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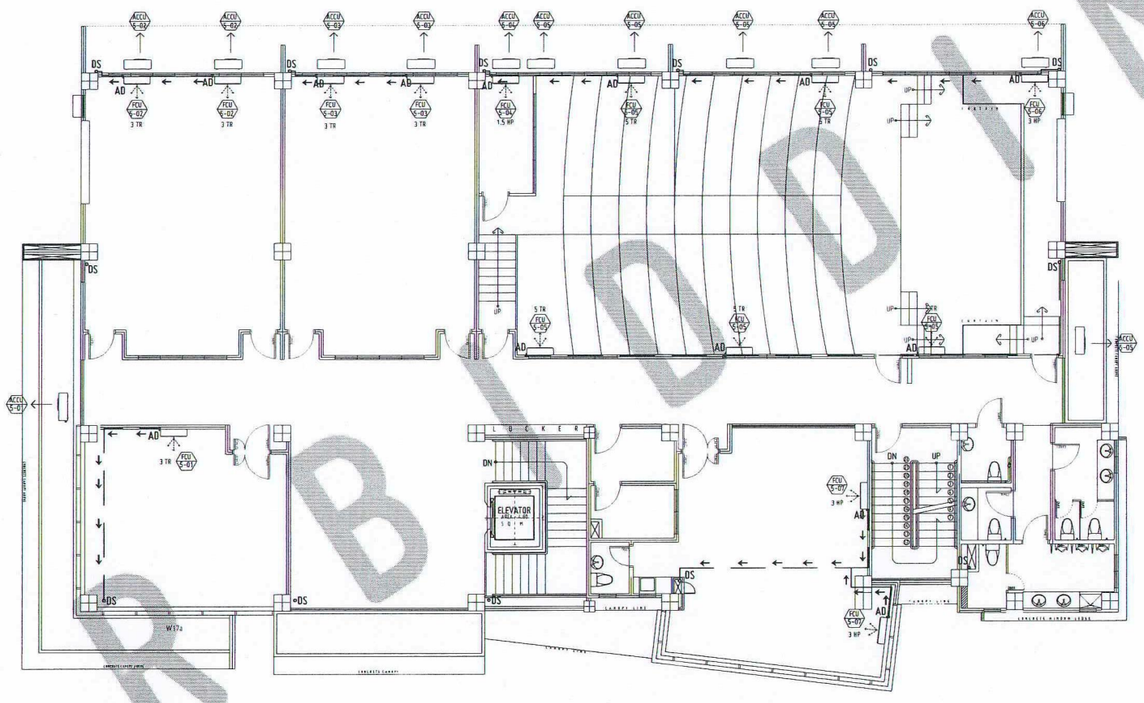
OFFICE OF THE BUILDING OFFICIAL



LEGEND:

— — $\frac{3}{4}$" Ø PVC AIRCON DRAIN PIPE
◦DS DOWNSPOUT
AD AIRCON DRAIN LOCATION

ME 3 1

AIRCON DRAIN LAYOUT PLAN

FIFTH FLOOR

SCALE: 1:100 MTS

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CAGAYAN DE ORO CAMPUS
INFRASTRUCTURE PLANNING AND FACILITY DEVELOPMENT UNIT
CLARO M. RECTO AVENUE, LAPASAN, CAGAYAN DE ORO CITY 9000
TELEPHONE # (08822) 72-60-65 / (088) 856-1738 / 856-1739 | TELE FAX (088) 856-4696
WEBSITE: www.ustp.edu.ph

MASTER PLUMBER

PROJECT	PROPOSED CONSTRUCTION OF SMART ACADEMIC BUILDING PHASE 1, JASAAN CAMPUS
LOCATION	USTP JASAAN CAMPUS, MISAMIS ORIENTAL
OWNER	UNIVERSITY OF SCIENCE AND TECHNOLOGY OF SOUTHERN PHILIPPINES

RECOMMENDING APPROVAL:	RECOMMENDING APPROVAL:	APPROVED BY:
ENGR. GRACE C. BABA	ATTY. ERWIN B. BUCEO	DR. AMBROSIO B. CULTURA II
DIRECTOR, INFRASTRUCTURE PLANNING & FACILITIES DEVELOPMENT OFFICE	VP FOR ADMINISTRATION & LEGAL AFFAIRS	PRESIDENT, USTP SYSTEM

SHEET CONTENTS:
ACU DRAIN LAYOUT PLAN
- FIFTH FLOOR LAYOUT

DRAWN BY:
DATE DRAWN: 10.01.2025
FNT:

P17

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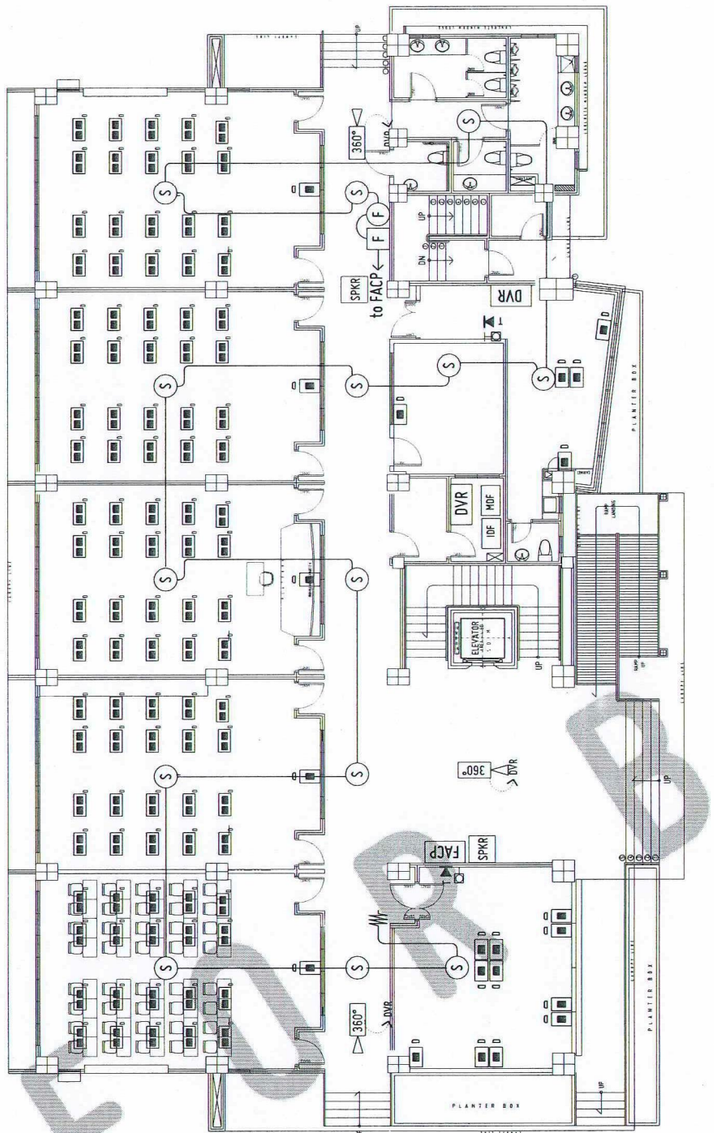
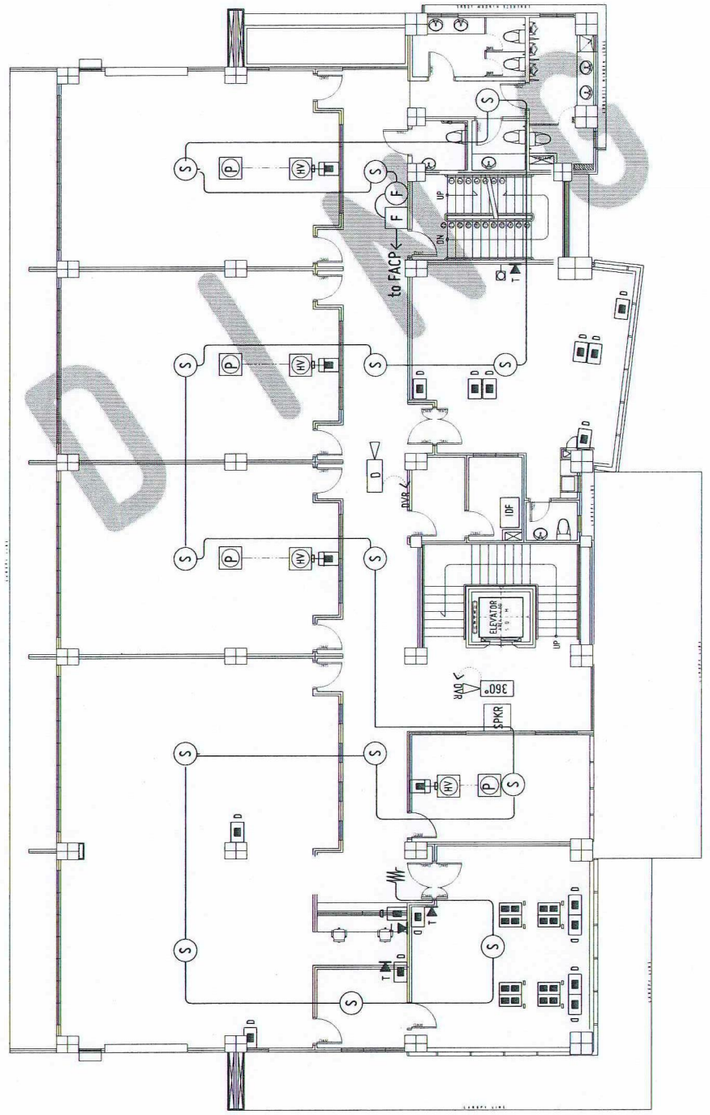


GROUND FLOOR – ECE LAYOUT PLAN
SCALE: 1:100 MTS
ECE 1 1



SECOND FLOOR – ECE LAYOUT PLAN
SCALE: 1:100 MTS
ECE 1 2

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PROFESSIONAL ELECTRONICS ENGINEER

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SHEET CONTENTS:
GROUND FLOOR – ECE LAYOUT PLAN
SECOND FLOOR – ECE LAYOUT PLAN

DRAWN BY:
DATE DRAWN: 10.01.2025
FNT:

AUX1

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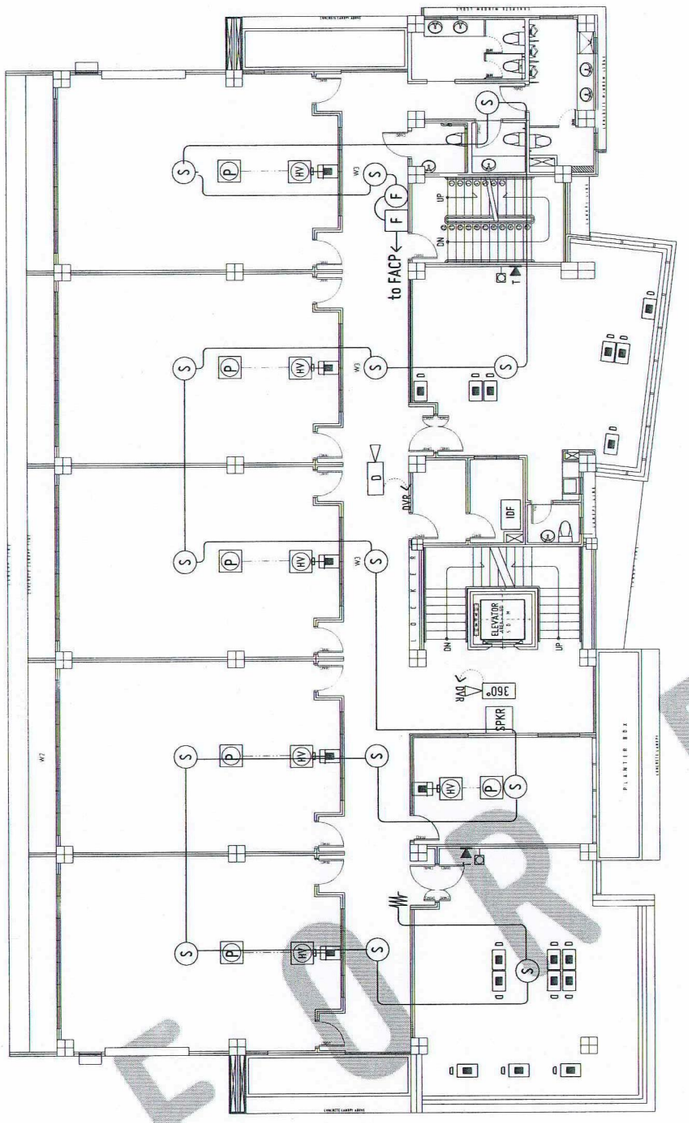
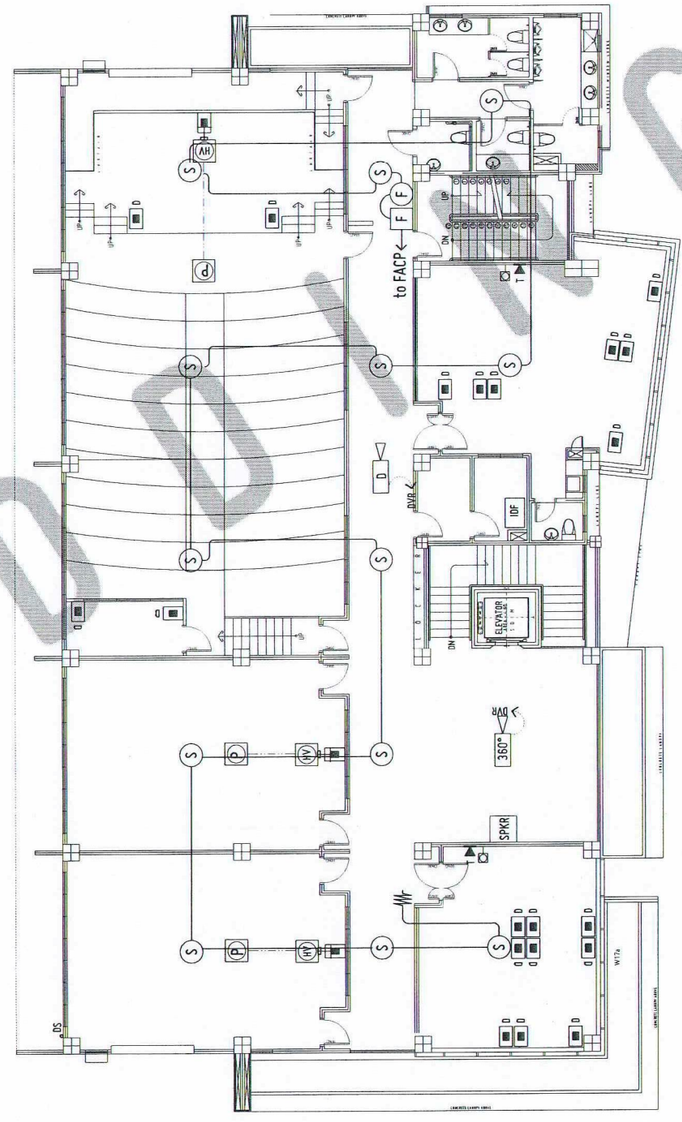


TYPICAL FLOOR – ECE LAYOUT PLAN
THIRD FLOOR & FOURTH FLOOR
SCALE: 1:100 MTS
ECE 2 1 2



FIFTH FLOOR – ECE LAYOUT PLAN
SCALE: 1:100 MTS
ECE 2 2 2

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SHEET CONTENTS:
TYPICAL FLOOR – ECE LAYOUT PLAN
THIRD FLOOR & FOURTH FLOOR
FIFTH FLOOR – ECE LAYOUT PLAN

DRAWN BY:
DATE DRAWN: 10.01.2025
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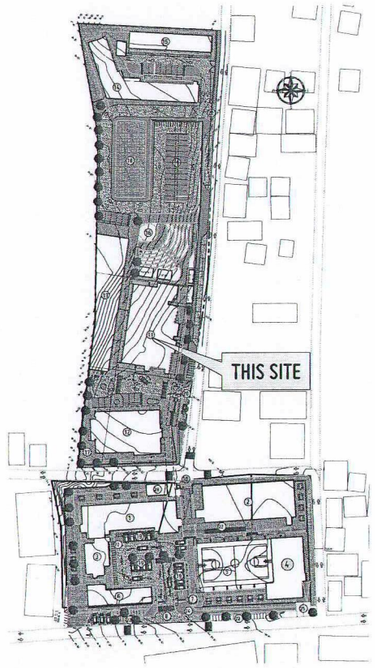
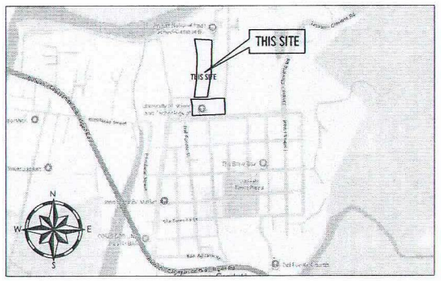
AUX2



ECE 3 1

VICINITY MAP

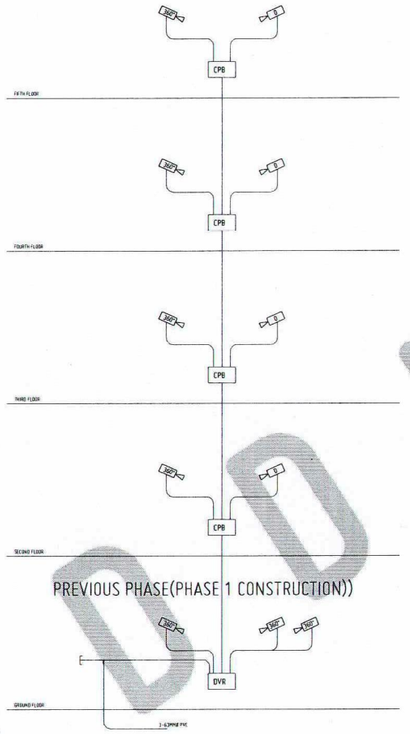
SCALE: NTS



ECE 3 2

LOCATION PLAN

SCALE: 1:1500 MTS



PREVIOUS PHASE(PHASE 1 CONSTRUCTION))

ECE 3 3

CCTV SYSTEM RISER DIAGRAM

NOT DRAWN TO SCALE

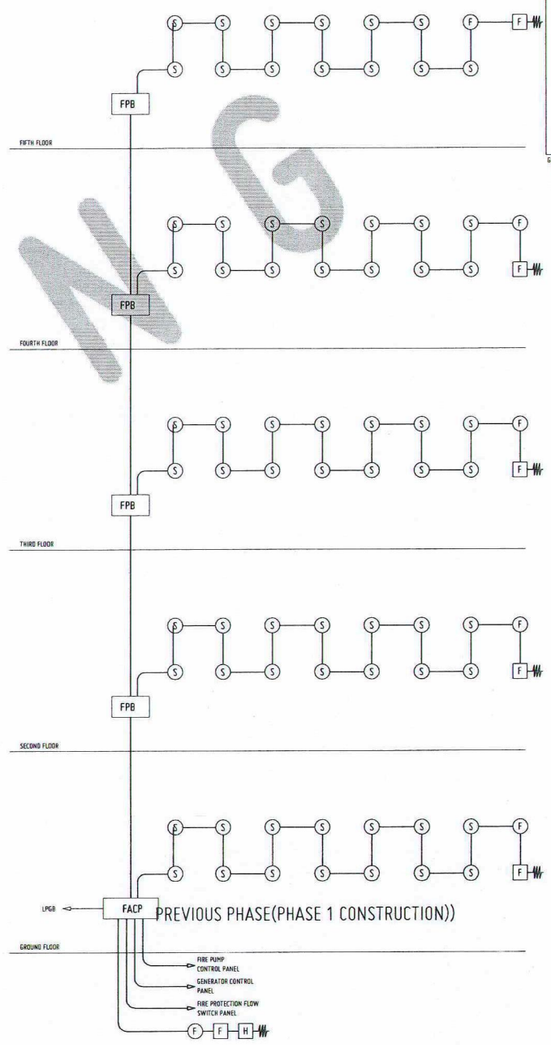
LEGEND:

- T — SINGLE TELEPHONE WALL OUTLET, RJ11
- T — SINGLE TELEPHONE FLOOR MOUNTED OUTLET
- SINGLE UNIVERSAL DATA WALL OUTLET, RJ45
- DUPLEX UNIVERSAL DATA WALL OUTLET, RJ45
- IDF — INTERMEDIATE DISTRIBUTION FRAME
- MDF — MAIN DISTRIBUTION FRAME
- WALL CABLE TV OUTLET, PROVIDE 1- RG6/U COAXIAL CABLE
- CTB — CABLE TV BOX
- TCB — TELEPHONE AND CABLE TV BOX
- PROVISION FOR HDMI/VGA CABLING FOR OVERHEAD PROJECTOR, VERIFY EXACT LOCATION WITH ARCHITECT.
- HDMI & GA WALL OUTLET IN SINLGE PLATE INTERCONNECT WITHTHE OVERHEAD PROJECTOR HDMI/VGA WIRING PROVISION OR T V APPLIANCES HDMI/ VGA CABLE VIA 63MMØ PVC.REFER TO LAYOUT.
- (S) — SMOKE DETECTOR- CEILING MOUNTED
- SMOKE DETECTOR- WALL MOUNTED
- (H) — HEAT DETECTOR, CEILING MOUNTED
- (F) — FIRE ALARM STROBE AND HORN, UL LISTED BRAND
- F — FIRE ALARM MANUAL PULL STATION, UL LISTED BRAND
- END OF LINE RESISTOR

NOTES:

1. SYMBOL
   - C CCTV — CLOSED CIRCUIT TELEVISION, DOME TYPE PROVIDE SIGNAL CABLE & POWER CABLE FOR EACH CAMERA, WIRING IS SUBJECT TO MANUFACTURER'S STANDARD.
   - 360 CCTV — CLOSED CIRCUIT TELEVISION, REVOLVING 360°
   - CPB — CCTV WRING PULLBOX WITH POWER SUPPLY
   - DVR — DIGITAL VIDEO RECORDER
2. MINIMUM CONDUIT SHALL BE 20MM (3/4")Ø. USE IMC FOR ALL EXPOSED CONDUIT OR INSIDE DRYWALL AND PVC FOR ALL CONCRETE EMBEDDED CONDUIT.
3. VERIFY EXACT NUMBER OF CCTV CAMERA WITH LAYOUT.
4. VERIFY AND/OR COORDINATE WITH OWNER/USER THE EXACT LOCATION OF DVR PRIOR TO LAYOUT OF CONDUIT.
5. BOND ALL CPB, CABLE TRAY USING 5.5MM² GROUND WIRE AND BOND TO IBTB
6. CCTV SYSTEM AND WIRING SCHEDULE.

C	CONDUIT SIZE, MM².(INCHØ)	
	METAL	uPVC
1	20	25 (3/4)
2	20	25 (3/4)
4	25	32 (1)
8	32	40 (1- 1/4)
10	40	50 (1- 1/2)
15	50	63 (2)



PREVIOUS PHASE(PHASE 1 CONSTRUCTION))

ECE 3 4

FIRE ALARM SYSTEM RISER DIAGRAM

NOT DRAWN TO SCALE

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GENERAL NOTES:

1. FFL = FINISH FLOOR LINE. VERIFY FLOOR FINISHES/MATERIALS.
2. ALL INTERIOR PARTITIONS AND FURNITURE LAYOUT ARE INDICATIVE ONLY AND MAY CHANGE. VERIFY INTERIOR DESIGN DRAWINGS.
3. ALL LANDSCAPE ARCHITECTURE ELEMENTS ARE INDICATIVE ONLY AND MAY CHANGE. VERIFY LANDSCAPE ARCHITECTURE DRAWINGS.
4. DO NOT SCALE DRAWINGS. WRITTEN DIMENSIONS TO GOVERN.
5. INCASE OF DISCREPANCY IN THE FIGURES AND DRAWINGS THE MATTER SHALL BE SUBMITTED IMMEDIATELY TO THE ARCHITECT BEFORE ADJUSTMENTS ARE TO BE MADE.
6. VERIFY ACTUAL TECHNICAL SITE CONDITIONS.
7. VERIFY ACTUAL ELEVATION MARKS AND LOT BOUNDARIES PRIOR TO COMMENCING WORK.
8. ALL WORKS HEREIN SHALL BE DONE UNDER THE STRICT SUPERVISION OF DULY LICENSED AND EXPERIENCED ARCHITECT/ENGINEER.
9. LOT AND BUILDING BOUNDARIES SHOULD BE SUPPORTED BY RETAINING WALLS AND FENCES. VERIFY EXISTING HEIGHTS, ELEVATIONS AND OTHER SITE CONDITIONS.
10. THE GENERAL CONTRACTOR, SUB-CONTRACTORS INCLUDING SPECIALTY CONTRACTORS, SHALL SUBMIT PROPER SHOP DRAWINGS INCLUDING MATERIALS SAMPLE PRIOR TO INSTALLATIONS FOR ARCHITECTS APPROVAL.

