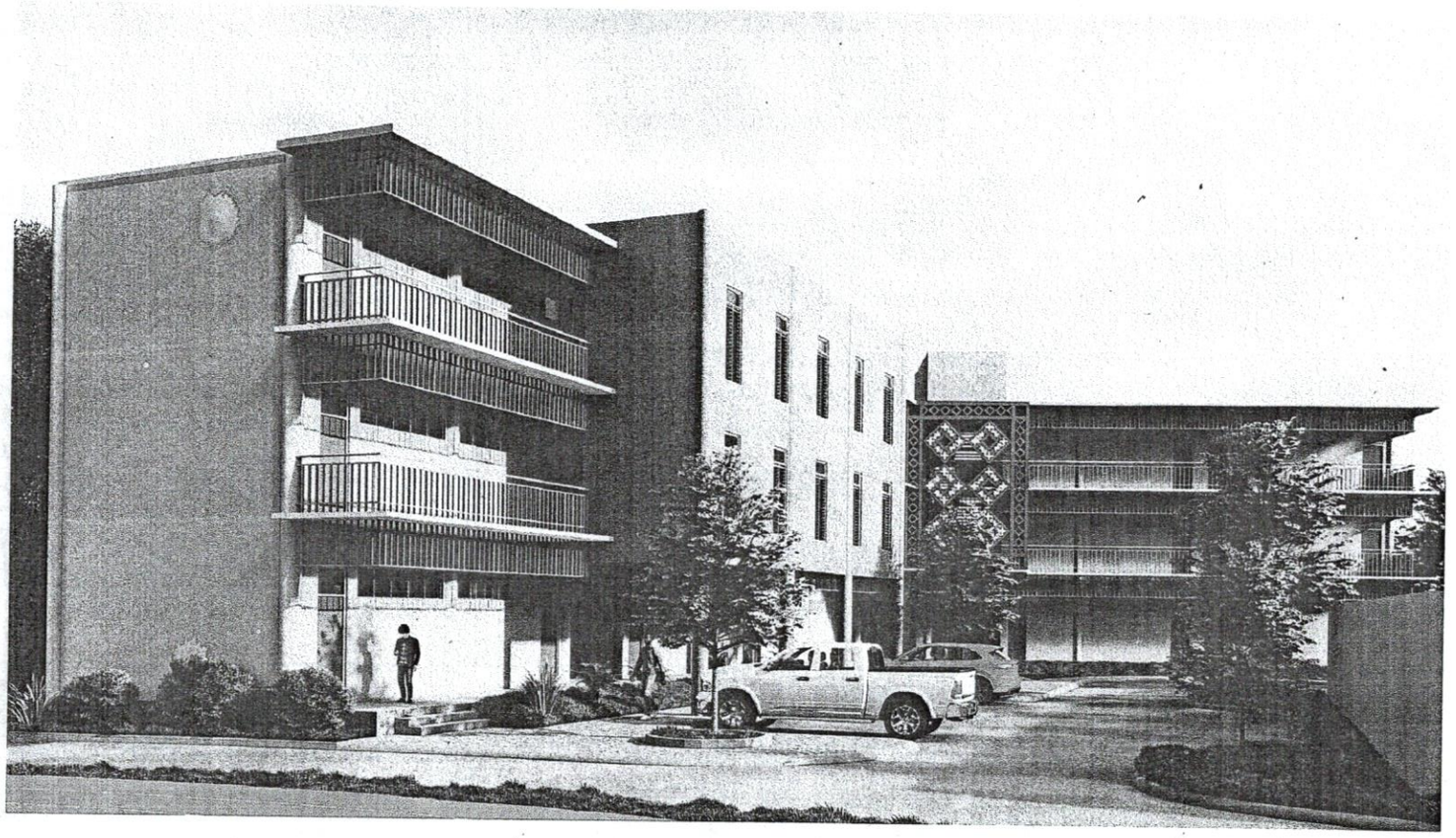

A1 PERSPECTIVE VIEW
NOT DRAWN TO SCALE

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REPUBLIC OF THE PHILIPPINES
OFFICE OF THE BUILDING OFFICIAL
CAGAYAN DE ORO CITY

APPROVED BY:

LINE AND GRADE

GEODETIC

ARCHITECTURAL

CIVIL

STRUCTURAL

ELECTRICAL

MECHANICAL

ELECTRONICS

PLUMBING

SANITARY

FIRE

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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
TELEPHONE # (088)22 72-60-99 / (0940) 958-1738 / 858-1738 | TELE FAX (088) 858-4896
WEBSITE: www.ustp.edu.ph

AR. JIFFER JOHN L. TAALA
ARCHITECT OF RECORD

PRC NO. 3 3 8 0 5	PTR NO. 5 2 0 1 0 0 3 A
IAPOA NO. 29734 323458 083121	DATE 0 3 - 2 9 - 2 2
TIN NO. 457-721-720	PLACE C A G . D E O R O

PROJECT	COMPLETION OF SPORTS COMPLEX AND RESIDENCES (PHASE 1C)
LOCATION	CLARO M. RECTO AVENUE, LAPASAN, CAGAYAN DE ORO CITY 9000
OWNER	UNIVERSITY OF SCIENCE AND TECHNOLOGY OF SOUTHERN PHILIPPINES

RECOMMENDING APPROVAL:
AR. FERDINAND A. DUMPA
DIRECTOR/IPFDO

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

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

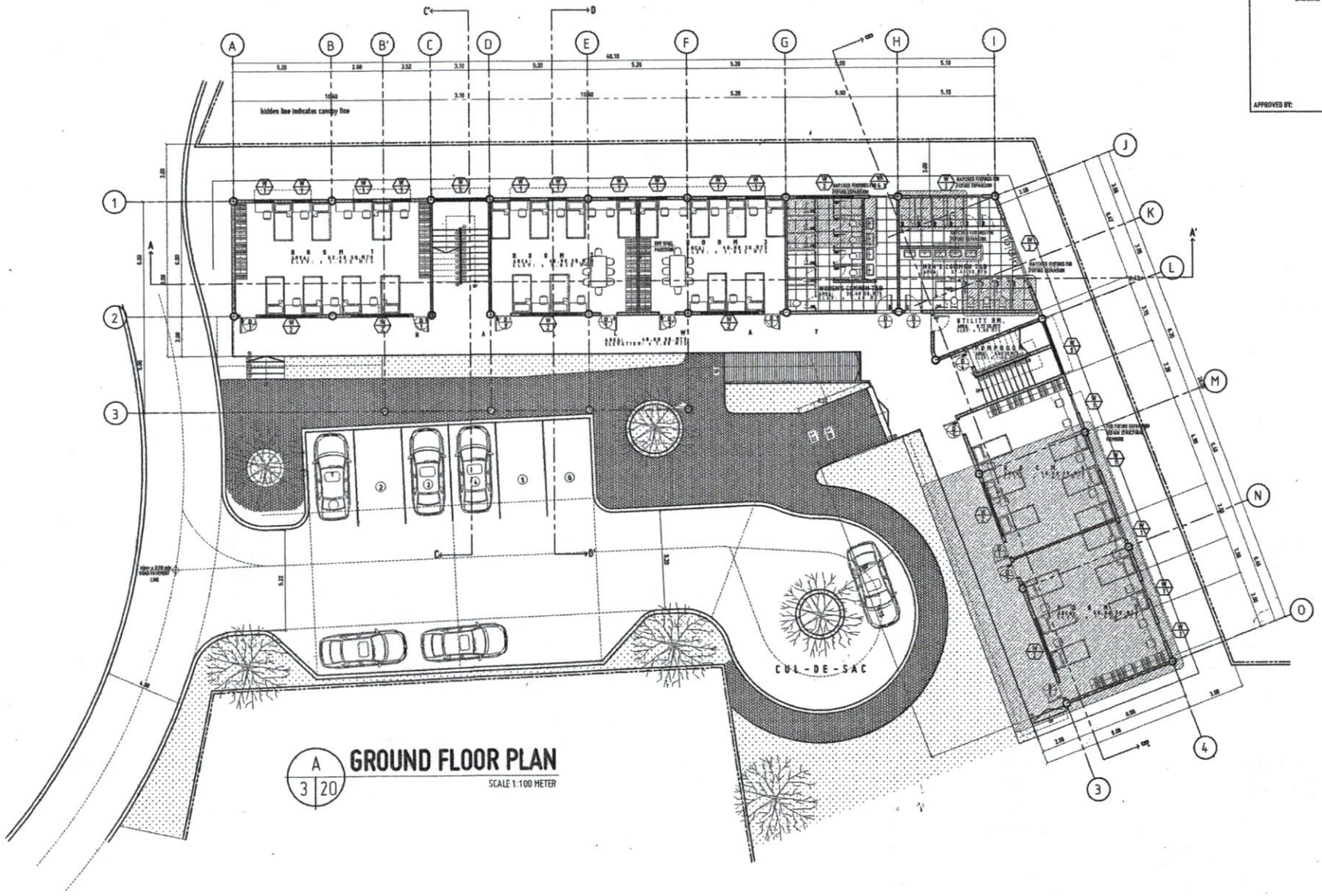
SHEET CONTENTS:

DRAWN BY:
DATE DRAWN:
FILE:

A1

REPUBLIC OF THE PHILIPPINES
OFFICE OF THE BUILDING OFFICIAL
CAGAYAN DE ORO CITY

APPROVED BY:



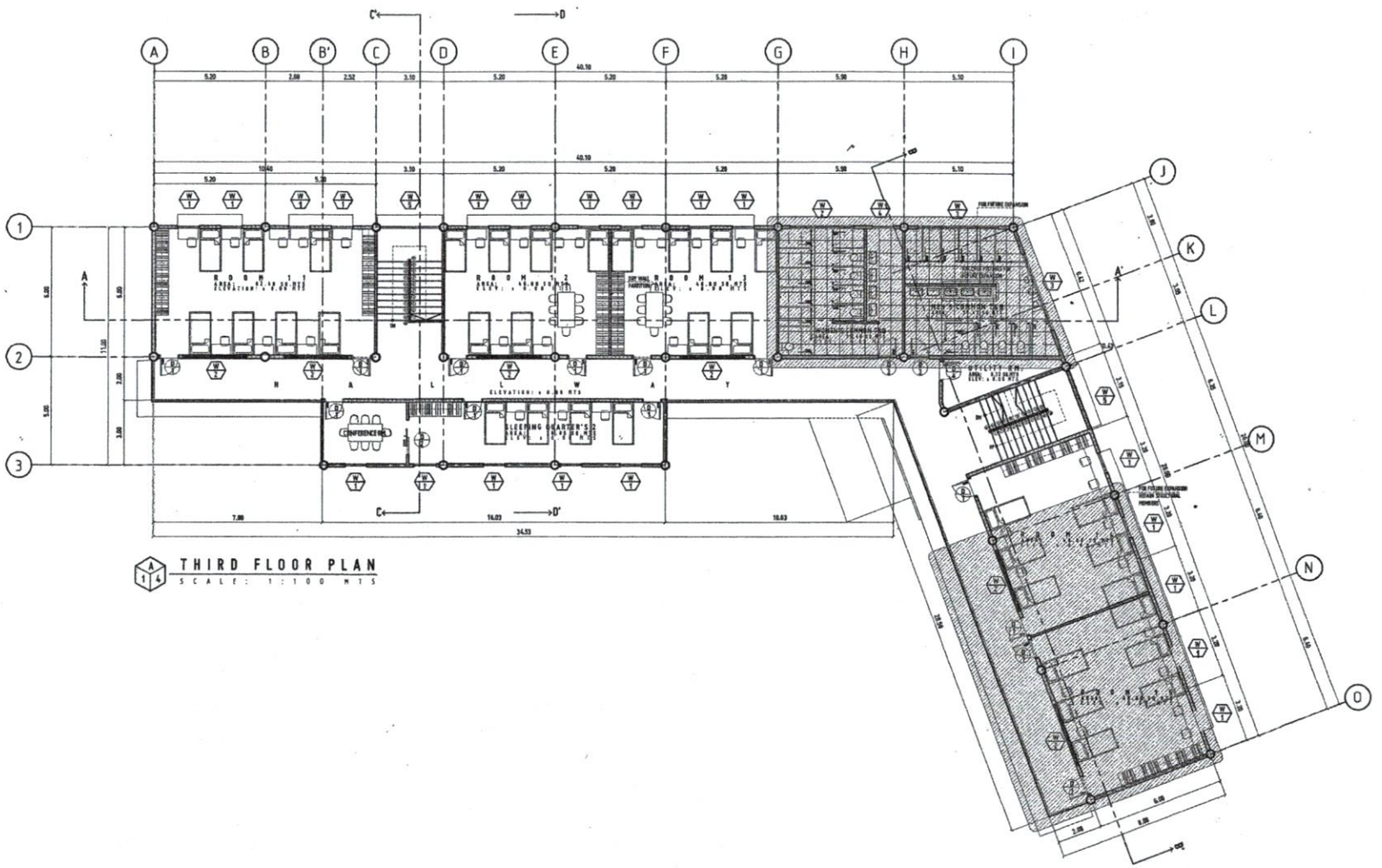
A 3 20 **GROUND FLOOR PLAN**

SCALE 1:100 METER

REPUBLIC OF THE PHILIPPINES 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 TELEPHONE #(088222) 72-00-65 / (088) 856-1738 / 855-1738 TELE FAX (088) 858-4010	AR. JIFFER JOHN L. TAALA ARCHITECT OF RECORD PRC NO. 3 3 8 0 5 PTR NO. 5 2 0 1 0 0 3 A LAPTAN NO. 291.34 323459 083121 DATE 0 3 - 2 9 - 2 2	PROJECT	COMPLETION OF SPORTS COMPLEX AND RESIDENCES (PHASE 1C)	RECOMMENDING APPROVAL: AR. FERDINAND A. DUMPA DIRECTOR, IPFDD	RECOMMENDING APPROVAL: ATTY. ERWIN B. BUCID OIC-VP FOR ADMINISTRATION & LEGAL AFFAIRS	APPROVED BY: DR. AMBROSIO B. CULTURA II PRESIDENT, USTP SYSTEM	SHEET CONTENTS: GROUND FLOOR PLAN	DRAWN BY: JOSEPH DATE DRAWN: 11.12.2018 FILE: 111.210	A2
		LOCATION	CLARO M. RECTO AVENUE, LAPASAN, CAGAYAN DE ORO CITY 9000						
		OWNER	UNIVERSITY OF SCIENCE AND TECHNOLOGY OF SOUTHERN PHILIPPINES						

REPUBLIC OF THE PHILIPPINES
OFFICE OF THE BUILDING OFFICIAL
CAGAYAN DE ORO CITY

APPROVED BY:

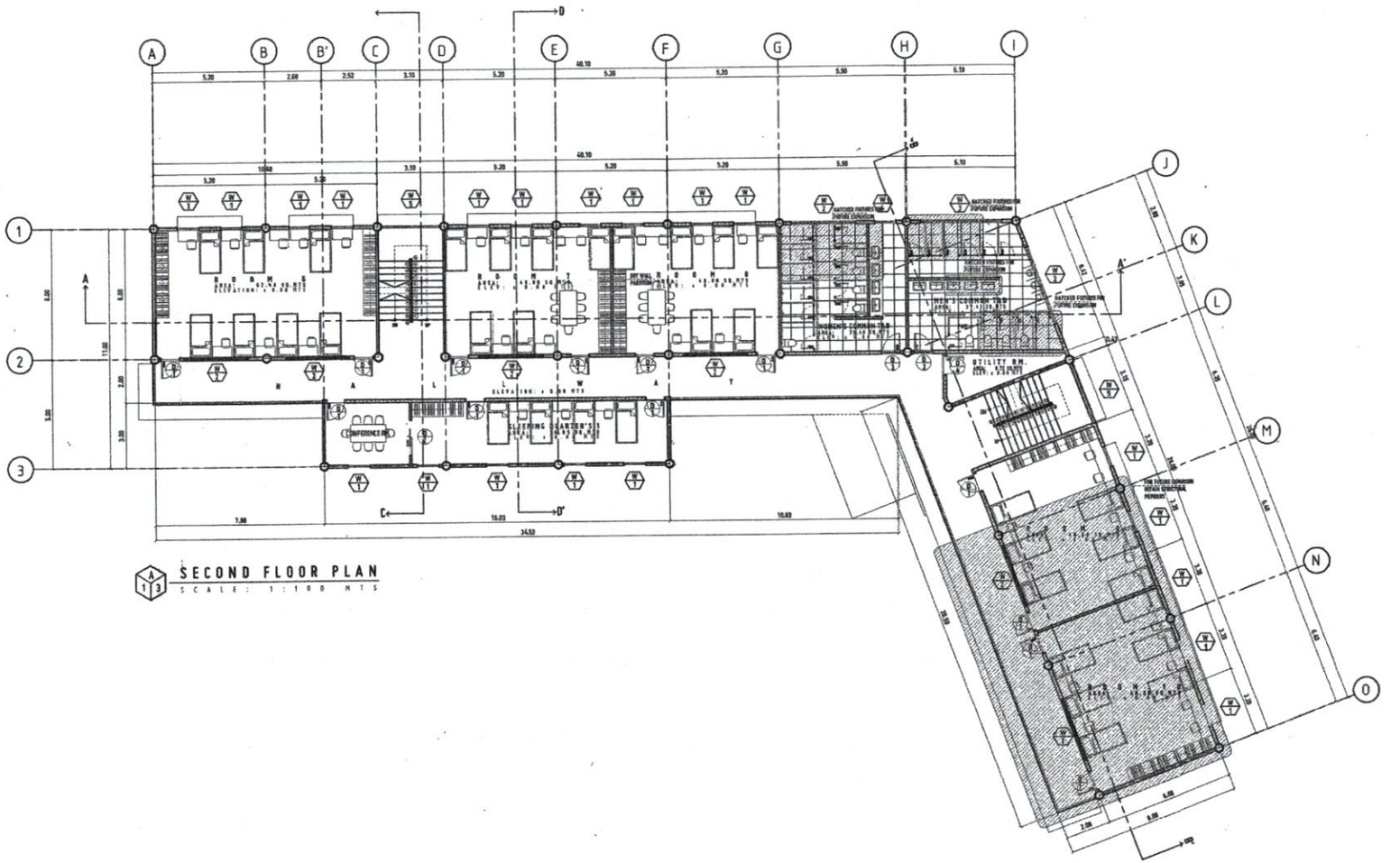


THIRD FLOOR PLAN
SCALE: 1:100 MTS

REPUBLIC OF THE PHILIPPINES 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 TELEPHONE # (088822) 72-60-65 / (088) 856-1738 / 856-1739 | TELE FAX (088) 856-4696 WEBSITE: www.ustp.edu.ph	AR. JIFFER JOHN L. TAALA ARCHITECT OF RECORD PRC NO. 3 3 8 0 5 | PTR NO. 5 2 0 1 0 0 3 A IAPOA NO. 29134 323450 093171 | DATE 0 3 - 2 8 - 2 2 TIN NO. 457-721-728 | PLACE CAG.DE ORO	PROJECT	COMPLETION OF SPORTS COMPLEX AND RESIDENCES (PHASE 1C)	RECOMMENDING APPROVAL: AR. FERDINAND A. BUMPA DIRECTOR, PDPM	RECOMMENDING APPROVAL: ATTY. ERWIN B. BUCIO OIC-VP FOR ADMINISTRATION & LEGAL AFFAIRS	APPROVED BY: DR. AMBROSIO B. CULTURA II PRESIDENT, USTP SYSTEM	SHEET CONTENTS:	DRAWN BY: DATE DRAWN: FILE:	A4
		LOCATION	CLARO M. RECTO AVENUE, LAPASAN, CAGAYAN DE ORO CITY 9000					
		OWNER	UNIVERSITY OF SCIENCE AND TECHNOLOGY OF SOUTHERN PHILIPPINES					

REPUBLIC OF THE PHILIPPINES
OFFICE OF THE BUILDING OFFICIAL
CAGAYAN DE ORO CITY

APPROVED BY:



SECOND FLOOR PLAN

SCALE: 1:100 MTS

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UNIVERSITY OF SCIENCE AND TECHNOLOGY OF SOUTHERN PHILIPPINES
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INFRASTRUCTURE PLANNING AND FACILITY DEVELOPMENT UNIT
CLARO M. RECTO AVENUE, LAPASAN, CAGAYAN DE ORO CITY 9000
TELEPHONE # (088)22 72-60-45 / (088) 856-1738 / 856-1739 | TOLL FAX (088) 856-4696
WEBSITE: www.ustp.edu.ph

AR. JIFFER JOHN L. TAALA
ARCHITECT OF RECORD

PRC NO. 3 3 9 0 5	PTR NO. 5 2 0 1 0 0 3 A
SP'DA NO. 29134 323458 083121	DATE 0 3 - 2 9 - 2 2
TIN NO. 457-721-728	PLACE C A G . D E O R O

PROJECT	COMPLETION OF SPORTS COMPLEX AND RESIDENCES (PHASE 1C)
LOCATION	CLARO M. RECTO AVENUE, LAPASAN, CAGAYAN DE ORO CITY 9000
OWNER	UNIVERSITY OF SCIENCE AND TECHNOLOGY OF SOUTHERN PHILIPPINES

RECOMMENDING APPROVAL:	RECOMMENDING APPROVAL:	APPROVED BY:	SHEET CONTENTS:
AR. FERDINAND K. DUMPA DIRECTOR, IPFDU	ATTY. ERWIN B. BUCIO DIR.-VP FOR ADMINISTRATION & LEGAL AFFAIRS	DR. AMBROSIO B. CULTURA II PRESIDENT, USTP SYSTEM	

DRAWN BY:	JOSEPH
DATE DRAWN:	11.12.2018
FILE:	111218

A3

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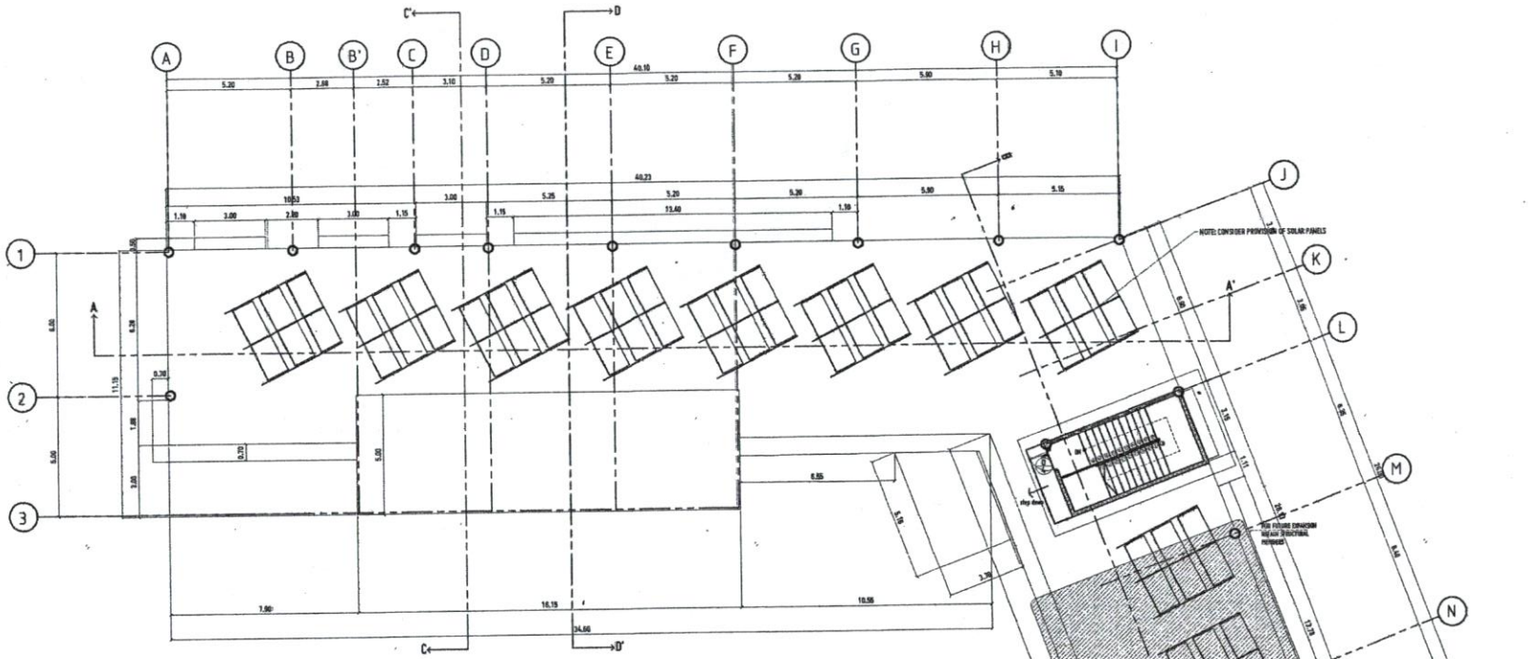
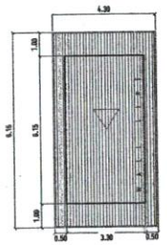
CAGAYAN DE ORO CITY

APPROVED BY:



A 1 5 ROOF DECK FLOOR PLAN
SCALE: 1:100 MTS



A 2 5 ROOF PLAN (STAIR)
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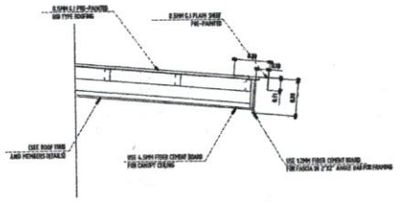

A 2 5 ROOF DECK FASCIA DETAIL (STAIR)
SCALE: 1:100 MTS

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CLARO M. RECTO AVENUE, LAPASAN, CAGAYAN DE ORO CITY 9000
TELEPHONE #(088)22 72-60-85 / (088) 856-1738 / 856-1739 | TELEFAX (088) 856-4686
WEBSITE: www.ustp.edu.ph

AR. JIFFER JOHN L. TAALA
ARCHITECT OF RECORD
PRC NO. 3 3 8 0 5 | PTR NO. 5 2 0 1 0 0 3 A
IAPOA NO. 29134-323408-093121 | DATE 0 3 - 2 0 - 2 2
TIN NO. 457-721-728 | PLACE CAG. DE ORO

PROJECT: COMPLETION OF SPORTS COMPLEX AND RESIDENCES (PHASE 1C)
LOCATION: CLARO M. RECTO AVENUE, LAPASAN, CAGAYAN DE ORO CITY 9000
OWNER: UNIVERSITY OF SCIENCE AND TECHNOLOGY OF SOUTHERN PHILIPPINES

RECOMMENDING APPROVAL:
AR. FERDINAND A. DUMPA
DIRECTOR, OPDD

RECOMMENDING APPROVAL:
ATTY. ERWIN D. BUCIO
OIC-VP FOR ADMINISTRATION & LEGAL AFFAIRS

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

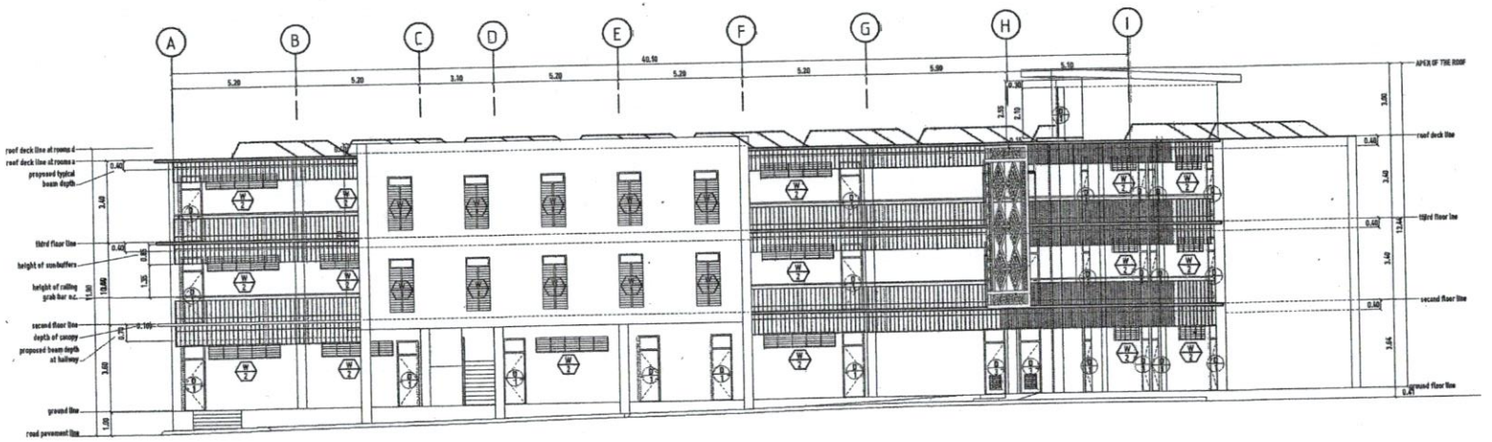
SHEET CONTENTS: ROOF PLAN

DRAWN BY: JRSOM
DATE DRAWN: 11.17.2018
FILE: 111718

A5

REPUBLIC OF THE PHILIPPINES
OFFICE OF THE BUILDING OFFICIAL
CAGAYAN DE ORO CITY

APPROVED BY:



A 1 6 FRONT ELEVATION
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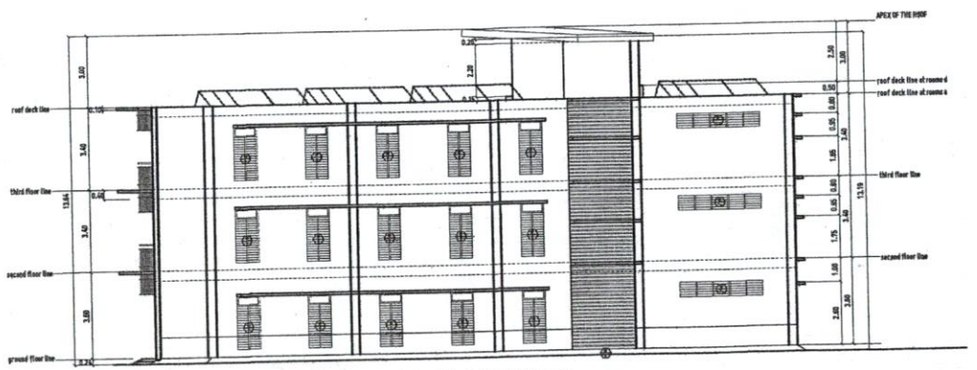

A 2 6 RIGHT SIDE ELEVATION
SCALE: 1:100 MTS

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CLARO M. RECTO AVENUE, LAPASAN, CAGAYAN DE ORO CITY 9000
TELEPHONE # (088822) 72-60-65 / (088) 856-1738 / 856-1739 | TELE FAX (088) 856-1696

AR. JIFFER JOHN L. TAALA
ARCHITECT OF RECORD
PRC NO. 3 3 8 0 5 | PTR NO. 5 2 0 1 0 0 3 A
TAPOA NO. 29134, 323458, 093121 | DATE 0 3 - 2 9 - 2 2
TIN NO. 457-721-720 | PLACE C A G . D E O R O

PROJECT	COMPLETION OF SPORTS COMPLEX AND RESIDENCES (PHASE 1C)
LOCATION	CLARO M. RECTO AVENUE, LAPASAN, CAGAYAN DE ORO CITY 9000
OWNER	UNIVERSITY OF SCIENCE AND TECHNOLOGY OF SOUTHERN PHILIPPINES

RECOMMENDING APPROVAL:
AR. FERDINAND E. DUMPA
DIRECTOR, IPFDU

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

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

SHEET CONTENTS:
FRONT ELEVATION
RIGHT ELEVATION

DRAWN BY: JHOSEPH
DATE DRAWN: 11.12.2018
FILE: 111218

A6

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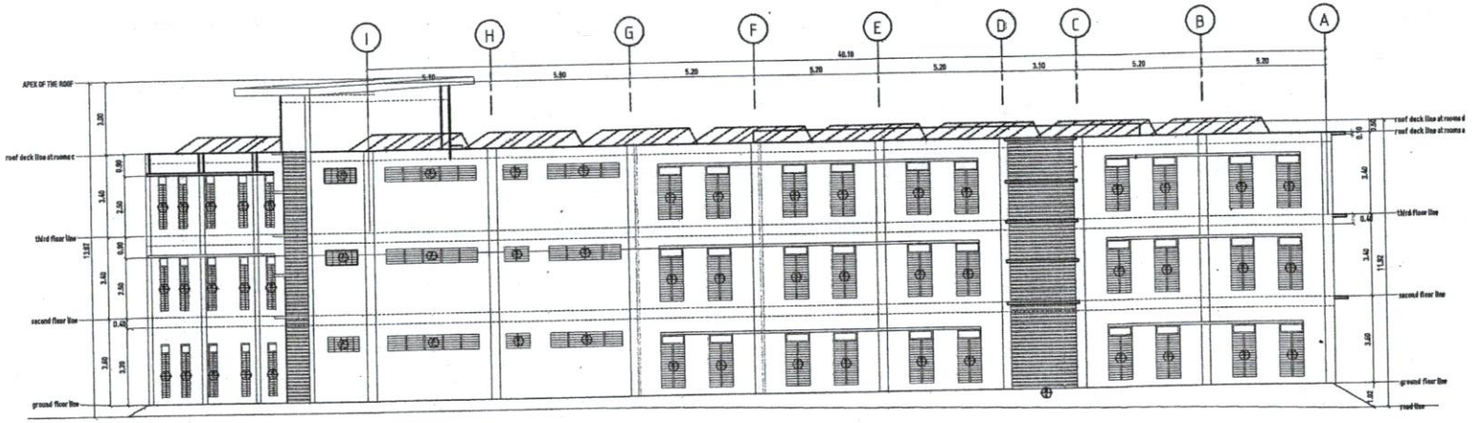
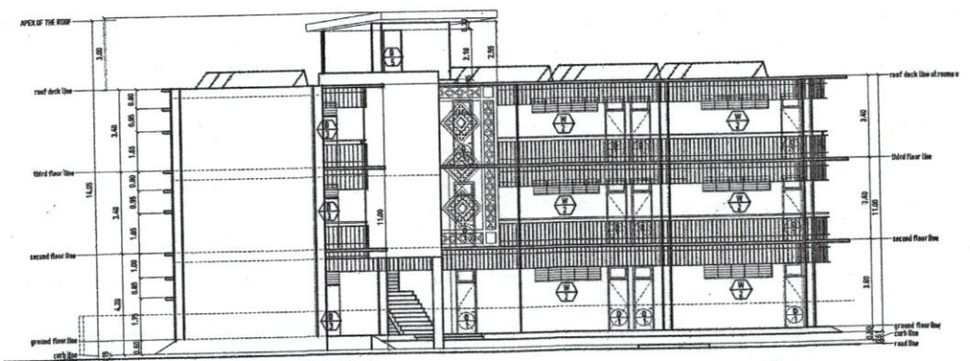
CAGAYAN DE ORO CITY

APPROVED BY:



REAR ELEVATION

SCALE: 1:100 MTS



LEFT SIDE ELEVATION

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 #: (088222) 72-40-65 / (0940) 956-1730 / 956-1739 | TELE FAX (088) 858-1696
WEBSITE: www.ustp.edu.ph

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AR. JIFFER JOHN L. TAALA
ARCHITECT OF RECORD
PRC NO. 3 2 8 0 5 | PTR NO. 5 2 0 1 0 0 3 A
LAPAS NO. 29134 323669 093121 | DATE 0 3 - 2 9 - 2 2
TIN NO. 4 5 7 - 7 2 1 - 7 2 0 | PLACE C A G . D E O R O

PROJECT	COMPLETION OF SPORTS COMPLEX AND RESIDENCES (PHASE 1C)
LOCATION	CLARO M. RECTO AVENUE, LAPASAN, CAGAYAN DE ORO CITY 9000
OWNER	UNIVERSITY OF SCIENCE AND TECHNOLOGY OF SOUTHERN PHILIPPINES

RECOMMENDING APPROVAL:
AR. FERDINAND A. DUMPA
DIRECTOR, IPFDU

RECOMMENDING APPROVAL:
ATTY. ERWIN D. BUCIO
OIC-VP FOR ADMINISTRATION & LEGAL AFFAIRS

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

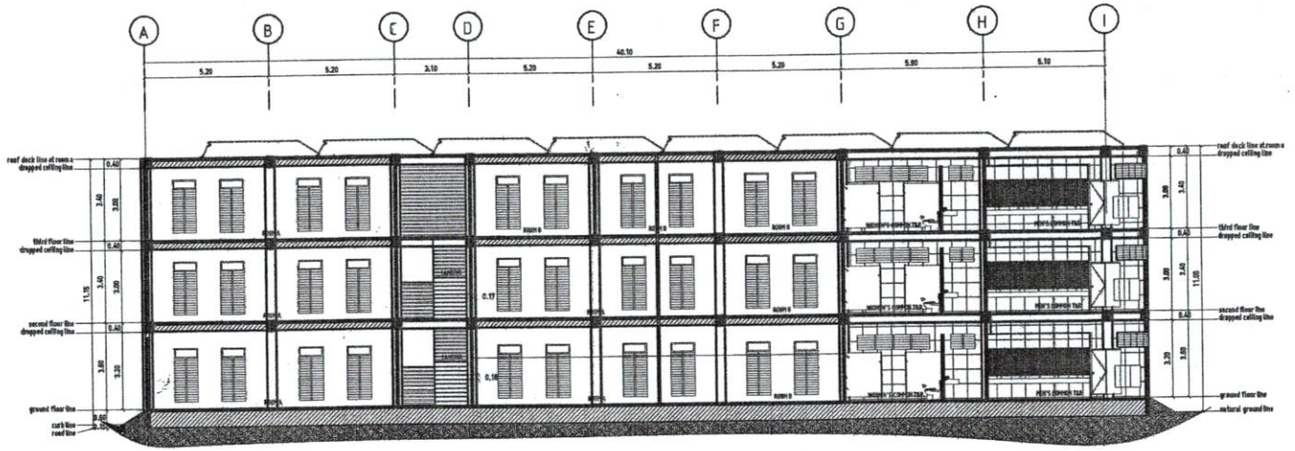
SHEET CONTENTS:

DRAWN BY:
DATE DRAWN:
FILE:

A7

REPUBLIC OF THE PHILIPPINES
OFFICE OF THE BUILDING OFFICIAL
CAGAYAN DE ORO CITY

APPROVED BY:



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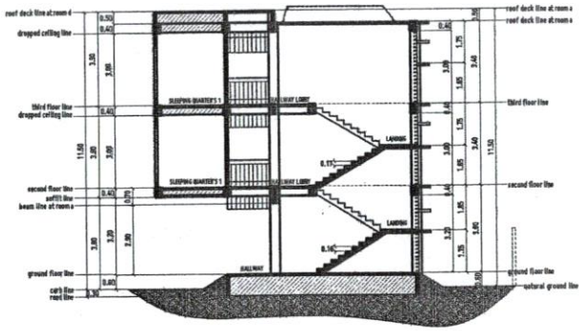

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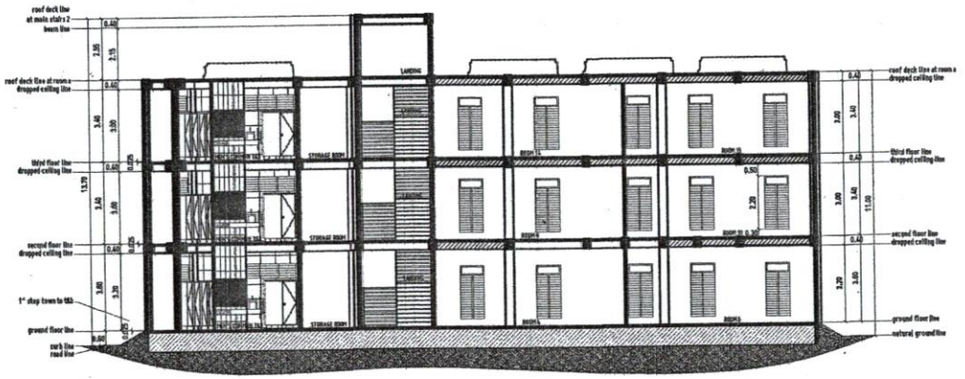

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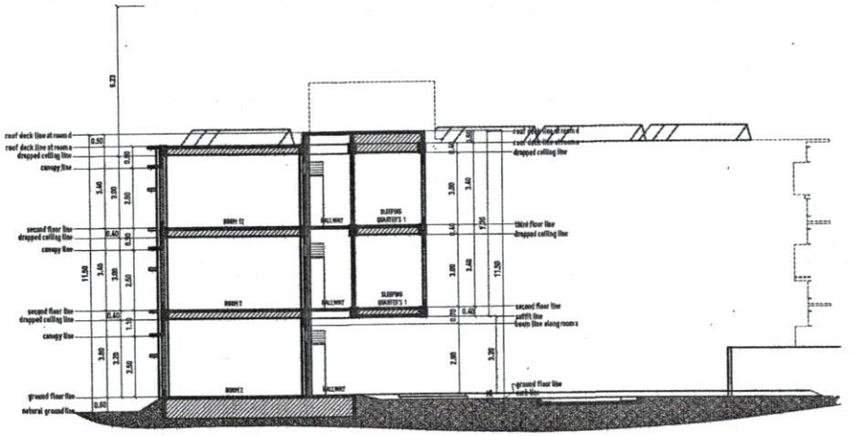


A 4 8 SECTION THRU D-D
SCALE: 1:100 MTS

REPUBLIC OF THE PHILIPPINES 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 TELEPHONE # (0822) 72-40-65 / (088) 856-1738 / 856-1739 | TELE FAX (088) 856-4090 WEBSITE: www.ustp.edu.ph	AR. JIFFER JOHN L. TAALA ARCHITECT OF RECORD PRC NO. 3 3 0 [illegible] 5 PTR NO. 5 2 6 1 0 0 3 A IAPOAINC 29134 3134568 083121 DATE 0 3 - 3 9 - 3 2 TIN NO. 457-721-726 PLACE CAG.DE ORO	PROJECT LOCATION OWNER	COMPLETION OF SPORTS COMPLEX AND RESIDENCES (PHASE 1C) CLARO M. RECTO AVENUE, LAPASAN, CAGAYAN DE ORO CITY 9000 UNIVERSITY OF SCIENCE AND TECHNOLOGY OF SOUTHERN PHILIPPINES	RECOMMENDING APPROVAL: AR. FERDINAND A. DUMPA DIRECTOR, IPDO	RECOMMENDING APPROVAL: ATTY. ERWIN B. BUCIO OIC-VP FOR ADMINISTRATION & LEGAL AFFAIRS	APPROVED BY: DR. AMBROSIO B. CULTURA II PRESIDENT, USTP SYSTEM	SHEET CONTENTS: SECTION A-A' SECTION B-B' SECTION C-C' SECTION D-D'	DRAWN BY: DATE DRAWN: FILE:

USTP

A8

CAGAYAN DE ORO CITY

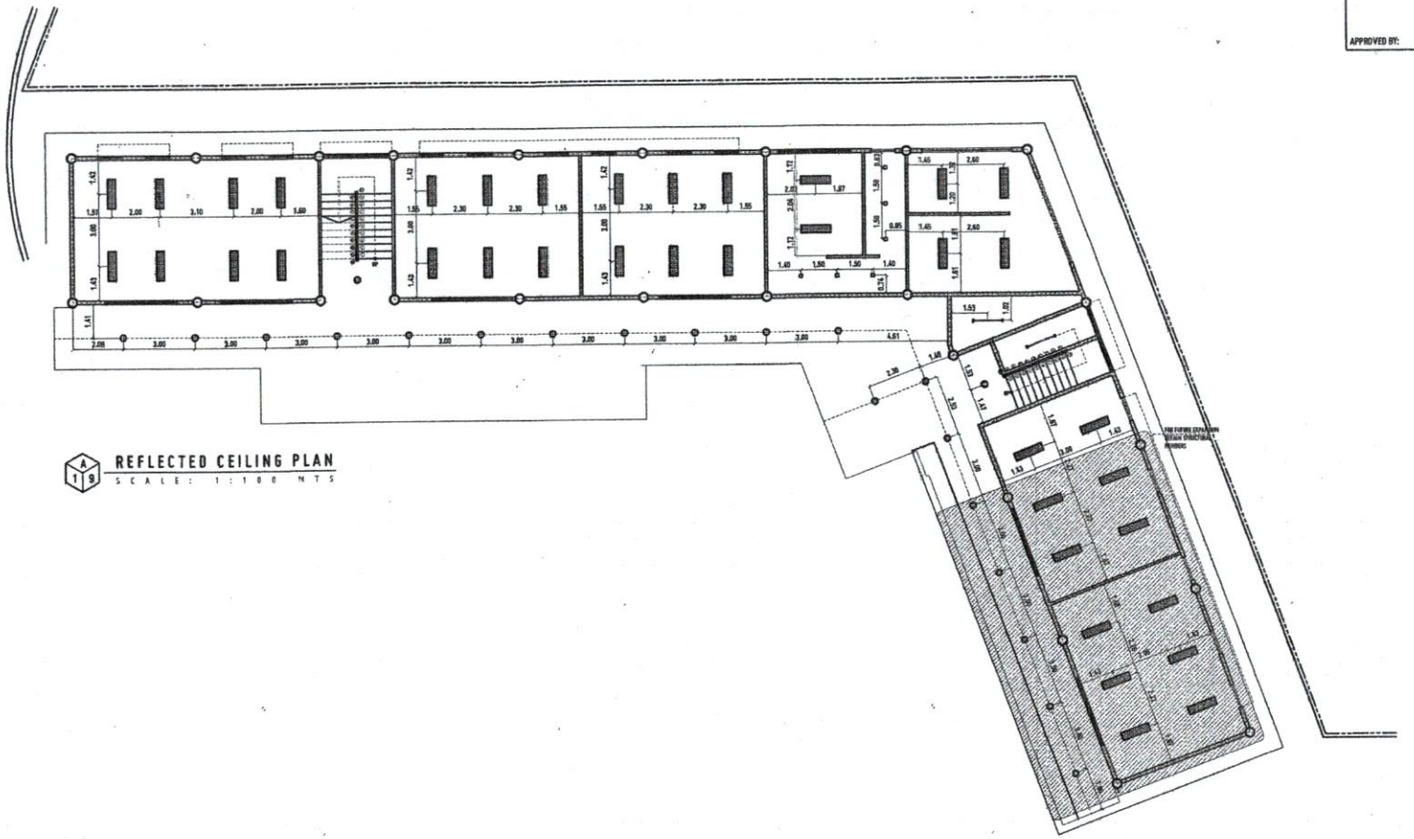
APPROVED BY:

10W LED SURFACE MOUNTED DOWNLIGHT

10W LED RECESSED TYPE DOWNLIGHT

2X20W LED REFLECTORIZED SUSPENDED LIGHTING

20W LED SUSPENDED LIGHTING



A 1 9 REFLECTED CEILING PLAN

SCALE: 1:100 MTS

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UNIVERSITY OF SCIENCE AND TECHNOLOGY OF SOUTHERN PHILIPPINES
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CLARO M. RECTO AVENUE, LAPASAN, CAGAYAN DE ORO CITY 9000
TELEPHONE # (088)22 72-40-65 / (088) 858-1738 / 858-1739 | 29134 224983 078015
WEBSITE: www.ustp.edu.ph

AR. JIFFER JOHN L. TAALA
ARCHITECT OF RECORD

PRC NO. 3 3 8 0 5	PTR NO. 5 2 0 1 0 0 3 A
IAPSA NO. 29134 323458 083121	DATE 0 3 - 2 9 - 2 2
TIN NO. 457-721-728	PLACE C A G . D E O R O

PROJECT	COMPLETION OF SPORTS COMPLEX AND RESIDENCES (PHASE 1C)
LOCATION	CLARO M. RECTO AVENUE, LAPASAN, CAGAYAN DE ORO CITY 9000
OWNER	UNIVERSITY OF SCIENCE AND TECHNOLOGY OF SOUTHERN PHILIPPINES

RECOMMENDING APPROVAL:
AR. FERDINAND A. BUMPA
DIRECTOR, IPFDU

RECOMMENDING APPROVAL:
ATTY. ERWIN R. BUCIO
OIC-VP FOR ADMINISTRATION & LEGAL AFFAIRS

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

SHEET CONTENTS:

DRAWN BY: JOSEPH
DATE DRAWN: 11-12-2018
FILE: 1112.rvt

A9

REPUBLIC OF THE PHILIPPINES
OFFICE OF THE BUILDING OFFICIAL
CAGAYAN DE ORO CITY

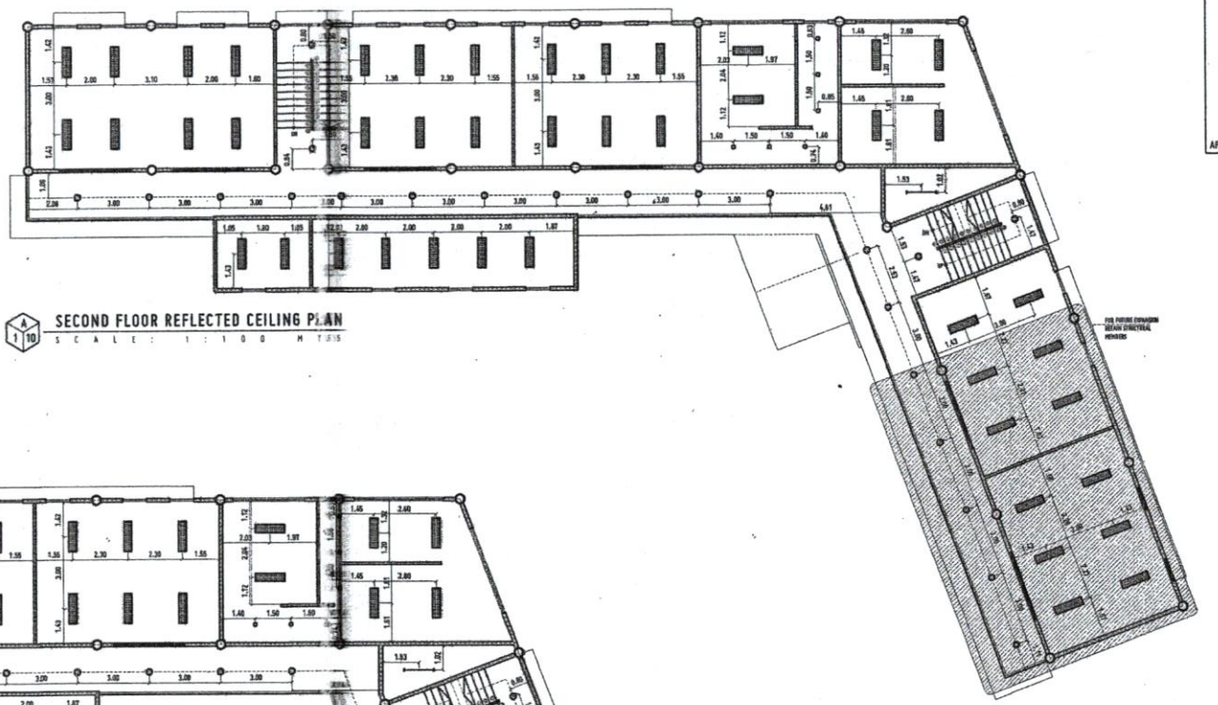
APPROVED BY:

18W LED SURFACE MOUNTED DOWNLIGHT

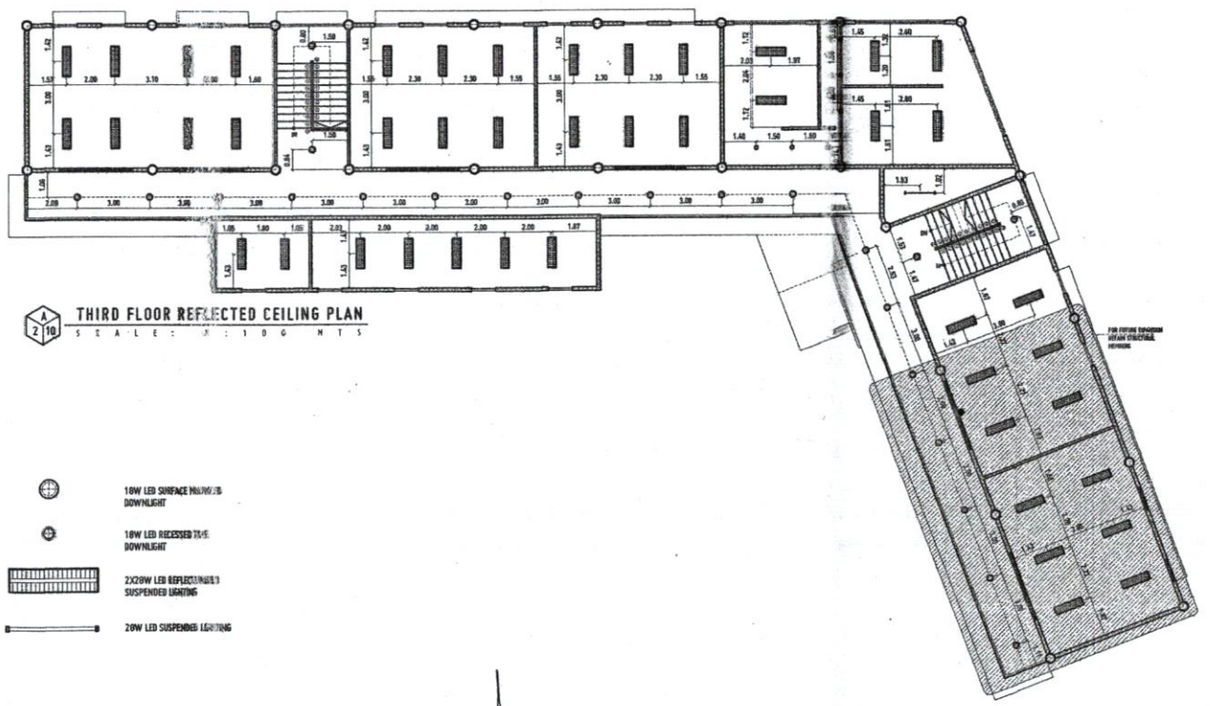
18W LED RECESSED TYPE DOWNLIGHT

2X28W LED REFLECTORIZED SUSPENDED LIGHTING

28W LED SUSPENDED LIGHTING



A 1/10 SECOND FLOOR REFLECTED CEILING PLAN
SCALE: 1:100 MTS



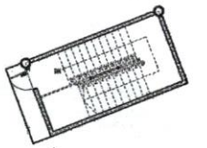
A 2/10 THIRD FLOOR REFLECTED CEILING PLAN
SCALE: 1:100 MTS

18W LED SURFACE MOUNTED DOWNLIGHT

18W LED RECESSED TYPE DOWNLIGHT

2X28W LED REFLECTORIZED SUSPENDED LIGHTING

28W LED SUSPENDED LIGHTING



A 3/10 ROOF DECK STAIR REFLECTED CEILING PLAN
SCALE: 1:100 MTS

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UNIVERSITY OF SCIENCE AND TECHNOLOGY OF SOUTHERN PHILIPPINES
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INFRASTRUCTURE PLANNING AND FACILITY DEVELOPMENT UNIT
CLARO M. RECTO AVENUE, LAPASAN, CAGAYAN DE ORO CITY 9000
TELEPHONE # (088)22 70-80-05 / (088) 856-1739 / 856-1738 | TELEFAX (088) 858-4696
WEBSITE: www.ustp.edu.ph

AR. JIFFER JOHN L. TAALA
ARCHITECT OF RECORD
PRC NO. 3 3 8 0 5 | PTR NO. 5 2 0 1 0 0 3 A
IAP DAWN 39134 333450 093121 | DATE 0 3 - 2 9 - 2 2
TIN NO. 457-721-728 | PLACE CAGAYAN DE ORO

PROJECT	COMPLETION OF SPORTS COMPLEX AND RESIDENCES (PHASE 1C)
LOCATION	CLARO M. RECTO AVENUE, LAPASAN, CAGAYAN DE ORO
OWNER	UNIVERSITY OF SCIENCE AND TECHNOLOGY OF SOUTHERN PHILIPPINES

RECOMMENDING APPROVAL:
AR. FERDINAND E. DUMPA
DIRECTOR, OPDD

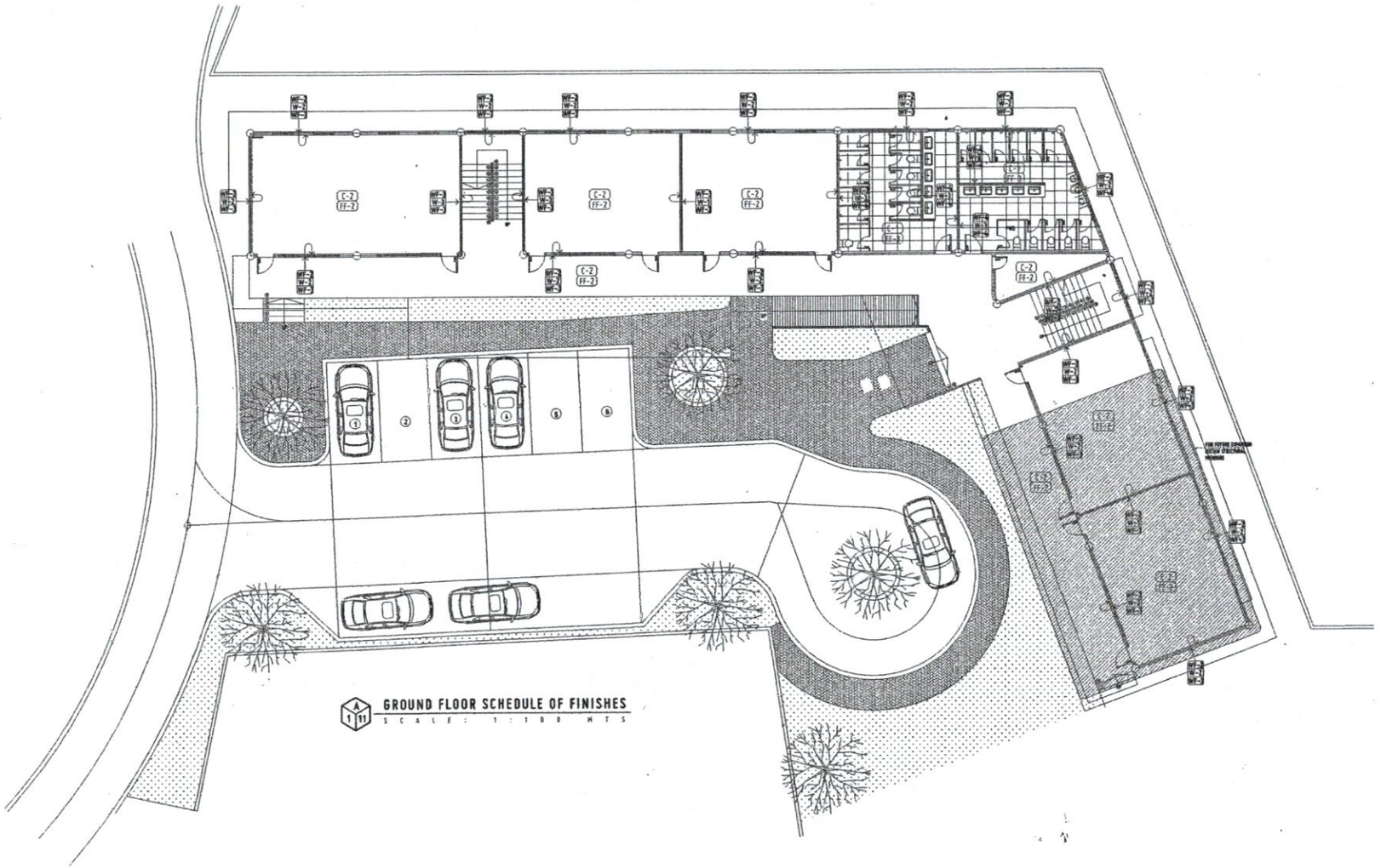
RECOMMENDING APPROVAL:
ATTY. ERWIN B. BUCIO
DIR.-VP FOR ADMINISTRATION & LEGAL AFFAIRS

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

SHEET CONTENTS:

DRAWN BY:
DATE DRAWN:
FILE:

A10



GROUND FLOOR SCHEDULE OF FINISHES
SCALE: 1:100 MTS

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OFFICE OF THE BUILDING OFFICIAL
CAGAYAN DE ORO CITY

APPROVED BY:

FLOOR FINISHES	
MARK	DESCRIPTION
FF-1	SAND WASHED FLOOR FINISH WITH RETARDER
FF-2	SMOOTH TROWEL FINISHED CONCRETE FLOORING
FF-3	600 X 300MM NON-SKID CERAMIC FLOOR TILES IN GRAY SHADE WITH CEMENTITIOUS WATERPROOFING VERIFY DESIGN

WALL FINISHES	
MARK	DESCRIPTION
WF-1	NATURAL STONE CLADDING VERIFY DESIGN AND SIZE
WF-2	PLAIN CEMENT PLASTER TROWEL FINISH, "SMOOTH" GRAY SKIMCOAT FINISH, PAINTED W/ SELF-CLEANING, ANTI-BACTERIAL, SEMI-GLOSS PAINT IN PUMPKING WHITE COLOR (EXTERIOR)
WF-3	PLAIN CEMENT PLASTER TROWEL FINISH, "SMOOTH" GRAY SKIMCOAT FINISH W/ ANTI-INSECT IN SATIN WHITE COLOR (INTERIOR)
WF-4	LOWER- 600MM X 600MM CERAMIC WALL TILE UPPER- PLAIN CEMENT PLASTER TROWEL FINISH, "SMOOTH" SEMI-GLOSS LATEX PAINT FINISH

PARTITION	
MARK	DESCRIPTION
W-1	150MM THK. 1/2"THK FIBER CEMENT BOARD PAINTED IN AWTI-INSECT IN SATIN WHITE COLOR (INTERIOR)
W-2	150MM THK. CHB PERIMETER WALLS
W-3	100MM THK.CHB WALL

CEILING FINISHES	
C-1	DROPPED CEILING, 4.5MM THK. FIBER CEMENT BOARDS IN METAL FRAMES SPACED ACCORDINGLY, PAINTED WITH FLAT WHITE
C-2	SMOOTH TROWELED CONCRETE FINISH PAINTED IN FLAT WHITE

DRAWING SYMBOLS

SCHEDULE OF FINISHES

- CEILING FINISHES
- FLOOR FINISHES

- WALL FINISH OF SAME SIDE OF SYMBOL
- WALL OR PARTITION
- WALL FINISH OF OTHER SIDE

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CLARO M. RECTO AVENUE, LAPASAN, CAGAYAN DE ORO CITY 9000
TELEPHONE #(0822) 72-00-65 / (088) 856-1730 / 856-1739 | TELE FAX (088) 858-4686
WEBSITE: www.ustp.edu.ph

AR. JIFFER JOHN L. TAALA
ARCHITECT OF RECORD
PRC NO. 0 3 0 8 7 5 | PTR NO. 5 2 0 1 0 3 A
IAPOA NO. 29134-323458-083121 | DATE 0 3 - 2 8 - 2 2
TIN NO. 457-721-720 | PLACE CAG. DE ORO

PROJECT	COMPLETION OF SPORTS COMPLEX AND RESIDENCES (PHASE 1C)
LOCATION	CLARO M. RECTO AVENUE, LAPASAN, CAGAYAN DE ORO CITY 9000
OWNER	UNIVERSITY OF SCIENCE AND TECHNOLOGY OF SOUTHERN PHILIPPINES

RECOMMENDING APPROVAL: ARY FERDINAND R. DUMPA, DIRECTOR, IPFDU

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

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

SHEET CONTENTS:

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DATE DRAWN:
FNR:

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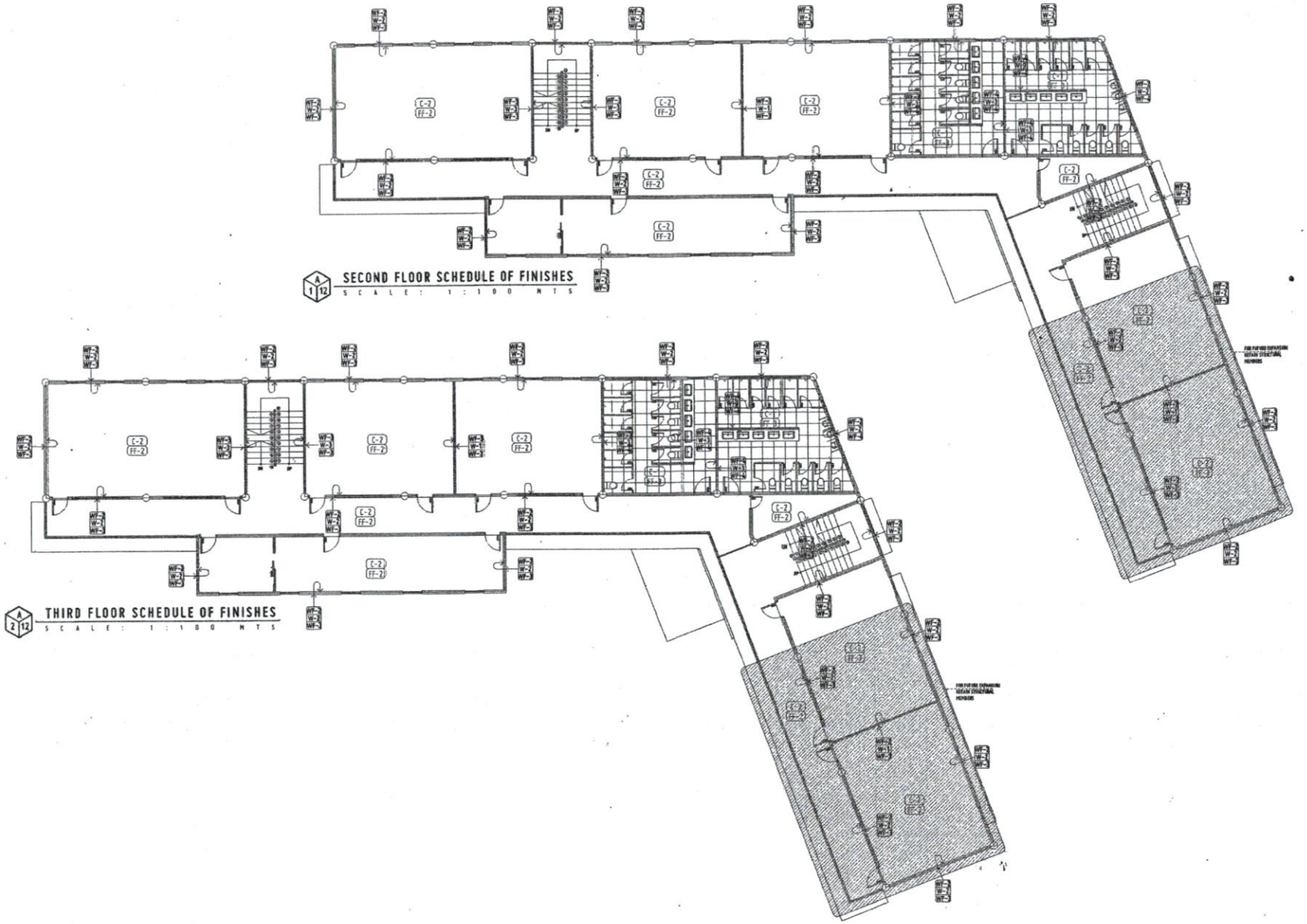

A 1 12 SECOND FLOOR SCHEDULE OF FINISHES
SCALE: 1:100 MTS

A 2 12 THIRD FLOOR SCHEDULE OF FINISHES
SCALE: 1:100 MTS

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INFRASTRUCTURE PLANNING AND FACILITY DEVELOPMENT UNIT
CLARO M. RECTO AVENUE, LAPASAN, CAGAYAN DE ORO CITY 9000
TELEPHONE # (088)22 72-60-05 / (088) 856-1730 / 856-1730 | TELE FAX (088) 858-4886
WEBSITE: www.ustp.edu.ph

AR. JIFFER JOHN L. TAALA
ARCHITECT OF RECORD
PRC NO. 3 3 8 0 5 | PTR NO. 5 2 0 1 0 0 3 A
IAPOA NO. 29134 322458 083121 | DATE 0 3 - 2 9 - 2 2
TIN NO. 457-721-720 | PLACE C A G . D E O R O

PROJECT	COMPLETION OF SPORTS COMPLEX AND RESIDENCES (PHASE 1C)
LOCATION	CLARO M. RECTO AVENUE, LAPASAN, CAGAYAN DE ORO CITY 9000
OWNER	UNIVERSITY OF SCIENCE AND TECHNOLOGY OF SOUTHERN PHILIPPINES

RECOMMENDING APPROVAL:
AR. FERDINAND A. DUMBA
DIRECTOR, IPFDO

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

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

SHEET CONTENTS:

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DATE DRAWN:
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A12

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OFFICE OF THE BUILDING OFFICIAL
CAGAYAN DE ORO CITY

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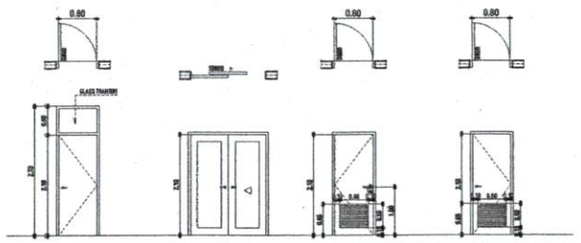
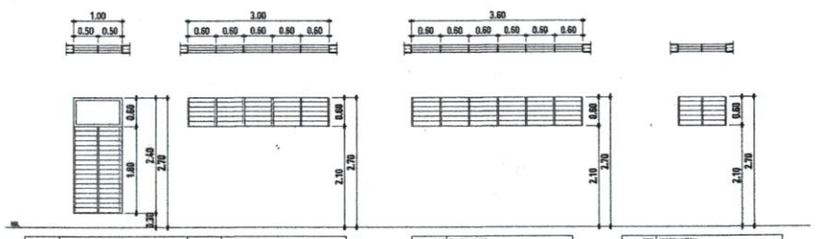
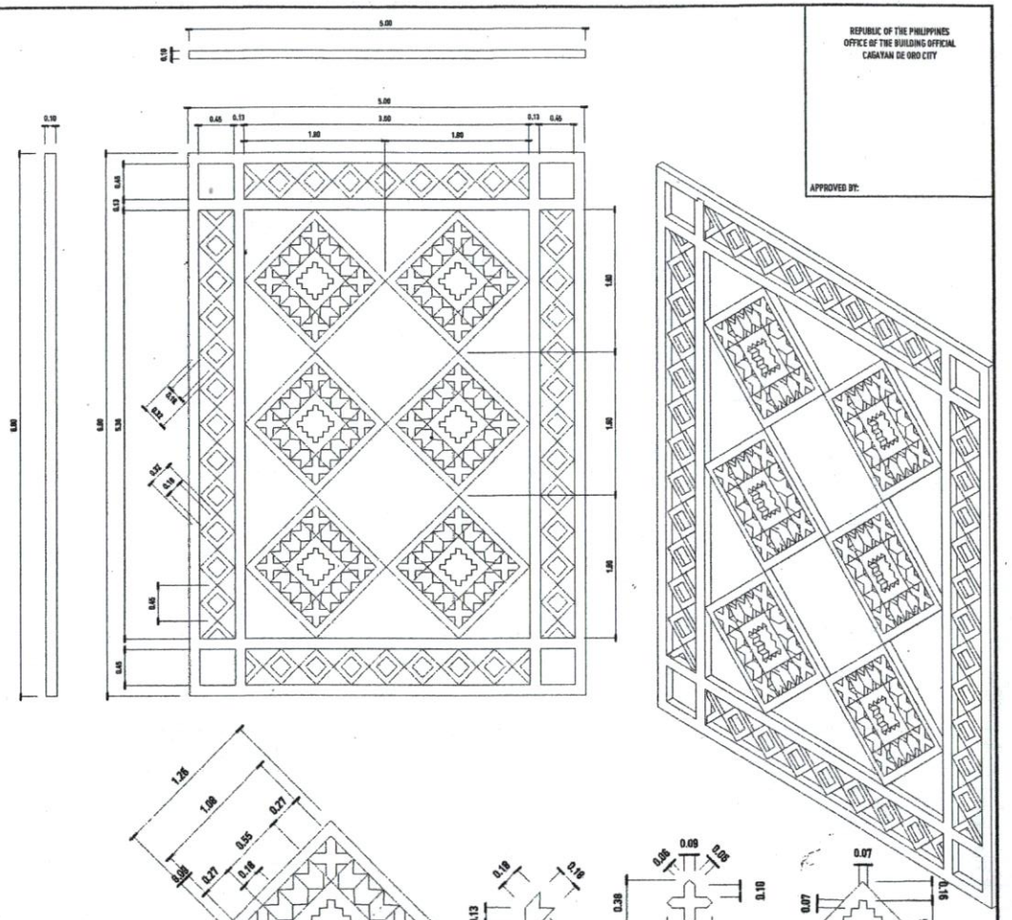


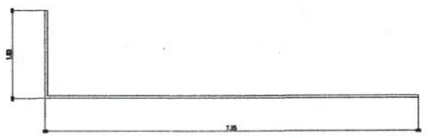
TYPE:	SINGLE LEAF LOUVERED STEEL DOOR	TYPE:	SLIDING DOOR	TYPE:	SINGLE LEAF LOUVERED DOOR	TYPE:	SINGLE LEAF LOUVERED STEEL DOOR
SIZE:	36 SETS	SIZE:	2 SETS	SIZE:	3 SETS	SIZE:	4 SETS
D1 DESCRIPTION:	SINGLE LEAF SOLID CORE PANEL DOOR WOOD DESIGN W/ COATED WITH CLEAR SATIN PRETREATMENT FINISH AND 7MM CLEAR GLASS TRANSOM, INCLUDING ALL NECESSARY FRAMES, ALL IN ACCORDANCE WITH THE ARCHITECT'S SPECIFICATIONS.	D2 DESCRIPTION:	CLEARED ANODIZED IN POWDER COATED ALUMINUM FRAMING WITH 6MM THK CLEAR GLASS WITH COMPLETE HARDWARE ALL IN ACCORDANCE WITH THE ARCHITECT'S SPECIFICATIONS.	D3 DESCRIPTION:	SINGLE LEAF SOLID CORE PANEL WITH LOUVERS AND COMPLETE HARDWARE ALL IN ACCORDANCE WITH THE ARCHITECT'S SPECIFICATIONS.	D4 DESCRIPTION:	SINGLE LEAF SOLID CORE PANEL DOOR WOOD DESIGN W/ COATED WITH CLEAR SATIN PRETREATMENT FINISH, INCLUDING ALL NECESSARY FRAMES, ALL IN ACCORDANCE WITH THE ARCHITECT'S SPECIFICATIONS.
LOCATION:	ROOM 1 TO 15	LOCATION:	CONFERENCE ROOM	LOCATION:	FMLS AND FSMS-2 ROOMS	LOCATION:	QUALITY ROOM, PUMP ROOM



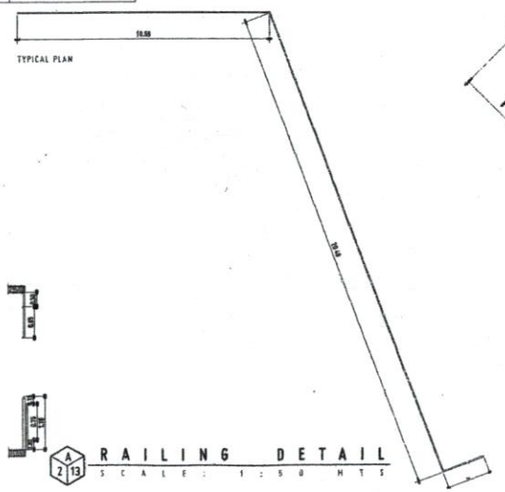
TYPE:	LOUVER WINDOW	TYPE:	LOUVER WINDOW	TYPE:	LOUVER WINDOW	TYPE:	LOUVER WINDOW
SIZE:	86 SETS	SIZE:	21 SETS	SIZE:	6 SETS	SIZE:	6 SETS
W1 DESCRIPTION:	LOUVER WINDOW (WIDE 50MM* THICK CLEAR GLASS IN ALUMINUM WORKS POWDER COATED FINISH AND ALL NECESSARY HARDWARE FINISH, ALL IN ACCORDANCE WITH THE ARCHITECT'S SPECIFICATIONS.	W2 DESCRIPTION:	6MM* THICK CLEAR GLASS IN ALUMINUM WORKS POWDER COATED FINISH, INCLUDING WEATHERSTRIPPING, GLAZING BEADS, GLAZING GASKETS AND ALL NECESSARY HARDWARE FINISH, ALL IN ACCORDANCE WITH THE ARCHITECT'S SPECIFICATIONS.	W3 DESCRIPTION:	6MM* THICK CLEAR GLASS IN ALUMINUM WORKS POWDER COATED FINISH, INCLUDING WEATHERSTRIPPING, GLAZING BEADS, GLAZING GASKETS AND ALL NECESSARY HARDWARE FINISH, ALL IN ACCORDANCE WITH THE ARCHITECT'S SPECIFICATIONS.	W4 DESCRIPTION:	6MM* THICK CLEAR GLASS IN ALUMINUM WORKS POWDER COATED FINISH, INCLUDING WEATHERSTRIPPING, GLAZING BEADS, GLAZING GASKETS AND ALL NECESSARY HARDWARE FINISH, ALL IN ACCORDANCE WITH THE ARCHITECT'S SPECIFICATIONS.
LOCATION:	ROOM 1-15	LOCATION:	ROOM 1 TO 15, FEMALE COMMON TOILET AND BATH	LOCATION:	FMLS COMMON TOILET AND BATH	LOCATION:	FEMALE COMMON TOILET AND BATH

A 1 13 SCHEDULE OF DOORS AND WINDOWS
SCALE: 1:50 MTS

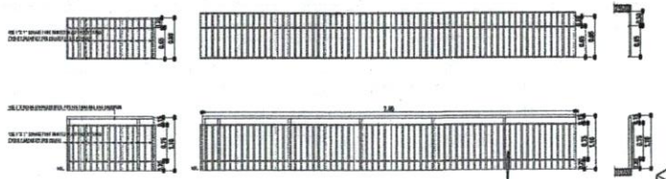




TYPICAL PLAN



TYPICAL PLAN



A 2 13 RAILING DETAIL
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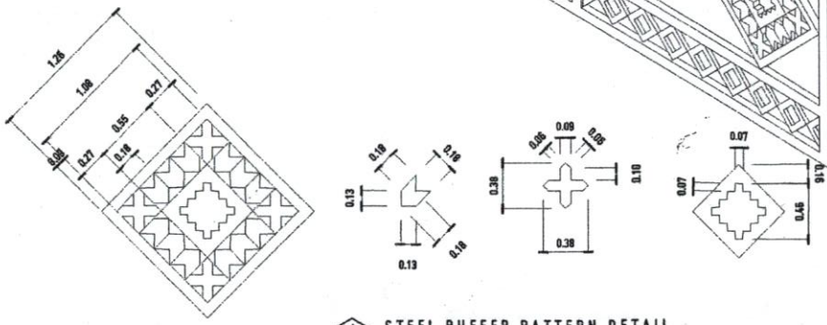

A 2 13 STEEL BUFFER PATTERN DETAIL
SCALE: 1:50 MTS

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CLARO M. RECTO AVENUE, LAPASAN, CAGAYAN DE ORO CITY 9000
TELEPHONE # (088)22 72-80-65 / (088) 858-1738 / 858-1739 | TELE FAX (088) 858-1696
WEBSITE: www.ustp.edu.ph

AR. JIFFER JOHN L. TAALA
ARCHITECT OF RECORD
PRC Nº. 3 3 9 0 5 PTR Nº. 5 2 0 1 0 8 3 A
SUPOA/EL 29134 323450 083121 DATE 0 3 - 2 8 - 2 2
TIN NO. 457-721-728 PLACE CAG. DE ORO

PROJECT	COMPLETION OF SPORTS COMPLEX AND RESIDENCES (PHASE 1C)
LOCATION	CLARO M. RECTO AVENUE, LAPASAN, CAGAYAN DE ORO CITY 9000
OWNER	UNIVERSITY OF SCIENCE AND TECHNOLOGY OF SOUTHERN PHILIPPINES

RECOMMENDING APPROVAL:	RECOMMENDING APPROVAL:	APPROVED BY:	SHEET CONTENTS:	DRAWN BY:
AR. FERDINAND A. DUMPA	ATTY. ERWIN R. BUCIO	DR. AMBROSIO B. CULTURA II		DATE DRAWN:
DIRECTOR, IPDO	OIC-VP FOR ADMINISTRATION & LEGAL AFFAIRS	PRESIDENT, USTP SYSTEM		FMT:

A13

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CAGAYAN DE ORO CITY

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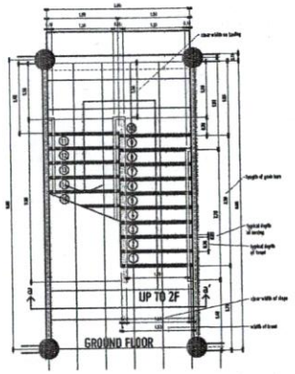
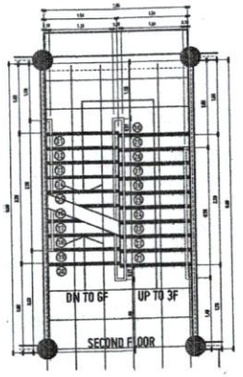
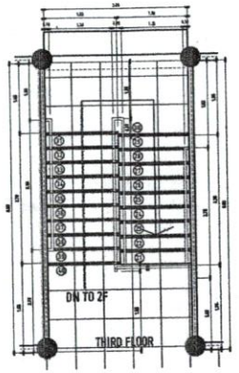
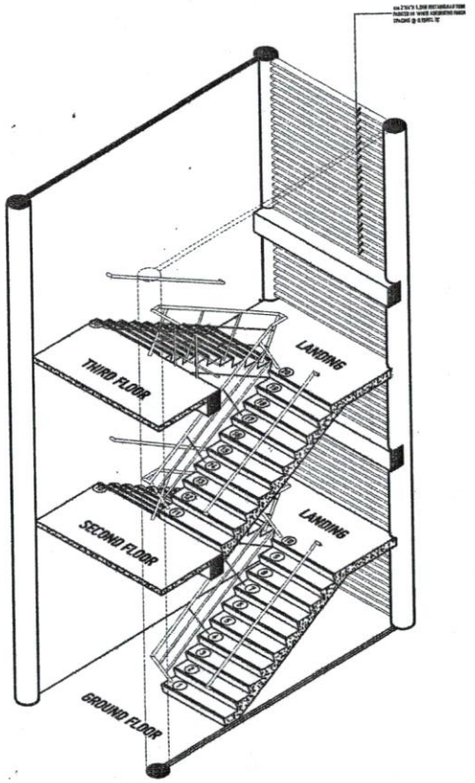






F L O O R P L A N



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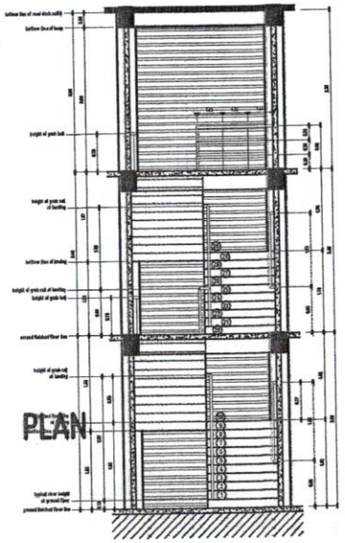

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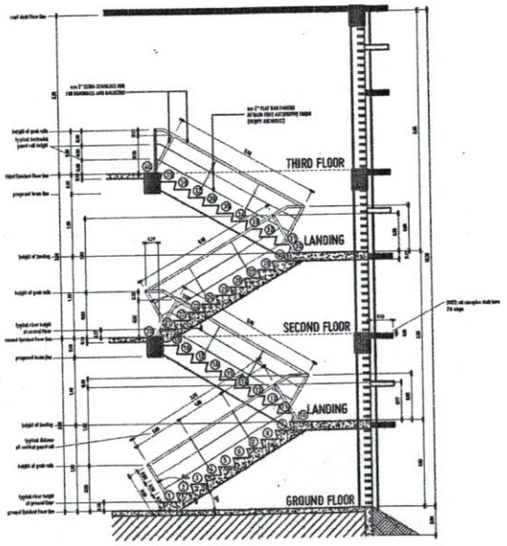

S I D E E L E V A T I O N

A 1/14 MAIN STAIR DETAIL
S C A L E : 1 : 5 0 M T S

REPUBLIC OF THE PHILIPPINES
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
TELEPHONE # (088)22 72-00-05 / (088) 858-1738 / 858-1739 | TELE FAX (088) 858-4866
WEBSITE: www.ustp.edu.ph

AR. JIFFER JOHN L. TAALA
ARCHITECT OF RECORD
PRC NO. 3 3 8 0 5 | PTR NO. 5 2 0 1 0 0 3 A
INFOAA NO. 29134 3234658 093121 | DATE 0 3 - 3 0 - 2 2
TIN NO. 457-721-720 | PLACE C A G . D E O R O

PROJECT	COMPLETION OF SPORTS COMPLEX AND RESIDENCES (PHASE 1C)
LOCATION	CLARO M. RECTO AVENUE, LAPASAN, CAGAYAN DE ORO CITY 9000
OWNER	UNIVERSITY OF SCIENCE AND TECHNOLOGY OF SOUTHERN PHILIPPINES

RECOMMENDING APPROVAL:
AR. FERDINAND E. UDIPA
DIRECTOR, IPFDO

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

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

SHEET CONTENTS:

DRAWN BY:
DATE DRAWN:
PNT:

A14

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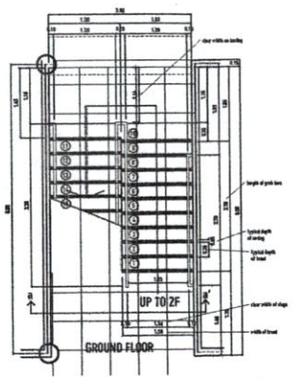
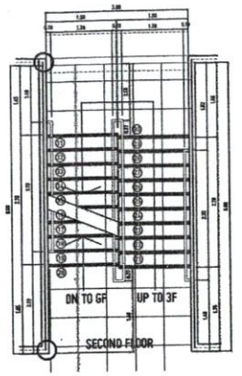
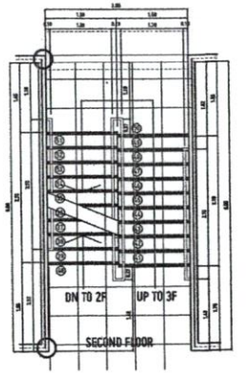
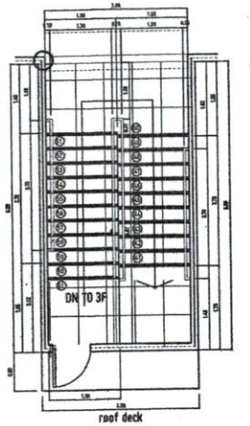
CAGAYAN DE ORO CITY

APPROVED BY:



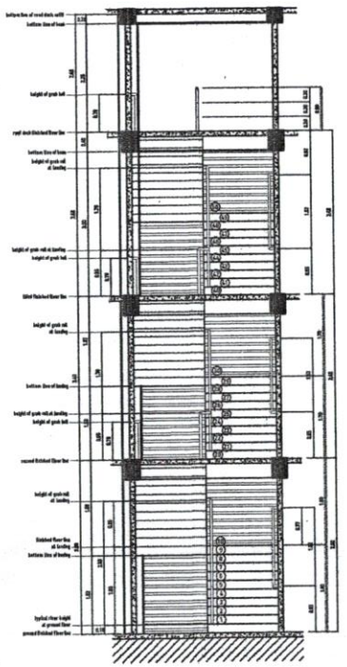






roof deck

F L O O R P L A N



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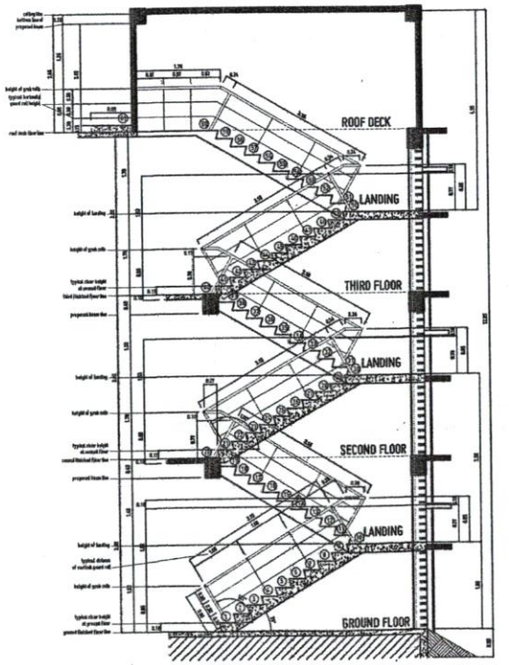
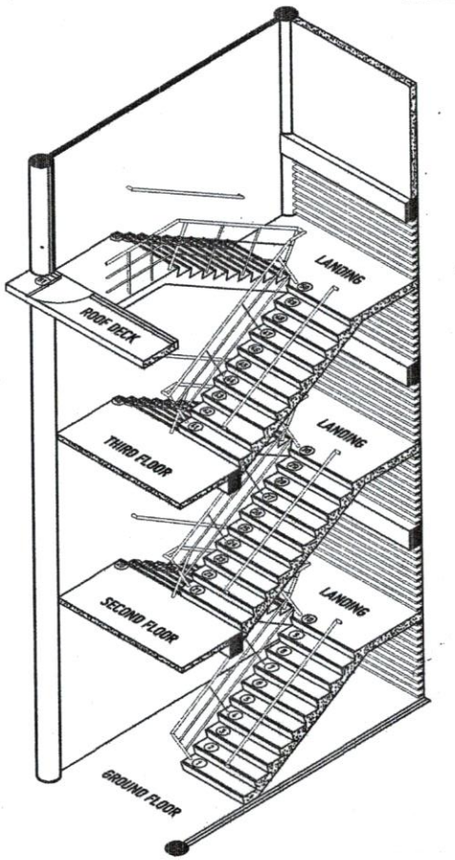


