : Elevated I : Inset			
	APM	Approach lighting medium int.	E	Clear	45/100	45
	SFL	Sequence flashing light	E	Clear	60 ws	3
1-3		CCT 1 Nomor Lampu 3				
2-3		CCT 2 Nomor Lampu 3				
2		Bak trafo ukuran 2				

Dimensions in : M

DIREKTORAT JENDERAL PERHUBUNGAN UDARA
DIREKTORAT FASILITAS ELEKTRONIKA DAN LISTRIK
SUB DIREKTORAT LISTRIK

UMUM

Tahun Anggaran :

MALS and MALSF Cofiguration

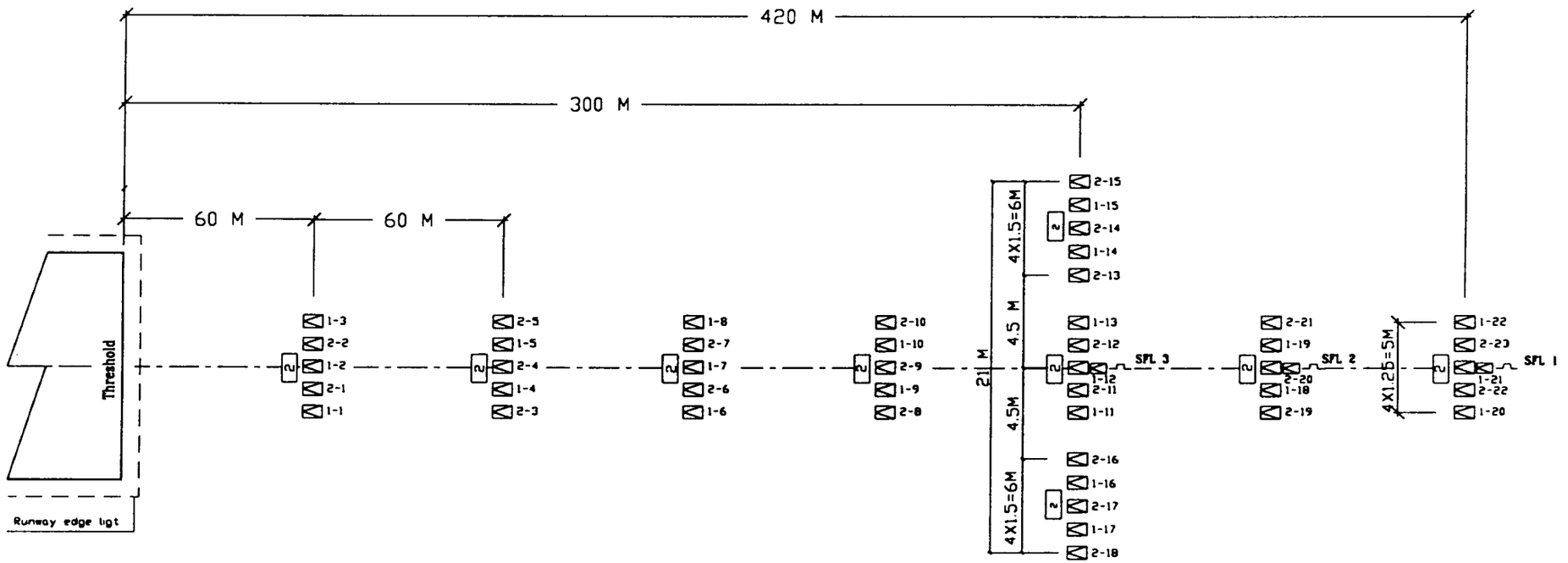
NOMOR GAMBAR	KODE LOKASI	NOMOR LEMBAR	NOMOR URUT
VA.32.06		2/2	

SKALA :

DIGAMBAR :

DIPERIKSA :

DISETUJUI :



REMARKS			TYPE	COLOR	POWER (6.6 A)	QTY (pcs)
LEGEND	ABBREV	DESCRIPTION	E : Elevated I : Inset			
	APM	Approach lighting medium int.	E	Clear	45/100	45
	SFL	Sequence flashing light	E	Clear	60 ws	3
1-3		CCT 1 Nomor Lampu 3				
2-3		CCT 2 Nomor Lampu 3				
2		Bak trafo ukuran 2				

DIREKTORAT JENDERAL PERHUBUNGAN UDARA
DIREKTORAT FASILITAS ELEKTRONIKA DAN LISTRIK
SUB DIREKTORAT LISTRIK

UMUM

Tahun Anggaran :

MALS and MALSF Configuration

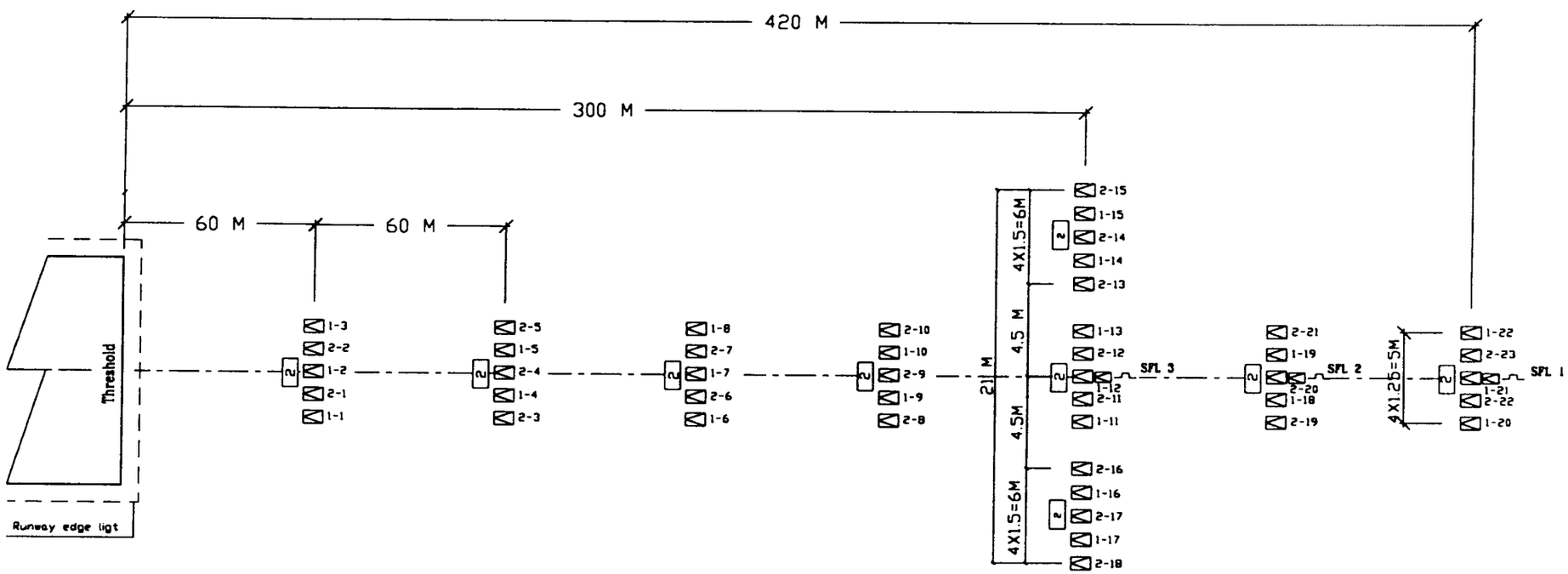
NOMOR GAMBAR	KODE LOKASI	NOMOR LEMBAR	NOMOR URUT
VA.32.06		1/2	

SKALA :

GAMBAR :

DIPERIKSA :

DISETUJUI :



REMARKS			TYPE	COLOR	POWER (6.6 A)	QTY (pcs)
LEGEND	ABBREV	DESCRIPTION	E : Elevated I : Inset			
	APH	Approach lighting medium int.	E	Clear	45/100	45
	SFL	Sequence flashing light	E	Clear	60 ws	3
1-3		CCT 1 Nomor Lampu 3				
2-3		CCT 2 Nomor Lampu 3				
2		Bak trafo ukuran 2				

DIREKTORAT JENDERAL PERHUBUNGAN UDARA
DIREKTORAT FASILITAS ELEKTRONIKA DAN LISTRIK
SUB DIREKTORAT LISTRIK

UMUM

Tahun Anggaran :

MALS and MALSF Configuration

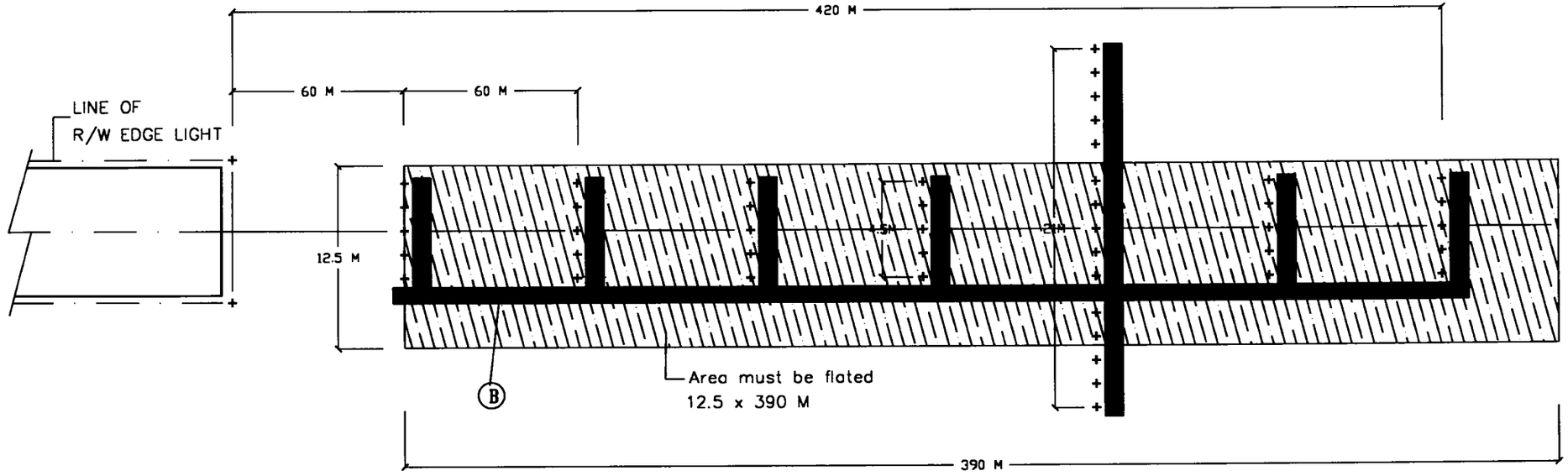
NOMOR GAMBAR	KODE LOKASI	NOMOR LEMBAR	NOMOR URUT
VA.32.06		1/2	

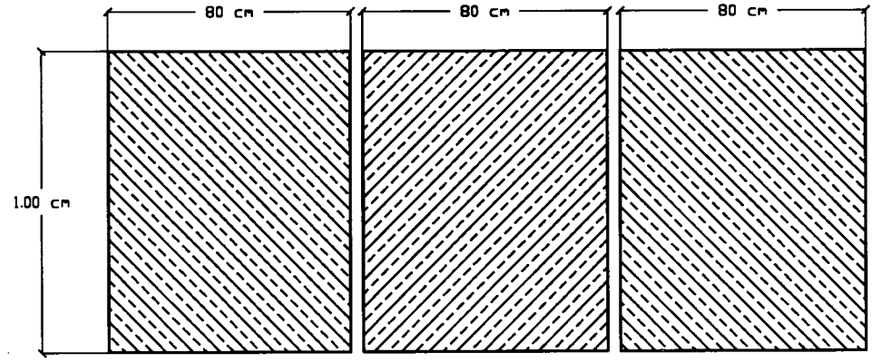
SKALA :

DIGAMBAR :

DIPERIKSA :

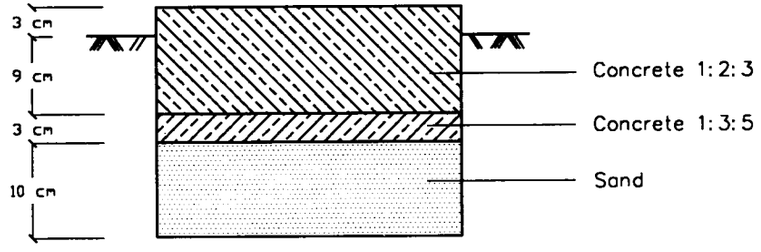
DISETUJUI :





Top View

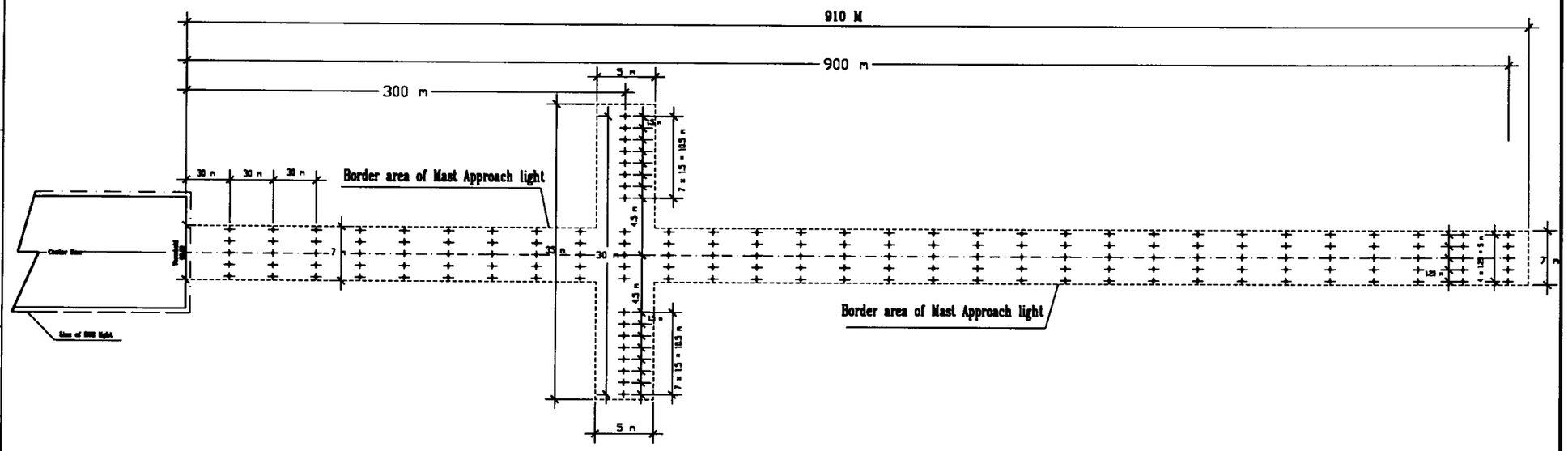
DETAIL B



Side View

Dimensions in : cm

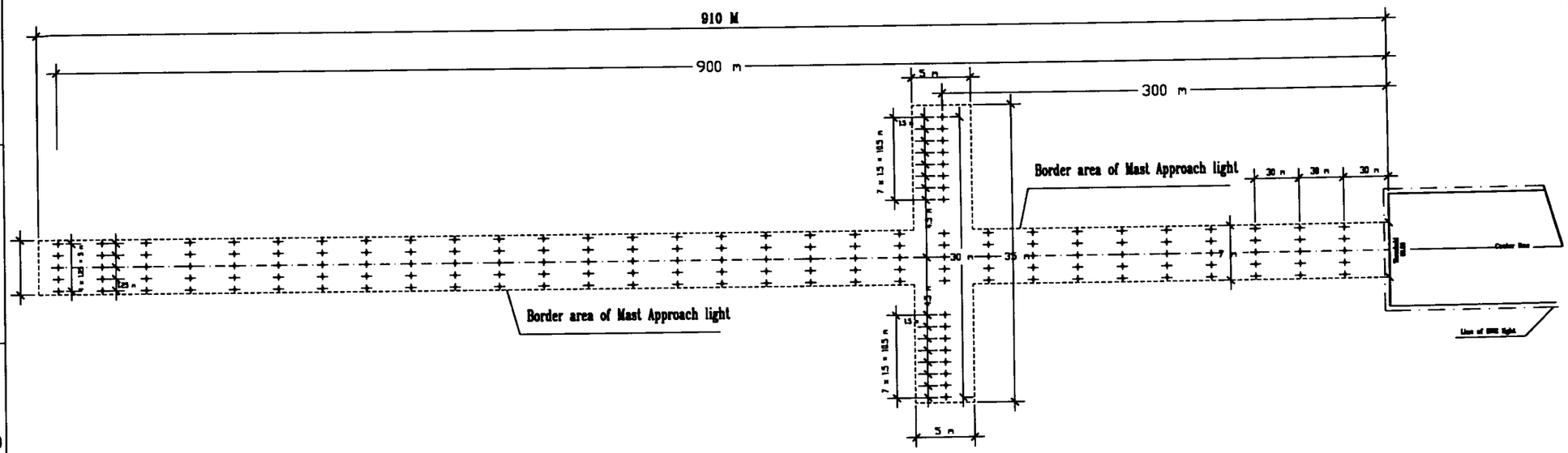
DIREKTORAT JENDERAL PERHUBUNGAN UDARA DIREKTORAT FASILITAS ELEKTRONIKA DAN LISTRIK SUB DIREKTORAT LISTRIK	UMUM	Tahun Anggaran :
Construction of Inspection Road (MALS)	NOMOR GAMBAR: VA.32.07 / KODE LOKASI / NOMOR LEMBAR: 1/1 / NOMOR URUT	
SKALA :	DIGAMBAR :	DIPERIKSA : / DISETUJUI :



AREA APPROACH SYSTEM

(Dimensions in m)