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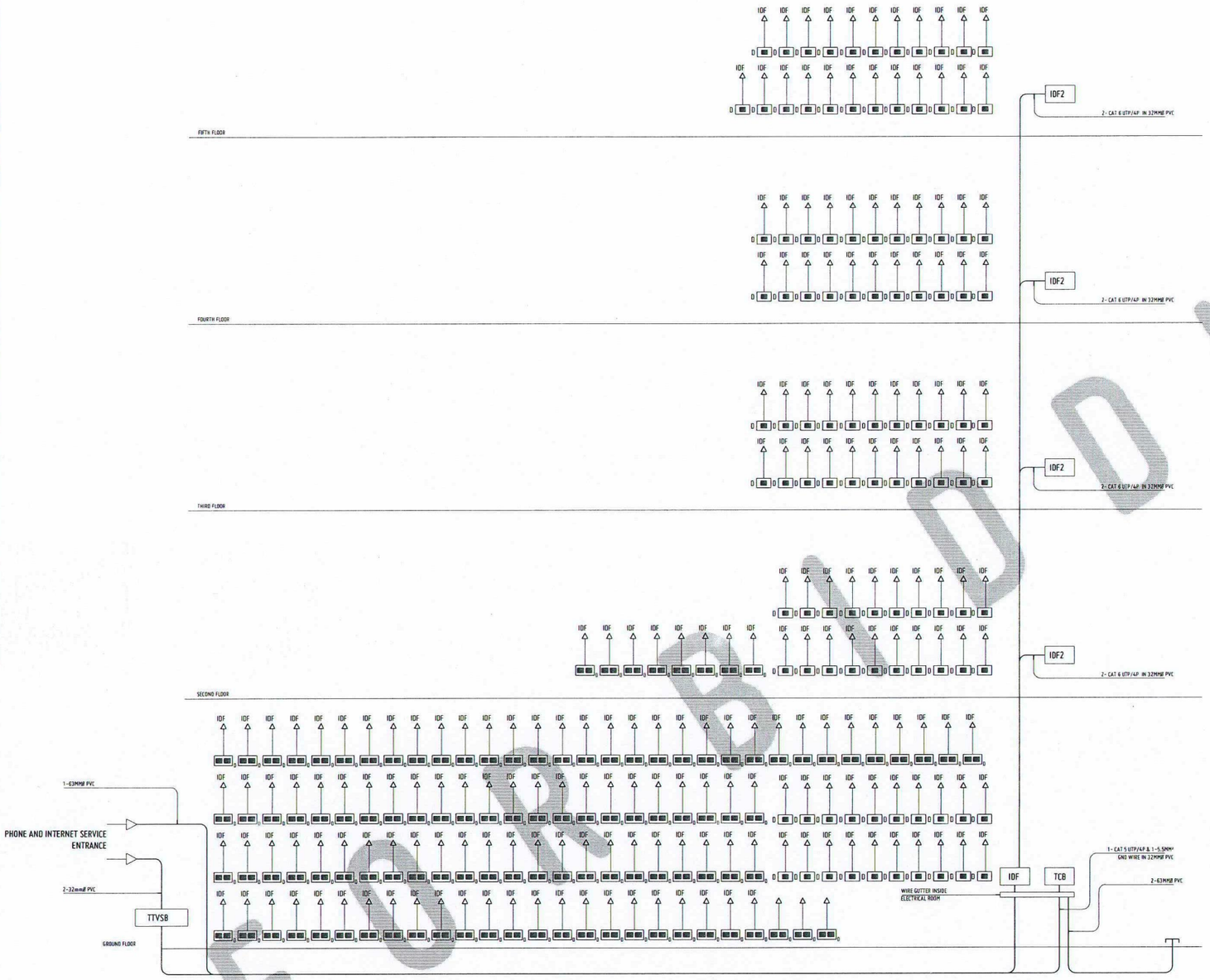
DR. AMBROSIO B. CULTURA II
PRESIDENT, USTP SYSTEM

SHEET CONTENTS:
VICINITY MAP
LOCATION PLAN
CCTV SYSTEM RISER DIAGRAM
FIRE ALARM SYSTEM RISER DIAGRAM

DRAWN BY:
DATE DRAWN: 10.01.2025
FNT:

AUX3



TELEPHONE AND INTERNET RISER DIAGRAM

ECE 4 1

DRAWN NOT TO SCALE

GENERAL NOTE:

1. ALL ELECTRONIC WORKS HERE IN SHALL BE DONE ACCORDANCE WITH THE PROVISION OF THE LATEST EDITION OF THE PHILIPPINE ELECTRONICS CODE. THE RULES AND REGULATIONS OF THE LOCAL ENFORCING AUTHORITIES AND THE REQUIREMENTS OF THE UTILITY TELEPHONE COMPANY.
2. ALL ELECTRONIC WORKS HERE IN INCLUDED SHALL BE EXECUTED BY THE PERSONNEL WITH ELECTRICAL EXPERIENCE UNDER THE DIRECT SUPERVISION OF A FULL TIME LICENSED ELECTRONICS ENGINEER. WORKS SHALL BE NEATLY PLACED, SECURELY FASTENED AND PROPERLY FINISHED.
3. THE CONTRACTOR SHALL VERIFY AND ORIENT THE ACTUAL LOCATION OF THE TAPPING POINT FR CONNECTION TO COMMUNICATION SUPPLY.
4. ALL MATERIALS SHALL BE BRAND NEW AND SHALL CONFORM WITH THE PROVISIONS OF THE UNDER WRITERS LABORATORIES INC., IN EVERY CASE WHERE SUCH A STANDARD HAS BEEN ESTABLISHED.
5. ALL CONDUITS MUST BE PROTECTED AGAINST DAMAGES BY THE ENTRANCE OF THE WATER AND FOREIGN MATTERS DURING CONSTRUCTION ALL ENDS OF CONDUITS SHALL BE PLUGGED TO EXCLUDE MOISTURE AND DUST IMMEDIATELY AFTER THE CONDUITS ARE PLACED.
6. UNLESS OTHERWISE SPECIFIED, ALL ELECTRONICS WIRING INSTALLATION SHALL BE USED RSC.THE MINIMUM SIZE OF CONDUIT SHALL BE 15MMØ.
7. ALL RACEWAYS, WALL, AND FLOOR PENETRATION SHALL BE PROVIDED WITH FIRE BARRIER OF THE APPROVED TYPE.
8. ALL OUTLET BOXES SHALL BE GALVANIZED GAGE NO. 16 DEEP TYPE WITH THE FACTORY KNOCKOUTS. PULLBOXES SHALL BE USED WHEN APPLICABLE FOR EASY PULLING OF WIRES AND SHALL BE IN ACCORDANCE WITH THE PHILIPPINE ELECTRICAL CODE REQUIREMENT. PREFERRED BRAND FOR JUNCTION, PULLBOXES OR UTILITY SQUARE BOXES SHALL BE FUMACO,AMCO,TIMO OR APPROVED EQUAL.
9. MOUNTING HEIGHTS OF DEVICES SHALL BE:
   (SUBJECT TO ARCHITECTS APPROVAL PRIOR TO INSTALLATION)
10. ALL SPEAKER WIRING SHALL BE 2-0.75 SQ.MM SHIELDED SPEAKER WIRE.
11. NETWORK CABLWES/ CONDUIT SHALL HAVE A MINIMUM DISTANCE OF 0.3M FROM POWER CONDUIT WHEN LAND PARALLEL AND MUST RUN PERPENDICULAR TO THE STEEL CONDUIT WHEN CUTTING ACROSS A POWER LINE.
12. THE PLANS AS DRAWN ARE BASED UPON THE ARCHITECTURAL PLANS AND THE DETAILS AND SHOWN CONDITION AS ACCURATELY AS IT IS POSSIBLE TO INDICATE THEM IN SCALE. THE PLANS ARE DIAGRAMMATICAL AND DOES NOT NECESSARILY SHOW ALL FITTINGS NECESSARY TO FIT TO THE BUILDING CONDITIONS. THE LOCATIONS OF OUTLETS, APPARATUS AND APPLIANCES SHOWN ON THE PLANS ARE APPROXIMATE. THE CONTRACTORS SHALL BE HELD RESPONSIBLE FOR THEIR PROPER LOCATION IN ORDER TO MAKE THEM FIT WITH THE ARCHITECTURAL DETAILS AND INSTRUCTIONS FROM THE ENGINEER'S REPRESENTATIVE AT THE SITE.

NOTES:

1. FIRE ALARM SYSTEM SHALL BE CONVENTIONAL TYPE
2. MINIMUM CONDUIT SIZE SHALL BE 20MM (3/4")Ø. USE IMC FOR ALL EXPOSED CONDUIT OR INSIDE DRY WALL AND PVC IF CONRETE EMBEDDED.
3. ALL RISER CONDUIT SHALL BE IMC. PROVIDE 50MM (2")Ø SPARE IMC RISER CONDUIT.
4. FDAS WIRING AND CONDUIT SCHEDULE.

CONDUIT SIZE MMØ (INCHØ)		NUMBER OF TF WIRES (C.I. CABLE TYPE)		CONDUIT SIZE MMØ (INCHØ)		NUMBER OF TF WIRES (C.I. CABLE TYPE)	
METAL	uPVC	#18	#16	METAL	uPVC	#18	#16
20	25(3/4)	25	18	60	75(2-1/2)	234	172
25	32(1)	41	30	80	90(3)	363	266
32	40(1-1/4)	72	53	90	100(3-1/2)	486	357
40	50(1-1/2)	99	72	100	110(4)	627	460
50	63(2)	164	120				

5. SYMBOLS

A = #18/2 AWG. CIRCUIT INTEGRITY (CI) CABLE TYPE, UL LISTED BRAND

FACP FIRE ALARM CONTROL PANEL, UL LISTED BRAND

(S) SMOKE DETECTOR- CEILING MOUNTED

SMOKE DETECTOR- WALL MOUNTED

(H) HEAT DETECTOR, CEILING MOUNTED

(F) FIRE ALARM STROBE AND HORN, UL LISTED BRAND

[F] FIRE ALARM MANUAL PULL STATION, UL LISTED BRAND

END OF LINE RESISTOR

FPB FIRE ALARM SYSTEM WIRING PULL BOX

6. PROVIDE SUPERVISORY WIRES TO THE FOLLOWING:
   A. ELEVATOR/S
   B. FIRE PROTECTION FLOW SWITCH CONTROL PANEL OR INDIVIDUAL FLOW SWITCH(VERIFY LOCATION)
   C. STAIR PRESSURIZATION BLOWER/S OR FAN/S(VERIFY EXACT LOCATION)
   D. SMOKE VENTILATION SYSTEM AND/OR SMOKE CONTROL SYSTEM.
   E. FIRE PUMP CONTROL PANEL
7. PROVIDE WIRING FROM FACP TO GENERATOR CONTROL PANEL TO MONITOR THE FOLLOWING CONDITIONS:
   A. GENERATOR RUNNING
   B. GENERATOR FAULT
   C. GENERATOR SWITCH IN NON-AUTOMATIC POSITION/MODE
8. FINAL WIRING SHALL BE AS PER MANUFACTURER'S STANDARDS.