S I D E E L E V A T I O N



I S O M E T R I C

A 1 15 MAIN STAIR 2 DETAIL
S C A L E : 1 : 5 0 M T S

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UNIVERSITY OF SCIENCE AND TECHNOLOGY OF SOUTHERN PHILIPPINES
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CLARO M. RECTO AVENUE, LAPASAN, CAGAYAN DE ORO CITY 9000
TELEPHONE # (088)22 72-60-65 / (088) 856-1739 / 858-1739 | TELE FAX (088) 856-6086
WEBSITE: www.ustp.edu.ph

AR. JIFFER JOHN L. TAALA
ARCHITECT OF RECORD
PRC NO. 3 1 8 0 5 | PTR NO. 5 2 0 1 6 0 3 A
TAPER NO. 29134, 323456, 083171 | DATE 0 3 - 2 8 - 2 3
TIN NO. 457-721-720 | PLACE CAG. DE ORO

PROJECT	COMPLETION OF SPORTS COMPLEX AND RESIDENCES (PHASE 1C)
LOCATION	CLARO M. RECTO AVENUE, LAPASAN, CAGAYAN DE ORO CITY 9000
OWNER	UNIVERSITY OF SCIENCE AND TECHNOLOGY OF SOUTHERN PHILIPPINES

RECOMMENDING APPROVAL: AR. FERDINAND A. LUCHICA, DIRECTOR, ISDD

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

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

SHEET CONTENTS:

DRAWN BY:
DATE DRAWN:
FNO:

A15

REPUBLIC OF THE PHILIPPINES
OFFICE OF THE BUILDING OFFICIAL
CAGAYAN DE ORO CITY

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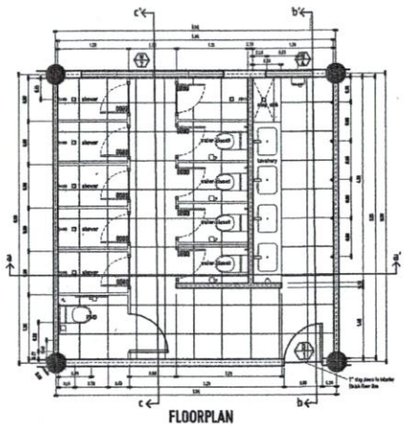
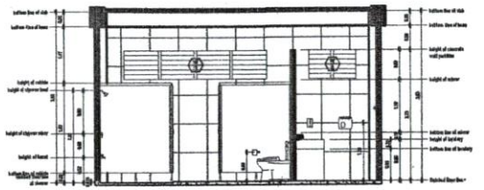
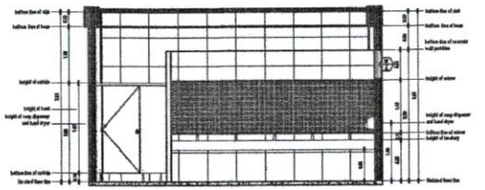


FLOORPLAN



SECTION A-A'



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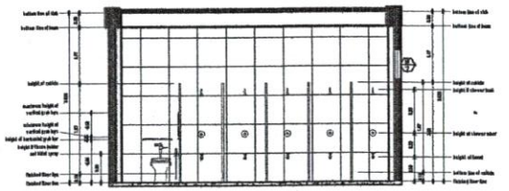
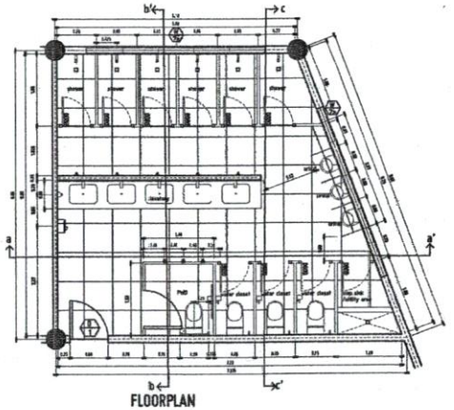
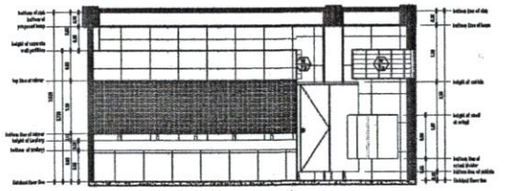


SECTION C-C'

A 1 16 WOMEN'S PUBLIC TOILET AND BATH
SCALE: 1:50 MTS



FLOORPLAN



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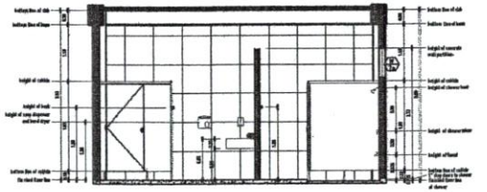
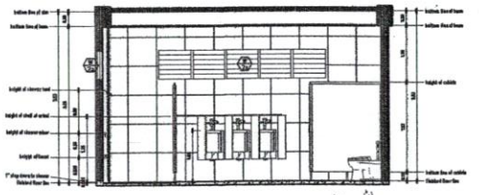


SECTION B-B'



SECTION C-C'

A 2 16 MEN'S PUBLIC TOILET AND BATH
SCALE: 1:50 MTS

USTP

REPUBLIC OF THE PHILIPPINES
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
TELEPHONE # (088)22 72-60-69 / (088) 856-1738 / 856-1739 | TELE FAX (088) 856-4830
WEBSITE: www.ustp.edu.ph

AR. JIFFER JOHN L. TAALA
ARCHITECT OF RECORD
PRC NO. 3 2 8 0 5 | PTR NO. 5 2 6 1 0 9 3 A
IAPOA NO. 29134-323450 083121 | DATE 0 3 - 2 9 - 2 2
TIN NO. 457-721-720 | PLACE CAG.DE ORO

PROJECT	COMPLETION OF SPORTS COMPLEX AND RESIDENCES (PHASE 1C)
LOCATION	CLARO M. RECTO AVENUE, LAPASAN, CAGAYAN DE ORO CITY 9000
OWNER	UNIVERSITY OF SCIENCE AND TECHNOLOGY OF SOUTHERN PHILIPPINES

RECOMMENDING APPROVAL: AR. FERDINAND C. BUMPA, DIRECTOR, IPDO

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

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

SHEET CONTENTS:

DRAWN BY:
DATE DRAWN:
FNT:

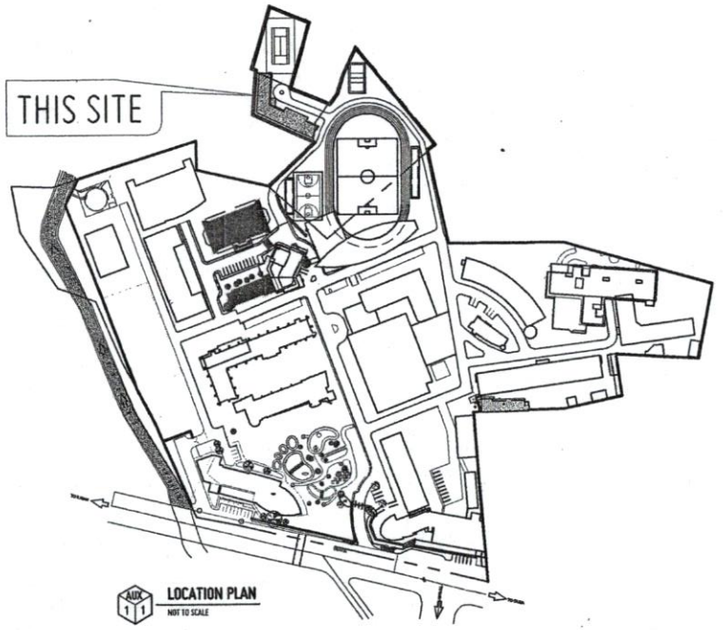
A16

REPUBLIC OF THE PHILIPPINES
OFFICE OF THE BUILDING OFFICIAL

ELECTRONICS

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.



AUX 1 1 LOCATION PLAN
NOT TO SCALE

LEGEND

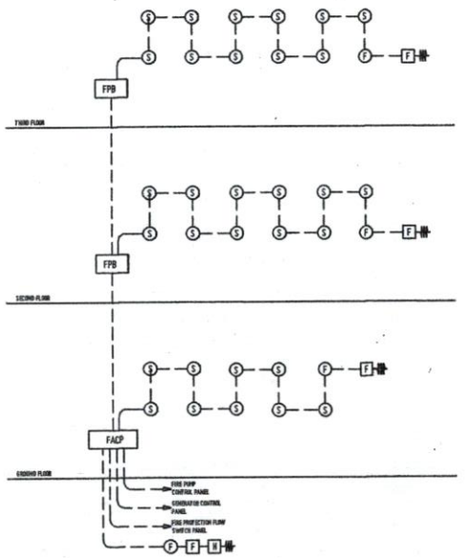
- T SINGLE TELEPHONE WALL OUTLET, RJ11
- T SINGLE TELEPHONE FLOOR MOUNTED OUTLET
- SINGLE UNIVERSAL DATA WALL OUTLET. RJ45
- DUPLEX UNIVERSAL DATA WALL OUTLET. RJ45
- IDF INTERMEDIATE DISTRIBUTION FRAME
- MDF MAIN DISTRIBUTION FRAME
- WALL CABLE TV OUTLET, PROVIDE 1- RG6/U COAXIAL CABLE
- CTB CABLE TV BOX
- TCB TELEPHONE AND CABLE TV BOX
- PROVISION FOR HDMI/VGA CABLING FOR OVERHEAD PROJECTOR, VERIFY EXACT LOCATION WIT'H ARCHITECT.
- HDMI & GA WALL OUTLET IN SINLGE PLATE INTERCONNECT WIT'HTUE 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. 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	Ø10	Ø16	METAL	uPVC	Ø18	Ø16
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 = 6-18/2 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 VENT'ILATION 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.



AUX 2 1 FIRE ALARM SYSTEM RISER DIAGRAM
NOT DRAWN TO SCALE

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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
TELEPHONE # (088)22 72-60-05 / (088) 858-1738 / 858-1730 | TOLL FAX (088) 856-1486
WEBSITE: www.ustp.edu.ph

PROFESSIONAL ELECTRONICS ENGINEER	
PRC NO.	PTR NO.
	DATE
TIN	PLACE

PROJECT	COMPLETION OF SPORTS COMPLEX AND RESIDENCES (PHASE 1C)
LOCATION	CAGAYAN DE ORO CITY
OWNER	UNIVERSITY OF SCIENCE AND TECHNOLOGY OF SOUTHERN PHILIPPINES

RECOMMENDING APPROVAL:
AR. FERDINAND A. TUMPAG
DIRECTOR, INFRASTRUCTURE PLANNING & FACILITY DEVELOPMENT OFFICE

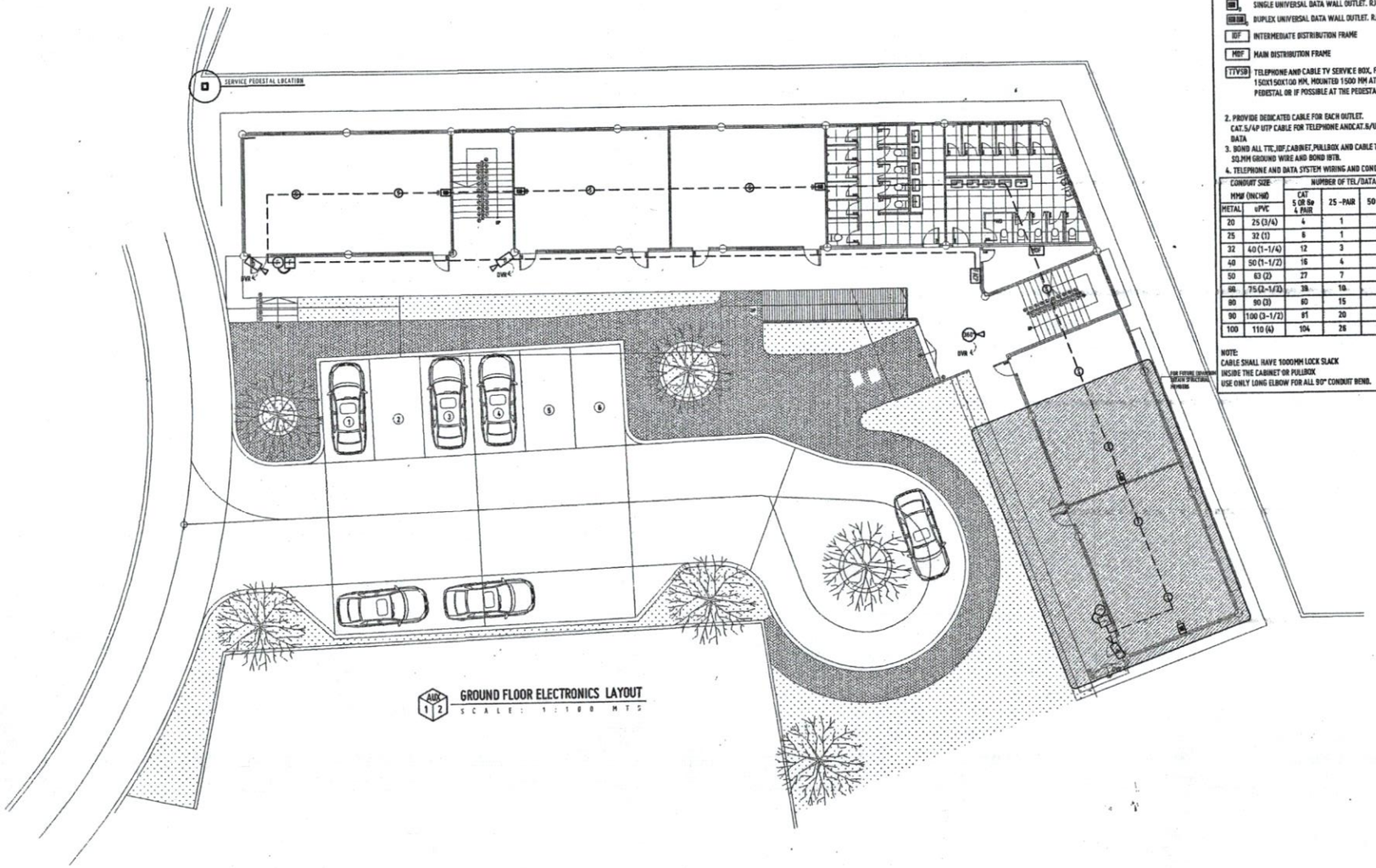
RECOMMENDING APPROVAL:
ATTY. ERWIN B. BUCIO
VICE-ADMINISTRATION & LEGAL AFFAIRS

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

SHEET CONTENTS:
CCTV SYSTEM RISER DIAGRAM
FIRE ALARM SYSTEM RISER DIAGRAM
GENERAL NOTES
LOCATION PLAN

DRAWN BY:
DATE DRAWN:
FN2:

AUX1



NOTES:

1. SYMBOL

- 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
- TTVSB — TELEPHONE AND CABLE TV SERVICE BOX, FLUSHED NEMA-4X, 150X150X100 MM, MOUNTED 1500 MM AT WALL NEAR SERVICE PEDESTAL OR IF POSSIBLE AT THE PEDESTAL

2. PROVIDE DEDICATED CABLE FOR EACH OUTLET. CAT.5/4P UTP CABLE FOR TELEPHONE AND CAT.6/UP UTP CABLE FOR DATA
3. BOND ALL TTC,IDF,CABINET,PULLBOX AND CABLE TRAY WITH 14 SQ.MM GROUND WIRE AND BOND IBTB.
4. TELEPHONE AND DATA SYSTEM WIRING AND CONDUIT SCHEDULE.

CONDUIT SIZE: MMØ (INCHØ)		NUMBER OF TEL/DATA CAT5e CABLE			
METAL	uPVC	CAT 5 OR 5e 4 PAIR	25 -PAIR	50 -PAIR	100 -PAIR
20	25 (3/4)	4	1	-	-
25	32 (1)	6	1	-	-
32	40 (1-1/4)	12	3	1	-
40	50 (1-1/2)	16	4	1	1
50	63 (2)	27	7	2	1
65	75 (2-1/2)	39	10	4	1
80	90 (3)	60	15	6	3
90	100 (3-1/2)	81	20	8	4
100	110 (4)	104	26	11	6

NOTE:
CABLE SHALL HAVE 1000MM LOCK SLACK
INSIDE THE CABINET OR PULLBOX
USE ONLY LONG ELBOW FOR ALL 90° CONDUIT BEND.

REPUBLIC OF THE PHILIPPINES
OFFICE OF THE BUILDING OFFICIAL

ELECTRONICS

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 DRAWING 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 WITHIN 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
TELEPHONE #(088)22 72-60-65 / (088) 856-1738 / 856-1739 | TELE FAX (088) 858-4696
WEBSITE: www.ustp.edu.ph

PROFESSIONAL ELECTRONICS ENGINEER	
PRC NO.	PTR NO.
	DATE
TIN	PLACE

PROJECT	COMPLETION OF SPORTS COMPLEX AND RESIDENCES (PHASE 1C)
LOCATION	CLARO M. RECTO AVENUE, LAPASAN, CAGAYAN DE ORO CITY 9000
OWNER	UNIVERSITY OF SCIENCE AND TECHNOLOGY OF SOUTHERN PHILIPPINES

RECOMMENDING APPROVAL:
AR. FERDINAND A. DUMPA
DIRECTOR, INFRASTRUCTURE PLANNING & FACILITY 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:

DRAWN BY:
DATE DRAWN:
FILE:

AUX2

REPUBLIC OF THE PHILIPPINES
OFFICE OF THE BUILDING OFFICIAL

ELECTRONICS

NOTES:

1. SYMBOL

- 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
- TTVSB — TELEPHONE AND CABLE TV SERVICE BOX, FLUSHED NEMA-4X, 150X150X100 MM, MOUNTED 1500 MM AT WALL NEAR SERVICE PEDESTAL OR IF POSSIBLE AT THE PEDESTAL

2. PROVIDE DEDICATED CABLE FOR EACH OUTLET. CAT.5/4P UTP CABLE FOR TELEPHONE AND CAT.6/UP UTP CABLE FOR DATA
3. BOND ALL TTC,IDF,CABINET,PULLBOX AND CABLE TRAY WITH 14 SQ.MM GROUND WIRE AND BOND IBTB.
4. TELEPHONE AND DATA SYSTEM WIRING AND CONDUIT SCHEDULE.

CONDUIT SIZE MM# (INCHES) METAL	CONDUIT SIZE MM# (INCHES) uPVC	NUMBER OF TEL/DATA CAT5e CABLE CAT 5 OR 6e 4 PAIR	25 - PAIR	50 - PAIR	100 - PAIR
20	25 (3/4)	4	1	-	-
25	32 (1)	6	1	-	-
32	40 (1-1/4)	12	3	1	-
40	50 (1-1/2)	16	4	1	1
50	63 (2)	27	7	2	1
60	75 (2-1/2)	39	10	4	1
80	90 (3)	60	15	6	3
90	100 (3-1/2)	81	20	8	4
100	110 (4)	104	26	11	6

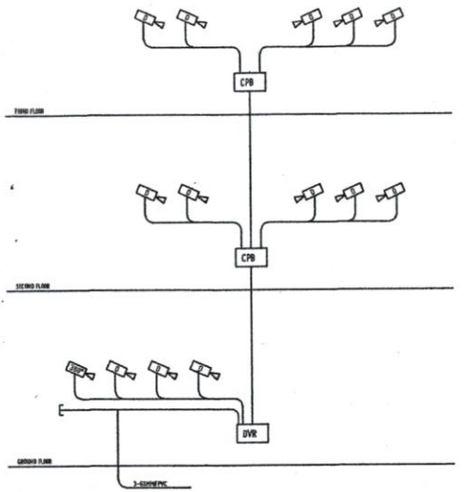
NOTE:
CABLE SHALL HAVE 1000MM LOOK SLACK
INSIDE THE CABINET OR PULLBOX
USE ONLY LONG ELBOW FOR ALL 90° CONDUIT BEND.

1. SYMBOL

- CCTV — CLOSED CIRCUIT TELEVISION, DOME TYPE PROVIDE SIGNAL CABLE & POWER CABLE FOR EACH CAMERA, WIRING IS SUBJECT TO MANUFACTURER'S STANDARD.
- 180° CCTV — CLOSED CIRCUIT TELEVISION, REVOLVING 360°
- CPB — CCTV WIRING 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 (INCHES) 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)



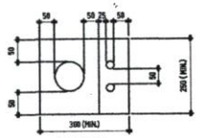
AUX 2/3 CCTV SYSTEM RISER DIAGRAM
NOT DRAWN TO SCALE

GENERAL NOTES:

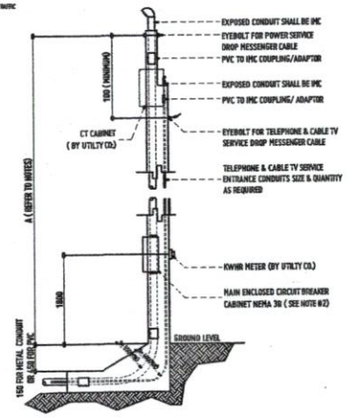
1. FFL = FINISH FLOOR LINE. VERIFY FLOOR FINISHES/MATERIALS.
2. ALL INTERIOR PARTITIONS AND FURNITURE LAYOUT ARE INDICATIVE ONLY AND MAY CHANGE. VERIFY INTERIOR DESIGN DRAWINGS.
3. ALL LANDSCAPE ARCHITECTURE ELEMENTS ARE INDICATIVE ONLY AND MAY CHANGE. VERIFY LANDSCAPE ARCHITECTURE DRAWINGS.
4. DO NOT 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 INSTALLATION FOR ARCHITECT'S APPROVAL.

IMPORTANT NOTE:

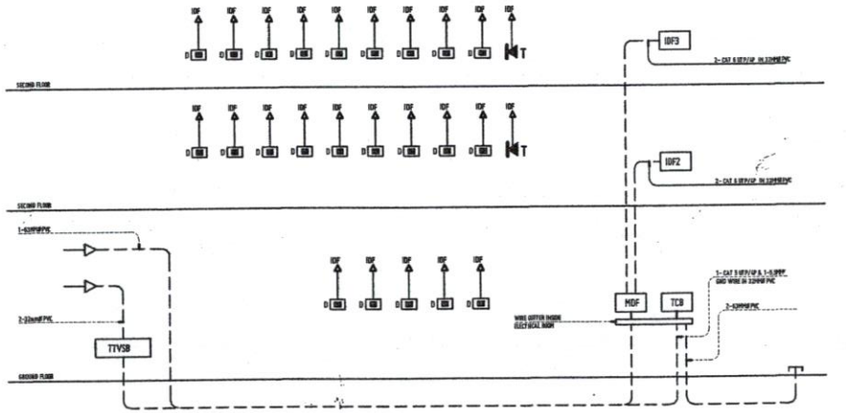
1. STRUCTURAL DESIGN/DETAILS OF PEDESTAL SHALL BE COORDINATED WITH THE STRUCTURAL ENGINEER PRIOR TO IMPLEMENTATION.
2. PROVIDE MAIN ENCLOSED CIRCUIT BREAKER, NEMA3, AT THE PEDESTAL IF THE LATERAL DISTANCE OF THE MAIN PANEL IS MORE THAN 10MEMBER FROM THE SERVICE PEDESTAL.
3. ELECTRICAL CONTRACTOR SHALL COORDINATE WITH THE POWER UTILITY COMPANY THE FULL LOAD REQUIREMENTS OF THE PROJECT TO ASSURE UP 3- PHASE OR 1-PHASE OR PURCHASE OF PANEL BOARD AND INSTALLATION OF SERVICE AND FEEDERS.
4. ELECTRICAL CONTRACTOR SHALL COORDINATE LOCATION OF SERVICE PEDESTAL WITH THE EXISTING UTILITY POLE AT SITE AND WITH ELECTRIC UTILITY COMPANY FOR THEIR COMMENTS PRIOR TO IMPLEMENTATION. IN GENERAL, LOCATE PEDESTAL ON THE SIDE NEAR THE EXISTING UTILITY POLE.
5. 4 + 3.2M FOR PEDESTRIAN AREAS.
   + 3.7M FOR DRIVEWAYS SUBJECT TO CAR TRAFFIC
   + 5.5M FOR DRIVEWAYS/ STREET SUBJECT TO TRUCK TRAFFIC



PLAN



AUX 1/3 SERVICE PEDESTAL DETAIL
DRAWN NOT TO SCALE



AUX 3/3 TELEPHONE AND INTERNET RISER DIAGRAM
DRAWN NOT TO SCALE

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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
TELEPHONE # (088)22 72-60-65 / (088) 856-1728 / 856-1729 | TELE FAX (088) 856-6606
WEBSITE: www.ustp.edu.ph

PROFESSIONAL ELECTRONICS ENGINEER	
PRC NO.	PTR NO.
	DATE
TIN	PLACE

PROJECT	COMPLETION OF SPORTS COMPLEX AND RESIDENCES (PHASE 1C)
LOCATION	BARANGAY BONBONON, VEMPIRO BARANGAY, CAGAYAN DE ORO CITY
OWNER	UNIVERSITY OF SCIENCE AND TECHNOLOGY OF SOUTHERN PHILIPPINES

RECOMMENDING APPROVAL:	RECOMMENDING APPROVAL:	APPROVED BY:
AR. FERDINAND A. GEMPA	ATTY. ERWIN B. BUCHO	DR. AMBROSIO B. CULTURA II
DIRECTOR, INFRASTRUCTURE PLANNING & FACILITY DEVELOPMENT UNIT	VP FOR ADMINISTRATION & LEGAL AFFAIRS	PRESIDENT, USTP SYSTEM

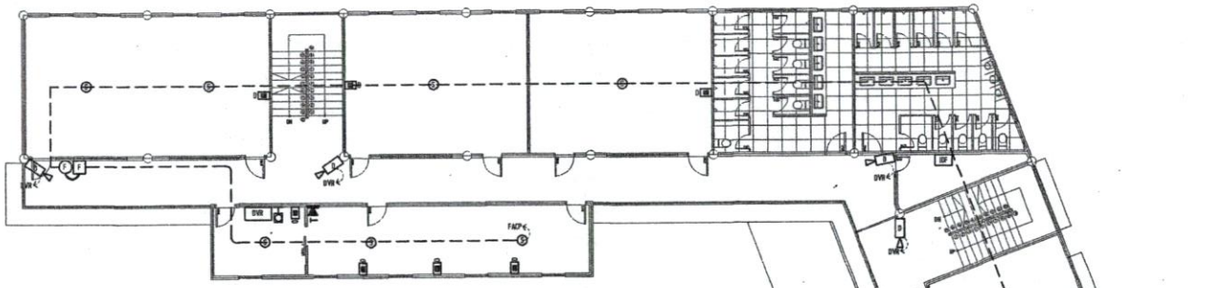
SHEET CONTENTS:
GROUND FLOOR ELECTRONICS LAYOUT
SECOND FLOOR ELECTRONICS LAYOUT
THIRD FLOOR ELECTRONICS LAYOUT
TELEPHONE & INTERNET RISER DIAGRAM
SERVICE PEDESTAL DETAIL

DRAWN BY:
DATE DRAWN:
FILE:

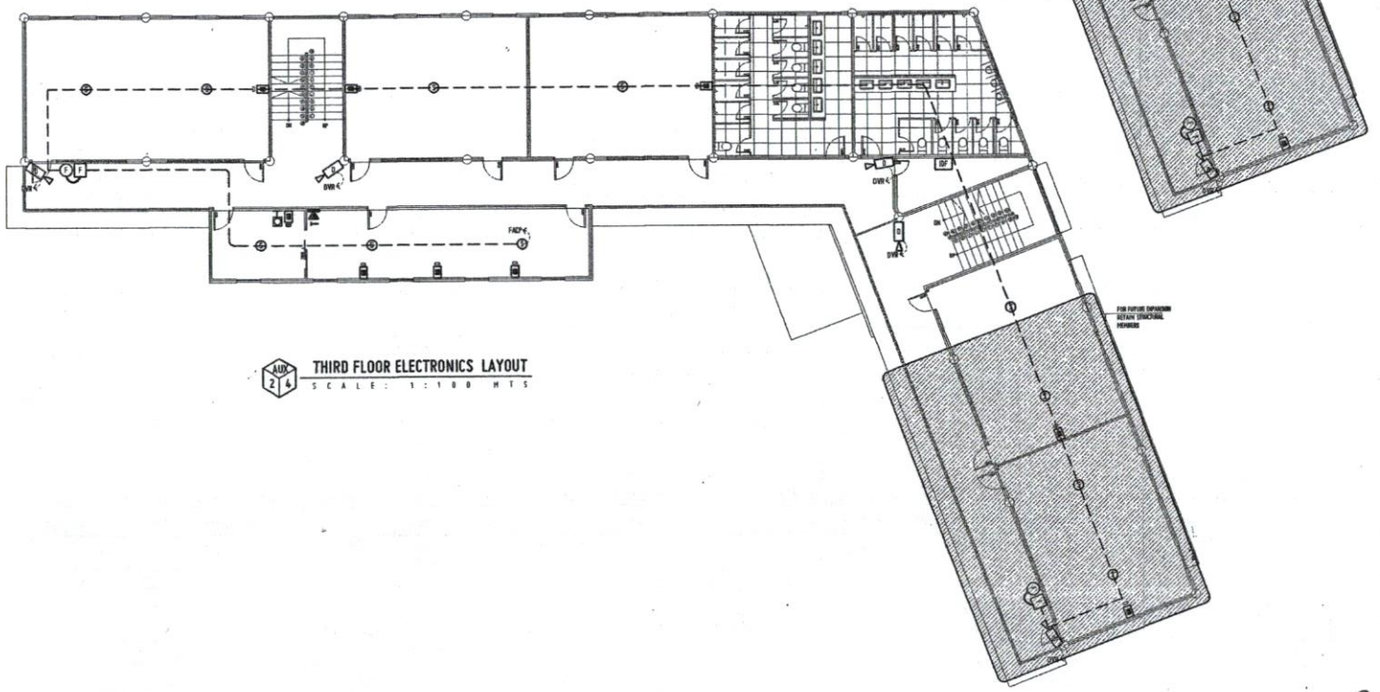
AUX3

REPUBLIC OF THE PHILIPPINES
OFFICE OF THE BUILDING OFFICIAL

ELECTRONICS



AUX 1/4 SECOND FLOOR ELECTRONICS LAYOUT
SCALE: 1:100 MTS



AUX 2/4 THIRD FLOOR ELECTRONICS LAYOUT
SCALE: 1:100 MTS

GENERAL NOTE:

1. FFL = FINISH FLOOR LINE. VERIFY FLOOR FINISHES/MATERIALS.
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NOTES:

1. SYMBOL

- 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
- TTVSB — TELEPHONE AND CABLE TV-SERVICE BOX, FLUSHED NEMA-4X, 150X150X100 MM, MOUNTED 1500 MM AT WALL NEAR SERVICE PEDESTAL OR IF POSSIBLE AT THE PEDESTAL

2. PROVIDE DEDICATED CABLE FOR EACH OUTLET. CAT.5/4P UTP CABLE FOR TELEPHONE AND CAT.6/UP UTP CABLE FOR DATA
3. BOND ALL TTC,IDF,CABINET,PULLBOX AND CABLE TRAY WITH 14 SQ.MM GROUND WIRE AND BOND IBTB.
4. TELEPHONE AND DATA SYSTEM WIRING AND CONDUIT SCHEDULE.

CONDUIT SIZE MMØ (INCHØ) METAL	CONDUIT SIZE MMØ (INCHØ) uPVC	NUMBER OF TEL/DATA CAT5e CABLE: CAT 5 OR 5e 4 PAIR	25 -PAIR	50 -PAIR	100 -PAIR
20	25 (3/4)	4	1	-	-
25	32 (1)	6	1	-	-
32	40 (1-1/4)	12	3	1	-
40	50 (1-1/2)	16	4	1	1
50	63 (2)	27	7	2	1
60	75 (2-1/2)	39	10	4	1
80	90 (3)	60	15	6	3
90	100 (3-1/2)	81	20	8	4
100	110 (4)	104	26	11	5

NOTE:
CABLE SHALL HAVE 1000MM LOCK SLACK
INSIDE THE CABINET OR PULLBOX
USE ONLY LONG ELBOW FOR ALL 90° CONDUIT BEND.

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CLARO M. RECTO AVENUE, LAPASAN, CAGAYAN DE ORO CITY 9000
TELEPHONE # (088)22 72-60-65 / (088) 858-1739 / 856-1739 | TELE FAX (088) 858-4808
WEBSITE: www.ustp.edu.ph

PROFESSIONAL ELECTRONICS ENGINEER	
PRC NO.	PTR NO.
	DATE
TIN	PLACE

PROJECT	COMPLETION OF SPORTS COMPLEX AND RESIDENCES (PHASE 1C)
LOCATION	CLARO M. RECTO AVENUE, LAPASAN, CAGAYAN DE ORO CITY 9000
OWNER	UNIVERSITY OF SCIENCE AND TECHNOLOGY OF SOUTHERN PHILIPPINES

RECOMMENDING APPROVAL: AR. FERDINAND A. CUNEA — DIRECTOR, INFRASTRUCTURE PLANNING & FACILITY DEVELOPMENT OFFICE

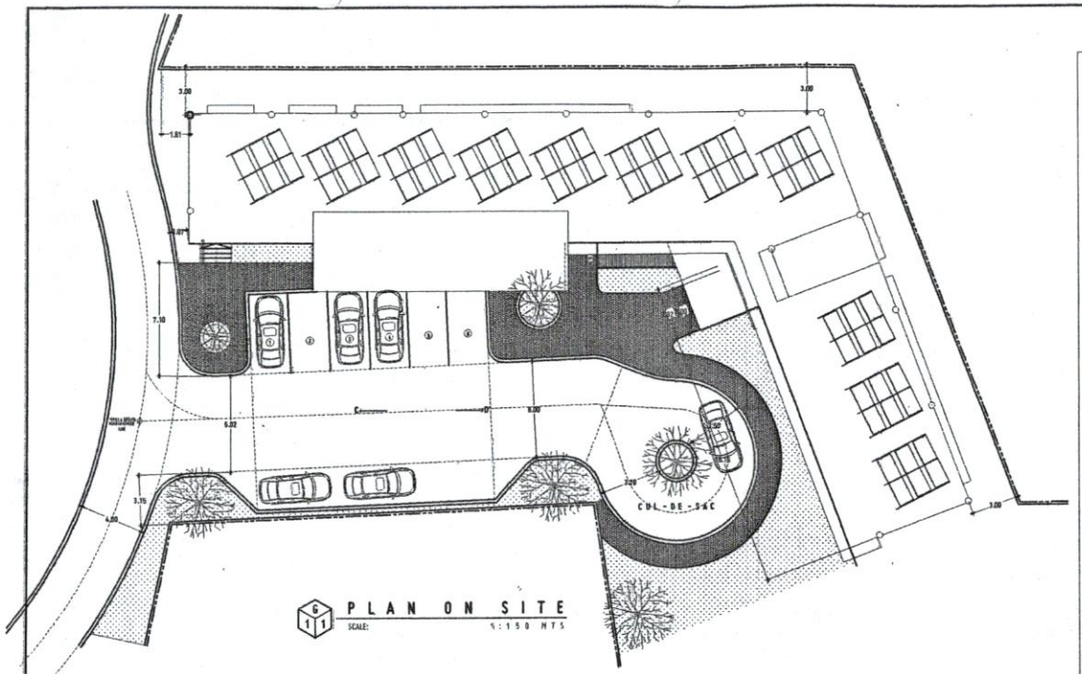
RECOMMENDING APPROVAL: ATTY. ERWIN B. BUCIO — VP FOR ADMINISTRATION & LEGAL AFFAIRS

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

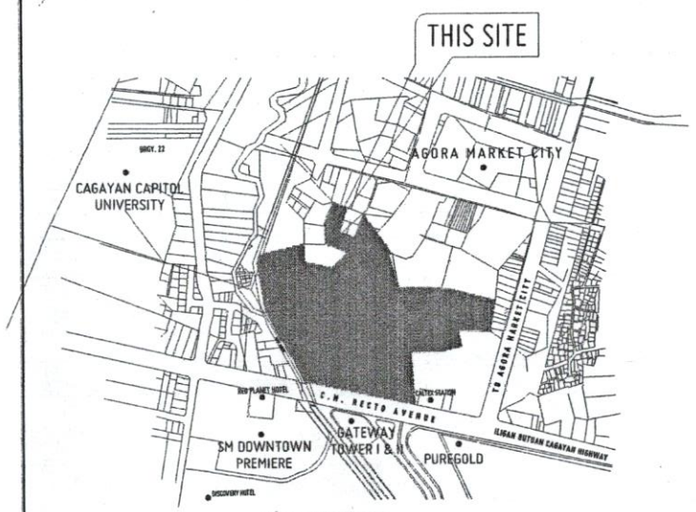
SHEET CONTENTS:

DRAWN BY:
DATE DRAWN:
FILE:

AUX4

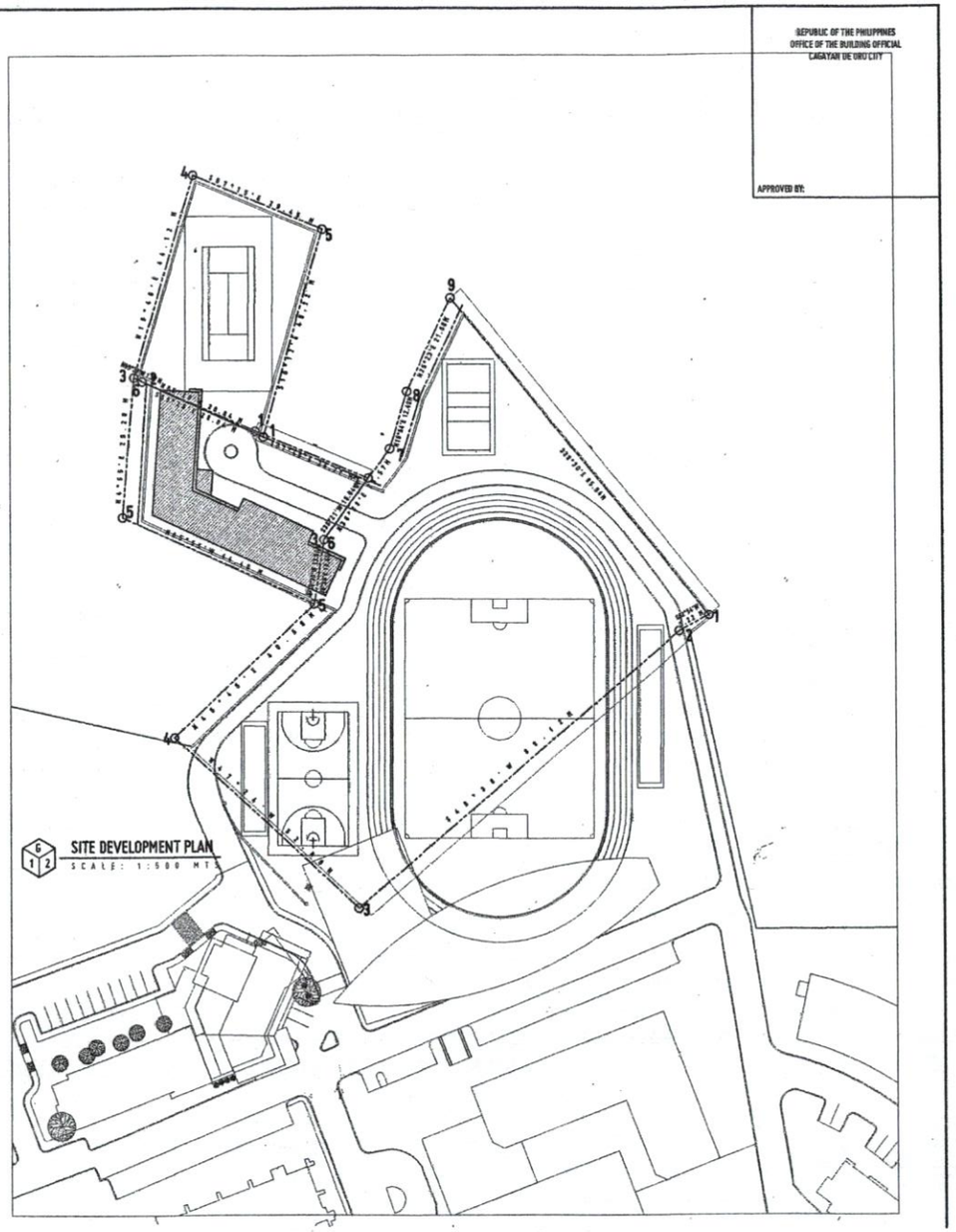


G 1 1 PLAN ON SITE
SCALE: 1:150 MTS



G 1 3 VICINITY MAP
NOT TO SCALE

LOT 1		
TECHNICAL DESCRIPTION		
1-2	N 65 DEG. 26' W	28.04
2-3	N 65 DEG. 23' W	1.97
3-4	N 16 DEG. 46' E	44.12
4-5	S 67 DEG. 15' E	29.45
5-1	S 16 DEG. 12' W	45.12
LOT 2		
TECHNICAL DESCRIPTION		
1-2	S 65 DEG. 46' E	25.77
2-3	S 36 DEG. 21' W	15.94
3-4	S 8 DEG. 36' W	13.56
4-5	N 65 DEG. 55' E	44.4
5-6	N 4 DEG. 55' E	29.29
6-1	S 65 DEG. 25' E	28.04
LOT 3		
TECHNICAL DESCRIPTION		
1-2	S 62 DEG. 54' W	7.22
2-3	S 49 DEG. 38' W	89.12
3-4	N 47 DEG. 24' W	52.68
4-5	N 46 DEG. 45' E	40.58
5-6	N 8 DEG. 36' E	13.66
6-7	N 36 DEG. 21'E	23.57
7-8	N 16 DEG. 54' E	12.49
8-9	N25 DEG. 23' E	21.60
9-1	S 39 DEG. 30' E	85.94



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GEODETIC ENGINEER	
PNC NO.	PTR NO.
	DATE
TIN NO.	PLACE

PROJECT	COMPLETION OF SPORTS COMPLEX AND RESIDENCES (PHASE 1C)
LOCATION	CLARO M. RECTO AVENUE, LAPASAN, CAGAYAN DE ORO CITY 9000
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RECOMMENDING APPROVAL: ATTY. ERWIN B. BUCID, OIC-VP FOR ADMINISTRATION & LEGAL AFFAIRS

