

GENERAL NOTES

1. ALL MECHANICAL WORKS SHALL BE DONE IN ACCORDANCE WITH THE LATEST REQUIREMENTS OF THE PHILIPPINE BUILDING CODE REGULATIONS.
2. THE TOTAL SCOPE OF WORK SHALL INCLUDE ALL WORKS DESCRIBED IN THE PLAN AND IN THE GENERAL PROVISIONS OF THE INSTRUCTION TO BIDDERS FOR MECAHNICAL WORKS.
3. ALL EQUIPMENTS ARE INSTALLED IN APPROXIMATE LOCATION AS SHOWN ON THE DRAWINGS.
4. THE MECHANICAL CONTRACTOR SHALL ALWAYS OBSERVED SAFETY AND ORDERLINESS.
5. THE MECHANICAL CONTRACTOR SHALL VERIFY SITE PRIOR TO ACTUAL INSTALLATION.
6. THE MECHANICAL CONTRACTOR SHALL SUBMIT SHOP DRAWINGS INDICATING ACTUAL EQUIPMENT DIMENSIONS AND PROVISIONS FOR THE DUCT PASSAGES THRU WALLS, FLOORS AND ROOFS SHALL BE COORDINATED IN ADVANCE WITH THE INTERIOR DESIGNER/CONTRACTOR.
7. INSTALL ALL EQUIPMENT IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS. IN CASE OF SUBSTITUTION OF EQUIPMENT/MATERIALS, SUBMIT BROCHURES, LITERATURES TO THE ARCHITECT FOR APPROVAL.
8. ALL MATERIALS SHALL BE CLEAN AND NEW. SEALED DUCTWORKS FORM THE INSIDE WHEN EVER POSSIBLE.
9. ALL EQUIPMENT HANGERS SHALL BE PROVIDED WITH VIBRATION ISOLATOR AND CATWALK FOR SERVICING AND MAINTENACE.
10. PROVIDE ACCESS MAN HOLES FOR FAN MAINTENANCE. LOCATION SHALL BE APPROVED BY ARCHITECT.
11. ALL ELECTRICAL WORKS SHALL BE DONE IN ACCORDANCE WITH THE PROVISIONS OF THE LATEST EDITION OF THE PHILIPPINE ELECTRICAL CODE, THE LAWS & ORDINANCES OF THE LOCAL CODE ENFORCING AUTHORITIES.
12. CONTROL AND LOADSIDE ELECTRICAL FIELD WIRING SHALL BE DONE FOR A/C AND VENTILATION EQUIPMENT.
13. TEST DUCT FOR LEAKAGES. THE MECHANICAL CONTRACTOR SHALL TEST, BALANCE AND COMMISSION THE INSTALLATION.
14. DEVIATIONS AND REVISIONS FROM THE PLANS SHALL BE REFERRED TO THE ARCHITECT OR ENGINEER IN CHARGE FOR REVIEW AND APPROVAL.
15. DUCTWORKS SHALL BE FABRICATED AS PER SMACNA/DW 144 STANDARDS. OUTDOOR INSTALLATIONS SHALL BE PROVIDED WITH ALUMINUM SHEET CLADDING.
16. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE FULL COORDINATION OF ALL SERVICES.

NOTES ON PIPING INSTALLATION:

1. REFRIGERANT PIPES SHALL BE INTERNALLY CLEANED BY SWABBING WITH CLEAN COTTON CLOTH TO REMOVE ALL DUST, BURRS, AND OTHER MISCELLANEOUS DIRT.
2. WHILE SOLDERING JOINTS, A SWEEP OF INERT NITROGEN GAS SHOULD BE PASSED THROUGH PIPES TO PREVENT OXIDATION DEPOSITS INSIDE.
3. FITTINGS:

A. USE STANDARD LONG RADIUS COPPER ELBOWS, REDUCERS, ETC. DO NOT USE FIELD-FORMED ELBOWS, REDUCERS ETC.

B. JOINTS BETWEEN PIPES SHOULD BE THROUGH STANDARD COPPER COUPLING FORMED FITTING MADE BY SWAGING OR ENLARGING ONE PIPE END TO BE ABLE TO RECEIVE THE OTHER PIPE SECTION WOULD NOT BE ALLOWED.
4. THE COMPLETED PIPING INSTALLATION SHOULD BE LEAK TESTED BY SUBJECTING THE SAME (BOTH LIQUID AND SUCTION LINE) TO A PRESSURE OF 3100 Pa USING DRY NITROGEN GAS. THIS PRESSURE SHOULD BE LEFT FOR 24 HOURS AND IF THERE IS NO NOTICEABLE REDUCTION IN PRESSURE WITHIN THE PERIOD. THE NITROGEN CHARGE SHALL BE RELIEVED DOWN TO 140 KPa. TO SERVE AS HOLDING CHARGE WHILE WAITING FOR THE EQUIPMENT CONNECTION. IF THERE IS NOTICEABLE REDUCTION IN THE TEST PRESSURE, LEAK SHOULD BE LOCATED AND REPAIRED.
5. PROPERLY TESTED PIPING SHOULD BE SECURELY CAPPED AT BOTH ENDS AND WITH HOLDING CHARGED AS STATED IN ITEM 4 ABOVE WHILE WAITING FOR FINAL CONNECTION TO EQUIPMENT. INSULATE SUCTION PIPING ONLY AFTER PROPER LEAK TESTING.

EQUIPMENT SCHEDULE

SPLIT TYPE AIR CONDITIONING UNITS									
UNIT DESIGNATION		QTY	AREA / ZONE SERVED	CAPACITY	TYPE	ELECTRICAL DATA			REMARKS
						V	Ph	Hz	
IACU-01	OACU-01	1	COSTUMER SHOW ROOM	4.0 HP	FLOOR STANDING TYPE	230	1	60	EQUIVALENT / APPROVED BRAND, INVERTER TYPE
						230	1	60	
IACU-02	OACU-02	1	COSTUMER SHOW ROOM	4.0 HP	FLOOR STANDING TYPE	230	1	60	EQUIVALENT / APPROVED BRAND, INVERTER TYPE
						230	1	60	
IACU-03	OACU-03	1	COSTUMER SHOW ROOM	4.0 HP	FLOOR STANDING TYPE	230	1	60	EQUIVALENT / APPROVED BRAND, INVERTER TYPE
						230	1	60	
IACU-04	OACU-04	1	VIP SHOW ROOM	1.5 HP	WALL MOUNTED TYPE	230	1	60	EQUIVALENT / APPROVED BRAND, INVERTER TYPE
						230	1	60	
IACU-05	OACU-05	1	GUARD	0.8 HP	WALL MOUNTED TYPE	230	1	60	EQUIVALENT / APPROVED BRAND, INVERTER TYPE
						230	1	60	
IACU-06	OACU-06	1	MANAGER	2.5 HP	WALL MOUNTED TYPE	230	1	60	EQUIVALENT / APPROVED BRAND, INVERTER TYPE
						230	1	60	
IACU-07	OACU-07	1	PANTRY/LOCKER	3.0 HP	WALL MOUNTED TYPE	230	1	60	EQUIVALENT / APPROVED BRAND, INVERTER TYPE
						230	1	60	
IACU-08	OACU-08	1	SALES ACCOUNTING	2.0 HP	WALL MOUNTED TYPE	230	1	60	EQUIVALENT / APPROVED BRAND, INVERTER TYPE
						230	1	60	
IACU-09	OACU-09	1	WORK BENCH	3.0 HP	CEILING MOUNTED TYPE	230	1	60	EQUIVALENT / APPROVED BRAND, INVERTER TYPE
						230	1	60	
IACU-10	OACU-10	1	WORK BENCH	3.0 HP	CEILING MOUNTED TYPE	230	1	60	EQUIVALENT / APPROVED BRAND, INVERTER TYPE
						230	1	60	
IACU-11	OACU-11	1	SERVER ROOM	1.0 HP	WALL MOUNTED TYPE	230	1	60	EQUIVALENT / APPROVED BRAND, INVERTER TYPE
						230	1	60	
IACU-13	OACU-13	1	LECTURE ROOM	3.0 HP	FLOOR STANDING TYPE	230	1	60	EQUIVALENT / APPROVED BRAND, INVERTER TYPE
						230	1	60	
IACU-14	OACU-14	1	EDRIV & NESS OFFICE	3.0 HP	WALL MOUNTED TYPE	230	1	60	EQUIVALENT / APPROVED BRAND, INVERTER TYPE
						230	1	60	
IACU-15	OACU-15	1	EDRIV & NESS OFFICE	3.0 HP	WALL MOUNTED TYPE	230	1	60	EQUIVALENT / APPROVED BRAND, INVERTER TYPE
						230	1	60	
IACU-16	OACU-16	1	STAIRS	3.5 HP	CEILING MOUNTED TYPE	230	1	60	EQUIVALENT / APPROVED BRAND, INVERTER TYPE
						230	1	60	
IACU-17	OACU-17	1	STAIRS	3.5 HP	CEILING MOUNTED TYPE	230	1	60	EQUIVALENT / APPROVED BRAND, INVERTER TYPE
						230	1	60	
IACU-18	OACU-18	1	LECTURE ROOM	3.0 HP	FLOOR STANDING TYPE	230	1	60	EQUIVALENT / APPROVED BRAND, INVERTER TYPE
						230	1	60	
IACU-19	OACU-19	1	SALES ACCOUNTING	2.0 HP	WALL MOUNTED TYPE	230	1	60	EQUIVALENT / APPROVED BRAND, INVERTER TYPE
						230	1	60	
IACU-20	OACU-20	1	RELOADING ROOM	2.5 HP	WALL MOUNTED TYPE	230	1	60	EQUIVALENT / APPROVED BRAND, INVERTER TYPE
						230	1	60	
IACU-21	OACU-21	1	GUNSMITH	3.0 HP	WALL MOUNTED TYPE	230	1	60	EQUIVALENT / APPROVED BRAND, INVERTER TYPE
						230	1	60	
IACU-22	OACU-22	1	FIRING LINE AREA	2.0 HP	WALL MOUNTED TYPE	230	1	60	EQUIVALENT / APPROVED BRAND, INVERTER TYPE
						230	1	60	
IACU-23	OACU-23	1	FIRING LINE AREA	2.0 HP	WALL MOUNTED TYPE	230	1	60	EQUIVALENT / APPROVED BRAND, INVERTER TYPE
						230	1	60	