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DIRECTOR, INFRASTRUCTURE PLANNING & FACILITIES DEVELOPMENT OFFICE	VP FOR ADMINISTRATION & LEGAL AFFAIRS	PRESIDENT, USTP SYSTEM		DATE DRAWN: 10.01.2025
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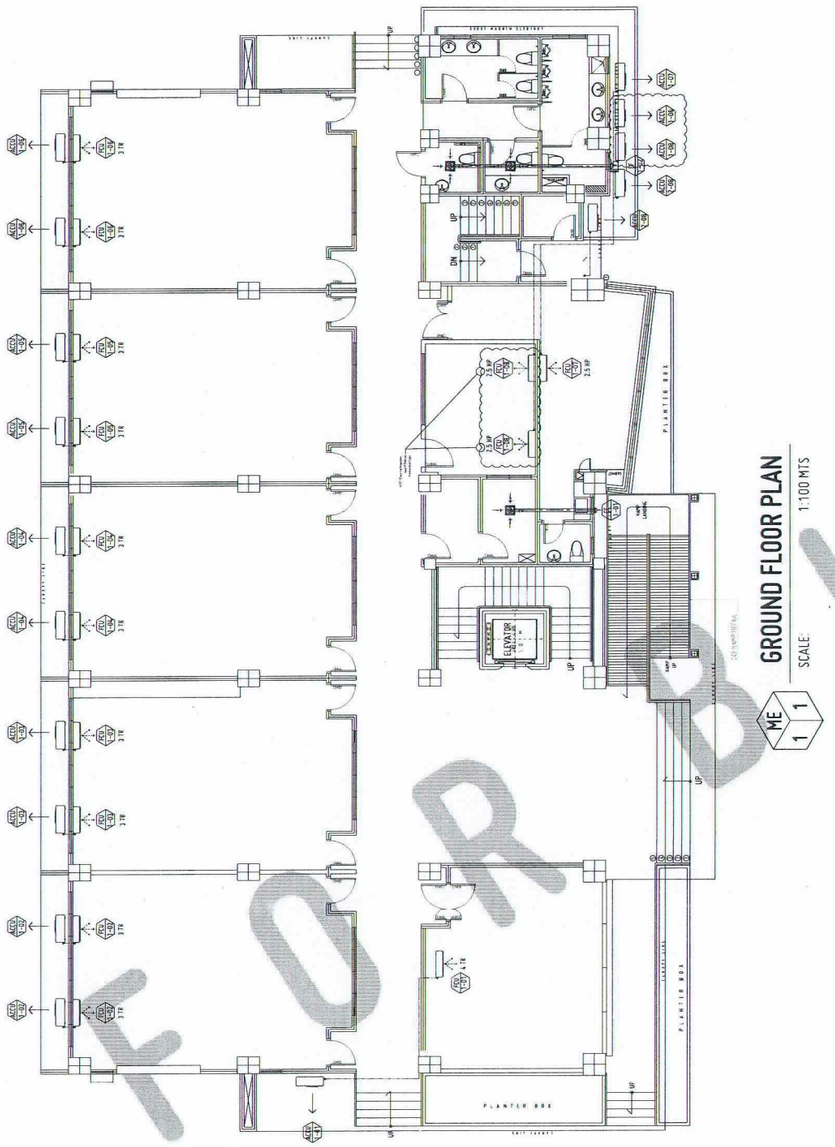
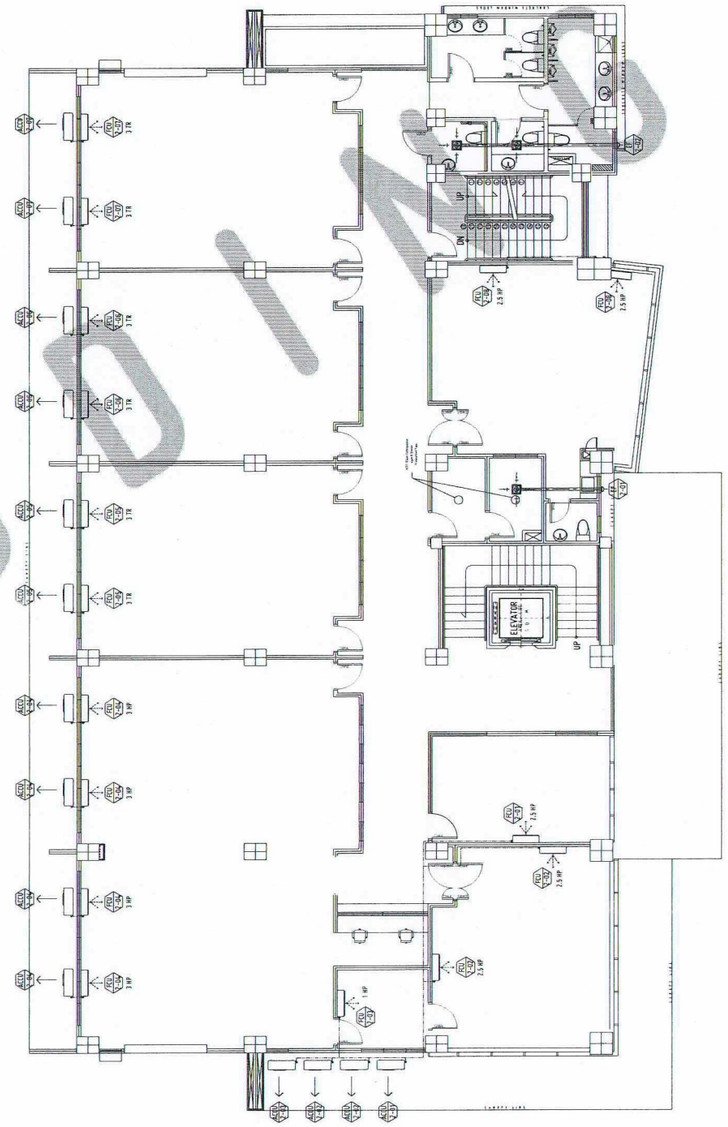
AUX4



GROUND FLOOR PLAN

SCALE 1:100 MTS

ME 1 1



SECOND FLOOR PLAN

SCALE 1:100 MTS

ME 1 2

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IMPORTANT NOTES:

1. CHECK AND VERIFY ACTUAL SITE CONDITION BEFORE CONSTRUCTION.
2. CHECK AND REVIEW PLANS, AND IF THERE ARE CONFLICTS BETWEEN DRAWINGS, BOQ, BOM, AND TECHNICAL SPECIFICATIONS, INFORM THE IPFDU THRU RFI, BEFORE PROCUREMENT AND INSTALLATION OF CERTAIN ITEMS AND MATERIALS.
3. BEFORE INSTALLATION OF MATERIALS, ESPECIALLY ARCHITECTURAL FINISHES OR MATERIALS THAT WILL GREATLY AFFECT THE CONSTRUCTION, INFORM THE IPFDU THRU RFI (FOR INFORMATION) AND BFA (FOR MATERIAL APPROVAL) BEFORE PROCUREMENT AND INSTALLATION OF CERTAIN ITEMS AND MATERIALS
4. FOR ANY CONFLICT BETWEEN ARCHITECTURAL PLANS AND OTHER UTILITIES, INFORM THE IPFDU DESIGN ARCHITECT AND/OR ENGINEERS TO RESOLVE DESIGN ISSUE.

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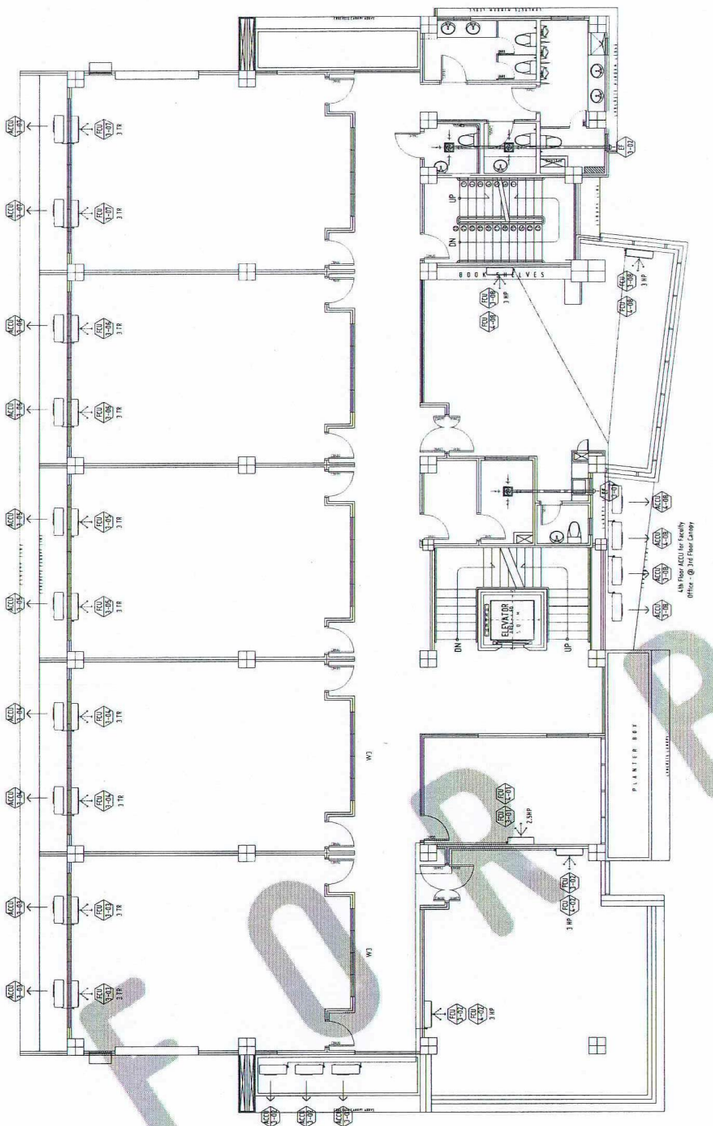
PROFESSIONAL MECHANICAL ENGINEER

PROJECT	PROPOSED CONSTRUCTION OF SMART ACADEMIC BUILDING PHASE 1, JASAAN CAMPUS
LOCATION	USTP JASAAN CAMPUS, MISAMIS ORIENTAL
OWNER	UNIVERSITY OF SCIENCE AND TECHNOLOGY OF SOUTHERN PHILIPPINES

RECOMMENDING APPROVAL:	RECOMMENDING APPROVAL:	APPROVED BY:
ENGR. GRACE C. BABA	ATTY. ERWIN B. BUCIO	DR. AMBROSIO B. CULTURA II
DIRECTOR, INFRASTRUCTURE PLANNING & FACILITIES DEVELOPMENT OFFICE	VP FOR ADMINISTRATION & LEGAL AFFAIRS	PRESIDENT, USTP SYSTEM

SHEET CONTENTS:	DRAWN BY:
GROUND FLOOR PLAN SECOND FLOOR PLAN	DATE DRAWN: 10.01.2025
	FNT:

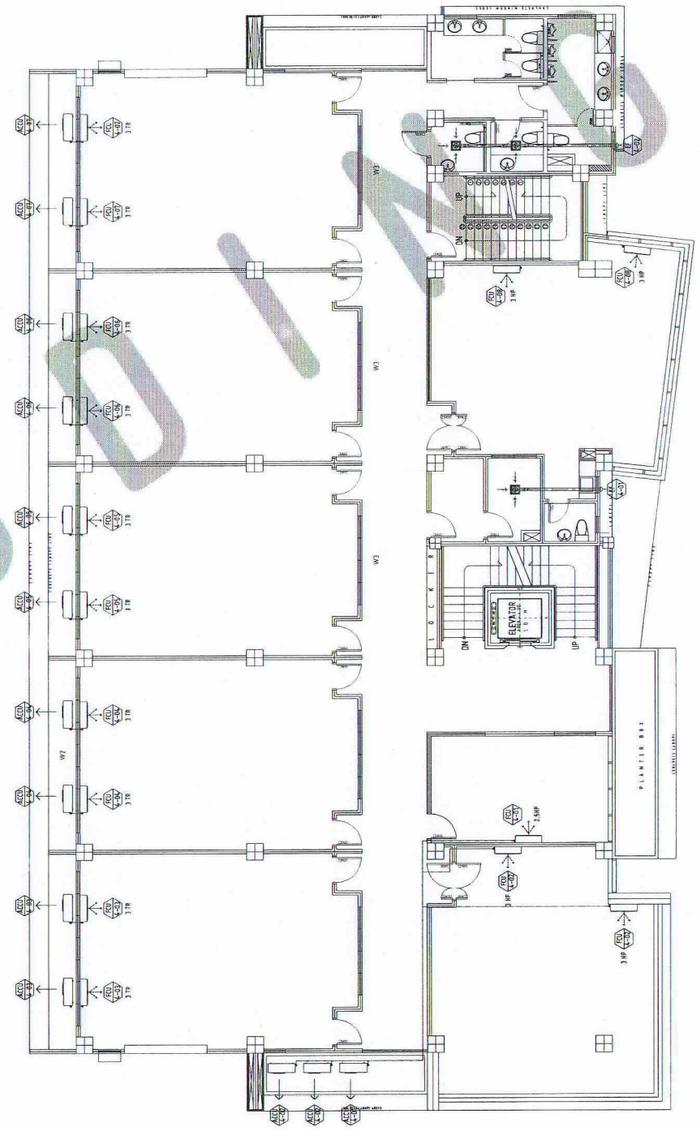
ME1



THIRD FLOOR PLAN

SCALE: 1:100 MTS

ME 2 1



FOURTH FLOOR PLAN

SCALE: 1:100 MTS

ME 2 2

REPUBLIC OF THE PHILIPPINES
OFFICE OF THE BUILDING OFFICIAL

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3. ALL LANDSCAPE ARCHITECTURE ELEMENTS ARE INDICATIVE ONLY AND MAY CHANGE. VERIFY LANDSCAPE ARCHITECTURE DRAWINGS.
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9. LOT AND BUILDING BOUNDARIES SHOULD BE SUPPORTED BY RETAINING WALLS AND FENCES. VERIFY EXISTING HEIGHTS, ELEVATIONS ANDOTHER SITE CONDITIONS.
10. THE GENERAL CONTRACTOR, SUB-CONTRACTORS INCLUDING SPECIALTY CONTRACTORS, SHALL SUBMIT PROPER SHOP DRAWINGS INCLUDING MATERIALS SAMPLE PRIOR TO INSTALLATIONS FOR ARCHITECT'S APPROVAL.