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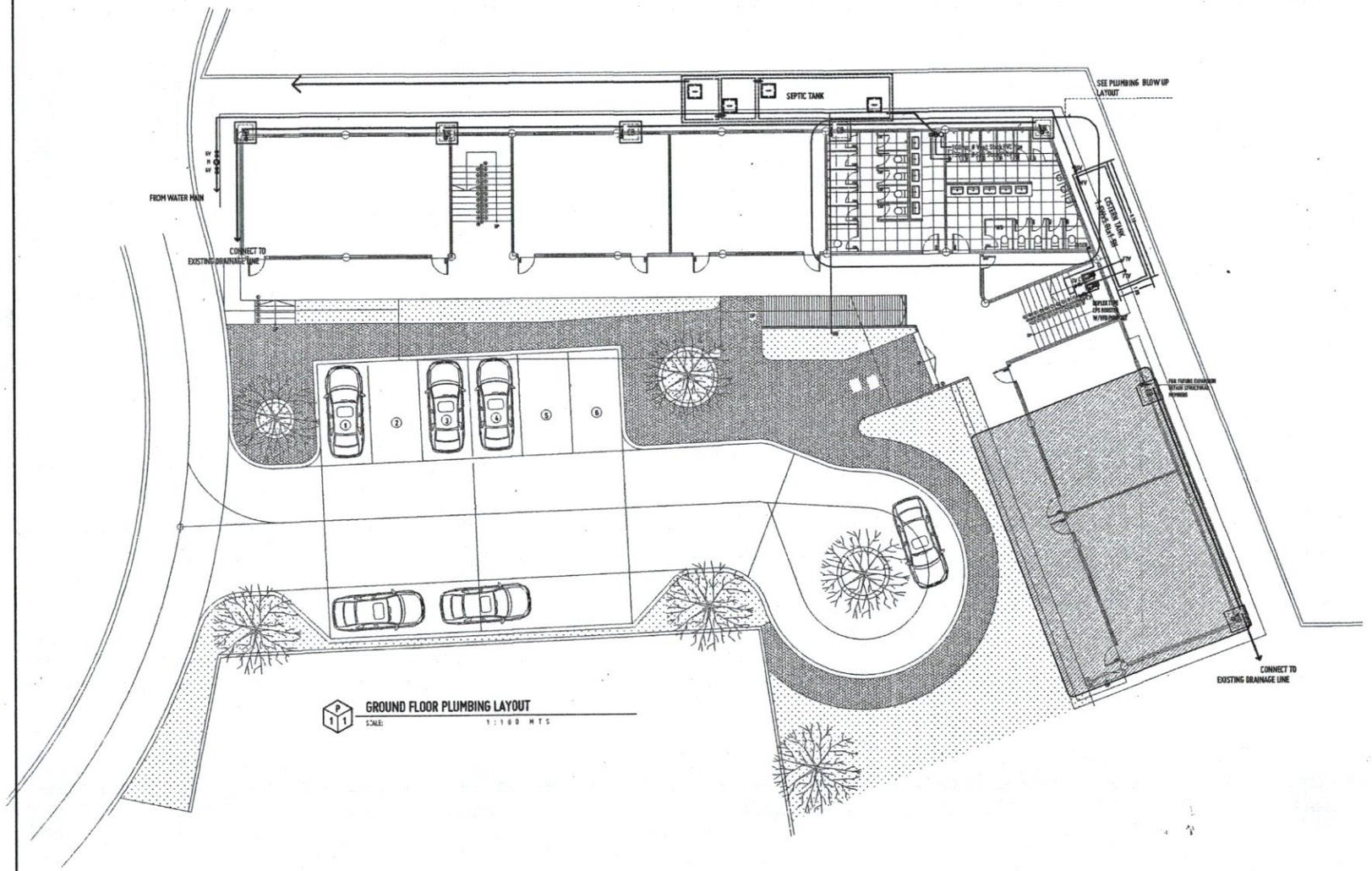
G1

REPUBLIC OF THE PHILIPPINES
OFFICE OF THE BUILDING OFFICIAL



GROUND FLOOR PLUMBING LAYOUT
SCALE: 1:100 MTS

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PLUMBING

LEGEND:	
LAV	LAVATORY
UR	URINAL
WC	WATER CLOSET
R	RISER
KS	KITCHEN SINK
SOV	SHUT-OFF VALVE
CV	CHECK VALVE
GV	GLOBE VALVE
CBV	CHECK BALL VALVE
HB	HOSE BIB
PWL	POTABLE WATER LINE
SS	SLOP SINK

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CLARO M. RECTO AVENUE, LAPASAN, CAGAYAN DE ORO CITY 9000
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MASTER PLUMBER	
PRC NO.	PTR NO.
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PROJECT	COMPLETION OF SPORTS COMPLEX AND RESIDENCES (PHASE 1C)
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RECOMMENDING APPROVAL:
AR. FERDINAND A. PUMPA
DIRECTOR, INFRASTRUCTURE PLANNING AND FACILITY DEVELOPMENT UNIT

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

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

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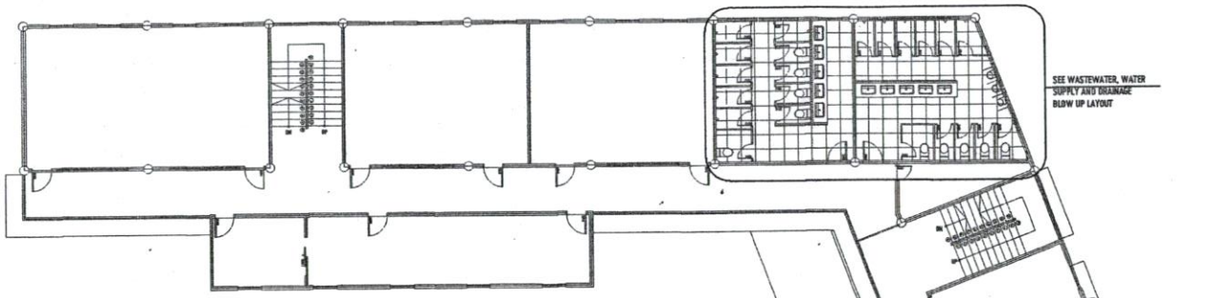
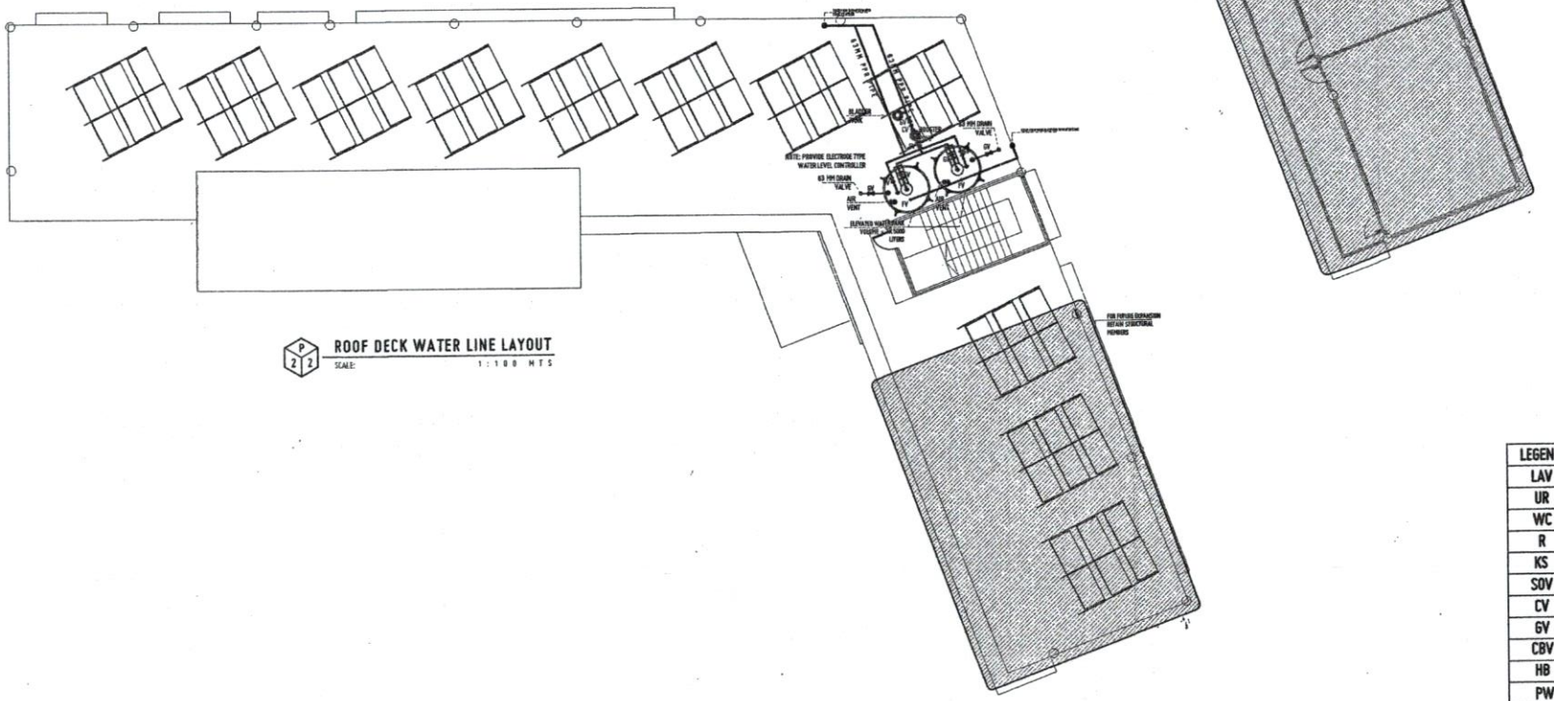
DATE DRAWN:
FNT:

P1

REPUBLIC OF THE PHILIPPINES
OFFICE OF THE BUILDING OFFICIAL



P 1 2 TYPICAL WASTE AND WATER LINE LAYOUT
SCALE: 1 : 100 MTS



P 2 2 ROOF DECK WATER LINE LAYOUT
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RECOMMENDING APPROVAL:	RECOMMENDING APPROVAL:	APPROVED BY:	SHEET CONTENTS:	DRAWN BY:
AR. FERDINAND A. DUMPA	ATTY. ERWIN R. BUCIO	DR. AMBROSIO B. CULTURA II		DATE DRAWN:
DIRECTOR, INFRASTRUCTURE PLANNING & FACILITY DEVELOPMENT UNIT	VP FOR ADMINISTRATION & LEGAL AFFAIRS	PRESIDENT, USTP SYSTEM		FILE:

P2

PLUMBING

LEGEND:	
LAV	LAVATORY
UR	URINAL
WC	WATER CLOSET
R	RISER
KS	KITCHEN SINK
SOV	SHUT-OFF VALVE
CV	CHECK VALVE
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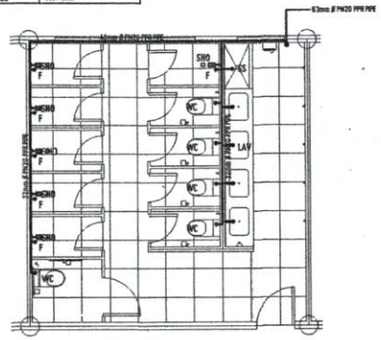
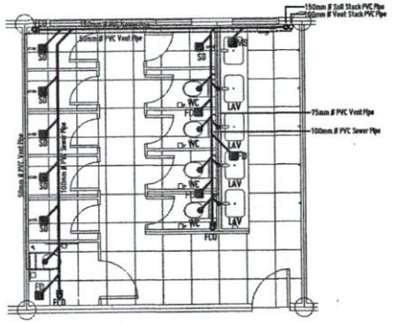
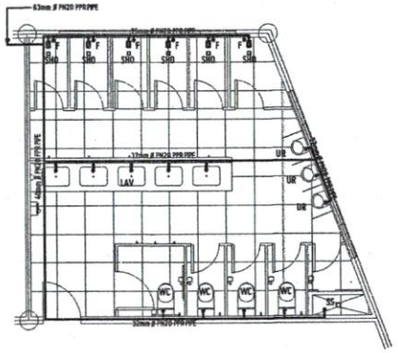
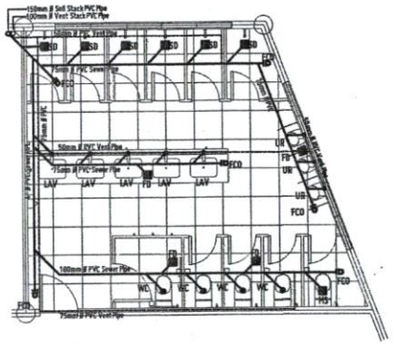






P 1 5 TYPICAL WATER LINE LAYOUT
SCALE: 1 : 100 MTS



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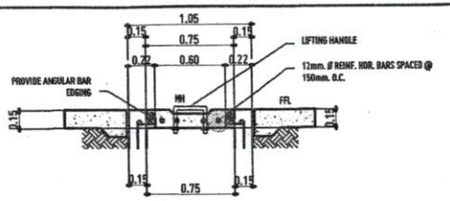
SCALE: 1 : 100 MTS



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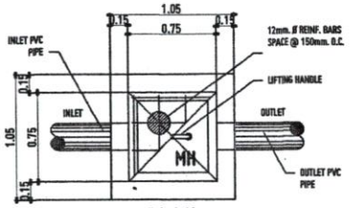
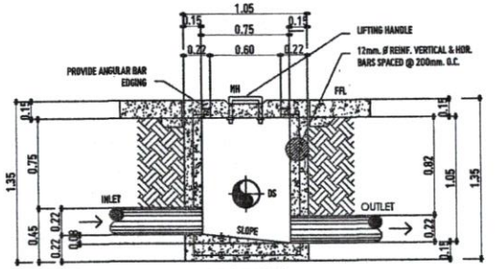
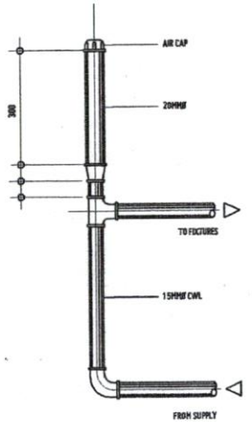


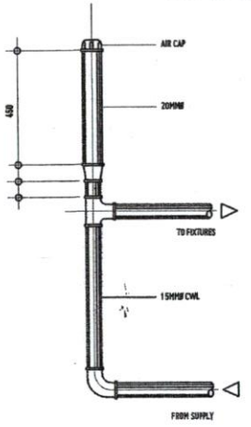
PLAN



SECTION

P 3 5 TYPICAL WASTE WATER LINE LAYOUT
SCALE: 1 : 1 0 MTS





P 4 5 DETAIL OF AIR CHAMBER
NOT DRAWN TO SCALE

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MASTER PLUMBER	
PRC NO.	PTR NO.
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PROJECT	COMPLETION OF SPORTS COMPLEX AND RESIDENCES (PHASE 1C)
LOCATION	CLARO M. RECTO AVENUE, LAPASAN, CAGAYAN DE ORO CITY 9000
OWNER	UNIVERSITY OF SCIENCE AND TECHNOLOGY OF SOUTHERN PHILIPPINES

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

SHEET CONTENTS:

DRAWN BY:
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FNT:

P3

REPUBLIC OF THE PHILIPPINES
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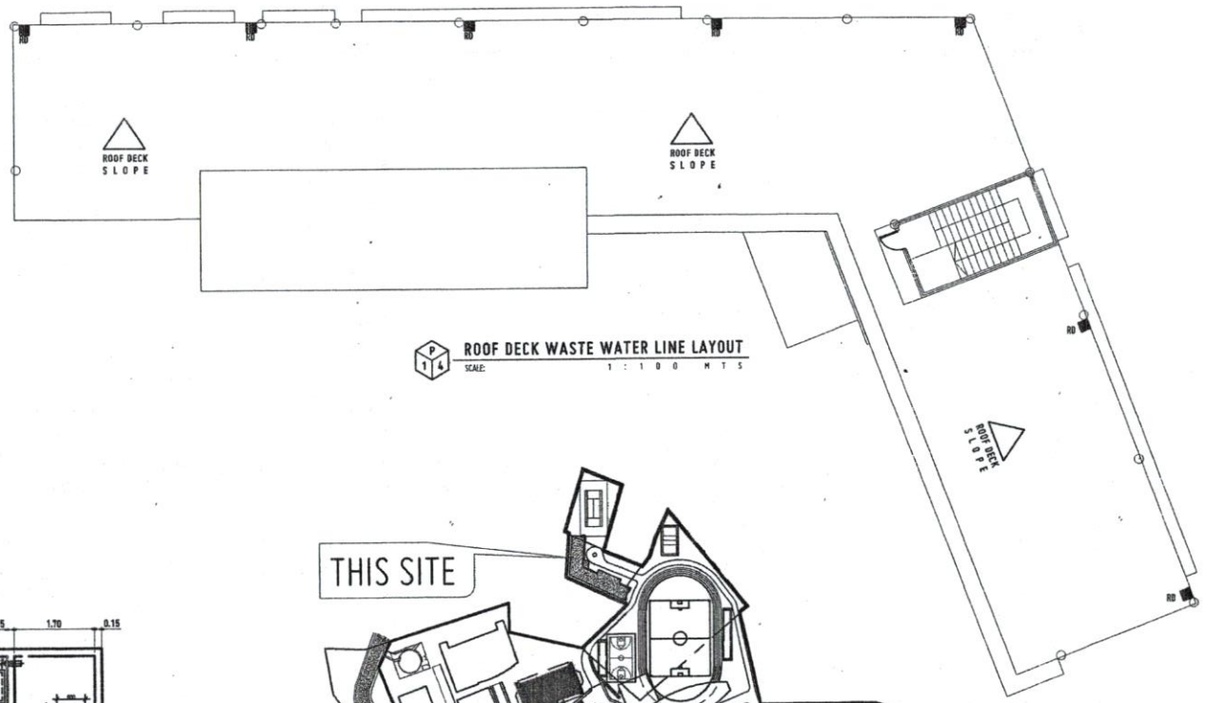
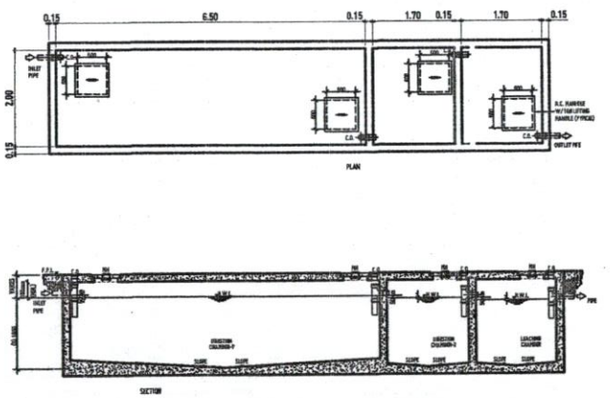
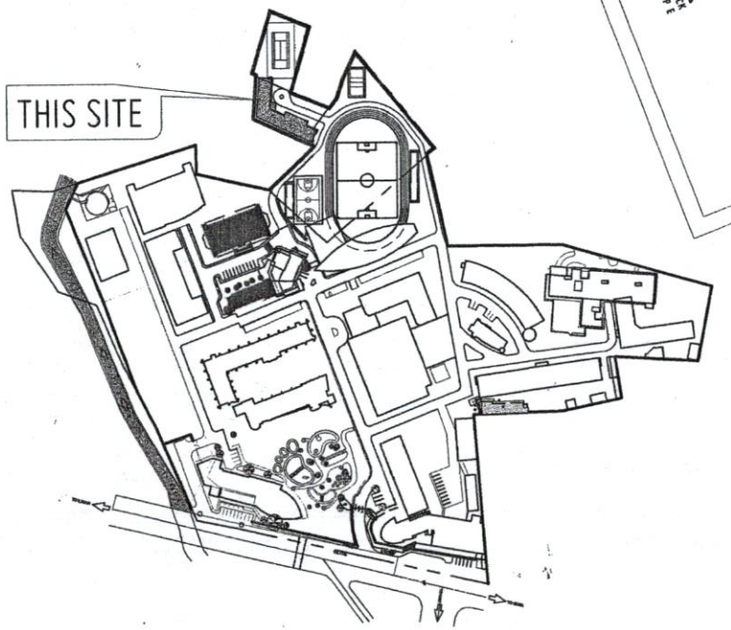


P 1/4 ROOF DECK WASTE WATER LINE LAYOUT
SCALE: 1 : 100 MTS



P 2/4 SEPTIC VAULT DETAIL
SCALE: 1 : 50 MTS



P 3/4 LOCATION PLAN
NOT DRAWN TO SCALE

PLUMBING

LEGEND:	
LAV	LAVATORY
UR	URINAL
WC	WATER CLOSET
R	RISER
KS	KITCHEN SINK
SOV	SHUT-OFF VALVE
CV	CHECK VALVE
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CBV	CHECK BALL VALVE
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PWL	POTABLE WATER LINE
SS	SLOP SINK

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MASTER PLUMBER	
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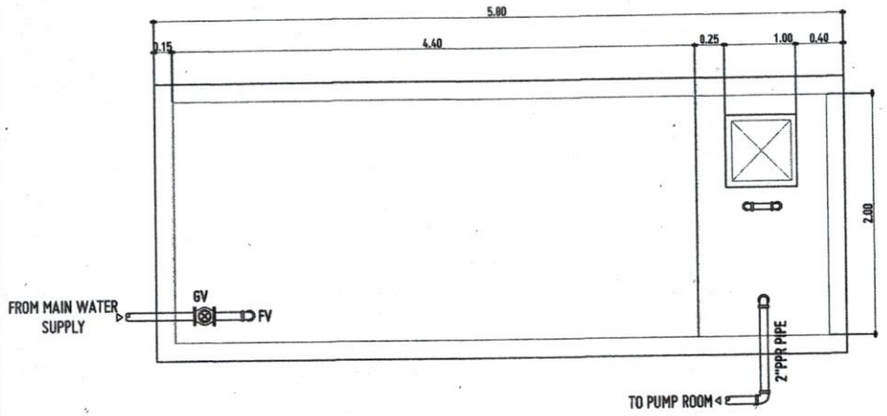
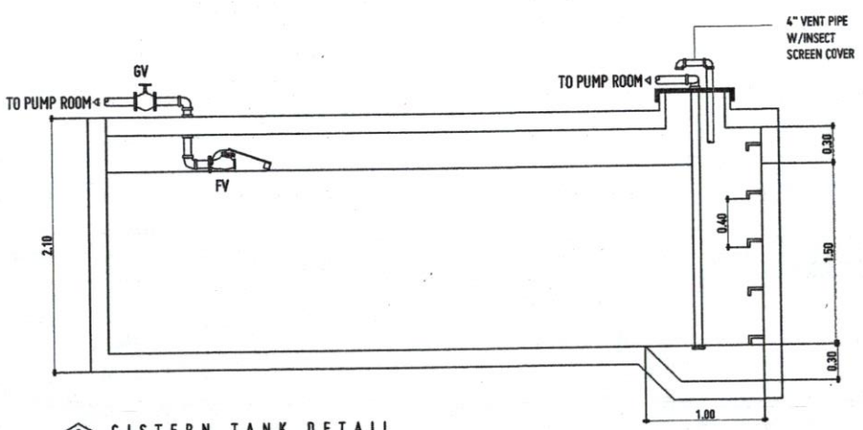
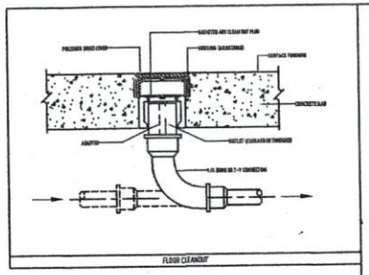
FWD:

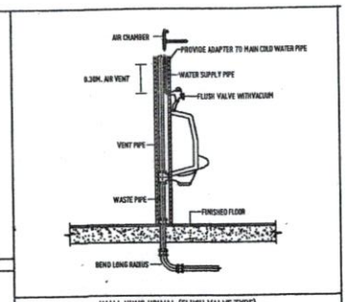
P4



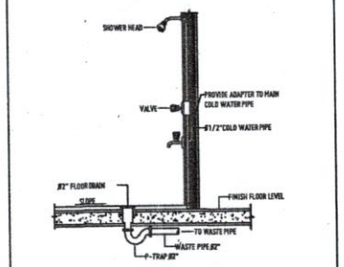


CISTERN TANK DETAIL
SCALE: 1:20 MTS

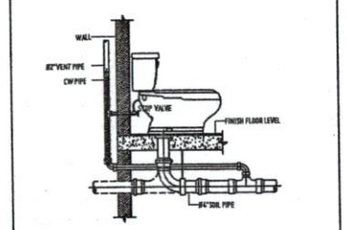




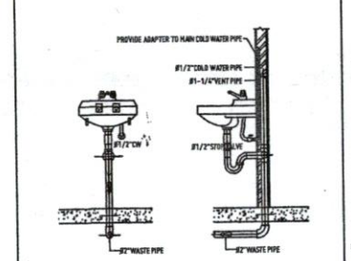
WALL HUNG URINAL (FLUSH VALVE TYPE)



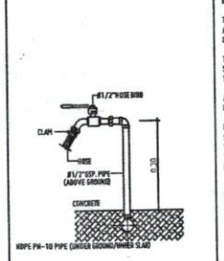
SHOWER HEAD



WATER CLOSET WITH FLUSH TANK (WC)



LAVATORY



HOSE BIBB

Plumbing Symbol

- Corner Bathtub
- Recessed Bathtub
- Sitz Bath
- Bidet
- Shower Stall
- Shower Head
- Overhead Gang Shower
- Pedestal Lavatory
- Wall Lavatory
- Corner Lavatory
- Handicapped Lavatory
- Dental Lavatory
- Standard Kitchen Sink
- Kitchen Sink, R & L Drain Board
- Kitchen Sink, L & Drain Board
- Combination Sink & Dishwasher
- Combination Sink & Laundry Tray
- Service Sink
- Wash Sink (Wall-Type)
- Wash Sink
- Laundry Tray (Single)
- Laundry Tray (Double)
- Water Closet (Tank-Type)
- Water Closet (Integral Tank)
- Water Closet (Flush Valve, Floor Outlet)
- Water Closet (Flush Valve, Wall-Hung)
- Urinal (Wall-Hung)
- Urinal (Stall)
- Urinal (Trough-Type)
- Drinking Fountain (Recessed)
- Drinking Fountain (Semi-Recessed)
- Drinking Fountain (Projecting-Type)
- Hot Water Tank
- Water Heater
- Meter
- Hose Rack
- Hose Bibb
- Gas Outlet
- Vacuum Outlet
- Drain
- Grease Separator
- Oil Separator
- Cleanout
- Garage Drain
- Floor Drain with Backwater Valve
- Roof Sump
- SOV Shut-off Valve
- S Riser
- GV Gate Valve
- CV Check Valve
- HB Hose Bib
- VS / VTW 2" PVC Pipe Series 1000
- SP 4" PVC Pipe Series 1000
- Grease Trap

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IT IS NOT INTENDED THAT THE DRAWINGS SHALL SHOW EVERY PIPE FITTING, VALVE AND APPURTENANCE. ALL SUCH ITEMS WHETHER SPECIFICALLY MENTIONED OR NOT, OR INDICATED ON THE DRAWINGS SHALL BE FURNISHED AND INSTALLED IF NECESSARY TO COMPLETE THE SYSTEM TO THE SATISFACTION OF THE OWNER.

ALL PLUMBING WORKS SYSTEM SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE PHILIPPINES BUILDING CODE, NATIONAL PLUMBING CODE, RULES AND REGULATION FOR SANITATION AND PLUMBING ORDINANCE OF THE MUNICIPALITY OR CITY WHERE THE PROJECT IS LOCATED.

ALL PLUMBING SYSTEM SHALL BE DONE UNDER THE SUPERVISION OF A DULY LICENSED SANITARY ENGINEER OR A MASTER PLUMBER.

COORDINATE THE DRAWING WITH OTHER RELATED DRAWINGS AND SPECIFICATION. THE ARCHITECT AND MASTER PLUMBER SHALL BE NOTIFIED IMMEDIATELY OF ANY DISCREPANCY FOUND THEREIN.

ALL PIPES SHALL BE INSTALLED AS INDICATED ON PLANS, ANY RELOCATIONS REQUIRED FOR PROPER EXECUTION OF OTHER TRADE SHALL BE WITH PRIOR APPROVAL OF THE ARCHITECT OR ENGINEER.

PROPOSED SANITARY UTILITIES SHALL CONFORM TO THE ACTUAL LOCATION, DEPTH AND INVERT ELEVATION OF ALL EXISTING PIPES AND STRUCTURES AS VERIFIED BY THE CONTRACTOR.

ALL SLOPES FOR HORIZONTAL DRAINAGE SHALL MAINTAIN 2% UNLESS OTHERWISE SPECIFIED.

SIZE OF WATER SUPPLY PIPES TO FIXTURES SHALL BE IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS.

THE CONTRACTOR SHALL VERIFY ALL EXISTING UTILITIES AT THE SITE, COORDINATE THE WORKS WITH THE SEWER LINE EFFLUENT DISPOSAL POINT AND WATER LINE SERVICE CONNECTION POINT, UNLESS OTHERWISE SPECIFIED.

ALL SEWER LINES SHALL BE PVC (POLYVINYL CHLORIDE) PIPES WITH SIZES SHOWN IN THE DRAWINGS.

ALL WATER LINES SHALL BE OF PPR PIPES WITH SIZES SHOWN IN THE DRAWINGS.

UNDERGROUND STORM DRAIN PIPES PASSING UNDER THE FLOOR SLAB ON FILL SHALL BE PVC PIPES WITH SIZES SHOWN IN THE DRAWINGS.

NO SANITARY SEWER PIPES SHALL BE DIRECTLY CONNECTED TO ANY STORM DRAINAGE PIPE.

ALL JOINTS MUST BE SEALED WITH PVC SOLVENT CEMENT TO PREVENT WATER LEAKAGE.

ALL FIXTURES SHALL BE INDIVIDUALLY VENTED.

VENT STACK THRU WALL (VSTW) PIPE SHALL BE UNDER THE BOTTOM OF RR.

ALL COST FOR THE PROVISION AND INSTALLATION OF THE SEPTIC TANK INCLUDING THE OUTLET PIPE CONNECTION TO THE STREET MAIN SEWER SHALL BE CHARGED TO THE LAND DEVELOPMENT COSTS OF THE PROJECT.

MAKE SURE THAT THE NEW INSTALLED SEPTIC TANK IS AT LEAST HALF FILLED WITH WATER TO PREVENT POSSIBLE FLOATING DUE TO HYDRAULIC PRESSURE INTRODUCED BY THE POSSIBLE PRESENCE OF GROUND WATER.

NO SEPTIC TANK SHALL BE CONSTRUCTED UNDER THE BUILDING.

THE INVERT OF THE INLET PIPE OF A SEPTIC TANK SHALL BE AT A LEVEL NOT LESS THAN 50.0mm (2") ABOVE THE INVERT OF THE OUTLET PIPE

TO PREVENT CONTAMINATION OF UNDERGROUND WATER SOURCE NO SEPTIC TANK SHALL BE CONSTRUCTED LESS THAN 1.20m ABOVE THE WATER TABLE LEVEL.

ALL PIPE SIZE ARE IN MILLIMETERS OR INCHES AND ALL DIMENSIONS ARE IN METERS UNLESS OTHERWISE SPECIFIED

MINIMUM SEWAGE PIPE SIZE SHALL BE AS FOLLOWS;

SOIL PIPE	6"Ø	100MM
WASTE PIPE	2"Ø	50MM
VENT PIPES	2"Ø	50MM
DOWNSPOUT	2"Ø	50MM

ALL PLUMBING INSTALLATION INCLUDED HEREIN SHALL BE UNDER THE DIRECT SUPERVISION OF A DULY REGISTERED AND LICENSED MASTER PLUMBER

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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 # (088)22 72-60-65 / (088) 850-1738 / 858-1728 | TOLL FAX:(088) 856-4696
WEBSITE: www.ustp.edu.ph

MASTER PLUMBER	
PRC NO.	PTR NO.
	DATE
TIN	PLACE

PROJECT	COMPLETION OF SPORTS COMPLEX AND RESIDENCES (PHASE 1C)
LOCATION	CLARO M. RECTO AVENUE, LAPASAN, CAGAYAN DE ORO CITY 9000
OWNER	UNIVERSITY OF SCIENCE AND TECHNOLOGY OF SOUTHERN PHILIPPINES

RECOMMENDING APPROVAL:
AR. FERDINAND A. LUMEA
DIRECTOR, INFRASTRUCTURE PLANNING AND FACILITY DEVELOPMENT OFFICE

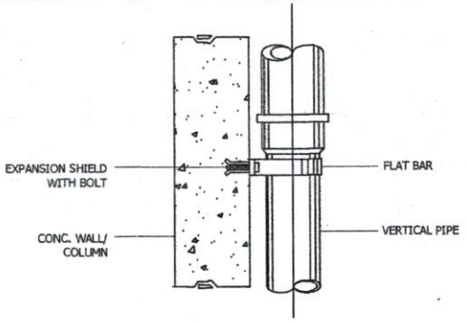
RECOMMENDING APPROVAL:
ATTY. ERWIN B. BUCIO
VP FOR ADMINISTRATION & LEGAL AFFAIRS

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

SHEET CONTENTS:

DRAWN BY:
DATE DRAWN:
FILE:

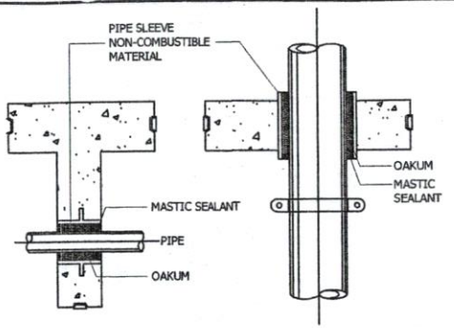
P5



SCHEDULE (mm)

PIPE SIZES	FLAT BAR	EXPANSION SHIELD WITH BOLT
50 TO 100 Ø	40 x 3	12
125 TO 150 Ø	50 x 6	16

P 1 7 VERTICAL PIPE HANGER DETAIL
NOT DRAWN TO SCALE



SCHEDULE OF PIPE SLEEVES (mm)									
PIPE SIZE	25	32	40	50	65	80	100	150	200
SLEEVE SIZE	65	80	80	80	100	150	150	200	250

P 2 7 PIPE SLEEVE DETAIL
NOT DRAWN TO SCALE

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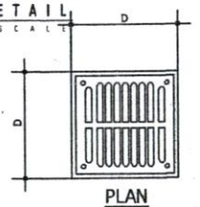
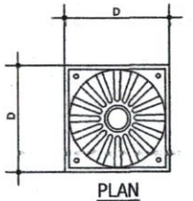
GENERAL NOTES:

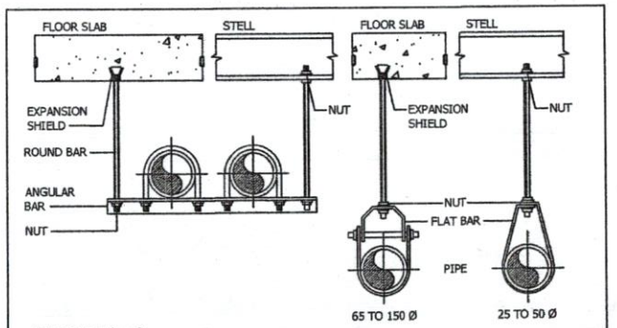
1. FFL = FINISH FLOOR LINE. VERIFY FLOOR FINISHES/MATERIALS.
2. ALL INTERIOR PARTITIONS AND FURNITURE LAYOUT ARE INDICATIVE ONLY AND MAY CHANGE. VERIFY INTERIOR DESIGN DRAWINGS.
3. ALL LANDSCAPE ARCHITECTURE ELEMENTS ARE INDICATIVE ONLY AND MAY CHANGE. VERIFY LANDSCAPE ARCHITECTURE DRAWINGS.
4. DO NOT 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.



PLAN



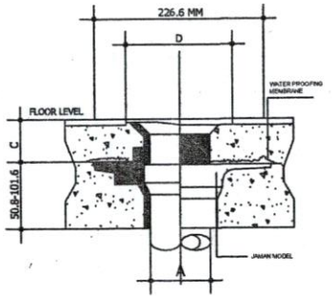
PLAN



SCHEDULE (mm)

PIPE SIZES	FLAT BAR	ROUND BAR	ANGULAR BAR	EXPANSION SHIELD
25 TO 50 Ø	25 x 3	10	25 x 3	10
65 TO 100 Ø	40 x 3	12	40 x 3	12

P 3 7 PIPE HANGER DETAIL
NOT DRAWN TO SCALE

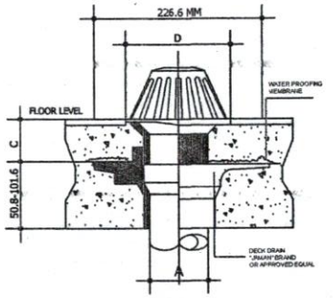


SECTION

TABLE OF DIMENSION

PIPE SIZE IN "A"	DIMENSION IN MM	
	C	D
50	38.1	101.6
75	38.1	127.0
100	40.1	152.4
150	50.8	177.8

P 4 7 FLOOR DRAIN DETAIL
NOT DRAWN TO SCALE



SECTION

TABLE OF DIMENSION

PIPE SIZE IN "A"	DIMENSION IN MM	
	C	D
50	38.1	101.6
75	38.1	127.0
100	40.1	152.4
150	50.8	177.8

P 5 7 DECK GUTTER DRAIN DETAIL
NOT DRAWN TO SCALE

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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 # (088)22) 72-60-65 / (088) 858-1738 / 858-1738 | TELE FAX (088) 858-4698
WEBSITE: www.ustp.edu.ph

MASTER PLUMBER	
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LOCATION: CLARO M. RECTO AVENUE, LAPASAN, CAGAYAN DE ORO CITY 9000
OWNER: UNIVERSITY OF SCIENCE AND TECHNOLOGY OF SOUTHERN PHILIPPINES

RECOMMENDING APPROVAL:
AR. FERDINAND A. DUMPA
DIRECTOR, INFRASTRUCTURE PLANNING & FACILITY 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:

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DATE DRAWN:
FWP:

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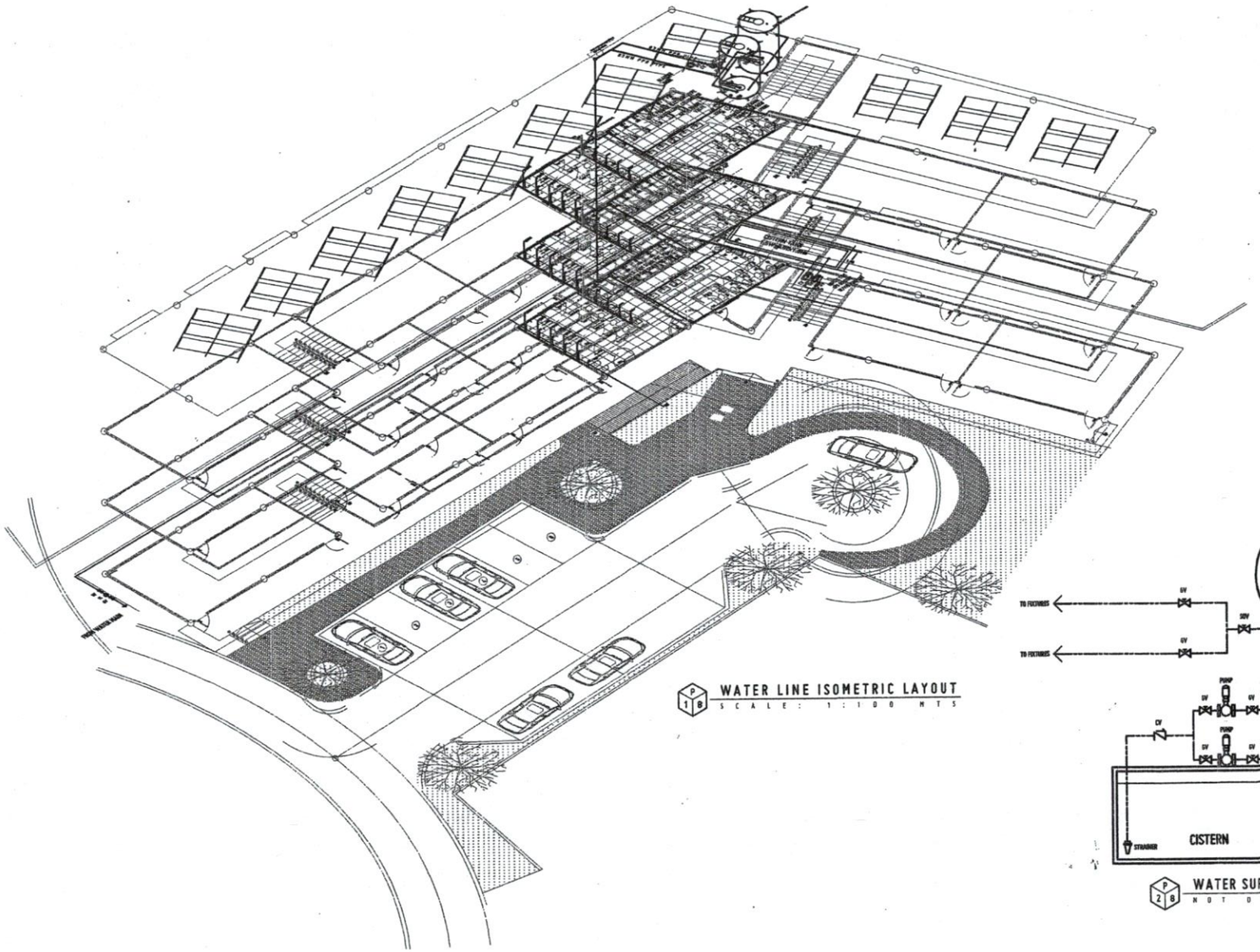
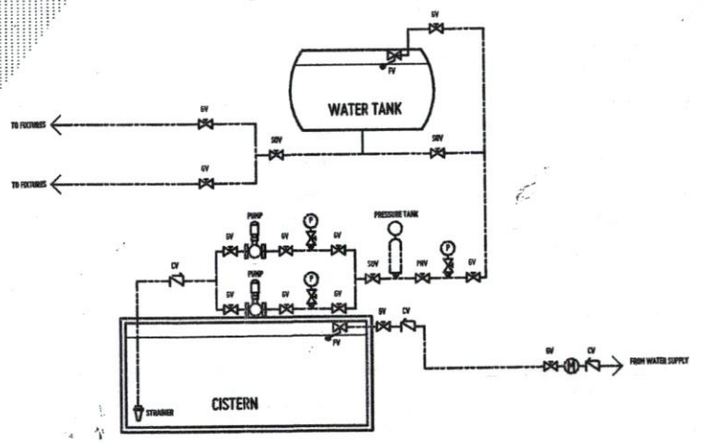
PLUMBING

LEGEND:	
LAV	LAVATORY
UR	URINAL
WC	WATER CLOSET
R	RISER
KS	KITCHEN SINK
SOV	SHUT-OFF VALVE
CV	CHECK VALVE
GV	GLOBE VALVE
CBV	CHECK BALL VALVE
HB	HOSE BIB
PWL	POTABLE WATER LINE
SS	SLOP SINK



P 1 8 WATER LINE ISOMETRIC LAYOUT
SCALE: 1:100 MTS



P 2 8 WATER SUPPLY SINGLE LINE DIAGRAM
NOT DRAWN TO SCALE

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INFRASTRUCTURE PLANNING AND FACILITY DEVELOPMENT UNIT
CLARO M. RECTO AVENUE, LAPASAN, CAGAYAN DE ORO CITY 9000
TELEPHONE # (088)22) 72-60-65 / (088) 856-1739 / 856-1739 | TOLL FAX (088) 856-4496
WEBSITE: www.ustp.edu.ph

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AR. FERDINAND A. DUMPA	ATTY. ERWIN B. BUCIO	DR. AMBROSIO B. CULTURA II		DATE DRAWN:
DIRECTOR, INFRASTRUCTURE PLANNING & FACILITY DEVELOPMENT OFFICE	VP FOR ADMINISTRATION & LEGAL AFFAIRS	PRESIDENT USTP SYSTEM		FMT:

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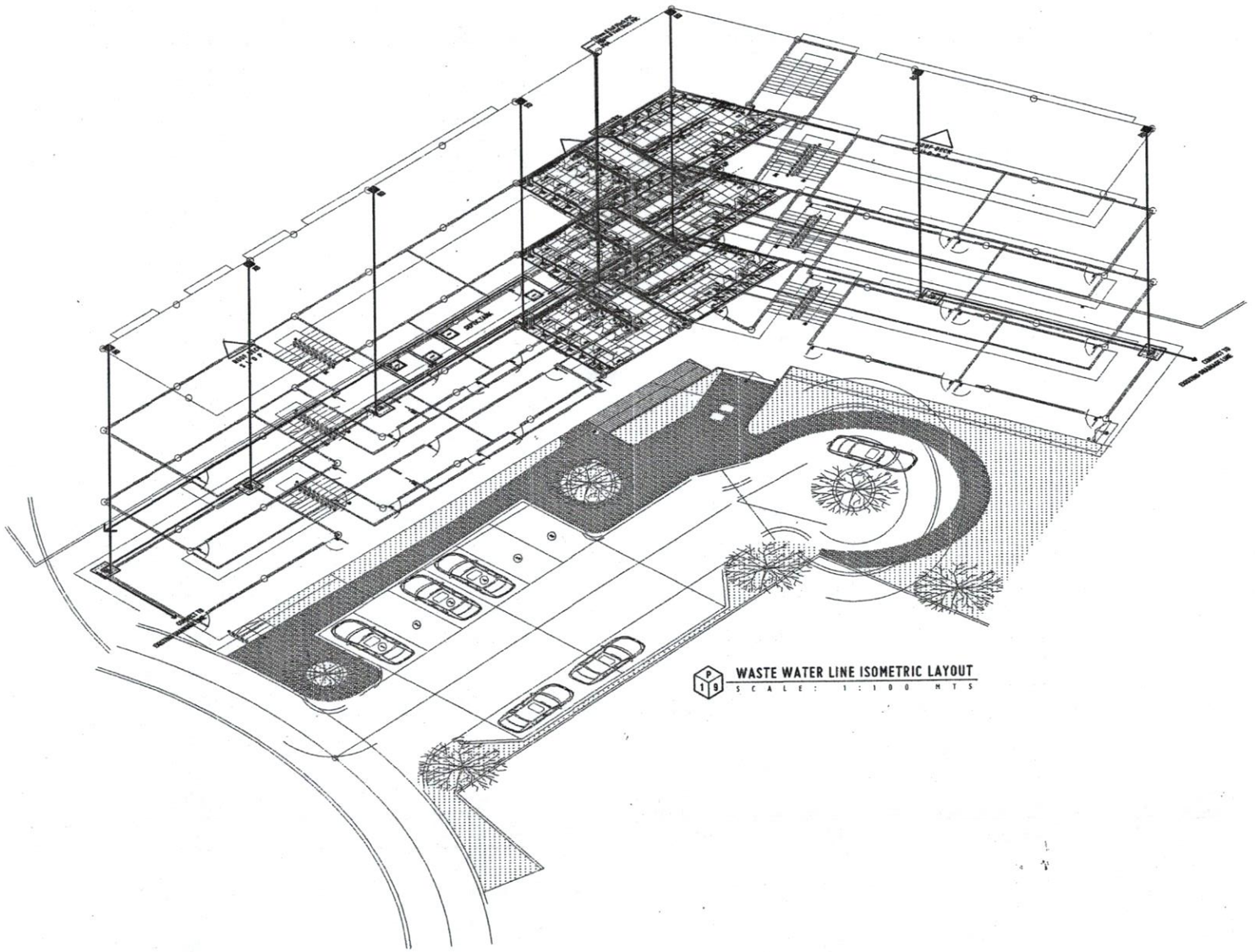