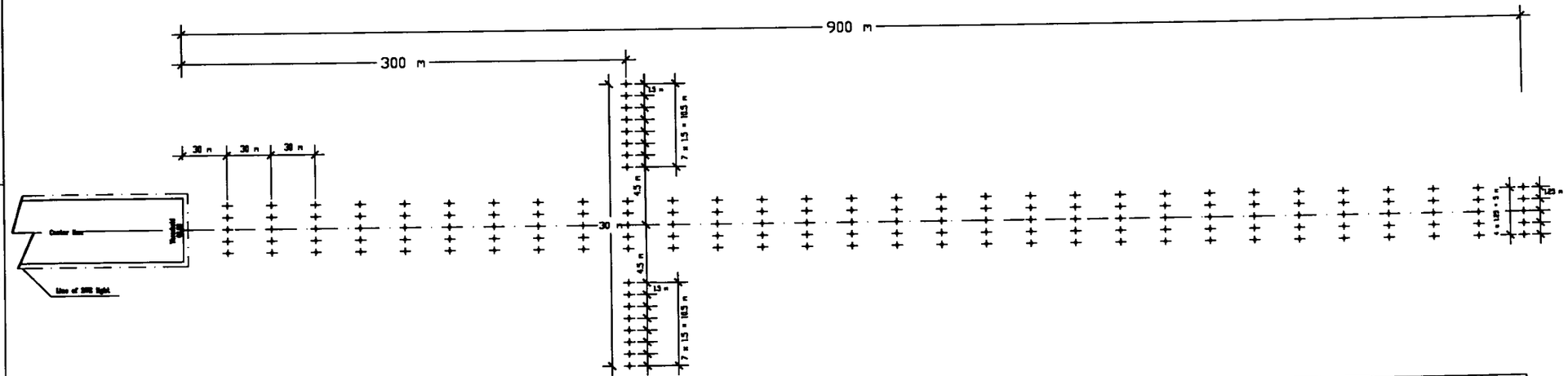
DIREKTORAT JENDERAL PERHUBUNGAN UDARA DIREKTORAT FASILITAS ELEKTRONIKA DAN LISTRIK SUB DIREKTORAT LISTRIK	UMUM	Tahun Anggaran :
Measuring Dots Plan of Mast Approach Light (PALS Cat-I)	NOMOR GAMBAR: VA.33.01	KODE LOKASI:
	NOMOR LEMBAR: 1/2	NOMOR URUT:
SKALA :	DIGAMBAR :	DIPERIKSA :
DISETUJUI :		



AREA APPROACH SYSTEM

(Dimensions in m)

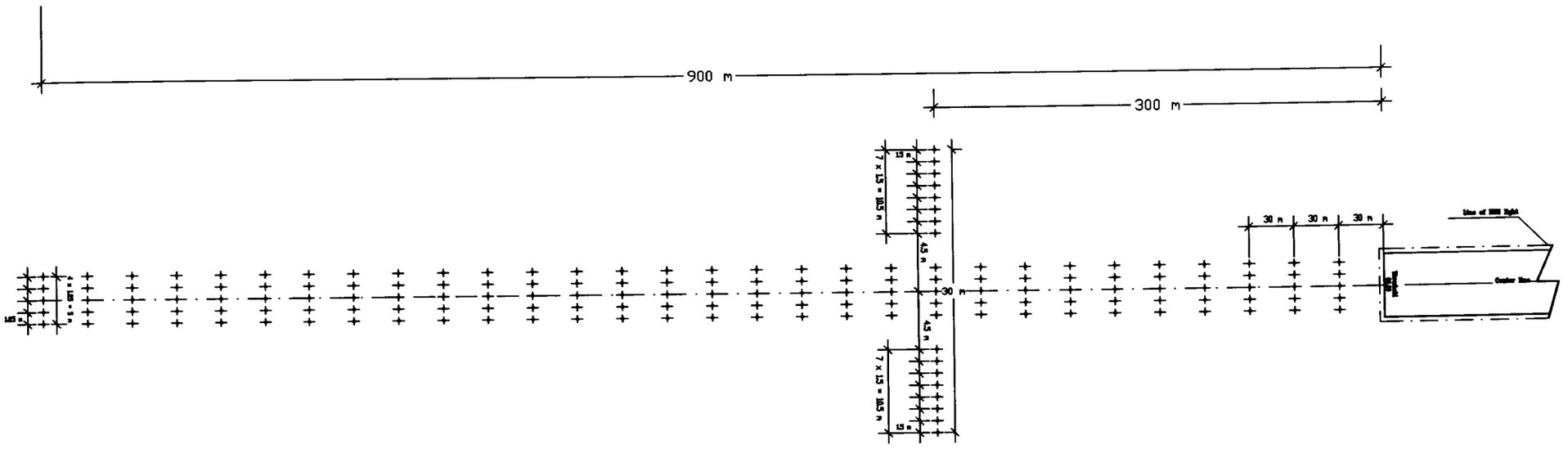
DIREKTORAT JENDERAL PERHUBUNGAN UDARA DIREKTORAT FASILITAS ELEKTRONIKA DAN LISTRIK SUB DIREKTORAT LISTRIK	UMUM	Tahun Anggaran :
Measuring Dots Plan of Mast Approach Light (PALS Cat-I)	NOMOR GAMBAR: VA.33.01	KODE LOKASI:
	NOMOR LEMBAR: 2/2	NOMOR URUT:
SKALA :	DIGAMBAR :	DIPERIKSA :
		DISETUJUI :



Barrel No.	TDZ	30	29	28	27	26	25	24	23	22	21	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1
Distance Between Barrels (M.)	0.00	30	60	90	120	150	180	210	240	270	300	330	360	390	420	450	480	510	540	570	600	630	660	690	720	750	780	810	840	870	900
Distance To Threshold (M.)																															
Vertical Ground Level																															
Parabolas Upper Level																															
Ground Level Relative to Threshold																															
Slope Of Light Point																															
Level Of Light Point																															
Length of Columns or Mast																															
Mast = MA, Elevated = EL Column = CL, Mast = MA																															

(Dimensions in m)

DIREKTORAT JENDERAL PERHUBUNGAN UDARA DIREKTORAT FASILITAS ELEKTRONIKA DAN LISTRIK SUB DIREKTORAT LISTRIK	UMUM	Tahun Anggaran :
Ground Elevation and Length Mast (PALS)	NOMOR GAMBAR: VA.33.02	KODE LOKASI:
	NOMOR LEMBAR: 1/2	NOMOR URUT:
SKALA :	DIGAMBAR :	DIPERIKSA :
DISETUJUI :		



1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	THR	Barrel No.
30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	0.00	Distance Between Barrels (M.)
																															Distance To Threshold (M.)
																															Vertical Ground Level
																															Pendation Upper Level
																															Ground Level Relative to Threshold
																															Slope Of Light Point
																															Level Of Light Point
																															Length of Coloumn or Mast
																															Mast = M, Mounted = M. Coloumn = CL, Mast = MA

(Dimensions in m)

DIREKTORAT JENDERAL PERHUBUNGAN UDARA DIREKTORAT FASILITAS ELEKTRONIKA DAN LISTRIK SUB DIREKTORAT LISTRIK	UMUM	Tahun Anggaran :
Ground Elevation and Length Mast (PALS)	NOMOR GAMBAR: VA.33.02	KODE LOKASI:
	NOMOR LEMBAR: 2/2	NOMOR URUT:
SKALA :	DIGAMBAR :	DIPERIKSA :
		DISETUJUI :

*) 1 PACKG. ≘ 5 PAIRS

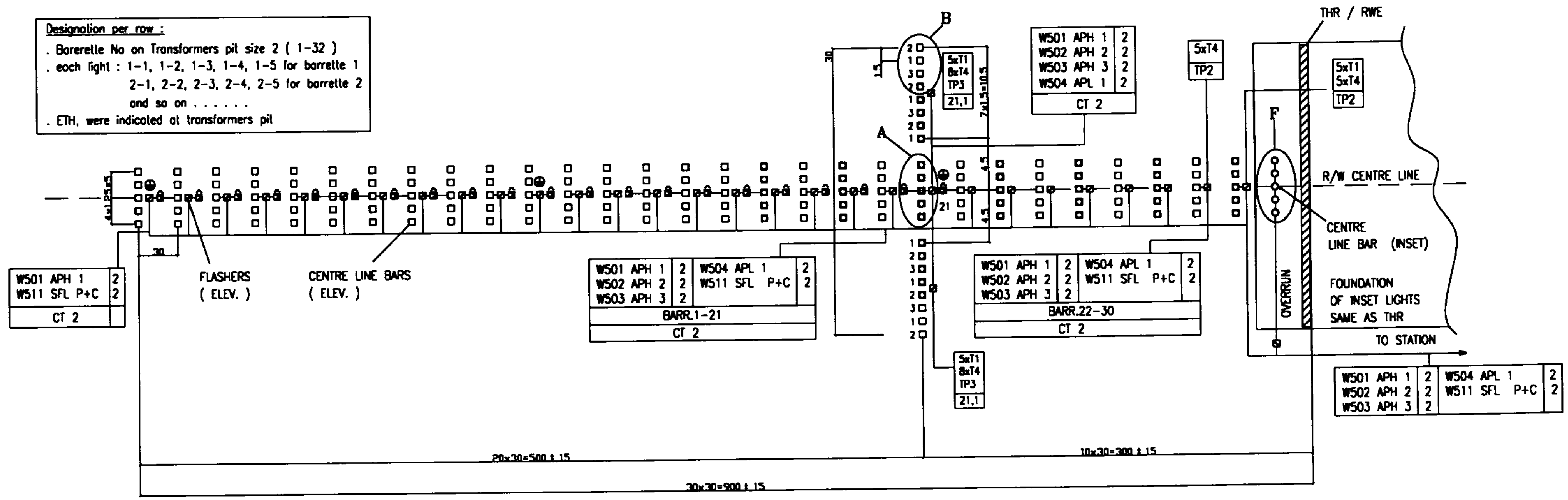
LEGEND

1POLE.CONDUIT 3 kv PCS	3 kv PACKG	5 kv PCS	5 kv PACKG	CIRCUIT	OPTION	SYMBOL	QTY		TRANSFORMERS TYPE	W	A	LAMP	LIGHT TYPE		CATALOGUE No.
-	*)	38	8 *)	APH	ELEV	□	118	18	T4	200	6.6/6.6	200W-6.6A	CLEAR	W/O TOP LIGHT	
-				APH+ APL	ELEV	■	45		T4 T1	200 45	6.6/6.6 6.6/6.6	200W-6.6A 45W-6.6A	CLEAR	W. TOP LIGHT	
9	2			APH	INSET	○	5		T5	300	6.6/6.6	2x175W	CLEAR		
-	-	-	-	SFL	ELEV	▲	21			-	-	80WS	CLEAR		
1/-	-	1(3)	-	PIT	-	■	32		3-1 GNDS		-	-	SIZE 2		

BARRETTE - NO.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
TYPE ①	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G
CIRCUIT APH	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3
CIRCUIT APL ②																	1		1		1		1		1		1		1	
SFL	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	-	-	-	-	-	-	-	-	-
∠θ APH + SFL ③					+8°								+7°					+6°							+5.5°					+5.5°
TRANSFORMER PIT SIZE					2								2					2			2x3+1x2				2					2
TRANSFORMER					5xT4 per barette								5xT4 per barette			5xT4 or 5xT4+5xT1 per barrette					21xT4 + 15xT1 5xT4 or 5xT4 + 5xT1 per barrette									5xT5
ETH - BAR	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1

Lights + Transf / circuit		
APL	=	45 pcs
APH 1	=	56 pcs
APH 2	=	56 pcs
APH 3	=	54 pcs

Designation per row :
- . Barerette No on Transformers pit size 2 (1-32)
- . each light : 1-1, 1-2, 1-3, 1-4, 1-5 for barrette 1
  2-1, 2-2, 2-3, 2-4, 2-5 for barrette 2
  and so on . . . . . .
- . ETH, were indicated at transformers pit



DIM. IN METER

① TYPE OF INSTALLATION

G = GROUND
I = INSET
M = MALS
P = POLE

② APL : ONE CIRCUIT ONLY (APL) FOR LIGHTS INDICATED BY □

③ INSTALLATION TOLERANCES ± 1°

DIREKTORAT JENDERAL PERHUBUNGAN UDARA DIREKTORAT FASILITAS ELEKTRONIKA DAN LISTRIK SUB DIREKTORAT LISTRIK	UMUM	Tahun Anggaran :			
Layout PALS (200W) + MALS (45W) Approach APH 11 - 13 + APL 11 - CAT I, Incl. SFL Horizontal Installation Tolerances		NOMOR GAMBAR	KODE LOKASI	NOMOR LEMBAR	NOMOR URUT
		VA.33.03		1/6	
SKALA :	DIGAMBAR :	DIPERIKSA :	DISETUJUI :		

*) 1 PACKG. ≙ 5 PAIRS

LEGEND

CATALOGUE No.	LIGHT TYPE		LAMP	TRANSFORMERS A	TRANSFORMERS W	TRANSFORMERS TYPE	QTY		SYMBOL	OPTION	CIRCUIT	1POLE.CONDUIT 5 kV PACKG	5 kV PCS	3 kV PACKG	3 kV PCS
	W/O TOP LIGHT	CLEAR	200W-6.6A	6.6/6.6	200	T4	18	116	◻	ELEV	APH	*)		*)	–
	W. TOP LIGHT	CLEAR	200W-6.6A 45W-6.6A	6.6/6.6 6.6/6.6	200 45	T4 T1		45	▣	ELEV	APH+ APL	8	36	2	9
		CLEAR	2x175W	6.6/6.6	300	T5		5	●	INSET	APH				
		CLEAR	60WS	–	–			21	▲	ELEV	SFL	–	–	–	–
		SIZE 2	–	–	3-1 ONDS			32	■	–	PIT	–	1(3)	–	1/–

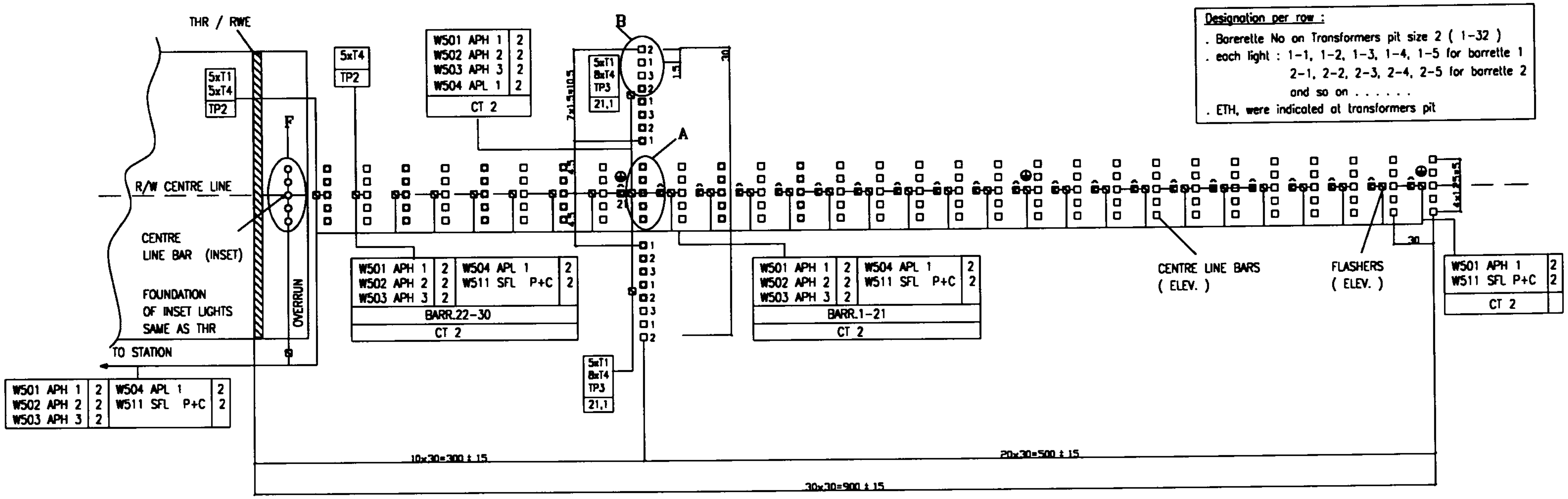
Lights + Transf / circuit		
APL	=	45 pcs
APH 1	=	56 pcs
APH 2	=	56 pcs
APH 3	=	54 pcs

BARRETTE – NO.	30	29	28	27	26	25	24	23	22	21	20	19	18	17	16
TYPE ①	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G
CIRCUIT APH	3	2	1	3	2	1	3	2	1	3	2	1	3	2	1
CIRCUIT APL ②		1		1		1		1		1		1		1	
SFL	–	–	–	–	–	–	–	–	–	21	20	19	18	17	16
<θ APH + SFL ③	+5.5°	+5.5°									+6°				
TRANSFORMER PIT SIZE	2	2								2x3+1x2	2				
TRANSFORMER	5xT5	21xT4 + 15xT1 5xT4 or 5xT4 + 5xT1 per barrette									5xT4 or 5xT4+5xT1 per barrette				
ETH – BAR	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1

BARRETTE – NO.	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1
TYPE ①	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G
CIRCUIT APH	3	2	1	3	2	1	3	2	1	3	2	1	3	2	1
CIRCUIT APL ②															
SFL	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1
<θ APH + SFL ③	+7°						+8°								
TRANSFORMER PIT SIZE	2						2								
TRANSFORMER	5xT4 per barrette						5xT4 per barrette								
ETH – BAR	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1

<u>Designation per row :</u>

. Borerette No on Transformers pit size 2 (1-32)
. each light : 1-1, 1-2, 1-3, 1-4, 1-5 for borrette 1
2-1, 2-2, 2-3, 2-4, 2-5 for borrette 2
and so on . . . . . .
. ETH, were indicated at transformers pit



DIM. IN METER

① TYPE OF INSTALLATION

G = GROUND
I = INSET
M = MALS
P = POLE

② APL : ONE CIRCUIT ONLY (APL)
FOR LIGHTS INDICATED BY ◻

③ INSTALLATION TOLERANCES ± 1°

DIREKTORAT JENDERAL PERHUBUNGAN UDARA DIREKTORAT FASILITAS ELEKTRONIKA DAN LISTRIK SUB DIREKTORAT LISTRIK	UMUM	Tahun Anggaran :
Layout PALS (200W) + MALS (45W) Approach APH 11 - 13 + APL 11 - CAT I, Incl. SFL Horizontal Installation Tolerances		NOMOR GAMBAR: VA.33.03 / KODE LOKASI: / NOMOR LEMBAR: 2/6 / URUT:
SKALA :	DIGAMBAR :	DIPERIKSA : / DISETUJUI :

*) 1 PACKG. = 5 PAIRS

LEGEND

1 POLE COUPLER				CIRCUIT	OPTION	SYMBOL	QTY		TRANSFORMERS			LAMP	LIGHT TYPE		CATALOGUE No.
3 W		5 W							TYPE	W	A				
PCS	PACKG	PCS	PACKG												
--	*)		*)	APH	ELEV	○	118		14	100	6.6/6.6	100W-6.6A	CLEAR	W/O TOP LIGHT	
--															
		34	7												
				APH	INSET	⊕	5		15	300	6.6/6.6	2x175W	CLEAR		
--	--	--	--	SFL	ELEV	⊞	21			--	--	60WS	CLEAR		
--	--	1(2)	--	PIT	-	⊞	32		3-1 OHOS		--	-	SEE 2		

