

ELECTRICAL SITE PLAN LEGEND	
SYMBOL	DESCRIPTION
	DISTRIBUTION KIOSK
	DISTRIBUTION BOARD
	CABLE ROUTE
	SLEEVE
	OVERHEAD HV-DISTRIBUTION
	SCHOOL SIREN
	SCHOOL SIREN CONTROL
	ICT FLUSH MOUNTED DRAWBOX 300x400x150 WITH LOCKED DOOR MOUNTED AT 300 AFFL LINKED TO CEILING VOID AND UNDERGROUND NETWORK.
	600x600 BRICK MANHOLE
	ICT PB000 GALV. TRUNKING IN CEILING VOID
	P1 POST TOP LIGHTING: 4m MOUNTING HEIGHT

PHASE 1 MAIN SCHOOL		
BLOCK 16 - 4 CLASSROOM + HOD	BLOCK 29 - STAFF C	BLOCK 28 - LEARNER ABLUTIONS C
BLOCK 15 - CREATIVE ARTS CLASSROOM	BLOCK 14 - 4 CLASSROOM + HOD	BLOCK 13 - 3 CLASSROOM
BLOCK 12 - 4 CLASSROOM + HOD	BLOCK 11 - 3 CLASSROOM	BLOCK 10 - JUNIOR SCIENCE CLASSROOM
BLOCK 9 - TECHNOLOGY & MULTI-PURPOSE CLASSROOM + 2 HOD	BLOCK 8 - CLASSROOM + HOD	BLOCK 7 - SENIOR SCIENCE CLASSROOM
BLOCK 6 - MULTI-PURPOSE CLASSROOM	BLOCK 5 - CLASSROOM + SUPPORT STAFF OFFICE	BLOCK 4 - LIBRARY AND COMPUTER
BLOCK 3 - MULTI-PURPOSE HALL	BLOCK 2 - DINING AND NUTRITION CENTRE	BLOCK 1 - ADMINISTRATION
BLOCK 27 - STAFF B	BLOCK 26 - LEARNER ABLUTIONS B	BLOCK 25 - LEARNER ABLUTIONS A
BLOCK 24 - STAFF A	BLOCK 23 - CHANGEROOM AND TUCKSHOP	BLOCK 22 - GUARD HOUSE
BLOCK 21 - REFUSE	BLOCK 20 - CARETAKER'S WORKSHOP	BLOCK 19 - PLANTROOM
BLOCK 18 - 5 CLASSROOM	BLOCK 17 - 3 CLASSROOM	BLOCK 16 - 4 CLASSROOM + HOD

B	02/10/2024	Block 9 & 10 Merged
A	14/08/2024	Issued For Information
NO	DATE	AMENDMENT
Client:		
Consultant:		

Project:	
RAPID INFRASTRUCTURE PROGRAMME: PROPOSED CONSTRUCTION OF PAKAMANI SENIOR SECONDARY SCHOOL, ENGCOBO	
Drawing Title:	
SITE RETICULATION LAYOUT	

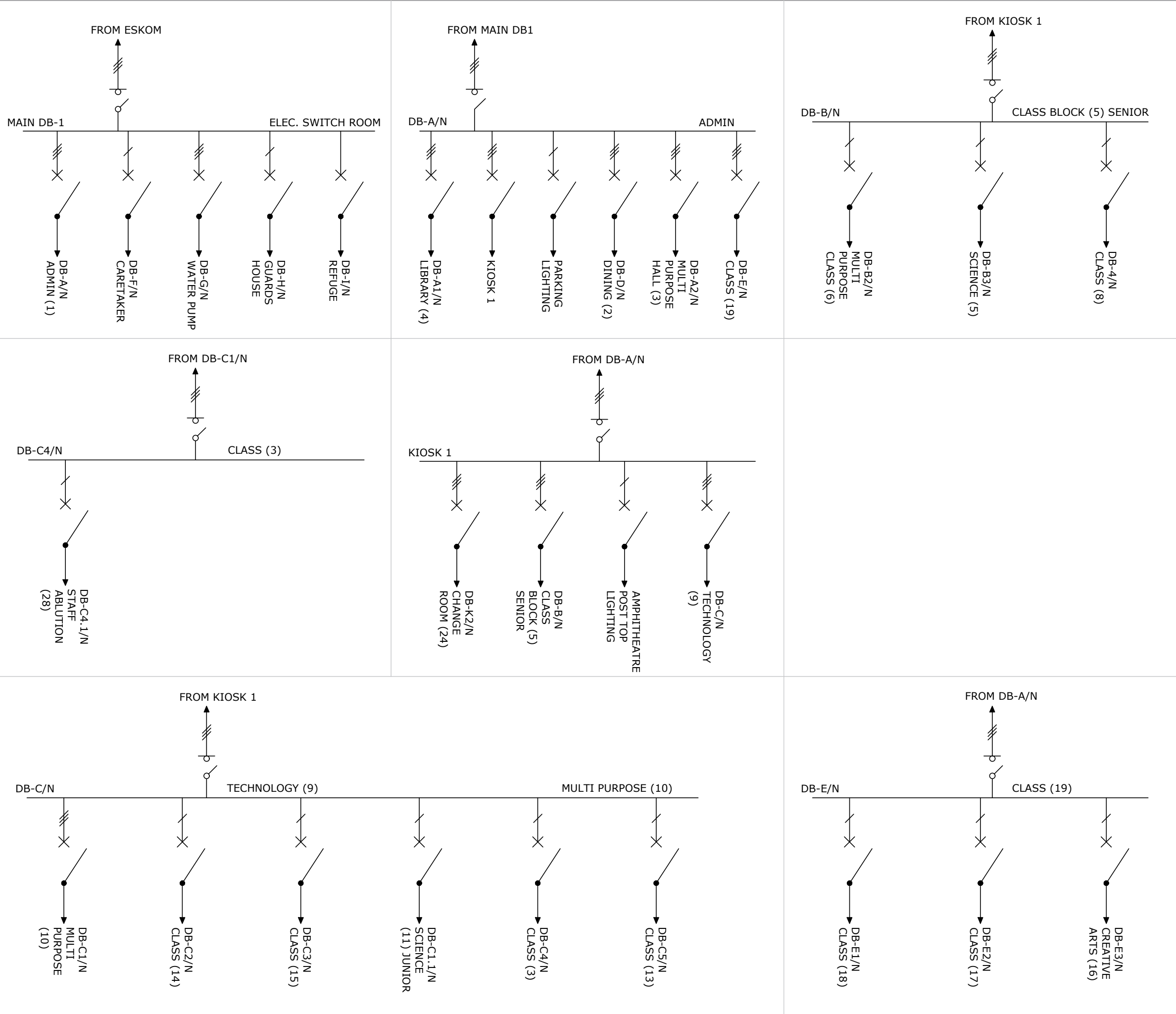
ELECTRICAL

Project: **RAPID INFRASTRUCTURE PROGRAMME: PROPOSED CONSTRUCTION OF PAKAMANI SENIOR SECONDARY SCHOOL, ENGCOCO**

Drawing Title: **SITE RETICULATION LAYOUT**

Prof. Registered Signature		Client Signature	
<i>Niel Strachan</i>			
Pr Tech 201170230		Designation	
Niel Strachan		Name	
Date: October 2024		Designed: Niel Strachan	
Size: A0		Drawn: Henrico De Swardt	
Scale: 1:250		Checked: Niel Strachan	
Building Occupancy: TBC		Climate Zone: TBC	
Stage: 2		Sheet: 1 of 1	
Project #	Discipline	Drawing #	Rev.
7019507G	E	000	A

src: **CONCEPT DESIGN**



B	02/10/2024	Block 9 & 10 Merged
A	14/08/2024	Issued For Information
NO	DATE	AMENDMENT

Client:



Consultant:



Tel: +27(0) 861 878 252
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ELECTRICAL

Project:
**RAPID INFRASTRUCTURE
PROGRAMME: PROPOSED
CONSTRUCTION OF PAKAMANI
SENIOR SECONDARY SCHOOL,
ENGCOBO**

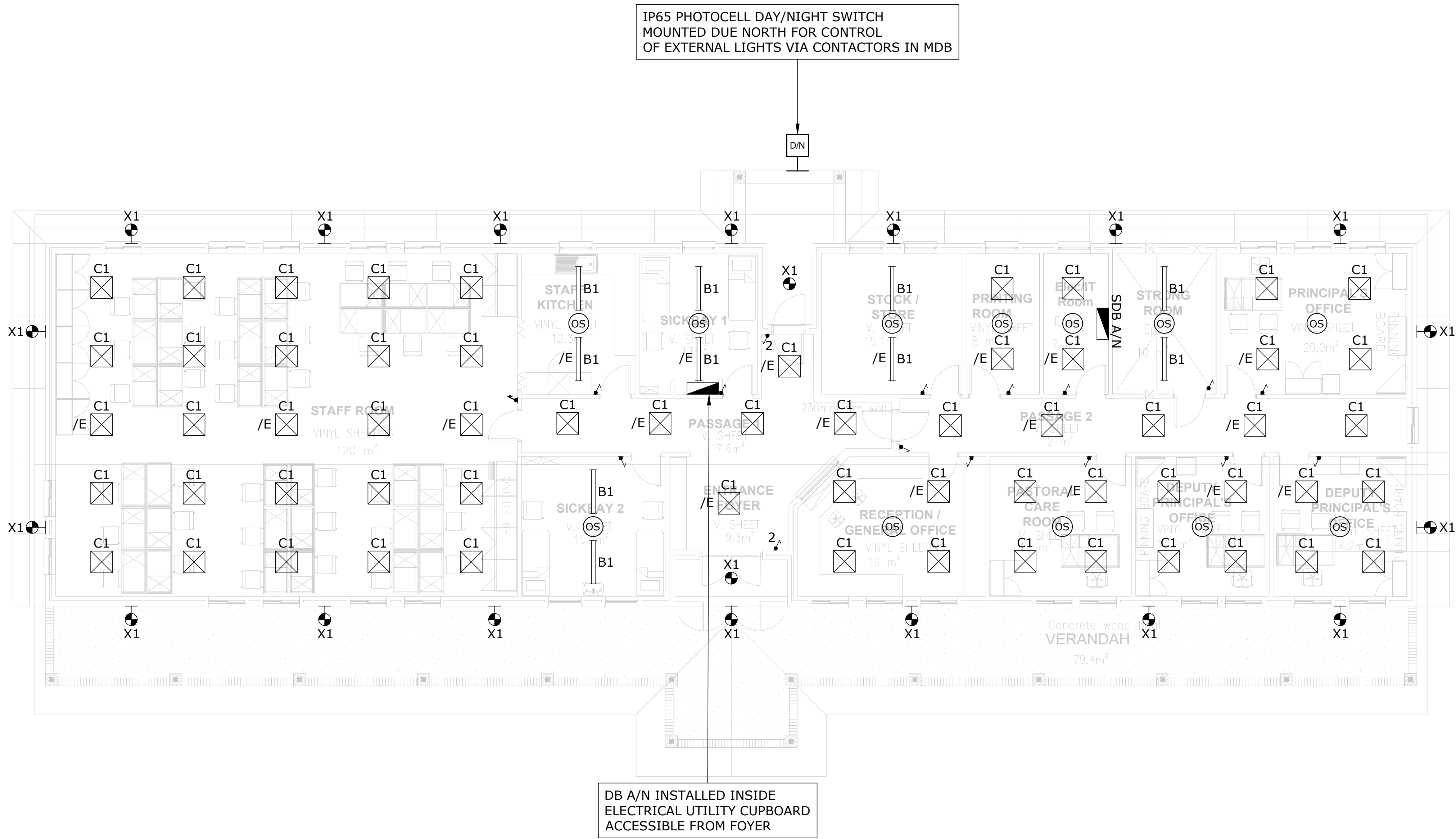
Drawing Title:
LV-NETWORK SLD

Prof. Registered Signature	Client Signature
<i>Dg Strachan</i>	
Pr Tech 201170230	Designation
Niel Strachan	Name

Date: October 2024	Designed: Niel Strachan
Size: A3	Drawn: Henrico De Swardt
Scale: N/A	Checked: Niel Strachan
Building Occupancy: TBC	Climate Zone: TBC
Stage: 2	Sheet: 1 of 1

Project #:	Discipline:	Drawing #:	Rev:
7019507G	E	001	A

For: **CONCEPT DESIGN**



LIGHTING LEGEND	
SYMBOL	DESCRIPTION
	16A One-Lever, One Way Light Switch, Wall Recessed @ 1250mm AFFL
	16A Two-Lever, One Way Light Switch, Wall Recessed @ 1250mm AFFL
	16A One-Lever, One Way Light Switch, Wall Recessed @ 1250mm AFFL (Dim Switch)
	16A One-Lever, Two Way Light Switch, Wall Recessed @ 1250mm AFFL
	16A One-Lever, One Way, IP65, Weatherproof Light Switch, Wall Mounted, Surface Mounted @ 1250mm AFFL
	20W LED Bulkhead Luminaire, 2800lm, IP65, 4000K, Surface Mounted, White Finish (Lascon Roma Or Similar Approved)
	55W LED Flood Light Luminaire, 8119 lm, IP66, 4000K, High-Pressure Die-Cast Aluminium Housing, IK10, Surface Mounted With Stainless Steel Bracket And Bolts, (Beka LedFlood-Midi Or Similar Approved)
	35W Led Panel Luminaire, 600mm X 600mm, Recessed In Ceiling, 4000lm, 4000K (Beka Dari Or Similar Approved)
	30W 1165mm LED Linear Luminaire, 4441 lm, Surface Mounted, Low Glare, 4000K, Dimmable LED Driver, CR1>80 (Lascon LP1-HO Or Similar Approved)
	47W 1180mm LED Linear Luminaire, 6000 lm, Surface Mounted, Low Glare, 4000K, Dimmable LED Driver, CR1>80 (Lascon LP1-HO Or Similar Approved)
	35W 1260mm LED Linear Luminaire, 4500 lm, Surface Mounted, Low Glare, 4000K, Dimmable LED Driver, CR1>80 (Lascon SCL-W Or Similar Approved)
	60W 1500mm LED Linear Lowbay Luminaire, 8010 lm, Surface Mounted To Underside Of Suspended Cable Tray, Low Glare, 4000K, CR1>80 (Rubicon Thermisto Or Similar Approved)
	Electrical Distribution Board
	Day / Night Switch, IP65, UV Protected Enclosure
	10W LED Emergency Exit Luminaire (With 1h Battery Backup)
	Denotes Emergency Light with Local Battery Pack (30-minutes Autonomy)
	Occupancy Sensor

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Client:

Consultant:

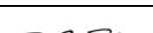
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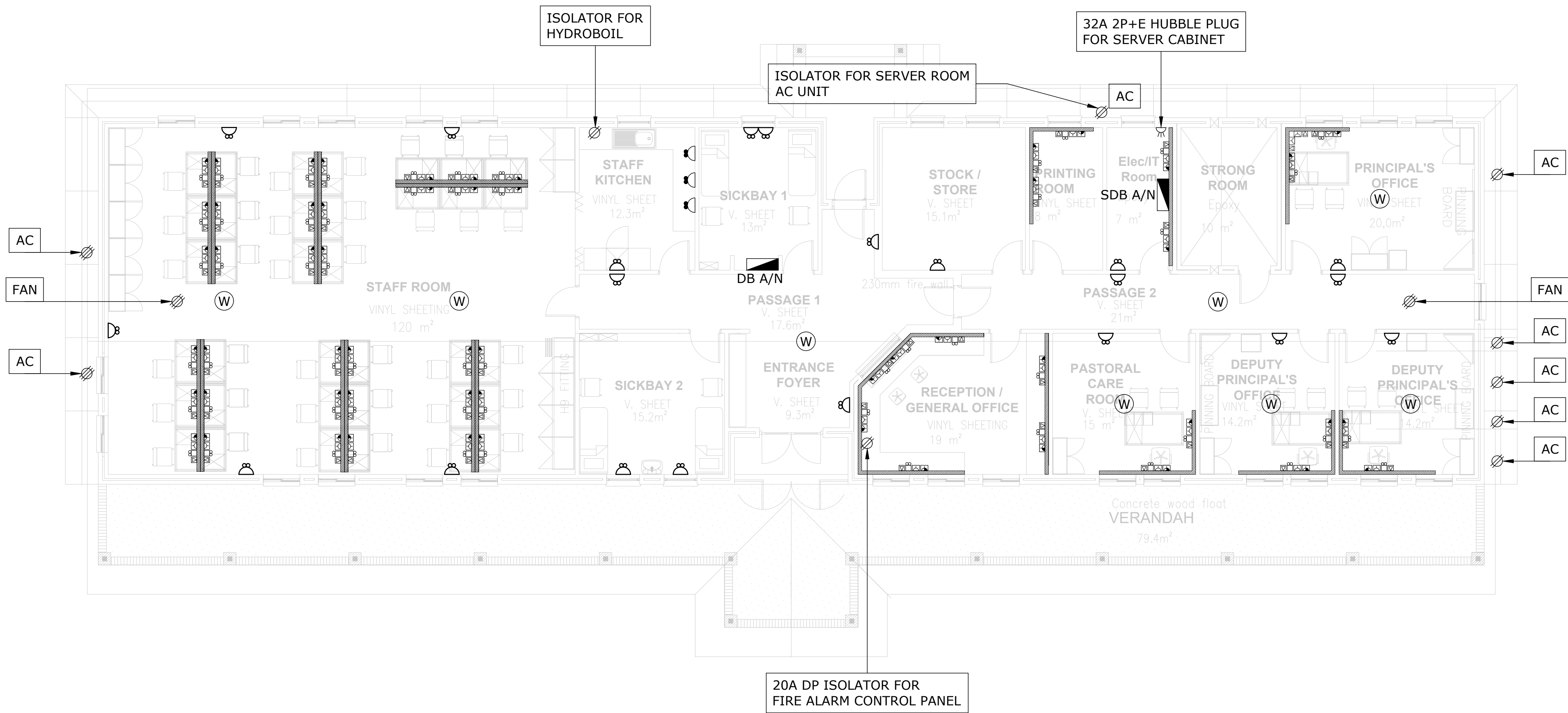
ELECTRICAL

Project:
**RAPID INFRASTRUCTURE
PROGRAMME: PROPOSED
CONSTRUCTION OF PAKAMANI
SENIOR SECONDARY SCHOOL,
ENGCOBO**

Drawing Title:

**ADMIN BLOCK
LIGHTING LAYOUT**

Prof. Registered Signature		Client Signature	
			
Pr Tech 201170230		Designation	
Niel Strachan		Name	
Date: August 2024		Designed: Henry Heyns	
Size: A1		Drawn: Henry Heyns	
Scale: 1:75		Checked: Niel Strachan	
Building Occupancy: TBC		Climate Zone: TBC	
Stage: 2		Sheet: 1 of 1	
Project #:	Discipline:	Drawing #:	Rev:
7019507G	E	101	A
For: CONCEPT DESIGN			



SOCKET AND DATA OUTLET LEGEND	
SYMBOL	DESCRIPTION
	16A SANS 164-1/164-2 Combination SSO 300mm AFFL Recessed (Dedicated Red)
	16A SSO @ 300mm AFFL (SANS 164-1/2 Combination) Recessed
	16A SSO @ 1200mm AFFL (SANS 164-1/2 Combination) Recessed
	5-PIN 32A Industrial SSO, IP65 @ 1200mm AFFL
	16A SANS 164-1 SSO Recessed In Power Skirting (Dedicated Red)
	16A SANS 164-1 SSO Recessed In Power Skirting
	HDMI Outlet Wall Recessed Or Mounted To PVC Skirting
	1 x RJ45 Outlet Mounted In Power Skirting 1 x RJ11 Outlet Mounted In Power Skirting
	10A SANS 164-2 SSO, Recessed in Power Skirting
	2 Compartment Heavy Duty PVC Power Skirting (Grey) Surface Mounted At 300mm Above FFL
	Distribution Board At 1800mm From FFL To Top Of Board (Minimum 1600mm From FFL)
	DP 230V Isolator, Ampere Rating As Shown, Mounted Adjacent To Fixed Equipment
	TP 400V Isolator, Ampere Rating As Shown, Mounted Adjacent To Fixed Equipment
	5-PIN 32A Industrial SSO, IP65 @ 1200mm AFFL
	Recessed Floor Box: 3 x 8 Module - 2 x 16A SSO (Normal SANS 164-1) - 4 x 16A SSO (Dedicated SANS 164-1) - 4 x 10A SSO (Normal SANS 164-2) - 4 x RJ45 Outlets
	PVC Conduit Cast In Floor Slab To Feed To Floor Box System: - 2 x 250mm - 2 x 320mm
	RJ-45 and RJ-11 Data/Telephone Outlet Combination Wall Recessed At 300mm AFFL
	WIFI Access Point In Ceiling/WIFI Router
	AC
	H/P
	FAN

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Consultant:

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ELECTRICAL

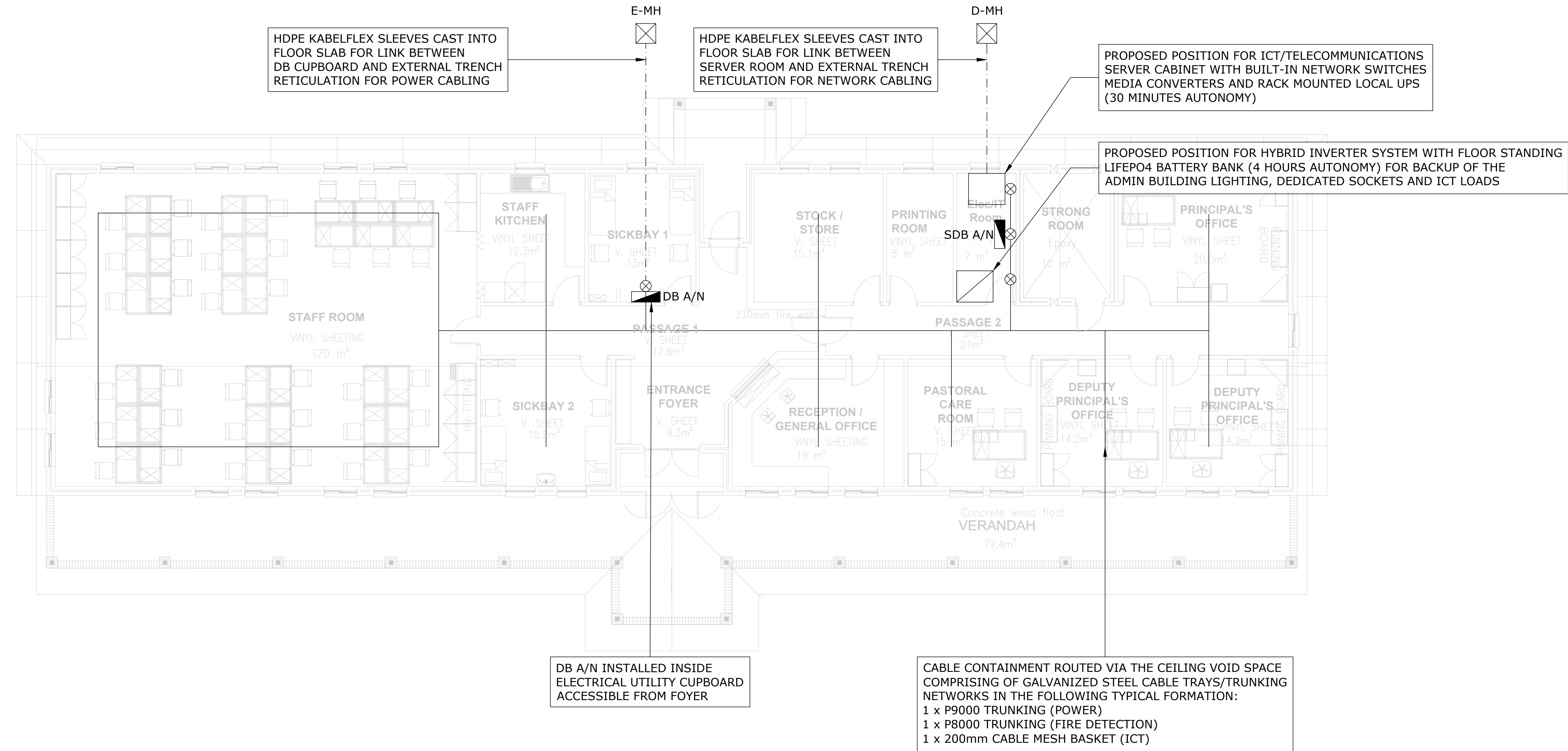
Project:
**RAPID INFRASTRUCTURE
PROGRAMME: PROPOSED
CONSTRUCTION OF PAKAMANI
SENIOR SECONDARY SCHOOL,
ENGCOBO**

Drawing Title:
**ADMIN BLOCK
SOCKET OUTLET LAYOUT**

Prof. Registered Signature		Client Signature	
Pr Tech 201170230		Designation	
Niel Strachan		Name	
Date:	August 2024	Designed:	Henry Heyns
Size:	A1	Drawn:	Henry Heyns
Scale:	1:75	Checked:	Niel Strachan
Building Occupancy:	TBC	Climate Zone:	TBC
Stage:	2	Sheet:	1 of 1
Project #:	Discipline:	Drawing #:	Rev:
7019507G	E	102	A
For: CONCEPT DESIGN			

ELECTRICAL RETICULATION LEGEND

SYMBOL	DESCRIPTION
	1 x P9000 GALVANIZED STEEL TRUNKING 1 x P8000 GALVANIZED STEEL TRUNKING 1 x 200mm STEEL CABLE MESH BASKET (UNLESS STATED OTHERWISE)
	ELECTRICAL TRENCH/SLEEVE NETWORK
	LV DISTRIBUTION BOARD
	ELECTRICAL MANHOLE OR DATA MANHOLE
	CONTAINMENT RISER/DROP FOR VERTICAL RETICULATION IN SERVICE SHAFT



A	14/08/2024	Issued For Information
NO	DATE	AMENDMENT



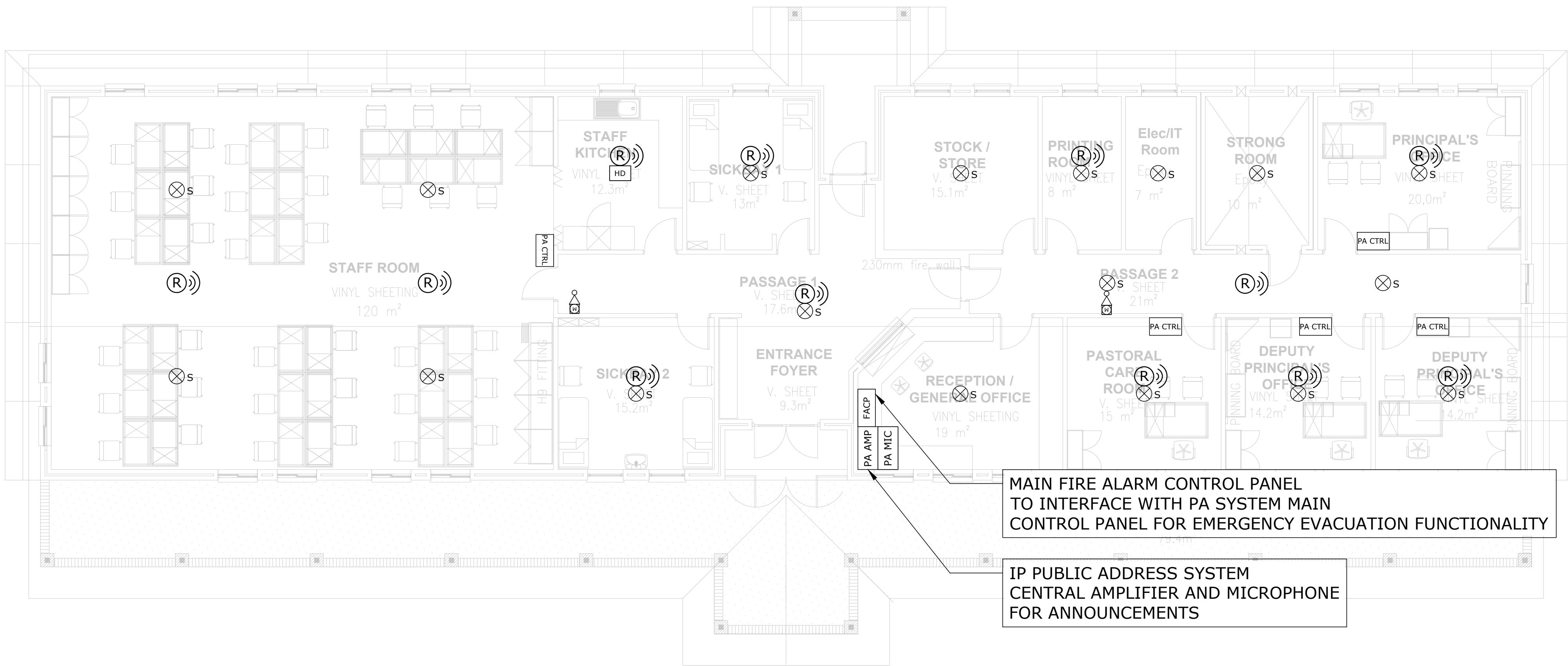
ELECTRICAL

Project:
RAPID INFRASTRUCTURE
PROGRAMME: PROPOSED
CONSTRUCTION OF PAKAMANI
SENIOR SECONDARY SCHOOL,
ENGCOBO

Drawing Title:

ADMIN BLOCK
RETICULATION LAYOUT

Prof. Registered Signature	Client Signature		
			
Pr Tech 201170230	Designation		
Niel Strachan	Name		
Date:	Designed:		
August 2024	Henry Heyns		
Size:	Drawn:		
A1	Henry Heyns		
Scale:	Checked:		
1:100	Niel Strachan		
Building Occupancy:	Climate Zone:		
TBC	TBC		
Stage:	Sheet:		
2	1 of 1		
Project #:	Discipline:	Drawing #:	Rev:
7019507G	E	103	A
For:	CONCEPT DESIGN		



ADMIN BUILDING FLOOR PLAN
SCALE 1:75



ADMIN BUILDING CEILING VOID DETECTION
SCALE 1:75

FIRE DETECTION LEGEND	
SYMBOL	DESCRIPTION
	SMOKE DETECTOR SURFACE MOUNTED TO CEILING
	FIRE ALARM CONTROL PANEL RECESSED AT A HEIGHT OF 1600mm TO CENTRE FROM FFL COMPLETE WITH OPTIC FIBRE TO COPPER MEDIA CONVERTER
	MANUAL FIRE ALARM, RED BREAK GLASS UNIT, SURFACE MOUNTED TO WALL AT 1600mm ABOVE FFL
	HEAT DETECTOR SURFACE MOUNTED TO CEILING
	ALARM SOUNDER AND STROBE UNIT SURFACE MOUNTED TO WALL ABOVE MANUAL BREAK GLASS AT 2100mm ABOVE FFL OR SURFACE MOUNTED TO CEILING
	VOID DETECTOR MOUNTED IN CEILING SPACE
	LINE RELAY - ADDRESSABLE FOR INTERFACING WITH ACCESS CONTROL DOORS AND MECH HVAC
PA SYSTEM LEGEND	
SYMBOL	DESCRIPTION
	6W 6-INCH CEILING-RECESSED ROUND PA SYSTEM LOUDSPEAKER
	SURFACE MOUNTED HORN TYPE PA SYSTEM LOUDSPEAKER
	WALL-MOUNTED PA SYSTEM LOUDSPEAKER
	PA SYSTEM AMPLIFIER/CONTROL PANEL/BASE STATION TO INTEGRATE WITH IP NETWORK
	PA SYSTEM MAIN MICROPHONE TO INTEGRATE WITH PA SYSTEM MAIN CONTROL PANEL FOR ANNOUNCEMENTS
	PA SYSTEM INTERCOM SUB CONTROL PANEL/MICROPHONE ABLE TO COMMUNICATE TO RECEPTION (ADMIN)

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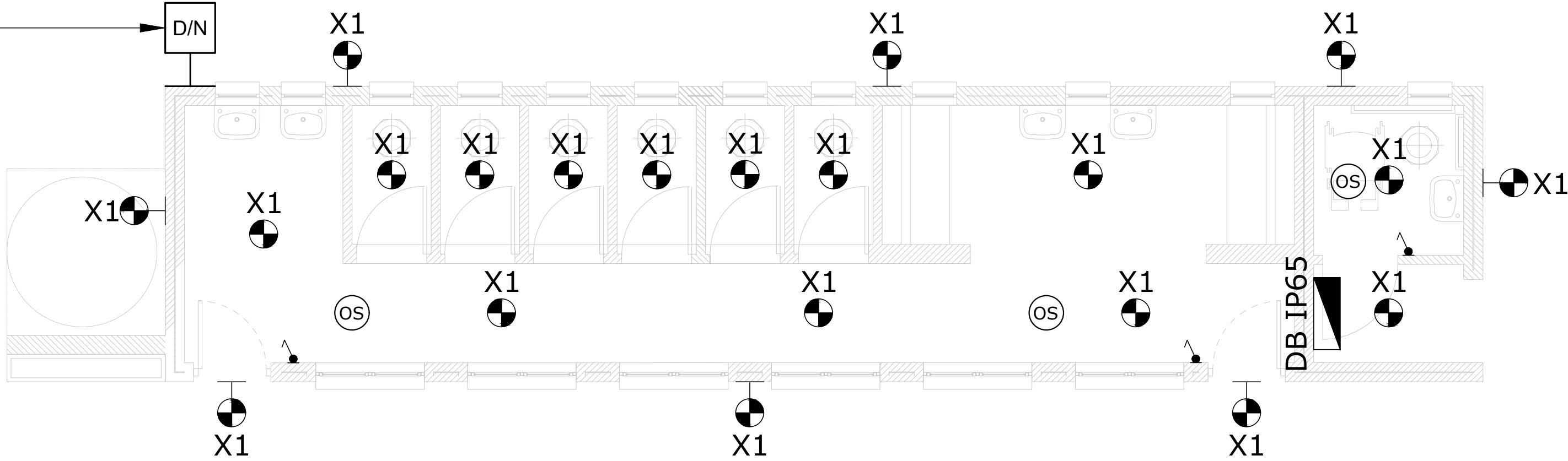
Drawing Title:
ADMIN BLOCK
FIRE DETECTION AND PA
SYSTEM LAYOUT

Prof. Registered Signature	Client Signature
Pr Tech 201170230	Designation
Niel Strachan	Name

Date:	August 2024	Designed:	Henry Heyns
Size:	A1	Drawn:	Henry Heyns
Scale:	1:75	Checked:	Niel Strachan
Building Occupancy:	TBC	Climate Zone:	TBC
Stage:	2	Sheet:	1 of 1

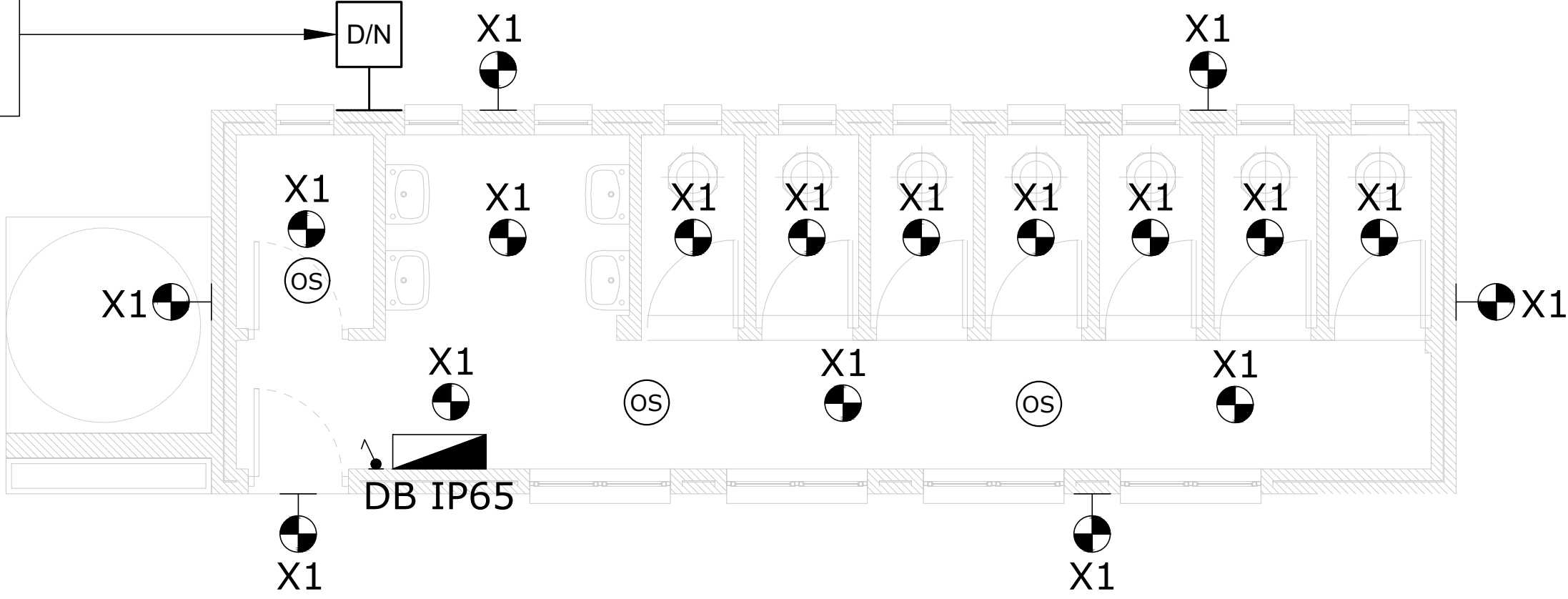
Project #:	Discipline:	Drawing #:	Rev:
7019507G	E	104	A
For:	CONCEPT DESIGN		

IP65 PHOTOCELL DAY/NIGHT SWITCH
MOUNTED DUE NORTH FOR CONTROL
OF EXTERNAL LIGHTS VIA CONTACTOR IN DB



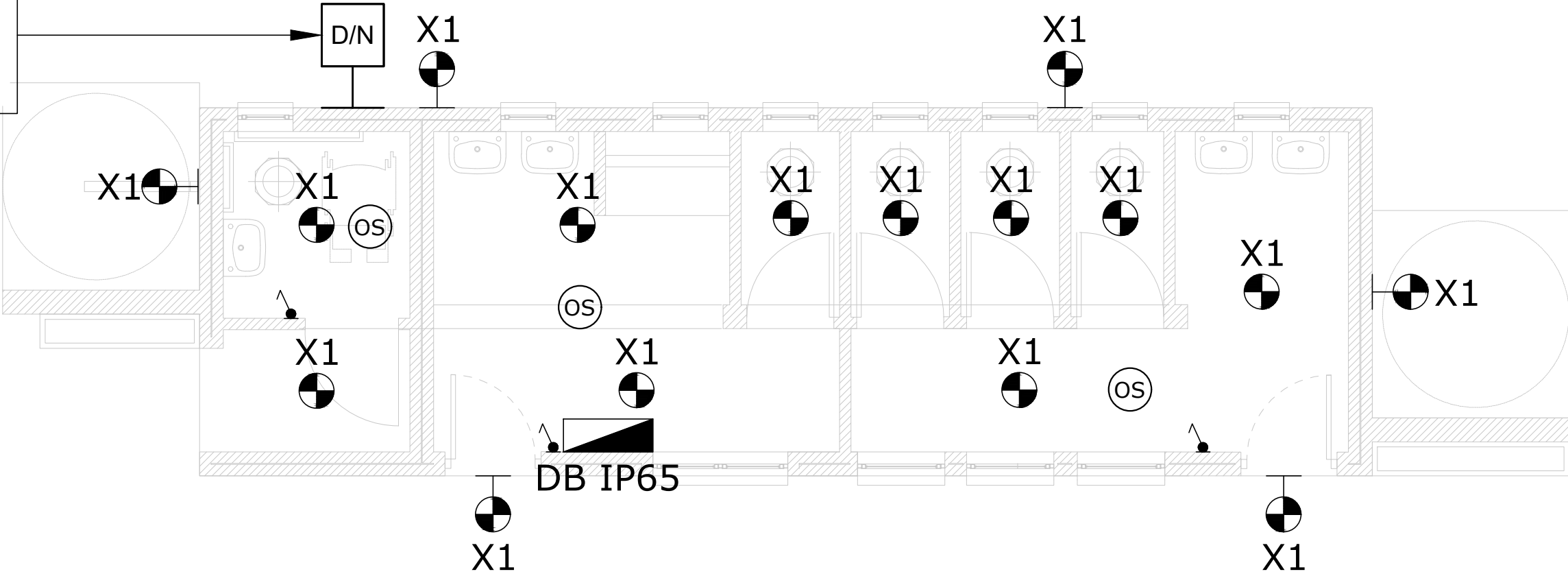
BOYS ABLUTIONS

IP65 PHOTOCELL DAY/NIGHT SWITCH
MOUNTED DUE NORTH FOR CONTROL
OF EXTERNAL LIGHTS VIA CONTACTOR IN DB



GIRLS ABLUTIONS

IP65 PHOTOCELL DAY/NIGHT SWITCH
MOUNTED DUE NORTH FOR CONTROL
OF EXTERNAL LIGHTS VIA CONTACTOR IN DB



STAFF ABLUTIONS

LIGHTING LEGEND	
SYMBOL	DESCRIPTION
	16A One-Lever, One Way Light Switch, Wall Recessed @ 1250mm AFFL
	16A Two-Lever, One Way Light Switch, Wall Recessed @ 1250mm AFFL
	16A One-Lever, One Way Light Switch, Wall Recessed @ 1250mm AFFL (Dim Switch)
	16A One-Lever, Two Way Light Switch, Wall Recessed @ 1250mm AFFL
	16A One-Lever, One Way, IP65, Weatherproof Light Switch, Wall Mounted, Surface Mounted @ 1250mm AFFL
	20W LED Bulkhead Luminaire, 2800lm, IP65, 4000K, Surface Mounted, White Finish (Lascon Roma Or Similar Approved)
	55W LED Flood Light Luminaire, 8119 lm, IP66, 4000K, High-Pressure Die-Cast Aluminium Housing, IK10, Surface Mounted With Stainless Steel Bracket And Bolts, (Beka LedFlood-Midi Or Similar Approved)
	35W Led Panel Luminaire, 600mm X 600mm, Recessed In Ceiling, 4000lm, 4000K (Beka Dari Or Similar Approved)
	30W 1165mm LED Linear Luminaire, 4441 lm, Surface Mounted, Vapour Proof, IP65, IK08 Polycarbonate Protector, Grey Finish (Beka Vapour Line Or Similar Approved)
	47W 1180mm LED Linear Luminaire, 6000 lm, Surface Mounted, Low Glare, 4000K, Dimmable LED Driver, CRI>80 (Lascon LP1-HO Or Similar Approved)
	35W 1260mm LED Linear Luminaire, 4500 lm, Surface Mounted, Low Glare, 4000K, Dimmable LED Driver, CRI>80 (Lascon SCL-W Or Similar Approved)
	60W 1500mm LED Linear Lowbay Luminaire, 8010 lm, Surface Mounted To Underside Of Suspended Cable Tray, Low Glare, 4000K, CRI>80 (Rubicon Thermisto Or Similar Approved)
	Electrical Distribution Board
	Day / Night Switch, IP65, UV Protected Enclosure
	10W LED Emergency Exit Luminaire (With 1h Battery Backup)
	Denotes Emergency Light with Local Battery Pack (30-minutes Autonomy)
	Occupancy Sensor

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Client:

Consultant:

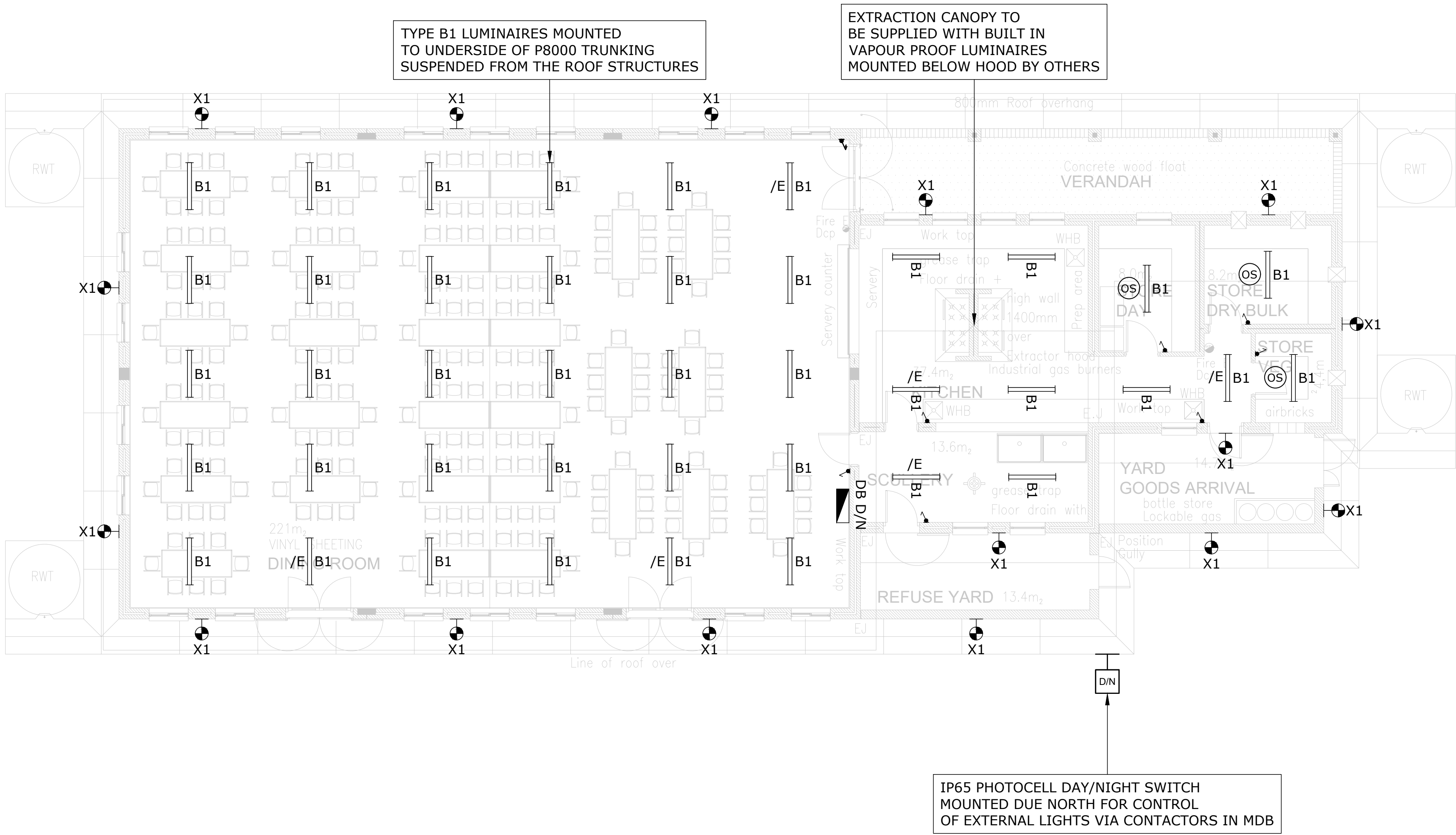
Tel: +27(0) 861 878 252
www.csmeng.co.za

ELECTRICAL

Project:
**RAPID INFRASTRUCTURE
PROGRAMME: PROPOSED
CONSTRUCTION OF PAKAMANI
SENIOR SECONDARY SCHOOL,
ENGCOBO**

**LEARNER AND STAFF
ABLUTIONS LIGHTING LAYOUT**

Prof. Registered Signature		Client Signature	
Pr Tech 201170230		Designation	
Niel Strachan		Name	
Date:	August 2024	Digned:	Henry Heyns
Size:	A1	Drawn:	Henry Heyns
Scale:	1:50	Checked:	Niel Strachan
Building Occupancy:	TBC	Climate Zone:	TBC
Stage:	2	Sheet:	1 of 1
Project #:	7019507G	Discipline:	E
Drawing #:	110	Rev:	A
For: CONCEPT DESIGN			



LIGHTING LEGEND	
SYMBOL	DESCRIPTION
	16A One-Lever, One Way Light Switch, Wall Recessed @ 1250mm AFFL
	16A Two-Lever, One Way Light Switch, Wall Recessed @ 1250mm AFFL
	16A One-Lever, One Way Light Switch, Wall Recessed @ 1250mm AFFL (Dim Switch)
	16A One-Lever, Two Way Light Switch, Wall Recessed @ 1250mm AFFL
	16A One-Lever, One Way, IP65, Weatherproof Light Switch, Wall Mounted, Surface Mounted @ 1250mm AFFL
	20W LED Bulkhead Luminaire, 2800lm, IP65, 4000K, Surface Mounted, White Finish (Lascon Roma Or Similar Approved)
	55W LED Flood Light Luminaire, 8119 lm, IP66, 4000K, High-Pressure Die-Cast Aluminium Housing, IK10, Surface Mounted With Stainless Steel Bracket And Bolts, (Beka LedFlood-Midi Or Similar Approved)
	35W Led Panel Luminaire, 600mm X 600mm, Recessed In Ceiling, 4000lm, 4000K (Beka Dari Or Similar Approved)
	30W 1165mm LED Linear Luminaire, 4441 lm, Surface Mounted, Vapour Proof, IP65, IK08 Polycarbonate Protector, Grey Finish (Beka Vapour Line Or Similar Approved)
	47W 1180mm LED Linear Luminaire, 6000 lm, Surface Mounted, Low Glare, 4000K, Dimmable LED Driver, CRI>80 (Lascon LP1-HO Or Similar Approved)
	35W 1260mm LED Linear Luminaire, 4500 lm, Surface Mounted, Low Glare, 4000K, Dimmable LED Driver, CRI>80 (Lascon SCL-W Or Similar Approved)
	60W 1500mm LED Linear Lowbay Luminaire, 8010 lm, Surface Mounted To Underside Of Suspended Cable Tray, Low Glare, 4000K, CRI>80 (Rubicon Thermisto Or Similar Approved)
	Electrical Distribution Board
	Day / Night Switch, IP65, UV Protected Enclosure
	10W LED Emergency Exit Luminaire (With 1h Battery Backup)
	Denotes Emergency Light with Local Battery Pack (30-minutes Autonomy)
	Occupancy Sensor

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Consultant:



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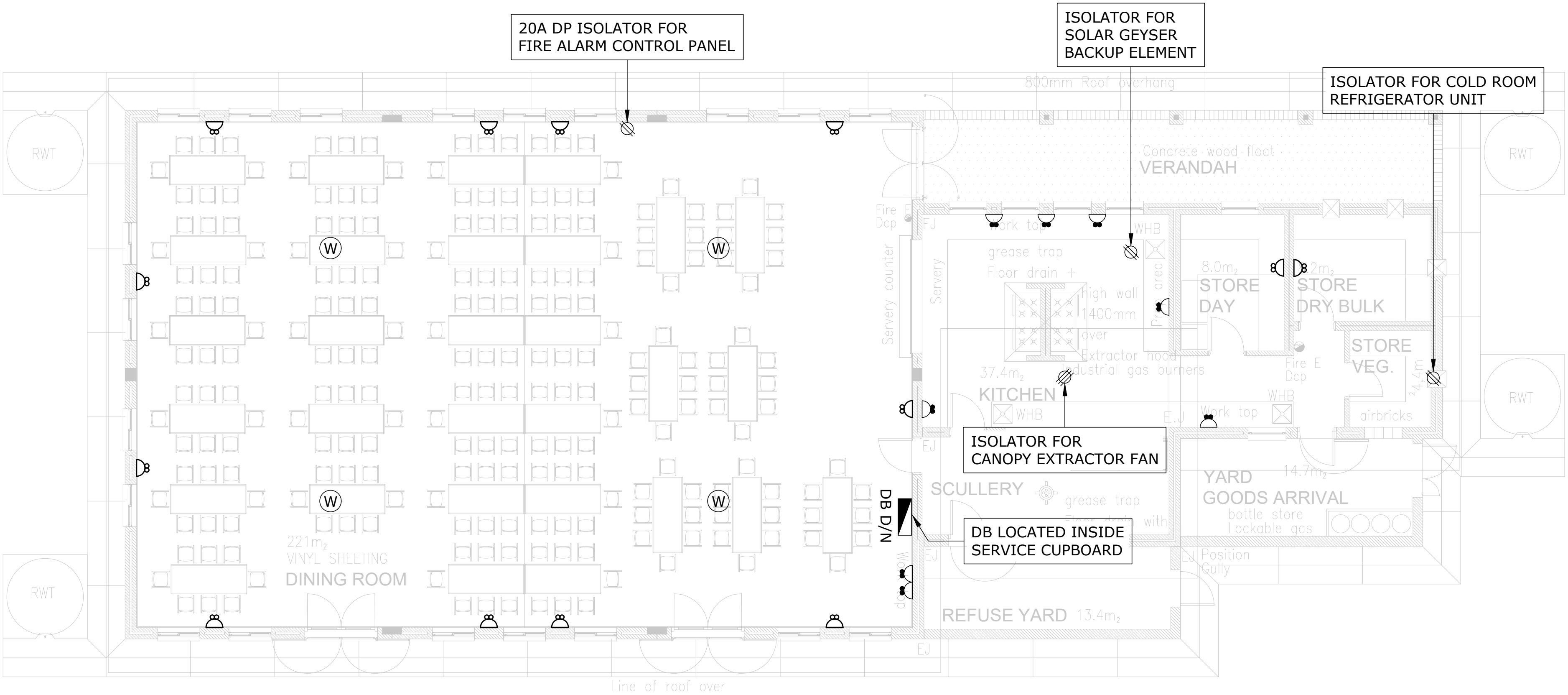
ELECTRICAL

Project:
RAPID INFRASTRUCTURE
PROGRAMME: PROPOSED
CONSTRUCTION OF PAKAMANI
SENIOR SECONDARY SCHOOL,
ENGCOBO

Drawing Title:

DINING AND NUTRITION CENTRE LIGHTING LAYOUT

Prof. Registered Signature		Client Signature	
			
Pr Tech 201170230		Designation	
Niel Strachan		Name	
Date:		Designed:	
August 2024		Henry Heyns	
Size:		Drawn:	
A1		Henry Heyns	
Scale:		Checked:	
1:75		Niel Strachan	
Building Occupancy:		Climate Zone:	
TBC		TBC	
Stage:		Sheet:	
2		1 of 1	
Project #:	Discipline:	Drawing #:	Rev:
7019507G	E	201	A
For: CONCEPT DESIGN			



SOCKET AND DATA OUTLET LEGEND	
SYMBOL	DESCRIPTION
	16A SANS 164-1/164-2 Combination SSO 300mm AFFL Recessed (Dedicated Red)
	16A SSO @ 300mm AFFL (SANS 164-1/2 Combination) Recessed
	16A SSO @ 1200mm AFFL (SANS 164-1/2 Combination) Recessed
	5-PIN 32A Industrial SSO, IP65 @ 1200mm AFFL
	16A SANS 164-1 SSO Recessed In Power Skirting (Dedicated Red)
	16A SANS 164-1 SSO Recessed In Power Skirting
	HDMI Outlet Wall Recessd Or Mounted To PVC Skirting
	1 x RJ45 Outlet Mounted In Power Skirting 1 x RJ11 Outlet Mounted In Power Skirting
	10A SANS 164-2 SSO, Recessed in Power Skirting
	2 Compartment Heavy Duty PVC Power Skirting (Grey) Surface Mounted At 300mm Above FFL
	Distribution Board At 1800mm From FFL To Top Of Board (Minimum 1600mm From FFL)
	DP 230V Isolator, Ampere Rating As Shown, Mounted Adjacent To Fixed Equipment
	TP 400V Isolator, Ampere Rating As Shown, Mounted Adjacent To Fixed Equipment
	5-PIN 32A Industrial SSO, IP65 @ 1200mm AFFL
	Recessed Floor Box: 3 x 8 Module - 2 x 16A SSO (Normal SANS 164-1) - 4 x 16A SSO (Dedicated SANS 164-1) - 4 x 10A SSO (Normal SANS 164-2) - 4 x RJ45 Outlets
	PVC Conduit Cast In Floor Slab To Feed To Floor Box System: - 2 x 250mm - 2 x 320mm
	RJ-45 and RJ-11 Data/Telephone Outlet Combination Wall Recessed At 300mm AFFL
	WIFI Access Point In Ceiling/WIFI Router
	DENOTES ISOLATOR FOR AIRCON UNIT
	DENOTES ISOLATOR FOR HEAT PUMP
	DENOTES ISOLATOR FOR FAN