IMPORTANT NOTES:

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3. BEFORE INSTALLATION OF MATERIALS, ESPECIALLY ARCHITECTURAL FINISHES OR MATERIALS THAT WILL GREATLY AFFECT THE CONSTRUCTION, INFORM THE IPDEU THRU RFI (FOR INFORMATION) AND RFA (FOR MATERIAL APPROVAL) BEFORE PROCUREMENT AND INSTALLATION OF CERTAIN ITEMS AND MATERIALS.
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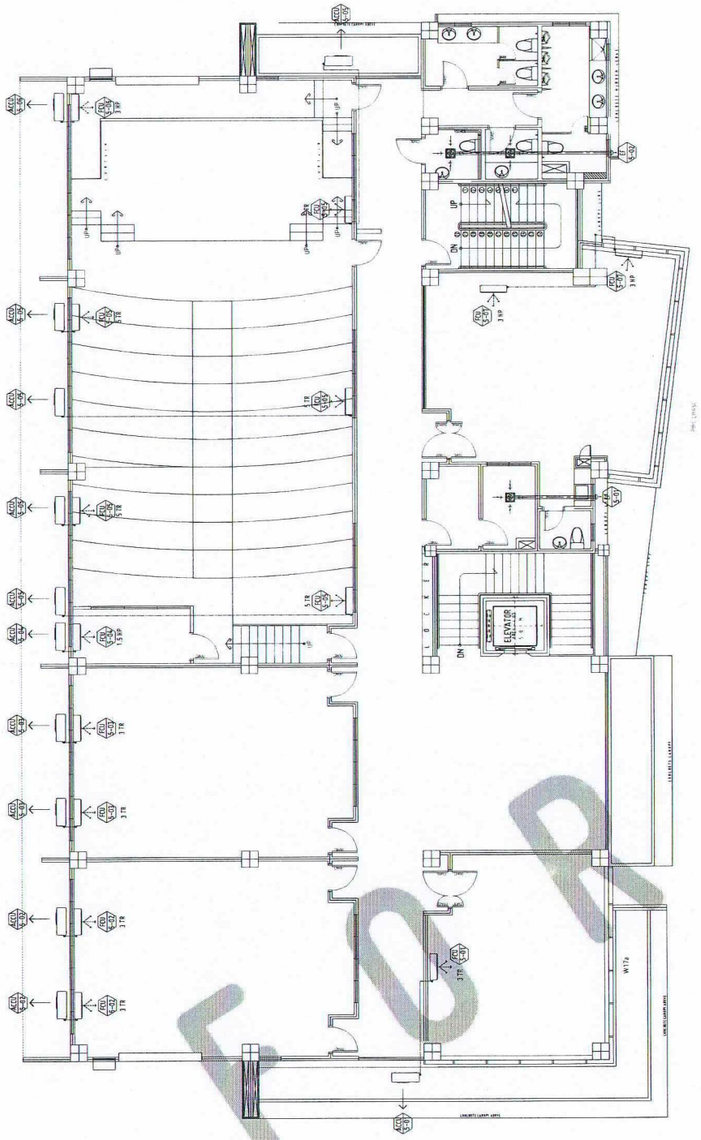
PRESIDENT, USTP SYSTEM

SHEET CONTENTS:
THIRD FLOOR PLAN
FOURTH FLOOR PLAN

DRAWN BY:
DATE DRAWN: 10.01.2025
FNT:

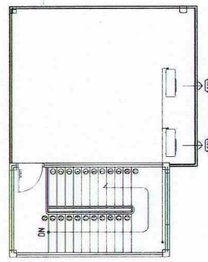
ME2



FIFTH FLOOR PLAN

SCALE: 1:100 MTS

ME 3 1



ROOF DECK PLAN

SCALE: 1:100 MTS

ME 3 3

EQUIPMENT SCHEDULES

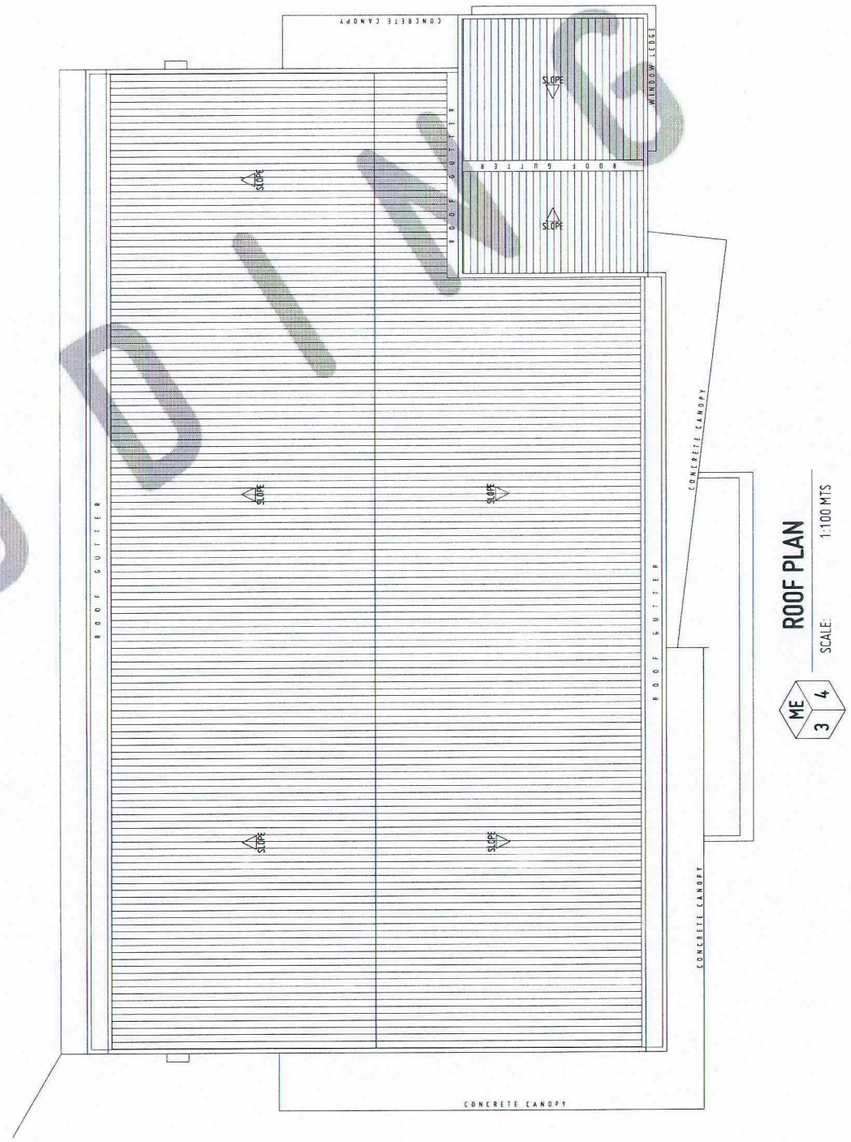
NTS

SCALE:

ME 3 2

EQUIPMENT SCHEDULE
FAN SCHEDULE

MARK/NO.	QTY	TYPE	LOCATION	CAPACITY LPS	STATIC PRESSURE PA	MOTOR DATA: WATTS	RPM	V/PH/HZ
EF-ECE RM.	5	CEILING MOUNTED	ECE ROOMS	85	230	VARIABLE	600	230/1/60
EF-TOILET	10	CEILING MOUNTED	PWD R.RM. & LGSTC+ R.RM.	65	240	VARIABLE	500	230/1/60



ROOF PLAN

SCALE: 1:100 MTS

ME 3 4

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SHEET CONTENTS:
FIFTH FLOOR PLAN
ROOF DECK
ROOF PLAN

DRAWN BY:
DATE DRAWN: 10.01.2025
FNT:

ME3

GENERAL NOTES :

1. ALL MECHANICAL WORKS SHALL BE DONE IN ACCORDANCE WITH THE LATEST REQUIREMENTS OF THE PHILIPPINES NATIONAL BUILDING CODE, PSME CODE, PSVARE ASHRAE, SMACNA, FIRE CODE OF THE PHILIPPINES AND OTHER REGULATION OF THE LOCAL COMMUNITY.

2. THE TOTAL SCOPE OF WORKS SHALL INCLUDE ALL WORKS DESCRIBED IN THE PLANS LISTED IN THE TECHNICAL SPECIFICATIONS FOR MECHANICAL WORKS.

3. THE WORKS SHALL BE EXECUTED IN CLOSED COORDINATION WITH ALL OTHER TRADES.

4. THE CONTRACTOR SHALL SUBMIT SHOP DRAWINGS, EQUIPMENT CATALOG, SAMPLES OF ALL THE MATERIAL TO BE USED BEFORE EXECUTION OF THE WORKS.

5. THE CONTRACTOR OR SUPPLIER SHALL INSTALL ALL MATERIAL AND EQUIPMENT IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATION.

6. ALL PIPE AND DUCT PENETRATION SHALL BE CAULKED WITH FIRE SEALANT.

7. ALL EQUIPMENT REST ON SLAB AND CEILING SHALL BE PROVIDED WITH VIBRATION ISOLATOR TO PREVENT VIBRATION AND NOISE TRANSMISSION.

8. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL CONCRETE PAD AND SUPPORT OF ALL MECHANICAL EQUIPMENT.

9. THE CONTRACTOR SHALL ARRANGED THE PIPING, DUCTING AND EQUIPMENT TO HAVE EASY ACCESS FOR REMOVING, CLEANING AND SERVICING WITHOUT DISMANTLING THE SYSTEM.

10. ALL POWER WIRING UP TO SPLICE BOX SHALL BE THE ELECTRICAL CONTRACTOR FROM SPLICE BOX TO THE EQUIPMENT BY MECHANICAL CONTRACTOR

11. PROVIDE AND INSTALL CONTROLS AND CONTROL WIRINGS FOR ALL AIR-CONDITIONING EQUIPMENT.

12. PROVIDE THERMOSTAT TO ALL INDOOR UNITS.

13. PROVIDE SEPARATE CONDENSER DRAIN RISER.

3. PIPE ALL EQUIPMENT DRAIN TO THE NEAREST FLOOR DRAIN PROVIDED BY PLUMBING CONTRACTOR.

14. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL BALANCING, TESTING AND COMMISSIONING OF THE WHOLE AIR CONDITIONING, VENTILATION SYSTEM AND SUBMIT WRITTEN DATA PRIOR TO TURN OVER.

15. WORKMANSHIP : THE WORK THROUGHOUT SHALL BE EXECUTED IN THE BEST & MOST THOROUGH MANNER KNOWN TO TRADE & TO THE SATISFACTION OF THE ARCHITECT AND THE ENGINEER.

16. THE CONTRACTOR SHALL BE RESPONSIBLE FOR SECURING ALL GOVERNMENT/LOCAL CONSTRUCTION AND OPERATION PERMITS AND PAY ALL THE REQUIRED FEES.