P 19 WASTE WATER LINE ISOMETRIC LAYOUT
SCALE: 1:100 MTS

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INFRASTRUCTURE PLANNING AND FACILITY DEVELOPMENT UNIT
CLARO M. RECTO AVENUE, LAPASAN, CAGAYAN DE ORO CITY 9000
TELEPHONE # (088222) 72-60-05 / (088) 858-1730 / 856-1730 | TELE FAX (088)-856-4698
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AR. FERDINAND A. [illegible]	ATTY. ERWIN B. BUCIO	DR. AMBROSIO B. CULTURA II		DATE DRAWN:
DIRECTOR, INFRASTRUCTURE PLANNING & FACILITY DEVELOPMENT OFFICE	VP FOR ADMINISTRATION & LEGAL AFFAIRS	PRESIDENT, USTP SYSTEM		FNP:

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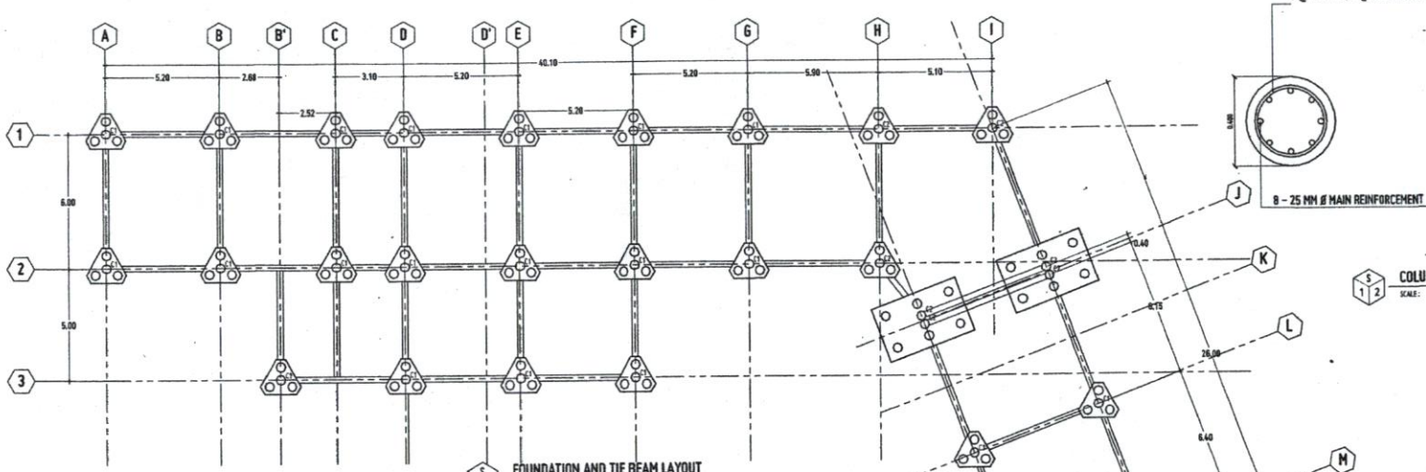
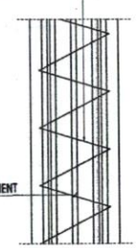
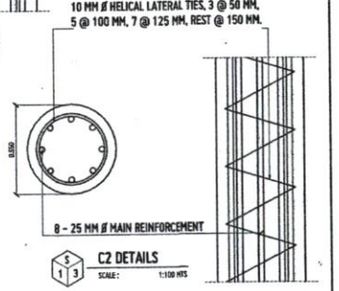


NOTE: 93 PCS OF 0.40 M X 0.40 M X 27 M PRESTRESSED PILES

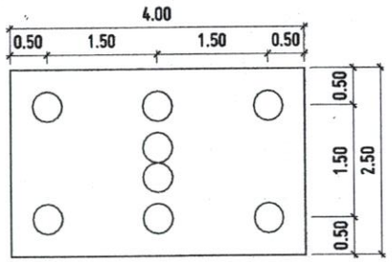
S 1 1 FOUNDATION AND TIE BEAM LAYOUT
SCALE: 1:100 MTS

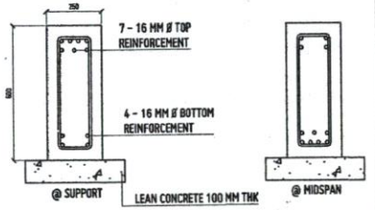


S 1 2 COLUMN DETAILS
SCALE: 1:100 MTS



S 1 3 C2 DETAILS
SCALE: 1:100 MTS





S 1 4 TIE BEAM DETAILS
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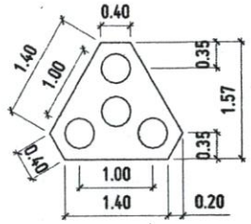
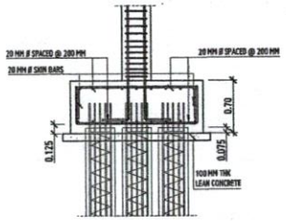
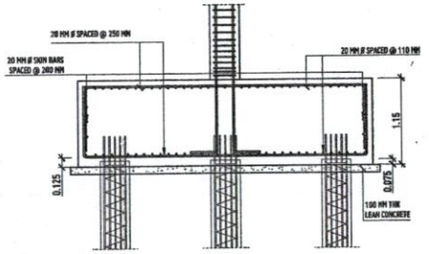
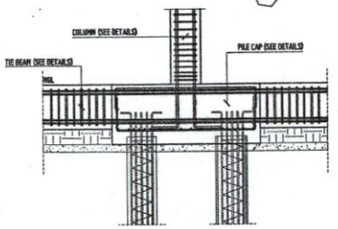




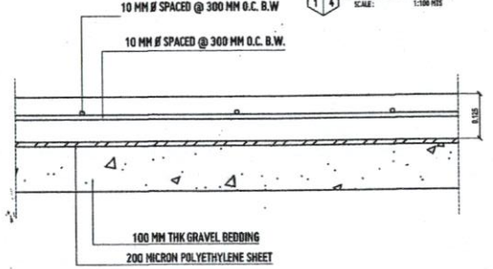
S 1 5 PC-1 DETAILS
SCALE: 1:100 MTS



S 1 6 PC-2 DETAILS
SCALE: 1:100 MTS



S 1 7 TIE BEAM AND PILE CAP CONNECTION DETAIL
SCALE: 1:100 MTS



S 1 8 SLAB ON GRADE DETAILS
SCALE: 1:100 MTS

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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
TELEPHONE # (088222) 72-68-65 / (088) 856-1730 / 856-1730 | TELE FAX (088) 856-1696
WEBSITE: www.ustp.edu.ph

ERNESTO CH. QUIJOTE
CIVIL/STRUCTURAL ENGINEER

PRC NO.	0041448	PTR NO.	8038666A
DATE	01-12-2021		
TIN	152-320-743	PLACE	EL SALVADOR CITY

PROJECT	COMPLETION OF SPORTS COMPLEX AND RESIDENCES (PHASE 1C)
LOCATION	CLARO M. RECTO AVENUE, LAPASAN, CAGAYAN DE ORO CITY 9000
OWNER	UNIVERSITY OF SCIENCE AND TECHNOLOGY OF SOUTHERN PHILIPPINES

RECOMMENDING APPROVAL:
AR. FERDINAND A. DIONA
DIRECTOR, INFRASTRUCTURE PLANNING & FACILITY DEVELOPMENT OFFICE

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

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

SHEET CONTENTS:
FOUNDATION AND TIE BEAM LAYOUT
C1 DETAIL
C2 DETAIL
TIE BEAM DETAIL
PC-1 DETAIL
PC-2 DETAIL
TIE BEAM AND PILE CAP CONNECTION
SLAB ON GRADE DETAIL

DRAWN BY: ECHO, VDJ
DATE DRAWN: 03.01.2022
FILE:
DATE: 03.09.2022

S1

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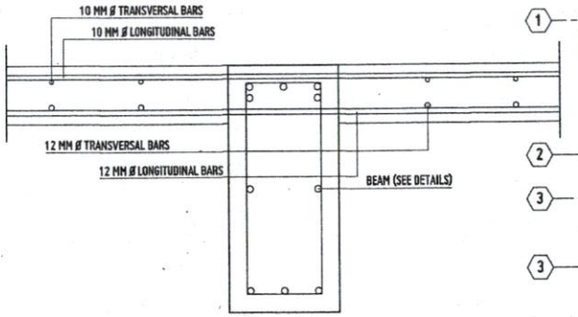

S 2 1 2ND, 3RD & ROOF DECK SLAB DETAILS
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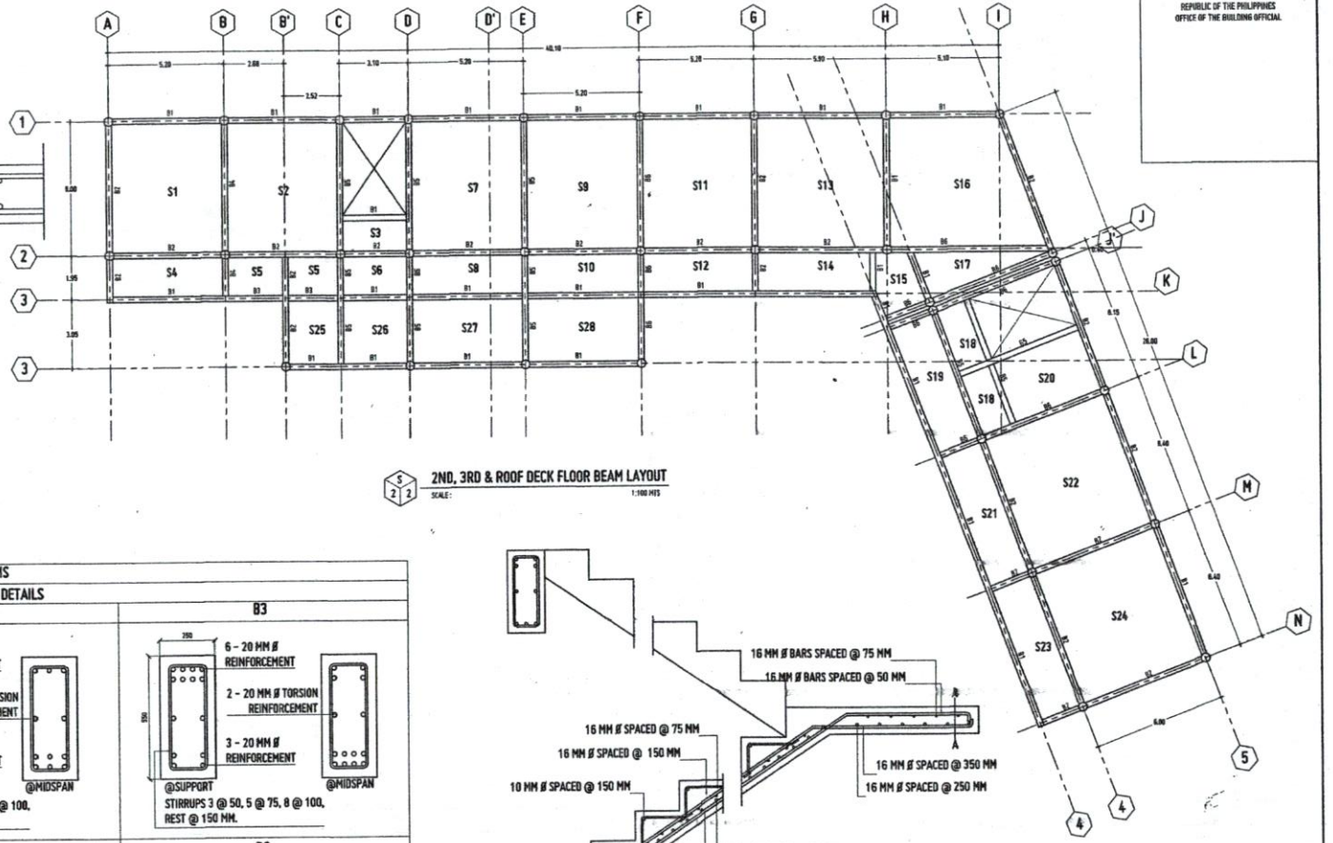
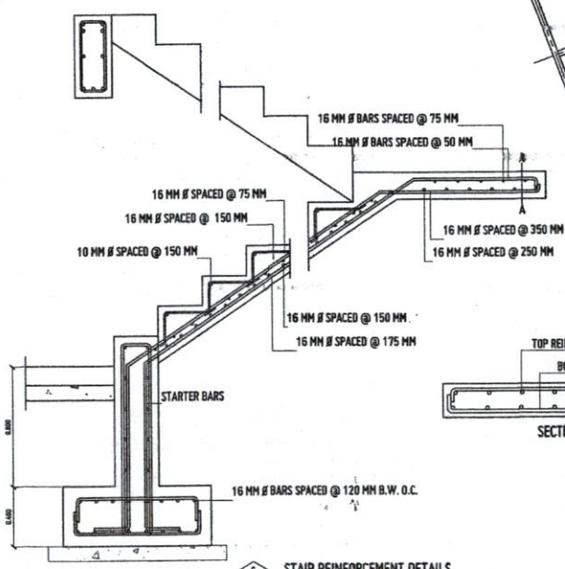


S 2 2 2ND, 3RD & ROOF DECK FLOOR BEAM LAYOUT
SCALE: 1:100 MTS

SCHEDULE OF BEAMS

LEVEL	BEAM DIMENSIONS AND DETAILS		
2ND & 3RD FLOOR LEVEL	B1 4 - 20 MM Ø REINFORCEMENT 2 - 20 MM Ø TORSION REINFORCEMENT 3 - 20 MM Ø REINFORCEMENT @SUPPORT STIRRUPS 3 @ 50, 5 @ 75, 8 @ 100, REST @ 150 MM. @MIDSPAN	B2 6 - 20 MM Ø REINFORCEMENT 2 - 20 MM Ø TORSION REINFORCEMENT 3 - 20 MM Ø REINFORCEMENT @SUPPORT STIRRUPS 3 @ 50, 5 @ 75, 8 @ 100, REST @ 150 MM. @MIDSPAN	B3 6 - 20 MM Ø REINFORCEMENT 2 - 20 MM Ø TORSION REINFORCEMENT 3 - 20 MM Ø REINFORCEMENT @SUPPORT STIRRUPS 3 @ 50, 5 @ 75, 8 @ 100, REST @ 150 MM. @MIDSPAN
	B4 6 - 20 MM Ø REINFORCEMENT 2 - 20 MM Ø TORSION REINFORCEMENT 3 - 20 MM Ø REINFORCEMENT @SUPPORT STIRRUPS 3 @ 50, 5 @ 75, 8 @ 100, REST @ 150 MM. @MIDSPAN	B5 8 - 25 MM Ø REINFORCEMENT 2 - 20 MM Ø TORSION REINFORCEMENT 5 - 25 MM Ø REINFORCEMENT @SUPPORT STIRRUPS 3 @ 50, 5 @ 75, 8 @ 100, REST @ 150 MM. @MIDSPAN	B6 9 - 25 MM Ø REINFORCEMENT 2 - 20 MM Ø TORSION REINFORCEMENT 5 - 25 MM Ø REINFORCEMENT @SUPPORT STIRRUPS 3 @ 50, 5 @ 75, 8 @ 100, REST @ 150 MM. @MIDSPAN



S 2 3 STAIR REINFORCEMENT DETAILS
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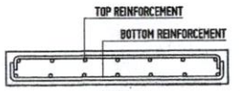

SECTION

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INFRASTRUCTURE PLANNING AND FACILITY DEVELOPMENT UNIT
CLARO M. RECTO AVENUE, LAPASAN, CAGAYAN DE ORO CITY 9000
TELEPHONE # (088)22 72-80-65 / (088) 856-1738 / 858-1739 | TELEFAX (088) 858-4800
WEBSITE: www.ustp.edu.ph

ERNESTO CH. QUNOTE
CIVIL/STRUCTURAL ENGINEER
PRC NO. 0014146 PTR NO. 8519444A
DATE 01-03-2021
TIN 152-320-293 PLACE EL SALVADOR CITY

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AR. FERDINAND E. BUHIA
DIRECTOR, INFRASTRUCTURE PLANNING & FACILITY DEVELOPMENT OFFICE

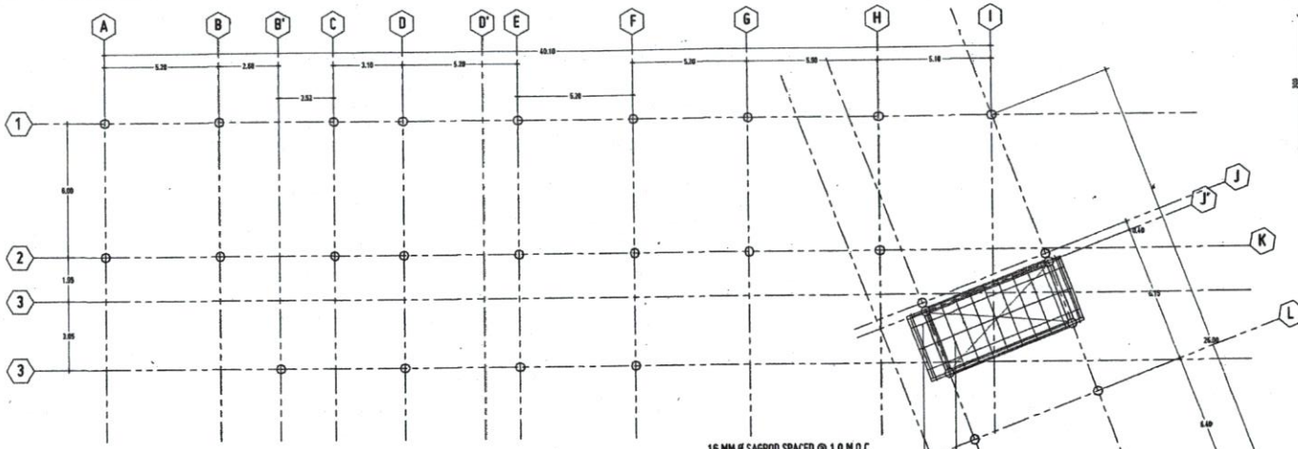
RECOMMENDING APPROVAL:
ATTY. ERWINO B. BUCIO
VP FOR ADMINISTRATION & LEGAL AFFAIRS

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

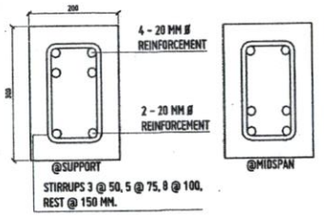
SHEET CONTENTS:
2ND, 3RD AND ROOF SLAB DETAIL
2ND, 3RD AND ROOF DECK BEAM LAYOUT
STAIR REINFORCEMENT DETAIL

DRAWN BY: ECHO, VRJ
DATE DRAWN: 03.01.2022
REV: 03.08.2022

S2



S 3 1 ROOF BEAM AND TRUSS LAYOUT
SCALE: 1:100 MTS



S 3 2 RB1 DETAILS
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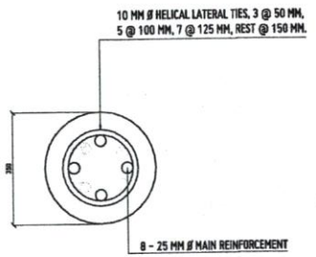

S 3 3 STUD COLUMN DETAILS
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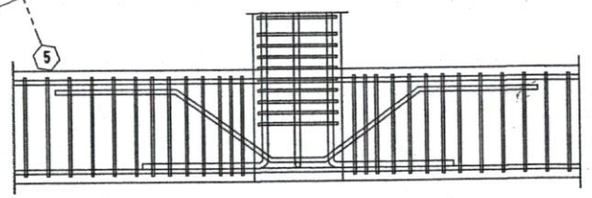

S 3 4 COLUMN STUD CONNECTION DETAIL
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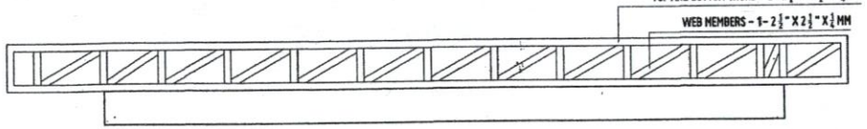

S 3 5 TRUSS DETAILS
SCALE: 1:100 MTS

PURLIN DETAILS

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SCHEDULE OF SLABS

LEVEL	MARK	THICKNESS	REBARS SPACING ALONG SHORT DIRECTION		REBARS SPACING ALONG LONG DIRECTION		REMARKS
			TOP REINF.	BOT REINF.	TOP REINF.	BOT REINF.	
2ND, 3RD, & ROOF DECK LEVEL	S1	150	10 MM Ø @ 300	12 MM Ø @ 250	10 MM Ø @ 300	12 MM Ø @ 250	2-WAY
	S2	150	10 MM Ø @ 250	12 MM Ø @ 250	10 MM Ø @ 250	12 MM Ø @ 250	2-WAY
	S3	150	10 MM Ø @ 300	12 MM Ø @ 150	10 MM Ø @ 300	12 MM Ø @ 150	2-WAY
	S4	150	10 MM Ø @ 250	12 MM Ø @ 250	10 MM Ø @ 250	12 MM Ø @ 250	2-WAY
	S5	150	10 MM Ø @ 150	12 MM Ø @ 150	10 MM Ø @ 250	12 MM Ø @ 250	2-WAY
	S6	150	10 MM Ø @ 150	12 MM Ø @ 150	10 MM Ø @ 150	12 MM Ø @ 150	2-WAY
	S7	150	10 MM Ø @ 175	12 MM Ø @ 175	10 MM Ø @ 175	12 MM Ø @ 175	2-WAY
	S8	150	10 MM Ø @ 175	12 MM Ø @ 175	10 MM Ø @ 175	12 MM Ø @ 175	2-WAY
	S9	150	10 MM Ø @ 250	12 MM Ø @ 250	10 MM Ø @ 250	12 MM Ø @ 250	2-WAY
	S10	150	10 MM Ø @ 175	12 MM Ø @ 175	10 MM Ø @ 175	12 MM Ø @ 175	2-WAY
	S11	150	10 MM Ø @ 300	12 MM Ø @ 300	10 MM Ø @ 300	12 MM Ø @ 300	2-WAY
	S12	150	10 MM Ø @ 175	12 MM Ø @ 175	10 MM Ø @ 175	12 MM Ø @ 175	2-WAY
	S13	150	10 MM Ø @ 250	12 MM Ø @ 250	10 MM Ø @ 250	12 MM Ø @ 250	2-WAY
	S14	150	10 MM Ø @ 250	12 MM Ø @ 250	10 MM Ø @ 250	12 MM Ø @ 250	2-WAY
	S15	150	10 MM Ø @ 300	12 MM Ø @ 300	10 MM Ø @ 300	12 MM Ø @ 300	2-WAY
	S16	150	10 MM Ø @ 300	12 MM Ø @ 300	10 MM Ø @ 300	12 MM Ø @ 300	2-WAY
	S17	150	10 MM Ø @ 125	12 MM Ø @ 125	10 MM Ø @ 125	12 MM Ø @ 125	2-WAY
	S18	150	10 MM Ø @ 175	12 MM Ø @ 175	10 MM Ø @ 175	12 MM Ø @ 175	2-WAY
	S19	150	10 MM Ø @ 250	12 MM Ø @ 250	10 MM Ø @ 250	12 MM Ø @ 250	2-WAY
	S20	150	10 MM Ø @ 250	12 MM Ø @ 250	10 MM Ø @ 250	12 MM Ø @ 250	2-WAY
	S21	150	10 MM Ø @ 250	12 MM Ø @ 250	10 MM Ø @ 250	12 MM Ø @ 250	2-WAY
	S22	150	10 MM Ø @ 300	12 MM Ø @ 300	10 MM Ø @ 300	12 MM Ø @ 300	2-WAY
	S23	150	10 MM Ø @ 300	12 MM Ø @ 300	10 MM Ø @ 300	12 MM Ø @ 300	2-WAY
	S24	150	10 MM Ø @ 250	12 MM Ø @ 250	10 MM Ø @ 250	12 MM Ø @ 250	2-WAY
	S25	150	10 MM Ø @ 250	12 MM Ø @ 250	10 MM Ø @ 250	12 MM Ø @ 250	2-WAY
	S26	150	10 MM Ø @ 250	12 MM Ø @ 250	10 MM Ø @ 250	12 MM Ø @ 250	2-WAY
	S27	150	10 MM Ø @ 250	12 MM Ø @ 250	10 MM Ø @ 250	12 MM Ø @ 250	2-WAY
	S28	150	10 MM Ø @ 250	12 MM Ø @ 250	10 MM Ø @ 250	12 MM Ø @ 250	2-WAY

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CLARO M. RECTO AVENUE, LAPASAN, CAGAYAN DE ORO CITY 9000
TELEPHONE # (088)22 72-00-05 / (088) 856-1738 / 856-1739 | TELE FAX (088) 856-4886
WEBSITE: www.ustp.edu.ph

USTP

ERNESTO CH. CALIOFE
CIVIL/STRUCTURAL ENGINEER
PRC NO. 0041040 | PTR NO. 8014444A
DATE 01-12-2021
TIN 152-320-943 | PLACE EL SALVADOR CITY

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PRESIDENT, USTP SYSTEM

SHEET CONTENTS:
ROOF BEAM AND TRUSS LAYOUT
RB1 DETAIL
STUD COLUMN DETAIL
COLUMN STUD CONNECTION DETAIL
TRUSS DETAIL

DRAWN BY:	ECAD, VEJ
DATE DRAWN:	03.09.2022
FILE:	03.09.2022

S3

GENERAL NOTES

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1. GENERAL

1.1 THE STRUCTURAL DRAWINGS SHALL BE READ IN CONJUCTION WITH THE DRAWINGS OF ALL OTHER DISCIPLINES AND THE SPECIFICATIONS. THE CONTRACTOR SHALL VERIFY THE REQUIREMENTS OF OTHER TRADES AS TO SLEEVES, CHASES, HANGERS, INSERTS, ANCHORS, OPENINGS AND OTHER ITEMS TO BE PLACED OR SET IN THE STRUCTURAL WORKS.

1.2 THE CONTRACTOR SHALL BE RESPONSIBLE FOR COMPLYING WITH ALL SAFETY PRECAUTIONS AND REGULATIONS DURING THE WORK.

1.3 THE STRUCTURAL DRAWINGS HEREIN REPRESENT THE FINISHED STRUCTURE THE CONTRACTOR SHALL PROVIDE ALL TEMPORARY GUYING AND BRACING REQUIRED TO ERECT AND HOLD THE STRUCTURE IN PROPER ALIGNMENT UNTIL ALL STRUCTURAL WORK AND CONNECTIONS HAVE BEEN COMPLETED. THE INVESTIGATION, DESIGN, SAFETY, ADEQUACY AND INSPECTION OF ERECTION BRACING, SHORING, TEMPORARY SUPPORTS, ETC. IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR.

1.4 THE DRAWINGS INDICATE GENERAL AND TYPICAL DETAILS OF CONSTRUCTION. WHERE CONDITIONS ARE NOT SPECIFICALLY SHOWN, SIMILAR DETAILS OR CONSTRUCTION SHALL BE USED, SUBJECT TO THE APPROVAL BY THE ROYAL COMMISSION.

1.5 LOADING(S) APPLIED TO THE STRUCTURE DURING THE PROCESS OF CONSTRUCTION SHALL NOT EXCEED THE SAFE LOAD-CARRYING CAPACITY OF THE STRUCTURAL MEMBERS. THE LIVE LOADING USE I IN THE DESIGN OF THIS STRUCTURE ARE INDICATED IN THE "DESIGN CRITERIA NOTES". DO NOT APPLY ANY CONSTRUCTION LOADS UNTIL STRUCTURAL FRAMING IS PROPERLY CONNECTED TOGETHER AND UNTIL ALL TEMPORARY BRACING IS IN PLACE.

1.6 ALL ASTM AND OTHER REFERENCES ARE PER THE LATEST EDITIONS OF THESE STANDARDS, UNLESS OTHERWISE NOTED.

2. DESIGN CRITERIA

2.1 STANDARDS

2.1.1 THE STRUCTURE IS DESIGNED IN ACCORDANCE WITH THE FOLLOWING CODE OF STANDARD PRACTICE:

A. NATIONAL STRUCTURAL CODE OF THE PHILIPPINES
B. BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE (ACI-318RM)
C. INTERNATIONAL BUILDING CODE (IBC).
D. STRUCTURAL ENGINEERING INSTITUTE/AMERICAN SOCIETY OF CIVIL ENGINEERS (ASCE 7)

2.2 MATERIALS

2.2.1 THE FOLLOWING STRUCTURAL MATERIALS AND THEIR CORRESPONDING STRENGTH ARE ADOPTED IN THE DESIGN:

A.	CONCRETE CYLINDER STRENGTH AT 28 DAYS	f'c = 25 MPa
B.	CONCRETE DENSITIES	f'c = 20 MPa
C.	REINFORCING BARS	Fy = 414 MPa
D.	CONCRETE MASONRY UNITS	f'm = 14 MPa
E.	STRUCTURAL STEEL PLATES AND SHAPES - ASTM A36	FY = 248 MPa
F.	ANCHOR BOLTS - ASTM A307	FY = 220 MPa

2.3 DESIGN LOADS

2.3.1 DEAD LOADS; DESIGN GRAVITY DEAD LOADS USED IN THE DESIGN ARE AS FOLLOWS:

A.	CONCRETE	24 kN/M³
B.	50 MM FLOOR TOPPING + FINISH	1.7 kN/M²
C.	100 MM CONCRETE MASONRY UNITS	2.70 kN/M²
D.	150 MM CONCRETE MASONRY UNITS	3.30 kN/M²
E.	ROOF TIPPING + WATERPROOFING + INSULATION	2.50 kN/M²

2.3.2 LIVE LOADS; DESIGN GRAVITY LIVE LOADS USED IN THE DESIGN ARE AS FOLLOWS:

A.	FLOOR LIVE LOAD	2.0 kN/M²
B.	ROOF LIVE LOAD	CONCRETE ROOF 1.0 kN/M² STEEL ROOF .60 kN/M²
C.	CORRIDORS, STAIRS & BALCONIES	5.0 kN/M²

2.3.3 WIND LOAD

2.3.3.1 WIND LOAD ON STRUCTURE SHALL BE COMPUTED AND APPLIED IN CONFORMANCE TO THE PROVISIONS OF THE INTERNATIONAL BUILDING CODE, LATEST EDITION.

2.3.3.2 DESIGN WIND PRESSURES

A. BASIC WIND VELOCITY FOR COL MISAMIS OR, AS FOLLOWS: ZONE III — 150KPH

B. SIMPLIFIED DESIGN WIND SHALL BE DESIGNED AS GIVEN IN NSCP FIGURE 8-3.

2.3.3.3 ADJUSTMENT FACTOR FOR BUILDING HEIGHT AND EXPOSURE (A)

A. ADJUSTMENT FACTOR FOR BUILDING HEIGHT AND EXPOSURE (A) SHALL BE AS GIVEN IN FIGURE 6-2 OF SEI/ASCE 7.

2.3.3.4 IMPORTANCE FACTOR (I)

A. IMPORTANCE (I) SHALL BE AS DEFINED IN SECTION 6.5.5 OF SEI/ASCE 7.

2.3.3.5. EXPOSURE CATEGORY

A. AN EXPOSURE CATEGORY SHALL BE IN ACCORDANCE WITH SECTION 6.5.6 OF SEI/ASCE 7.

2.3.4 EARTHQUAKE LOADS

2.3.4.1 COMPUTATIONS AND APPLICATION OF SEISMIC LOADS ON THE STRUCTURE SHALL BE IN ACCORDANCE WITH THE EARTHQUAKE PROVISIONS OF THE INTERNATIONAL BUILDING CODE, LATEST EDITION.

3. CONCRETE

3.1. GENERAL

3.1.1 STRUCTURAL CONCRETE SHALL BE IN ACCORDANCE WITH ACI 318, BUILDING CODE REQUIREMENTS FOR STRUCTURAL STEEL

3.1.2 CONCRETE SHALL BE READY-MIXED UNLESS OTHERWISE APPROVED.

3.1.3 CONCRETE WORK SHALL CONFORM TO THE REQUIREMENTS OF ACI STANDARDS.

3.1.4 REINFORCEMENT FOR CONCRETE SHALL CONFORM TO THE REQUIREMENTS OF ACI BUILDING CODE 318/318R-25.

3.2 FOUNDATION

3.2.1 FOUNDATION SHALL BE DESIGNED BASED ON THE GEO-TECHNICAL INVESTIGATION REPORT. THE GENERAL CONTRACTOR SHALL CONDUCT HIS OWN GEO-TECHNICAL TEST TO VERIFY THE DESIGN IS SAFE AND IS ACCORDANCE TO THE GEO-TECHNICAL SOIL TEST RESULT REPORT.

3.2.2 SITE PREPARATION

3.2.2.1 ALL VEGETATION, DEBRIS AND SURFACE SOILS CONTAINING ORGANIC MATERIALS SHALL BE REMOVE FROM THE SITE.
3.2.2.2 THE EXPOSED SUB-GRADE SHALL BE DENSIFIED PRIOR TO PLACING ANY FILL. THE DENSIFICATION SHALL BE ACHIEVED BY COMPACTION, AND SHALL CONTINUE UNTIL THE SOIL DENSITY, 300 MM BELOW THE EXISTING SUB-GRADE, IS AT LEAST 95% OF THE MODIFIED PROCTOR MAXIMUM DRY DENSITY.
3.2.2.3 IF THE COMPACTED SOILS ARE DUE TO CONSTRUCTION ACTIVITIES, THESE SOILS SHALL BE RE-COMPACTED AND RE-TESTED.

3.2.3 GROUND WATER TABLE:

3.2.3.1 THE CONTRACTOR'S ATTENTION IS DRAWN TO GROUNDWATER ELEVATIONS INDICATED OR DISCUSSED IN THE GEO-TECHNICAL REPORT. WELL-POINTS MAYBE NEEDED TO TAKE THE GROUND WATER LEVEL IS MAINTAINED AT LEAST 500 MM BELOW THE BOTTOM OF FOOTINGS DURING COMPACTION AND CONSTRUCTION.

3.2.4 THE SIDES OF FOOTINGS SHALL BE FORMED, EXCAVATED SOILS TO FORM THE SIDES OF FOOTINGS ARE NOT ACCEPTABLE.

3.2.5 TOP OF FOOTING ELEVATION SHALL BE AS SHOWN ON THE FOUNDATION PLAN OR DETAILS. THESE ELEVATIONS ARE A MAXIMUM AND SHALL BE LOWERED AS REQUIRED TO OBTAIN THE REQUIRED DESIGN BEARING PRESSURE.

3.2.6 NO UNBALANCED BACKFILLING SHALL BE DONE AGAINST FOUNDATION WALLS UNLESS WALLS ARE SECURELY BRACED AGAINST OVERTURNING, EITHER BY TEMPORARY BRACING PERMANENT CONSTRUCTION.

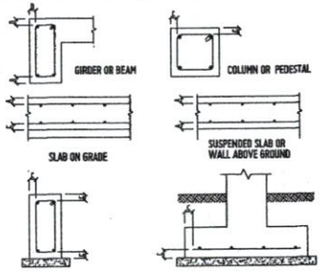
4. CONCRETE CONSTRUCTION

4.1 NO SPLICES SHALL BE PERMITTED IN FLEXURAL MEMBER REINFORCEMENT AT POINTS WHERE CRITICAL BENDING STRESSES OCCURS.

4.2 WHEN A BEAM CROSSES A GIRDER, REST BEAM BARS ON TOP OF GIRDER BARS.

4.3 IF SLABS ARE REINFORCED BOTH WAYS (TWO-WAY SPANNING SLABS), THE BARS ALONG THE SHORT SPAN SHALL BE AT THE LOWER LAYER FOR BOTTOM BARS, AND UPPER LAYER FOR TOP BARS.

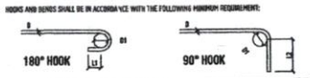
4.4 UNLESS OTHERWISE NOTED, THE FOLLOWING CLEAR CONCRETE COVER OF REINFORCING STEEL SHALL BE IN ACCORDANCE WITH ACI 318-14, CLEAR COVER REQUIREMENTS AND USED AS FOLLOWS:



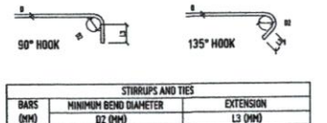
CAST-IN-PLACE CONCRETE		
CLEAR COVER	EXPOSED TO WEATHER OR EARTH	NOT EXPOSED TO WEATHER OR EARTH
A	50	25
B	50	40
C	75	50

PRECAST CONCRETE			
CLEAR COVER	EXPOSED TO EARTH	EXPOSED TO WEATHER	NOT EXPOSED TO WEATHER OR EARTH
WALL PANELS	75	30	20
OTHERS	75	50	30

4.5 HOOKS AND BENDS SHALL BE IN ACCORDANCE WITH THE FOLLOWING MINIMUM REQUIREMENT:

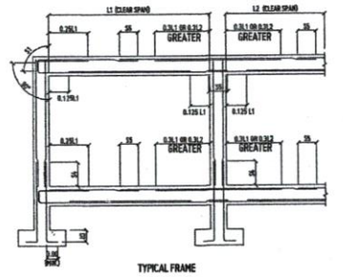


MAIN REINFORCEMENT			
BARS (MM)	MINIMUM BEND DIAMETER	EXTENSION	
	D1 (MM)	L1 (MM)	L2 (MM)
#8	50	60	95
#10	60	60	125
#12	70	60	145
#14	85	60	170
#16	95	65	190
#18	110	70	215
#20	190	80	240
#22	130	90	265
#25	150	100	300
#28	225	110	335



STIRRUPS AND TIES		
BARS (MM)	MINIMUM BEND DIAMETER	EXTENSION
	D2 (MM)	L3 (MM)
#8	38	50
#10	40	60
#12	50	70
#14	55	85
#16	65	95

4.6 UNLESS OTHERWISE INDICATED, THE FOLLOWING MINIMUM DEVELOPMENT AND LAP LENGTH SHALL BE USED:



TYPICAL FRAME

BARS (MM)	MIN. DEVELOPMENT LENGTH			MIN. LAP LENGTH	
	IN TENSION		IN COMPRESSION	IN TENSION	IN COMPRESSION
	S1 (MM)	S2 (MM)	S3 (MM)	S4 (MM)	S5 (MM)
#8	420	325	200	420	300
#10	525	405	210	525	300
#12	630	485	250	630	355
#14	735	565	295	735	410
#16	840	645	335	840	470
#18	945	725	380	945	530
#20	1050	805	420	1050	590
#22	1440	1110	460	1440	650
#25	1640	1260	525	1640	735
#28	1833	1410	590	1833	825
#30	1965	1510	630	1965	880
#32	2095	1615	670	2095	940

NOTES:

A. THE INDICATED MINIMUM DEVELOPMENT AND LAP LENGTH IS FOR CLASS 25 CONCRETE. FOR f'c OTHER THAN 25 MPa, THE VALUES OF S1, S2, S3, AND S4 SHALL BE MULTIPLIED BY $\sqrt{25/f'c}$.

B. WHEN LIGHTWEIGHT AGGREGATE CONCRETE IS USED, INDICATED VALUE OF S1 AND S2 SHALL BE MULTIPLIED BY 1.3, HOWEVER WHEN THE AVERAGE SPLITTING TENSILE STRENTH OF LIGHTWEIGHT AGGREGATE CONCRETE (fct) IS SPECIFIED, S1 AND S2 SHALL BE PERMITTED TO BE MULTIPLIED BY $\sqrt{fct/6.7}$ BUT NOT LESS THAN 1.0.

C. FOR EPOXY COATED BARS, S1 AND S2 SHALL BE MULTIPLIED BY 1.3.

D. LAP AND DEVELOPMENT LENGTH OF INDIVIDUAL BARS WITHIN A BUNDLE, SHALL BE THAT FOR INDIVIDUAL BAR INCREASED BY 20% FOR THREE BAR BUNDLE, 33% FOR FOUR BAR BUNDLE.

5. MASONRY

5.1 MASONRY UNITS SHALL CONFORM TO THE REQUIREMENTS OF ACI 530/ASCE 5.

5.2 MASONRY EXPANSION AND CONTROL JOINT REQUIREMENTS SHALL BE AS INDICATED.

5.3 UNLESS OTHERWISE INDICATED, ALL WALLS SHALL BE LAID IN RUNNING BOND.

5.4 REINFORCING BARS SHALL BE PROVIDED OF THE GIVEN SIZE AND SPACING AS INDICATED, PROVIDE BARS AT ALL WALL CORNERS, INTERSECTIONS AND OPENING EDGES.

5.5 REBAR DOWELS SHALL BE PROVIDED FROM FOUNDATIONS TO MATCH VERTICAL BARS.

5.6 LINTEL BEAM SHALL BE PROVIDED ABOVE ALL WALL OPENINGS.

6. STEEL

6.1 ALL STRUCTURAL STEEL SHALL CONFORM TO THE REQUIREMENTS OF AISC 360-16.

7. NOTES FOR DRAWING NOMENCLATURES

7.1 ALL DIMENSIONS ARE IN MILLIMETERS AND ELEVATIONS ARE IN METERS UNLESS OTHERWISE NOTED.

7.2 INDICATED DIMENSION SHALL PREVAIL AGAINST SCALED DIMENSION.

7.3 THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND SITE CONDITIONS, SHALL NOTIFY IPFOD OF ANY DISCREPANCY.

7.4 ALL REINFORCING BARS SHALL BE READ AS FOLLOWS:

BAR DIAMETER — BAR MARK — LAYER OR LOCATION
94 - #20 - MX8 - 200 - TOP
QUANTITY — SPACING OF BARS

8. ABBREVIATIONS

ACI	-	AMERICAN CONCRETE INSTITUTE
ADDTL	-	ADDITIONAL
AP	-	ALTERNATELY PLACED
AR	-	ALTERNATELY REVERSED
AS	-	ALTERNATELY STAGGERED
ASTM	-	AMERICAN SOCIETY FOR TESTING MATERIALS
AWS	-	AMERICAN WELDING SOCIETY
B	-	BOTTOM
BF	-	BACK FACE
BW	-	BOTHWAYS
CL	-	CENTER LINE
CLR	-	CLEAR
CMU	-	CONCRETE MASONRY UNIT
CONC	-	CONCRETE
CONT	-	CONTINUOUS
DIA.	-	DIAMETER
DISCONT	-	DISCONTINUOUS
DTL	-	DETAIL
DWG	-	DRAWING
EF	-	EACH FACE
EL	-	EXISTING LEVEL
ELEV	-	ELEVATION
EQ	-	EQUAL
EW	-	EACH WAY
EXT	-	EXTERIOR
FF	-	FRONT FACE
FIN	-	FINISH
GLS	-	GUIDELINE SPECIFICATION
HOR	-	HORIZONTAL
INT	-	INTERIOR
LGTH	-	LENGTH
MIN	-	MINIMUM
NTS	-	NOT TO SCALE
OC	-	ON CENTER
REBAR	-	REINFORCING BAR
REINF	-	REINFORCED, REINFORCEMENT OR REINFORCING
SEC	-	SECTION
SP	-	SPACING
STIRR	-	STIRRUPS
SYMM	-	SYMMETRICAL
T	-	TOP
THK	-	THICK
TYP	-	TYPICAL
UNO	-	UNLESS OTHERWISE NOTED
VERT	-	VERTICAL
WWF	-	WELDED WIRE FABRIC

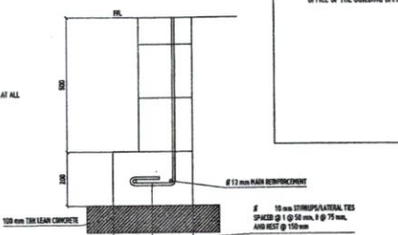
9. WATER PROOFING

9.1 ALL STRUCTURAL CONCRETE IN CONTACT WITH THE GROUND SHALL BE PROTECTED EITHER BY TWO COATS OF BITUMINOUS DAMPROOFING OR BY USE OF WATER PROOF MEMBRANE, AS DEEM SHOWN ON THE DETAILED DRAWING.