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Consultant:

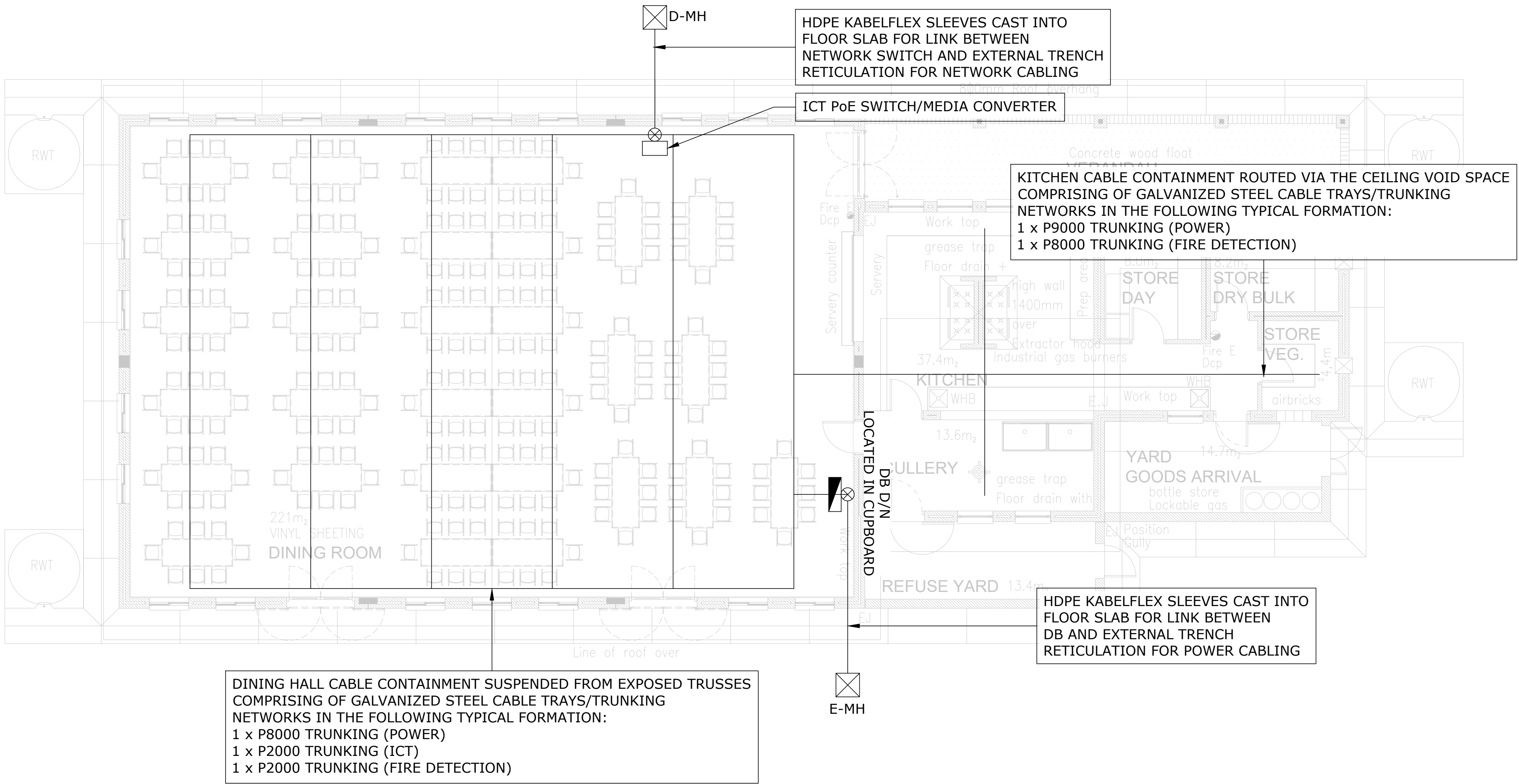
Tel: +27(0) 861 878 252
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ELECTRICAL

Project:
RAPID INFRASTRUCTURE
PROGRAMME: PROPOSED
CONSTRUCTION OF PAKAMANI
SENIOR SECONDARY SCHOOL,
ENGCOBO

Drawing Title:
DINING AND NUTRITION
CENTRE
SOCKET OUTLET LAYOUT

Prof. Registered Signature		Client Signature	
Pr Tech 201170230		Designation	
Niel Strachan		Name	
Date:	August 2024	Designed:	Henry Heyns
Size:	A1	Drawn:	Henry Heyns
Scale:	1:75	Checked:	Niel Strachan
Building Occupancy:	TBC	Climate Zone:	TBC
Stage:	2	Sheet:	1 of 1
Project #:	7019507G	Discipline:	E
Drawing #:	202	Rev:	A
For: CONCEPT DESIGN			



ELECTRICAL RETICULATION LEGEND	
SYMBOL	DESCRIPTION
	1 x P9000 GALVANIZED STEEL TRUNKING 1 x P8000 GALVANIZED STEEL TRUNKING 1 x 200mm STEEL CABLE MESH BASKET (UNLESS STATED OTHERWISE)
	ELECTRICAL TRENCH/SLEEVE NETWORK
	LV DISTRIBUTION BOARD
	ELECTRICAL MANHOLE OR DATA MANHOLE
	CONTAINMENT RISER/DROP FOR VERTICAL RETICULATION IN SERVICE SHAFT

A	14/08/2024	Issued For Information
NO	DATE	AMENDMENT

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www.csmeng.co.za

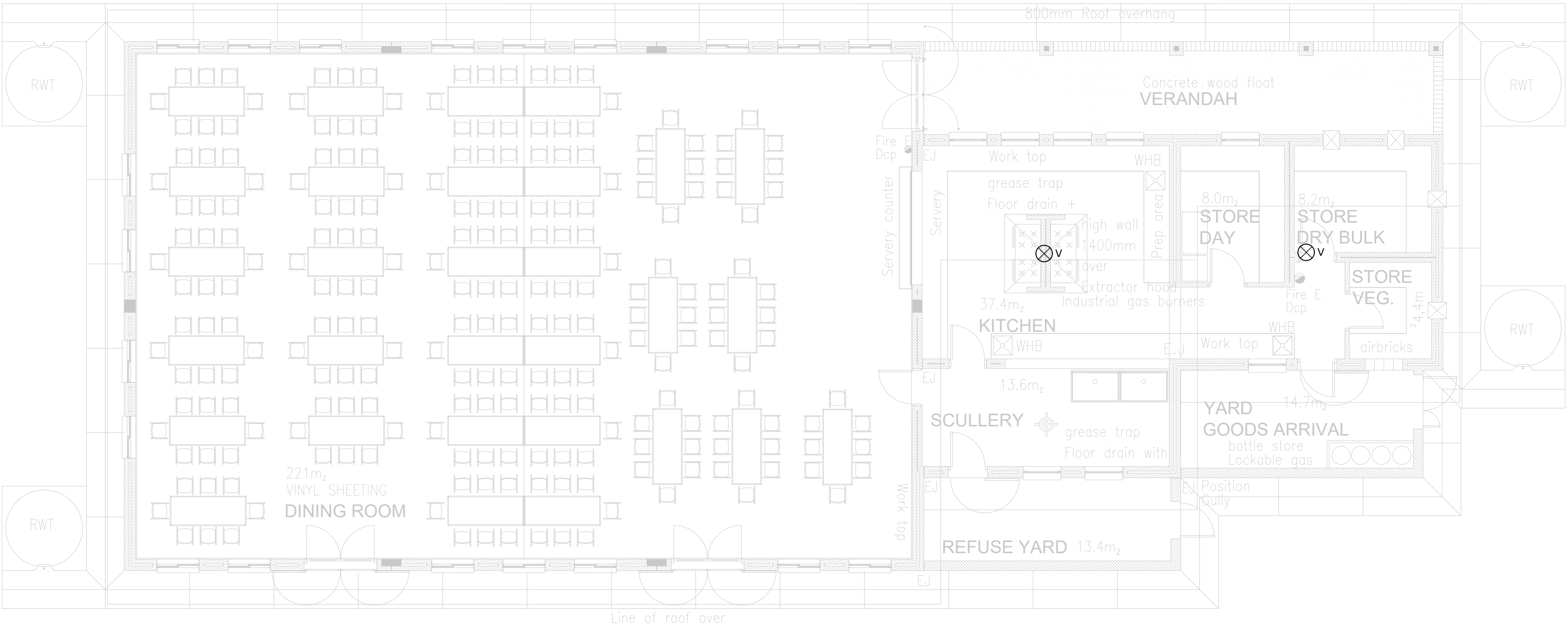
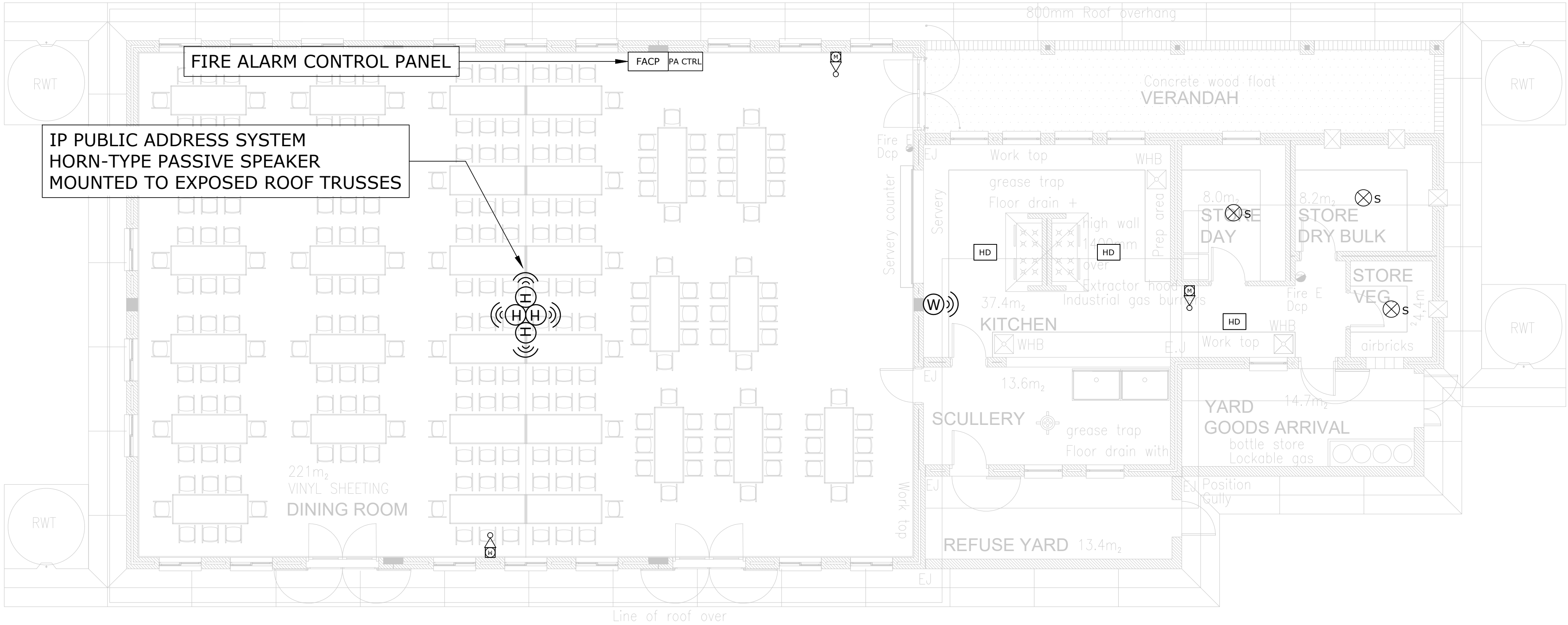
ELECTRICAL

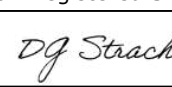
Project:
**RAPID INFRASTRUCTURE
PROGRAMME: PROPOSED
CONSTRUCTION OF PAKAMANI
SENIOR SECONDARY SCHOOL,
ENGCOBO**

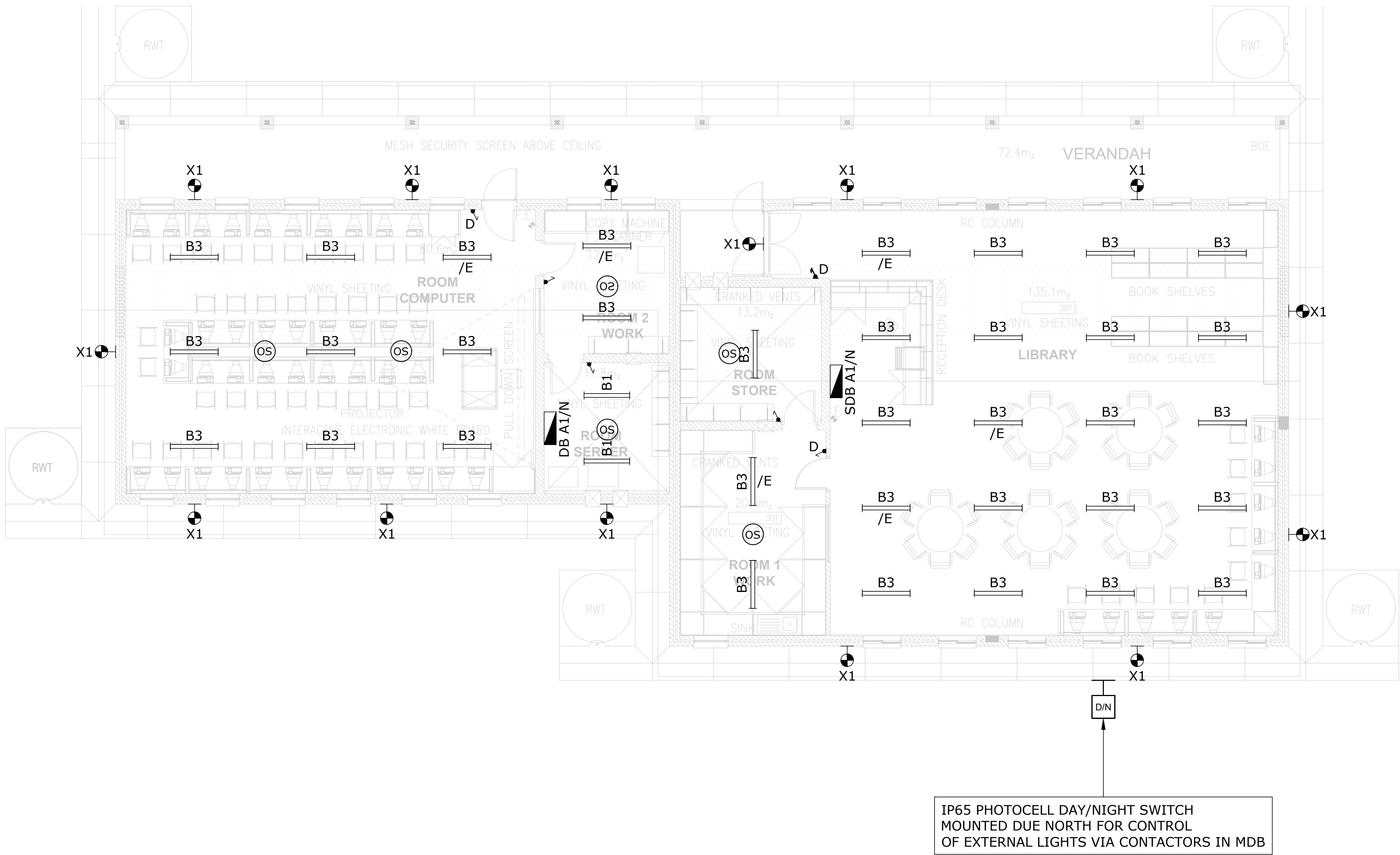
Drawing Title:

**DINING AND NUTRITION
CENTRE
RETICULATION LAYOUT**

Prof. Registered Signature		Client Signature	
Pr Tech 201170230		Designation	
Niel Strachan		Name	
Date:	August 2024	Designed:	Henry Heyns
Size:	A1	Drawn:	Henry Heyns
Scale:	1:100	Checked:	Niel Strachan
Building Occupancy:	TBC	Climate Zone:	TBC
Stage:	2	Sheet:	1 of 1
Project #:	Discipline:	Drawing #:	Rev:
7019507G	E	203	A
For: CONCEPT DESIGN			



FIRE DETECTION LEGEND		
SYMBOL	DESCRIPTION	
	SMOKE DETECTOR SURFACE MOUNTED TO CEILING	
	FIRE ALARM CONTROL PANEL RECESSED AT A HEIGHT OF 1600mm TO CENTRE FROM FFL COMPLETE WITH OPTIC FIBRE TO COPPER MEDIA CONVERTER	
	MANUAL FIRE ALARM, RED BREAK GLASS UNIT, SURFACE MOUNTED TO WALL AT 1600mm ABOVE FFL	
	HEAT DETECTOR SURFACE MOUNTED TO CEILING	
	ALARM SOUNDER AND STROBE UNIT SURFACE MOUNTED TO WALL ABOVE MANUAL BREAK GLASS AT 2100mm ABOVE FFL OR SURFACE MOUNTED TO CEILING	
	VOID DETECTOR MOUNTED IN CEILING SPACE	
	LINE RELAY - ADDRESSABLE FOR INTERFACING WITH ACCESS CONTROL DOORS AND MECH HVAC	
PA SYSTEM LEGEND		
SYMBOL	DESCRIPTION	
	6W 6-INCH CEILING-RECESSED ROUND PA SYSTEM LOUDSPEAKER	
	SURFACE MOUNTED HORN TYPE PA SYSTEM LOUDSPEAKER	
	WALL-MOUNTED PA SYSTEM LOUDSPEAKER	
	PA SYSTEM AMPLIFIER/CONTROL PANEL/BASE STATION TO INTEGRATE WITH IP NETWORK	
	PA SYSTEM MAIN MICROPHONE TO INTEGRATE WITH PA SYSTEM MAIN CONTROL PANEL FOR ANNOUNCEMENTS	
	PA SYSTEM INTERCOM SUB CONTROL PANEL/MICROPHONE ABLE TO COMMUNICATE TO RECEPTION (ADMIN)	
A	14/08/2024	Issued For Information
NO	DATE	AMENDMENT
Client:		
		
Consultant:		
		
Tel: +27(0) 861 878 252 www.csmeng.co.za		
ELECTRICAL		
Project: RAPID INFRASTRUCTURE PROGRAMME: PROPOSED CONSTRUCTION OF PAKAMANI SENIOR SECONDARY SCHOOL, ENGCOBO		
Drawing Title: DINING AND NUTRITION CENTRE FIRE DETECTION AND PA SYSTEM LAYOUT		
Prof. Registered Signature		Client Signature
		
Pr Tech 201170230 Niel Strachan		Designation Name
Date: August 2024	Designed: Henry Heyns	
Size: A1	Drawn: Henry Heyns	
Scale: 1:75	Checked: Niel Strachan	
Building Occupancy: TBC	Climate Zone: TBC	
Stage: 2	Sheet: 1 of 1	
Project #: 7019507G	Discipline: E	Drawing #: 204
Rev: A	For: CONCEPT DESIGN	



LIGHTING LEGEND	
SYMBOL	DESCRIPTION
	16A One-Lever, One Way Light Switch, Wall Recessed @ 1250mm AFFL
	16A Two-Lever, One Way Light Switch, Wall Recessed @ 1250mm AFFL
	16A One-Lever, One Way Light Switch, Wall Recessed @ 1250mm AFFL (Dim Switch)
	16A One-Lever, Two Way Light Switch, Wall Recessed @ 1250mm AFFL
	16A One-Lever, One Way, IP65, Weatherproof Light Switch, Wall Mounted, Surface Mounted @ 1250mm AFFL
	20W LED Bulkhead Luminaire, 2800lm, IP65, 4000K, Surface Mounted, White Finish (Lascon Roma Or Similar Approved)
	55W LED Flood Light Luminaire, 8119 lm, IP65, 4000K, High-Pressure Die-Cast Aluminium Housing, 1K10, Surface Mounted With Stainless Steel Bracket And Bolts, (Beka LedFlood-Midi Or Similar Approved)
	35W Led Panel Luminaire, 600mm X 600mm, Recessed In Ceiling, 4000lm, 4000K (Beka Dari Or Similar Approved)
	30W 1165mm LED Linear Luminaire, 4441 lm, Surface Mounted, Low Glare, 4000K, Dimmable LED Driver, CRI>80 (Lascon LP1-HO Or Similar Approved)
	47W 1180mm LED Linear Luminaire, 6000 lm, Surface Mounted, Low Glare, 4000K, Dimmable LED Driver, CRI>80 (Lascon LP1-HO Or Similar Approved)
	35W 1260mm LED Linear Luminaire, 4500 lm, Surface Mounted, Low Glare, 4000K, Dimmable LED Driver, CRI>80 (Lascon SCL-W Or Similar Approved)
	60W 1500mm LED Linear Lowbay Luminaire, 8010 lm, Surface Mounted To Underside Of Suspended Cable Tray, Low Glare, 4000K, CRI>80 (Rubicon Thermisto Or Similar Approved)
	Electrical Distribution Board
	Day / Night Switch, IP65, UV Protected Enclosure
	10W LED Emergency Exit Luminaire (With 1h Battery Backup)
	Denotes Emergency Light with Local Battery Pack (30-minutes Autonomy)
	Occupancy Sensor

A	14/08/2024	Issued For Information
NO	DATE	AMENDMENT

Client:

Consultant:

Tel: +27(0) 861 878 252
www.csmeng.co.za

ELECTRICAL

Project:
RAPID INFRASTRUCTURE PROGRAMME: PROPOSED CONSTRUCTION OF PAKAMANI SENIOR SECONDARY SCHOOL, ENGCOBO

Drawing Title:
LIBRARY & COMPUTER LAB LIGHTING LAYOUT

Prof. Registered Signature		Client Signature	
Pr Tech 201170230		Designation	
Niel Strachan		Name	
Date:	August 2024	Designed:	Henry Heyns
Size:	A1	Drawn:	Henry Heyns
Scale:	1:75	Checked:	Niel Strachan
Building Occupancy:	TBC	Climate Zone:	TBC
Stage:	2	Sheet:	1 of 1
Project #:	Discipline:	Drawing #:	Rev:
7019507G	E	301	A
For: CONCEPT DESIGN			

SOCKET AND DATA OUTLET LEGEND	
SYMBOL	DESCRIPTION
	16A SANS 164-1/164-2 Combination SSO 300mm AFFL Recessed (Dedicated Red)
	16A SSO @ 300mm AFFL (SANS 164-1/2 Combination) Recessed
	16A SSO @ 1200mm AFFL (SANS 164-1/2 Combination) Recessed
	5-PIN 32A Industrial SSO, IP65 @ 1200mm AFFL
	16A SANS 164-1 SSO Recessed In Power Skirting (Dedicated Red)
	16A SANS 164-1 SSO Recessed In Power Skirting
	HDMI Outlet Wall Recessed Or Mounted To PVC Skirting
	1 x RJ45 Outlet Mounted In Power Skirting 1 x RJ11 Outlet Mounted In Power Skirting
	10A SANS 164-2 SSO, Recessed In Power Skirting
	2 Compartment Heavy Duty PVC Power Skirting (Grey) Surface Mounted At 300mm Above FFL
	Distribution Board At 1800mm From FFL To Top Of Board (Minimum 1600mm From FFL)
	DP 230V Isolator, Ampere Rating As Shown, Mounted Adjacent To Fixed Equipment
	TP 400V Isolator, Ampere Rating As Shown, Mounted Adjacent To Fixed Equipment
	5-PIN 32A Industrial SSO, IP65 @ 1200mm AFFL
	Recessed Floor Box: 3 x 8 Module - 2 x 16A SSO (Normal SANS 164-1) - 4 x 16A SSO (Dedicated SANS 164-1) - 4 x 10A SSO (Normal SANS 164-2) - 4 x RJ45 Outlets
	PVC Conduit Cast In Floor Slab To Feed To Floor Box System: - 2 x 250mm - 2 x 320mm
	RJ-45 and RJ-11 Data/Telephone Outlet Combination Wall Recessed At 300mm AFFL
	WIFI Access Point In Ceiling/WIFI Router
	DENOTES ISOLATOR FOR AIRCON UNIT
	DENOTES ISOLATOR FOR HEAT PUMP
	DENOTES ISOLATOR FOR FAN

A	14/08/2024	Issued For Information
NO	DATE	AMENDMENT

Client:



Consultant:



Tel: +27(0) 861 878 252

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ELECTRICAL

Project:

**RAPID INFRASTRUCTURE
PROGRAMME: PROPOSED
CONSTRUCTION OF PAKAMANI
SENIOR SECONDARY SCHOOL,
ENGCOBO**

Drawing Title:

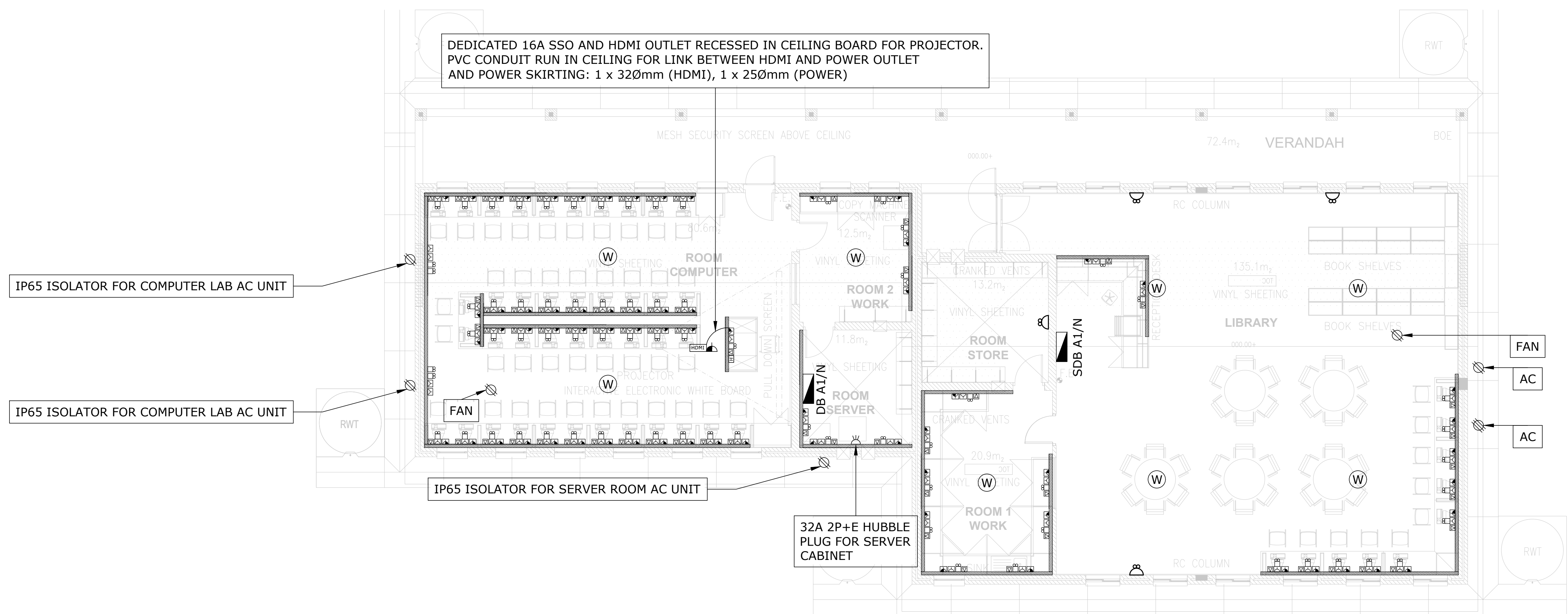
LIBRARY & COMPUTER LAB
 SOCKET OUTLET LAYOUT