BARRETTE - NO.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
TYPE (1)	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G
CIRCUIT APH	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3
CIRCUIT APL (2)																1			1		1			1			1		
SFL	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	--	--	--	--	--	--	--	--	--
<@ APH + SFL (3)					+8°								+7°					+8°							+5.5°				+5.5°
TRANSFORMER PIT SIZE					2								2					2			3x3+1x2				2				2
TRANSFORMER					5xT4 per barrette								5xT4 per barrette			5xT4 or 5xT4+5xT1 per barrette					21xT4 + 15xT1 5xT4 or 5xT4 + 5xT1 per barrette								5xT5
ETH - BAR	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1

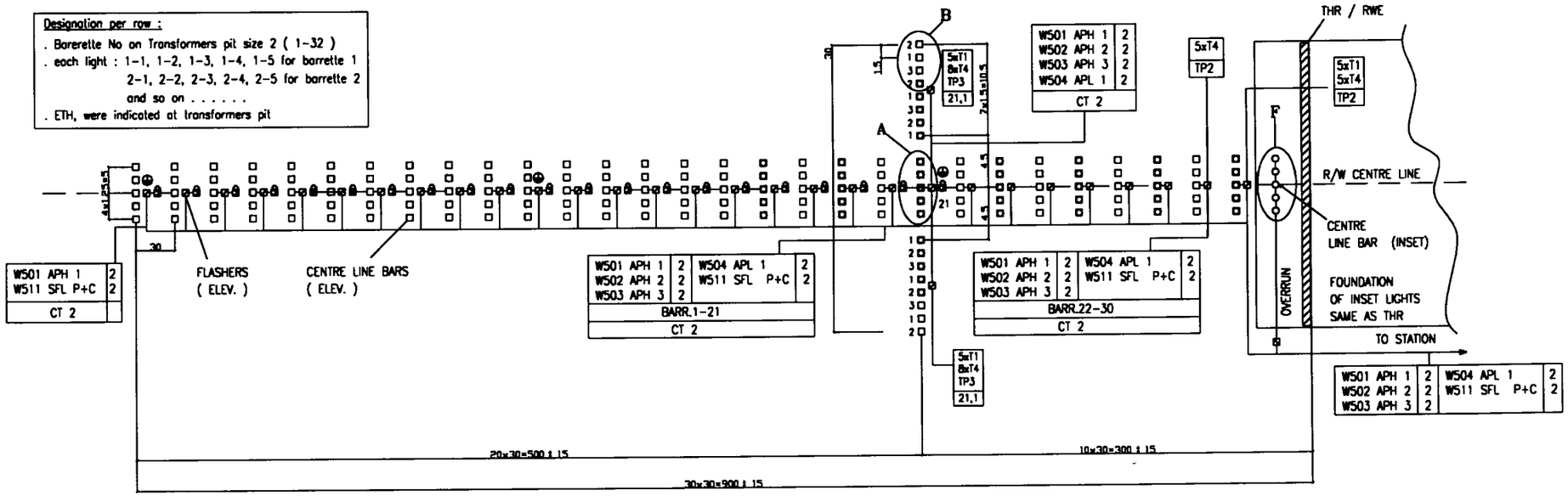
Lights + transf / circuit		
APL	=	45 pcs
APH 1	=	56 pcs
APH 2	=	58 pcs
APH 3	=	54 pcs

Designation per row :

. Bororette No on Transformers pit size 2 (1-32)

. each light : 1-1, 1-2, 1-3, 1-4, 1-5 for barrette 1
2-1, 2-2, 2-3, 2-4, 2-5 for barrette 2
and so on . . . . . .

. ETH, were indicated at transformers pit



DIM. IN METER

① TYPE OF INSTALLATION

G = GROUND
I = INSET
M = MALS
P = POLE

② APL : ONE CIRCUIT ONLY (APL)
FOR LIGHTS INDICATED BY □

③ INSTALLATION TOLERANCES ± 1°

DIREKTORAT JENDERAL PERHUBUNGAN UDARA
DIREKTORAT FASILITAS ELEKTRONIKA DAN LISTRIK
SUB DIREKTORAT LISTRIK

UMUM

Tahun Anggaran :

Layout PALS (100W) Approach
APH 11 - 12 - CAT I, Incl. SFL
Horizontal Installation Tolerances

NOMOR GAMBAR	KODE LOKASI	NOMOR LEMBAR	NOMOR URUT
VA.33.03		3/6	

SKALA :

DIGAMBAR :

DIPERIKSA :

DISETUJUI :

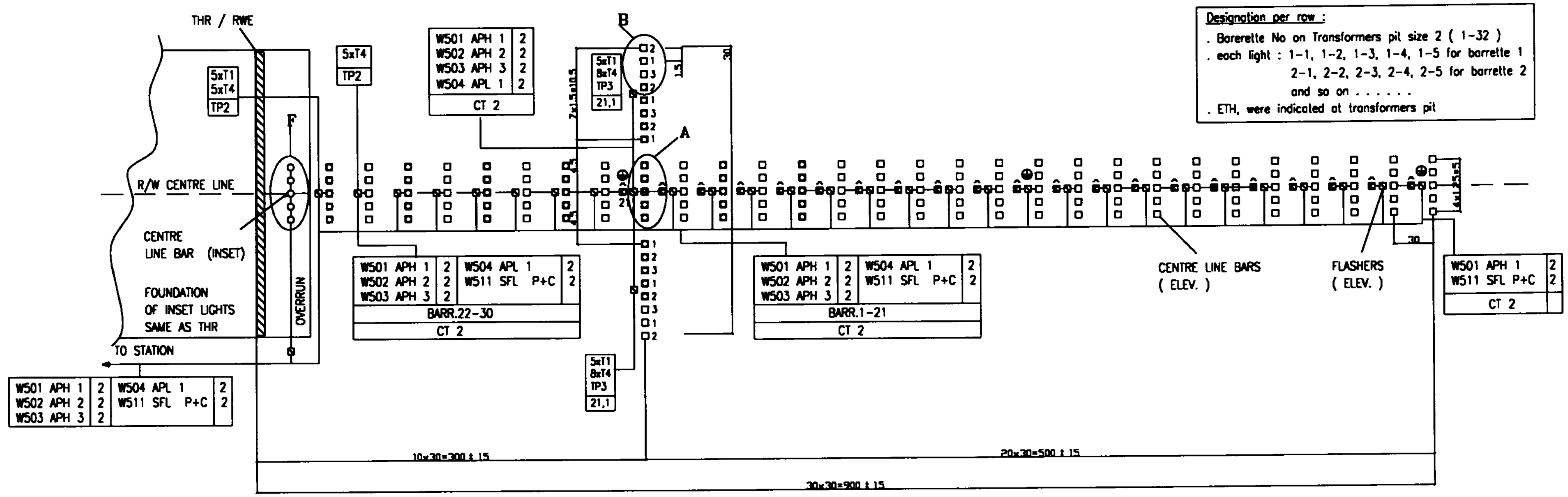
LEGEND

*) 1 PACKG. ≙ 5 PAIRS

CATALOGUE No.	LIGHT TYPE		LAMP	TRANSFORMERS A	TRANSFORMERS W	TRANSFORMERS TYPE	QTY	QTY	SYMBOL	OPTION	CIRCUIT	1POLE CONDUIT 5 W PACKG	1POLE CONDUIT 5 W PCS	1POLE CONDUIT 3 W PACKG	1POLE CONDUIT 3 W PCS
	W/O TOP LIGHT	CLEAR	100W-6.6A	6.6/6.6	100	T4	18	116	□	ELEV	APH	*)		*)	-
															-
		CLEAR	2x175W	6.6/6.6	300	T5		5	●	INSET	APH	7	34		
		CLEAR	60W5	-	-			21	▪	ELEV	SFL	-	-	-	-
		SIZE 2	-	-	3-1 ONOS			32	■	-	PIT	-	1(2)	-	-

Lights + Transf / circuit		
APL	=	45 pcs
APH 1	=	56 pcs
APH 2	=	56 pcs
APH 3	=	54 pcs

30	29	28	27	26	25	24	23	22	21	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	BARRETTE - NO.
G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	TYPE ①
3	2	1	3	2	1	3	2	1	3	2	1	3	2	1	3	2	1	3	2	1	3	2	1	3	2	1	3	2	1	CIRCUIT APH
	1		1		1		1		1		1		1																	CIRCUIT APL ②
-	-	-	-	-	-	-	-	-	21	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	SFL
+5.5°					+5.5°							+6°					+7°								+8°					<Ø APH + SFL ③
2					2				2x3+1x2			2					2								2					TRANSFORMER PIT SIZE
5xT5					21xT4 + 15xT1 5xT4 or 5xT4 + 5xT1 per barrette							5xT4 or 5xT4+5xT1 per barrette					5xT4 per barrette								5xT4 per barrette					TRANSFORMER
1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	ETH - BAR



Designation per row :
. Borerette No on Transformers pit size 2 (1-32)
. each light : 1-1, 1-2, 1-3, 1-4, 1-5 for barrette 1
2-1, 2-2, 2-3, 2-4, 2-5 for barrette 2
and so on . . . . . .
. ETH, were indicated at transformers pit

DIM. IN METER

① TYPE OF INSTALLATION

G = GROUND
I = INSET
M = MALS
P = POLE

② APL : ONE CIRCUIT ONLY (APL)
FOR LIGHTS INDICATED BY □

③ INSTALLATION TOLERANCES ± 1°

DIREKTORAT JENDERAL PERHUBUNGAN UDARA
DIREKTORAT FASILITAS ELEKTRONIKA DAN LISTRIK
SUB DIREKTORAT LISTRIK

UMUM

Tahun Anggaran :

Layout PALS (100W) Approach
APH 11 - 12 - CAT I, Incl. SFL
Horizontal Installation Tolerances

NOMOR GAMBAR	KODE LOKASI	NOMOR LEMBAR	NOMOR URUT
VA.33.03		4/6	

SKALA : | DIGAMBAR : | DIPERIKSA : | DISETUJUI :

LEGEND

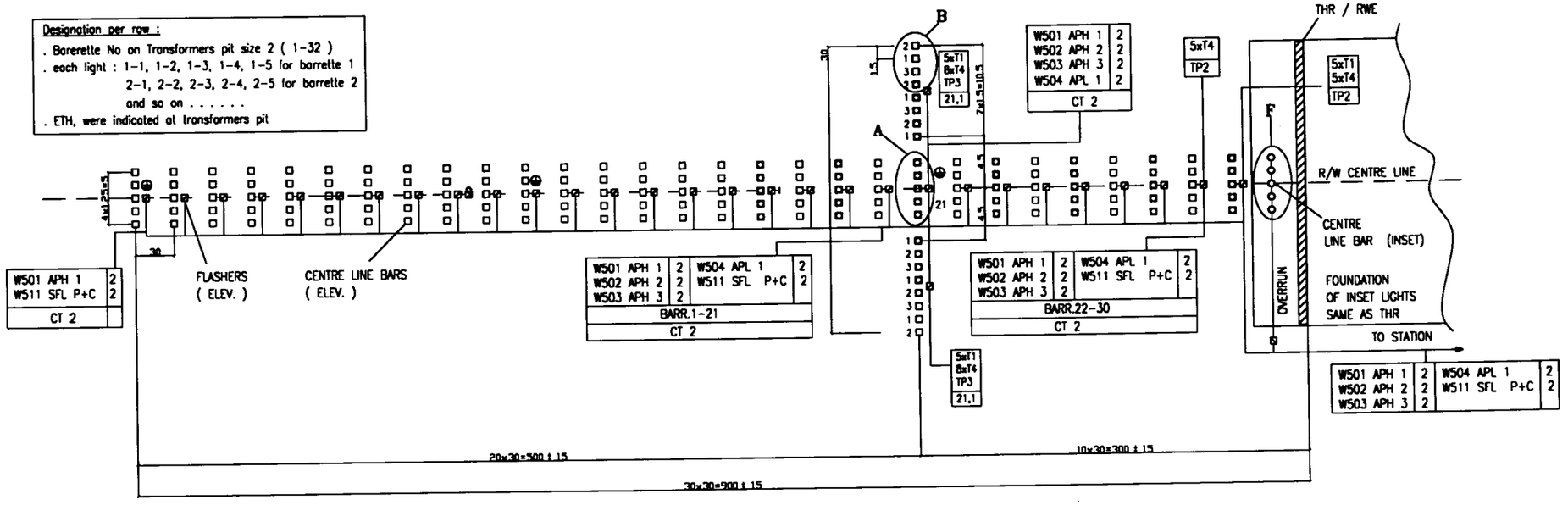
*) 1 PACKG. ≙ 5 PAIRS

1POLE CONN.KIT 3 kV PCS	1POLE CONN.KIT 3 kV PACKG	1POLE CONN.KIT 5 kV PCS	1POLE CONN.KIT 5 kV PACKG	CIRCUIT	OPTION	SYMBOL	QTY		TRANSFORMERS TYPE	TRANSFORMERS W	TRANSFORMERS A	LAMP	LIGHT TYPE		CATALOGUE No.
–	*)			APH	ELEV	◻	118	188	T4	200	6.6/6.6	200W-6.6A	CLEAR	W/O TOP LIGHT	
–				APH+	ELEV	⊞	45		T4	200	6.6/6.6	200W-6.6A +5W-6.6A	CLEAR	W. TOP LIGHT	
8	2	36	8	APH	INSET	○	5		T1	45	6.6/6.6	2x175W	CLEAR		
–	–	–	–	SFL	ELEV	▲	21		T5	300	6.6/6.6	80WE	CLEAR		
1/–	–	1/36	–	PAT	–	⊞	32		3-1 OMOS	–	–	–	SIDE 2		

BARRETTE – NO.		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
TYPE	(1)	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G
CIRCUIT APH		1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3
CIRCUIT APL	(2)																1			1		1			1			1			–
SFL		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	–	–	–	–	–	–	–	–	+5.5°
⊞ APH + SFL	(3)					+8°								+7°					+8°							+5.5°					2
TRANSFORMER PIT SIZE						2								2					2			2x3+1x2			2					5xT5
TRANSFORMER						5xT4 per barrette								5xT4 per barrette					5xT4 or 5xT4+5xT1 per barrette			21xT4 + 15xT1 5xT4 or 5xT4 + 5xT1 per barrette									
ETH – BAR		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1

Lights + Transf / circuit		
APL	=	45 pcs
APH 1	=	58 pcs
APH 2	=	58 pcs
APH 3	=	54 pcs

Designation per row :
. Borerette No on Transformers pit size 2 (1-32)
. each light : 1-1, 1-2, 1-3, 1-4, 1-5 for borrette 1
2-1, 2-2, 2-3, 2-4, 2-5 for borrette 2
and so on . . . . . .
. ETH, were indicated at transformers pit



① TYPE OF INSTALLATION

G = GROUND
I = INSET
M = MALS
P = POLE

② APL : ONE CIRCUIT ONLY (APL)
FOR LIGHTS INDICATED BY ◻

③ INSTALLATION TOLERANCES ± 1°

DIM. IN METER

DIREKTORAT JENDERAL PERHUBUNGAN UDARA
DIREKTORAT FASILITAS ELEKTRONIKA DAN LISTRIK
SUB DIREKTORAT LISTRIK

UMUM

Tahun Anggaran :

Layout PALS (100W) Approach
APH 11 – 12 – CAT I, w/o. SFL
Horizontal Installation Tolerances

NOMOR GAMBAR	KODE LOKASI	NOMOR LEMBAR	NOMOR URUT
VA.33.03		5/6	

SKALA :

DIGAMBAR :

DIPERIKSA :

DISETUJUI :

LEGEND

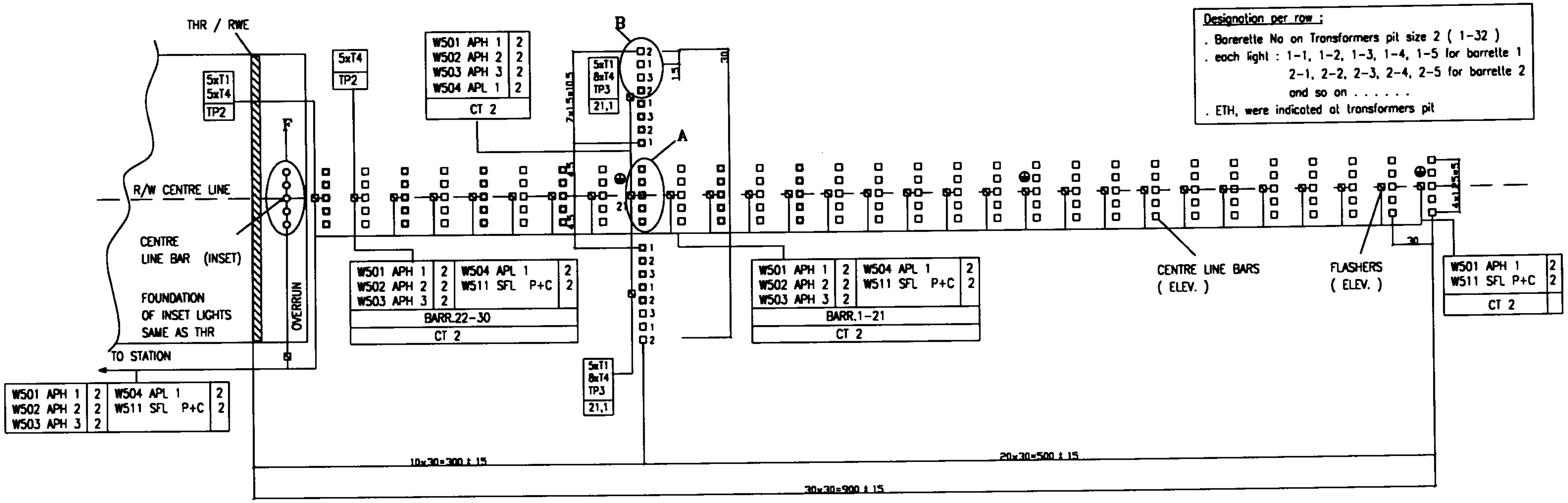
*) 1 PACKG. ≙ 5 PAIRS

CATALOGUE No.	LIGHT TYPE		LAMP	TRANSFORMERS A	TRANSFORMERS W	TRANSFORMERS TYPE	QTY		SYMBOL	OPTION	CIRCUIT	1POLE CONDUIT 5 kV PACKG	5 kV PCS	3 kV PACKG	3 kV PCS
	W/O TOP LIGHT	CLEAR	100W-6.6A	6.6/6.6	100	T4	[illegible]	116	□	ELEV	APH	*)		*)	-
												7	34		-
		CLEAR	2x175W	6.6/6.6	300	T5		5	⊙	INSET	APH				
				-	-										
		SIZE 2	-	-	3-1 GNDS			32	■	-	PIT	-	1(2)	-	-