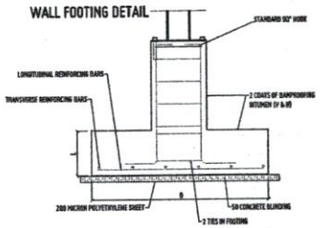
POLYETHYLENE SHEET OF 200 MICRON TO BE USED AS VAPOUR BARRIER UNDER MOD SLAB.

WATER PROOFING TO BE APPLIED ON TO TOP OF MOD CONCRETE AND ABOVE.

WHEN USING WATER PROOF MEMBRANE, IT SHOULD BE AS PER BC GUIDE SPECI. 07110 (TANKING SYSTEM) ROYAL COMMISSION GUIDELINE SPECIFICATION 07130.



WALL FOOTING DETAIL



PEDESTAL FOOTING DETAIL (TYPICAL)

ANCHOR BOLT DETAIL

SLAB ON GRADE DETAIL

NOTE: CHECK SCHEDULE FOR SLAB DIMENSIONS AND REINFORCING BAR SPACING.

SUSPENDED SLAB DETAIL

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		LOCATION	CLARO M. RECTO AVENUE, LAPASAN, CAGAYAN DE ORO CITY 9000					
		OWNER	UNIVERSITY OF SCIENCE AND TECHNOLOGY OF SOUTHERN PHILIPPINES					

S4

GENERAL NOTES :

1. MOTORS, GENERATORS AND OTHER ELECTRICAL EQUIPMENT SHALL BE PROVIDED WITH NON-COMBUSTIBLE SPLASH PROOF SHIELDS OR HOODS.
2. SPRINKLER HEADS SPACED LESS THAN 1.80 M. (6.FT.) SHALL BE PROVIDED WITH BAFFLES OR DEFLECTORS.
3. FLOOR DRAINS FOR OIL SPILLS SHALL BE PROVIDED IN FLOOR SLAB FOR TRANSFORMER VAULT, BY PLUMBING CONTRACTOR.
4. ALL PORTABLE FIRE EXTINGUISHER (PFE) INSIDE FIRE HOSE CABINETS SHALL BE "ABC" TYPE DRY CHEMICAL.
5. ALL ELECTRICAL, MECHANICAL, AND BMHMS TO BE BE PROVIDED WITH 10 LBS. FE-36 TYPE/PACKAGE FIRE EXTINGUISHER.
6. TRANSFORMER VAULT SHALL BE PROVIDED WITH 1-50 LBS. WHEELED TYPE FE-36 PORTABLE FIRE EXTINGUISHER.
7. ALL WIRE FOR LOAD SIDE SHALL BE BY FIRE PROTECTION CONTRACTOR SCOPE OF WORK.
8. PUMP CONCRETE PUMP SHALL BE BY OTHERS SCOPE.
9. PROVIDE FIRE SEALANT TO ALL PIPE PENETRATIONS THRU WALLS AND FLOOR LEVELS.
10. ALL SPRINKLERS AT AREAS WITH CEILING SHALL BE PENDENT TYPE. ALL SPRINKLERS AT AREAS WITHOUT CEILING SHALL BE UPRIGHT TYPE.
11. MINIMUM SPACING BETWEEN SPRINKLER HEAD AND LIGHTING FIXTURE SHALL BE 300mm.
12. ALL PIPES PASSING THRU BEAMS/GIRDERS SHALL BE PROVIDED WITH PIPE SLEEVE ONE (1) SIZE HIGHER.
13.
12. FIRE AND JOCKEY PUMP SHALL HAVE SEPARATE SENSING LINE. MATERIAL SHALL BE STAINLESS STEEL.

MATERIAL SPECIFICATIONS :

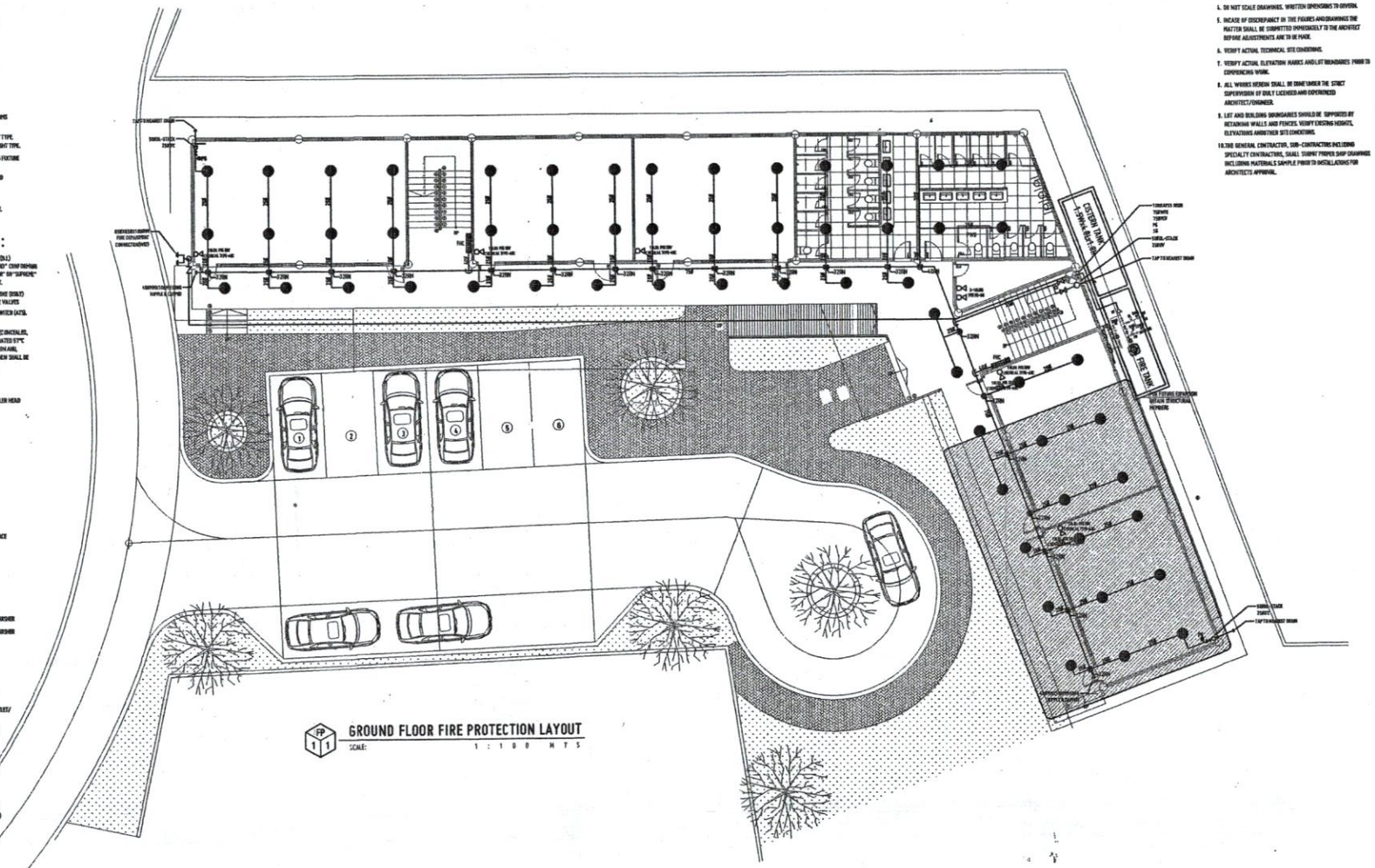
FIRE LINES	FIRE LINES SHALL BE BLACK IRON (BI.) PIPES SCHEDULE 80/40 "STANDARD" CONFORMING TO ASTM A-120-1989 "SUPERIOR" OR "SUPREME" BRAND OR APPROVED EQUIVALENT.
GATE VALVES	SHALL BE OUTSIDE SCREW AND YOKE (OS&Y) TO ASTM B-62 CHECK AND GLOBE VALVES
FIRE PUMP SHALL BE PROVIDED WITH AUTOMATIC TRANSFER SWITCH (ATS).	
SPRINKLER HEADS	ALL SPRINKLER HEADS, PENDENT (CONCEALED), (UPRIGHT & SIDEWALL) SHALL BE RATED 57°C (135°F) TO 74°C (165°F) EXCEPT IN AHU, PUMP, MECHANICAL ROOM & KITCHEN SHALL BE 79°C (175°F) TO 100°C (212°F).

LEGEND :

- RECESSED PENDENT TYPE SPRINKLER HEAD
- UPRIGHT SPRINKLER HEAD
- SIDEWALL SPRINKLER HEAD
- SPRINKLER RISER
- DRY STANDPIPE RISER
- OIL SEACE
- CROSSMAIN OR FEEDMAIN LINE
- (DSP/AFSS) FIRE DEPARTMENT CONNECTION SUPPLY LINE
- FLUSHING CONNECTION
- BRANCH LINE
- RISER NIPPLE
- 3-WAY LONGITUDINAL SWAY BRACE
- 2-WAY LATERAL SWAY BRACE
- 4-WAY RISER SWAY BRACE
- FIRE HOSE VALVE
- HANGER
- FIRE HOSE CABINET
- PIPE SLEEVES
- (10 LBS.) PORTABLE FIRE EXTINGUISHER
- (50 LBS.) PORTABLE FIRE EXTINGUISHER WHEELED TYPE
- DRAIN LINE
- INSPECTOR TEST CONNECTION
- DRAIN VALVE
- 2-WAY DSP & AFSS/FIRE DEPT. CONNECTION INLET
- 2-WAY SIAMESE TWIN ROOF INLETS/ ROOF MANIFOLD
- ALARM CHECK VALVE ASSEMBLY
- PRESSURE GAUGE

ABBREVIATION:

DSP	DRY STAND PIPE
AFSS	AUTOMATIC FIRE SPRINKLER SYSTEM
(OS & Y)OV	GATE VALVE(OUTSIDE SCREW & YOKE)
GV	GATE VALVE
DV	DRAIN VALVE
CV	CHECK VALVE
FCV	FLOOR CONTROL VALVE
FH	FIRE HYDRANT
FL	FIRE LINE
FIC	INSPECTOR TEST CONNECTION
PFE	PORTABLE FIRE EXTINGUISHER
FHV	FIRE HOSE VALVE
ACV	ALARM CHECK VALVE
DL	DRAIN LINE
FHC	FIRE HOSE CABINET
WFS	WATER FLOW SWITCH
PG	PRESSURE GAUGE



FP 1 1 GROUND FLOOR FIRE PROTECTION LAYOUT

SCALE: 1 : 1 0 0 M T S

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 UNDERTAKEN THE STRICT SUPERVISION OF DULY LICENSED AND EXPERIENCED ARCHITECT/ENGINEER.
9. LOT AND BUILDING DIMENSIONS 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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10 lbs. (45kgs) PFE FE-36
FP 2 1 PORTABLE FIRE EXTINGUISHER
NOT DRAWN TO SCALE

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CLARO M. RECTO AVENUE, LAPASAN, CAGAYAN DE ORO CITY 9000
TELEPHONE # (088)22 72-60-65 / (088) 858-1738 / 858-1739 | TELE FAX (088) 856-4698
WEBSITE: www.ustp.edu.ph

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PROJECT	COMPLETION OF SPORTS COMPLEX AND RESIDENCES (PHASE 1C)
LOCATION	CLARO M. RECTO AVENUE, LAPASAN, CAGAYAN DE ORO CITY 9000
OWNER	UNIVERSITY OF SCIENCE AND TECHNOLOGY OF SOUTHERN PHILIPPINES

RECOMMENDING APPROVAL:	RECOMMENDING APPROVAL:	APPROVED BY:	SHEET CONTENTS:	DRAWN BY:
AR. FERDINAND A. DUMPA	ATTY. ERWIN B. BUCIO	DR. AMBROSIO B. CULTURA II		DATE DRAWN:
DIRECTOR, INFRASTRUCTURE PLANNING & FACILITY DEVELOPMENT OFFICE	VP FOR ADMINISTRATION & LEGAL AFFAIRS	PRESIDENT, USTP SYSTEM		FNO:

FP1

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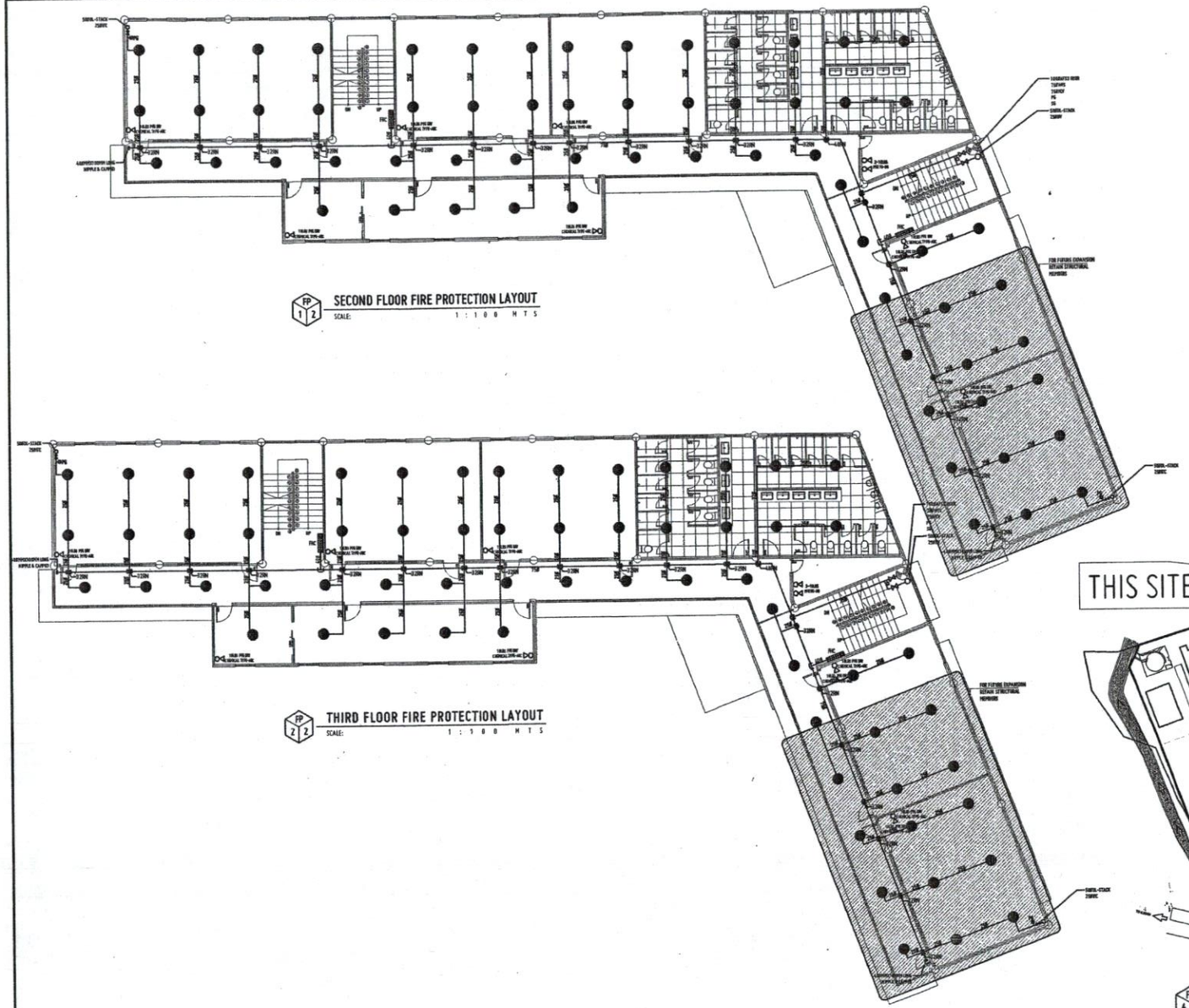
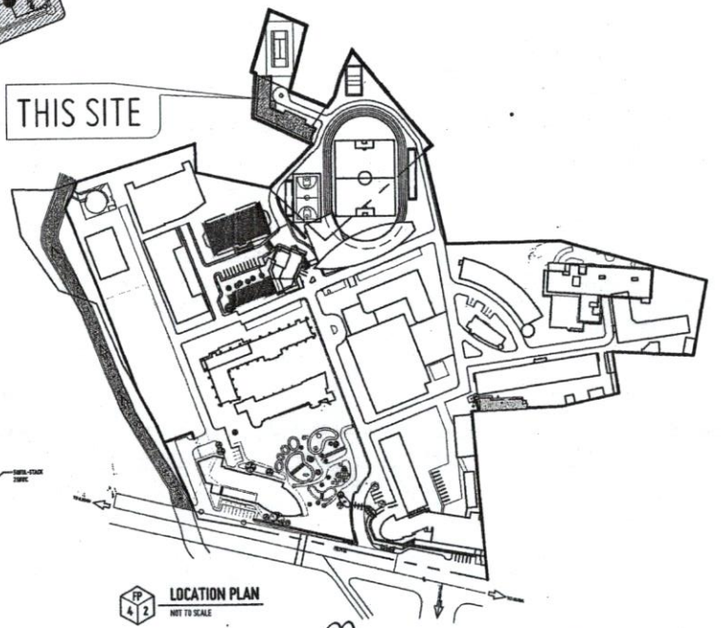


FP 1 2 SECOND FLOOR FIRE PROTECTION LAYOUT
SCALE: 1 : 100 MTS

FP 2 2 THIRD FLOOR FIRE PROTECTION LAYOUT
SCALE: 1 : 100 MTS



FP 4 2 LOCATION PLAN
NOT TO SCALE

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INFRASTRUCTURE PLANNING AND FACILITY DEVELOPMENT UNIT
CLARO M. RECTO AVENUE, LAPASAN, CAGAYAN DE ORO CITY 9000
TELEPHONE # (088)22 72-60-45 / (088) 858-1738 / 858-1739 | TELEFAX (088) 858-1690
WEBSITE: www.ustp.edu.ph

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DIRECTOR, INFRASTRUCTURE PLANNING & FACILITY DEVELOPMENT OFFICE	VP FOR ADMINISTRATION & LEGAL AFFAIRS	PRESIDENT, USTP SYSTEM		FNP:

FP2

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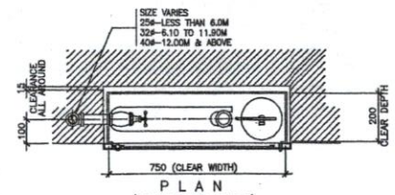
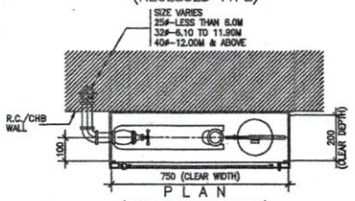
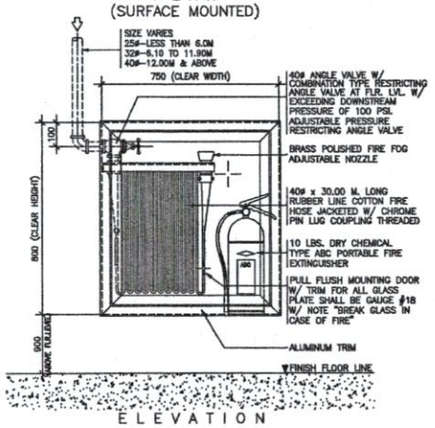


PLAN
(RECESSED TYPE)

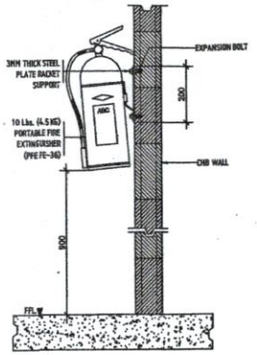


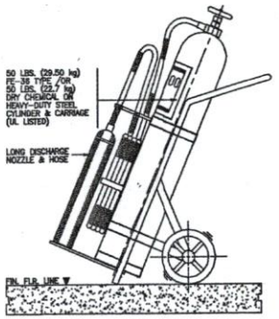
PLAN
(SURFACE MOUNTED)



ELEVATION

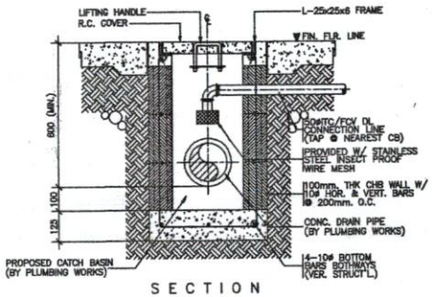
FP 1/3 FIRE HOSE CABINET DETAIL
NOT DRAWN TO SCALE





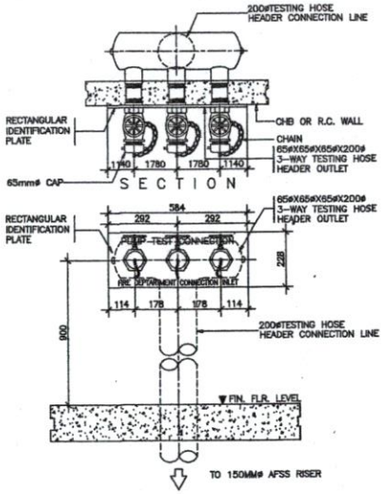
ELEVATION

FP 2/3 10 lbs. (45kgs) PFE FE-36 PORTABLE FIRE EXTINGUISHER
NOT DRAWN TO SCALE



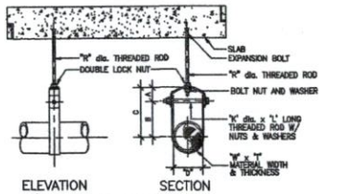
SECTION

FP 8/3 FTV/ITC DL CONNECTION TO CATCH BASIN
SCALE: 1:10 MTS



SECTION

PUMP TEST CONNECTION DETAIL
SCALE: 1:10 MTS

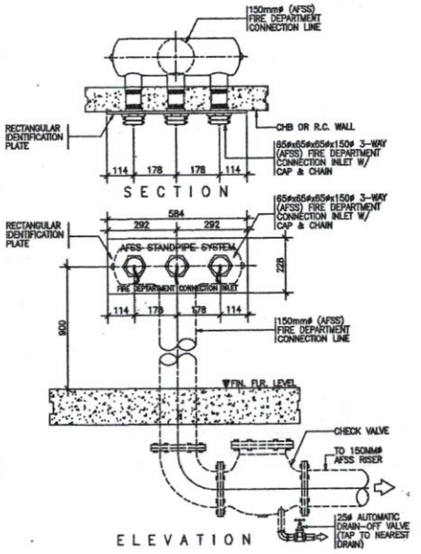


ELEVATION SECTION
CLEVIS HANGERS

TABLE OF DIMENSIONS IN MM

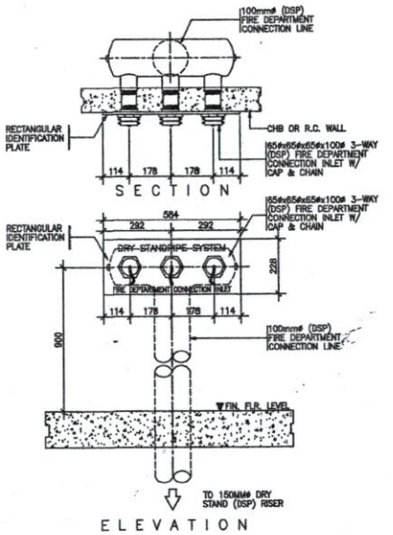
PIPE SIZE "D" (MM)	ROD DIA. "K" (MM)	B	C	A MAX.	W x T	K x L
50	9.85	111.12	143	69.30	25 x 3	M10 x 85
75	12.7	135.0	165.1	30.23	40 x 6	M12 x 115
100	15.9	133.35	40	33.27	40 x 6	M12 x 130
150	19.1	178.12.	287	50.00	40 x 6	M16 x 190

FP 4/3 PIPE HANGER DETAIL
NOT DRAWN TO SCALE



ELEVATION

FP 8/3 AFSS FIRE DEPT. INLET DETAIL
SCALE: 1:10 MTS



SECTION

ELEVATION

FP 7/3 DPSS FIRE DEPT. INLET DETAIL
SCALE: 1:10 MTS

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CLARO M. RECTO AVENUE, LAPASAN, CAGAYAN DE ORO CITY 9000
TELEPHONE # (088)22 72-60-65 / (088) 856-1739 / 856-1729 | TELE FAX (088) 856-4096
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RECOMMENDING APPROVAL: ATTY. ERWIN B. BUCIO — VP FOR ADMINISTRATION & LEGAL AFFAIRS

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

SHEET CONTENTS:

DRAWN BY:
DATE DRAWN:
FN#:

FP3

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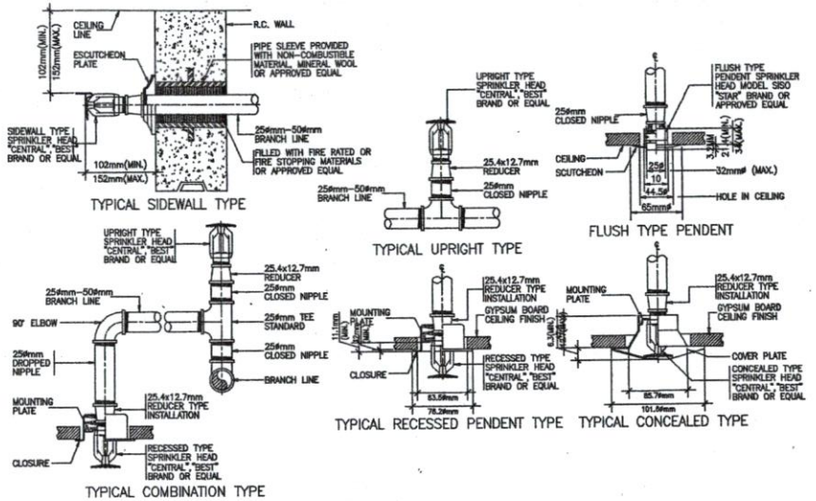
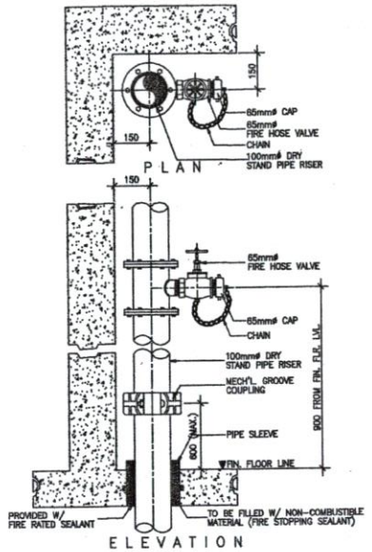
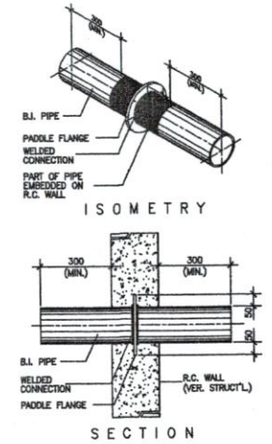


SPRINKLER HEADS DETAIL
SCALE: 1:3 MTS



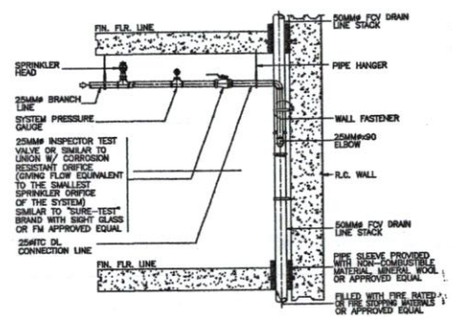
FIRE HOSE VALVE DETAIL
SCALE: 1:10 MTS



PADLE FLANGE DETAIL
SCALE: 1:10 MTS

EQUIPMENT	TYPE	CAPACITY, GPM	APPROX. TDH, psi	MOTOR (HP)	ELECTRICAL CHARACTERISTIC			REMARKS
					VOLTS	PHASE	HERTZ	
FIRE PUMP WITH CONTROLLER	TO BE SPECIFIED BY THE PROFESSIONAL MECHANICAL ENGINEER							
JOCKEY PUMP								

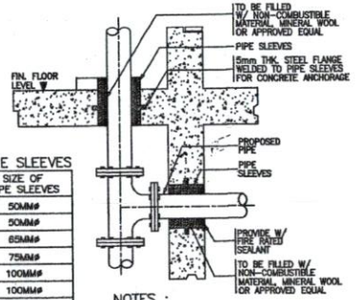
FIC EQUIPMENT SCHEDULE
NOT DRAWN TO SCALE



INSPECTOR TEST CONNECTION DETAIL
NOT DRAWN TO SCALE

SCHEDULE OF PIPE SLEEVES

SIZE OF BRANCHLINES	SIZE OF PIPE SLEEVES
25MM#	50MM#
32MM#	50MM#
40MM#	65MM#
50MM#	75MM#
65MM#	100MM#
75MM#	100MM#
100MM#	150MM#
150MM#	225MM#
200MM#	300MM#



NOTES :

SLEEVES SHALL BE PROVIDED AROUND ALL PIPING EXTENDING THROUGH WALLS, FLOORS, PLATFORMS AND FOUNDATIONS.

1. THE CLEARANCE BETWEEN THE PIPE SLEEVES SHALL BE FILLED W/NON-COMBUSTIBLE FLEXIBLE MATERIAL SUCH AS MINERAL WOOL, FIBERGLASS OR EQUIVALENT.
2. MINIMUM CLEARANCE BETWEEN PIPE AND SLEEVES SHALL NOT BE LESS THAN 25MM FOR PIPE 25MM THROUGH .75MM & 40MM FOR PIPE SIZE 100MM AND LARGER FLOOR SLEEVES SHALL BE EXTENDED AT LEAST 75MM ABOVE THE TOP OF THE WEARING SURFACE.

PIPE SLEEVE DETAIL
NOT DRAWN TO SCALE

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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
TELEPHONE # (088222) 72-50-65 / (088) 856-1738 / 856-1739 | TELE FAX (088) 856-4698
WEBSITE: www.ustp.edu.ph

PROFESSIONAL MECHANICAL ENGINEER	
PRC NO.	PTR NO.
	DATE
TIN	PLACE

PROJECT	COMPLETION OF SPORTS COMPLEX AND RESIDENCES (PHASE 1C)
LOCATION	CLARO M. RECTO AVENUE, LAPASAN, CAGAYAN DE ORO CITY 9000
OWNER	UNIVERSITY OF SCIENCE AND TECHNOLOGY OF SOUTHERN PHILIPPINES

RECOMMENDING APPROVAL:	RECOMMENDING APPROVAL:	APPROVED BY:	SHEET CONTENTS:	DRAWN BY:
AR. FERDINAND A. DUMPA	ATTY. ERWIN B. BUCIO	DR. AMBROSIO B. CULTURA II		DATE DRAWN:
DIRECTOR, INFRASTRUCTURE PLANNING AND FACILITY DEVELOPMENT UNIT	VP FOR ADMINISTRATION & LEGAL AFFAIRS	PRESIDENT, USTP SYSTEM		FN2:

FP4

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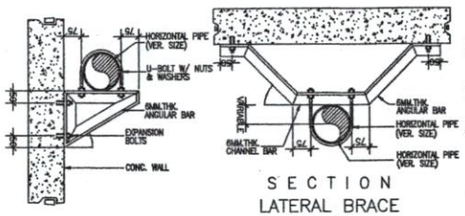
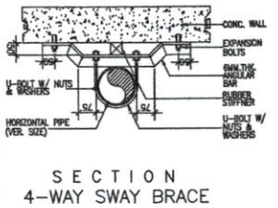
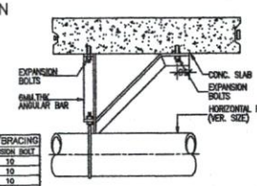


SECTION
LATERAL BRACE



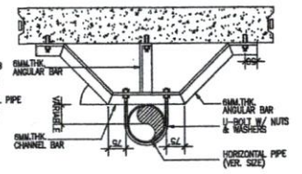
SECTION
4-WAY SWAY BRACE

ELEVATION
PIPE BRACKET



SCHEDULE OF PIPE BRACKET/BRACING			
PIPE SIZE	U-BOLT DIA.	ANGLE BAR	EXPANSION BOLT
50	10	50 X 50	10
65	10	50 X 50	10
75	10	50 X 50	10
100	12	65 X 65	12

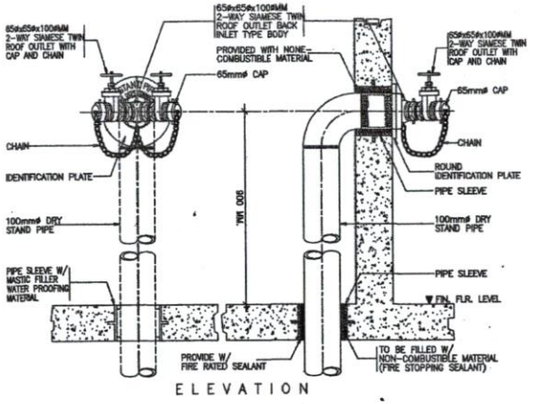
ELEVATION



SECTION

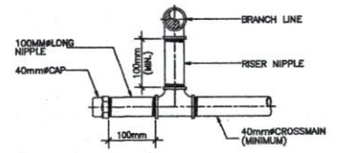
LONGITUDINAL BRACE

FP 1 S SWAY BRACING DETAIL
SCALE: 1:20 MTS

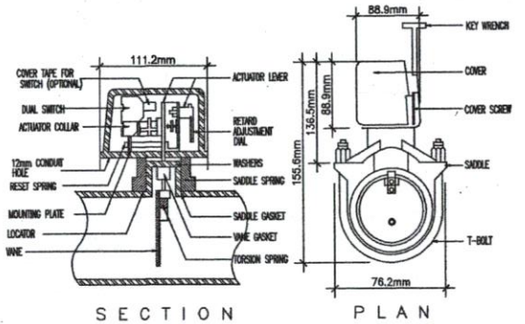


ELEVATION

FP 3 S SIAMESE TWIN ROOF OUTLET DETAIL
SCALE: 1:10 MTS

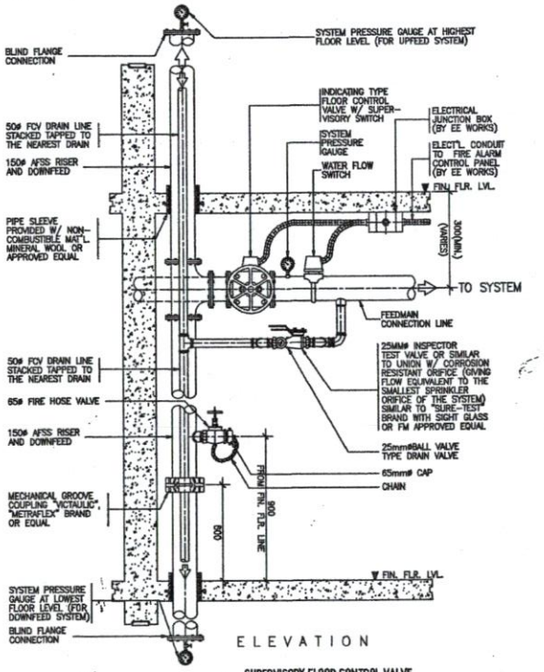


FP 2 S FLUSHING CONNECTION DETAIL
SCALE: 1:5 MTS



SECTION PLAN

FP 4 S WATER FLOW SWITCH DETAIL
SCALE 1:10 MTS



ELEVATION

FP 3 S SUPERVISORY FLOOR CONTROL VALVE ASSEMBLY & VALVE HOSE DETAIL
SCALE 1:10 MTS

REPUBLIC OF THE PHILIPPINES 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 TELEPHONE # (088)22 72-60-65 / (088) 858-1739 / 858-1739 | TELE FAX (088) 858-1898 WEBSITE: www.ustp.edu.ph	PROFESSIONAL MECHANICAL ENGINEER PRC NO. / PTR NO. DATE TIN / PLACE	PROJECT	COMPLETION OF SPORTS COMPLEX AND RESIDENCES (PHASE 1C)	RECOMMENDING APPROVAL: AR. FERDINAND A. DUMPA DIRECTOR, INFRASTRUCTURE PLANNING & FACILITY DEVELOPMENT OFFICE	RECOMMENDING APPROVAL: ATTY. ERWIN B. BUSIO VP FOR ADMINISTRATION & LEGAL AFFAIRS	APPROVED BY: DR. AMBROSIO B. CULTURA II PRESIDENT, USTP SYSTEM	SHEET CONTENTS:	DRAWN BY: DATE DRAWN: FNP:	FP5
		LOCATION	CLARO M. RECTO AVENUE, LAPASAN, CAGAYAN DE ORO CITY 9000						
		OWNER	UNIVERSITY OF SCIENCE AND TECHNOLOGY OF SOUTHERN PHILIPPINES						

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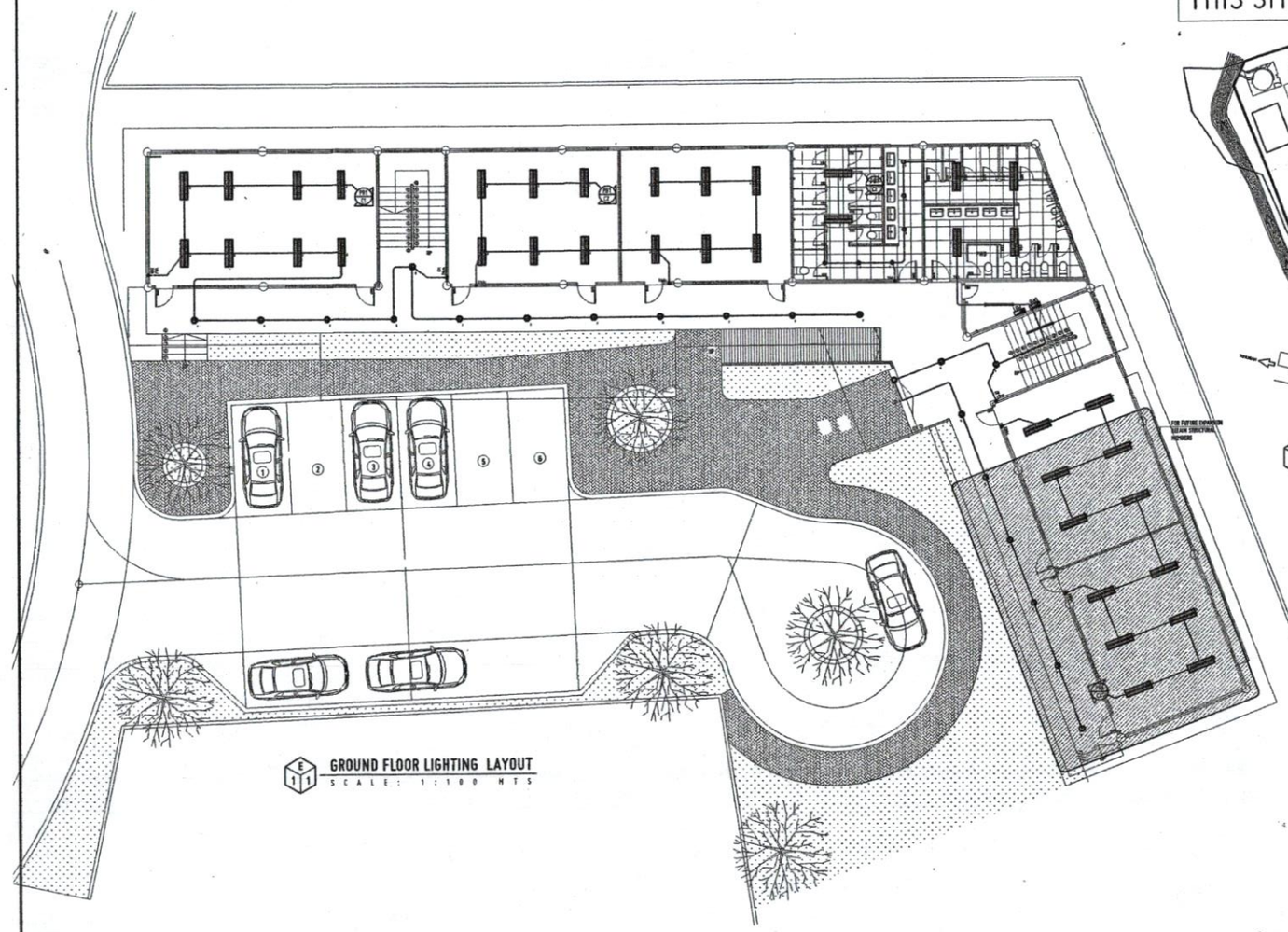
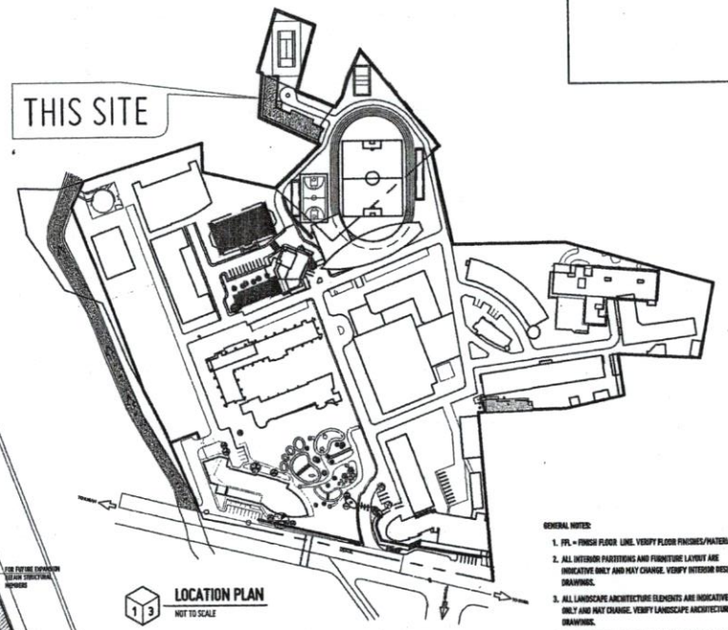


E 1.1 GROUND FLOOR LIGHTING LAYOUT
SCALE: 1:100 MTS



1 3 LOCATION PLAN
NOT TO SCALE

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 DRAWING 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.

LEGEND

	24 Watts LED Fluorescent light
	18 Watts LED Surface mounted Downlight
	18 Watts LED Recessed Downlight
	2x 24 Watts LED Surface mounted reflectorized light
	PANEL BOARD
S	Single Pole Toggle Switch, 15A, 300V, 2S, 3S, 4W. Indicates Wall Switches. Small Letter Subscript Indicates Lights or Devices Being Controlled. Combine Maximum of Three (3) Toggles on One Standard Device Plate For Switch Locations with More Than One (1) Toggle. One Switch Gang Plate.
2S/4	Same as Above Except 3 or 4-Way Switch
	Duplex Convenience Outlet, 1P, 250V, 15A Universal Slots Grounding Type.
WP/RWP	Duplex Convenience Outlet, 1P, 250V, 15A Universal Slots Grounding Type. For WP/RWP.
WP	Weatherproof Duplex Convenience Outlet, 1P, 250V, 15A Universal Slots Grounding Type. For WP/RWP
EL	Simplex Ceiling Convenience Outlet for Emergency light, 1P, 250V, 15A Universal Slots Grounding Type.
EL/LIGHT	Simplex Ceiling Convenience Outlet for Exit light, 1P, 250V, 15A Universal Slots Grounding Type.