NOTES ON PIPING INSTALLATION:

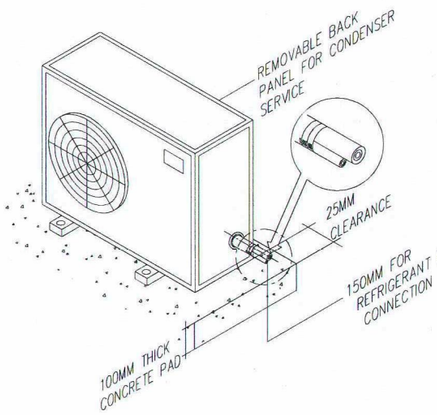
1. REFRIGERANT PIPES SHALL BE INTERNALLY CLEANED BY SWABBING WITH CLEAN COTTON CLOTH TO REMOVE ALL DUST, BURRS, AND OTHER MISCELLANEOUS DIRT.

2. WHILE SOLDERING JOINTS, A SWEEP OF INERT NITROGEN GAS SHOULD BE PASSED THROUGH PIPES TO PREVENT OXIDATION DEPOSITS INSIDE.

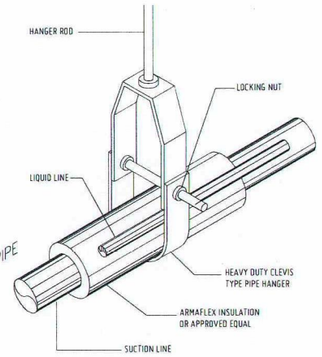
3. FITTINGS:
   A. USE STANDARD LONG RADIUS COPPER ELBOWS, REDUCERS, ETC. DO NOT USE FIELD-FORMED ELBOWS, REDUCERS, ETC.
   B. JOINTS BETWEEN PIPES SHOULD BE THROUGH STANDARD COPPER COUPLING FORMED FITTING MADE BY SWAGING OR ENLARGING ONE PIPE END TO BE ABLE TO RECEIVE THE OTHER PIPE SECTION WOULD NOT BE ALLOWED.
   C. JOINTS TO SCREWED ACCESSORIES SUCH AS EXPANSION VALVES, FILTER DRIER, ETC. SHALL BE MADE WITH STANDARD FLARED FITTINGS.

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 140KPa 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.

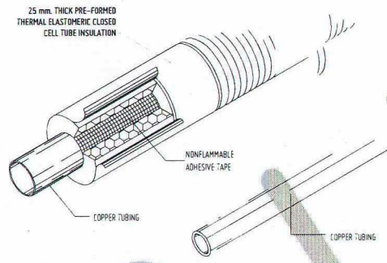


ME 4 1 **ACCU MOUNTING DETAIL**
NOT TO SCALE



ISOMETRIC

ME 4 2 **REFRIGERANT PIPE HANGER DETAIL**
NOT TO SCALE



NOTE:
1. CONDENSATE DRAIN PIPE INSULATION SHALL BE OF SIMILAR MATERIAL BUT 19 mm. THICK.
2. PROVIDE ALUMINUM CLADDING FOR OUTDOOR REFRIGERANT PIPING

ME 4 3 **REFRIGERANT PIPE INSULATION DETAIL**
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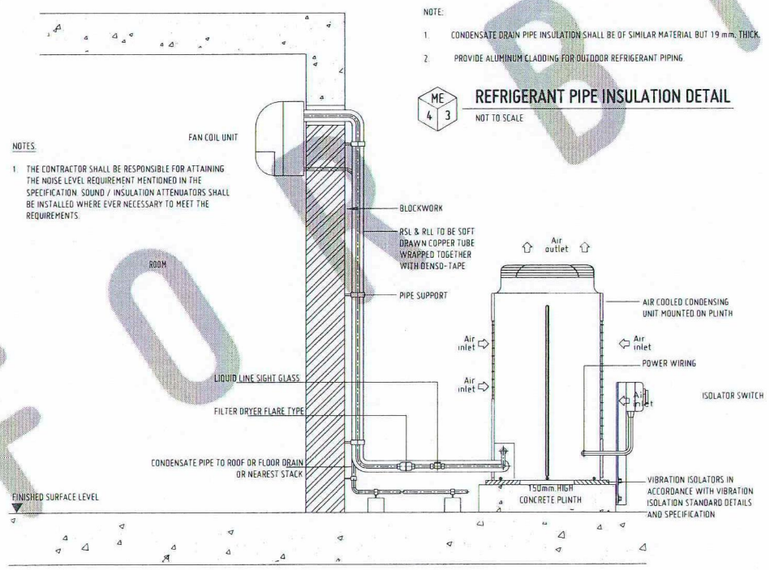
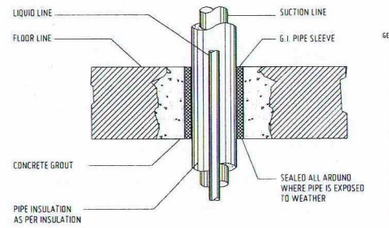
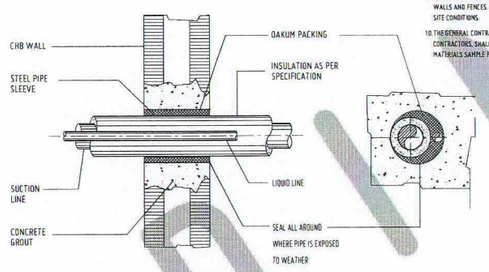


ME 4 5 **TYPICAL SPLIT-TYPE CONNECTION DETAIL**
NOT TO SCALE





ME 4 4 **REFRIGERANT PIPE THRU WALL DETAIL**
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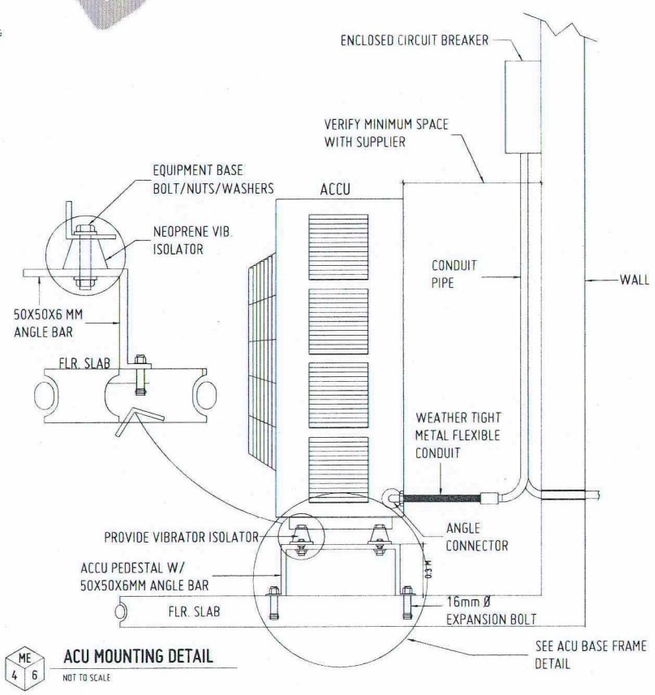

ME 4 6 **ACU MOUNTING DETAIL**
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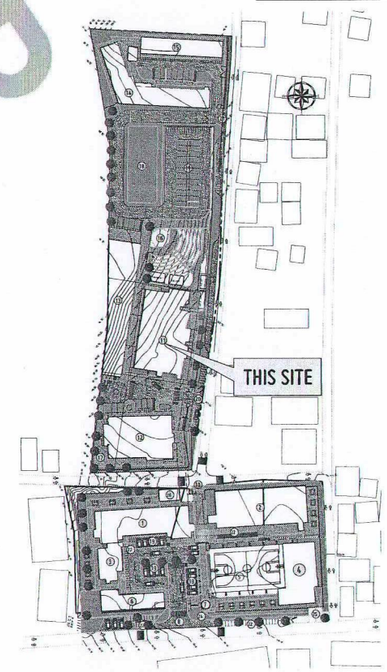
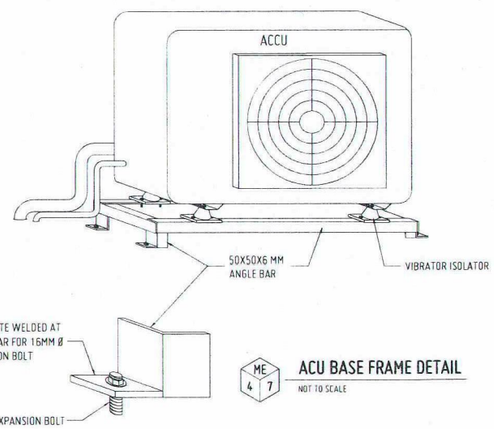


ME 4 9 **LOCATION PLAN**
NOT TO SCALE



ME 4 7 **ACU BASE FRAME DETAIL**
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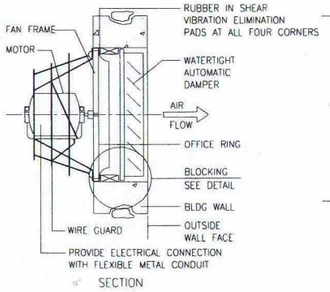
SHEET CONTENTS:
ACCU MOUNTING DETAIL
REFRIGERANT PIPE HANGER DETAIL
REFRIGERANT PIPE INSULATION DETAIL
TYPICAL SPLIT-TYPE CONNECTION DETAIL
REFRIGERANT PIPE THRU WALL DETAIL
LOCATION MAP

DRAWN BY:
DATE DRAWN: 10.01.2025
FNT:

ME4



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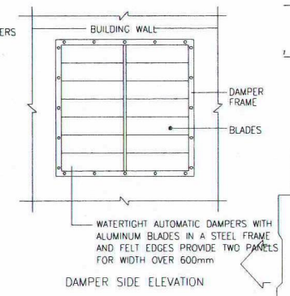
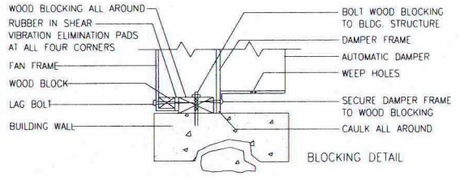


DAMPER SIDE ELEVATION



BLOCKING DETAIL

ME 5 1 **WALL MOUNTED EXHAUST FAN DETAIL**

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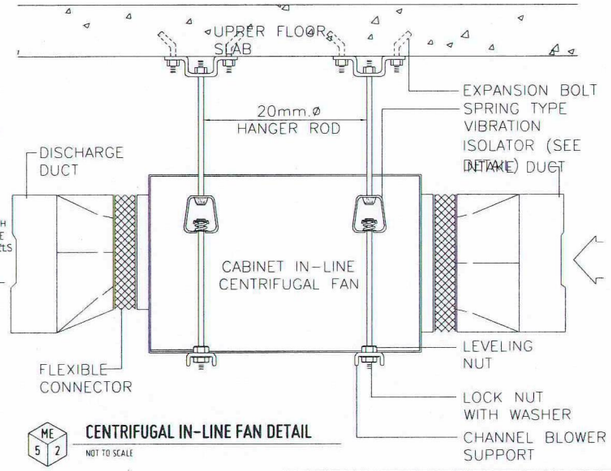

ME 5 2 **CENTRIFUGAL IN-LINE FAN DETAIL**

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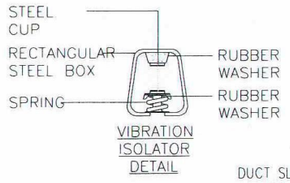
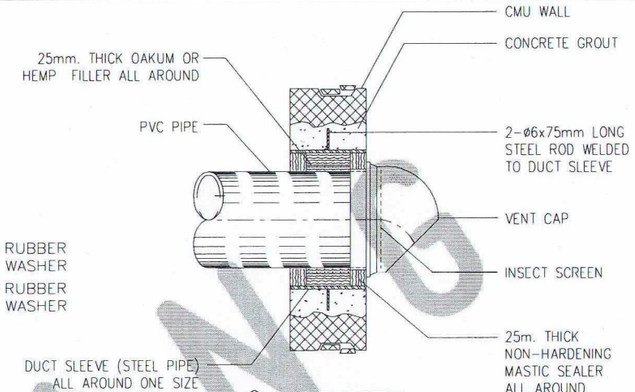
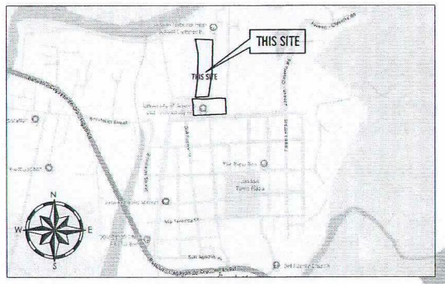