EQUIPMENT SCHEDULE

FAN SCHEDULE									
UNIT DESIGNATION	QTY	AREA / ZONE SERVED	AIRFLOW CFM	TYPE	POWER INPUT (kW)	ELECTRICAL DATA			REMARKS
						V	Ph	Hz	
TEF-01	9	TOILET	50	CEILING MOUNTED	.03	230	1	60	EQUIVALENT / APPROVED BRAND
ERV-01	1	GUNSMITH/RELOADING	636	CEILING MOUNTED	.8	230	1	60	APPROVED EQUIVALENT WITH HUMIDITY CONTROL
ERV-02	1	ARMORY	265	CEILING MOUNTED	.8	230	1	60	APPROVED EQUIVALENT WITH HUMIDITY CONTROL
KEAF-01	1	ROOF	5054	CABINET TYPE CENTRIFUGAL DIDW	5.60	400	3	60	AEROVENT- AFBM
KFAF-01	1	ROOF	4638	CABINET TYPE CENTRIFUGAL DIDW	5.22	400	3	60	AEROVENT- AFBM
DEHUMIDIFIER	1	ARMORY	353	PORTABLE KD-8138G	1.63	230	1	60	KLIMA-OPTIMA

LEGEND & SYMBOLS

SYMBOL	DESCRIPTION
OACU	OUTDOOR AC UNIT
IACU	INDOOR AC UNIT
ⓘ	THERMOSTAT
	EQUIPMENT DESIGNATION
	CEILING MOUNTED EXHAUST FAN
	ACCESS PANEL
EAD	EXHAUST AIR DUCT
FAD	FREASH AIR DUCT
FC	FLEXIBLE CONNECTOR
TEF	TOILET EXHAUST FAN
H/L	HIGH LEVEL
CDP	CONDENSATE PIPE
FCU	FAN COIL UNIT
SCD	FAN COIL UNIT
VCD	VOLUME CONTROL DAMPER



Radius
ARCHITECTURE

106 PEREA ST., MEZZANINE
FLOOR, GREENBELT MANSION,
LEGAZPI VILLAGE, MAKATI CITY
1229 PHILIPPINES
(02)256-4984 @radiusarchitecture

PROJECT TITLE:

SPEEDEDGE -
SHOOTING RANGE

PROJECT TYPE:

2-STOREY COMMERCIAL
BUILDING

ADDRESS:

LOT 30 BLOCK 1, WEST RD.,
ALABANG WEST, LAS PINAS
CITY

CLIENT:

MR. EDWARD RIVERA

R.A. 9266 (ARCHITECTURE LAW OF 2004) SECTION 33:
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DOCUMENTS DULY SIGNED, STAMPED OR SEALED, AS
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AND DOCUMENTS OF THE ARCHITECT, WHETHER THE OBJECT
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AND FOR OTHER PROJECTS OR BUILDINGS, WHETHER
EXECUTED PARTLY OR IN WHOLE, WITHOUT THE WRITTEN
CONSENT OF ARCHITECT OR AUTHOR OF SAID DOCUMENTS.



