



First Floor
1:100

AC & FAN SCHEDULE (1)									
REF	NO.	DESCRIPTION	MODEL	COOLING CAPACITY	AIR FLOW	ESP	WEIGHT	RATED CURRENT	MOUNTING POS
ODU-1	1	"LG MULTI V5" VRF OUTDOOR UNIT - HEAT PUMP	ARUM100LTE5	28 kW	-	-	240 kg	3Ph, 400V, 50Hz, 28A	ROOF - SUPPORT REQ
ODU-2	2	"LG MULTI V5" VRF OUTDOOR UNIT - HEAT PUMP	ARUM120LTE5	33.6 kW	-	-	240 kg	3Ph, 400V, 50Hz, 28A	ROOF - SUPPORT REQUEST RECONY - PLINTH RECONY
ODU-3	1	"LG MULTI V5" VRF OUTDOOR UNIT - HEAT PUMP	ARUM160LTE5	44.8 kW	-	-	260 kg	3Ph, 400V, 50Hz, 28A	ROOF - SUPPORT REQ
ODU-4	2	"LG MULTI V5" VRF OUTDOOR UNIT - HEAT PUMP	ARUM200LTE5	56 kW	-	-	330 kg	3Ph, 400V, 50Hz, 49A	ROOF - SUPPORT REQUEST RECONY - PLINTH RECONY
ODU-5	1	"LG MULTI V5" VRF OUTDOOR UNIT - HEAT RECOVERY	ARUM200LTE5	56 kW	-	-	330 kg	3Ph, 400V, 50Hz, 49A	BALCONY - PLINTH REC
IDU-2	1	"LG MULTI V5" VRF INDOOR UNIT - MID-WALL	ARNU09GSJN4	2.8 kW	-	-	10 kg	1Ph, 230V, 50Hz, 0.1A	WALL
IDU-3	1	"LG MULTI V5" VRF INDOOR UNIT - MID-WALL	ARNU15GSJN4	4.5 kW	-	-	10 kg	1Ph, 230V, 50Hz, 0.2A	WALL
IDU-5	5	"LG MULTI V5" VRF INDOOR UNIT - MID-WALL	ARNU24GSKN4	7.1 kW	-	-	15 kg	1Ph, 230V, 50Hz, 0.2A	WALL
IDU-6	3	"LG MULTI V5" VRF INDOOR UNIT - MID-WALL	ARNU36GSVA4	10.4 kW	-	-	20 kg	1Ph, 230V, 50Hz, 0.4A	WALL
IDU-8	1	"LG MULTI V5" VRF INDOOR UNIT - CEILING CASSETTE	ARNU09GTRC4	2.8 kW	-	-	15 kg	1Ph, 230V, 50Hz, 0.1A	SOFFIT / TRUSS
IDU-9	2	"LG MULTI V5" VRF INDOOR UNIT - CEILING CASSETTE	ARNU15GTQC4	4.5 kW	-	-	20 kg	1Ph, 230V, 50Hz, 0.2A	SOFFIT / TRUSS
IDU-10	1	"LG MULTI V5" VRF INDOOR UNIT - CEILING CASSETTE	ARNU18GTQC4	5.6 kW	-	-	20 kg	1Ph, 230V, 50Hz, 0.2A	SOFFIT / TRUSS
IDU-11	4	"LG MULTI V5" VRF INDOOR UNIT - FRESH AIR INTAKE	ARNU96GB8Z4	28 kW	595 l/s	216 Pa	80 kg	1Ph, 230V, 50Hz, 1.6A	TRUSS
HRU-1	1	"LG MULTI V5" VRF HEAT RECOVERY BOX - 6 PORT	PRHR063A	-	-	-	35 kg	1Ph, 230V, 50Hz, 0.4A	TRUSS
HRU-2	1	"LG MULTI V5" VRF HEAT RECOVERY BOX - 8 PORT	PRHR083A	-	-	-	35 kg	1Ph, 230V, 50Hz, 0.4A	TRUSS
SU-1	1	SPLIT UNIT - MID-WALL	M24AKH	6.45 kW	-	-	45 kg(Out) + 15 kg (Ind)	1Ph, 230V, 50Hz, 10A	WALL / WALL
SF-1	2	"SYSTEMAIR" SUPPLY AIR FAN - CIRCULAR IN-LINE FAN	Prio Silent XP 150EC	-	90-145 l/s	200 Pa	5 kg	1Ph, 230V, 50Hz, 1A	SOFFIT / TRUSS
SF-2	1	"SYSTEMAIR" SUPPLY AIR FAN - CIRCULAR IN-LINE FAN	Prio 315 EC	-	885 l/s	200 Pa	10 kg	1Ph, 230V, 50Hz, 2.5A	SOFFIT
EF-2	2	"XPELAIR" WINDOW MOUNTED EXTRACTOR FAN	GX9C	-	145 l/s	-	5 kg	1Ph, 230V, 50Hz, 0.2A	WINDOW
EF-3	3	"XPELAIR" WINDOW MOUNTED EXTRACTOR FAN	GX9	-	171 l/s	-	5 kg	1Ph, 230V, 50Hz, 0.2A	WINDOW