USTIP	REPUBLIC OF THE PHILIPPINES 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 TELEPHONE # (088)22 72-60-65 / (088) 858-1739 / 856-1739 / TELE FAX (088) 856-4895 WEBSITE: www.ustp.edu.ph	PROFESSIONAL ELECTRICAL ENGINEER PRC NO.: PTR NO.: DATE TIN PLACE	PROJECT LOCATION OWNER	COMPLETION OF SPORTS COMPLEX AND RESIDENCES (PHASE 1C) CLARO M. RECTO AVENUE, LAPASAN, CAGAYAN DE ORO CITY 9000 UNIVERSITY OF SCIENCE AND TECHNOLOGY OF SOUTHERN PHILIPPINES	RECOMMENDING APPROVAL: AR. FERDINAND A. DUMPA DIRECTOR, INFRASTRUCTURE PLANNING & FACILITY 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:	DRAWN BY: DATE DRAWN: FNO:	E1

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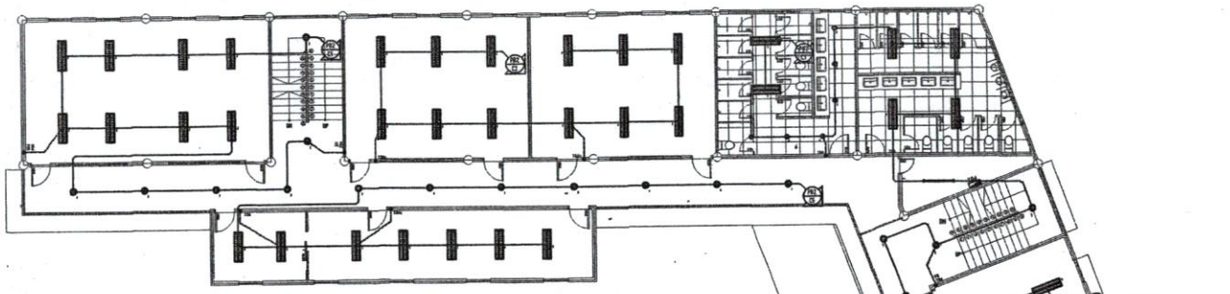
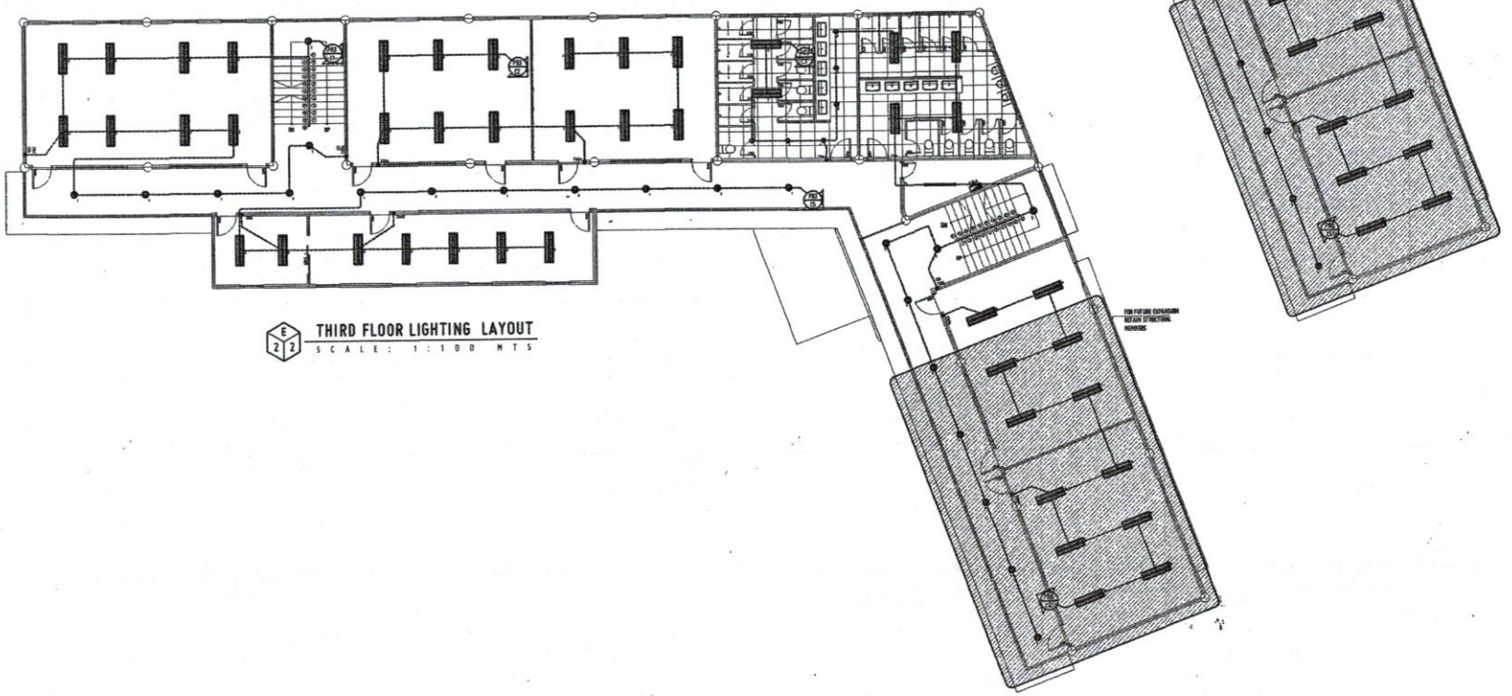


E 1 2 SECOND FLOOR LIGHTING LAYOUT
SCALE: 1:100 MTS



E 2 2 THIRD FLOOR LIGHTING LAYOUT
SCALE: 1:100 MTS

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 ONLY 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.

LEGEND

- 2x 14watts LED Fluorescent light
- 18 Watts LED Surface mounted Downlight
- 18 Watts LED Recessed Downlight
- 2x 24 Watts LED Surface mounted wrap-around light
- Panel Board
- S — Single Pole Toggle Switch, 15A, 300V, 2S, 3S, Etc. Indicator Lamp Switches, Small Letter Industrial Indicator Lights or Devices Being Controlled Combine Maximum of Three (3) Toggles on One Standard Device Plate For Switch Location with More Than Three (3) Toggle, Use Switch Bank Plate.
- S3/4 — Same as Above Except 3 or 4-Way Switch
- Duplex Convenience Outlet, 1P, 250V, 15A Universal Slots Grounding Type.
- RGF/VGF — Duplex Convenience Outlet, 1P, 250V, 15A Universal Slots Grounding Type, for RGF/VGF.
- WP — Weatherproof Duplex Convenience Outlet, 1P, 250V, 15A Universal Slots Grounding Type, for RGF/VGF.
- EL — Simplex Ceiling Convenience Outlet for Emergency light, 1P, 250V, 15A Universal Slots Grounding Type.
- EXIT — Simplex Ceiling Convenience Outlet for Exit light, 1P, 250V, 15A Universal Slots Grounding Type.

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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 # (088)22) 72-60-65 / (088) 856-1738 / 856-1738 | TELE FAX: (088) 856-4696
WEBSITE: www.ustp.edu.ph

PROFESSIONAL ELECTRICAL ENGINEER	
PRC No.	PTR No.
	DATE
TIN	PLACE

PROJECT	COMPLETION OF SPORTS COMPLEX AND RESIDENCES (PHASE 1C)
LOCATION	CLARO M. RECTO AVENUE, LAPASAN, CAGAYAN DE ORO CITY 9000
OWNER	UNIVERSITY OF SCIENCE AND TECHNOLOGY OF SOUTHERN PHILIPPINES

RECOMMENDING APPROVAL:
AR. FERDINAND A. DUMPA
DIRECTOR, INFRASTRUCTURE PLANNING & FACILITY DEVELOPMENT OFFICE

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

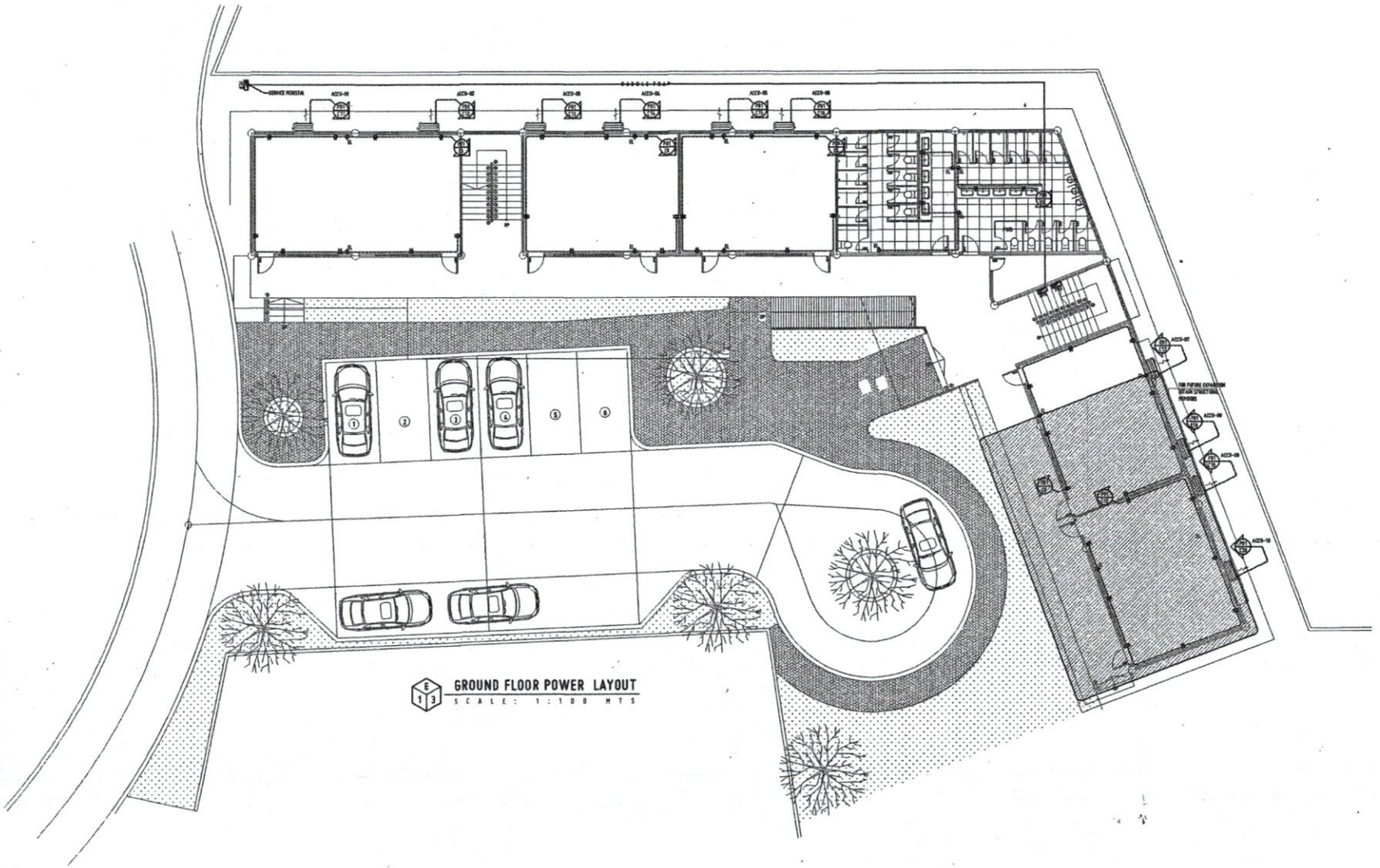
APPROVED BY:
DR. AMBROSIO B. CULTURA II
PRESIDENT, USTP SYSTEM

SHEET CONTENTS:

DRAWN BY:
DATE DRAWN:
FILE:

E2

REPUBLIC OF THE PHILIPPINES
OFFICE OF THE BUILDING OFFICIAL



E 1 3 GROUND FLOOR POWER LAYOUT
SCALE: 1:100 MTS

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.
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10. THE GENERAL CONTRACTOR, SUB-CONTRACTORS INCLUDING SPECIALTY CONTRACTORS, SHALL SUBMIT PROPER SHOP DRAWINGS INCLUDING MATERIALS SAMPLE PRIOR TO INSTALLATIONS FOR ARCHITECTS APPROVAL.

LEGEND

	2X 40Watts LED Fluorescent light
	18 Watts LED Surface mounted/Downlight
	18 Watts LED Recessed Downlight
	2x 2x 36Watts LED Surface mounted reflectorized light
	PANEL BOARD
S	Single Pole Toggle Switch, 15A, 300V. 2S, 3S, Etc. Indicates Gang Switches, Small Letter Subscript Indicates Lights or Devices Being Controlled Combine Maximum of Three (3) Toggles on One Standard Device Plate For Switch Location with More Than Nine (9) Toggle, Use Switch Gang Plate
2S/4	Same as Above Except 3 or 4-Way Switch
	Duplex Convenience Outlet, 1P, 250V, 15A Universal Slots Grounding Type
WP/WF	Duplex Convenience Outlet, 1P, 250V, 15A Universal Slots Grounding Type, For WP/WF
WP	Weatherproof Duplex Convenience Outlet, 1P, 250V, 15A Universal Slots Grounding Type, For WP/WF.
EL	Simplex Ceiling Convenience Outlet for Emergency light, 1P, 250V, 15A Universal Slots Grounding Type.
EXIT	Simplex Ceiling Convenience Outlet for Exit light, 1P, 250V, 15A Universal Slots Grounding Type.

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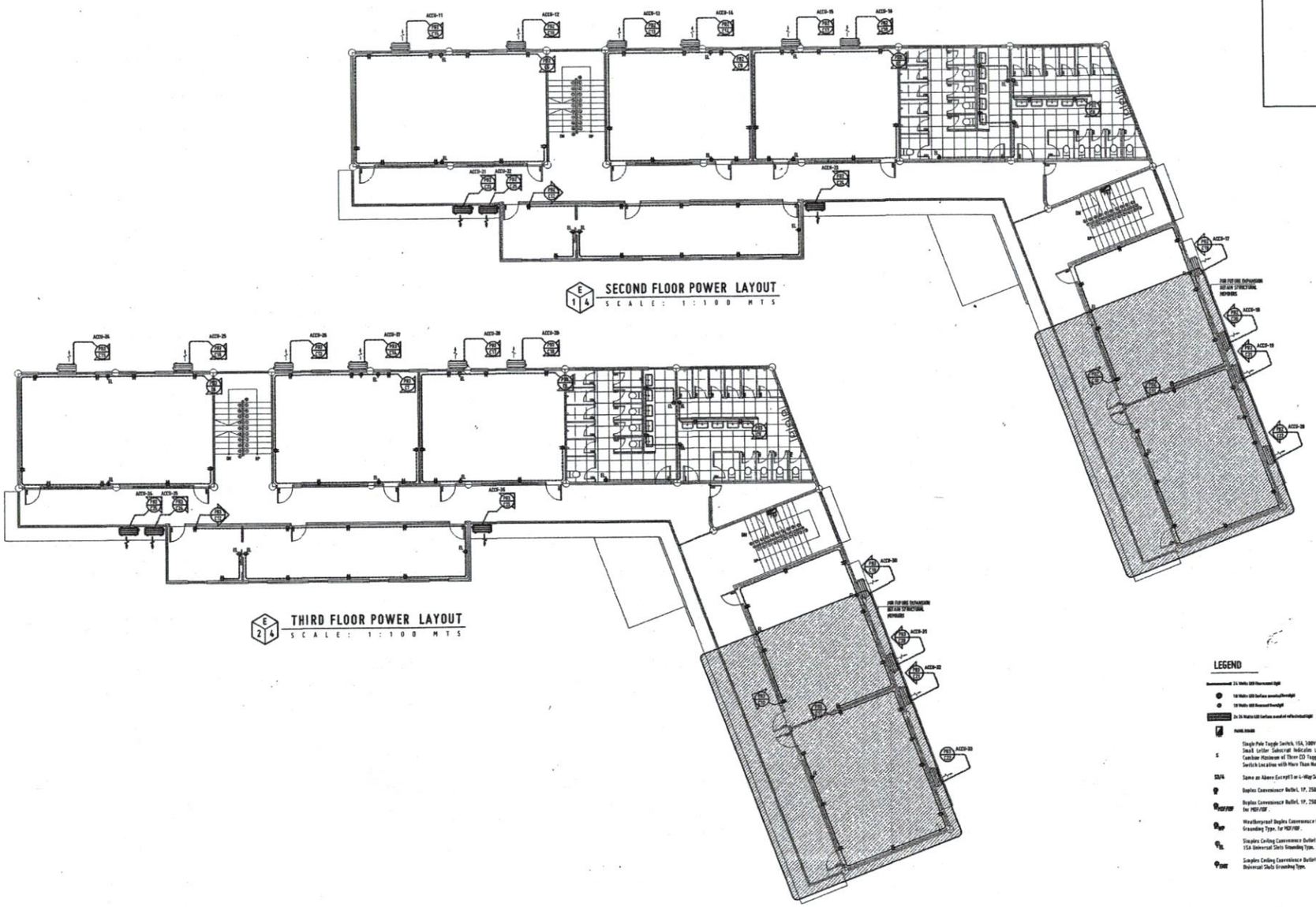
PROFESSIONAL ELECTRICAL ENGINEER	
PRC NO.	PTR NO.
	DATE
TIN	PLACE

PROJECT	COMPLETION OF SPORTS COMPLEX AND RESIDENCES (PHASE 1C)
LOCATION	CLARO M. RECTO AVENUE, LAPASAN, CAGAYAN DE ORO CITY 9000
OWNER	UNIVERSITY OF SCIENCE AND TECHNOLOGY OF SOUTHERN PHILIPPINES

RECOMMENDING APPROVAL:	RECOMMENDING APPROVAL:	APPROVED BY:	SHEET CONTENTS:	DRAWN BY:
AR. FERDINANDO L. DUMAY	ATTY. ERWIN B. BUCIO	DR. AMBROSIO B. CULTURA II		DATE DRAWN:
DIRECTOR, INFRASTRUCTURE PLANNING AND FACILITY DEVELOPMENT OFFICE	VP FOR ADMINISTRATION & LEGAL AFFAIRS	PRESIDENT, USTP SYSTEM		FKT:

E3

REPUBLIC OF THE PHILIPPINES
OFFICE OF THE BUILDING OFFICIAL



LEGEND

Single Pole Toggle Switch, 15A, 300V 2S, 3S, Etc. Indicate Gang Switches. Small Letter Subscript Indicates Lights or Devices Being Controlled Combine Maximum of Three CO Toggles on One Standard Device Plate. For Switch Locations with More Than Four (4) Toggle, Use Switch Book Plate.

S3/4 — Same as Above Except 3 or 4-Way Switch

Duplex Convenience Outlet, 1P, 250V, 15A Universal Slots Grounding Type

$_{MCF/FCF}$ — Duplex Convenience Outlet, 1P, 250V, 15A Universal Slots Grounding Type, for MCF/FCF.

$_{WP}$ — Weatherproof Duplex Convenience Outlet, 1P, 250V, 15A Universal Slots Grounding Type, for MCF/FCF.

$_{EL}$ — Simplex Ceiling Convenience Outlet for Emergency light, 1P, 250V, 15A Universal Slots Grounding Type.

$_{EXIT}$ — Simplex Ceiling Convenience Outlet for Exitlight, 1P, 250V, 15A Universal Slots Grounding Type.

REPUBLIC OF THE PHILIPPINES
UNIVERSITY OF SCIENCE AND TECHNOLOGY OF SOUTHERN PHILIPPINES
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TELEPHONE # (088)22) 72-60-85 / (088) 858-1738 / 858-1739 | TELE FAX (088) 858-4886
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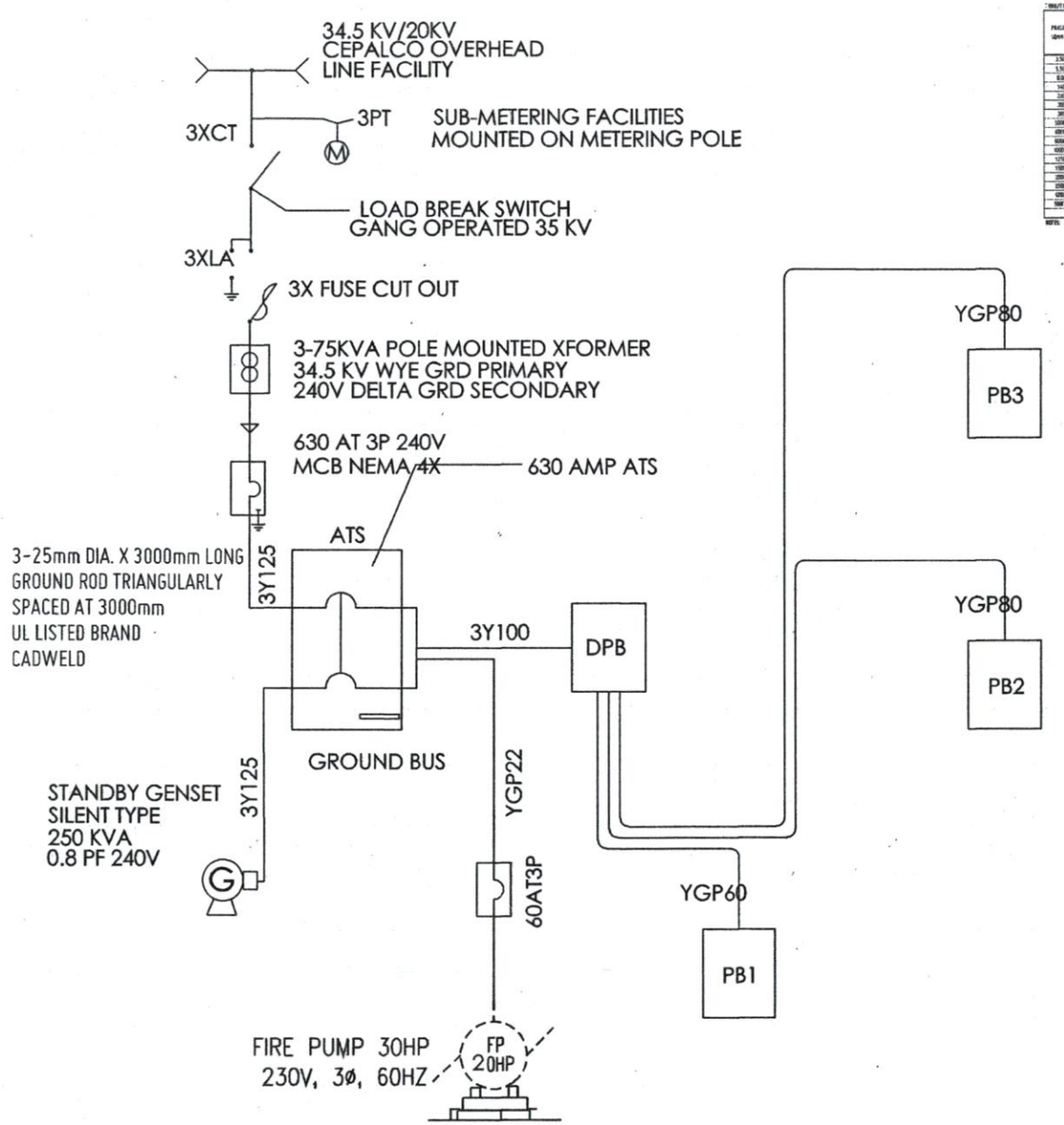
PROFESSIONAL ELECTRICAL ENGINEER	
PRC NO.	PTR NO.
	DATE
TIN	PLACE

PROJECT	COMPLETION OF SPORTS COMPLEX AND RESIDENCES (PHASE 1C)
LOCATION	CLARO M. RECTO AVENUE, LAPASAN, CAGAYAN DE ORO CITY 9000
OWNER	UNIVERSITY OF SCIENCE AND TECHNOLOGY OF SOUTHERN PHILIPPINES

RECOMMENDING APPROVAL:	RECOMMENDING APPROVAL:	APPROVED BY:	SHEET CONTENTS:	DRAWN BY:
AR. FERDINAND A. DOMPAS	ATTY. ERWIN B. BUCIO	DR. AMBROSIO B. CULTURA II		DATE DRAWN:
DIRECTOR, INFRASTRUCTURE PLANNING & FACILITIES DEVELOPMENT OFFICE	VP FOR ADMINISTRATION & LEGAL AFFAIRS	PRESIDENT, USTP SYSTEM		FWT:

E4



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* CIRCUIT BRAKER CODE AND CONDUIT SIZE

PHASE WIRE (Qty-Size-Jacket)	AMPS	GROUND WIRE (Qty-Size-Jacket)	2-WIRE + GROUND uPVC		3-WIRE + GROUND uPVC		4-WIRE + GROUND uPVC		2-WIRE + GROUND METAL		3-WIRE + GROUND METAL		4-WIRE + GROUND METAL	
			CODE	SIZE mm-ϕ	CODE	SIZE mm-ϕ	CODE	SIZE mm-ϕ	CODE	SIZE mm-ϕ	CODE	SIZE mm-ϕ	CODE	SIZE mm-ϕ
2.5W125	25	2.5W125	3GP2.5	20	3GP2.5	20	4VGP2.5	20	3GM2.5	15	4GM2.5	15	4VGM2.5	15
5.5W125	30	5.5W125	3GP5.5	20	3GP5.5	20	4VGP5.5	20	3GM5.5	15	4GM5.5	20	4VGM5.5	20
8.0W125	40	5.5W125	3GP8.0	25	3GP8.0	20	4VGP8.0	20	3GM8.0	20	4GM8.0	25	4VGM8.0	25
14.0W125	55	5.5W125	3GP14	32	3GP14	32	4VGP14	32	3GM14	25	4GM14	25	4VGM14	32
22.0W125	70	8.0W125	3GP22	32	3GP22	40	4VGP22	40	3GM22	25	4GM22	32	4VGM22	40
30.0W125	90	8.0W125	3GP30	40	3GP30	50	4VGP30	50	3GM30	32	4GM30	40	4VGM30	40
38.0W125	100/125	8.0W125	3GP38	40	3GP38	50	4VGP38	63	3GM38	32	4GM38	40	4VGM38	50
50.0W125	125	14.0W125	3GP50	50	3GP50	63	4VGP50	63	3GM50	40	4GM50	50	4VGM50	50
60.0W125	140	14.0W125	3GP60	50	3GP60	63	4VGP60	63	3GM60	40	4GM60	50	4VGM60	50
80.0W125	175	14.0W125	3GP80	50	3GP80	63	4VGP80	63	3GM80	40	4GM80	50	4VGM80	50
100.0W125	200	22.0W125	3GP100	63	3GP100	63	4VGP100	75	3GM100	50	4GM100	50	4VGM100	65
125.0W125	250	22.0W125	3GP125	63	3GP125	75	4VGP125	90	3GM125	50	4GM125	65	4VGM125	65
150.0W125	300	22.0W125	3GP150	63	3GP150	75	4VGP150	90	3GM150	50	4GM150	65	4VGM150	80
200.0W125	350	30.0W125	3GP200	75	3GP200	90	4VGP200	90	3GM200	65	4GM200	80	4VGM200	80
250.0W125	375	30.0W125	3GP250	90	3GP250	90	4VGP250	100	3GM250	80	4GM250	90	4VGM250	90
325.0W125	400	38.0W125	3GP400	100	3GP400	110	4VGP400	5"	3GM400	80	4GM400	90	4VGM400	100
500.0W125	450	38.0W125	3GP500	110	3GP500	5"	4VGP500	5"	3GM500	90	4GM500	100	4VGM500	-

NOTES:
- 3 - TWO WIRES & 1 GROUND WIRE
- 7 - THREE WIRES (THREE PHASE), THREE WIRE
- 8 - NEUTRAL WIRE, SAME SIZE AS PHASE WIRE OR AS NOTED IN THE PANEL SCHEDULE
- G - GROUND WIRE, REFER SEE TABLE FOR PARALLEL RUNS
- M - METAL CONDUIT, INC. RSC OR EMT
- P - uPVC CONDUIT

GENERAL NOTES:

1. ALL WORKS SHALL COMPLY WITH THE PROVISIONS OF THE LATEST EDITION OF THE PHILIPPINE ELECTRICAL CODE, THE RULES & REGULATIONS OF THE NATIONAL AND LOCAL AUTHORITY CONCERNED IN THE ENFORCEMENT OF ELECTRICAL LAWS AND ORDINANCES AND THE REGULATIONS OF THE UTILITY COMPANY CONCERNED.

2. POWER SERVICE TO THE BUILDING SHALL BE 230 VOLTS 3 PHASE 3 WIRE & GROUND.

4. SMALLEST CONDUCTOR FOR POWER AND LIGHTING SHALL BE 3.5mm2 THHN AND SMALLEST RACEWAY SHALL BE 15mm DIA. TRADE SIZE. CONDUCTOR SHALL BE TYPE THHN EXCEPT AS OTHERWISE REQUIRED BY THE DRAWING AND INSULATED FOR 600 VOLTS.

5. GROUNDING WIRE SHALL BE PROVIDED TO ALL EQUIPMENTS, OUTLETS AND LIGHTING CIRCUITS AND ALL NON-CURRENT CARRYING METAL PARTS.

6. MATERIALS AND EQUIPMENT TO BE USED SHALL BE NEW AND OF APPROVED TYPE.FOR BOTH LOCATION AND PURPOSE INTENDED, SUBMIT SAMPLES OF MATERIALS TO THE ARCHITECT/ DESIGN ENGINEER FOR APPROVAL PRIOR TO INSTALLATION.

7. NO BRANCH CKT. SHALL HAVE A LOAD OF MORE THAN 80% OF ITS RATING

8. CIRCUIT BREAKERS SHALL BE BOLT ON TYPE. USE ONLY ONE BRAND ALL THROUGHOUT.

9. MOUNTING HEIGHT SHALL BE AS FOLLOWS:
   a. LIGHT CONTROL SWITCH - 1.52 ABOVE FINISHED FLOOR
   b. CONVENIENCE OUTLET - 0.30 ABOVE FINISHED FLOOR
   c. SPECIAL PURPOSE OUTLET - 0.30 ABOVE FINISHED FLOOR OR AS REQUIRED BY THE ARCHITECT
   d. PANEL BOARDS, FIRE ALARM-PANE 1.80 FROM TOP OF PANEL TO FINISHED FLOOR

10. ALL WORKS SHALL BE COORDINATED WITH THE ARCHITECT AND OTHER TRADE DISCIPLINE PRIOR TO INSTALLATION.

11. CONTRACTOR SHALL SUBMIT AS-BUILT DRAWINGS SIGNED AND SEALED BY PROFESSIONAL ELECTRICAL ENGINEER.

12. CONTRACTOR TO PERFORM ALL TEST NECESSARY BUT NOT LIMITED TO THE FOLLOWING.
   a. CABLE INSULATION INTEGRITY TEST
   b. PHASE SEQUENCE TEST
   c. LOAD TEST
   d. COMPLETE TEST FOR TRANSFORMER

13. ALL WIRES SHALL BE COLOR CODED AS FOLLOWS:
   PHASE - A - BLACK GROUND - GREEN
   PHASE - B - RED PHASE - C - BLUE

14. NO CHANGE OR MODIFICATION SHALL BE MADE ON THESE PLANS WITHOUT THE ENGINEER'S/OWNER'S WRITTEN COMMENT.

15. ALL MOTORS AND AIR-CONDITIONING UNITS MUST HAVE INDIVIDUAL ENCLOSED CIRCUIT BREAKER

USTIP

REPUBLIC OF THE PHILIPPINES
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
TELEPHONE # (088222) 72-60-65 / (088) 856-1738 / 856-1739 | TELE FAX (088) 856-4696
WEBSITE: www.ustp.edu.ph

PROFESSIONAL ELECTRICAL ENGINEER
PRC NO. | PTR NO.
DATE
TIN | PLACE

PROJECT: COMPLETION OF SPORTS COMPLEX AND RESIDENCES (PHASE 1C)
LOCATION: CLARO M. RECTO AVENUE, LAPASAN, CAGAYAN DE ORO CITY 9000
OWNER: UNIVERSITY OF SCIENCE AND TECHNOLOGY OF SOUTHERN PHILIPPINES

RECOMMENDING APPROVAL:
AR. FERDINAND A. BUHIA
DIRECTOR, INFRASTRUCTURE PLANNING AND FACILITY 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:

DRAWN BY:
DATE DRAWN:
FILE:

E5

REPUBLIC OF THE PHILIPPINES
OFFICE OF THE BUILDING OFFICIAL

PROJECT: PROPOSED 3 STOREY SPORTS COMPLEX DORMITORY
ADDRESS: CM RECTO. AVENUE, LAPASAN, CAGAYAN DE ORO CITY

DATE: 07-Mar-22
FEEDER:

NO OF SETS	THHN/THWN N	Y	X	G	CONDUIT ϕ	TYPE
3		125		22	65	IMC

PANEL: MCB

LOCATION: SERVICE PEDESTAL
BRANCH KAIC: 42

VOLT: 220
PHASE: 3
MAINS: 3P 630 AT

AF	KAIC
630	42

CKT No.	CB POLES	CB TRIP	AF	LOAD DESCRIPTION	KW	ϕAB AMPS	ϕBC AMPS	ϕCA AMPS	3ϕ AMPS	NO. OF SETS	FEEDER/CIRCUIT WIRES (SQMM) THHN/THWN N	Y	X	G	CONDUIT ϕ	TYPE
1	3	600	630	DPB	183.66	251.45	259.73	255.45	39.41	3		100.0		22.0	Cable Ladder	
2	3	63	250	FIRE PUMP	20				52.55	1		22.0		8.0	40	PVC
				TOTAL	203.66	251.45	259.73	255.45	91.96							

DESIGN ANALYSIS

AVE P.F. 0.74	KW	DEMAND FACTOR	DEMAND KW	POWER FACTOR	DEMAND AMPS	% SPARE AMPS	TOTAL AMPERES
BIGGEST MOTOR	0	0	0	0	0	0	0
LIGHTS	34.10	0.70	23.87	1	62.72	25	78.40
C.O.	61.56	0.80	49.248	0.85	152.23	25	190.29
HEATING MACHINE	0.00	0	0	0	0	0	0
RANGE	0.00	0	0	0	0	0	0
CLOTHES DRYER	0.00	0	0	0	0	0	0
WASH MACHINE	0.00	0	0	0	0	0	0
AIRCON	73.00	0.70	51.10	0.85	157.95	25	197.44
MOTOR(CONT I)	10.00	1.00	10.00	0.85	30.91	25	38.64
MOTOR(NON-CONT I)	25.00	0.70	17.5	0.85	54.09	25	67.62
OTHERS 1	0.00	0	0	0	0	0	0
OTHERS 2	0.00	0	0	0	0	0	0
OTHERS 3	0.00	0	0	0	0	0	0
TOTAL	203.66	0.74	151.72		457.91		572.38

GENERATOR SIZING	
TOTAL AMPS	572.38
KVA	217.85

NOTE: GENSET AND TRANSFORMER REQUIREMENTS 250KVA, 3 PHASE, 60 HZ.

PROJECT: PROPOSED 3 STOREY SPORT COMPLEX DORMITORY
ADDRESS: CM RECTO. AVENUE, LAPASAN, CAGAYAN DE ORO CITY

DATE: 07-Mar-22
FEEDER:

NO OF SETS	THHN/THWN N	Y	X	G	CONDUIT ϕ	TYPE
3		100		22	Cable Ladder	

PANEL: DPB

LOCATION: GROUND FLOOR
BRANCH KAIC: 25

VOLT: 220
PHASE: 3
MAINS: 3P 600 AT

AF	KAIC
630	42

CKT No.	CB POLES	CB TRIP	AF	LOAD DESCRIPTION	KW	ϕAB AMPS	ϕBC AMPS	ϕCA AMPS	3ϕ AMPS	NO. OF SETS	FEEDER/CIRCUIT WIRES (SQMM) THHN/THWN N	Y	X	G	CONDUIT ϕ	TYPE
1	3	160	250	PB1 (GF LIGHTING, POWER AND ACU)	50.22	82.91	75.00	70.36	0.00	1		60		14	63	PVC
2	3	200	250	PB2 (2F LIGHTING, POWER AND ACU)	59.22	84.27	92.36	92.55	0.00	1		80		14	63	PVC
3	3	200	250	PB3 (3F LIGHTING, POWER AND ACU)	59.22	84.27	92.36	92.55	0.00	1		80		14	63	PVC
4	3	63	250	PLUMBING PUMP	5				13.14	1		8		5.5	32	PVC
5	3	63	250	PLUMBING PUMP	5				13.14	1		8		5.5	32	PVC
6	3	63	250	JOCKEY PUMP	5				13.14	1		8		5.5	32	PVC
7	3		250	SPACE												
8	3		250	SPACE												
				TOTAL	183.66	251.45	259.73	255.45	39.41							

DESIGN ANALYSIS

AVE P.F. 0.77	KW	DEMAND FACTOR	DEMAND KW	POWER FACTOR	DEMAND AMPS	% SPARE AMPS	TOTAL AMPERES
BIGGEST MOTOR	0	0	0	0	0	0	0
LIGHTS	34.10	0.80	27.28	1	71.68	25	89.60
C.O.	61.56	0.80	49.25	0.85	152.23	25	190.29
HEATING MACHINE	0	0	0	0	0	0	0
RANGE	0	0	0	0	0	0	0
CLOTHES DRYER	0	0	0	0	0	0	0
WASH MACHINE	0	0	0	0	0	0	0
AIRCON	73.00	0.70	51.10	0.85	157.95	25	197.44
MOTOR(CONT I)	10.00	1.00	10.00	0.85	30.91	25	38.64
MOTOR(NON-CONT I)	5.00	0.70	3.50	0.85	10.82	25	13.52
OTHERS 1	0	0	0	0	0	0	0
OTHERS 2	0	0	0	0	0	0	0
OTHERS 3	0	0	0	0	0	0	0
TOTAL	183.66	0.77	141.13		423.59		529.49

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CLARO M. RECTO AVENUE, LAPASAN, CAGAYAN DE ORO CITY 9000
TELEPHONE # (088822) 72-60-05 / (088) 858-1738 / 858-1736 | TELE FAX (088) 858-1696
WEBSITE: www.ustp.edu.ph

PROFESSIONAL ELECTRICAL ENGINEER
PRC NO. | PTR NO.
DATE
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PROJECT: COMPLETION OF SPORTS COMPLEX AND RESIDENCES (PHASE 1C)
LOCATION: CLARO M. RECTO AVENUE, LAPASAN, CAGAYAN DE ORO CITY 9000
OWNER: UNIVERSITY OF SCIENCE AND TECHNOLOGY OF SOUTHERN PHILIPPINES

RECOMMENDING APPROVAL: AR. FERDINAND A. DUMPA — DIRECTOR, INFRASTRUCTURE PLANNING AND FACILITY DEVELOPMENT OFFICE
RECOMMENDING APPROVAL: ATTY. ERWIN B. BUDIO — VP FOR ADMINISTRATION & LEGAL AFFAIRS
APPROVED BY: DR. AMBROSIO B. CULTURA II — PRESIDENT, USTP SYSTEM
SHEET CONTENTS:
DRAWN BY:
DATE DRAWN:
FNP:

E6

REPUBLIC OF THE PHILIPPINES
OFFICE OF THE BUILDING OFFICIAL

PROJECT: PROPOSED 3 STOREY SPORTS COMPLEX DORMITORY
ADDRESS: CM RECTO. AVENUE, LAPASAN, CAGAYAN DE ORO CITY

DATE: 07-Mar-22
FEEDER:

NO OF SETS	THHN/THWN N	Y	X	G	CONDUIT ϕ	TYPE
1		60		14	63	PVC

PANEL: PB1

LOCATION: GROUND FLOOR
BRANCH KAIC: 10

VOLT: 220
PHASE: 3
MAINS: 3P | 160 | AT | AF 250 | KAIC 25

CKT No.	CB POLES	CB TRIP	AF	LOAD DESCRIPTION	KW	ϕ AB AMPS	ϕBC AMPS	ϕCA AMPS	3ϕ AMPS	NO.OF SETS	FEEDER/CIRCUIT WIRES (SQMM) THHN/THWN N	Y	X	G	CONDUIT ϕ	TYPE
1	2	20	63	PB1-C1 LIGHTING OUTLET GF	2.8	12.73							3.5	3.5	20	PVC
				8- 2x 24 Watts LED Surface mounted reflectorized Light	1.6											
				12- 18 Watts LED Surface mounted Downlight	1.2											
2	2	20	63	PB1-C2 LIGHTING OUTLET GF	2.4	10.91							3.5	3.5	20	PVC
				12- 2x 24 Watts LED Surface mounted reflectorized Light	2.4											
3	2	20	63	PB1-C3 LIGHTING OUTLET GF	2.9		13.18						3.5	3.5	20	PVC
				6- 2x 24 Watts LED Surface mounted reflectorized Light	1.2											
				6- 18 Watts LED Recessed Downlight	0.6											
				9- 18 Watts LED Surface mounted Downlight	0.9											
				2- 24 Watts LED Fluorescent Light	0.2											
4	2	20	63	PB1-C4 LIGHTING OUTLET GF	2.4		10.91						3.5	3.5	20	PVC
				12- 2x 24 Watts LED Surface mounted reflectorized Light	2.4											
5	2	25	63	PB1-C5 CONVENIENCE OUTLET GF	3.6			16.36					3.5	3.5	20	PVC
				9- Duplex Universal Convenience Outlet	3.24											
				2- Simplex Universal Convenience Outlet	0.36											
6	2	25	63	PB1-C6 CONVENIENCE OUTLET GF	2.88			13.09					3.5	3.5	20	PVC
				7- Duplex Universal Convenience Outlet	2.52											
				2- Simplex Universal Convenience Outlet	0.36											
7	2	25	63	PB1-C7 CONVENIENCE OUTLET GF	2.88	13.09							3.5	3.5	20	PVC
				7- Duplex Universal Convenience Outlet -	2.52											
				2- Simplex Universal Convenience Outlet -	0.36											
8	2	25	63	PB1-C8 CONVENIENCE OUTLET GF	2.16	9.82							3.5	3.5	20	PVC
				4- Duplex Universal Convenience Outlet -	1.44											
				4- Simplex Universal Convenience Outlet -	0.72											
9	2	25	63	PB1-C9 CONVENIENCE OUTLET GF	3.6		16.36						3.5	3.5	20	PVC
				8- Duplex Universal Convenience Outlet -	2.88											
				2- Simplex Universal Convenience Outlet -	0.72											
10	2	25	63	PB1-C10 CONVENIENCE OUTLET GF	3.6		16.36						3.5	3.5	20	PVC
				8- Duplex Universal Convenience Outlet -	2.88											
				2- Simplex Universal Convenience Outlet -	0.72											
11	2	32	63	PB1-C11 ACCU-01	2.5			11.36					5.5	5.5	20	PVC
				1-2.5 HP Outdoor Air Cooled Condensing Unit	2.5											
12	2	32	63	PB1-C12 ACCU-02	2.5			11.36					3.5	3.5	20	PVC
				1-2.5 HP Outdoor Air Cooled Condensing Unit	2.5											
13	2	32	63	PB1-C13 ACCU-03	2	9.09							3.5	3.5	20	PVC
				1-2 HP Outdoor Air Cooled Condensing Unit	2											
14	2	32	63	PB1-C14 ACCU-04	2	9.09							3.5	3.5	20	PVC
				1-2 HP Outdoor Air Cooled Condensing Unit	2											
15	2	32	63	PB1-C15 ACCU-05	2		9.09						3.5	3.5	20	PVC
				1-2 HP Outdoor Air Cooled Condensing Unit	2											
16	2	32	63	PB1-C16 ACCU-06	2		9.09						3.5	3.5	20	PVC
				1-2 HP Outdoor Air Cooled Condensing Unit	2											
17	2	32	63	PB1-C17 ACCU-07	2			9.09					3.5	3.5	20	PVC
				1-2 HP Outdoor Air Cooled Condensing Unit	2											
18	2	32	63	PB1-C18 ACCU-08	2			9.09					3.5	3.5	20	PVC
				1-2 HP Outdoor Air Cooled Condensing Unit	2											
19	2	32	63	PB1-C19 ACCU-09	2	9.09							3.5	3.5	20	PVC
				1-2 HP Outdoor Air Cooled Condensing Unit	2											
20	2	32	63	PB1-C20 ACCU-10	2	9.09							3.5	3.5	20	PVC
				1-2 HP Outdoor Air Cooled Condensing Unit	2											
				TOTAL	50.22	82.91	75.00	70.38	0.00							

DESIGN ANALYSIS

AVE P.F. 0.80	KW	DEMAND FACTOR	DEMAND KW	POWER FACTOR	DEMAND AMPS	% SPARE AMPS	TOTAL AMPERES
BIGGEST MOTOR	0	0	0	0	0	0	0
LIGHTS	10.50	0.8	8.40	1	22.07	25.00	27.59
C.O.	18.72	0.8	14.98	0.85	46.29	25.00	57.87
WATER HEATER	0	0	0	0	0	0	0
RANGE	0	0	0	0	0	0	0
CLOTHES DRYER	0	0	0	0	0	0	0
WASH MACHINE	0	0	0	0	0	0	0
AIRCON	21	0.8	16.8	0.85	51.93	25.00	64.91
MOTOR(CONT)	0	0	0	0	0	0	0
MOTOR(NON-CONT)	0	0	0	0	0	0	0
OTHERS 1	0	0	0	0	0	0	0
OTHERS 2	0	0	0	0	0	0	0
OTHERS 3	0	0	0	0	0	0	0
TOTAL	50.22	0.80	40.18		120.29		150.37