PROFESSIONAL MECHANICAL ENGINEER
JORGE R. LORETO JR.

PRC NO.: 004326
PTR NO.: 2182367

DRAWN BY:
JRBORJA

CHECKED BY:
KALIL/KARL

DATE: 06-02-2025
REVISION NO.: 01

SHEET CONTENTS:
GENERAL NOTES
LEGEND AND SYMBOL
EQUIPMENT SCHEDULE
FAN SCHEDULE

SHEET NUMBER:

M-01

01 OF 05



PROJECT TYPE: **SPEEDEDGE - SHOOTING RANGE**

CLIENT:
MR. EDWARD RIVERA

PROFESSIONAL MECHANICAL ENGINEER
JORGE R. LORETO JR.

02 OF 05



Radlins
ARCHITECTURE

108 PEREA ST., MEZZANINE
FLOOR, GREENBELT MANSION,
LEONARD, 1229 PHILIPPINES
(02)256-4984 @radlinsarchitecture

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**2-STOREY COMMERCIAL
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ADDRESS:

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ALABANG CITY

CLIENT:

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CONSENT OF THE ARCHITECT OR HIS SUCCESSORS.
UNLESS OTHERWISE SPECIFIED, THE ARCHITECT
TAKES NO RESPONSIBILITY FOR THE CONSTRUCTION
OF THE PROJECT OR FOR THE QUALITY OF THE
MATERIALS OR WORKMANSHIP THEREOF.

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PTR NO.: 2182367

DRAWN BY:
JRBORJA

CHECKED BY:
KALLIKARL

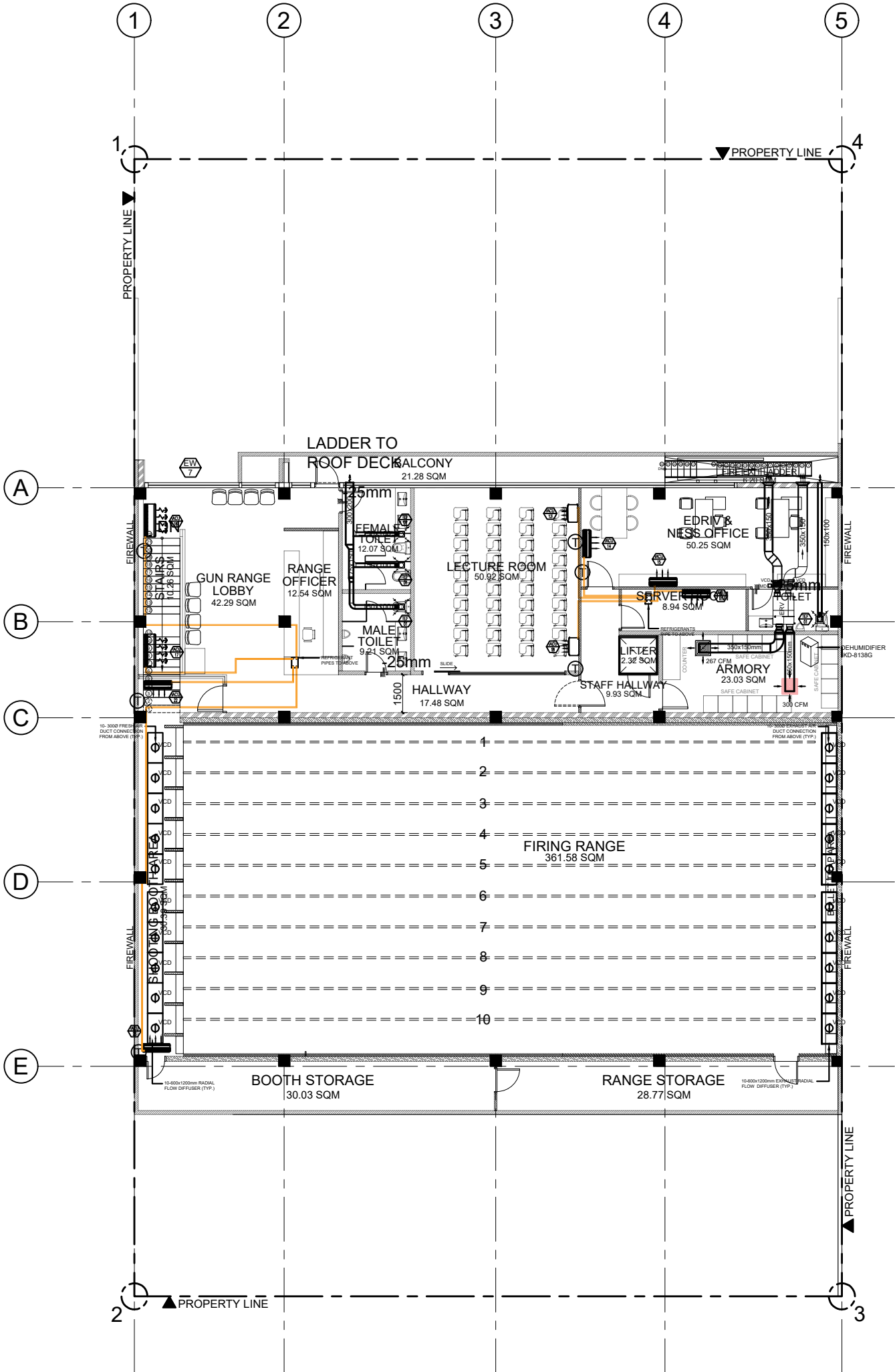
DATE: **06-02-2025**
REVISION NO.: **01**