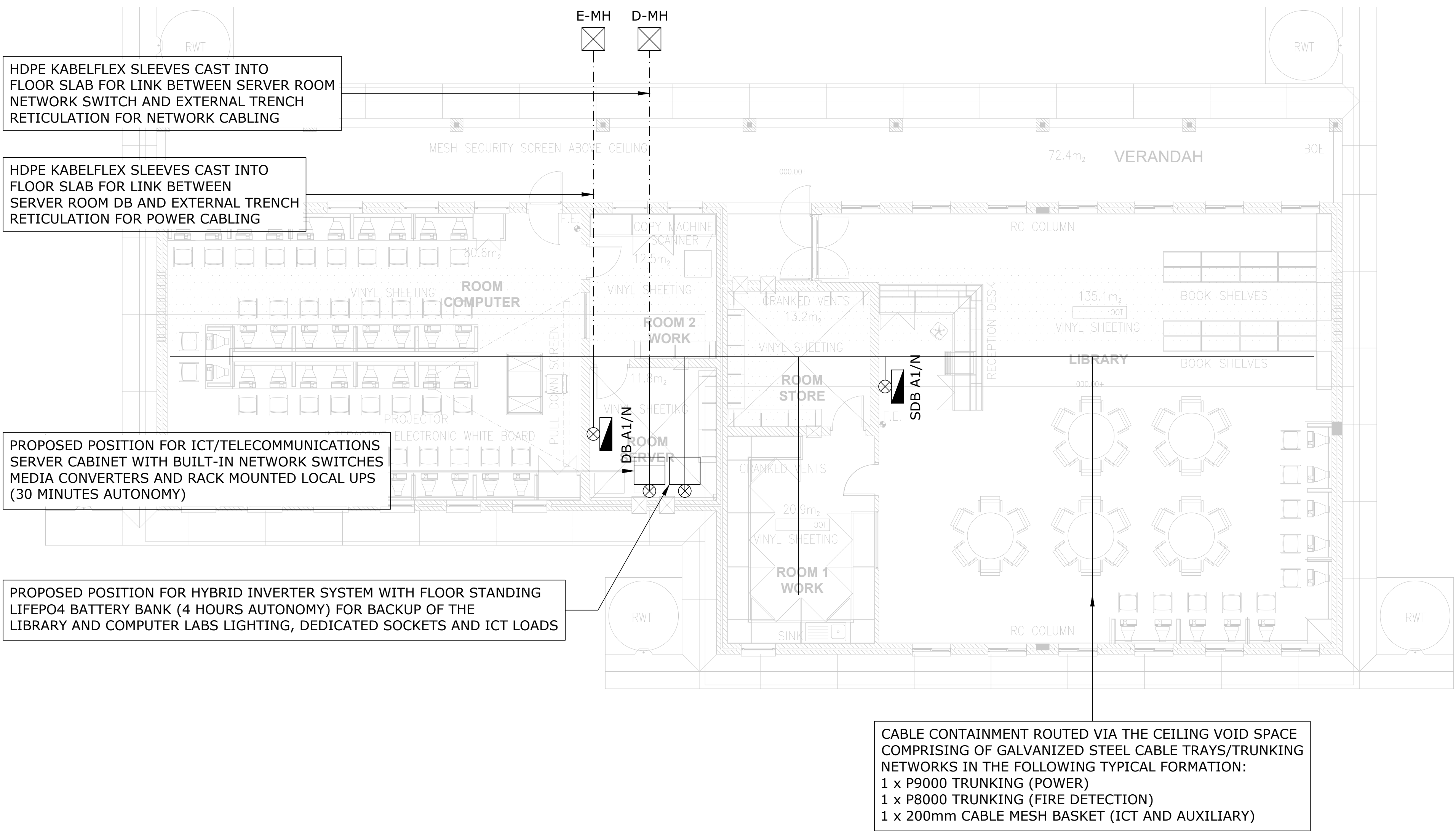
Prof. Registered Signature	Client Signature
<i>DJ Strachan</i>	
Pr Tech 201170230	Designation
Niel Strachan	Name

Date: August 2024	Designed: Henry Heyns
Size: A1	Drawn: Henry Heyns
Scale: 1:75	Checked: Niel Strachan
Building Occupancy: TBC	Climate Zone: TBC
Stage: 2	Sheet: 1 of 1

Project #:	Discipline:	Drawing #:	Rev:
7019507G	E	302	A

For: **CONCEPT DESIGN**





ELECTRICAL RETICULATION LEGEND	
SYMBOL	DESCRIPTION
	1 x P9000 GALVANIZED STEEL TRUNKING 1 x P8000 GALVANIZED STEEL TRUNKING 1 x 200mm STEEL CABLE MESH BASKET (UNLESS STATED OTHERWISE)
	ELECTRICAL TRENCH/SLEEVE NETWORK
	LV DISTRIBUTION BOARD
	ELECTRICAL MANHOLE OR DATA MANHOLE
	CONTAINMENT RISER/DROP FOR VERTICAL RETICULATION IN SERVICE SHAFT

A	14/08/2024	Issued For Information
NO	DATE	AMENDMENT

Client:

Consultant:

Tel: +27(0) 861 878 252
www.csmeng.co.za

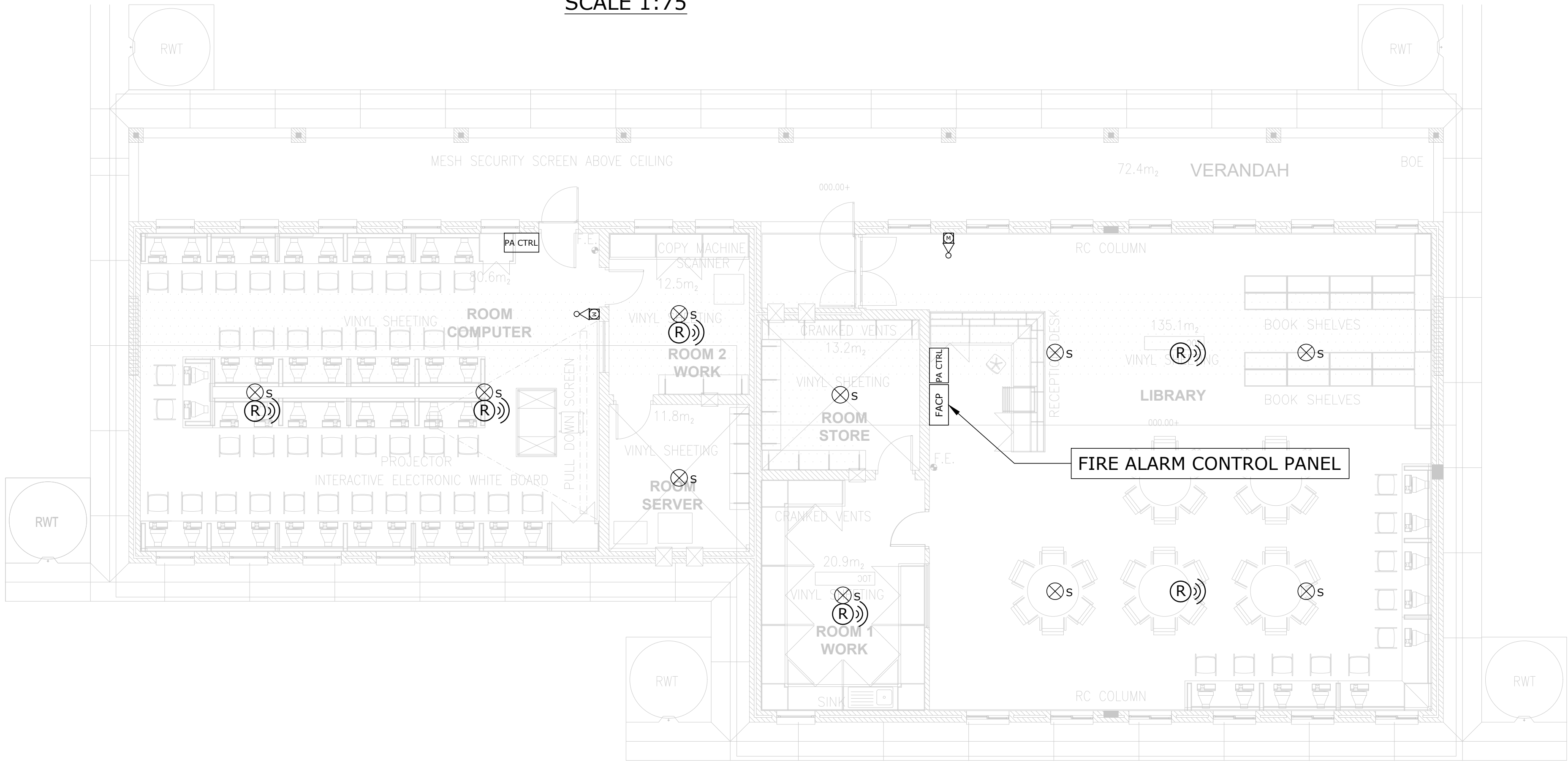
ELECTRICAL

Project:
RAPID INFRASTRUCTURE PROGRAMME: PROPOSED CONSTRUCTION OF PAKAMANI SENIOR SECONDARY SCHOOL, ENGCOBO

Drawing Title:
LIBRARY & COMPUTER LAB RETICULATION LAYOUT

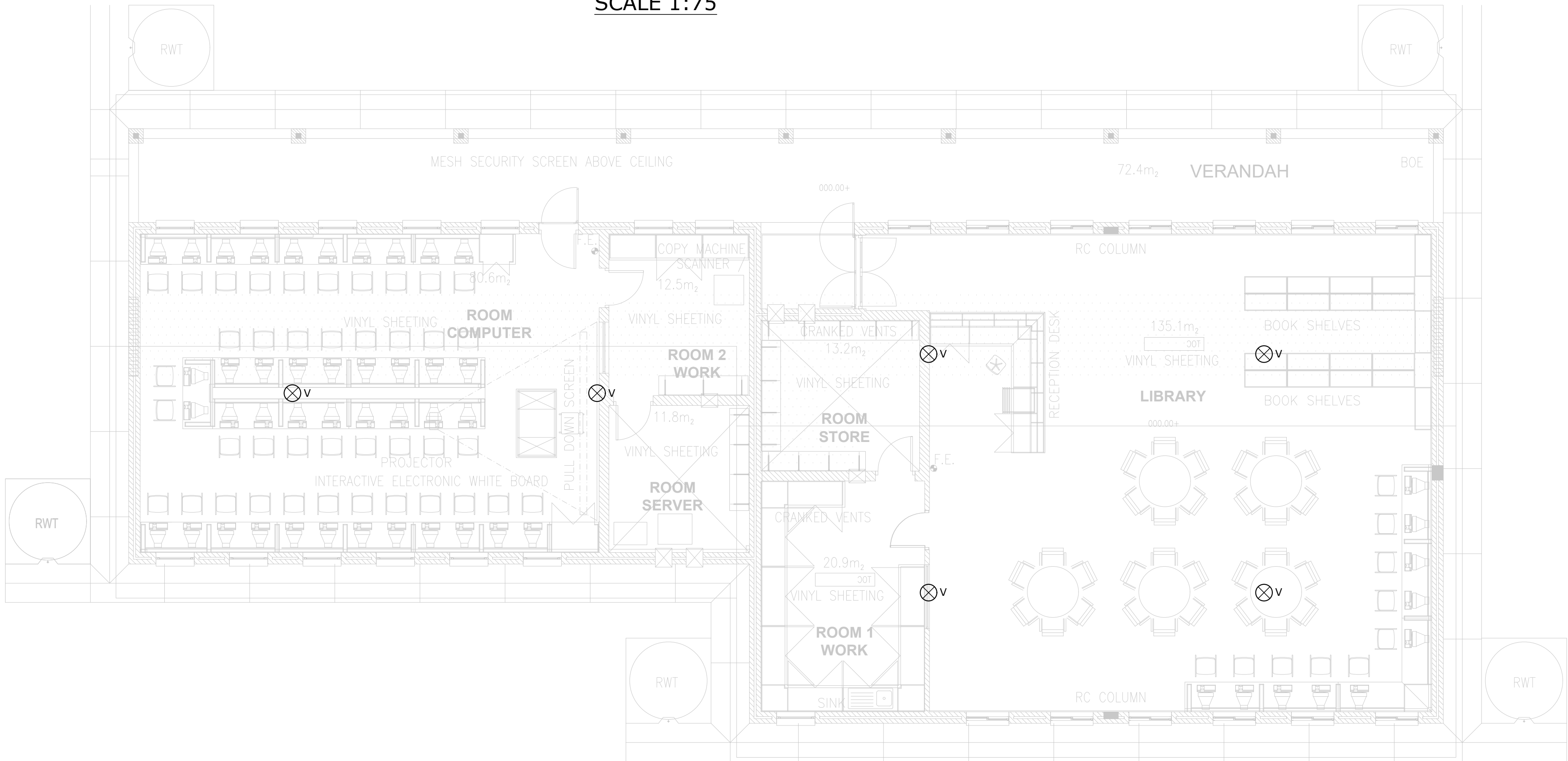
Prof. Registered Signature		Client Signature	
Pr Tech 201170230		Designation	
Niel Strachan		Name	
Date:	August 2024	Designed:	Henry Heyns
Size:	A1	Drawn:	Henry Heyns
Scale:	1:100	Checked:	Niel Strachan
Building Occupancy:	TBC	Climate Zone:	TBC
Stage:	2	Sheet:	1 of 1
Project #:	Discipline:	Drawing #:	Rev:
7019507G	E	303	A
For: CONCEPT DESIGN			

LIBRARY AND COMPUTER LAB FLOOR PLAN
SCALE 1:75



FIRE DETECTION LEGEND	
SYMBOL	DESCRIPTION
	SMOKE DETECTOR SURFACE MOUNTED TO CEILING
	FIRE ALARM CONTROL PANEL RECESSED AT A HEIGHT OF 1600mm TO CENTRE FROM FFL COMPLETE WITH OPTIC FIBRE TO COPPER MEDIA CONVERTER
	MANUAL FIRE ALARM, RED BREAK GLASS UNIT, SURFACE MOUNTED TO WALL AT 1600mm ABOVE FFL
	HEAT DETECTOR SURFACE MOUNTED TO CEILING
	ALARM SOUNDER AND STROBE UNIT SURFACE MOUNTED TO WALL ABOVE MANUAL BREAK GLASS AT 2100mm ABOVE FFL OR SURFACE MOUNTED TO CEILING
	VOID DETECTOR MOUNTED IN CEILING SPACE
	LINE RELAY - ADDRESSABLE FOR INTERFACING WITH ACCESS CONTROL DOORS AND MECH HVAC
PA SYSTEM LEGEND	
SYMBOL	DESCRIPTION
	6W 6-INCH CEILING-RECESSED ROUND PA SYSTEM LOUDSPEAKER
	SURFACE MOUNTED HORN TYPE PA SYSTEM LOUDSPEAKER
	WALL-MOUNTED PA SYSTEM LOUDSPEAKER
	PA SYSTEM AMPLIFIER/CONTROL PANEL/BASE STATION TO INTEGRATE WITH IP NETWORK
	PA SYSTEM MAIN MICROPHONE TO INTEGRATE WITH PA SYSTEM MAIN CONTROL PANEL FOR ANNOUNCEMENTS
	PA SYSTEM INTERCOM SUB CONTROL PANEL/MICROPHONE ABLE TO COMMUNICATE TO RECEPTION (ADMIN)

LIBRARY AND COMPUTER LAB CEILING VOID DETECTION
SCALE 1:75



A	14/08/2024	Issued For Information
NO	DATE	AMENDMENT

Client:

Consultant:

Tel: +27(0) 861 878 252
www.csmeng.co.za

ELECTRICAL

Project:
RAPID INFRASTRUCTURE PROGRAMME: PROPOSED CONSTRUCTION OF PAKAMANI SENIOR SECONDARY SCHOOL, ENGCOBO

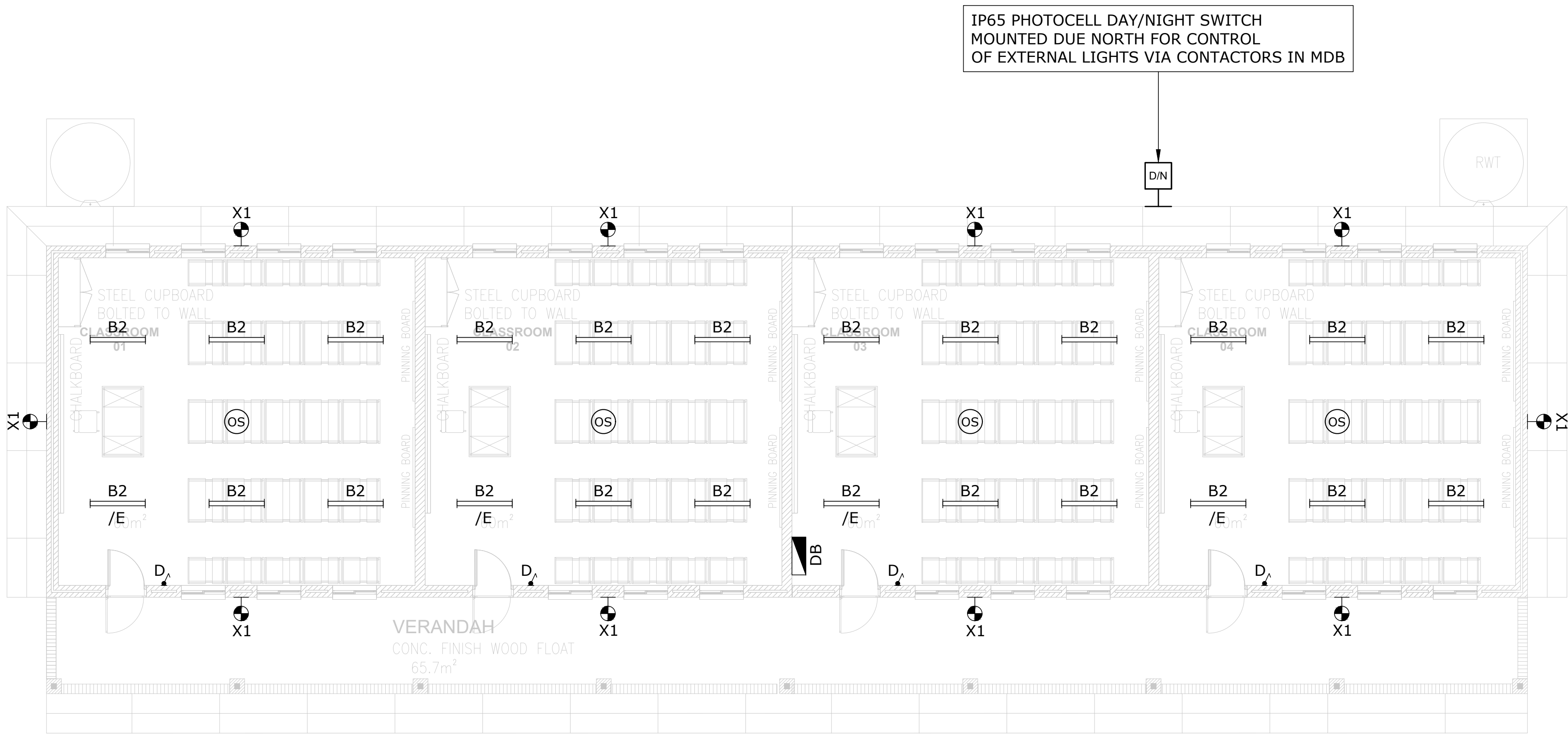
Drawing Title:
LIBRARY & COMPUTER LAB FIRE DETECTION AND PA SYSTEM LAYOUT

Prof. Registered Signature <i>Niel Strachan</i>	Client Signature
Pr Tech 201170230 Niel Strachan	Designation Name

Date: August 2024	Designed: Henry Heyns
Size: A1	Drawn: Henry Heyns
Scale: 1:75	Checked: Niel Strachan
Building Occupancy: TBC	Climate Zone: TBC
Stage: 2	Sheet: 1 of 1

Project #: 7019507G	Discipline: E	Drawing #: 304	Rev: A
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For: **CONCEPT DESIGN**



LIGHTING LEGEND	
SYMBOL	DESCRIPTION
	16A One-Lever, One Way Light Switch, Wall Recessed @ 1250mm AFFL
	16A Two-Lever, One Way Light Switch, Wall Recessed @ 1250mm AFFL
	16A One-Lever, One Way Light Switch, Wall Recessed @ 1250mm AFFL (Dim Switch)
	16A One-Lever, Two Way Light Switch, Wall Recessed @ 1250mm AFFL
	16A One-Lever, One Way, IP65, Weatherproof Light Switch, Wall Mounted, Surface Mounted @ 1250mm AFFL
	20W LED Bulkhead Luminaire, 2800lm, IP65, 4000K, Surface Mounted, White Finish (Lascon Roma Or Similar Approved)
	55W LED Flood Light Luminaire, 8119 lm, IP65, 4000K, High-Pressure Die-Cast Aluminium Housing, IK10, Surface Mounted With Stainless Steel Bracket And Bolts, (Beka LedFlood-Midi Or Similar Approved)
	35W Led Panel Luminaire, 600mm X 600mm, Recessed In Ceiling, 4000lm, 4000K (Beka Dari Or Similar Approved)
	30W 1165mm LED Linear Luminaire, 4441 lm, Surface Mounted, Vapour Proof, IP65, IK08 Polycarbonate Protector, Grey Finish (Beka Vapour Line Or Similar Approved)
	47W 1180mm LED Linear Luminaire, 6000 lm, Surface Mounted, Low Glare, 4000K, Dimmable LED Driver, CRI>80 (Lascon LP1-HO Or Similar Approved)
	35W 1260mm LED Linear Luminaire, 4500 lm, Surface Mounted, Low Glare, 4000K, Dimmable LED Driver, CRI>80 (Lascon SCL-W Or Similar Approved)
	60W 1500mm LED Linear Lowbay Luminaire, 8010 lm, Surface Mounted To Underside Of Suspended Cable Tray, Low Glare, 4000K, CRI>80 (Rubicon Thermisto Or Similar Approved)
	Electrical Distribution Board
	Day / Night Switch, IP65, UV Protected Enclosure
	10W LED Emergency Exit Luminaire (With 1h Battery Backup)
	Denotes Emergency Light with Local Battery Pack (30-minutes Autonomy)
	Occupancy Sensor

A	14/08/2024	Issued For Information
NO	DATE	AMENDMENT

Client:

Consultant:

Tel: +27(0) 861 878 252
www.csmeng.co.za

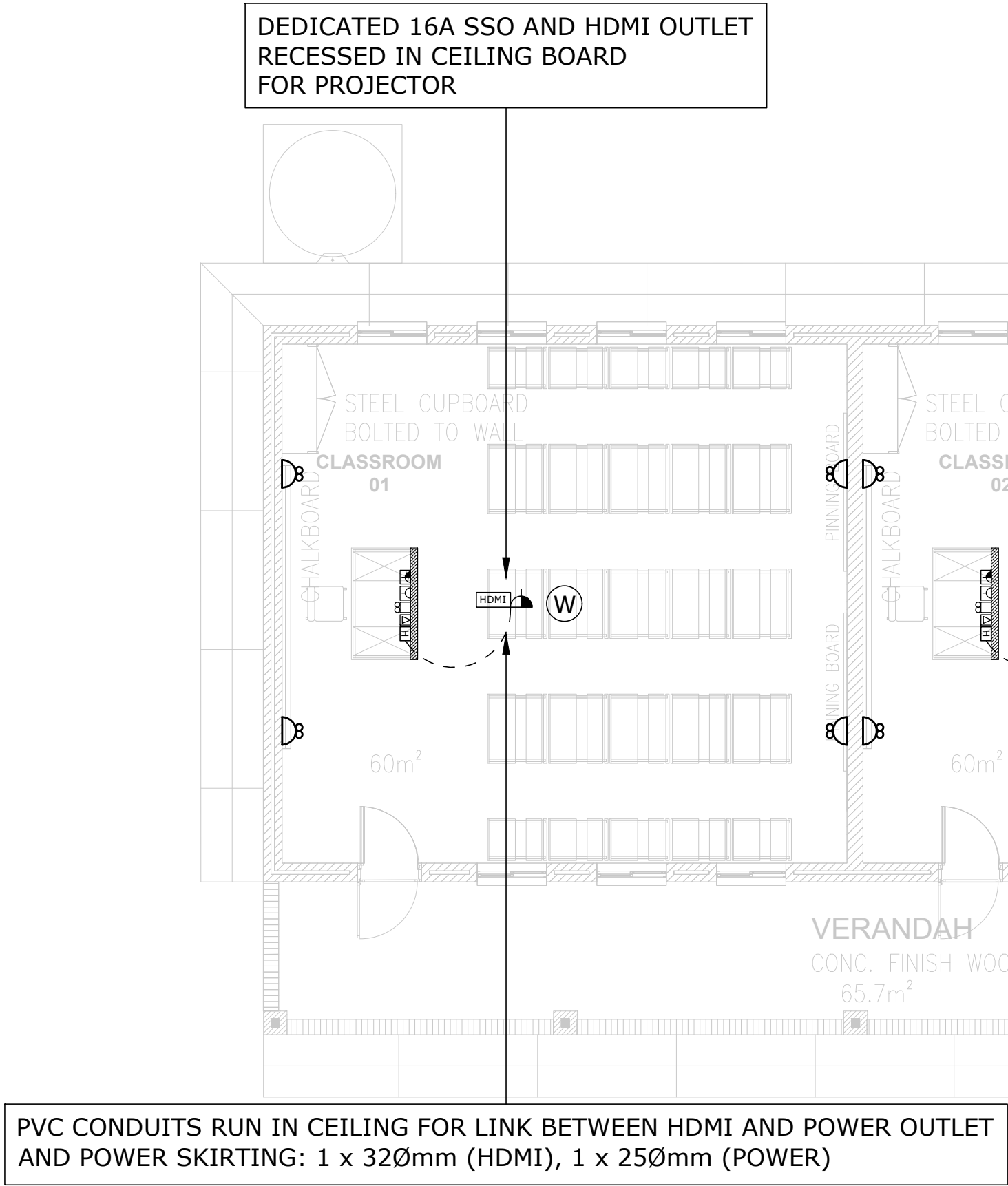
ELECTRICAL

Project:
RAPID INFRASTRUCTURE
PROGRAMME: PROPOSED
CONSTRUCTION OF PAKAMANI
SENIOR SECONDARY SCHOOL,
ENGCOBO

Drawing Title:

CLASSROOM BLOCK
LIGHTING LAYOUT

Prof. Registered Signature		Client Signature	
Pr Tech 201170230		Designation	
Niel Strachan		Name	
Date: August 2024		Designed: Henry Heyns	
Size: A1		Drawn: Henry Heyns	
Scale: 1:75		Checked: Niel Strachan	
Building Occupancy: TBC		Climate Zone: TBC	
Stage: 2		Sheet: 1 of 1	
Project #:	Discipline:	Drawing #:	Rev:
7019507G	E	401	A
For: CONCEPT DESIGN			



SOCKET AND DATA OUTLET LEGEND	
SYMBOL	DESCRIPTION
	16A SANS 164-1/164-2 Combination SSO 300mm AFFL Recessed (Dedicated Red)
	16A SSO @ 300mm AFFL (SANS 164-1/2 Combination) Recessed
	16A SSO @ 1200mm AFFL (SANS 164-1/2 Combination) Recessed
	5-PIN 32A Industrial SSO, IP65 @ 1200mm AFFL
	16A SANS 164-1 SSO Recessed In Power Skirting (Dedicated Red)
	16A SANS 164-1 SSO Recessed In Power Skirting
	HDMI Outlet Wall Recessd Or Mounted To PVC Skirting
	1 x RJ45 Outlet Mounted In Power Skirting 1 x RJ11 Outlet Mounted In Power Skirting
	10A SANS 164-2 SSO, Recessed in Power Skirting
	2 Compartment Heavy Duty PVC Power Skirting (Grey) Surface Mounted At 300mm Above FFL
	Distribution Board At 1800mm From FFL To Top Of Board (Minimum 1600mm From FFL)
	DP 230V Isolator, Ampere Rating As Shown, Mounted Adjacent To Fixed Equipment
	TP 400V Isolator, Ampere Rating As Shown, Mounted Adjacent To Fixed Equipment
	5-PIN 32A Industrial SSO, IP65 @ 1200mm AFFL
	Recessed Floor Box: 3 x 8 Module - 2 x 16A SSO (Normal SANS 164-1) - 4 x 16A SSO (Dedicated SANS 164-1) - 4 x 10A SSO (Normal SANS 164-2) - 4 x RJ45 Outlets
	PVC Conduit Cast In Floor Slab To Feed To Floor Box System: - 2 x 250mm - 2 x 320mm
	RJ-45 and RJ-11 Data/Telephone Outlet Combination Wall Recessed At 300mm AFFL
	WIFI Access Point In Ceiling/WIFI Router
	DENOTES ISOLATOR FOR AIRCON UNIT
	DENOTES ISOLATOR FOR HEAT PUMP
	DENOTES ISOLATOR FOR FAN