Lights + Transf / circuit		
APL	=	45 pcs
APH 1	=	56 pcs
APH 2	=	56 pcs
APH 3	=	54 pcs

30	29	28	27	26	25	24	23	22	21	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	BARRETTE - NO.
G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	TYPE ①
3	2	1	3	2	1	3	2	1	3	2	1	3	2	1	3	2	1	3	2	1	3	2	1	3	2	1	3	2	1	CIRCUIT APH
	1		1		1		1		1		1		1																	CIRCUIT APL ②
-	-	-	-	-	-	-	-	-	21	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	SFL
+5.5°	+5.5°									+6°					+7°						+8°									<8 APH + SFL ③
2	2								2x3+1x2	2					2						2									TRANSFORMER PIT SIZE
5xT5	21xT4 + 15xT1 5xT4 or 5xT4 + 5xT1 per barrette									5xT4 or 5xT4+5xT1 per barrette					5xT4 per barrette						5xT4 per barrette									TRANSFORMER
1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	ETH - BAR

Designation per row ;
- . Barerette No on Transformers pit size 2 (1–32)
- . each light : 1–1, 1–2, 1–3, 1–4, 1–5 for barrette 1
  2–1, 2–2, 2–3, 2–4, 2–5 for barrette 2
  and so on . . . . . .
- . ETH, were indicated at transformers pit



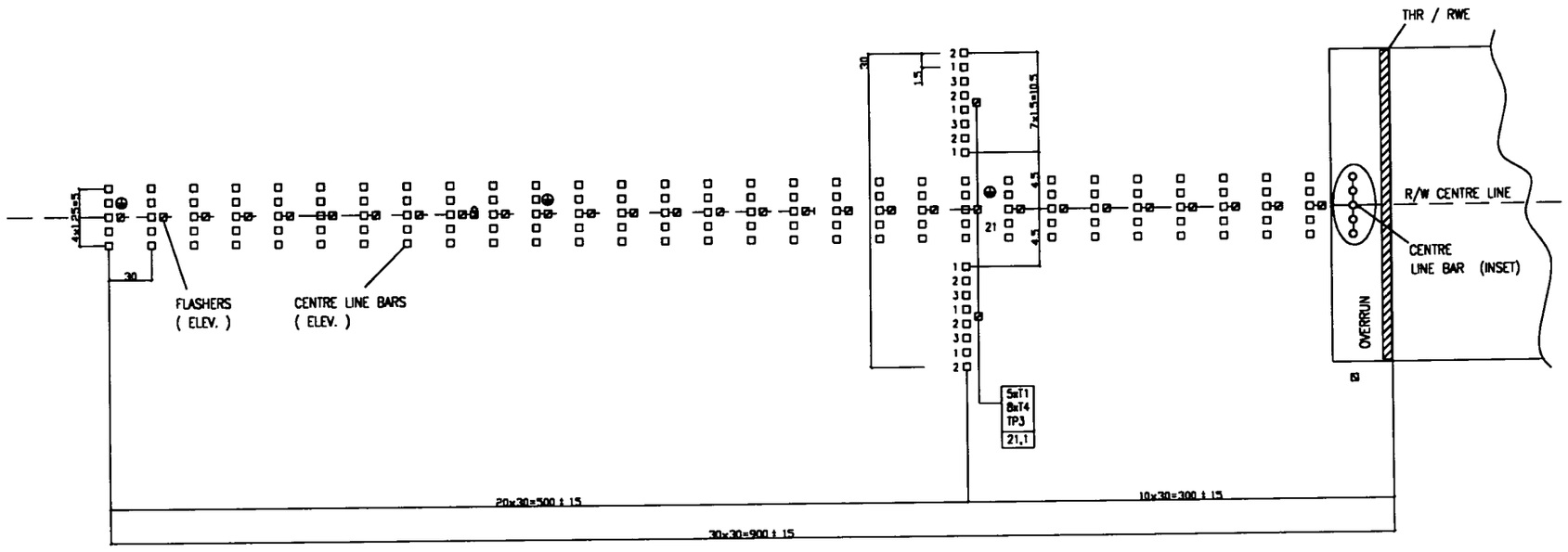
DIM. IN METER

① TYPE OF INSTALLATION
- G = GROUND
- I = INSET
- M = MALS
- P = POLE

② APL : ONE CIRCUIT ONLY (APL) FOR LIGHTS INDICATED BY □

③ INSTALLATION TOLERANCES ± 1°

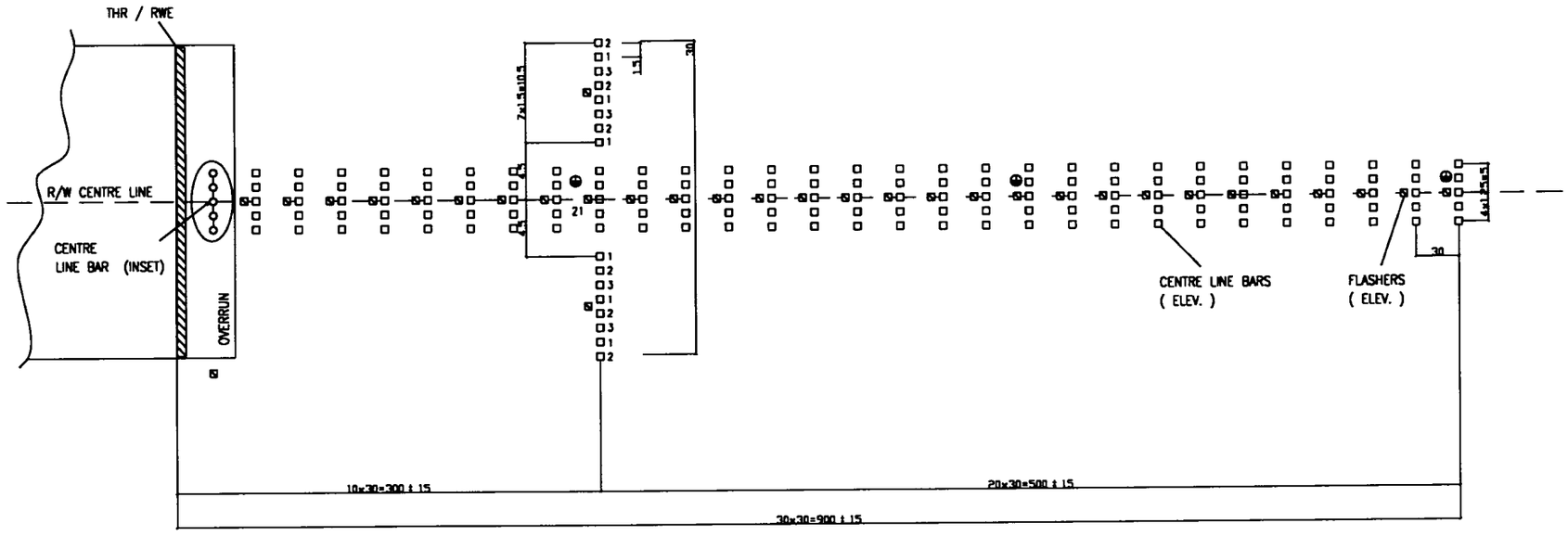
DIREKTORAT JENDERAL PERHUBUNGAN UDARA DIREKTORAT FASILITAS ELEKTRONIKA DAN LISTRIK SUB DIREKTORAT LISTRIK	UMUM	Tahun Anggaran :			
Layout PALS (100W) Approach APH 11 – 12 – CAT I, w/o. SFL Horizontal Installation Tolerances		NOMOR GAMBAR	KODE LOKASI	NOMOR LEMBAR	URUT
		VA.33.03		6/6	
SKALA :	DIGAMBAR :	DIPERIKSA :	DISETUJUI :		



DIM. IN METER

Dimensions in : m

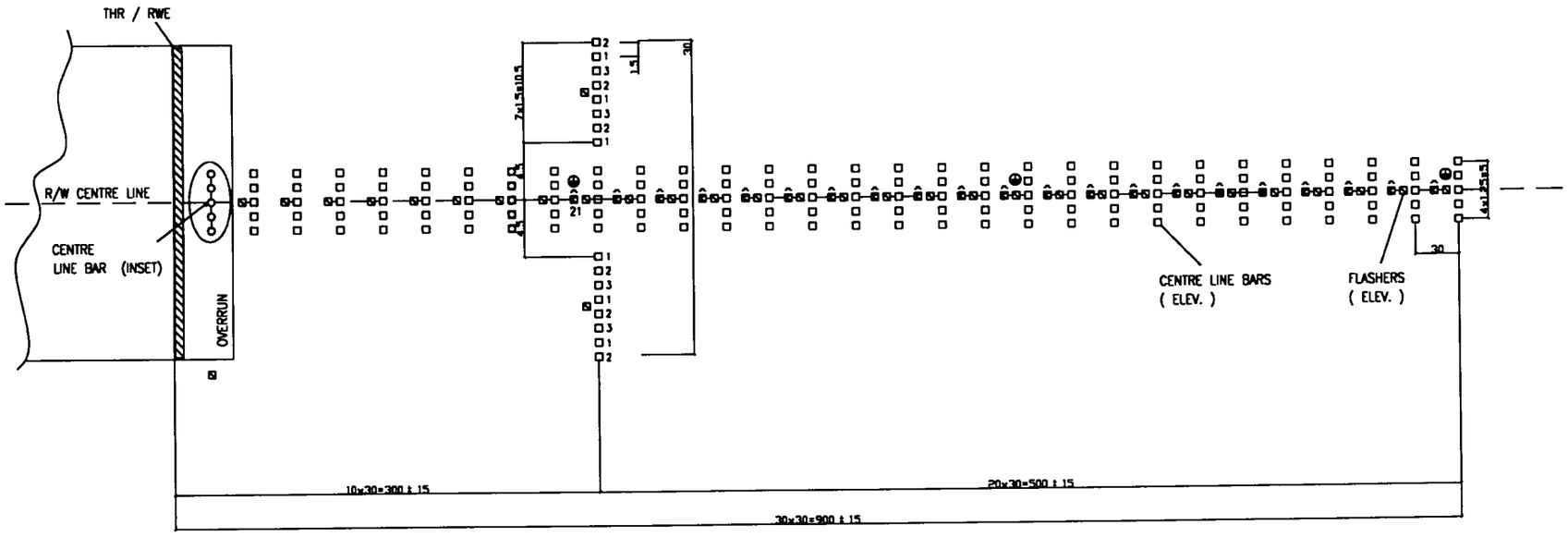
DIREKTORAT JENDERAL PERHUBUNGAN UDARA DIREKTORAT FASILITAS ELEKTRONIKA DAN LISTRIK SUB DIREKTORAT LISTRIK	UMUM	Tahun Anggaran :
Configuration of PALS (100W) Approach APH 11 - 12 - CAT I, w/o. SFL Horizontal Installation Tolerances	NOMOR GAMBAR: VA.33.04 / KODE LOKASI: / NOMOR LEMBAR: 1/6 / NOMOR URUT:	
SKALA :	DIGAMBAR :	DIPERIKSA : / DISETUJUI :



DIM. IN METER

Dimensions in : m

DIREKTORAT JENDERAL PERHUBUNGAN UDARA DIREKTORAT FASILITAS ELEKTRONIKA DAN LISTRIK SUB DIREKTORAT LISTRIK	UMUM	Tahun Anggaran :
Configuration of PALS (100W) Approach APH 11 - 12 - CAT I, w/o. SFL Horizontal Installation Tolerances	NOMOR GAMBAR: VA.33.04	KODE LOKASI:
	NOMOR LEMBAR: 2/6	NOMOR URUT:
SKALA :	DIGAMBAR :	DIPERIKSA :
		DISETUJUI :



DIM. IN METER

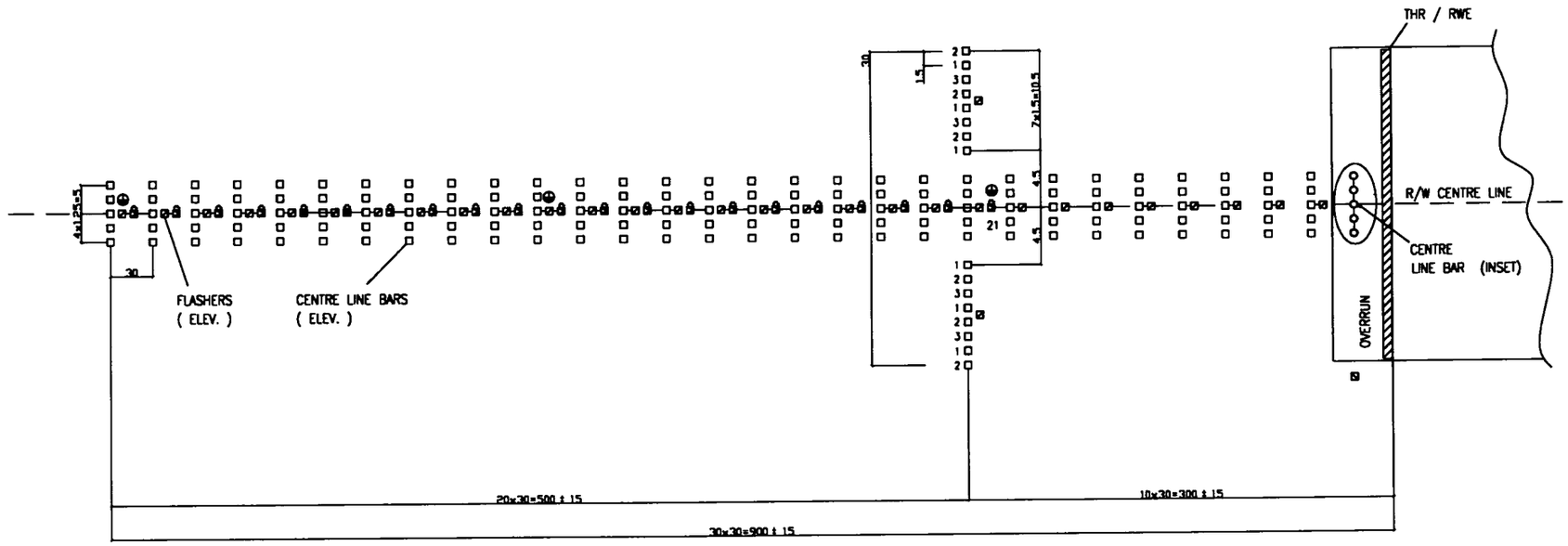
Dimensions in : m

DIREKTORAT JENDERAL PERHUBUNGAN UDARA DIREKTORAT FASILITAS ELEKTRONIKA DAN LISTRIK SUB DIREKTORAT LISTRIK	UMUM	Tahun Anggaran :

Configuration of PALS (100W) Approach
APH 11 - 12 - CAT I, Incl. SFL
Horizontal Installation Tolerances

NOMOR GAMBAR	KODE LOKASI	NOMOR LEMBAR	NOMOR URUT
VA.33.04		3/6	

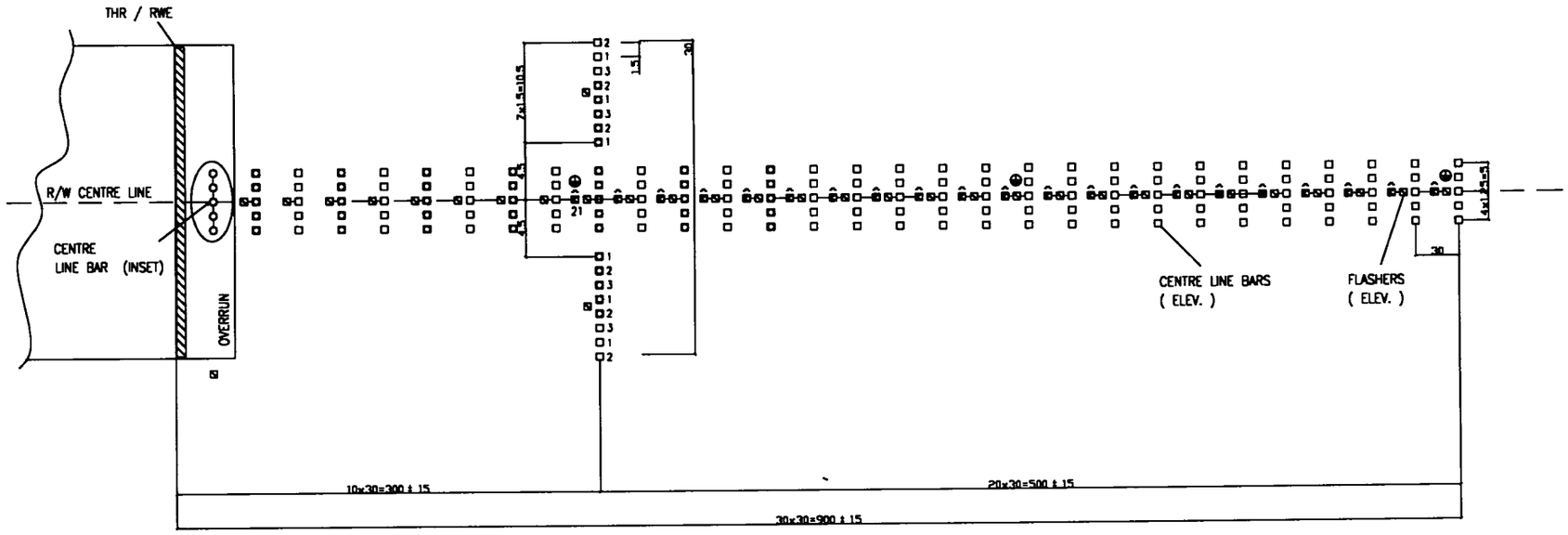
SKALA :	DIGAMBAR :	DIPERIKSA :	DISETUJUI :