SHEET CONTENTS:
SECOND FLOOR HVAC LAYOUT

SHEET NUMBER:

M-03

03 OF 05



A SECOND FLOOR HVAC LAYOUT
M3 SCALE 1:200M



Radius
ARCHITECTURE

108 PERERA ST., MEZZANINE,
FLOOR, GREENBELT MANSION,
LEONARD MANSION, MOUNT CITY
1229 PHILIPPINES
(02)256-4984 @radiusarchitecture

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DRAWN BY:
JRBORJA

CHECKED BY:
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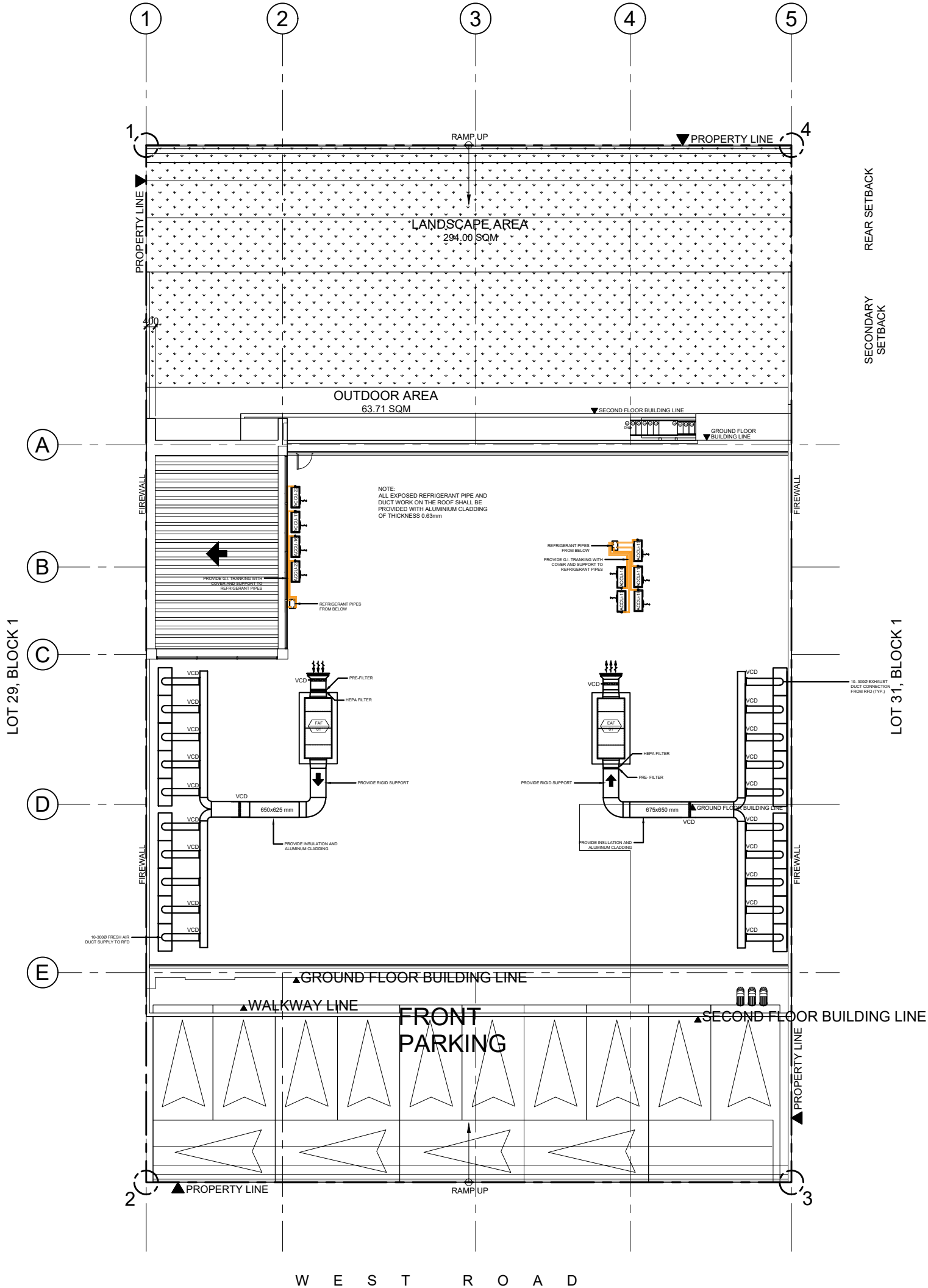
DATE: **06-02-2025**
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SHEET CONTENTS:
ROOF DECK HVAC LAYOUT