A	14/08/2024	Issued For Information
NO	DATE	AMENDMENT

Client:

Consultant:

Tel: +27(0) 861 878 252
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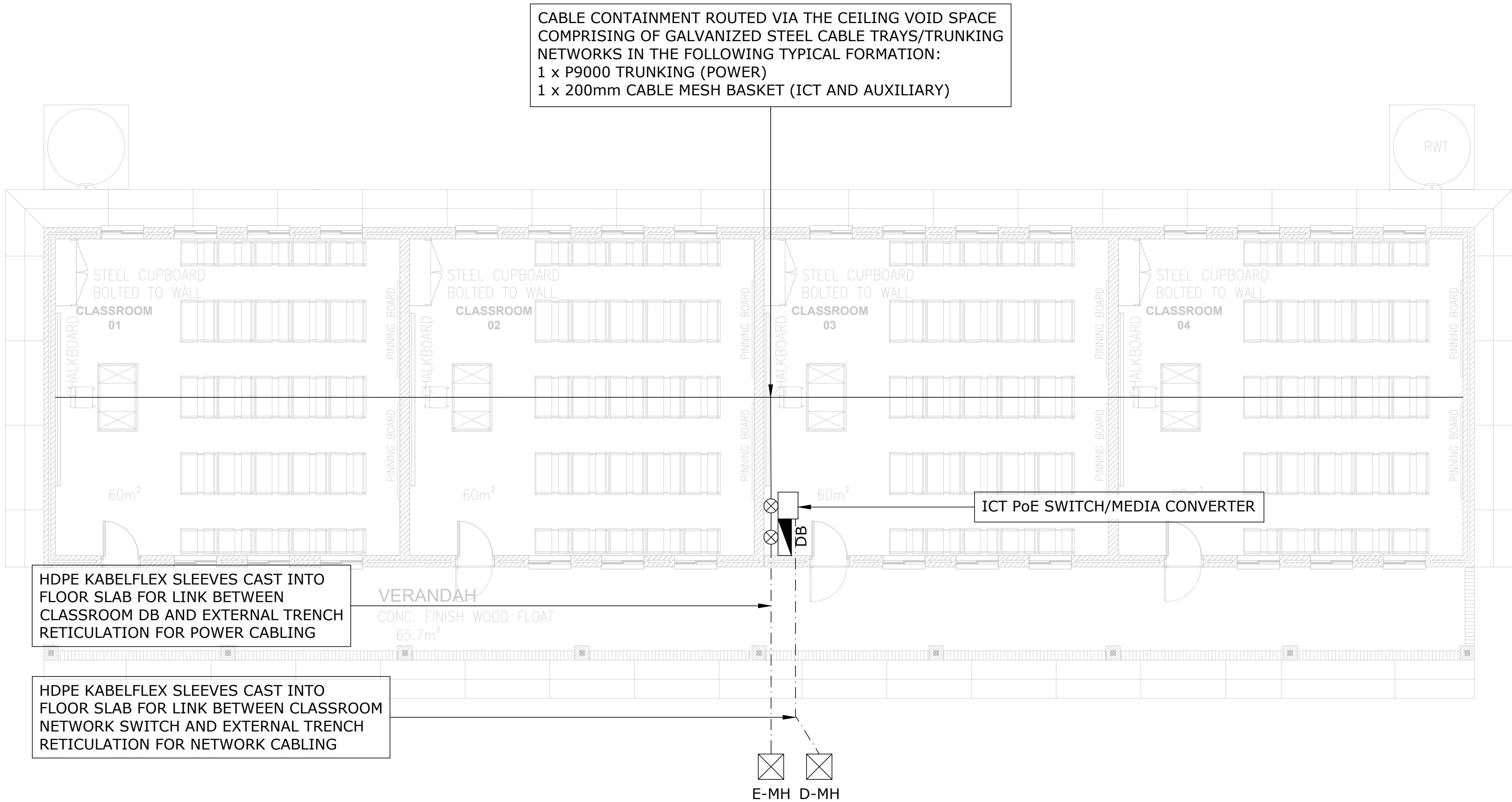
ELECTRICAL

Project:
RAPID INFRASTRUCTURE
PROGRAMME: PROPOSED
CONSTRUCTION OF PAKAMANI
SENIOR SECONDARY SCHOOL,
ENGCOBO

Drawing Title:

CLASSROOM BLOCK
SOCKET OUTLET LAYOUT

Prof. Registered Signature		Client Signature	
Pr Tech 201170230		Designation	
Niel Strachan		Name	
Date:	August 2024	Designed:	Henry Heyns
Size:	A1	Drawn:	Henry Heyns
Scale:	1:75	Checked:	Niel Strachan
Building Occupancy:	TBC	Climate Zone:	TBC
Stage:	2	Sheet:	1 of 1
Project #:	7019507G	Discipline:	E
Drawing #:	402	Rev:	A
For: CONCEPT DESIGN			



ELECTRICAL RETICULATION LEGEND	
SYMBOL	DESCRIPTION
	1 x P9000 GALVANIZED STEEL TRUNKING 1 x P8000 GALVANIZED STEEL TRUNKING 1 x 200mm STEEL CABLE MESH BASKET (UNLESS STATED OTHERWISE)
	ELECTRICAL TRENCH/SLEEVE NETWORK
	LV DISTRIBUTION BOARD
	ELECTRICAL MANHOLE OR DATA MANHOLE
	CONTAINMENT RISER/DROP FOR VERTICAL RETICULATION IN SERVICE SHAFT

A	14/08/2024	Issued For Information
NO	DATE	AMENDMENT

Client:



independent development trust

Consultant:



Tel: +27(0) 861 878 252
www.csmeng.co.za

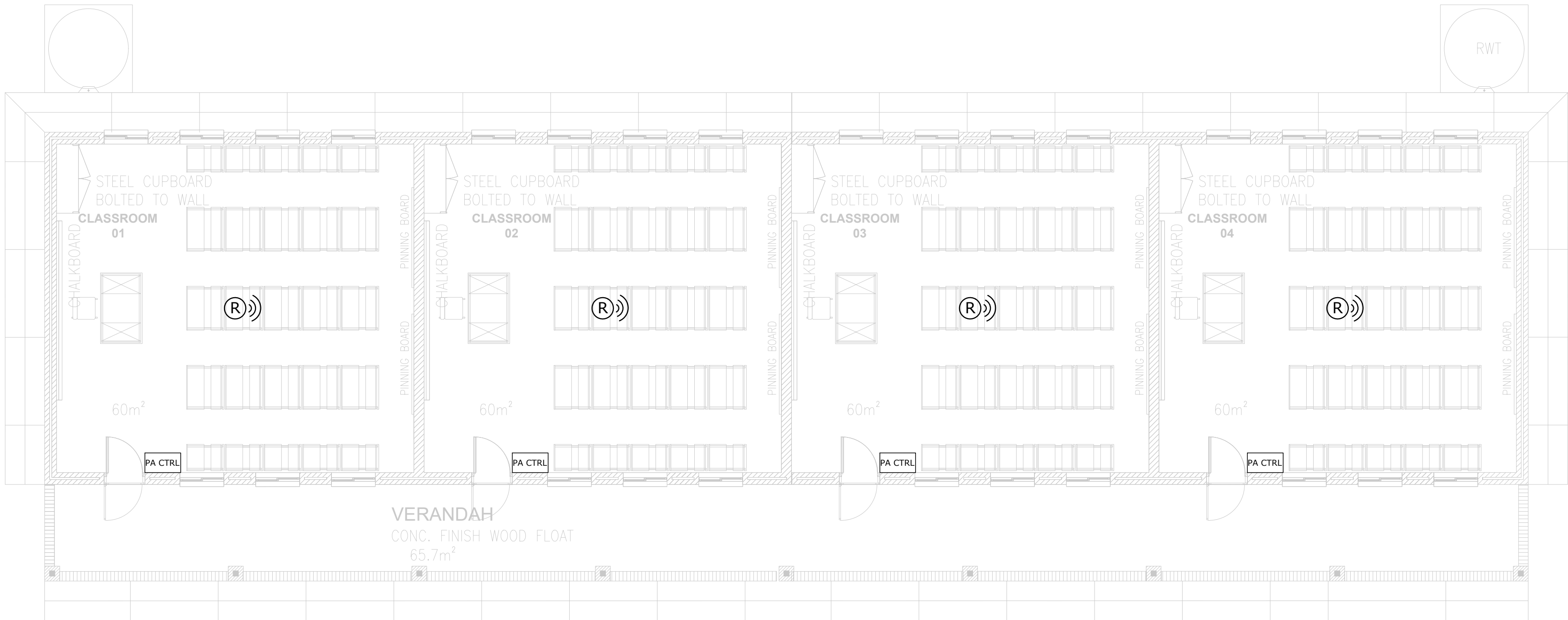
ELECTRICAL

Project:
RAPID INFRASTRUCTURE
PROGRAMME: PROPOSED
CONSTRUCTION OF PAKAMANI
SENIOR SECONDARY SCHOOL,
ENGCOBO

Drawing Title:

CLASSROOM BLOCK
RETICULATION LAYOUT

Prof. Registered Signature		Client Signature	
Pr Tech 201170230		Designation	
Niel Strachan		Name	
Date:	August 2024	Designed:	Henry Heyns
Size:	A1	Drawn:	Henry Heyns
Scale:	1:100	Checked:	Niel Strachan
Building Occupancy:	TBC	Climate Zone:	TBC
Stage:	2	Sheet:	1 of 1
Project #:	Discipline:	Drawing #:	Rev:
7019507G	E	403	A
For: CONCEPT DESIGN			



FIRE DETECTION LEGEND	
SYMBOL	DESCRIPTION
	SMOKE DETECTOR SURFACE MOUNTED TO CEILING
	FIRE ALARM CONTROL PANEL RECESSED AT A HEIGHT OF 1600mm TO CENTRE FROM FFL COMPLETE WITH OPTIC FIBRE TO COPPER MEDIA CONVERTER
	MANUAL FIRE ALARM, RED BREAK GLASS UNIT, SURFACE MOUNTED TO WALL AT 1600mm ABOVE FFL
	HEAT DETECTOR SURFACE MOUNTED TO CEILING
	ALARM SOUNDER AND STROBE UNIT SURFACE MOUNTED TO WALL ABOVE MANUAL BREAK GLASS AT 2100mm ABOVE FFL OR SURFACE MOUNTED TO CEILING
	VOID DETECTOR MOUNTED IN CEILING SPACE
	LINE RELAY - ADDRESSABLE FOR INTERFACING WITH ACCESS CONTROL DOORS AND MECH HVAC
	--
	--

A	14/08/2024	Issued For Information
NO	DATE	AMENDMENT

Client:



Consultant:



Tel: +27(0) 861 878 252
www.csmeng.co.za

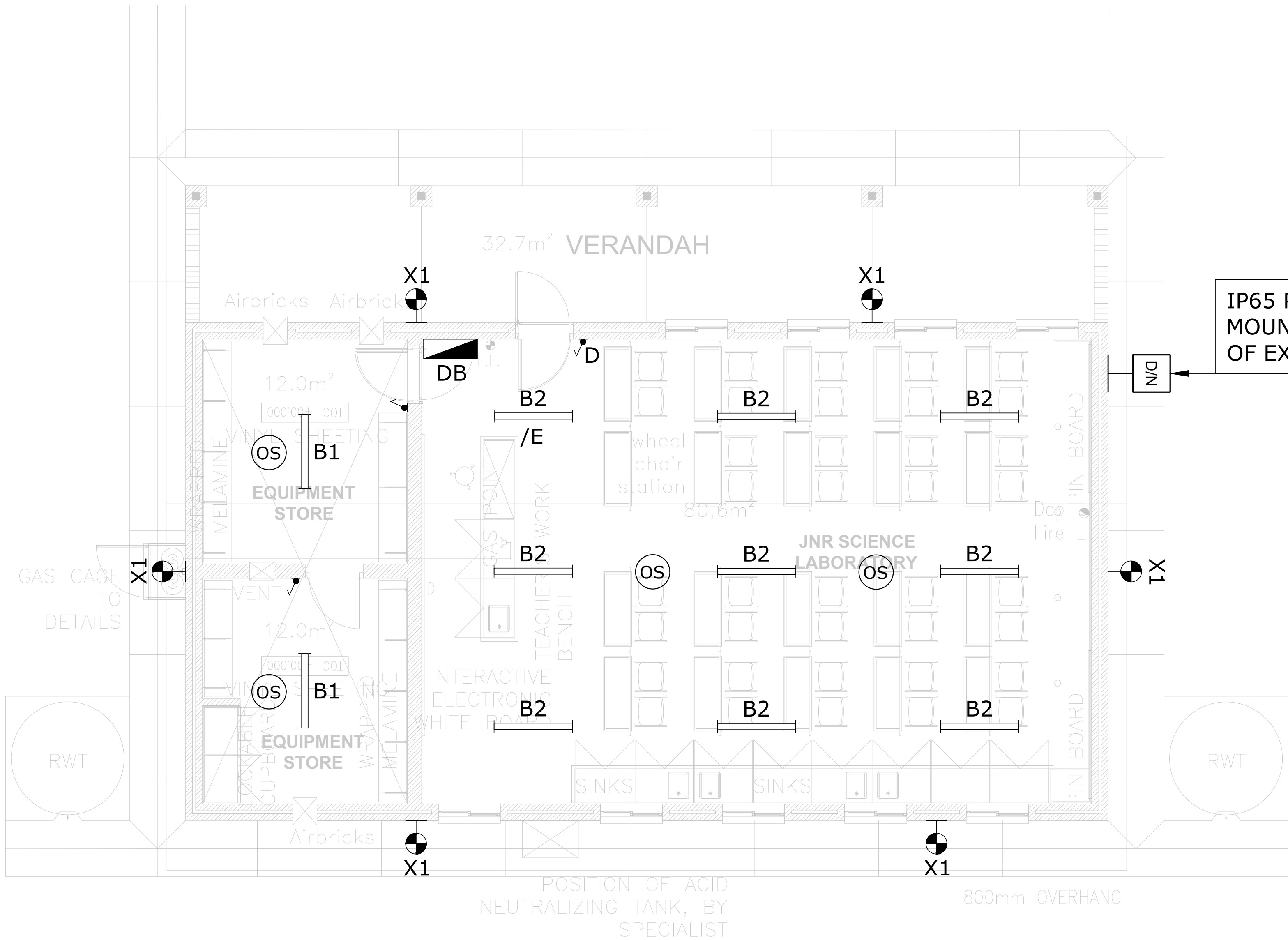
ELECTRICAL

Project:
RAPID INFRASTRUCTURE
PROGRAMME: PROPOSED
CONSTRUCTION OF PAKAMANI
SENIOR SECONDARY SCHOOL,
ENGCOBO

Drawing Title:

CLASSROOM BLOCK
PA SYSTEM LAYOUT

Prof. Registered Signature		Client Signature	
Pr Tech 201170230		Designation	
Niel Strachan		Name	
Date:	August 2024	Designed:	Henry Heyns
Size:	A1	Drawn:	Henry Heyns
Scale:	1:75	Checked:	Niel Strachan
Building Occupancy:	TBC	Climate Zone:	TBC
Stage:	2	Sheet:	1 of 1
Project #:	7019507G	Discipline:	E
Drawing #:	404	Rev:	A
For: CONCEPT DESIGN			



LIGHTING LEGEND	
SYMBOL	DESCRIPTION
	16A One-Lever, One Way Light Switch, Wall Recessed @ 1250mm AFFL
	16A Two-Lever, One Way Light Switch, Wall Recessed @ 1250mm AFFL
	16A One-Lever, One Way Light Switch, Wall Recessed @ 1250mm AFFL (Dim Switch)
	16A One-Lever, Two Way Light Switch, Wall Recessed @ 1250mm AFFL
	16A One-Lever, One Way, IP65, 4000K, Surface Mounted, White Finish (Lascon Roma Or Similar Approved)
	55W LED Flood Light Luminaire, 8119 Im, IP65, 4000K, High-Pressure Die-Cast Aluminium Housing, 1K10, Surface Mounted With Stainless Steel Bracket And Bolts, (Beka LedFlood-Midi Or Similar Approved)
	35W Led Panel Luminaire, 600mm X 600mm, Recessed In Ceiling, 4000lm, 4000K (Beka Dari Or Similar Approved)
	30W 1165mm LED Linear Luminaire, 4441 Im, Surface Mounted, Vapour Proof, IP65, 1K08 Polycarbonate Protector, Grey Finish (Beka Vapour Line Or Similar Approved)
	47W 1180mm LED Linear Luminaire, 6000 Im, Surface Mounted, Low Glare, 4000K, Dimmable LED Driver, CRI>80 (Lascon LP1-HO Or Similar Approved)
	35W 1260mm LED Linear Luminaire, 4500 Im, Surface Mounted, Low Glare, 4000K, Dimmable LED Driver, CRI>80 (Lascon SCL-W Or Similar Approved)
	60W 1500mm LED Linear Lowbay Luminaire, 8010 Im, Surface Mounted To Underside Of Suspended Cable Tray, Low Glare, 4000K, CRI>80 (Rubicon Thermisto Or Similar Approved)
	Electrical Distribution Board
	Day / Night Switch, IP65, UV Protected Enclosure
	10W LED Emergency Exit Luminaire (With 1h Battery Backup)
	Denotes Emergency Light with Local Battery Pack (30-minutes Autonomy)
	Occupancy Sensor

A	14/08/2024	Issued For Information
NO	DATE	AMENDMENT

Client:



Independent development trust

Consultant:



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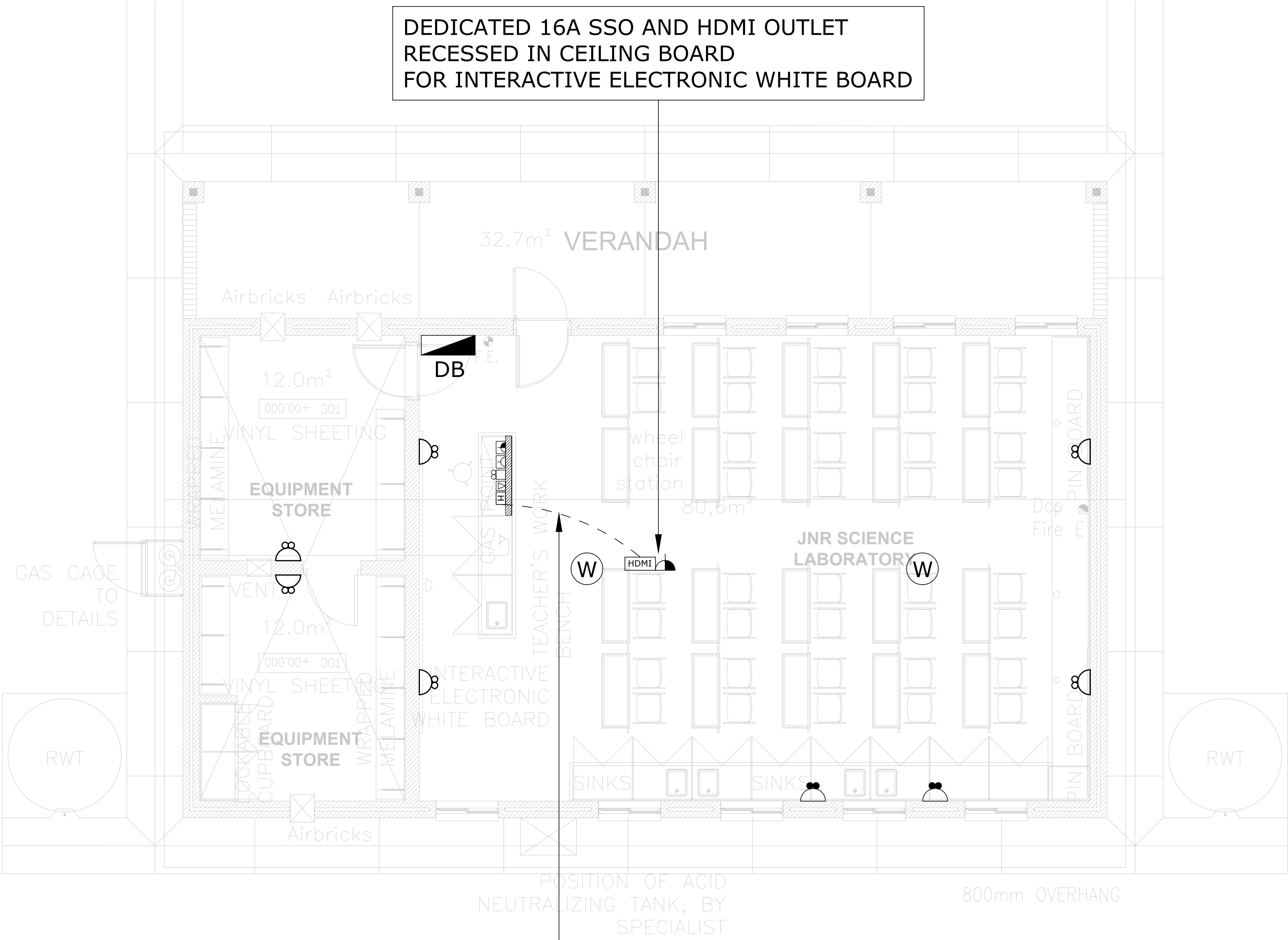
ELECTRICAL

Project:
RAPID INFRASTRUCTURE
PROGRAMME: PROPOSED
CONSTRUCTION OF PAKAMANI
SENIOR SECONDARY SCHOOL,
ENGCOBO

Drawing Title:

SCIENCE BLOCK
LIGHTING LAYOUT

Prof. Registered Signature		Client Signature	
Pr Tech 201170230		Designation	
Niel Strachan		Name	
Date:	August 2024	Designed:	Henry Heyns
Size:	A1	Drawn:	Henry Heyns
Scale:	1:50	Checked:	Niel Strachan
Building Occupancy:	TBC	Climate Zone:	TBC
Stage:	2	Sheet:	1 of 1
Project #:	Discipline:	Drawing #:	Rev:
7019507G	E	501	A
For: CONCEPT DESIGN			



SOCKET AND DATA OUTLET LEGEND	
SYMBOL	DESCRIPTION
	16A SANS 164-1/164-2 Combination SSO 300mm AFFL Recessed (Dedicated Red)
	16A SSO @ 300mm AFFL (SANS 164-1/2 Combination) Recessed
	16A SSO @ 1200mm AFFL (SANS 164-1/2 Combination) Recessed
	5-PIN 32A Industrial SSO, IP65 @ 1200mm AFFL
	16A SANS 164-1 SSO Recessed In Power Skirting (Dedicated Red)
	16A SANS 164-1 SSO Recessed In Power Skirting
	HDMI Outlet Wall Recessd Or Mounted To PVC Skirting
	1 x RJ45 Outlet Mounted In Power Skirting 1 x RJ11 Outlet Mounted In Power Skirting
	10A SANS 164-2 SSO, Recessed in Power Skirting
	2 Compartment Heavy Duty PVC Power Skirting (Grey) Surface Mounted At 300mm Above FFL
	Distribution Board At 1800mm From FFL To Top Of Board (Minimum 1600mm From FFL)
	DP 230V Isolator, Ampere Rating As Shown, Mounted Adjacent To Fixed Equipment
	TP 400V Isolator, Ampere Rating As Shown, Mounted Adjacent To Fixed Equipment
	5-PIN 32A Industrial SSO, IP65 @ 1200mm AFFL
	Recessed Floor Box: 3 x 8 Module - 2 x 16A SSO (Normal SANS 164-1) - 4 x 16A SSO (Dedicated SANS 164-1) - 4 x 10A SSO (Normal SANS 164-2) - 4 x RJ45 Outlets
	PVC Conduit Cast In Floor Slab To Feed To Floor Box System: - 2 x 25Ømm - 2 x 32Ømm
	RJ-45 and RJ-11 Data/Telephone Outlet Combination Wall Recessed At 300mm AFFL
	WIFI Access Point In Ceiling/WIFI Router
	DENOTES ISOLATOR FOR AIRCON UNIT
	DENOTES ISOLATOR FOR HEAT PUMP
	DENOTES ISOLATOR FOR FAN

A	14/08/2024	Issued For Information
NO	DATE	AMENDMENT

Client:

Consultant:

Tel: +27(0) 861 878 252
www.csmeng.co.za

ELECTRICAL

Project:
RAPID INFRASTRUCTURE
PROGRAMME: PROPOSED
CONSTRUCTION OF PAKAMANI
SENIOR SECONDARY SCHOOL,
ENGCOBO

Drawing Title:

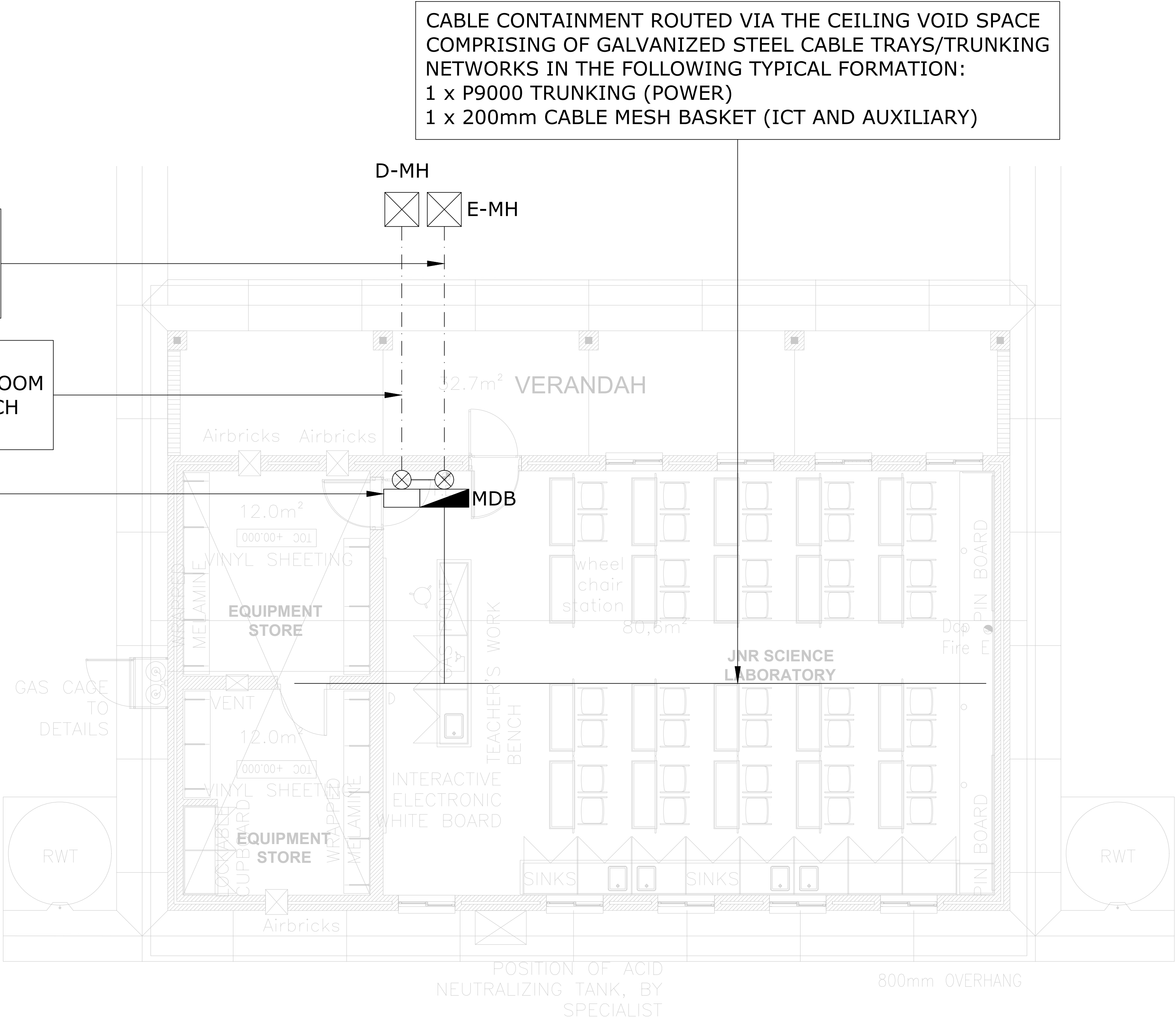
SCIENCE BLOCK
SOCKET OUTLET LAYOUT

Prof. Registered Signature		Client Signature	
Pr Tech 201170230		Designation	
Niel Strachan		Name	
Date:	August 2024	Designed:	Henry Heyns
Size:	A1	Drawn:	Henry Heyns
Scale:	1:50	Checked:	Niel Strachan
Building Occupancy:	TBC	Climate Zone:	TBC
Stage:	2	Sheet:	1 of 1
Project #:	7019507G	Discipline:	E
Drawing #:	502	Rev:	A
For: CONCEPT DESIGN			