DIM. IN METER

Dimensions in : m

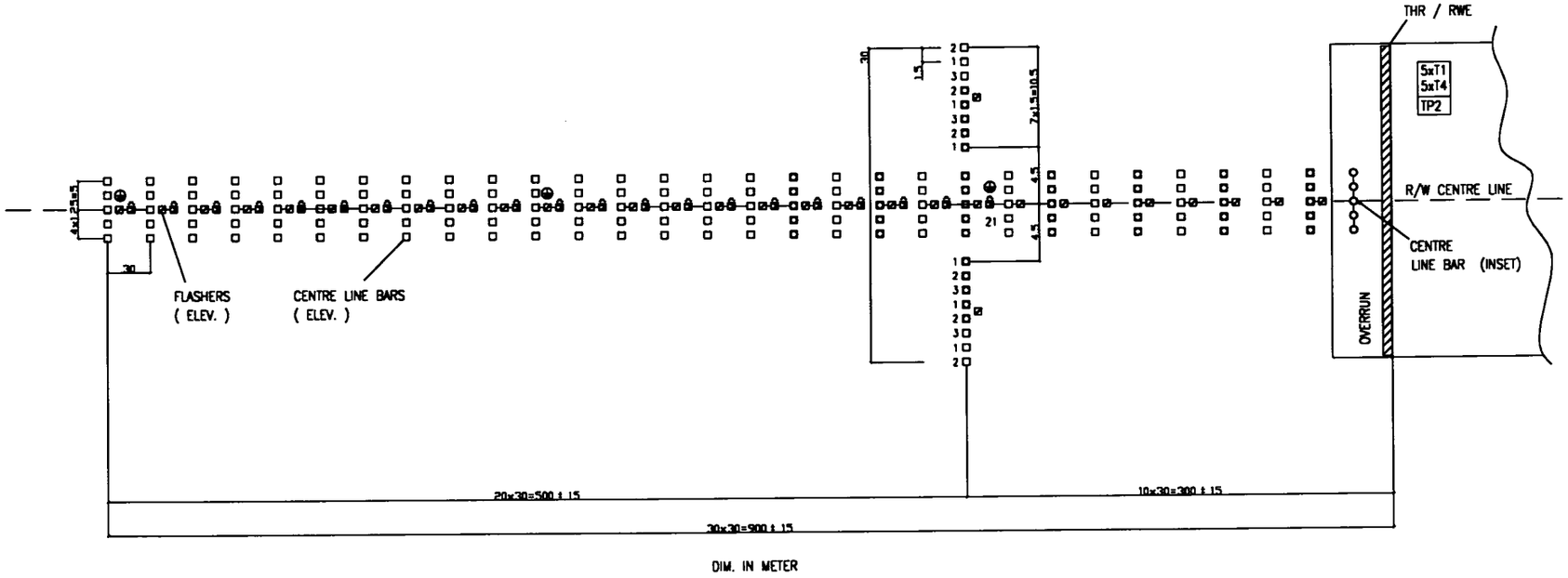
DIREKTORAT JENDERAL PERHUBUNGAN UDARA DIREKTORAT FASILITAS ELEKTRONIKA DAN LISTRIK SUB DIREKTORAT LISTRIK	UMUM	Tahun Anggaran :
Configuration of PALS (100W) Approach APH 11 - 12 - CAT I, Incl. SFL Horizontal Installation Tolerances	NOMOR GAMBAR: VA.33.04 / KODE LOKASI: / NOMOR LEMBAR: 4/6 / NOMOR URUT:	
SKALA :	DIGAMBAR :	DIPERIKSA : / DISETUJUI :



DIM. IN METER

Dimensions in : m

DIREKTORAT JENDERAL PERHUBUNGAN UDARA DIREKTORAT FASILITAS ELEKTRONIKA DAN LISTRIK SUB DIREKTORAT LISTRIK	UMUM	Tahun Anggaran :
Configuration of PALS (200W) + MALS (45W) Approach APH 11 - 13 + APL 11 - CAT I, Incl. SFL Horizontal Installation Tolerances		NOMOR GAMBAR: VA.33.04 / KODE LOKASI: / NOMOR LEMBAR: 5/6 / NOMOR URUT:
SKALA :	DIGAMBAR :	DIPERIKSA : / DISETUJUI :

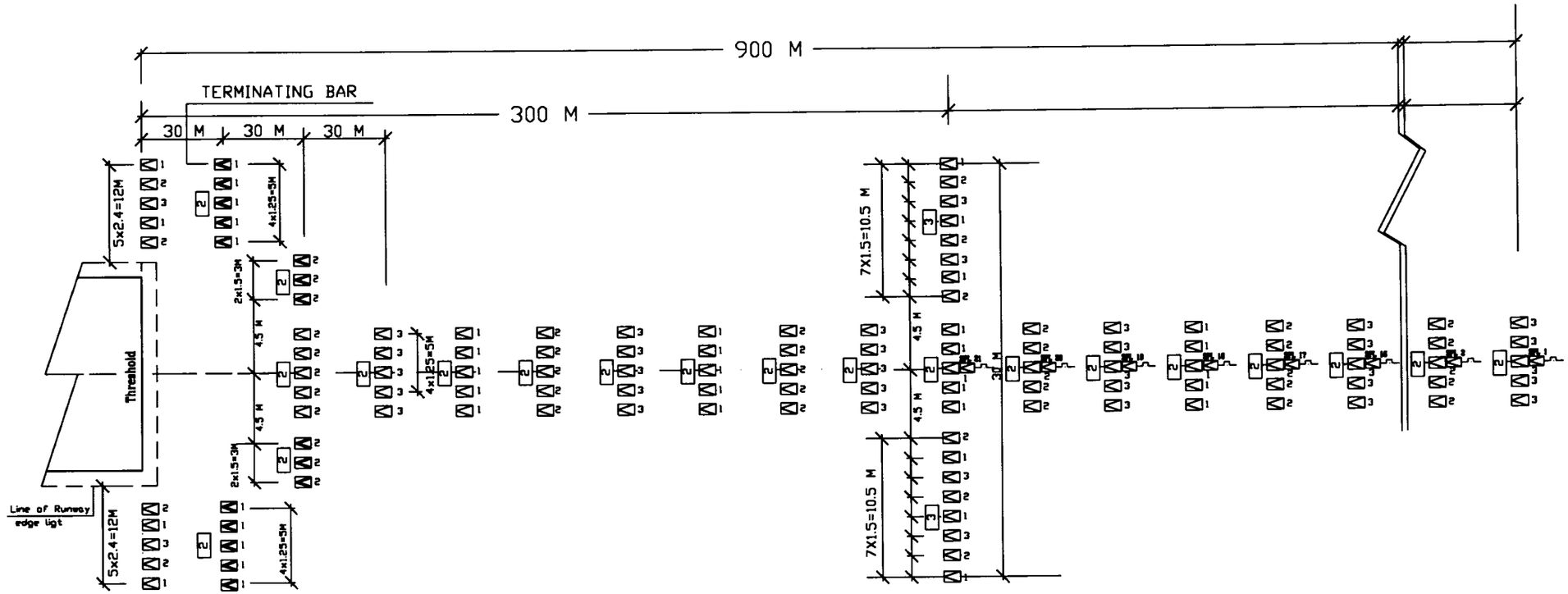


Dimensions in : m

DIREKTORAT JENDERAL PERHUBUNGAN UDARA DIREKTORAT FASILITAS ELEKTRONIKA DAN LISTRIK SUB DIREKTORAT LISTRIK	UMUM	Tahun Anggaran :

Configuration of PALS (200W) + MALS (45W) Approach APH 11 - 13 + APL 11 - CAT I, Incl. SFL Horizontal Installation Tolerances	NOMOR GAMBAR	KODE LOKASI	NOMOR LEMBAR / URUT
	VA.33.04		6/6

SKALA :	DIGAMBAR :	DIPERIKSA :	DISETUJUI :



REMARKS			TYPE	COLOR	POWER (6.6 A)	QTY (pcs)
LEGEND	ABBREV.	DESCRIPTION	E : Elevated I : Inset			
	APM	Approach lighting High ints.	E	Clear	200	171
	SFL	Sequence flashing light	E	Clear	60 ws	21
1		Circuit 1				
2		Circuit 2				
3		Circuit 3				
	APM	Approach lighting High ints.	E	Red	200	16
3		Bak trafo ukuran 3				
2		Bak trafo ukuran 2				

Dimensions in : m

DIREKTORAT JENDERAL PERHUBUNGAN UDARA
DIREKTORAT FASILITAS ELEKTRONIKA DAN LISTRIK
SUB DIREKTORAT LISTRIK

UMUM

Tahun Anggaran :

ALSF-I Configuration

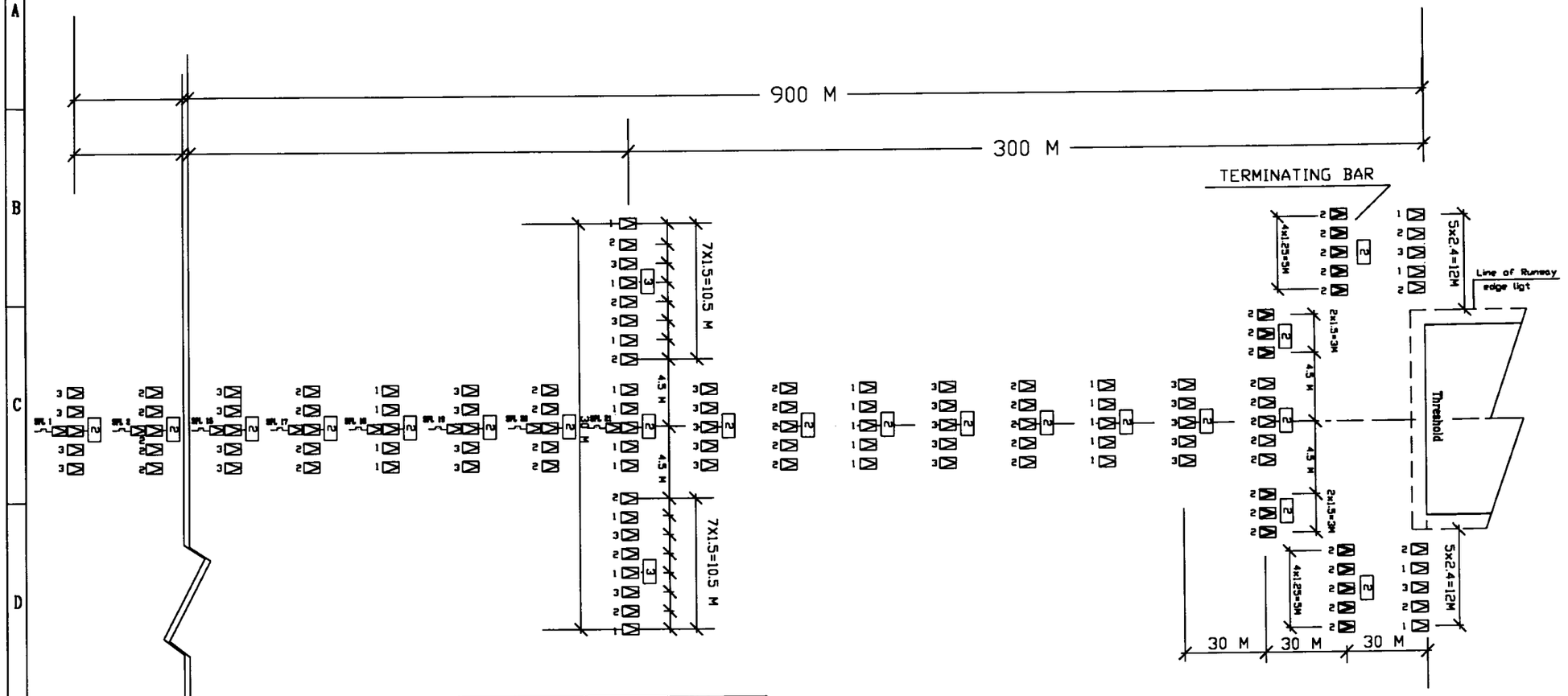
NOMOR GAMBAR	KODE LOKASI	NOMOR LEMBAR	NOMOR URUT
VA.33.05		1/2	

SKALA :

DIGAMBAR :

DIPERIKSA :

DISETUJUI :



REMARKS			TYPE	COLOR	POWER (6.6 A)	QTY (pcs)
LEGEND	ABBREV.	DESCRIPTION	E : Elevated I : Inset			
	APM	Approach lighting High ints.	E	Clear	200	171
	SFL	Sequence flashing light	E	Clear	60 ws	21
1		Circuit 1				
2		Circuit 2				
3		Circuit 3				
	APM	Approach lighting High ints.	E	Red	200	16
3		Bak trafo ukuran 3				
2		Bak trafo ukuran 2				

Dimensions in : m

DIREKTORAT JENDERAL PERHUBUNGAN UDARA
DIREKTORAT FASILITAS ELEKTRONIKA DAN LISTRIK
SUB DIREKTORAT LISTRIK

UMUM

Tahun Anggaran :

ALSF-I Configuation

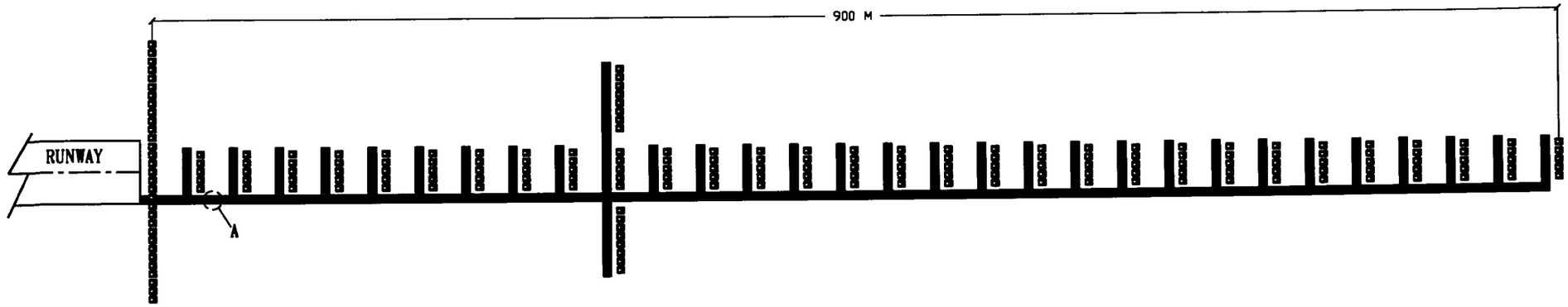
NOMOR GAMBAR	KODE LOKASI	NOMOR LEMBAR	NOMOR URUT
VA.33.05		2/2	

SKALA :

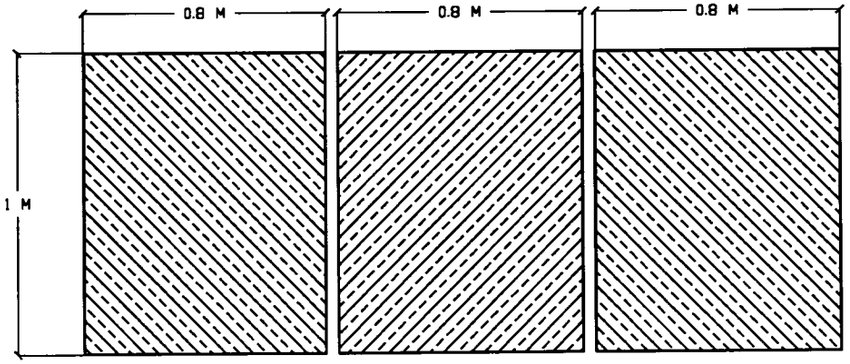
DIGAMBAR :

DIPERIKSA :

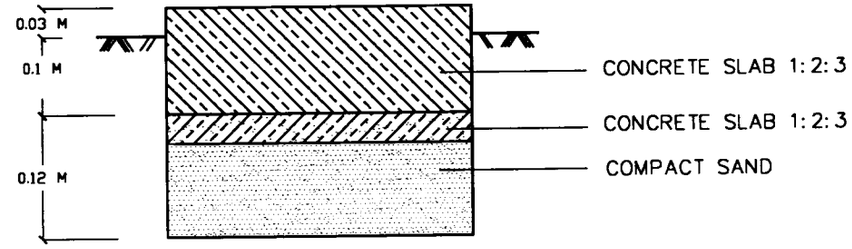
DISETUJUI :



TOP VIEW

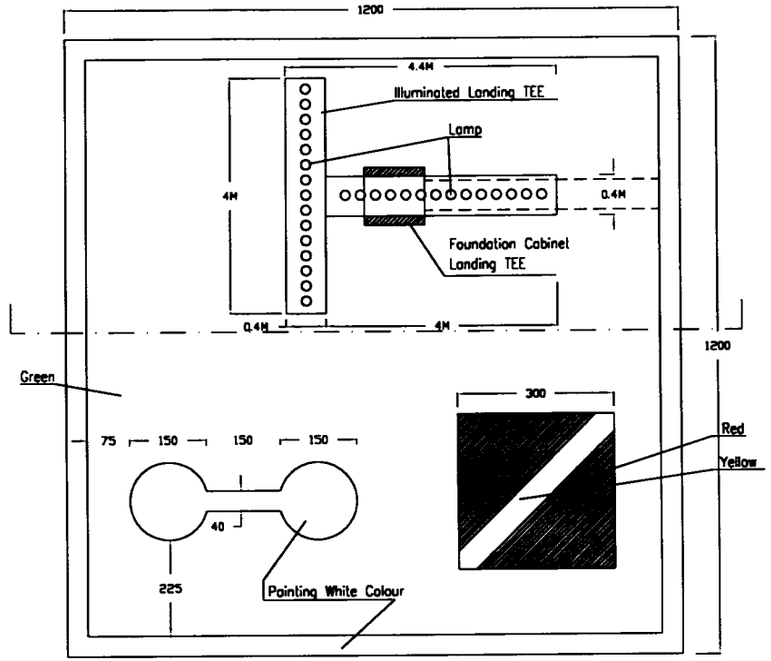


SIDE VIEW
DETAIL A

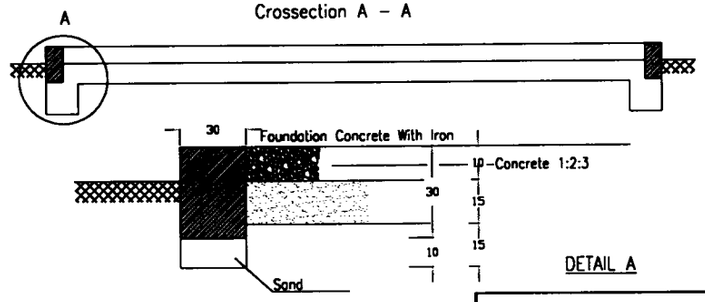


Dimensions in : cm

DIREKTORAT JENDERAL PERHUBUNGAN UDARA DIREKTORAT FASILITAS ELEKTRONIKA DAN LISTRIK SUB DIREKTORAT LISTRIK	UMUM	Tahun Anggaran :
Construction of Inspection Road	NOMOR GAMBAR: VA.33.07	KODE LOKASI:
	NOMOR LEMBAR: 1/1	NOMOR URUT:
SKALA :	DIGAMBAR :	DIPERIKSA :
		DISETUJUI :