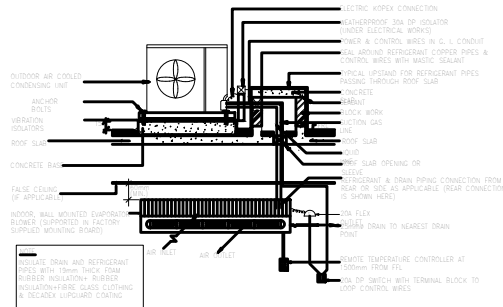
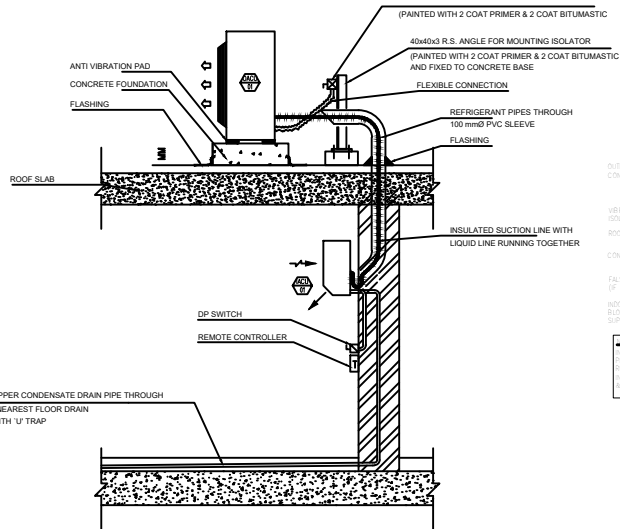
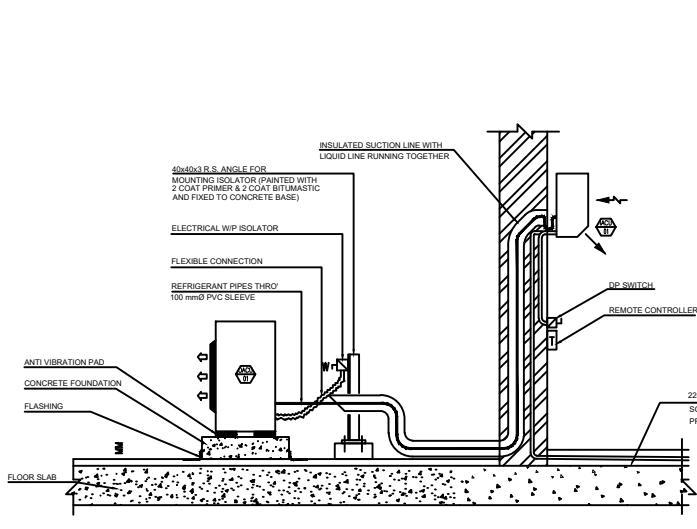
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M-04