VIBRATION ISOLATOR DETAIL



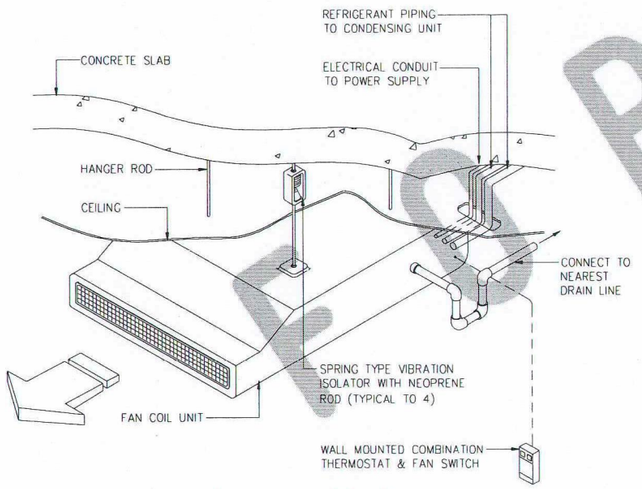
ME 5 3 **VENT CAP DETAIL**

NOT TO SCALE



ME 4 8 **VICINITY MAP**

NO SCALE NTS



ME 5 4 **ACU- SUSPENDED TYPE DETAIL**

NOT TO SCALE

MARK NO.		QTY	TYPE	LOCATION	CAPACITY	UNIT	SUPPLY FAN		OPERATING TEMPERATURE					COPRESSOR DATA				REFRIGERANT DATA
OUTDOOR	INDOOR					HP/TR	AIR FLOW	MOTOR	E.A.T.	EVAPORATING		CONDENSING		MOTOR INPUT (KW)	V	PH	HZ	
							LPS	WATTS	deg.C	deg.C	deg.F	deg.C	deg.F					
ACCU 1-01	FCU 1-01	1	Ceiling Mounted	GF- Admin Office	4.0	TR	VARIABLE	VARIABLE	37	4.44	40	48.8	120	10.77	230	1	60	R410 OR APPROVE EQUAL
ACCU 1-02	FCU 1-02	2	Ceiling Mounted	GF- Computer Lab. 1	3	TR	VARIABLE	VARIABLE	37	4.44	40	48.8	120	19.75	230	1	60	R410 OR APPROVE EQUAL
ACCU 1-03	FCU 1-03	2	Ceiling Mounted	GF- Computer Lab. 2	3.0	TR	VARIABLE	VARIABLE	37	4.44	40	48.8	120	19.38	230	1	60	R410 OR APPROVE EQUAL
ACCU 1-04	FCU 1-04	2	Ceiling Mounted	GF- Computer Lab. 3	3.0	TR	VARIABLE	VARIABLE	37	4.44	40	48.8	120	19.38	230	1	60	R410 OR APPROVE EQUAL
ACCU 1-05	FCU 1-05	2	Ceiling Mounted	GF- Computer Lab. 4	3.0	TR	VARIABLE	VARIABLE	37	4.44	40	48.8	120	19.38	230	1	60	R410 OR APPROVE EQUAL
ACCU 1-06	FCU 1-06	2	Ceiling Mounted	GF- Computer Lab. 5	3.0	TR	VARIABLE	VARIABLE	37	4.44	40	48.8	120	19.75	230	1	60	R410 OR APPROVE EQUAL
ACCU 1-07	FCU 1-07	1	Wall Mounted	GF- Clinic	2.5	HP	VARIABLE	VARIABLE	37	4.44	40	48.8	120	5.75	230	1	60	R410 OR APPROVE EQUAL
ACCU 1-08	FCU 1-08	2	Wall Mounted	GF- Data Center	2.5	HP	VARIABLE	VARIABLE	37	4.44	40	48.8	120	12.55	230	1	60	R410 OR APPROVE EQUAL
ACCU 2-01	FCU 2-01	1	Wall Mounted	2F- Function Room	2.5	HP	VARIABLE	VARIABLE	37	4.44	40	48.8	120	6.50	230	1	60	R410 OR APPROVE EQUAL
ACCU 2-02	FCU 2-02	2	Wall Mounted	2F- E-Library	2.5	HP	VARIABLE	VARIABLE	37	4.44	40	48.8	120	13.11	230	1	60	R410 OR APPROVE EQUAL
ACCU 2-03	FCU 2-03	1	Wall Mounted	2F- Librarian Office	1.0	HP	VARIABLE	VARIABLE	37	4.44	40	48.8	120	2.22	230	1	60	R410 OR APPROVE EQUAL
ACCU 2-04	FCU 2-04	4	Wall Mounted	2F- Library	3.0	HP	VARIABLE	VARIABLE	37	4.44	40	48.8	120	30.29	230	1	60	R410 OR APPROVE EQUAL
ACCU 2-05	FCU 2-05	2	Ceiling Mounted	2F- Classroom 2	3.0	TR	VARIABLE	VARIABLE	37	4.44	40	48.8	120	17.91	230	1	60	R410 OR APPROVE EQUAL
ACCU 2-06	FCU 2-06	2	Ceiling Mounted	2F- Classroom 3	3.0	TR	VARIABLE	VARIABLE	37	4.44	40	48.8	120	18.06	230	1	60	R410 OR APPROVE EQUAL
ACCU 2-07	FCU 2-07	2	Ceiling Mounted	2F- Classroom 4	3.0	TR	VARIABLE	VARIABLE	37	4.44	40	48.8	120	18.32	230	1	60	R410 OR APPROVE EQUAL
ACCU 2-08	FCU 2-08	2	Wall Mounted	2F- Faculty Office	2.5	HP	VARIABLE	VARIABLE	37	4.44	40	48.8	120	12.68	230	1	60	R410 OR APPROVE EQUAL
ACCU 3-01	FCU 3-01	1	Wall Mounted	3F- Funtion Room	2.5	HP	VARIABLE	VARIABLE	37	4.44	40	48.8	120	6.27	230	1	60	R410 OR APPROVE EQUAL
ACCU 3-02	FCU 3-02	2	Wall Mounted	3F- Faculty Office	3.0	HP	VARIABLE	VARIABLE	37	4.44	40	48.8	120	15.27	230	1	60	R410 OR APPROVE EQUAL
ACCU 3-03	FCU 3-03	2	Ceiling Mounted	3F- Classroom 5 & 10	3.0	TR	VARIABLE	VARIABLE	37	4.44	40	48.8	120	18.13	230	1	60	R410 OR APPROVE EQUAL
ACCU 3-04	FCU 3-04	2	Ceiling Mounted	3F- Classroom 6 & 11	3.0	TR	VARIABLE	VARIABLE	37	4.44	40	48.8	120	18.13	230	1	60	R410 OR APPROVE EQUAL
ACCU 3-05	FCU 3-05	2	Ceiling Mounted	3F- Classroom 7 & 12	3.0	TR	VARIABLE	VARIABLE	37	4.44	40	48.8	120	18.38	230	1	60	R410 OR APPROVE EQUAL
ACCU 3-06	FCU 3-06	2	Ceiling Mounted	3F- Classroom 8 & 13	3.0	TR	VARIABLE	VARIABLE	37	4.44	40	48.8	120	17.46	230	1	60	R410 OR APPROVE EQUAL
ACCU 3-07	FCU 3-07	2	Ceiling Mounted	3F- Classroom 9 & 14	3.0	TR	VARIABLE	VARIABLE	37	4.44	40	48.8	120	6.50	230	1	60	R410 OR APPROVE EQUAL
ACCU 3-08	FCU 3-08	2	Wall Mounted	3F- Faculty Office	3.0	HP	VARIABLE	VARIABLE	37	4.44	40	48.8	120	15.14	230	1	60	R410 OR APPROVE EQUAL
ACCU 4-01	FCU 4-01	1	Wall Mounted	4F- Funtion Room	2.5	HP	VARIABLE	VARIABLE	37	4.44	40	48.8	120	6.27	230	1	60	R410 OR APPROVE EQUAL
ACCU 4-02	FCU 4-02	2	Wall Mounted	4F- Faculty Office	3.0	HP	VARIABLE	VARIABLE	37	4.44	40	48.8	120	15.27	230	1	60	R410 OR APPROVE EQUAL
ACCU 4-03	FCU 4-03	2	Ceiling Mounted	4F- Classroom 5 & 10	3.0	TR	VARIABLE	VARIABLE	37	4.44	40	48.8	120	18.13	230	1	60	R410 OR APPROVE EQUAL
ACCU 4-04	FCU 4-04	2	Ceiling Mounted	4F- Classroom 6 & 11	3.0	TR	VARIABLE	VARIABLE	37	4.44	40	48.8	120	18.13	230	1	60	R410 OR APPROVE EQUAL
ACCU 4-05	FCU 4-05	2	Ceiling Mounted	4F- Classroom 7 & 12	3.0	TR	VARIABLE	VARIABLE	37	4.44	40	48.8	120	18.38	230	1	60	R410 OR APPROVE EQUAL
ACCU 4-06	FCU 4-06	2	Ceiling Mounted	4F- Classroom 8 & 13	3.0	TR	VARIABLE	VARIABLE	37	4.44	40	48.8	120	17.46	230	1	60	R410 OR APPROVE EQUAL
ACCU 4-07	FCU 4-07	2	Ceiling Mounted	4F- Classroom 9 & 14	3.0	TR	VARIABLE	VARIABLE	37	4.44	40	48.8	120	6.50	230	1	60	R410 OR APPROVE EQUAL
ACCU 4-08	FCU 4-08	2	Wall Mounted	4F- Faculty Office	3.0	HP	VARIABLE	VARIABLE	37	4.44	40	48.8	120	15.14	230	1	60	R410 OR APPROVE EQUAL
ACCU 5-01	FCU 5-01	1	Ceiling Mounted	5F- Faculty Office	3.0	TR	VARIABLE	VARIABLE	37	4.44	40	48.8	120	10.47	230	1	60	R410 OR APPROVE EQUAL
ACCU 5-02	FCU 5-02	2	Ceiling Mounted	5F- Classroom 15	3.0	TR	VARIABLE	VARIABLE	37	4.44	40	48.8	120	18.32	230	1	60	R410 OR APPROVE EQUAL
ACCU 5-03	FCU 5-02	2	Ceiling Mounted	5F- Classroom 16	3.0	TR	VARIABLE	VARIABLE	37	4.44	40	48.8	120	17.91	230	1	60	R410 OR APPROVE EQUAL
ACCU 5-04	FCU 5-02	1	Wall Mounted	5F- Control Room	1.5	HP	VARIABLE	VARIABLE	37	4.44	40	48.8	120	2.36	230	1	60	R410 OR APPROVE EQUAL
ACCU 5-05	FCU 5-03	5	Ceiling Mounted	5F- AVR	5.0	TR	VARIABLE	VARIABLE	37	4.44	40	48.8	120	75.99	230	1	60	R410 OR APPROVE EQUAL
ACCU 5-06	FCU 5-04	1	Wall Mounted	5F- Back Stage	3.0	HP	VARIABLE	VARIABLE	37	4.44	40	48.8	120	7.58	230	1	60	R410 OR APPROVE EQUAL
ACCU 5-07	FCU 5-05	2	Wall Mounted	5F- Faculty Office	3.0	HP	VARIABLE	VARIABLE	37	4.44	40	48.8	120	14.65	230	1	60	R410 OR APPROVE EQUAL

REPUBLIC OF THE PHILIPPINES
OFFICE OF THE BUILDING OFFICIAL

GENERAL NOTES:

1. FFL = FINISH FLOOR LINE. VERIFY FLOOR FINISHES/MATERIALS.
2. ALL INTERIOR PARTITIONS AND FURNITURE LAYOUT ARE INDICATIVE ONLY AND MAY CHANGE. VERIFY INTERIOR DESIGN DRAWINGS.
3. ALL LANDSCAPE ARCHITECTURE ELEMENTS ARE INDICATIVE ONLY AND MAY CHANGE. VERIFY LANDSCAPE ARCHITECTURE DRAWINGS.
4. DO NOT SCALE DRAWINGS. WRITTEN DIMENSIONS TO GOVERN.
5. INCASE OF DISCREPANCY IN THE FIGURES AND DRAWINGS THE MATTER SHALL BE SUBMITTED IMMEDIATELY TO THE ARCHITECT BEFORE ADJUSTMENTS ARE TO BE MADE.
6. VERIFY ACTUAL TECHNICAL SITE CONDITIONS.
7. VERIFY ACTUAL ELEVATION MARKS AND LOT BOUNDARIES PRIOR TO COMMENCING WORK.
8. ALL WORKS HEREIN SHALL BE DONE UNDER THE STRICT SUPERVISION OF DULY LICENSED AND EXPERIENCED ARCHITECT/ENGINEER.
9. LOT AND BUILDING BOUNDARIES SHOULD BE SUPPORTED BY RETAINING WALLS AND FENCES. VERIFY EXISTING HEIGHTS, ELEVATIONS AND OTHER SITE CONDITIONS.
10. THE GENERAL CONTRACTOR, SUB-CONTRACTORS INCLUDING SPECIALTY CONTRACTORS, SHALL SUBMIT PROPER SHOP DRAWINGS INCLUDING MATERIALS SAMPLE PRIOR TO INSTALLATIONS FOR ARCHITECTS APPROVAL.