SIGNAL AREA



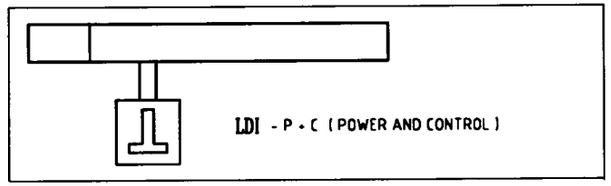
DETAIL A

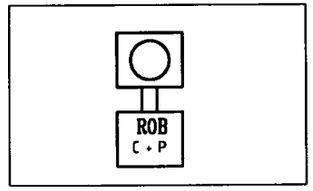
Dimensions in : cm

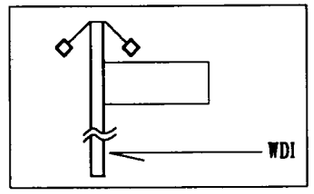
DIREKTORAT JENDERAL PERHUBUNGAN UDARA DIREKTORAT FASILITAS ELEKTRONIKA DAN LISTRIK SUB DIREKTORAT LISTRIK	UMUM	Tahun Anggaran :
Signal Area	NOMOR GAMBAR: VA.40.01 / KODE LOKASI / NOMOR LEMBAR: 1/1 / NOMOR URUT	
SKALA :	DIGAMBAR :	DIPERIKSA : / DISETUJUI :

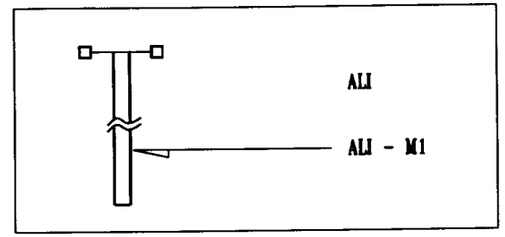
DESIGNATION AT ACCESSORIES

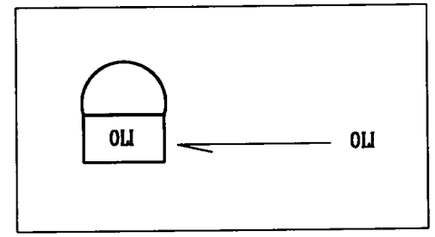
ACCESSORIES	DESIGNATION	H (mm)	REMARKS
LDI	LDI - C LDI - P	30 30	C = CONTROL P = POWER
ROB	ROB - C ROB - P	30 30	C = CONTROL P = POWER
WDI	WDI	30	-
SIR	SIR	100	-
ALI	ALI - M1 ALI - M2 ALI - M3	100 100 100	M = MAST - -
OLI	OLI - 1/.../X	30	-

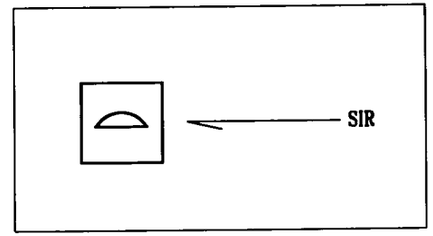








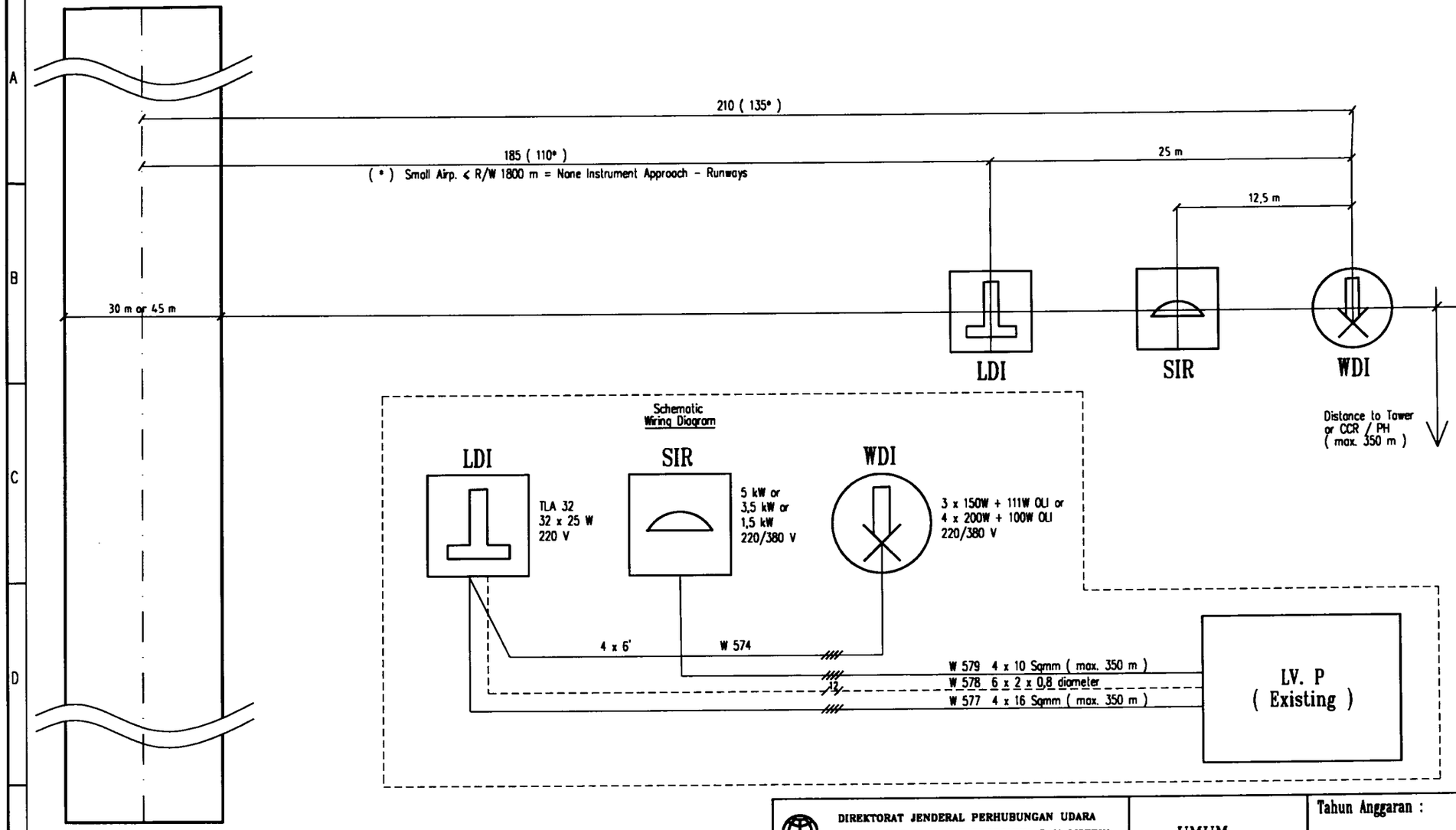




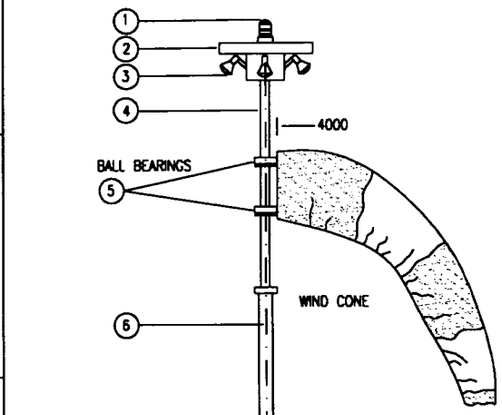
NOTES :

1. CABLE DESIGNATION SEE DRAWING LIST OF CABLE

DIREKTORAT JENDERAL PERHUBUNGA UDARA DIREKTORAT FASILITAS ELEKTRONIKA DAN LISTRIK SUB DIREKTORAT LISTRIK	UMUM	Tahun Anggaran :
Designation for AFL Accessories ROB, WDI, LDI, SIR, ALI, OLI		NOMOR GAMBAR: VA.40.02 / KODE LOKASI / NOMOR LEMBAR: 1/1 / NOMOR URUT
SKALA :	GAMBAR :	DIPERIKSA : / DISETUJUI :

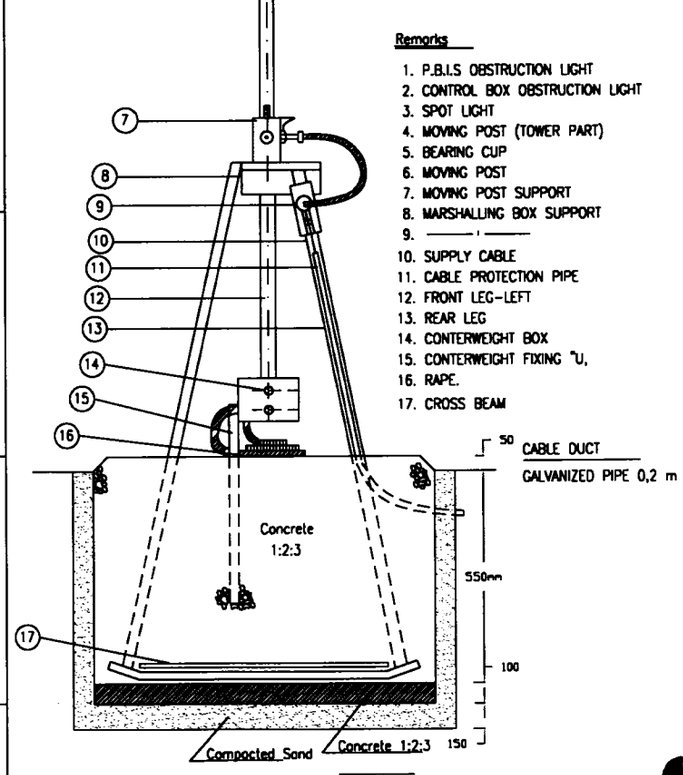


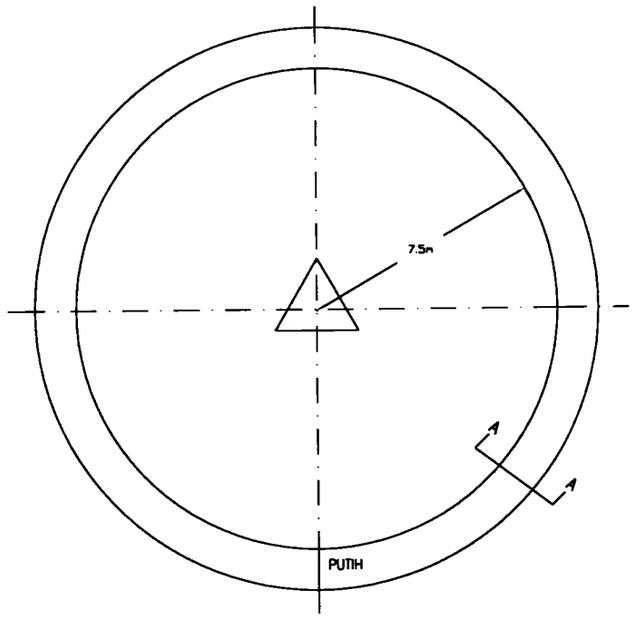
DIREKTORAT JENDERAL PERHUBUNGAN UDARA DIREKTORAT FASILITAS ELEKTRONIKA DAN LISTRIK SUB DIREKTORAT LISTRIK	UMUM	Tahun Anggaran :
Paralel Circuits LDI, SIR, WDI Location and Cable Diagram non-Precission Approach for Runways		NOMOR GAMBAR: VA.40.03 / KODE LOKASI / NOMOR LEMBAR: 1/1 / NOMOR URUT
SKALA :	GAMBAR :	DIPERIKSA : / DISETUJUI :

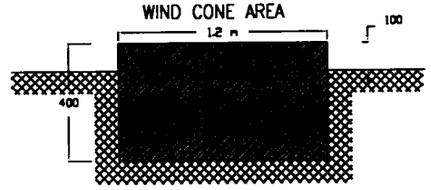


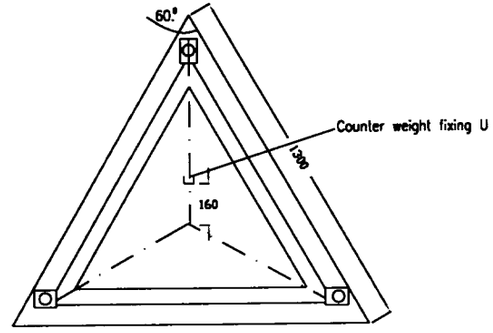
Remarks

1. P.B.I.S OBSTRUCTION LIGHT
2. CONTROL BOX OBSTRUCTION LIGHT
3. SPOT LIGHT
4. MOVING POST (TOWER PART)
5. BEARING CUP
6. MOVING POST
7. MOVING POST SUPPORT
8. MARSHALLING BOX SUPPORT
9. ——— ' ———
10. SUPPLY CABLE
11. CABLE PROTECTION PIPE
12. FRONT LEG-LEFT
13. REAR LEG
14. CONTERWEIGHT BOX
15. CONTERWEIGHT FIXING "U,
16. RAPE.
17. CROSS BEAM





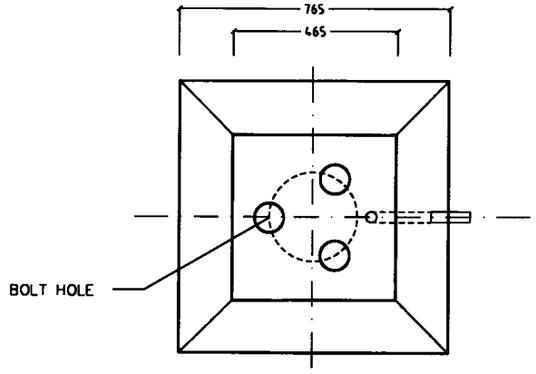




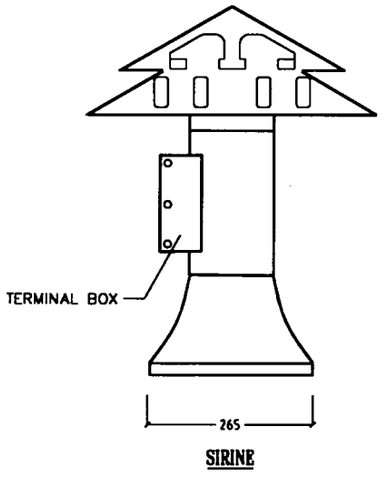
PROFILE CROSS BEAM

Dimensions in : mm

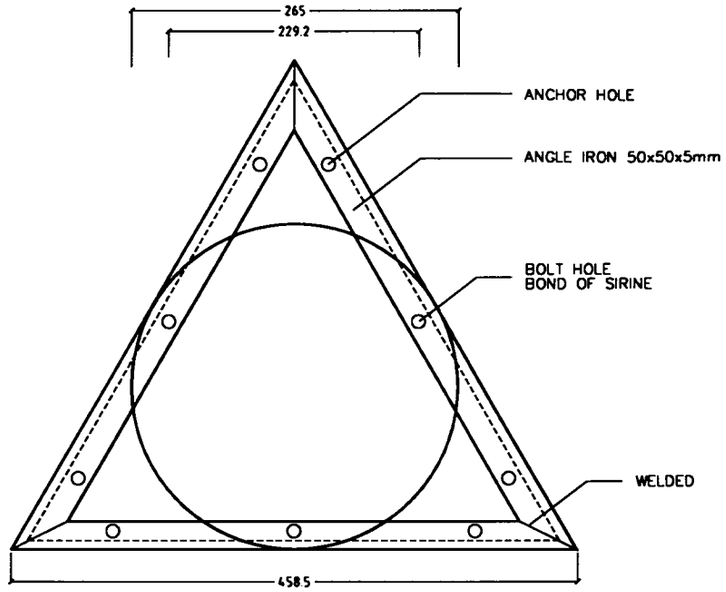
DIREKTORAT JENDERAL PERHUBUNGAN UDARA DIREKTORAT FASILITAS ELEKTRONIKA DAN LISTRIK SUB DIREKTORAT LISTRIK	UMUM	Tahun Anggaran :
Installation and Foundation of Wind Cone	NOMOR GAMBAR: VA.41.01 / KODE LOKASI / NOMOR LEMBAR: 1/1 / NOMOR URUT	
SKALA :	DIGAMBAR :	DIPERIKSA : / DISETUJUI :



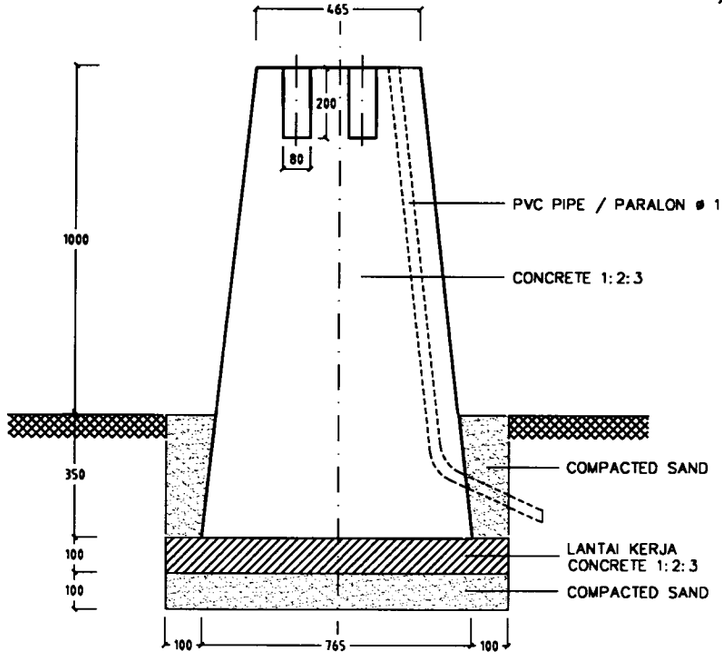
SIRINE FOUNDATION
(ON THE GROUND)