AIR DISTRIBUTION EQUIPMENT SCHEDULE (1)						
REF	NO.	DESCRIPTION	SIZE	MODEL	COMMENTS	
SG-1	1	"TROX" SUPPLY AIR, DOUBLE DEFLECTION GRILLE C/W PLENUM & O.B.D.	200x200	AT		
SG-2	2	"TROX" SUPPLY, DOUBLE DEFLECTION GRILLE C/W PLENUM & O.B.D.	300x250	AT		
SG-4	3	"TROX" SUPPLY, DOUBLE DEFLECTION GRILLE C/W PLENUM & O.B.D.	550x250	AT		
JD-1	8	"TROX" JET DIFFUSER, ADJUSTABLE C/W EXTERNAL ELECTRIC ACTUATOR & CONTROLS	400ø	DUK-4-A-E1-4 00-P0		
SD-1	4	"TROX" FRESH AIR DISC VALVE	200ø	Z-LVS-200	Ø200mm SPIGOT/DUCT/FLEX	
RAFF-1	1	"TROX" RETURN AIR GRILLE CW HINGED FRAME, PLENUM, FILTER AND O.B.D	1200x600	-		
WL-1	1	ALUMINIUM WEATHER LOUVRE C/W W.M.S	200x550	AWR		
WL-2	2	ALUMINIUM WEATHER LOUVRE C/W W.M.S	250x250	AWR		
WL-3	5	ALUMINIUM WEATHER LOUVRE C/W W.M.S	1000x1000	AWR		
ELD-1	1	EXISTING LOUVRE DOOR TO BE REFURBISHED.	3000x1500	-	PAINTED TO MATCH ARCHITECTS APPROVAL	

DUCT ACCESSORY SCHEDULE (1)						
REF	NO.	DESCRIPTION	SIZE			
FF-1	1	FRESH AIR PRIMARY FILTER C/W SLIDING FRAME	200x550			
FF-2	2	FRESH AIR PRIMARY FILTER C/W SLIDING FRAME	250x250			
FF-3	4	FRESH AIR PRIMARY FILTER C/W SLIDING FRAME	1000x1000			
ATT-1	2	ROUND SOUND ATTENUATOR	Ø315x900L			
ATT-2	4	RECTANGULAR SOUND ATTENUATOR	300x450x500L			
BD-1	1	BALANCING DAMPER	250x350			
BD-3	1	BALANCING DAMPER	350x350			

**CONTROLLER SCHEDULE (1)** 

DESCRIPTION LG STANDARD WALL CONTROLLER

EXISTING CEILING @ APPROX 12500mm ABOVE GROUND FLOOR LEVEL  NEW JET DIFFUSERS TO BE INSTALLED THROUGH EXISTING CEILINGS  Section 1  1:100	
1:100	

REFERENCE DRAWING: M100 / M101 / M200 / M201

Westville, 3630 Tel.: +27 (31) 205 2335 Tel.: +27 (12) 346 8676 DESIGN INFORMATION DRAWN: DESIGNED: CHECKED: DATE: PL SG GG 08/25/22 CLIENT INFORMATION CLIENT LOGO: CLIENT NAME: Msunduzi Museum an agency of the PROJECT INFORMATION PROJECT DESCRIPTION: Building / HVAC Upgrade PROJECT NAME: Msunduzi Complex Main Museum 351 Langalibalele St, Pietermaritzburg SITE DESCRIPTION: Museum DRAWING INFORMATION DRAWING TITLE: HVAC Layouts - First & Mezzanine DRAWING SCALE: As indicated DRAWING NUMBER: LSG-2204-HVAC-101

DATE: 08/02/2022

LIST OF REVISIONS

COLOUR LEGEND

CONDENSATE DRAINAGE

**ELECTRICAL LEGEND** 

1PH POWER SUPPLY AND ISOLATOR. TO BE WEATHER PROOF IF EXPOSED TO THE ELEMENTS. REQUIREMENTS AS PER EQUIPMENT SCHEDULES.