HDPE KABELFLEX SLEEVES CAST INTO FLOOR SLAB FOR LINK BETWEEN CLASSROOM DB AND EXTERNAL TRENCH RETICULATION FOR POWER CABLING

HDPE KABELFLEX SLEEVES CAST INTO FLOOR SLAB FOR LINK BETWEEN CLASSROOM NETWORK SWITCH AND EXTERNAL TRENCH RETICULATION FOR NETWORK CABLING

ICT PoE SWITCH/MEDIA CONVERTER



ELECTRICAL RETICULATION LEGEND	
SYMBOL	DESCRIPTION
	1 x P9000 GALVANIZED STEEL TRUNKING 1 x P8000 GALVANIZED STEEL TRUNKING 1 x 200mm STEEL CABLE MESH BASKET (UNLESS STATED OTHERWISE)
	ELECTRICAL TRENCH/SLEEVE NETWORK
	LV DISTRIBUTION BOARD
	ELECTRICAL MANHOLE OR DATA MANHOLE
	CONTAINMENT RISER/DROP FOR VERTICAL RETICULATION IN SERVICE SHAFT

A	14/08/2024	Issued For Information
NO	DATE	AMENDMENT

Client:

Consultant:

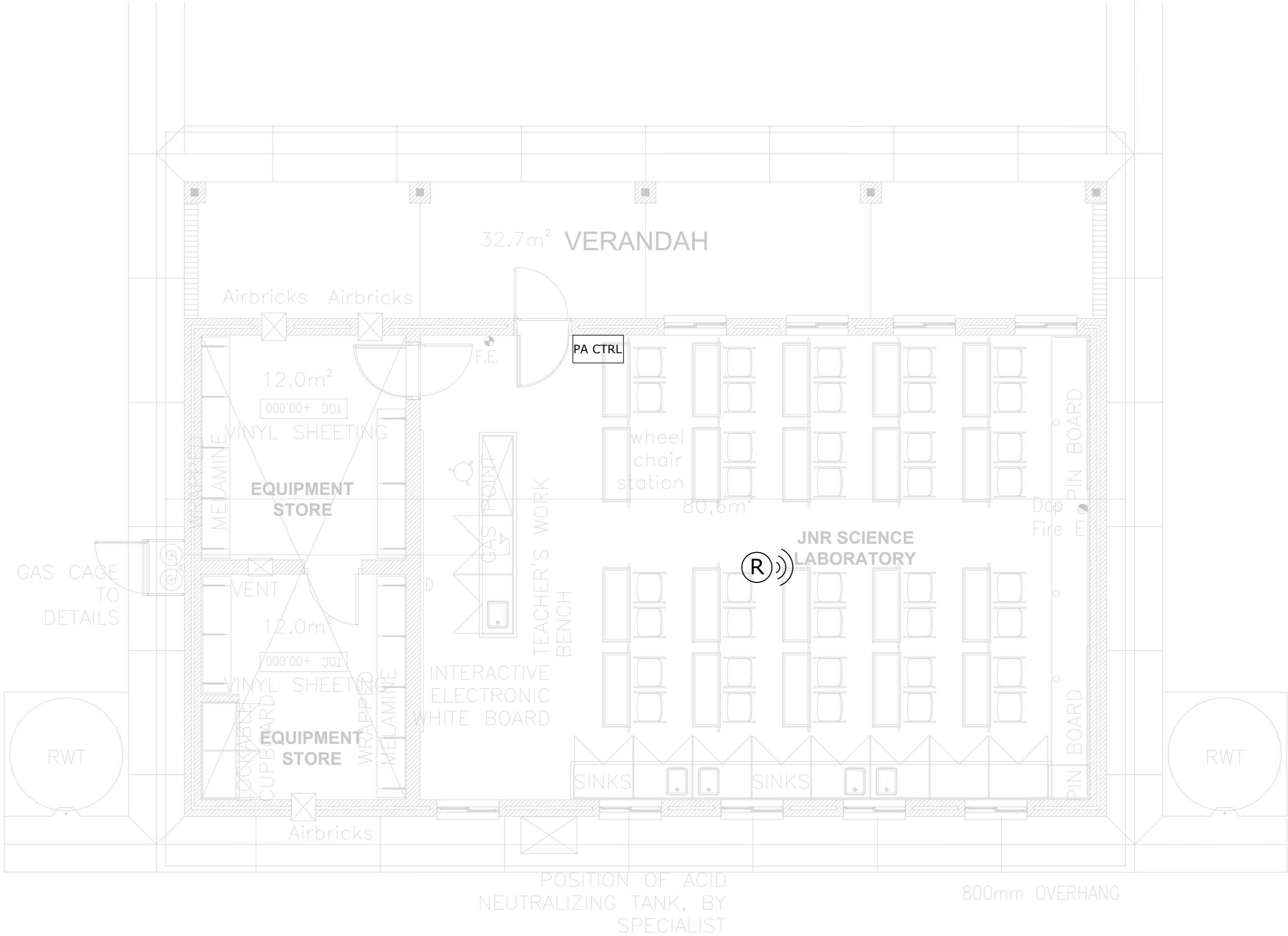
Tel: +27(0) 861 878 252
www.csmeng.co.za

ELECTRICAL

Project:
RAPID INFRASTRUCTURE PROGRAMME: PROPOSED CONSTRUCTION OF PAKAMANI SENIOR SECONDARY SCHOOL, ENGCOCO

Drawing Title:
SCIENCE BLOCK RETICULATION LAYOUT

Prof. Registered Signature		Client Signature	
Pr Tech 201170230		Designation	
Niel Strachan		Name	
Date:	August 2024	Designed:	Henry Heyns
Size:	A1	Drawn:	Henry Heyns
Scale:	1:50	Checked:	Niel Strachan
Building Occupancy:	TBC	Climate Zone:	TBC
Stage:	2	Sheet:	1 of 1
Project #:	Discipline:	Drawing #:	Rev:
7019507G	E	503	A
For: CONCEPT DESIGN			



FIRE DETECTION LEGEND	
SYMBOL	DESCRIPTION
	SMOKE DETECTOR SURFACE MOUNTED TO CEILING
	FIRE ALARM CONTROL PANEL RECESSED AT A HEIGHT OF 1600mm TO CENTRE FROM FFL COMPLETE WITH OPTIC FIBRE TO COPPER MEDIA CONVERTER
	MANUAL FIRE ALARM, RED BREAK GLASS UNIT, SURFACE MOUNTED TO WALL AT 1600mm ABOVE FFL
	HEAT DETECTOR SURFACE MOUNTED TO CEILING
	ALARM SOUNDER AND STROBE UNIT SURFACE MOUNTED TO WALL ABOVE MANUAL BREAK GLASS AT 2100mm ABOVE FFL OR SURFACE MOUNTED TO CEILING
	VOID DETECTOR MOUNTED IN CEILING SPACE
	LINE RELAY - ADDRESSABLE FOR INTERFACING WITH ACCESS CONTROL DOORS AND MECH HVAC
	--
	--

A	14/08/2024	Issued For Information
NO	DATE	AMENDMENT

Client:

Consultant:

Tel: +27(0) 861 878 252
www.csmeng.co.za

ELECTRICAL

Project:
RAPID INFRASTRUCTURE PROGRAMME: PROPOSED CONSTRUCTION OF PAKAMANI SENIOR SECONDARY SCHOOL, ENGCOBO

Drawing Title:
**SCIENCE BLOCK
PA SYSTEM LAYOUT**

Prof. Registered Signature		Client Signature	
Pr Tech 201170230		Designation	
Niel Strachan		Name	
Date:	August 2024	Designed:	Henry Heyns
Size:	A1	Drawn:	Henry Heyns
Scale:	1:50	Checked:	Niel Strachan
Building Occupancy:	TBC	Climate Zone:	TBC
Stage:	2	Sheet:	1 of 1
Project #:	Discipline:	Drawing #:	Rev:
7019507G	E	504	A
For: CONCEPT DESIGN			



Project #:	Discipline:	Drawing #:	Rev:
7019507G	E	601	A

For: **CONCEPT DESIGN**

SOCKET AND DATA OUTLET LEGEND	
SYMBOL	DESCRIPTION
	16A SANS 164-1/164-2 Combination SSO 300mm AFFL Recessed (Dedicated Red)
	16A SSO @ 300mm AFFL (SANS 164-1/2 Combination) Recessed
	16A SSO @ 1200mm AFFL (SANS 164-1/2 Combination) Recessed
	5-PIN 32A Industrial SSO, IP65 @ 1200mm AFFL
	16A SANS 164-1 SSO Recessed In Power Skirting (Dedicated Red)
	16A SANS 164-1 SSO Recessed In Power Skirting
	HDMI Outlet Wall Recessed Or Mounted To PVC Skirting
	1 x RJ45 Outlet Mounted In Power Skirting
	1 x RJ11 Outlet Mounted In Power Skirting
	10A SANS 164-2 SSO, Recessed In Power Skirting
	2 Compartment Heavy Duty PVC Power Skirting (Grey) Surface Mounted At 300mm Above FFL
	Distribution Board At 1800mm From FFL To Top Of Board (Minimum 1600mm From FFL)
	DP 230V Isolator, Ampere Rating As Shown, Mounted Adjacent To Fixed Equipment
	TP 400V Isolator, Ampere Rating As Shown, Mounted Adjacent To Fixed Equipment
	5-PIN 32A Industrial SSO, IP65 @ 1200mm AFFL
	Recessed Floor Box: 3 x 8 Module - 2 x 16A SSO (Normal SANS 164-1) - 4 x 16A SSO (Dedicated SANS 164-1) - 4 x 10A SSO (Normal SANS 164-2) - 4 x RJ45 Outlets
	PVC Conduit Cast In Floor Slab To Feed To Floor Box System: - 2 x 250mm - 2 x 320mm
	RJ-45 and RJ-11 Data/Telephone Outlet Combination Wall Recessed At 300mm AFFL
	WIFI Access Point In Ceiling/WIFI Router
	DENOTES ISOLATOR FOR AIRCON UNIT
	DENOTES ISOLATOR FOR HEAT PUMP
	DENOTES ISOLATOR FOR FAN

A	14/08/2024	Issued For Information
NO	DATE	AMENDMENT

Client:



Consultant:



Tel: +27(0) 861 878 252

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ELECTRICAL

Project:

**RAPID INFRASTRUCTURE
PROGRAMME: PROPOSED
CONSTRUCTION OF PAKAMANI
SENIOR SECONDARY SCHOOL,
ENGCOBO**

Drawing Title:

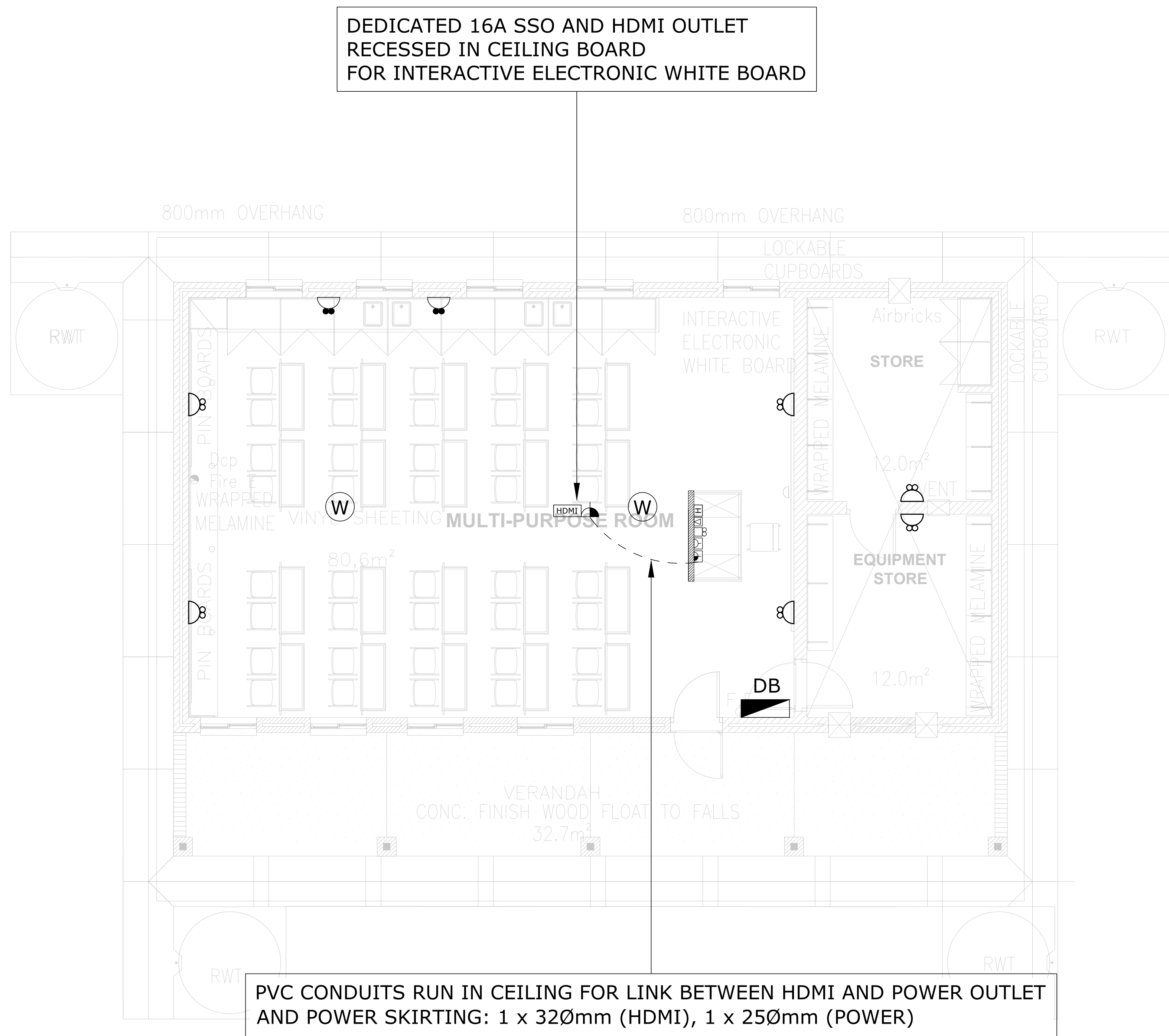
MULTI-PURPOSE SPECIALIST CLASSROOM SOCKET OUTLET LAYOUT

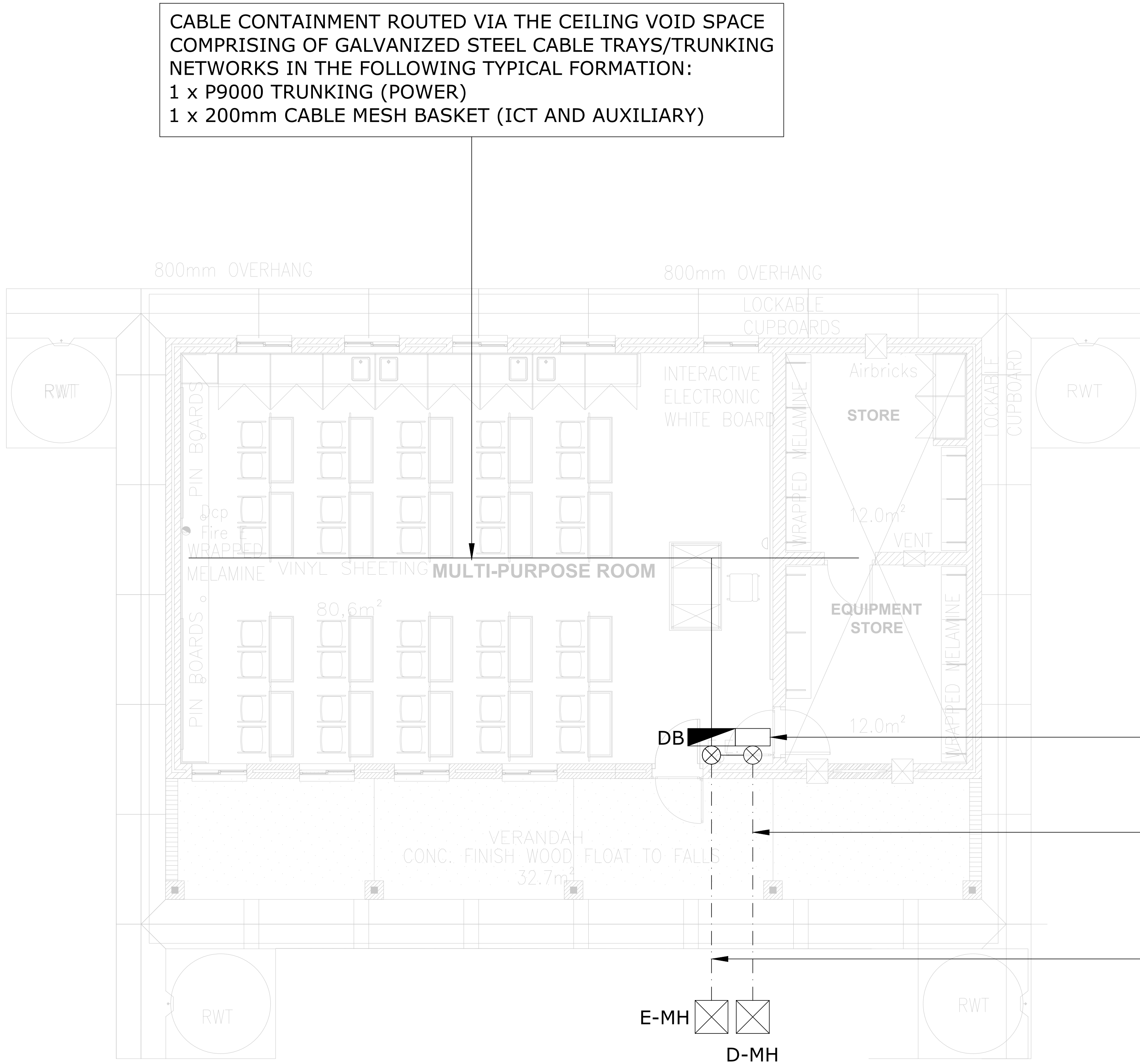
Prof. Registered Signature	Client Signature
Pr Tech 201170230	Designation
Niel Strachan	Name

Date:	August 2024	Designed:	Henry Heyns
Size:	A1	Drawn:	Henry Heyns
Scale:	1:50	Checked:	Niel Strachan
Building Occupancy:	TBC	Climate Zone:	TBC
Stage:	2	Sheet:	1 of 1

Project #:	Discipline:	Drawing #:	Rev:
7019507G	E	602	A

For: **CONCEPT DESIGN**





ICT PoE SWITCH/MEDIA CONVERTER

HDPE KABELFLEX SLEEVES CAST INTO FLOOR SLAB FOR LINK BETWEEN CLASSROOM NETWORK SWITCH AND EXTERNAL TRENCH RETICULATION FOR NETWORK CABLING

HDPE KABELFLEX SLEEVES CAST INTO FLOOR SLAB FOR LINK BETWEEN CLASSROOM DB AND EXTERNAL TRENCH RETICULATION FOR POWER CABLING

ELECTRICAL RETICULATION LEGEND	
SYMBOL	DESCRIPTION
	1 x P9000 GALVANIZED STEEL TRUNKING 1 x P8000 GALVANIZED STEEL TRUNKING 1 x 200mm STEEL CABLE MESH BASKET (UNLESS STATED OTHERWISE)
	ELECTRICAL TRENCH/SLEEVE NETWORK
	LV DISTRIBUTION BOARD
	ELECTRICAL MANHOLE OR DATA MANHOLE
	CONTAINMENT RISER/DROP FOR VERTICAL RETICULATION IN SERVICE SHAFT

A	14/08/2024	Issued For Information
NO	DATE	AMENDMENT

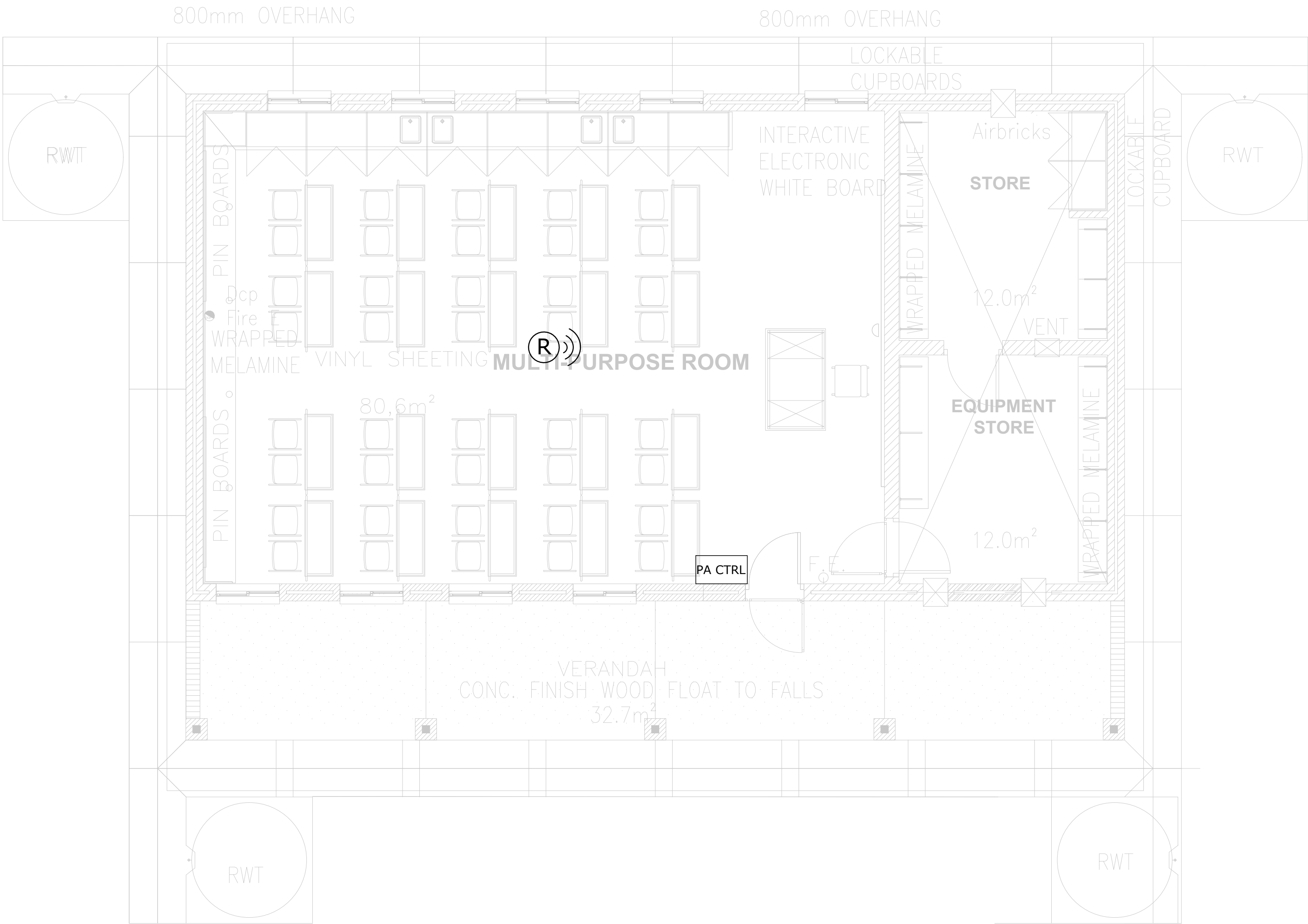


ELECTRICAL

Project:
RAPID INFRASTRUCTURE PROGRAMME: PROPOSED CONSTRUCTION OF PAKAMANI SENIOR SECONDARY SCHOOL, ENGCOBO

Drawing Title:
MULTI-PURPOSE SPECIALIST CLASSROOM RETICULATION LAYOUT

Prof. Registered Signature		Client Signature	
Pr Tech 201170230		Designation	
Niel Strachan		Name	
Date: August 2024		Designed: Henry Heyns	
Size: A1		Drawn: Henry Heyns	
Scale: 1:50		Checked: Niel Strachan	
Building Occupancy: TBC		Climate Zone: TBC	
Stage: 2		Sheet: 1 of 1	
Project #:	Discipline:	Drawing #:	Rev:
7019507G	E	603	A
For: CONCEPT DESIGN			



FIRE DETECTION LEGEND	
SYMBOL	DESCRIPTION
	SMOKE DETECTOR SURFACE MOUNTED TO CEILING
	FIRE ALARM CONTROL PANEL RECESSED AT A HEIGHT OF 1600mm TO CENTRE FROM FFL COMPLETE WITH OPTIC FIBRE TO COPPER MEDIA CONVERTER
	MANUAL FIRE ALARM, RED BREAK GLASS UNIT, SURFACE MOUNTED TO WALL AT 1600mm ABOVE FFL
	HEAT DETECTOR SURFACE MOUNTED TO CEILING
	ALARM SOUNDER AND STROBE UNIT SURFACE MOUNTED TO WALL ABOVE MANUAL BREAK GLASS AT 2100mm ABOVE FFL OR SURFACE MOUNTED TO CEILING
	VOID DETECTOR MOUNTED IN CEILING SPACE
	LINE RELAY - ADDRESSABLE FOR INTERFACING WITH ACCESS CONTROL DOORS AND MECH HVAC
	--
	--

A	14/08/2024	Issued For Information
NO	DATE	AMENDMENT

Client:

Consultant:

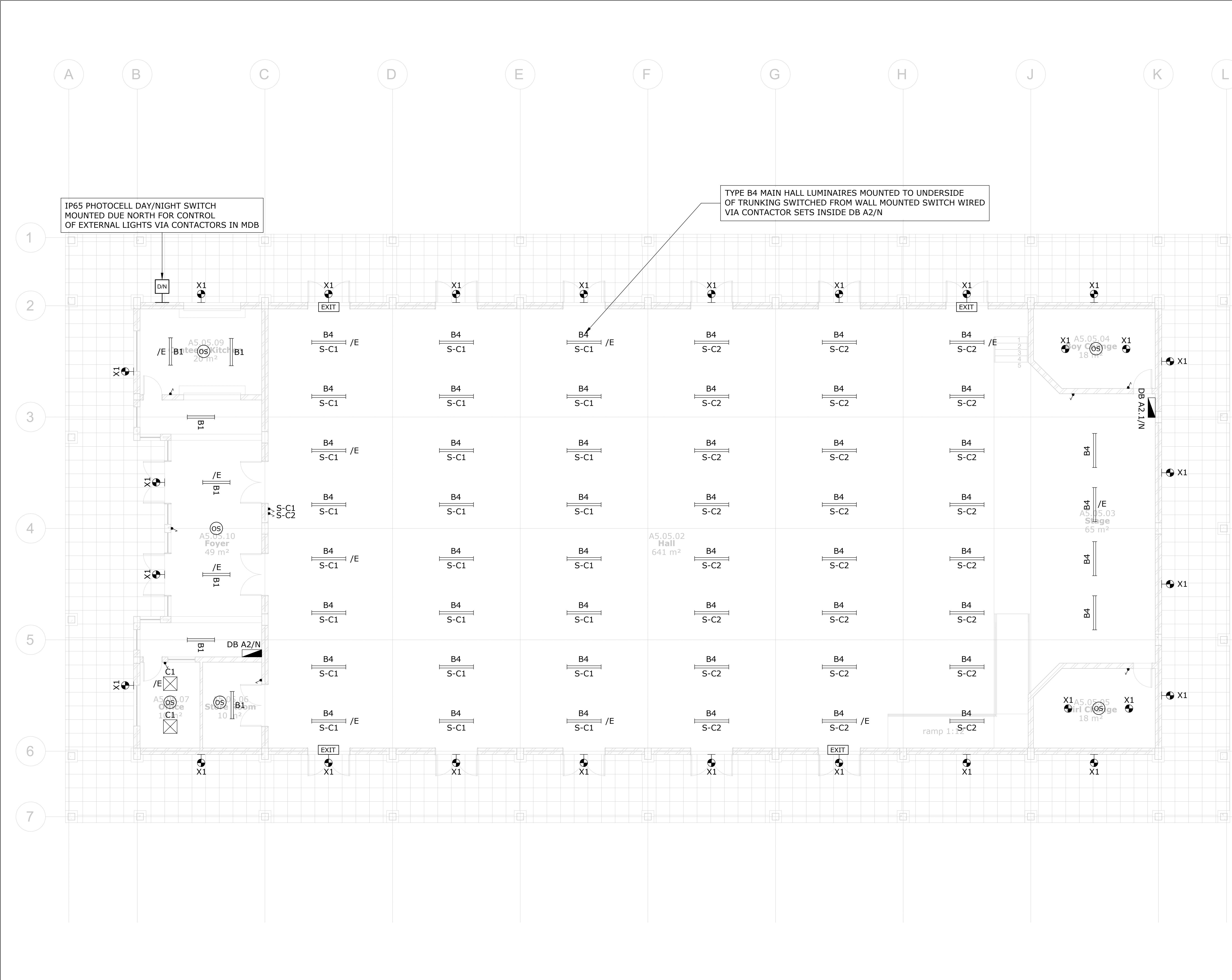
Tel: +27(0) 861 878 252
www.csmeng.co.za

ELECTRICAL

Project:
RAPID INFRASTRUCTURE
PROGRAMME: PROPOSED
CONSTRUCTION OF PAKAMANI
SENIOR SECONDARY SCHOOL,
ENGCOBO

Drawing Title:
MULTI-PURPOSE
SPECIALIST CLASSROOM
PA SYSTEM LAYOUT

Prof. Registered Signature		Client Signature	
Pr Tech 201170230		Designation	
Niel Strachan		Name	
Date:	August 2024	Designed:	Henry Heyns
Size:	A1	Drawn:	Henry Heyns
Scale:	1:75	Checked:	Niel Strachan
Building Occupancy:	TBC	Climate Zone:	TBC
Stage:	2	Sheet:	1 of 1
Project #:	Discipline:	Drawing #:	Rev:
7019507G	E	604	A
For: CONCEPT DESIGN			



LIGHTING LEGEND	
SYMBOL	DESCRIPTION
	16A One-Lever, One Way Light Switch, Wall Recessed @ 1250mm AFFL
	16A Two-Lever, One Way Light Switch, Wall Recessed @ 1250mm AFFL
	16A One-Lever, One Way Light Switch, Wall Recessed @ 1250mm AFFL (Dim Switch)
	16A One-Lever, Two Way Light Switch, Wall Recessed @ 1250mm AFFL
	16A One-Lever, One Way, IP65, Weatherproof Light Switch, Wall Mounted, Surface Mounted @ 1250mm AFFL
	20W LED Bulkhead Luminaire, 2800lm, IP65, 4000K, Surface Mounted, White Finish (Lascon Roma Or Similar Approved)
	55W LED Flood Light Luminaire, 8119 lm, IP65, 4000K, High-Pressure Die-Cast Aluminium Housing, IK10, Surface Mounted With Stainless Steel Bracket And Bolts, (Beka LedFlood-Midi Or Similar Approved)
	35W Led Panel Luminaire, 600mm X 600mm, Recessed In Ceiling, 4000lm, 4000K (Beka Dari Or Similar Approved)
	30W 1165mm LED Linear Luminaire, 4441 lm, Surface Mounted, Vapour Proof, IP65, IK08 Polycarbonate Protector, Grey Finish (Beka Vapour Line Or Similar Approved)
	47W 1180mm LED Linear Luminaire, 6000 lm, Surface Mounted, Low Glare, 4000K, Dimmable LED Driver, CR1>80 (Lascon LP1-HO Or Similar Approved)
	35W 1260mm LED Linear Luminaire, 4500 lm, Surface Mounted, Low Glare, 4000K, Dimmable LED Driver, CR1>80 (Lascon SCL-W Or Similar Approved)
	60W 1500mm LED Linear Lowbay Luminaire, 8010 lm, Surface Mounted To Underside Of Suspended Cable Tray, Low Glare, 4000K, CR1>80 (Rubicon Thermisto Or Similar Approved)
	Electrical Distribution Board
	Day / Night Switch, IP65, UV Protected Enclosure
	10W LED Emergency Exit Luminaire (With 1h Battery Backup)
	Denotes Emergency Light with Local Battery Pack (30-minutes Autonomy)
	Occupancy Sensor

A

14/08/2024

Issued For Information

NO

DATE

AMENDMENT

Client:



independent development trust

Consultant:



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www.csmeng.co.za

ELECTRICAL

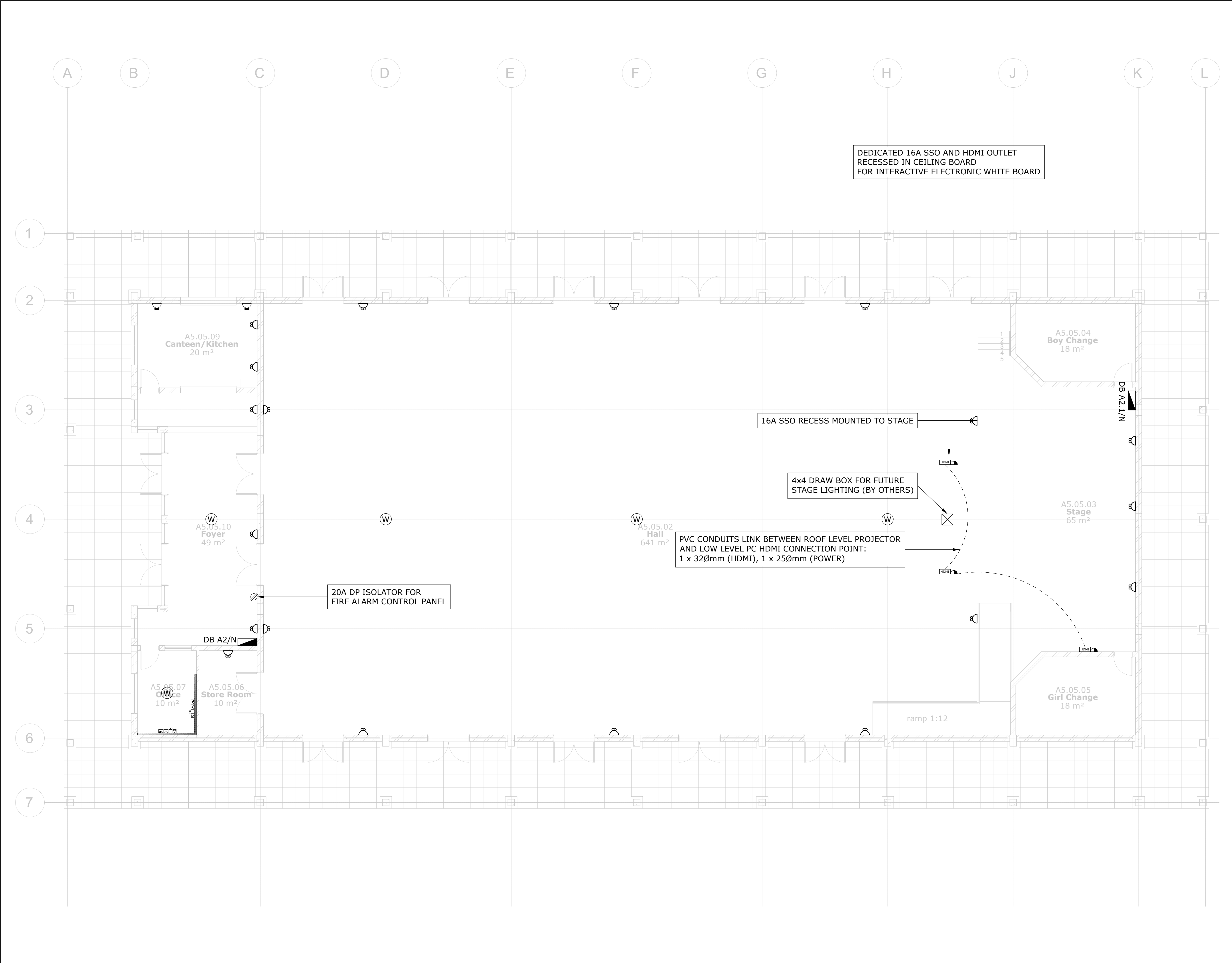
Project:

RAPID INFRASTRUCTURE PROGRAMME: PROPOSED CONSTRUCTION OF PAKAMANI SENIOR SECONDARY SCHOOL, ENGCOBO

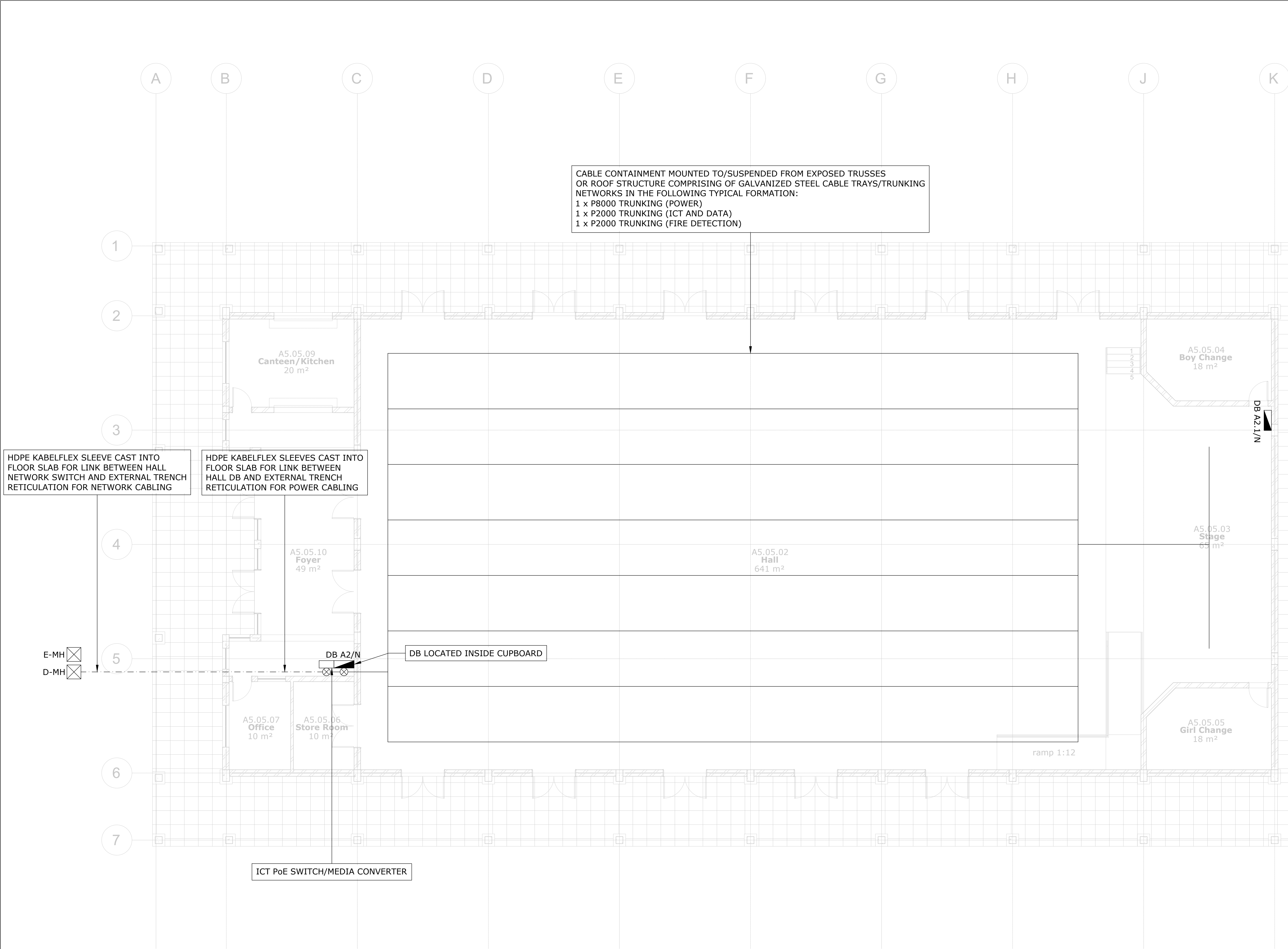
Drawing Title:

MULTI-PURPOSE HALL LIGHTING LAYOUT

Prof. Registered Signature	Client Signature		
Pr Tech 201170230 Niel Strachan	Designation Name		
Date: August 2024	Designed: Henry Heyns		
Size: A1	Drawn: Henry Heyns		
Scale: 1:75	Checked: Niel Strachan		
Building Occupancy: TBC	Climate Zone: TBC		
Stage: 2	Sheet: 1 of 1		
Project #: 7019507G	Discipline: E	Drawing #: 701	Rev: A
For: CONCEPT DESIGN			



SOCKET AND DATA OUTLET LEGEND		
SYMBOL	DESCRIPTION	
	16A SANS 164-1/164-2 Combination SSO 300mm AFFL Recessed (Dedicated Red)	
	16A SSO @ 300mm AFFL (SANS 164-1/2 Combination) Recessed	
	16A SSO @ 1200mm AFFL (SANS 164-1/2 Combination) Recessed	
	5-PIN 32A Industrial SSO, IP65 @ 1200mm AFFL	
	16A SANS 164-1 SSO Recessed In Power Skirting (Dedicated Red)	
	16A SANS 164-1 SSO Recessed In Power Skirting	
	HDMI Outlet Wall Recessed Or Mounted To PVC Skirting	
	1 x RJ45 Outlet Mounted In Power Skirting	
	1 x RJ11 Outlet Mounted In Power Skirting	
	10A SANS 164-2 SSO, Recessed in Power Skirting	
	2 Compartment Heavy Duty PVC Power Skirting (Grey) Surface Mounted At 300mm Above FFL	
	Distribution Board At 1800mm From FFL To Top Of Board (Minimum 1600mm From FFL)	
	DP 230V Isolator, Ampere Rating As Shown, Mounted Adjacent To Fixed Equipment	
	TP 400V Isolator, Ampere Rating As Shown, Mounted Adjacent To Fixed Equipment	
	5-PIN 32A Industrial SSO, IP65 @ 1200mm AFFL	
	Recessed Floor Box: 3 x 8 Module - 2 x 16A SSO (Normal SANS 164-1) - 4 x 16A SSO (Dedicated SANS 164-1) - 4 x 10A SSO (Normal SANS 164-2) - 4 x RJ45 Outlets	
	PVC Conduit Cast In Floor Slab To Feed To Floor Box System: - 2 x 250mm - 2 x 320mm	
	RJ-45 and RJ-11 Data/Telephone Outlet Combination Wall Recessed At 300mm AFFL	
	WIFI Access Point In Ceiling/WIFI Router	
	DENOTES ISOLATOR FOR AIRCON UNIT	
	DENOTES ISOLATOR FOR HEAT PUMP	
	DENOTES ISOLATOR FOR FAN	



ELECTRICAL RETICULATION LEGEND	
SYMBOL	DESCRIPTION
	1 x P9000 GALVANIZED STEEL TRUNKING 1 x P8000 GALVANIZED STEEL TRUNKING 1 x 200mm STEEL CABLE MESH BASKET (UNLESS STATED OTHERWISE)
	ELECTRICAL TRENCH/SLEEVE NETWORK
	LV DISTRIBUTION BOARD
	ELECTRICAL MANHOLE OR DATA MANHOLE
	CONTAINMENT RISER/DROP FOR VERTICAL RETICULATION IN SERVICE SHAFT

A	14/08/2024	Issued For Information
NO	DATE	AMENDMENT

Client:



Consultant:



Tel: +27(0) 861 878 252
www.csmeng.co.za

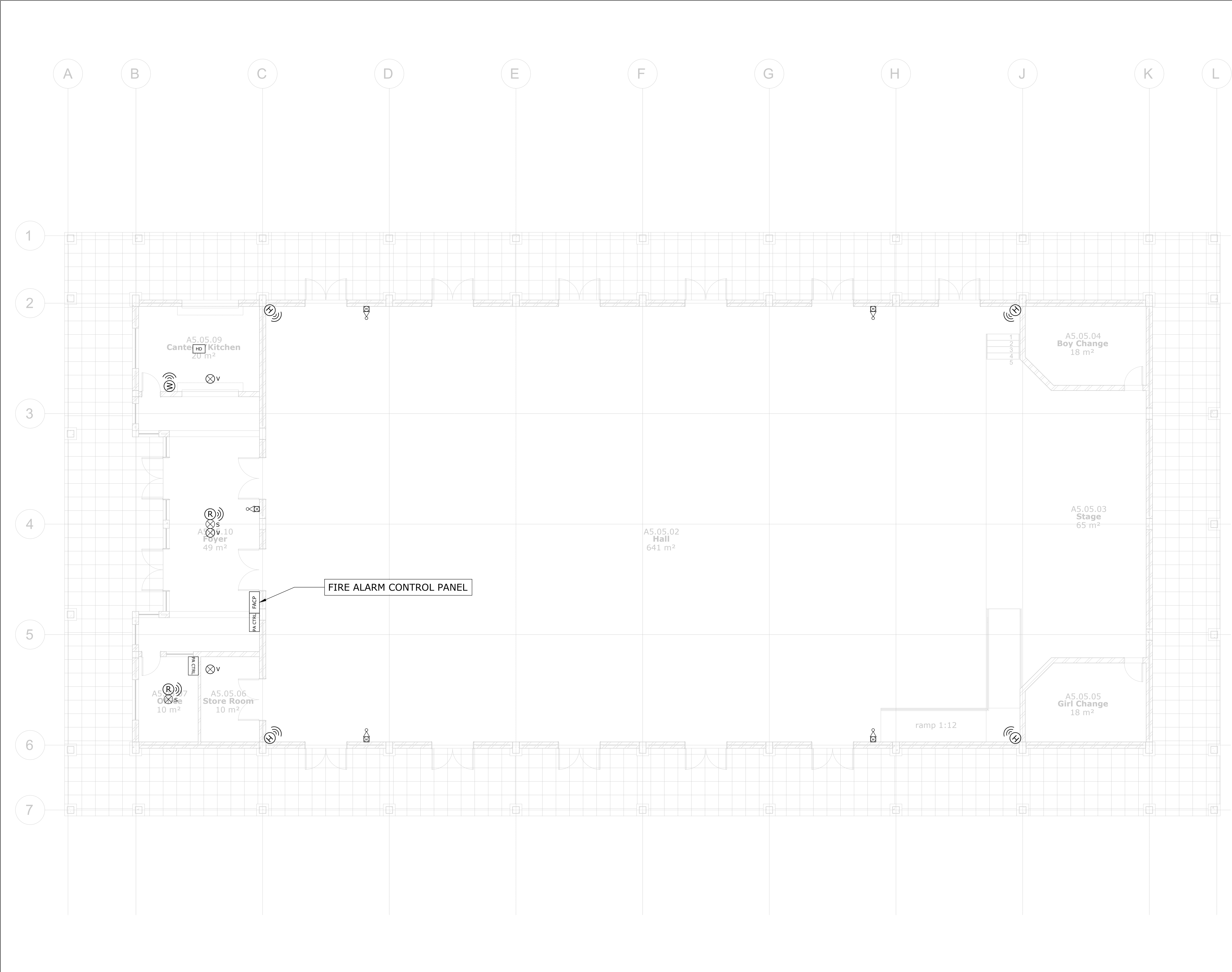
ELECTRICAL

Project:
**RAPID INFRASTRUCTURE
PROGRAMME: PROPOSED
CONSTRUCTION OF PAKAMANI
SENIOR SECONDARY SCHOOL,
ENGCOBO**

Drawing Title:

**MULTI-PURPOSE HALL
RETICULATION LAYOUT**

Prof. Registered Signature		Client Signature	
Pr Tech 201170230		Designation	
Niel Strachan		Name	
Date: August 2024		Designed: Henry Heyns	
Size: A1		Drawn: Henry Heyns	
Scale: 1:75		Checked: Niel Strachan	
Building Occupancy: TBC		Climate Zone: TBC	
Stage: 2		Sheet: 1 of 1	
Project #:	Discipline:	Drawing #:	Rev:
7019507G	E	703	A
For: CONCEPT DESIGN			



FIRE DETECTION LEGEND	
SYMBOL	DESCRIPTION
	SMOKE DETECTOR SURFACE MOUNTED TO CEILING
	FIRE ALARM CONTROL PANEL RECESSED AT A HEIGHT OF 1600mm TO CENTRE FROM FFL COMPLETE WITH OPTIC FIBRE TO COPPER MEDIA CONVERTER
	MANUAL FIRE ALARM, RED BREAK GLASS UNIT, SURFACE MOUNTED TO WALL AT 1600mm ABOVE FFL
	HEAT DETECTOR SURFACE MOUNTED TO CEILING
	ALARM SOUNDER AND STROBE UNIT SURFACE MOUNTED TO WALL ABOVE MANUAL BREAK GLASS AT 2100mm ABOVE FFL OR SURFACE MOUNTED TO CEILING
	VOID DETECTOR MOUNTED IN CEILING SPACE
	LINE RELAY - ADDRESSABLE FOR INTERFACING WITH ACCESS CONTROL DOORS AND MECH HVAC

PA SYSTEM LEGEND	
SYMBOL	DESCRIPTION
	6W 6-INCH CEILING-RECESSED ROUND PA SYSTEM LOUDSPEAKER
	SURFACE MOUNTED HORN TYPE PA SYSTEM LOUDSPEAKER
	WALL-MOUNTED PA SYSTEM LOUDSPEAKER
	PA SYSTEM AMPLIFIER/CONTROL PANEL/BASE STATION TO INTEGRATE WITH IP NETWORK
	PA SYSTEM MAIN MICROPHONE TO INTEGRATE WITH PA SYSTEM MAIN CONTROL PANEL FOR ANNOUNCEMENTS
	PA SYSTEM INTERCOM SUB CONTROL PANEL/MICROPHONE ABLE TO COMMUNICATE TO RECEPTION (ADMIN)

A14/08/2024Issued For Information

NO DATEAMENDMENT

Client:



independent development trust

Consultant:



Tel: +27(0) 861 878 252
www.csmeng.co.za

ELECTRICAL

Project:

RAPID INFRASTRUCTURE PROGRAMME: PROPOSED CONSTRUCTION OF PAKAMANI SENIOR SECONDARY SCHOOL, ENGCOBO

Drawing Title:

MULTI-PURPOSE HALL
FIRE DETECTION AND PA SYSTEM LAYOUT

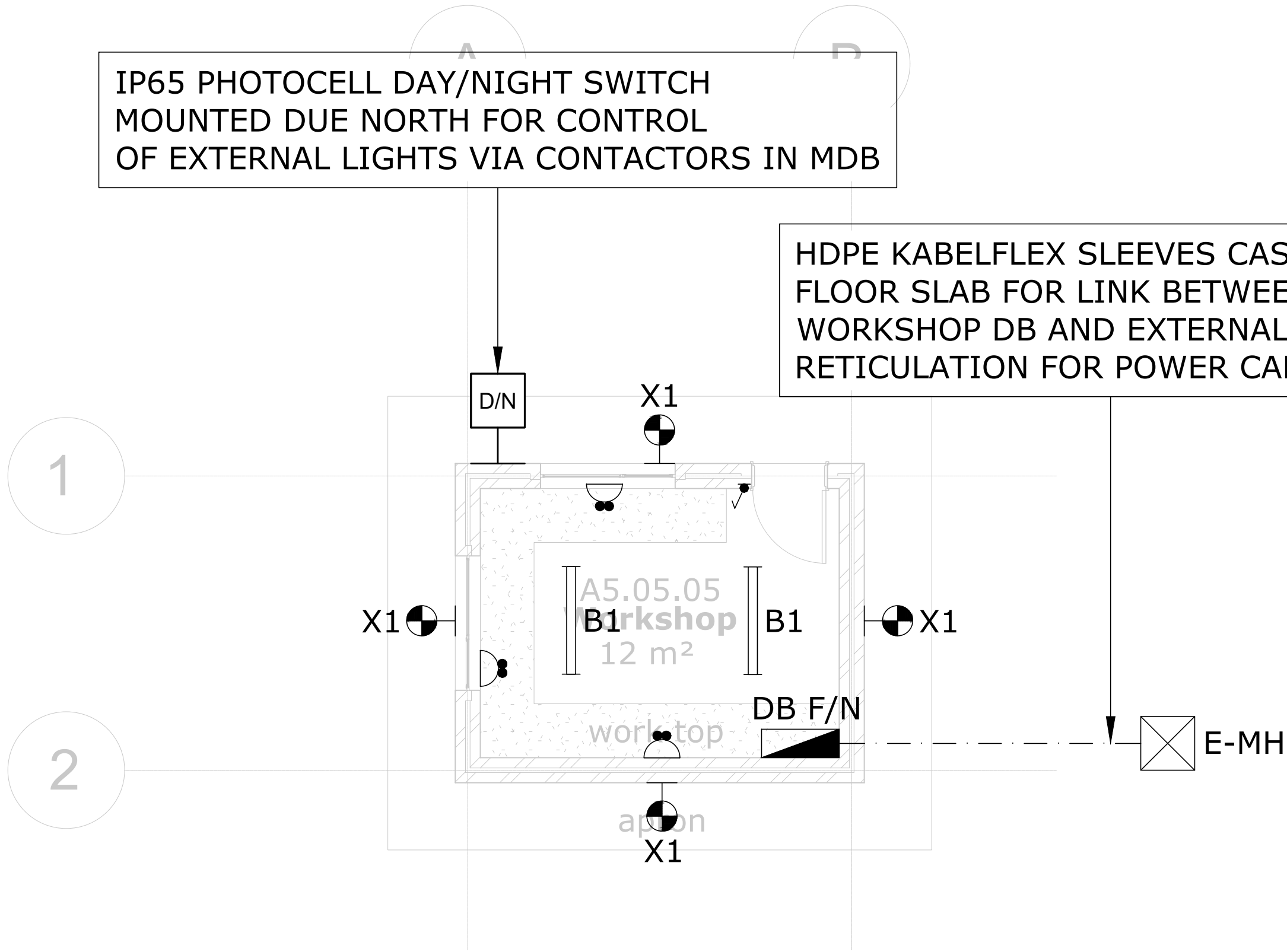
Prof. Registered Signature		Client Signature	
Pr Tech 201170230		Designation	
Niel Strachan		Name	
Date:	August 2024	Designed:	Henry Heyns
Size:	A1	Drawn:	Henry Heyns
Scale:	1:75	Checked:	Niel Strachan
Building Occupancy:	TBC	Climate Zone:	TBC
Stage:	2	Sheet:	1 of 1

Project #:	Discipline:	Drawing #:	Rev:
7019507G	E	704	A

For: CONCEPT DESIGN

IP65 PHOTOCELL DAY/NIGHT SWITCH
MOUNTED DUE NORTH FOR CONTROL
OF EXTERNAL LIGHTS VIA CONTACTORS IN MDB

HDPE KABELFLEX SLEEVES CAST INTO
FLOOR SLAB FOR LINK BETWEEN
WORKSHOP DB AND EXTERNAL TRENCH
RETICULATION FOR POWER CABLING