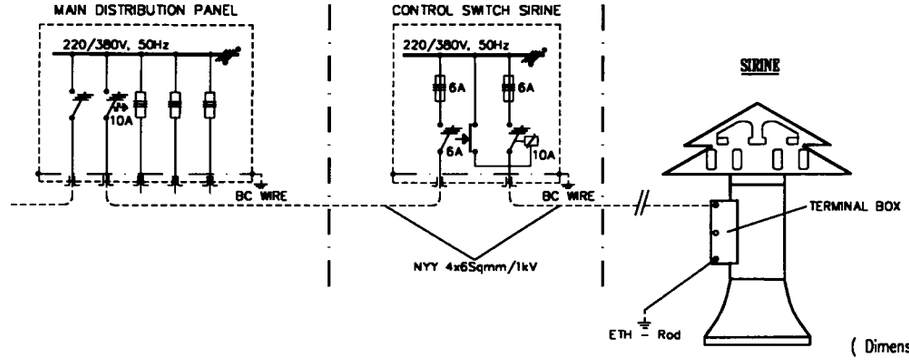


SIRINE



SIRINE FOUNDATION
(ON THE BUILDING)





(Dimensions in : mm)

(DIMENSIONS IN : mm)

DIREKTORAT JENDERAL PERHUBUNGAN UDARA
DIREKTORAT FASILITAS ELEKTRONIKA DAN LISTRIK
SUB DIREKTORAT LISTRIK

U M U M

Tahun Anggaran :

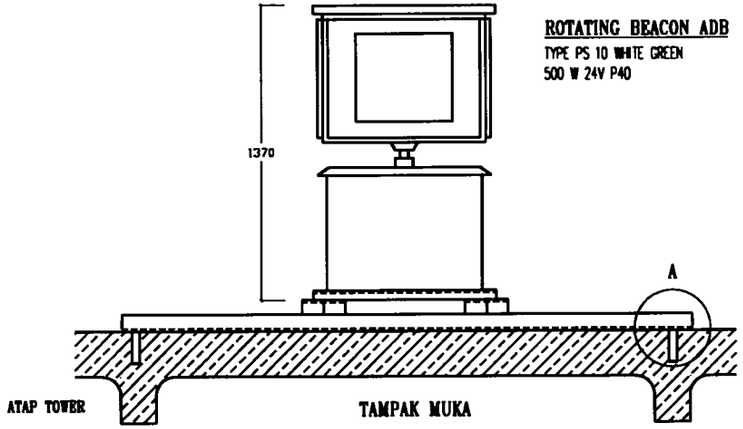
Installation and Construction of Sirene Foundation and Power Supply

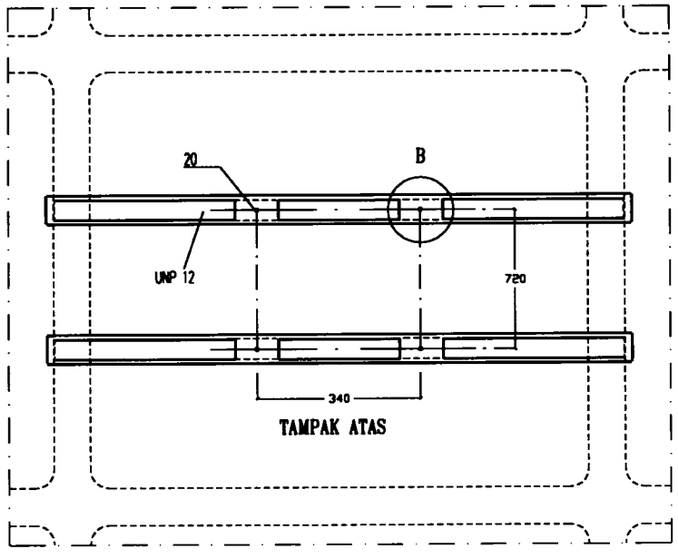
NOMOR GAMBAR	KODE LOKASI	NOMOR LEMBAR	NOMOR URUT
VA.42.01		1/1	

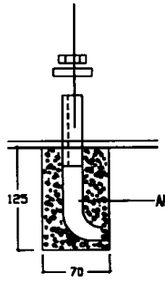
SKALA :	GAMBAR :	DIPERIKSA :	DISETUJUI :

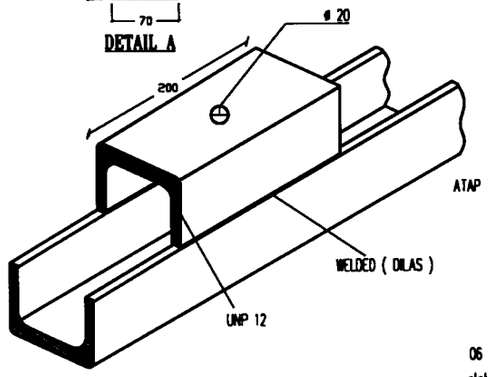
ROTATING BEACON ADB

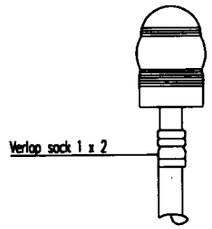
TYPE PS 10 WHITE GREEN
500 W 24V P40

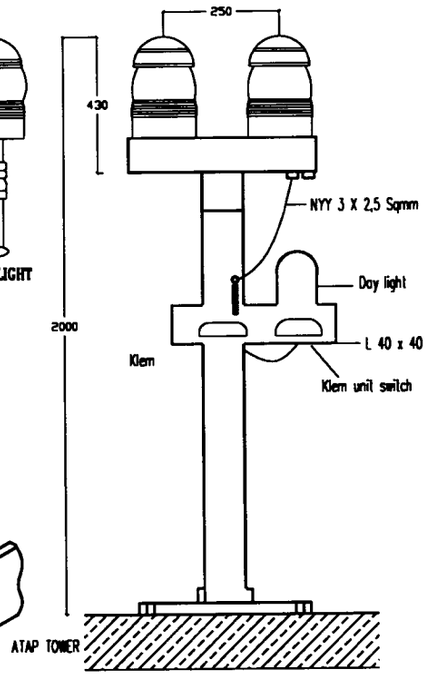


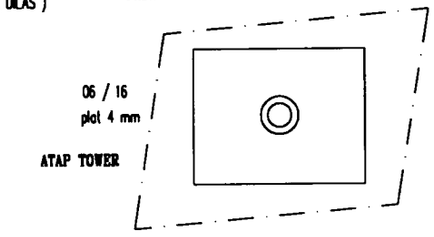






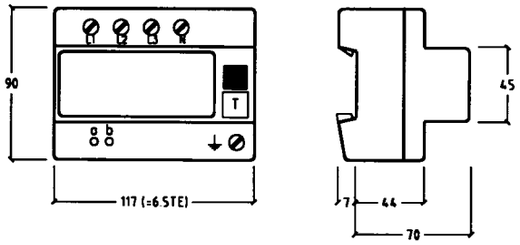




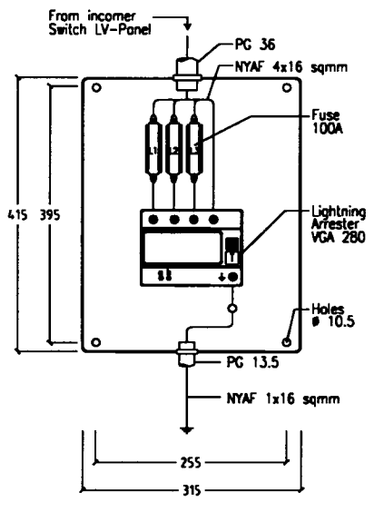


DIREKTORAT JENDERAL PERHUBUNGAN UDARA DIREKTORAT FASILITAS ELEKTRONIKA DAN LISTRIK SUB DIREKTORAT LISTRIK	UMUM	Tahun Anggaran :
Installation of Rotating Beacon (ROB) and Obstruction light (OLI)	NOMOR GAMBAR: VA.43.01	KODE LOKASI:
	NOMOR LEMBAR: 1/1	NOMOR URUT:
SKALA :	DIGAMBAR :	DIPERIKSA :
DISETUJUI :		

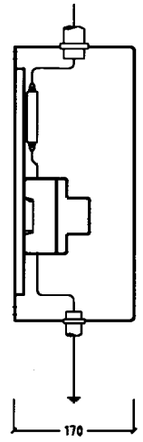
Dimension drawing of Type VGA 280



FRONT VIEW



SIDE VIEW



DEHNVENTIL Type VGA 280/4/ls
in Insulated housing

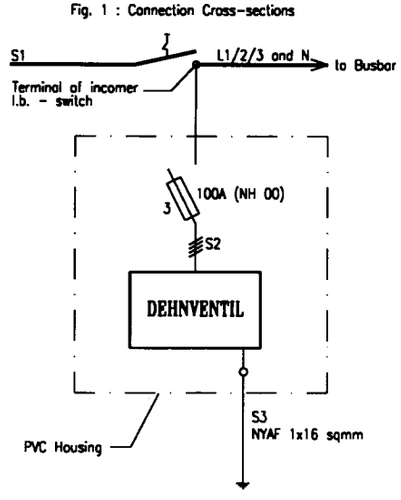
Insulated housing, tested with lightning current, protection class IP44 (protection againt-dust accumulation and splashing water) with 2 cable entries, grey-housing, for indoor systems.

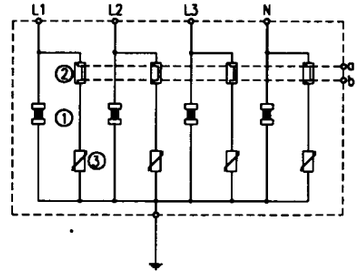
Lightning arrester Type VGA-280. 2 pole and 4 pole lightning arrester for 230 V/400 VAC low-voltage systems.

Also protecs againts direct lightning strikes.

LV - PANEL

Fig. 1 : Connection Cross-sections





① : Spark creepage gap

② : Supervisory device/disconnector

③ : ZNO - varistor

L1/2/3/N : Terminals of consumer systems

⏚ : Earth Terminal / equipotential bonding bar

a. b. : Remote Alarm Control

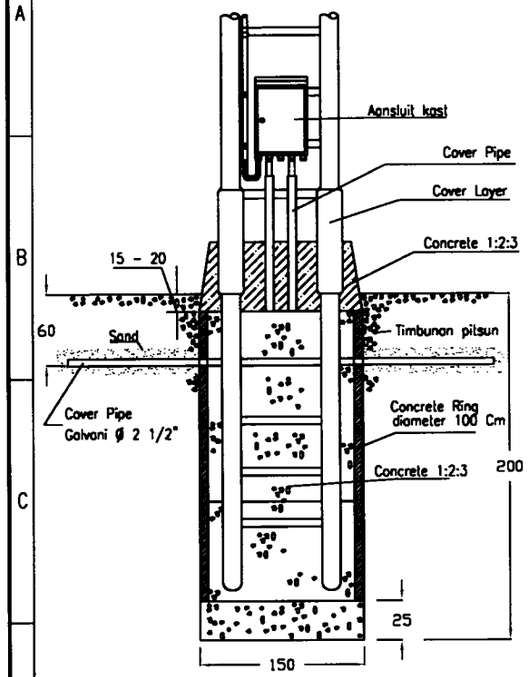
DEHNVENTIL TYPE VGA 280/4/ls
Wiring : 4x16 sqmm

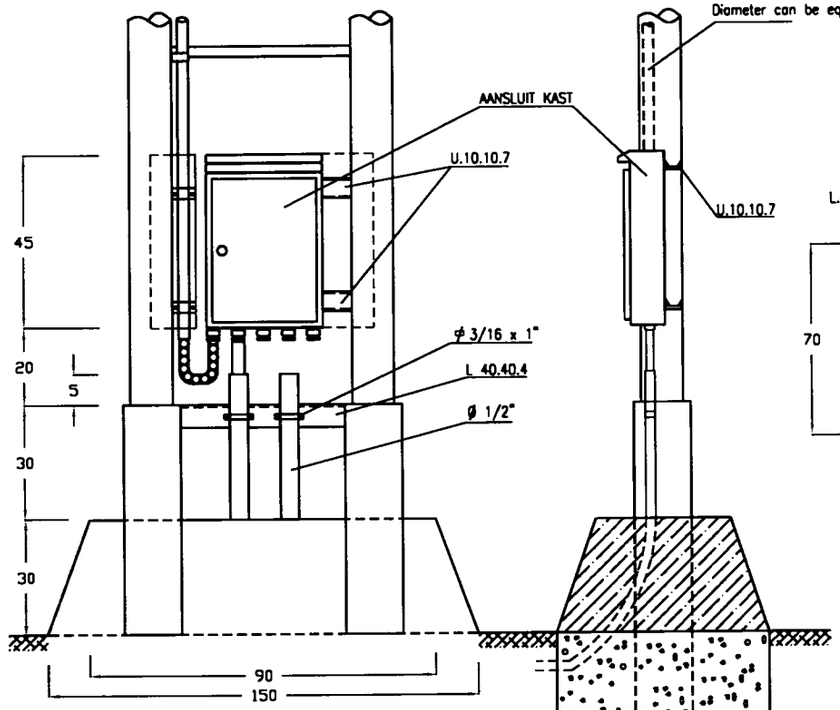
(Dimensions in mm)

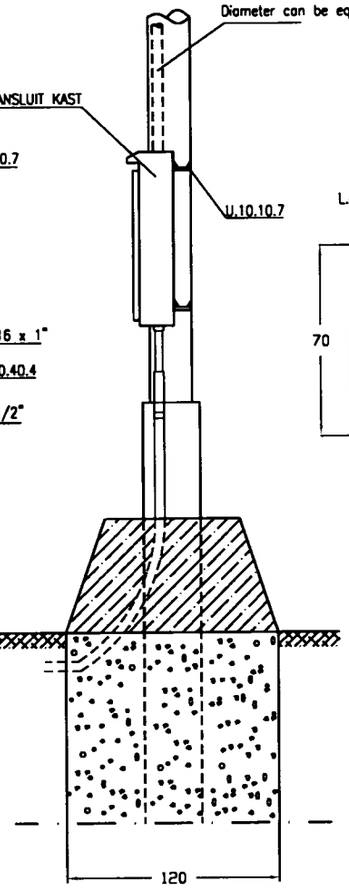
DIREKTORAT JENDERAL PERHUBUNGAN UDARA DIREKTORAT FASILITAS ELEKTRONIKA DAN LISTRIK SUB DIREKTORAT LISTRIK	UMUM	Tahun Anggaran:

Housing w. Lightning Arrester 280 Volt Dimension and Wiring Diagram	NOMOR GAMBAR	KODE LOKASI	NOMOR LEMBAR	NOMOR URUT
	VA.60.01		1/1	

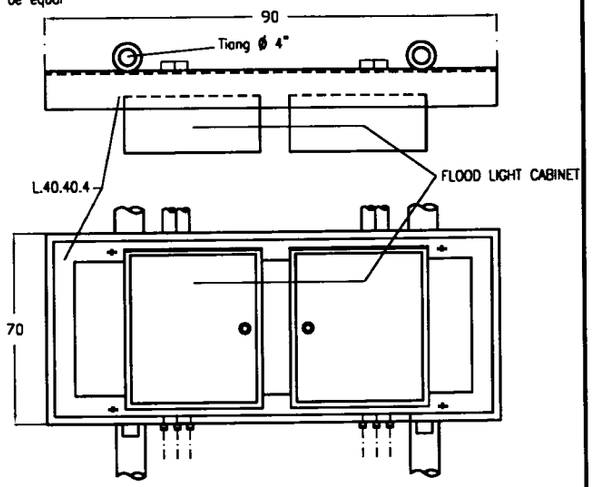
SKALA :	GAMBAR :	DIPERIKSA :	DISETUJUI :



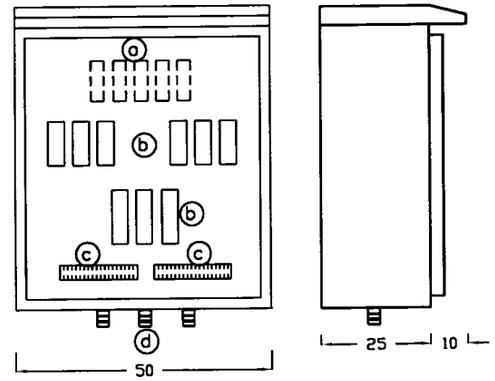




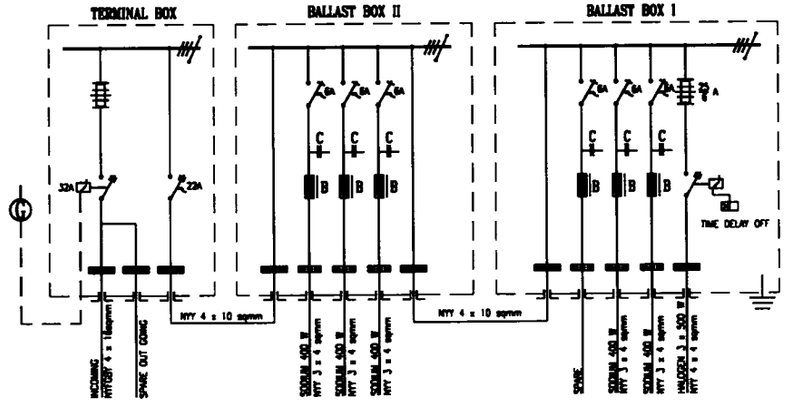
SIDE VIEW



POSITION BALLAST BOX ON THE TOP MAST



BALLAST BOX



REMARKS :
- ⓞ - MCB
- ⓑ - BALLAST
- ⓒ - TERMINAL
- ⓓ - WARTEL

Dimensions in : cm

Dimension of Ballast Box can be changed

DIREKTORAT JENDERAL PERHUBUNGAN UDARA
DIREKTORAT FASILITAS ELEKTRONIKA DAN LISTRIK
SUB DIREKTORAT LISTRIK

UMUM

Tahun Anggaran :

Detail Aansluit Kast, Ballast Box and
Construction Foundation Double Mast Flood Light