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WEBSITE: www.ustp.edu.ph

PROFESSIONAL ELECTRICAL ENGINEER
PRC NO. | PTR NO.
DATE
TIN | PLACE

PROJECT: COMPLETION OF SPORTS COMPLEX AND RESIDENCES (PHASE 1C)
LOCATION: CLARO M. RECTO AVENUE, LAPASAN, CAGAYAN DE ORO CITY 9000
OWNER: UNIVERSITY OF SCIENCE AND TECHNOLOGY OF SOUTHERN PHILIPPINES

RECOMMENDING APPROVAL: AR. FERDINAND A. DUMPA — DIRECTOR, INFRASTRUCTURE PLANNING & FACILITY 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:
DRAWN BY:
DATE DRAWN:
FILE:

E7

REPUBLIC OF THE PHILIPPINES
OFFICE OF THE BUILDING OFFICIAL

PROJECT: PROPOSED 3 STOREY SPORTS COMPLEX DORMITORY
ADDRESS: CM RECTO. AVENUE, LAPASAN, CAGAYAN DE ORO CITY

DATE: 07-Mar-22
FEEDER:

NO OF SETS	THHN/THWN N	Y	X	G	CONDUIT ϕ	TYPE
1		80		14	63	PVC

PANEL: PB2

VOLT: 220
LOCATION: GROUND FLOOR — PHASE: 3
BRANCH KAIC: 12 — MAINS: 3P 200 AT

AF	KAIC
250	25

CKT No.	CB POLES	CB TRIP	AF	LOAD DESCRIPTION	KW	ϕ AB AMPS	ϕBC AMPS	ϕCA AMPS	3ϕ AMPS	NO.OF SETS	FEEDER/CIRCUIT WIRES (SQMM) THHN/THWN N	Y	X	G	CONDUIT ϕ	TYPE
1	2	20	63	PB2-C1 LIGHTING OUTLET 2F	2.1	9.55							3.5	3.5	20	PVC
				8- 2x 24 Watts LED Surface mounted reflectorized Light	1.6											
				5- 18 Watts LED Surface mounted Downlight	0.5											
2	2	20	63	PB2-C2 LIGHTING OUTLET 2F	2.4	10.91							3.5	3.5	20	PVC
				12- 2x 24 Watts LED Surface mounted reflectorized Light	2.4											
3	2	20	63	PB2-C3 LIGHTING OUTLET 2F	2.8		12.73						3.5	3.5	20	PVC
				6- 2x 24 Watts LED Surface mounted reflectorized Light	1.2											
				6- 18 Watts LED Recessed Downlight	0.6											
				9- 18 Watts LED Surface mounted Downlight	0.9											
				1- 24 Watts LED Fluorescent Light	0.1											
4	2	20	63	PB2-C4 LIGHTING OUTLET 2F	2.4		10.91						3.5	3.5	20	PVC
				12- 2x 24 Watts LED Surface mounted reflectorized Light	2.4											
5	2	20	63	PB2-C5 LIGHTING OUTLET 2F	2.1			9.55					3.5	3.5	20	PVC
				7- 2x 24 Watts LED Surface mounted reflectorized Light	1.4											
				7- 18 Watts LED Surface mounted Downlight	0.7											
6	2	25	63	PB2-C6 CONVENIENCE OUTLET 2F	3.6			16.36					3.5	3.5	20	PVC
				9- Duplex Universal Convenience Outlet	3.24											
				2- Simplex Universal Convenience Outlet	0.36											
7	2	25	63	PB2-C7 CONVENIENCE OUTLET 2F	2.88	13.09							3.5	3.5	20	PVC
				7- Duplex Universal Convenience Outlet	2.52											
				2- Simplex Universal Convenience Outlet	0.36											
8	2	25	63	PB2-C8 CONVENIENCE OUTLET 2F	2.16	9.82							3.5	3.5	20	PVC
				4- Duplex Universal Convenience Outlet	1.44											
				4- Simplex Universal Convenience Outlet	0.72											
9	2	25	63	PB2-C9 CONVENIENCE OUTLET 2F	2.88		13.09						3.5	3.5	20	PVC
				7- Duplex Universal Convenience Outlet	2.52											
				2- Simplex Universal Convenience Outlet	0.36											
10	2	25	63	PB2-C10 CONVENIENCE OUTLET 2F	3.24		14.73						3.5	3.5	20	PVC
				8- Duplex Universal Convenience Outlet	2.88											
				2- Simplex Universal Convenience Outlet	0.36											
11	2	25	63	PB2-C11 CONVENIENCE OUTLET 2F	3.24			14.73					3.5	3.5	20	PVC
				8- Duplex Universal Convenience Outlet	2.88											
				2- Simplex Universal Convenience Outlet	0.36											
12	2	25	63	PB2-C12 CONVENIENCE OUTLET 2F	3.42			15.55					3.5	3.5	20	PVC
				8- Duplex Universal Convenience Outlet	2.88											
				3- Simplex Universal Convenience Outlet	0.54											
13	2	32	63	PB2-C13 ACCU-13	2	9.09							3.5	3.5	20	PVC
				1-2 HP Outdoor Air Cooled Condensing Unit	2											
14	2	32	63	PB2-C14 ACCU-14	2	9.09							3.5	3.5	20	PVC
				1-2 HP Outdoor Air Cooled Condensing Unit	2											
15	2	32	63	PB2-C15 ACCU-11	2.5		11.36						3.5	3.5	20	PVC
				1-2.5 HP Outdoor Air Cooled Condensing Unit	2.5											
16	2	32	63	PB2-C16 ACCU-12	2.5		11.36						3.5	3.5	20	PVC
				1-2.5 HP Outdoor Air Cooled Condensing Unit	2.5											
17	2	32	63	PB2-C17 ACCU-15	2			9.09					3.5	3.5	20	PVC
				1-2 HP Outdoor Air Cooled Condensing Unit	2											
18	2	32	63	PB2-C18 ACCU-16	2			9.09					3.5	3.5	20	PVC
				1-2 HP Outdoor Air Cooled Condensing Unit	2											
19	2	32	63	PB2-C19 ACCU-17	2	9.09							3.5	3.5	20	PVC
				1-2 HP Outdoor Air Cooled Condensing Unit	2											
20	2	32	63	PB2-C20 ACCU-18	2	9.09							3.5	3.5	20	PVC
				1-2 HP Outdoor Air Cooled Condensing Unit	2											
21	2	32	63	PB2-C21 ACCU-19	2		9.09						3.5	3.5	20	PVC
				1-2 HP Outdoor Air Cooled Condensing Unit	2											
22	2	32	63	PB2-C22 ACCU-20	2		9.09						3.5	3.5	20	PVC
				1-2 HP Outdoor Air Cooled Condensing Unit	2											
23	2	32	63	PB2-C23 ACCU-21	2			9.09					3.5	3.5	20	PVC
				1-2 HP Outdoor Air Cooled Condensing Unit	2											
24	2	32	63	PB2-C24 ACCU-23	2			9.09					3.5	3.5	20	PVC
				1-2 HP Outdoor Air Cooled Condensing Unit	2											
25	2	32	63	PB2-C25 ACCU-22	1	4.55							3.5	3.5	20	PVC
				1-1 HP Outdoor Air Cooled Condensing Unit	1											
26	2	32	63	SPARE	0	0.00							3.5	3.5	20	PVC
				TOTAL	59.22	84.27	92.36	92.55								

DESIGN ANALYSIS

AVE P.F. 0.80	KW	DEMAND FACTOR	DEMAND KW	POWER FACTOR	DEMAND AMPS	% SPARE AMPS	TOTAL AMPERES
BIGGEST MOTOR	0	0	0	0	0	0	0
LIGHTS	11.80	0.8	9.44	1	24.80	25.00	31.00
C.O.	21.42	0.8	17.14	0.85	52.97	25.00	66.21
WATER HEATER	0	0	0	0	0	0	0
RANGE	0	0	0	0	0	0	0
CLOTHES DRYER	0	0	0	0	0	0	0
WASH MACHINE	0	0	0	0	0	0	0
AIRCON	26	0.8	20.8	0.85	64.29	25.00	80.37
MOTOR(CONT I)	0	0	0	0	0	0	0
MOTOR(NON-CONT I)	0	0	0	0	0	0	0
OTHERS 1	0	0	0	0	0	0	0
OTHERS 2	0	0	0	0	0	0	0
OTHERS 3	0	0	0	0	0	0	0
TOTAL	59.22	0.80	47.38		142.07		177.58

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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
TELEPHONE #(088)22 72-60-65 / (088) 856-1720 / 856-1720 | TELE FAX (088) 856-4696
WEBSITE: www.ustp.edu.ph

PROFESSIONAL ELECTRICAL ENGINEER
PRC NO. | PTR NO.
DATE
TIN | PLACE

PROJECT: COMPLETION OF SPORTS COMPLEX AND RESIDENCES (PHASE 1C)
LOCATION: CLARO M. RECTO AVENUE, LAPASAN, CAGAYAN DE ORO CITY 9000
OWNER: UNIVERSITY OF SCIENCE AND TECHNOLOGY OF SOUTHERN PHILIPPINES

RECOMMENDING APPROVAL: AR. FERDINAND A. DUMPA — DIRECTOR, INFRASTRUCTURE PLANNING & FACILITY DEVELOPMENT OFFICE
RECOMMENDING APPROVAL: ATTY. ERWIN B. BOCIO — VP FOR ADMINISTRATION & LEGAL AFFAIRS
APPROVED BY: DR. AMBROSIO B. CULTURA II — PRESIDENT, USTP SYSTEM

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DATE DRAWN:
FNT:

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"REPUBLIC OF THE PHILIPPINES
OFFICE OF THE BUILDING OFFICIAL

PROJECT: PROPOSED 3 STOREY SPORTS COMPLEX DORMITORY
ADDRESS: CM RECTO. AVENUE, LAPASAN, CAGAYAN DE ORO CITY

DATE: 07-Mar-22
FEEDER:

NO OF SETS	THHN/THWN N	Y	X	G	CONDUIT ϕ	TYPE
1		80		14	63	PVC

PANEL: PB3

LOCATION: GROUND FLOOR
BRANCH KAIC: 12

VOLT: 220
PHASE: 3
MAINS: 3P | 200 AT | AF 250 | KAIC 25

CKT No.	CB POLES	CB TRIP	AF	LOAD DESCRIPTION	KW	ϕ AB AMPS	ϕBC AMPS	ϕCA AMPS	3ϕ AMPS	NO.OF SETS	FEEDER/CIRCUIT WIRES (50MM) THHN/THWN N	Y	X	G	CONDUIT ϕ	TYPE
1	2	20	63	PB3-C1 LIGHTING OUTLET 3F	2.1	9.55							3.5	3.5	20	PVC
				8- 2x 24 Watts LED Surface mounted reflectorized Light	1.6											
				5- 18 Watts LED Surface mounted Downlight	0.5											
2	2	20	63	PB3-C2 LIGHTING OUTLET 3F	2.4	10.91							3.5	3.5	20	PVC
				12- 2x 24 Watts LED Surface mounted reflectorized Light	2.4											
3	2	20	63	PB3-C3 LIGHTING OUTLET 3F	2.8		12.73						3.5	3.5	20	PVC
				6- 2x 24 Watts LED Surface mounted reflectorized Light	1.2											
				6- 18 Watts LED Recessed Downlight	0.6											
				9- 18 Watts LED Surface mounted Downlight	0.9											
				1- 24 Watts LED Fluorescent Light	0.1											
4	2	20	63	PB3-C4 LIGHTING OUTLET 3F	2.4		10.91						3.5	3.5	20	PVC
				12- 2x 24 Watts LED Surface mounted reflectorized Light	2.4											
5	2	20	63	PB3-C5 LIGHTING OUTLET 3F	2.1			9.55					3.5	3.5	20	PVC
				7- 2x 24 Watts LED Surface mounted reflectorized Light	1.4											
				7- 18 Watts LED Surface mounted Downlight	0.7											
6	2	25	63	PB3-C6 CONVENIENCE OUTLET 3F	3.6			16.36					3.5	3.5	20	PVC
				9- Duplex Universal Convenience Outlet	3.24											
				2- Simplex Universal Convenience Outlet	0.36											
7	2	25	63	PB3-C7 CONVENIENCE OUTLET 3F	2.88	13.09							3.5	3.5	20	PVC
				7- Duplex Universal Convenience Outlet	2.52											
				2- Simplex Universal Convenience Outlet	0.36											
9	2	25	63	PB3-C9 CONVENIENCE OUTLET 3F	2.16	9.82							3.5	3.5	20	PVC
				4- Duplex Universal Convenience Outlet	1.44											
				4- Simplex Universal Convenience Outlet	0.72											
8	2	25	63	PB3-C8 CONVENIENCE OUTLET 3F	2.88		13.09						3.5	3.5	20	PVC
				7- Duplex Universal Convenience Outlet	2.52											
				2- Simplex Universal Convenience Outlet	0.36											
10	2	25	63	PB3-C10 CONVENIENCE OUTLET 3F	3.24		14.73						3.5	3.5	20	PVC
				8- Duplex Universal Convenience Outlet	2.88											
				2- Simplex Universal Convenience Outlet	0.36											
11	2	25	63	PB3-C11 CONVENIENCE OUTLET 3F	3.24			14.73					3.5	3.5	20	PVC
				8- Duplex Universal Convenience Outlet	2.88											
				2- Simplex Universal Convenience Outlet	0.36											
12	2	25	63	PB2-C12 CONVENIENCE OUTLET 3F	3.42			15.55					3.5	3.5	20	PVC
				8- Duplex Universal Convenience Outlet	2.88											
				3- Simplex Universal Convenience Outlet	0.54											
13	2	32	63	PB2-C13 ACCU-26	2	9.09							3.5	3.5	20	PVC
				1-2 HP Outdoor Air Cooled Condensing Unit	2											
14	2	32	63	PB2-C14 ACCU-27	2	9.09							3.5	3.5	20	PVC
				1-2 HP Outdoor Air Cooled Condensing Unit	2											
15	2	32	63	PB2-C15 ACCU-24	2.5		11.36						3.5	3.5	20	PVC
				1-2.5 HP Outdoor Air Cooled Condensing Unit	2.5											
16	2	32	63	PB2-C16 ACCU-25	2.5		11.36						3.5	3.5	20	PVC
				1-2.5 HP Outdoor Air Cooled Condensing Unit	2.5											
17	2	32	63	PB2-C17 ACCU-28	2			9.09					3.5	3.5	20	PVC
				1-2 HP Outdoor Air Cooled Condensing Unit	2											
18	2	32	63	PB2-C18 ACCU-29	2			9.09					3.5	3.5	20	PVC
				1-2 HP Outdoor Air Cooled Condensing Unit	2											
19	2	32	63	PB2-C19 ACCU-30	2	9.09							3.5	3.5	20	PVC
				1-2 HP Outdoor Air Cooled Condensing Unit	2											
20	2	32	63	PB2-C20 ACCU-31	2	9.09							3.5	3.5	20	PVC
				1-2 HP Outdoor Air Cooled Condensing Unit	2											
21	2	32	63	PB2-C21 ACCU-32	2		9.09						3.5	3.5	20	PVC
				1-2 HP Outdoor Air Cooled Condensing Unit	2											
22	2	32	63	PB2-C22 ACCU-33	2		9.09						3.5	3.5	20	PVC
				1-2 HP Outdoor Air Cooled Condensing Unit	2											
23	2	32	63	PB2-C23 ACCU-35	2			9.09					3.5	3.5	20	PVC
				1-2 HP Outdoor Air Cooled Condensing Unit	2											
24	2	32	63	PB2-C24 ACCU-36	2			9.09					3.5	3.5	20	PVC
				1-2 HP Outdoor Air Cooled Condensing Unit	2											
25	2	32	63	PB2-C25 ACCU-34	1	4.55							3.5	3.5	20	PVC
				1-1 HP Outdoor Air Cooled Condensing Unit	1											
26	2	32	63	SPARE	0	0.00							3.5	3.5	20	PVC
				TOTAL	59.22	84.27	92.36	92.55								

DESIGN ANALYSIS

AVE P.F. 0.80	KW	DEMAND FACTOR	DEMAND KW	POWER FACTOR	DEMAND AMPS	% SPARE AMPS	TOTAL AMPERES
BIGGEST MOTOR	0	0	0	0	0	0	0
LIGHTS	11.80	0.8	9.44	1	24.80	25.00	31.00
C.O.	21.42	0.8	17.14	0.85	52.97	25.00	66.21
WATER HEATER	0	0	0	0	0	0	0
RANGE	0	0	0	0	0	0	0
CLOTHES DRYER	0	0	0	0	0	0	0
WASH MACHINE	0	0	0	0	0	0	0
AIRCON	26.00	0.8	20.8	0.85	64.29	25	80.37
MOTOR(CONT I)	0	0	0	0	0	0	0
MOTOR(NON-CONT I)	0	0	0	0	0	0	0
OTHERS 1	0	0	0	0	0	0	0
OTHERS 2	0	0	0	0	0	0	0
OTHERS 3	0	0	0	0	0	0	0
TOTAL	59.22	0.80	47.38		142.07		177.58

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INFRASTRUCTURE PLANNING AND FACILITY DEVELOPMENT UNIT
CLARO M. RECTO AVENUE, LAPASAN, CAGAYAN DE ORO CITY 9000
TELEPHONE # (088822) 72-60-65 / (088) 858-1720 / 858-1729 | TELE FAX (088) 858-4696
WEBSITE: www.ustp.edu.ph

PROFESSIONAL ELECTRICAL ENGINEER
PRC NO. | PTR NO.
DATE
TIN | PLACE

PROJECT: COMPLETION OF SPORTS COMPLEX AND RESIDENCES (PHASE 1C)
LOCATION: CLARO M. RECTO AVENUE, LAPASAN, CAGAYAN DE ORO CITY 9000
OWNER: UNIVERSITY OF SCIENCE AND TECHNOLOGY OF SOUTHERN PHILIPPINES

RECOMMENDING APPROVAL: AR. FERDINAND Z. DUMPA — DIRECTOR, INFRASTRUCTURE PLANNING & FACILITY DEVELOPMENT OFFICE
RECOMMENDING APPROVAL: ATTY. ERWIN B. BUCIO — VP FOR ADMINISTRATION & LEGAL AFFAIRS
APPROVED BY: DR. AMBROSIO B. CULTURA II — PRESIDENT, USTP SYSTEM

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E9

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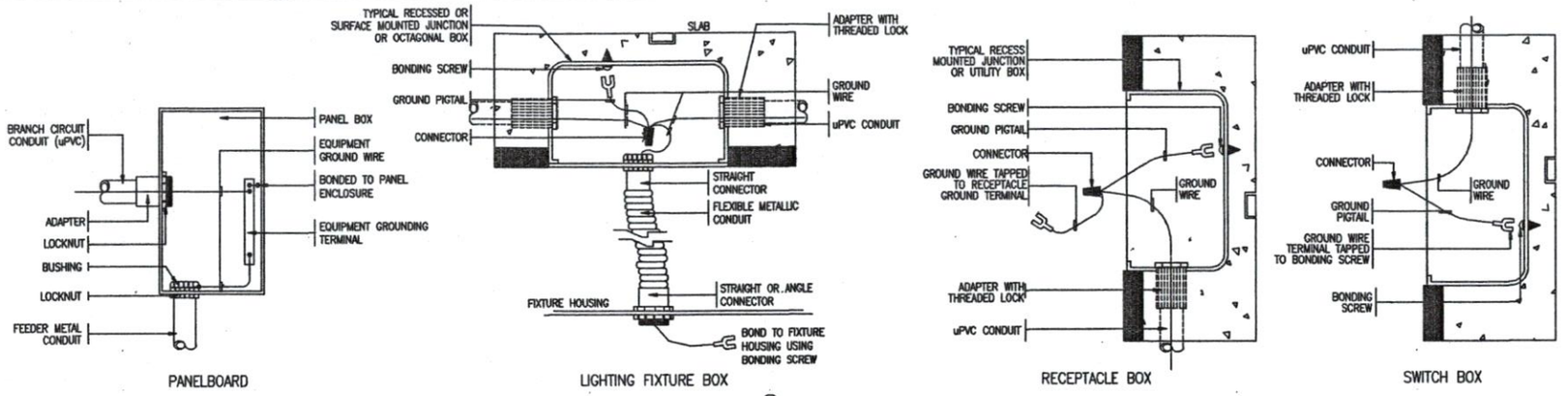

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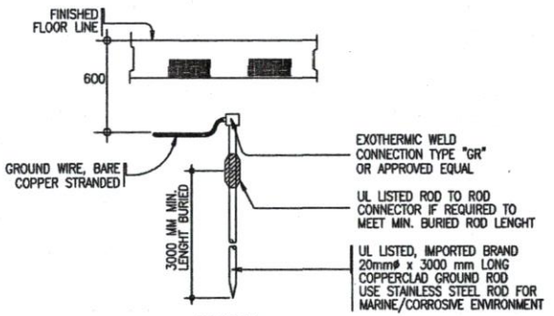

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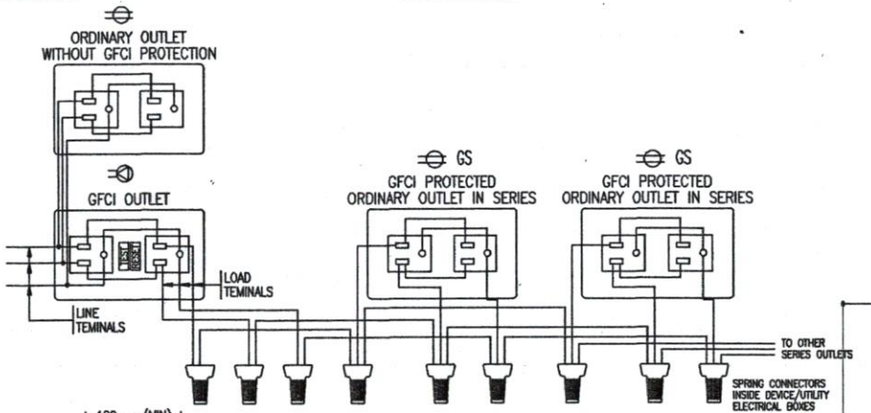

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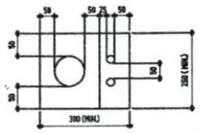

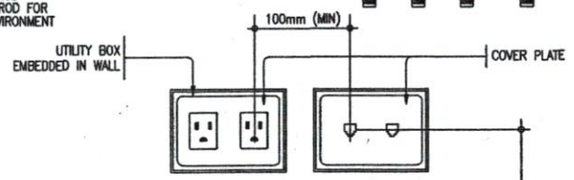

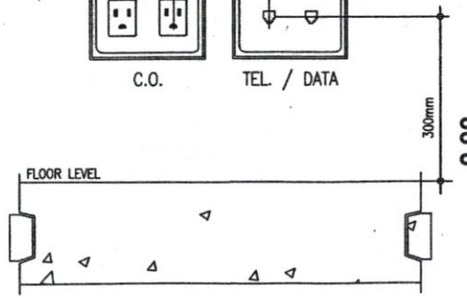

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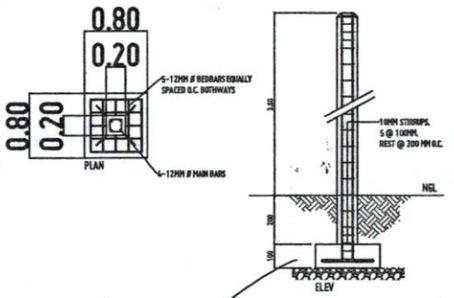

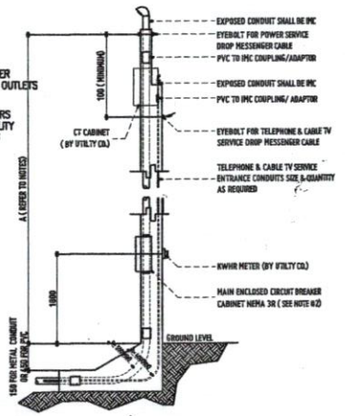

EE 6 5 SERVICE PEDESTAL DETAIL
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REPUBLIC OF THE PHILIPPINES UNIVERSITY OF SCIENCE AND TECHNOLOGY OF SOUTHERN PHILIPPINES CAGAYAN DE ORO CAMPUS INFRASTRUCTURE PLANNING AND FACILITY DEVELOPMENT UNIT CLARO M. RECTO AVENUE, LAPASAN, CAGAYAN DE ORO CITY 9000 TELEPHONE # (088)22) 72-60-65 / (088) 858-1738 / 858-1739 | TELE FAX (088) 858-4696 WEBSITE: www.ustp.edu.ph	PROFESSIONAL ELECTRICAL ENGINEER PRC NO. / PTR NO. DATE TIN / PLACE	PROJECT	COMPLETION OF SPORTS COMPLEX AND RESIDENCES (PHASE 1C)	RECOMMENDING APPROVAL: AR. FERDINAND A. DUMPA DIRECTOR, INFRASTRUCTURE PLANNING & FACILITY DEVELOPMENT OFFICE	RECOMMENDING APPROVAL: ATTY. ERWIN P. BUCIO VP. FOR ADMINISTRATION & LEGAL AFFAIRS	APPROVED BY: DR. AMBROSIO B. CULTURA II PRESIDENT, USTP SYSTEM	SHEET CONTENTS:	DRAWN BY: DATE DRAWN: FN2:
		LOCATION	CLARO M. RECTO AVENUE, LAPASAN, CAGAYAN DE ORO CITY 9000				
		OWNER	UNIVERSITY OF SCIENCE AND TECHNOLOGY OF SOUTHERN PHILIPPINES				

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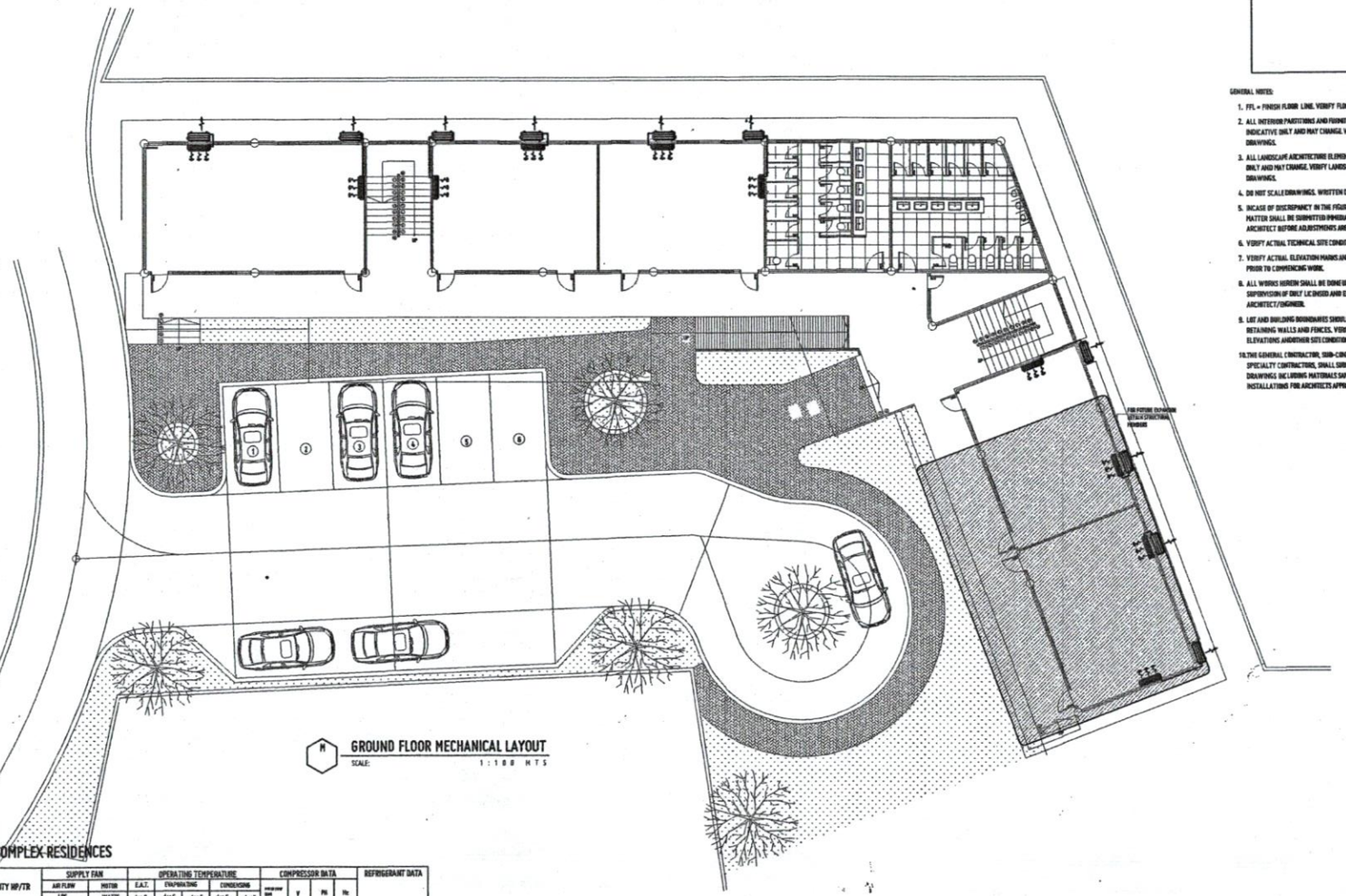
OFFICE OF THE BUILDING OFFICIAL



GROUND FLOOR MECHANICAL LAYOUT
SCALE: 1:100 MTS

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 SUPPLE PRIOR TO INSTALLATIONS FOR ARCHITECTS APPROVAL.

EQUIPMENT SCHEDULE

SPLIT-TYPE UNIT AIR CONDITIONING SCHEDULE SPORTS COMPLEX RESIDENCES

MARK NO.		QTY.	TYPE	LOCATION	CAPACITY HP/TR	SUPPLY FAN		OPERATING TEMPERATURE					COMPRESSOR DATA				REFRIGERANT DATA
						AIR FLOW	MOTOR	E.A.T.	EVAPORATING		CONDENSING		MOTOR POWER RATE	V	PH	Hz	
OUTDOOR	INDOOR					LPS	WATTS	deg.C	deg.C	deg.F	deg.C	deg.F					
ACCU 1,2,11,12,20,24	FCU 1,2,11,12,20,24	6	WALL MOUNTED	ROOM 1,6,11	2.5 HP	VARIABLE	VARIABLE	37	4.44	40	48.8	120	2.5	230	1	60	R410 OR APPROVE EQUAL
ACCU 3-10, 13-19,21-23, 26-33,35-38	FCU 3-10, 13-19,21-23, 26-33,35-38	29	WALL MOUNTED	GF-3RD FLOOR ROOMS AND FACILITY ROOMS	2 HP	VARIABLE	VARIABLE	37	4.44	40	48.8	120	2.0	230	1	60	R410 OR APPROVE EQUAL
ACCU 27,34	FCU 27,34	2	WALL MOUNTED	CONFERENCE ROOM	1 HP	VARIABLE	VARIABLE	37	4.44	40	48.8	120	2.0	230	1	60	R410 OR APPROVE EQUAL

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PROFESSIONAL MECHANICAL ENGINEER

PRC NO.	PTR NO.
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PROJECT	COMPLETION OF SPORTS COMPLEX AND RESIDENCES (PHASE 1C)
LOCATION	CLARO M. RECTO AVENUE, LAPASAN, CAGAYAN DE ORO CITY 9000
OWNER	UNIVERSITY OF SCIENCE AND TECHNOLOGY OF SOUTHERN PHILIPPINES

RECOMMENDING APPROVAL:
AR. FERDINAND B. BUMPA
DIRECTOR, INFRASTRUCTURE PLANNING & FACILITY DEVELOPMENT OFFICE

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

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

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DATE DRAWN:	
FILE:	

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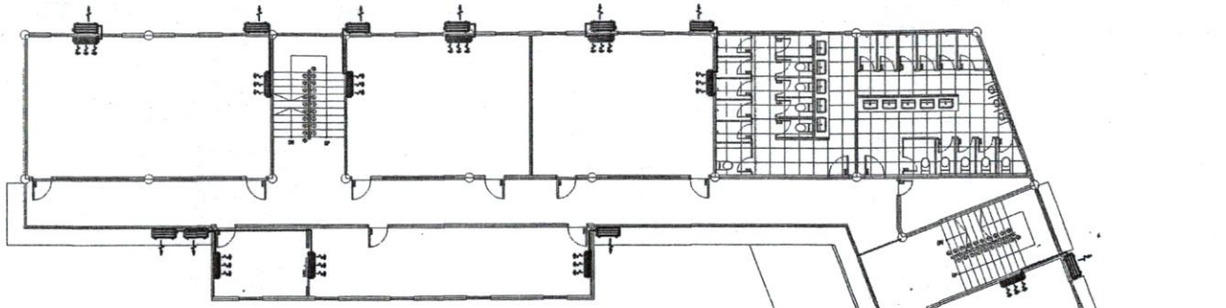

M 1 2 SECOND FLOOR MECHANICAL LAYOUT
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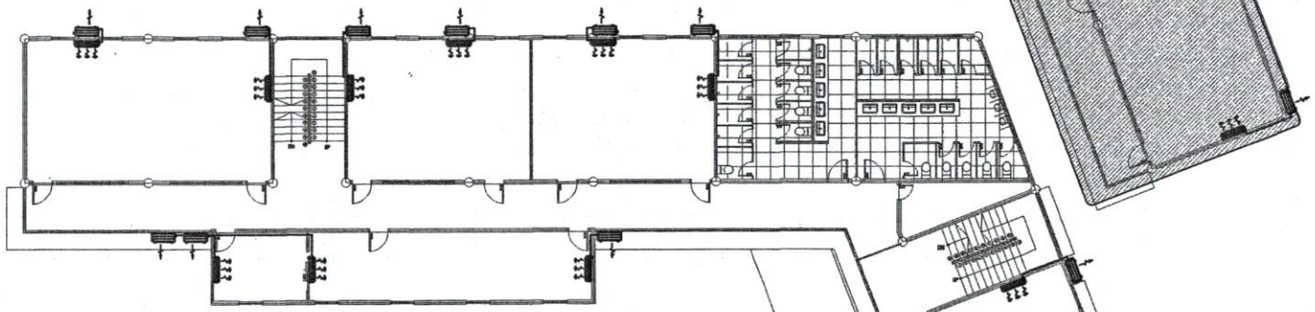

M 2 2 THIRD FLOOR MECHANICAL LAYOUT
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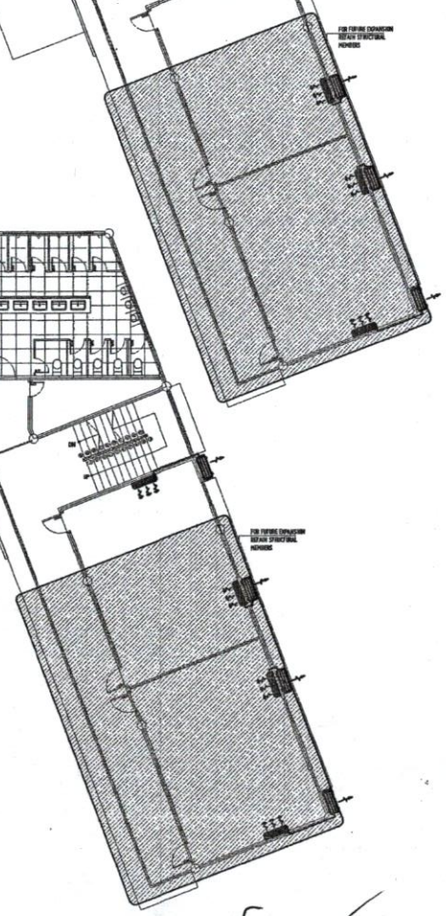

EQUIPMENT SCHEDULE

SPLIT-TYPE UNIT AIR CONDITIONING SCHEDULE SPORTS COMPLEX RESIDENCES

MARK NO.		QTY.	TYPE	LOCATION	CAPACITY HP/TR	SUPPLY FAN		OPERATING TEMPERATURE				COMPRESSOR DATA				REFRIGERANT DATA
						AIR FLOW	MOTOR	E.A.T.	EVAPORATING		CONDENSING					
OUTDOOR	INDOOR					LPS	WATTS	deg.C	deg.C	deg.F	deg.C	deg.F		V	PH	Hz	
ACCU 1,2,11,12,20,24	FCU 1,2,11,12,20,24	6	WALL MOUNTED	ROOM 1,8,11	2.5 HP	VARIABLE	VARIABLE	37	4.44	40	48.8	120	2.5	230	1	60	R410 OR APPROVE EQUAL
ACCU 3-16, 22-23,32-36, 26-31,37-38	FCU 3-16, 22-23,32-36, 26-31,37-38	28	WALL MOUNTED	GF-3RD FLOOR ROOMS AND FACILITY ROOMS	2 HP	VARIABLE	VARIABLE	37	4.44	40	48.8	120	2.0	230	1	60	R410 OR APPROVE EQUAL
ACCU 21,34	FCU 21,34	2	WALL MOUNTED	CONFERENCE ROOM	1 HP	VARIABLE	VARIABLE	37	4.44	40	48.8	120	2.0	230	1	60	R410 OR APPROVE EQUAL

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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
TELEPHONE # (088)22 72-60-65 / (088) 858-1739 / 856-1730 | TELE FAX (088) 856-4816
WEBSITE: www.ustp.edu.ph

PROFESSIONAL MECHANICAL ENGINEER	
PRC NO.	PTR NO.
	DATE
TIN	PLACE

PROJECT	COMPLETION OF SPORTS COMPLEX AND RESIDENCES (PHASE 1C)
LOCATION	CLARO M. RECTO AVENUE, LAPASAN, CAGAYAN DE ORO CITY 9000
OWNER	UNIVERSITY OF SCIENCE AND TECHNOLOGY OF SOUTHERN PHILIPPINES

RECOMMENDING APPROVAL:	RECOMMENDING APPROVAL:	APPROVED BY:	SHEET CONTENTS:	DRAWN BY:
AR. FERDINAND A. DUMPA	ATTY. ERWIN B. BUCIO	DR. AMBROSIO B. CULTURA II		DATE DRAWN:
DIRECTOR, INFRASTRUCTURE PLANNING & FACILITY DEVELOPMENT OFFICE	VP FOR ADMINISTRATION & LEGAL AFFAIRS	PRESIDENT, USTP SYSTEM		FNT:

M2

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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 HOSE.

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:

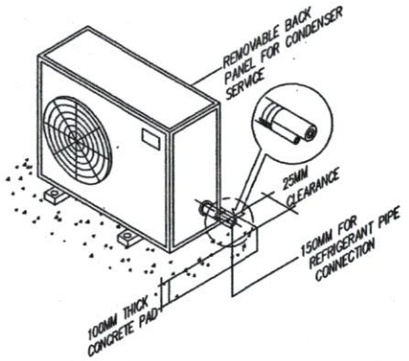
1. REFRIGERANT PIPES SHALL BE INTERNALLY CLEANED BY SWABBING WITH CLEAN COTTON CLOTH TO REMOVE ALL DUST, BURRS, AND OTHER MISCELLANEOUS DIRT.

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

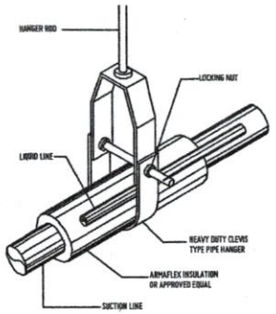
3. FITTINGS:
   A. USE STANDARD LONG RADIUS COPPER ELBOWS, REDUCERS, ETC. DO NOT USE FIELD-FORMED ELBOWS, REDUCERS, ETC.
   B. JOINTS BETWEEN PIPES SHOULD BE THROUGH STANDARD COPPER COUPLING FORMED FITTING MADE BY SWAGING OR ENLARGING ONE PIPE END TO BE ABLE TO RECEIVE THE OTHER PIPE SECTION WOULD NOT 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 BLEEDED 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.

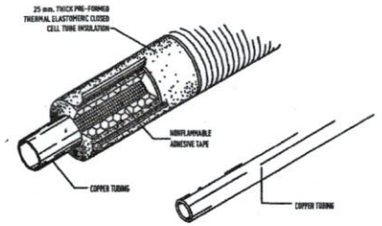
5. PROPERLY TESTED PIPING SHOULD BE SECURELY CAPPED AT BOTH ENDS AND WITH HOLDING CHARGED AS STATED IN ITEM 4 ABOVE WHILE WAITING FOR FINAL CONNECTION TO EQUIPMENT. INSULATE SUCTION PIPING ONLY AFTER PROPER LEAK TESTING.



M 1 3 ACCU MOUNTING DETAIL
NOT TO SCALE

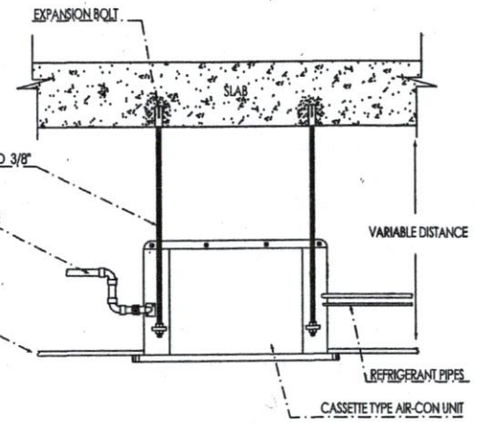


M 2 3 REFRIGERANT PIPE HANGER DETAIL
NOT TO SCALE

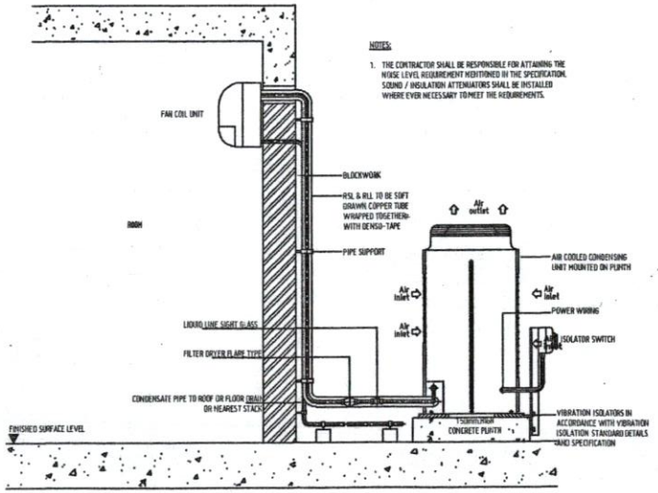


NOTE:
1. CONDENSATE DRAIN PIPE INSULATION SHALL BE OF SIMILAR MATERIAL BUT 19 mm. THICK.
2. PROVIDE ALUMINUM CLADDING FOR OUTDOOR REFRIGERANT PIPING.

M 3 3 REFRIGERANT PIPE INSULATION DETAIL
NOT TO SCALE

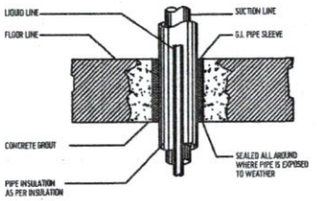


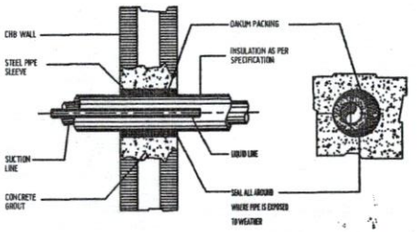
M 6 3 TYPICAL CEILING CASSETTE-TYPE INSTALLATION DETAIL
NOT TO SCALE



NOTES:
1. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ATTAINING THE NOISE LEVEL REQUIREMENT MENTIONED IN THE SPECIFICATION. SOUND / INSULATION ATTENUATORS SHALL BE INSTALLED WHERE EVER NECESSARY TO MEET THE REQUIREMENTS.

M 4 3 TYPICAL SPLIT-TYPE CONNECTION DETAIL
NOT TO SCALE





M 5 3 REFRIGERANT PIPE THRU WALL DETAIL
NOT TO SCALE

REPUBLIC OF THE PHILIPPINES 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 TELEPHONE # (088222) 72-60-65 / (088) 858-1738 / 858-1739 | TOLL FAX (088)858-4684 WEBSITE: www.ustp.edu.ph	PROFESSIONAL MECHANICAL ENGINEER PRC NO. / PTR NO. TIN / PLACE	PROJECT	COMPLETION OF SPORTS COMPLEX AND RESIDENCES (PHASE 1C)	RECOMMENDING APPROVAL: AR. FERDINAND A. DUMPA DIRECTOR, INFRASTRUCTURE PLANNING & FACILITY 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:	DRAWN BY: DATE DRAWN: FNT:	M3
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