3PH POWER SUPPLY AND ISOLATOR. TO BE WEATHER PROOF IF EXPOSED TO THE ELEMENTS. REQUIREMENTS AS PER

NOTES:

1. ALL FRESH AIR & EXTRACTION, INCLUDING AIR HANDLING UNITS, TO BE CONNECTED TO THE FIRE SIGNAL AND AUTOMATICALLY SHUT DOWN IN THE EVENT OF A FIRE.

2. ALL INDEPENDENT VENTILATION FANS (EXTRACT AND FRESH AIR) TO BE CONNECTED VIA TIMERS. TIMES TO BE CONFIRMED BY ENGINEER PRIOR TO SETTING.

3. ALL DUCTING SIZES SHOWN ARE SHEET-METAL SIZES. DUCTING TO BE MANUFACTURED ACCORDING TO SMACNA, SABS & ISO STANDARDS.

4. ALL A/C DUCTWORK (SUPPLY & RETURN) TO BE EXTERNALLY INSULATED WITH 15MM THERMAFLEX (POLYETHYLENE FOAM) OR INTERNALLY INSULATED WITH 15MM SONIC LINER (AS INDICATED). FRESH AIR AND EXTRACT AIR DUCT WORK TO BE UNINSULATED. ALL EXPOSED DUCTWORK AND DIFFUSION PRODUCTS TO BE PAINTED TO ARCHITECTS APPROVAL.

5. ALL HANGERS AND BRACKETS TO BE GALVANISED.

6. ALL DUCTWORK TO BE HUNG ON 30x50x1.6 G.S.M CHANNEL TRAPEZE HANGERS WITH 

8 RODS.

CHANNEL TRAPEZE HANGERS WITH Ø RODS. RODS

ARE TO BE CUT SHORT BEYOND THE DUCT HANGER TO PREVENT DAMAGE TO THE CEILING TILES WHEN LIFTED. THE ENDS ARE TO BE COLD GALVANISED.

7. ALL GRILLES AND SUPPLY AIR DIFFUSERS ARE TO BE

SECRET FIXINGS.

8. ALL WEATHER LOUVRES SHALL HAVE COUNTERSUNK FRAMES AND PHILLIPS HEAD COUNTERSUNK SCREWS.

9. THE MAXIMUM LENGTH OF FLEXIBLE DUCTING IS TO BE

1500MM.

10. ALL PIPEWORK CONNECTIONS TO EQUIPMENT MUST BE WITH FLANGES.

11. REFRIGERANT PIPES MUST BE INSULATED WITH

ARMAFLEX. INSULATION TAPE (LASSO TAPE) MUST BE OF THE ARMAFLEX TYPE, AS NO DUCT TAPE WILL BE ACCEPTED. ALL PIPEWORK BE RUN NEATLY IN CABLE TRAYS.

12. ALL A/C CONDENSATE DRAIN PIPES TO BE CONNECTED TO THE NEAREST DRAIN POINT. MAIN PIPE LINE TO BE Ø50mm WITH Ø32mm CONNECTION TO THE INDIVIDUAL INDOOR UNITS. ALL PIPING TO HAVE A FALL OF 1:80. ALL DRAIN PIPING TO BE THERMAFLEX INSULATED TO

PREVENT CONDENSATION. ALL DRAIN PIPES TO HAVE A TRAP BEFORE CONNECTING TO THE VENT/STACK PIPES. BY HVAC CONTRACTOR.

13. ALL ROUTING AND DIMENSIONS TO BE CONFIRMED ON SITE PRIOR TO INSTALLATION.

14. ALL MECHANICAL EQUIPMENT TO HAVE POWER

14. ALL MECHANICAL EQUIPMENT TO HAVE POWER
SUPPLIES AND ISOLATORS NOT MORE THAN 1.5m AWAY
FROM EQUIPMENT'S ELECTRICAL TERMINAL BOX. ANY
ISOLATOR EXPOSED TO THE ELEMENTS MUST BE
WEATHERPROOF. REFER TO SCHEDULES FOR

CONSULTANT INFORMATION

LSG CONSULTING
ENGINEERS INC.
Consulting Mechanical & Wet Services Engineers

COPYRIGHT RESERVED

10 Derby Place, Derby Downs Office Park,

Branch (PTA) 239 Lange Street, Nieuw Muckleneuk,

RUNNING LOADS.

EQUIPMENT SCHEDULES.

EXTRACT AIR FRESH AIR

AC SUPPLY AIR / LIQUID PIPING RETURN AIR / GAS PIPING

DESCRIPTION

NO. DATE

I0 19/08/22 Issued for Information

I1 26/08/22 Issued for Information / Approval I2 04/10/22 Issued for AMAFA Submission