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UNIVERSITY OF SCIENCE AND TECHNOLOGY OF SOUTHERN PHILIPPINES
CAGAYAN DE ORO CAMPUS
INFRASTRUCTURE PLANNING AND FACILITY DEVELOPMENT UNIT
CLARO M. RECTO AVENUE, LAPASAN, CAGAYAN DE ORO CITY 9000
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WEBSITE: www.ustp.edu.ph

PROFESSIONAL MECHANICAL ENGINEER

PROJECT: PROPOSED CONSTRUCTION OF SMART ACADEMIC BUILDING PHASE 1, JASAAN CAMPUS
LOCATION: USTP JASAAN CAMPUS, MISAMIS ORIENTAL
OWNER: UNIVERSITY OF SCIENCE AND TECHNOLOGY OF SOUTHERN PHILIPPINES

RECOMMENDING APPROVAL:
ENGR. GRACE C. BABA
DIRECTOR, INFRASTRUCTURE PLANNING & FACILITIES DEVELOPMENT OFFICE

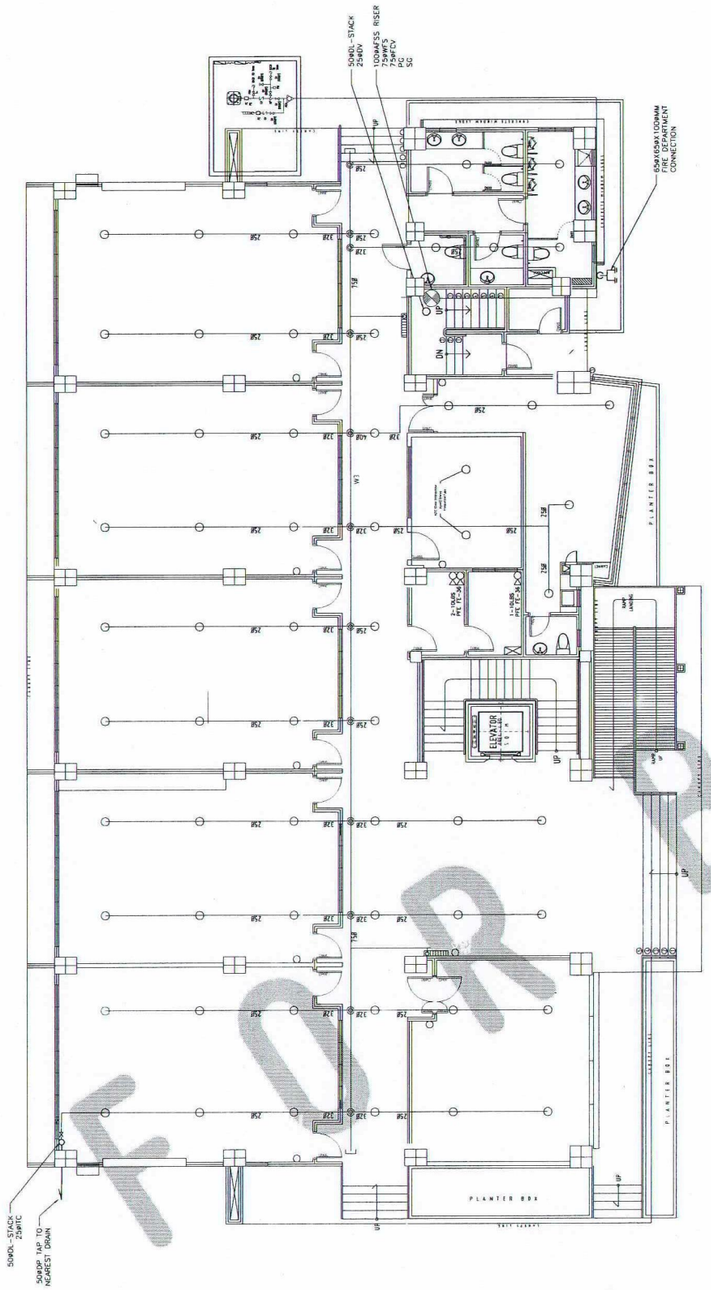
RECOMMENDING APPROVAL:
ATTY. ERWIN B. BUCIO
VP FOR ADMINISTRATION & LEGAL AFFAIRS

APPROVED BY:
DR. AMBROSIO B. CULTURA II
PRESIDENT, USTP SYSTEM

SHEET CONTENTS:
WALL MOUNTED EXHAUST FAN DETAIL
CENTRIFUGAL IN-LINE FAN DETAIL
ACU- SUSPENDED TYPE DETAIL
PROPELLER FAN WALL MOUTED DETAIL
VENT CAP DETAIL
VICINITY MAP

DRAWN BY:
DATE DRAWN: 10.01.2025
FNT:

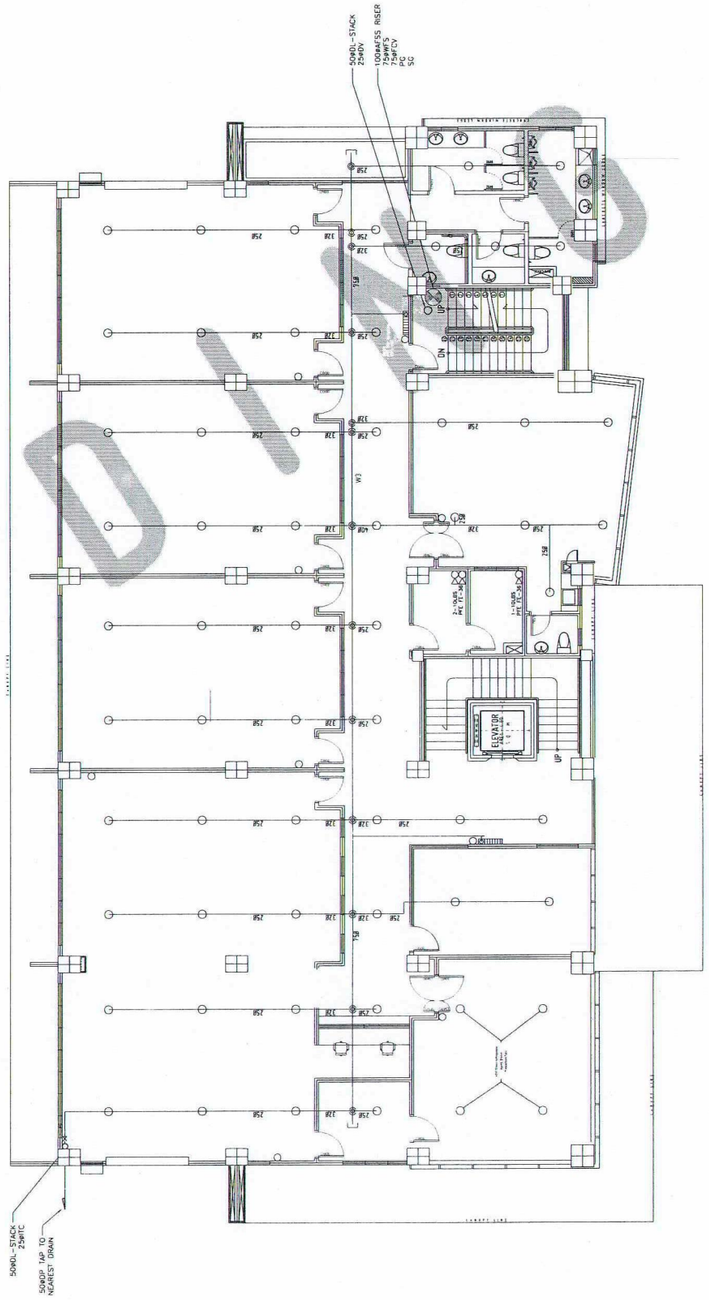
ME5



GROUND FLOOR PLAN

SCALE: 1:100 MTS

FP 1 1



SECOND FLOOR PLAN

SCALE: 1:100 MTS

FP 1 2

REPUBLIC OF THE PHILIPPINES
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3. ALL LANDSCAPE ARCHITECTURE ELEMENTS ARE INDICATIVE ONLY AND MAY CHANGE. VERIFY LANDSCAPE ARCHITECTURE DRAWINGS.
4. DO NOT SCALE DRAWINGS. WRITTEN DIMENSIONS TO GOVERN.
5. INCASE OF DISCREPANCY IN THE FIGURES AND DRAWINGS THE MATTER SHALL BE SUBMITTED IMMEDIATELY TO THE ARCHITECT BEFORE ADJUSTMENTS ARE TO BE MADE.
6. VERIFY ACTUAL TECHNICAL SITE CONDITIONS.
7. VERIFY ACTUAL ELEVATION MARKS AND LOT BOUNDARIES PRIOR TO COMMENCING WORK.
8. ALL WORKS HEREIN SHALL BE DONE UNDER THE STRICT SUPERVISION OF DULY LICENSED AND EXPERIENCED ARCHITECT/ENGINEER.
9. LOT AND BUILDING BOUNDARIES SHOULD BE SUPPORTED BY RETAINING WALLS AND FENCES. VERIFY EXISTING HEIGHTS, ELEVATIONS ANDOTHER SITE CONDITIONS.
10. THE GENERAL CONTRACTOR, SUB-CONTRACTORS INCLUDING SPECIALTY CONTRACTORS, SHALL SUBMIT PROPER SHOP DRAWINGS INCLUDING MATERIALS SAMPLE PRIOR TO INSTALLATIONS FOR ARCHITECTS APPROVAL.

IMPORTANT NOTES:

1. CHECK AND VERIFY ACTUAL SITE CONDITION BEFORE CONSTRUCTION.
2. CHECK AND REVIEW PLANS, AND IF THERE ARE CONFLICTS BETWEEN DRAWINGS, BOQ, BOM, AND TECHNICAL SPECIFICATIONS, INFORM THE IPPDU THRU RFI, BEFORE PROCUREMENT AND INSTALLATION OF CERTAIN ITEMS AND MATERIALS.
3. BEFORE INSTALLATION OF MATERIALS, ESPECIALLY ARCHITECTURAL FINISHES OR MATERIALS THAT WILL GREATLY AFFECT THE CONSTRUCTION, INFORM THE IPPDU THRU RFI (FOR INFORMATION) AND RFA (FOR MATERIAL APPROVAL) BEFORE PROCUREMENT AND INSTALLATION OF CERTAIN ITEMS AND MATERIALS
4. FOR ANY CONFLICT BETWEEN ARCHITECTURAL PLANS AND OTHER UTILITIES, INFORM THE IPPDU DESIGN ARCHITECT AND/OR ENGINEERS TO RESOLVE DESIGN ISSUE.

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LOCATION	USTP JASAAN CAMPUS, MISAMIS ORIENTAL
OWNER	UNIVERSITY OF SCIENCE AND TECHNOLOGY OF SOUTHERN PHILIPPINES

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DR. AMBROSIO B. CULTURA II
PRESIDENT, USTP SYSTEM

SHEET CONTENTS:
GROUND FLOOR PLAN
SECOND FLOOR PLAN

DRAWN BY:
DATE DRAWN: 10.01.2025
FNT:

FP1