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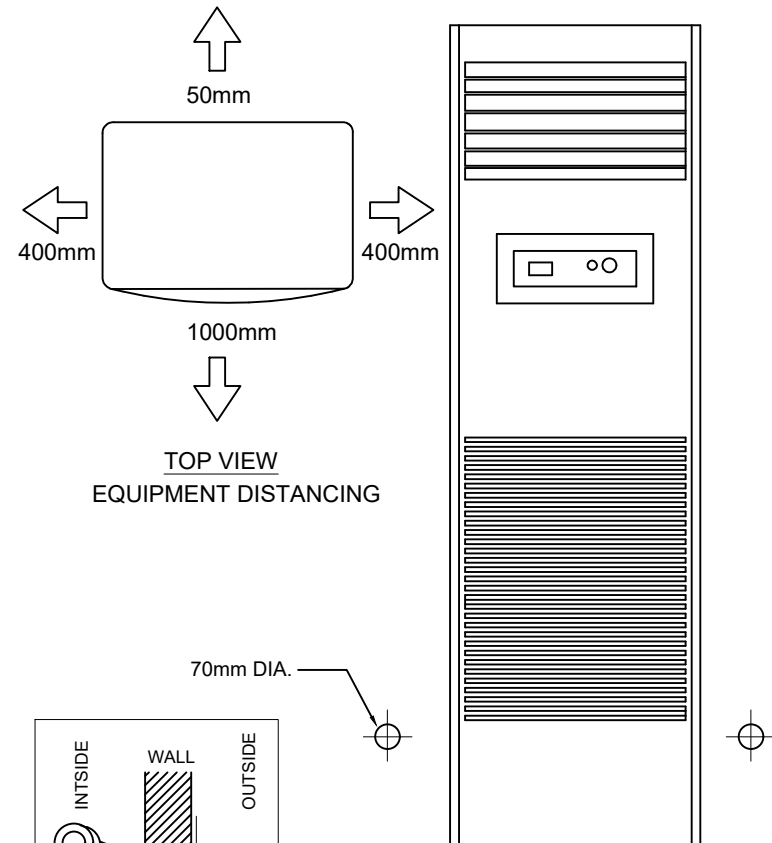