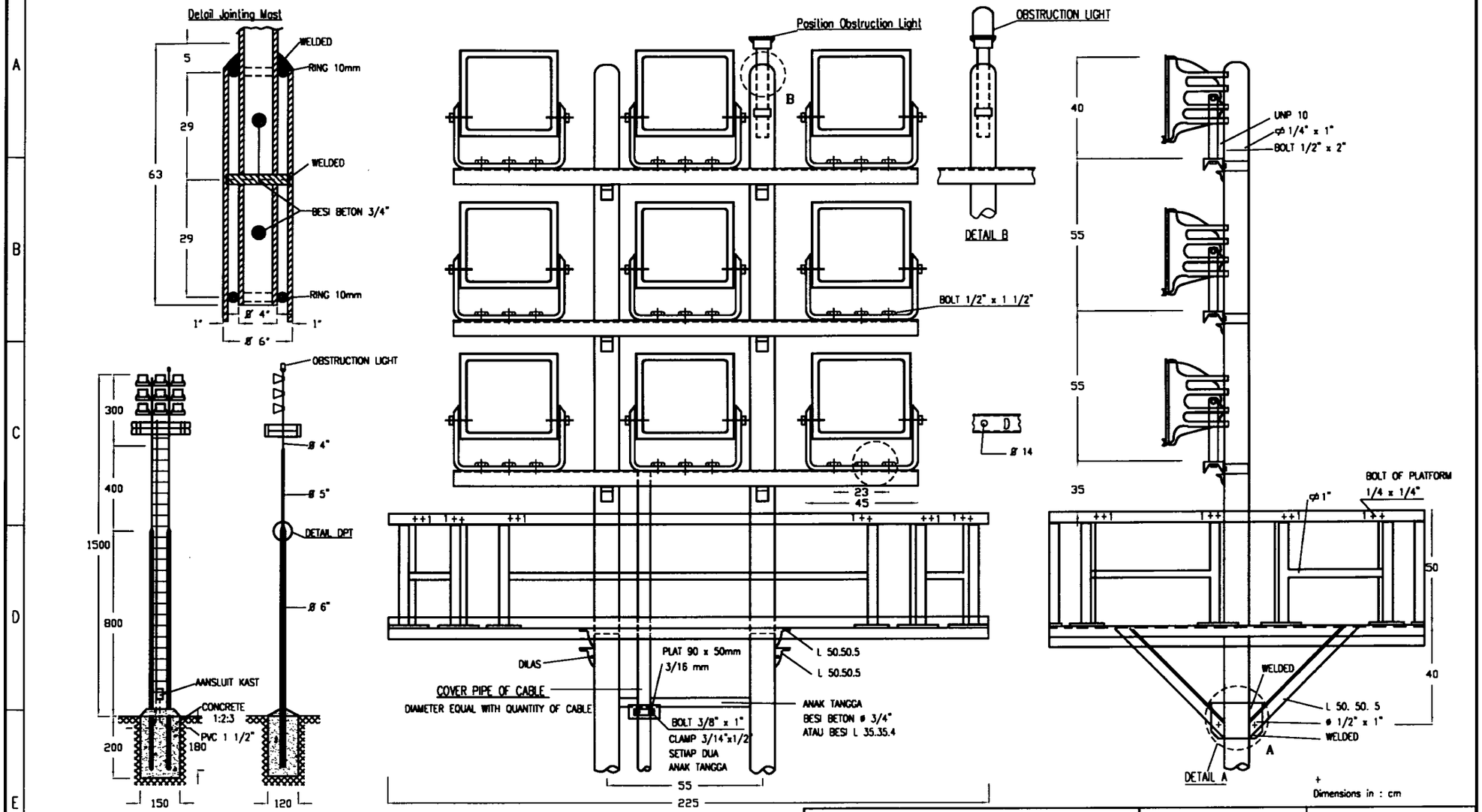
NOMOR GAMBAR	KODE LOKASI	NOMOR LEMBAR	NOMOR URUT
VA.70.02		1/1	

SKALA :

DIGAMBAR :

DIPERIKSA :

DISETUJUI :



DIREKTORAT JENDERAL PERHUBUNGAN UDARA
DIREKTORAT FASILITAS ELEKTRONIKA DAN LISTRIK
SUB DIREKTORAT LISTRIK

UMUM

Tahun Anggaran :

Detail Installation Flood Light and Obstruction Light of Construction Double Mast Flood Light

NOMOR GAMBAR	KODE LOKASI	NOMOR LEMBAR	NOMOR URUT
VA.70.01		1/1	

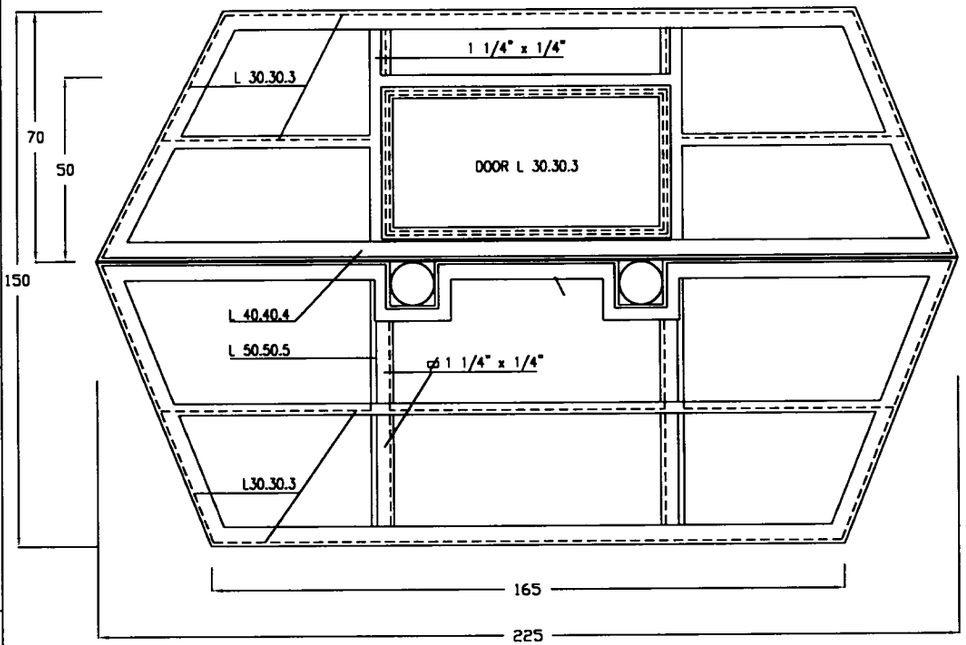
SKALA :

DIGAMBAR :

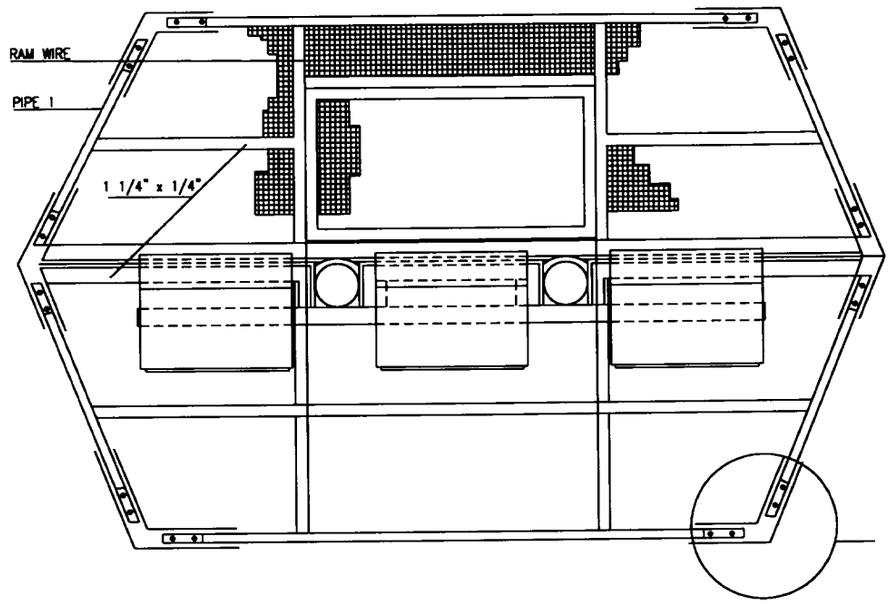
DIPERIKSA :

DISETUJUI :

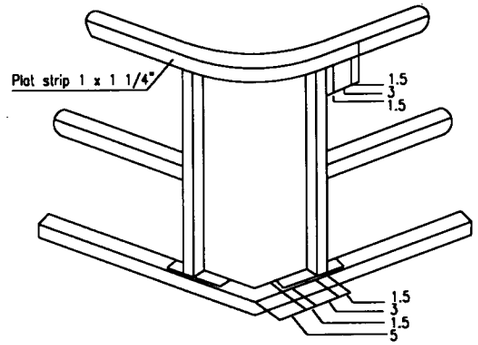
FRAME OF PLATFORM



PLATFORM
TOP VIEW

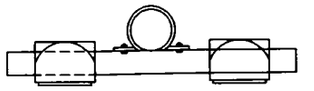


DETAIL A

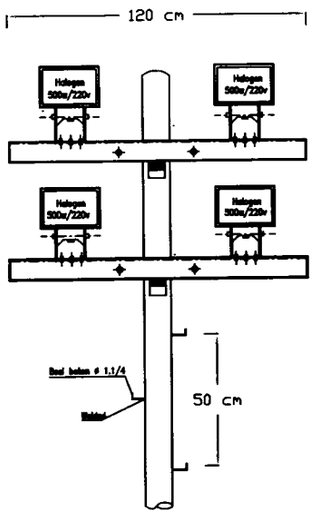


Dimensions in : cm

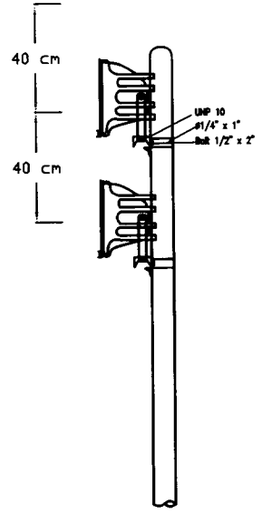
DIREKTORAT JENDERAL PERHUBUNGAN UDARA DIREKTORAT FASILITAS ELEKTRONIKA DAN LISTRIK SUB DIREKTORAT LISTRIK	UMUM	Tahun Anggaran :
Detail Installation Flatform of Construction Double Mast Flood Light	NOMOR GAMBAR: VA.70.03	KODE LOKASI:
	NOMOR LEMBAR: 1/1	NOMOR URUT:
SKALA :	DIGAMBAR :	DIPERIKSA : / DISETUJUI :



Top View

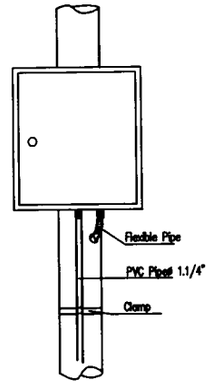


Front View

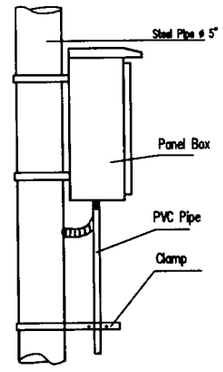


Side View

Detail A

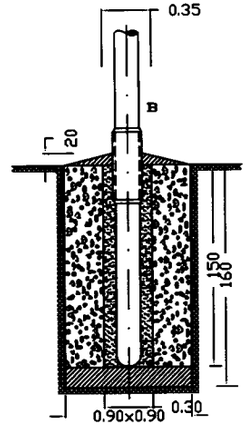


Front View

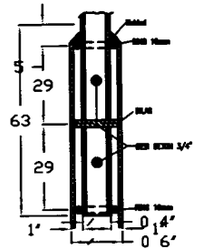


Side View

Detail Switch Box

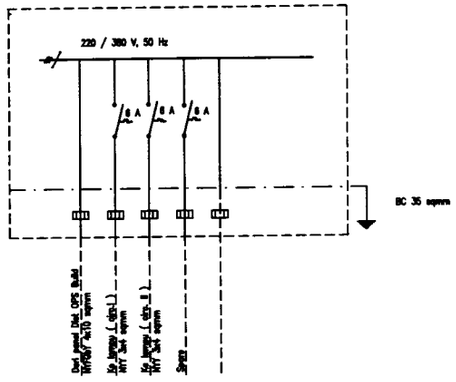


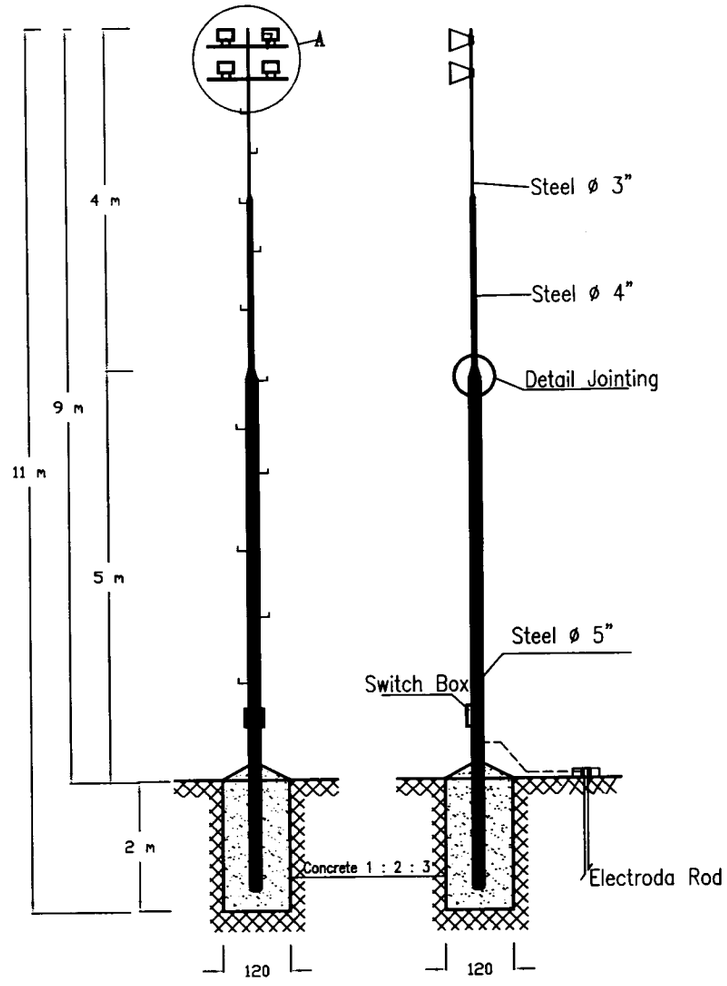
Detail Foundation



Detail Jointing

PANEL FLOOD LIGHT

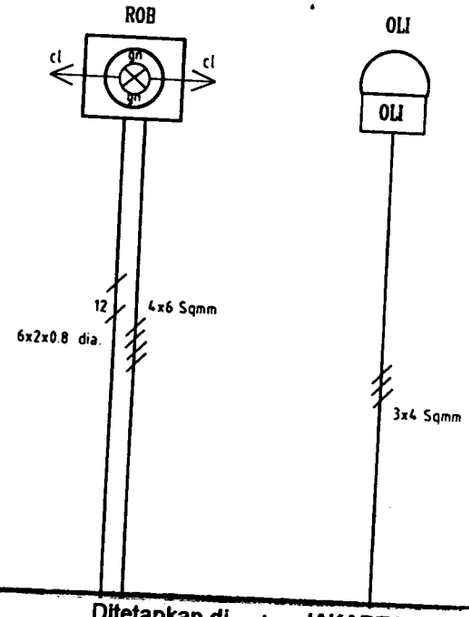




Dimensions in : cm

DIREKTORAT JENDERAL PERHUBUNGAN UDARA DIREKTORAT FASILITAS ELEKTRONIKA DAN LISTRIK SUB DIREKTORAT LISTRIK	UMUM	Tahun Anggaran :
Construction Foundation Single Mast and Distribution Panel Flood Light	NOMOR GAMBAR: VA.70.04	KODE LOKASI:
	NOMOR LEMBAR: 1/1	NOMOR URUT:
SKALA :	GAMBAR :	DIPERIKSA :
DISETUJUI :		

TOWER



cl = clear
gn = green

Ditetapkan di : JAKARTA
Pada tanggal : 12 JUNI 2002

DIREKTUR JENDERAL PERHUBUNGAN UDARA

ttd

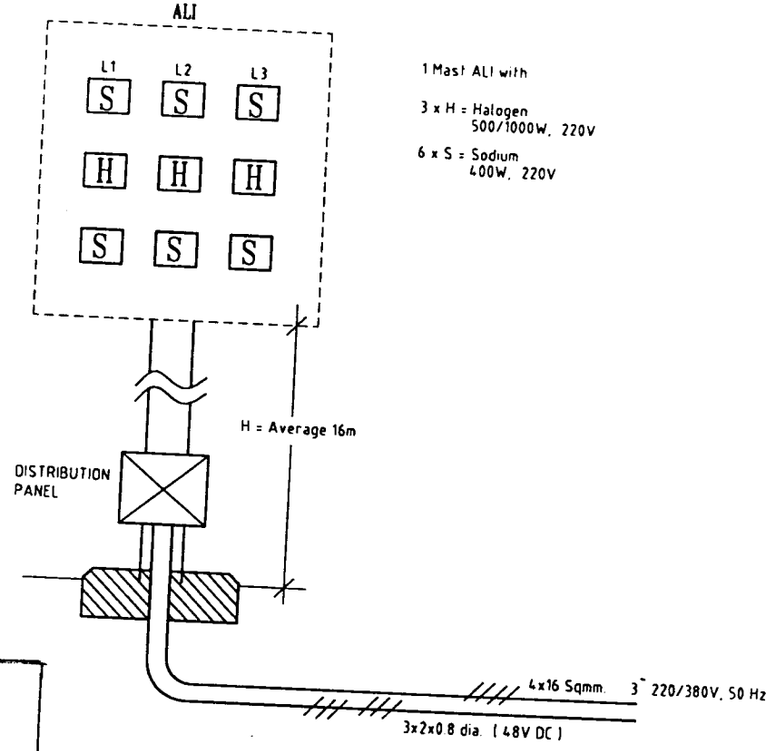
SOENARYO, Y
NIP. 120038217

Salinan sesuai dengan aslinya

Kepala Bagian Hukum

E. A. SUDDY
NIP. 120108009

APRON LIGHTING
(ALI)



DIREKTORAT JENDERAL PERHUBUNGAN UDARA DIREKTORAT FASILITAS ELEKTRONOKA DAN LISTRIK SUB DIREKTORAT LISTRIK	UMUM	Tahun Anggaran :
Parallel Circuits ROB, ALI, OLI Cable Diagram	NOMOR GAMBAR: VA.70.06	KODE LOKASI:
	NOMOR LEMBAR: 1/1	NOMOR URUT:
SKALA :	GAMBAR :	DIPERIKSA :
DISETUJUI :		