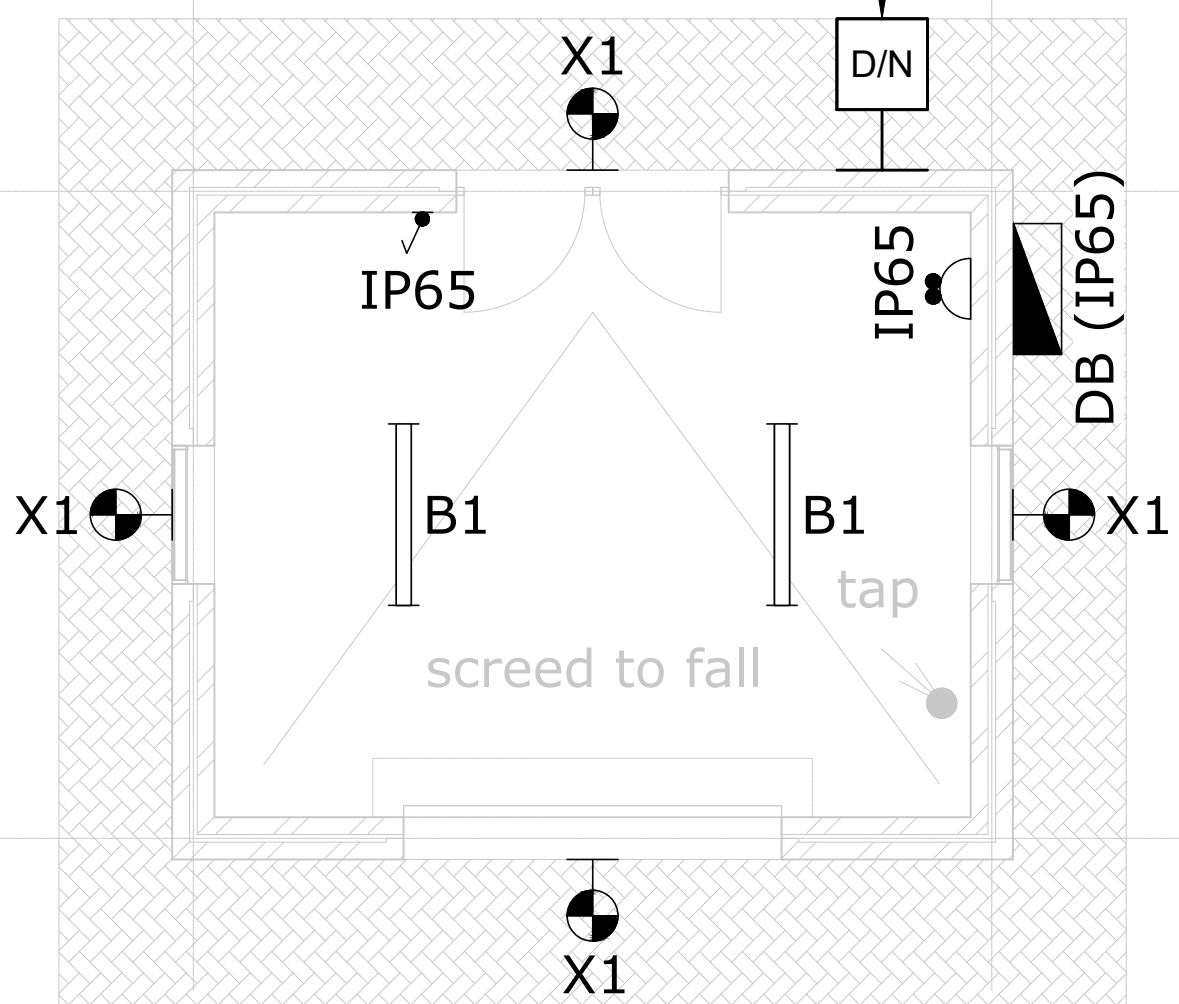
CARETAKER'S WORKSHOP
SCALE 1:50

LIGHTING LEGEND	
SYMBOL	DESCRIPTION
	16A One-Lever, One Way Light Switch, Wall Recessed @ 1250mm AFFL
	16A Two-Lever, One Way Light Switch, Wall Recessed @ 1250mm AFFL
	16A One-Lever, One Way Light Switch, Wall Recessed @ 1250mm AFFL (Dim Switch)
	16A One-Lever, Two Way Light Switch, Wall Recessed @ 1250mm AFFL
	16A One-Lever, One Way, IP65, Weatherproof Light Switch, Wall Mounted, Surface Mounted @ 1250mm AFFL
	20W LED Bulkhead Luminaire, 2800lm, IP65, 4000K, Surface Mounted, White Finish (Lascon Roma Or Similar Approved)
	55W LED Flood Light Luminaire, 8119 lm, IP65, 4000K, High-Pressure Die-Cast Aluminium Housing, IK10, Surface Mounted With Stainless Steel Bracket And Bolts, (Beka LedFlood-Midi Or Similar Approved)
	35W Led Panel Luminaire, 600mm X 600mm, Recessed In Ceiling, 4000lm, 4000K (Beka Dart Or Similar Approved)
	30W 1165mm LED Linear Luminaire, 4441 lm, Surface Mounted, Vapour Proof, IP65, IK08 Polycarbonate Protector, Grey Finish (Beka Vapour Line Or Similar Approved)
	47W 1180mm LED Linear Luminaire, 6000 lm, Surface Mounted, Low Glare, 4000K, Dimmable LED Driver, CRI>80 (Lascon LP1-HO Or Similar Approved)
	35W 1260mm LED Linear Luminaire, 4500 lm, Surface Mounted, Low Glare, 4000K, Dimmable LED Driver, CRI>80 (Lascon SCL-W Or Similar Approved)
	60W 1500mm LED Linear Lowbay Luminaire, 8010 lm, Surface Mounted To Underside Of Suspended Cable Tray, Low Glare, 4000K, CRI>80 (Rubicon Thermisto Or Similar Approved)
	Electrical Distribution Board
	Day / Night Switch, IP65, UV Protected Enclosure
	10W LED Emergency Exit Luminaire (With 1h Battery Backup)
	Denotes Emergency Light with Local Battery Pack (30-minutes Autonomy)
	Occupancy Sensor

SOCKET AND DATA OUTLET LEGEND	
SYMBOL	DESCRIPTION
	16A SANS 164-1/164-2 Combination SSO 300mm AFFL Recessed (Dedicated Red)
	16A SSO @ 300mm AFFL (SANS 164-1/2 Combination) Recessed
	16A SSO @ 1200mm AFFL (SANS 164-1/2 Combination) Recessed
	5-PIN 32A Industrial SSO, IP65 @ 1200mm AFFL
	16A SANS 164-1 SSO Recessed In Power Skirting (Dedicated Red)
	16A SANS 164-1 SSO Recessed In Power Skirting
	HDMI Outlet Wall Recessd Or Mounted To PVC Skirting
	1 x RJ45 Outlet Mounted In Power Skirting 1 x RJ11 Outlet Mounted In Power Skirting
	10A SANS 164-2 SSO, Recessed in Power Skirting
	2 Compartment Heavy Duty PVC Power Skirting (Grey) Surface Mounted At 300mm Above FFL
	Distribution Board At 1800mm From FFL To Top Of Board (Minimum 1600mm From FFL)
	DP 230V Isolator, Ampere Rating As Shown, Mounted Adjacent To Fixed Equipment
	TP 400V Isolator, Ampere Rating As Shown, Mounted Adjacent To Fixed Equipment
	5-PIN 32A Industrial SSO, IP65 @ 1200mm AFFL
	Recessed Floor Box: 3 x 8 Module - 2 x 16A SSO (Normal SANS 164-1) - 4 x 16A SSO (Dedicated SANS 164-1) - 4 x 10A SSO (Normal SANS 164-2) - 4 x RJ45 Outlets
	PVC Conduit Cast In Floor Slab To Feed To Floor Box System: - 2 x 250mm - 2 x 320mm
	RJ-45 and RJ-11 Data/Telephone Outlet Combination Wall Recessed At 300mm AFFL
	WIFI Access Point In Ceiling/WIFI Router
	DENOTES ISOLATOR FOR AIRCON UNIT
	DENOTES ISOLATOR FOR HEAT PUMP
	DENOTES ISOLATOR FOR FAN

ELECTRICAL RETICULATION LEGEND	
SYMBOL	DESCRIPTION
	1 x P9000 GALVANIZED STEEL TRUNKING 1 x P8000 GALVANIZED STEEL TRUNKING 1 x 200mm STEEL CABLE MESH BASKET (UNLESS STATED OTHERWISE)
	ELECTRICAL TRENCH/SLEEVE NETWORK
	LV DISTRIBUTION BOARD
	ELECTRICAL MANHOLE OR DATA MANHOLE
	CONTAINMENT RISER/DROP FOR VERTICAL RETICULATION IN SERVICE SHAFT

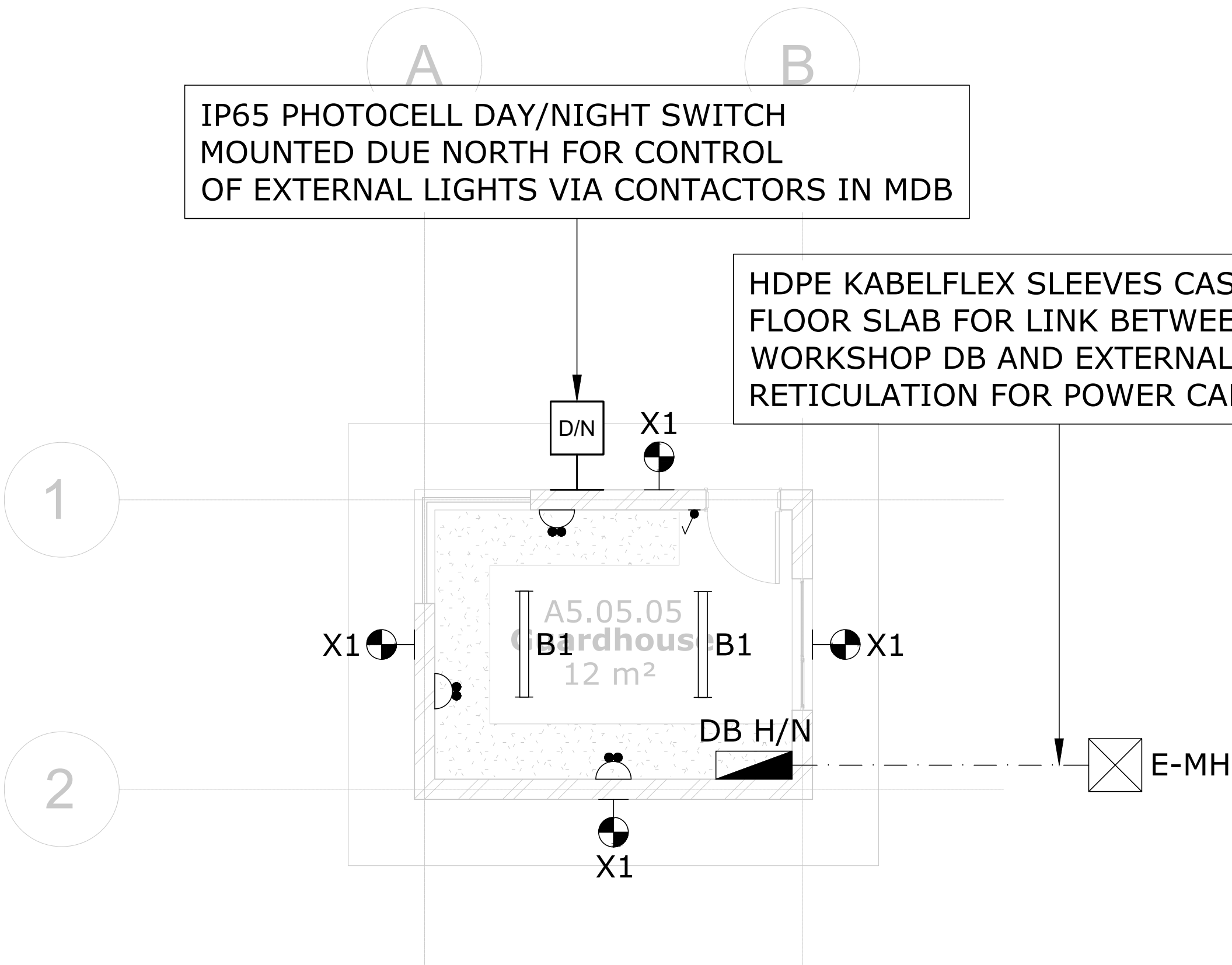
IP65 PHOTOCELL DAY/NIGHT SWITCH
MOUNTED DUE NORTH FOR CONTROL
OF EXTERNAL LIGHTS VIA CONTACTORS IN MDB



REFUSE AREA
SCALE 1:50

IP65 PHOTOCELL DAY/NIGHT SWITCH
MOUNTED DUE NORTH FOR CONTROL
OF EXTERNAL LIGHTS VIA CONTACTORS IN MDB

HDPE KABELFLEX SLEEVES CAST INTO
FLOOR SLAB FOR LINK BETWEEN
WORKSHOP DB AND EXTERNAL TRENCH
RETICULATION FOR POWER CABLING



GUARD HOUSE
SCALE 1:50

A	14/08/2024	Issued For Information
NO	DATE	AMENDMENT

Client:



Consultant:



ELECTRICAL

Project:
RAPID INFRASTRUCTURE
PROGRAMME: PROPOSED
CONSTRUCTION OF PAKAMANI
SENIOR SECONDARY SCHOOL,
ENGCOBO

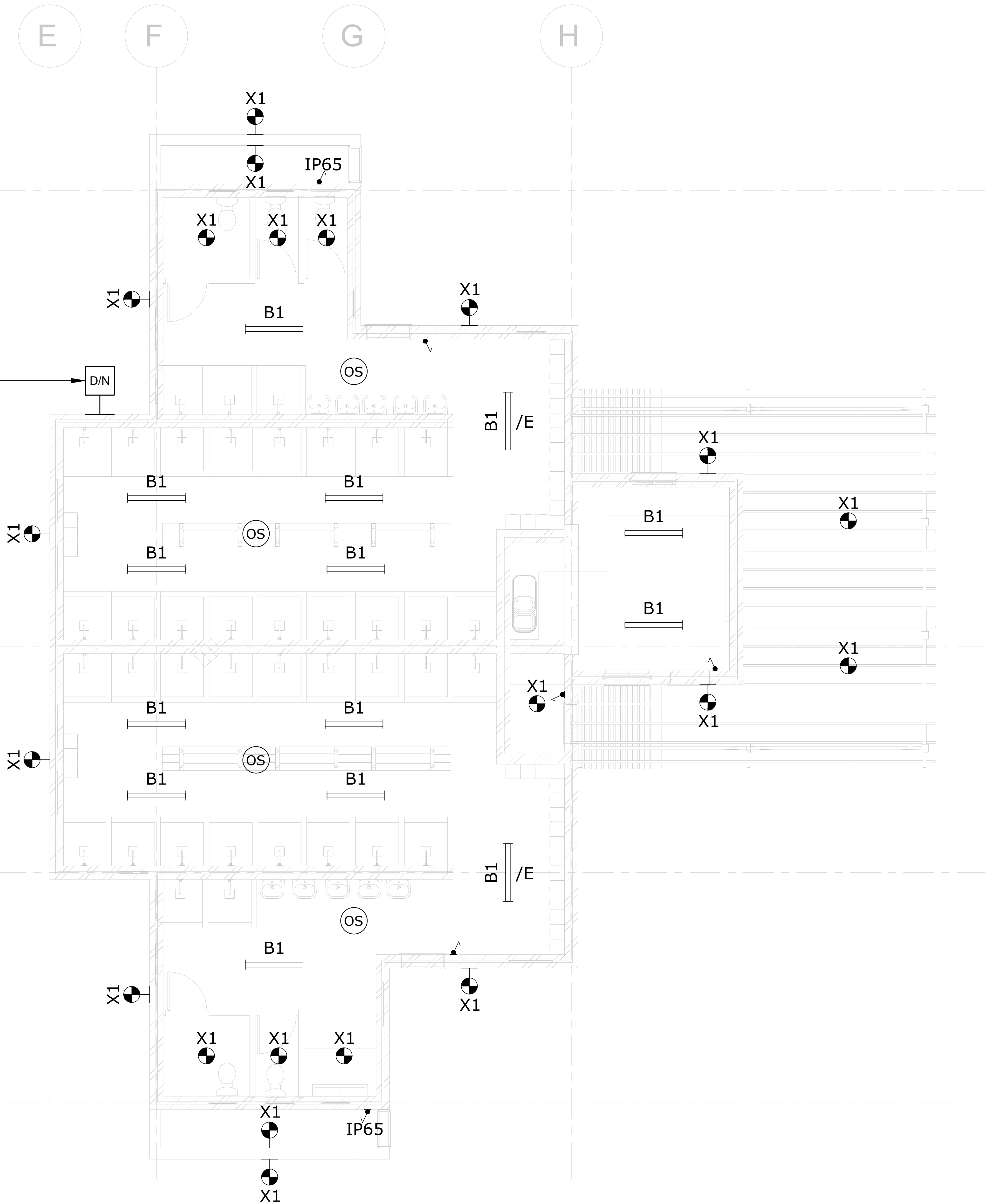
Drawing Title:
CARETAKER'S WORKSHOP,
REFUSE AREA AND GUARD
HOUSE ELECTRICAL SERVICES
LAYOUTS

Prof. Registered Signature	Client Signature
Pr Tech 201170230	Designation
Niel Strachan	Name

Date:	August 2024	Designed:	Henry Heyns
Size:	A1	Drawn:	Henry Heyns
Scale:	1:50	Checked:	Niel Strachan
Building Occupancy:	TBC	Climate Zone:	TBC
Stage:	2	Sheet:	1 of 1

Project #:	Discipline:	Drawing #:	Rev:
7019507G	E	801	A
For:	CONCEPT DESIGN		

IP65 PHOTOCELL DAY/NIGHT SWITCH
MOUNTED DUE NORTH FOR CONTROL
OF EXTERNAL LIGHTS VIA CONTACTORS IN MDB



LIGHTING LEGEND	
SYMBOL	DESCRIPTION
	16A One-Lever, One Way Light Switch, Wall Recessed @ 1250mm AFFL
	16A Two-Lever, One Way Light Switch, Wall Recessed @ 1250mm AFFL
	16A One-Lever, One Way Light Switch, Wall Recessed @ 1250mm AFFL (Dim Switch)
	16A One-Lever, Two Way Light Switch, Wall Recessed @ 1250mm AFFL
	16A One-Lever, One Way, IP65, Weatherproof Light Switch, Wall Mounted, Surface Mounted @ 1250mm AFFL
	20W LED Bulkhead Luminaire, 2800lm, IP65, 4000K, Surface Mounted, White Finish (Lascon Roma Or Similar Approved)
	55W LED Flood Light Luminaire, 8119 lm, IP66, 4000K, High-Pressure Die-Cast Aluminium Housing, IK10, Surface Mounted With Stainless Steel Bracket And Bolts, (Beka LedFlood-Midi Or Similar Approved)
	35W Led Panel Luminaire, 600mm X 600mm, Recessed In Ceiling, 4000lm, 4000K (Beka Dari Or Similar Approved)
	30W 1165mm LED Linear Luminaire, 4441 lm, Surface Mounted, Low Glare, 4000K, Dimmable LED Driver, CRI>80 (Lascon LP1-HO Or Similar Approved)
	47W 1180mm LED Linear Luminaire, 6000 lm, Surface Mounted, Low Glare, 4000K, Dimmable LED Driver, CRI>80 (Lascon LP1-HO Or Similar Approved)
	35W 1260mm LED Linear Luminaire, 4500 lm, Surface Mounted, Low Glare, 4000K, Dimmable LED Driver, CRI>80 (Lascon SCL-W Or Similar Approved)
	60W 1500mm LED Linear Lowbay Luminaire, 8010 lm, Surface Mounted To Underside Of Suspended Cable Tray, Low Glare, 4000K, CRI>80 (Rubicon Thermisto Or Similar Approved)
	Electrical Distribution Board
	Day / Night Switch, IP65, UV Protected Enclosure
	10W LED Emergency Exit Luminaire (With 1h Battery Backup)
	Denotes Emergency Light with Local Battery Pack (30-minutes Autonomy)
	Occupancy Sensor

A	14/08/2024	Issued For Information
NO	DATE	AMENDMENT

Client:



Consultant:



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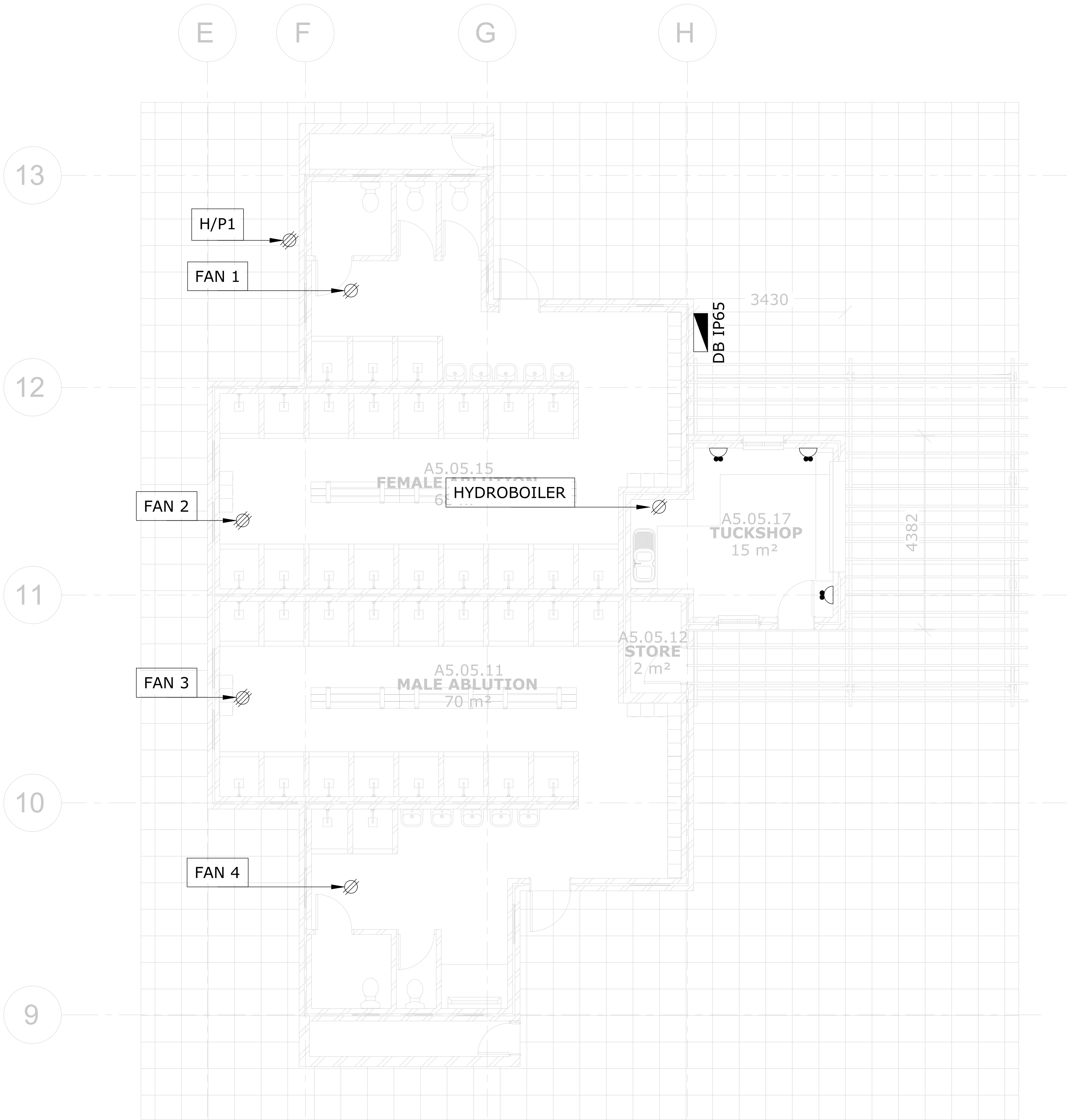
ELECTRICAL

Project:
RAPID INFRASTRUCTURE
PROGRAMME: PROPOSED
CONSTRUCTION OF PAKAMANI
SENIOR SECONDARY SCHOOL,
ENGCOBO

Drawing Title:

CHANGEROOM & TUCKSHOP
LIGHTING LAYOUTS

Prof. Registered Signature		Client Signature	
Pr Tech 201170230		Designation	
Niel Strachan		Name	
Date:	August 2024	Designed:	Henry Heyns
Size:	A1	Drawn:	Henry Heyns
Scale:	1:50	Checked:	Niel Strachan
Building Occupancy:	TBC	Climate Zone:	TBC
Stage:	2	Sheet:	1 of 1
Project #:	Discipline:	Drawing #:	Rev:
7019507G	E	901	A
For: CONCEPT DESIGN			



Socket and Data Outlet Legend	
Symbol	Description
	16A SANS 164-1/164-2 Combination SSO 300mm AFFL Recessed (Dedicated Red)
	16A SSO @ 300mm AFFL (SANS 164-1/2 Combination) Recessed
	16A SSO @ 1200mm AFFL (SANS 164-1/2 Combination) Recessed
	5-PIN 32A Industrial SSO, IP65 @ 1200mm AFFL
	16A SANS 164-1 SSO Recessed In Power Skirting (Dedicated Red)
	16A SANS 164-1 SSO Recessed In Power Skirting
	HDMI Outlet Wall Recessd Or Mounted To PVC Skirting
	1 x RJ45 Outlet Mounted In Power Skirting 1 x RJ11 Outlet Mounted In Power Skirting
	10A SANS 164-2 SSO, Recessed in Power Skirting
	2 Compartment Heavy Duty PVC Power Skirting (Grey) Surface Mounted At 300mm Above FFL
	Distribution Board At 1800mm From FFL To Top Of Board (Minimum 1600mm From FFL)
	DP 230V Isolator, Ampere Rating As Shown, Mounted Adjacent To Fixed Equipment
	TP 400V Isolator, Ampere Rating As Shown, Mounted Adjacent To Fixed Equipment
	5-PIN 32A Industrial SSO, IP65 @ 1200mm AFFL
	Recessed Floor Box: 3 x 8 Module - 2 x 16A SSO (Normal SANS 164-1) - 4 x 16A SSO (Dedicated SANS 164-1) - 4 x 10A SSO (Normal SANS 164-2) - 4 x RJ45 Outlets
	PVC Conduit Cast In Floor Slab To Feed To Floor Box System: - 2 x 250mm - 2 x 320mm
	RJ-45 and RJ-11 Data/Telephone Outlet Combination Wall Recessed At 300mm AFFL
	WIFI Access Point In Ceiling/WIFI Router
	DENOTES ISOLATOR FOR AIRCON UNIT
	DENOTES ISOLATOR FOR HEAT PUMP
	DENOTES ISOLATOR FOR FAN

A	14/08/2024	Issued For Information
NO	DATE	AMENDMENT

Client:



Consultant:



Tel: +27(0) 861 878 252
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ELECTRICAL

Project:
**RAPID INFRASTRUCTURE
PROGRAMME: PROPOSED
CONSTRUCTION OF PAKAMANI
SENIOR SECONDARY SCHOOL,
ENGCOBO**

Drawing Title:
**CHANGEROOM & TUCKSHOP
SOCKET OUTLET LAYOUT**

Prof. Registered Signature		Client Signature	
Pr Tech 201170230		Designation	
Niel Strachan		Name	
Date:	August 2024	Designed:	Henry Heyns
Size:	A1	Drawn:	Henry Heyns
Scale:	1:50	Checked:	Niel Strachan
Building Occupancy:	TBC	Climate Zone:	TBC
Stage:	2	Sheet:	1 of 1
Project #:	7019507G	Discipline:	E
Drawing #:	902	Rev:	A
For: CONCEPT DESIGN			