A ROOF DECK HVAC LAYOUT
M4 SCALE 1:200M

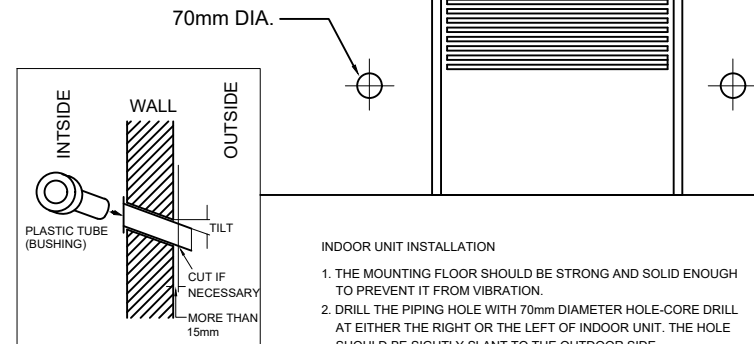


TYPICAL INSTALLATION METHOD OF SPLIT
CEILING MOUNTED SLIM TYPE A/C UNIT

1
M05
SCALE
NTS



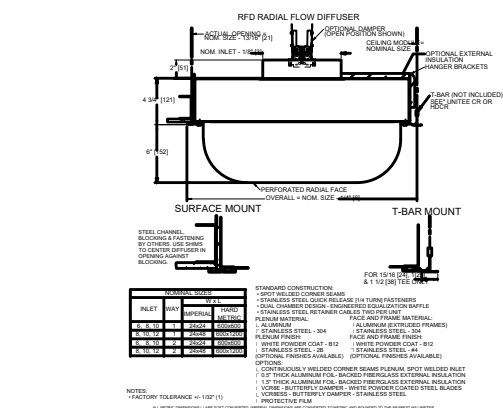
TOP VIEW
EQUIPMENT DISTANCING



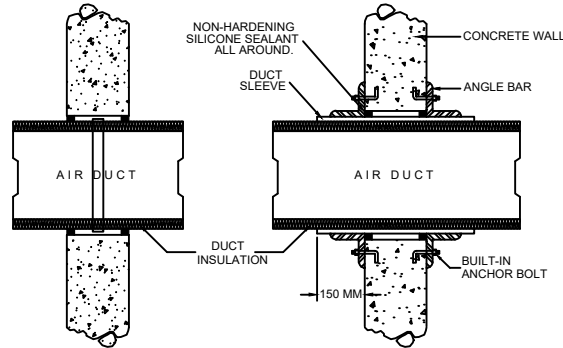
INDOOR UNIT INSTALLATION

1. THE MOUNTING FLOOR SHOULD BE STRONG AND SOLID ENOUGH TO PREVENT IT FROM VIBRATION.
2. DRILL THE PIPING HOLE WITH 70mm DIAMETER HOLE-CORE DRILL AT EITHER THE RIGHT OR THE LEFT OF INDOOR UNIT. THE HOLE SHOULD BE SLIGHTLY SLANT TO THE OUTDOOR SIDE.
3. INSERT THE PLASTIC TUBE THROUGH THE HOLE
4. CUT THE EXTRUDED OUTSIDE PART OF THE PLASTIC TUBE, IF NECESSARY.

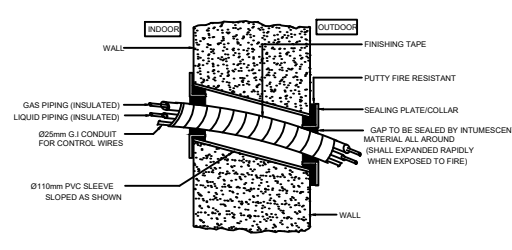
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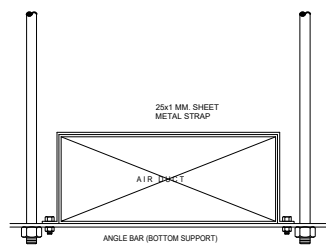
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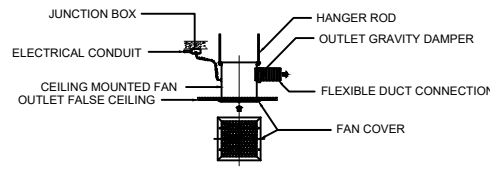
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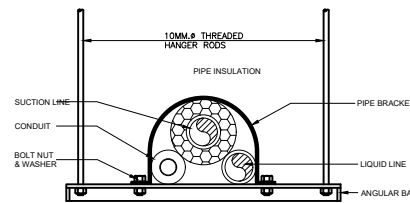
SCHEDULE OF DUCT SUPPORTS (AS PER DOW 144)			
MAXIMUM DUCT SIZE (LONGER SIDE)	R/S ANGLE SIZE	Ø2 THREADED ROD DIA (MM)	MAXIMUM SPACING (MM)
UP TO 600mm	25x25x3	8mm	3000mm
601mm TO 1000mm	35x35x3	8mm	2000mm
1001mm TO 1500mm	45x45x3	10mm	2500mm
1501mm TO 2500mm	45x45x4	10mm	2500mm

Ø2 SHEET THICKNESS FOR DUCTWORK (AS PER DOW 144)	
MAXIMUM DUCT SIZE (LONGER SIDE)	SHEET METAL THICKNESS
UP TO 400mm	0.6mm (24G)
401mm TO 1000mm	0.8mm (22G)
1001mm TO 2500mm	1.0mm (20G)

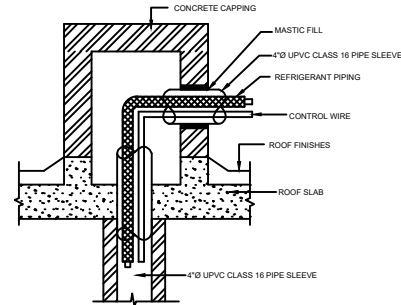
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M05
SCALE
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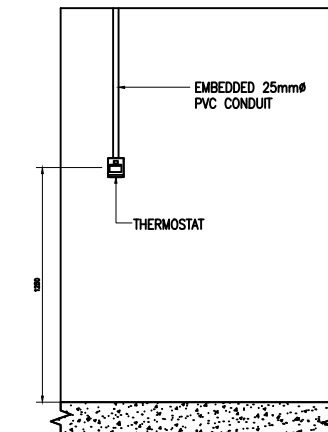
7
M05
SCALE
NTS



8
M05
SCALE
NTS



9
M05
SCALE
NTS



10
M05
SCALE
NTS



Radius
ARCHITECTURE

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DRAWN BY:
JRBORJA

CHECKED BY:
KALIL/KARL

DATE:
06-02-2025

REVISION NO.:
01

SHEET CONTENTS:
STANDARD DETAILS

SHEET NUMBER:

M-05

05 OF 05