

## DRAWING INDEX:

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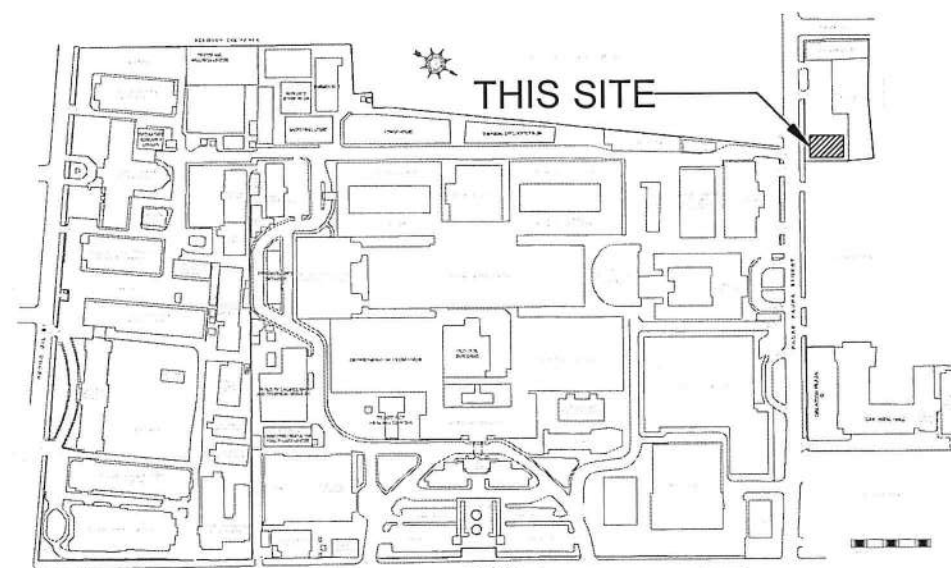
ALL WORKS SHALL COMPLY WITH THE PROVISION OF THE LATEST APPROVED EDITION OF THE PHILIPPINE ELECTRICAL CODE, WITH THE RULES AND REGULATIONS OF THE NATIONAL AND LOCAL AUTHORITY CONCERNED IN THE ENFORCEMENT OF ELECTRICAL LAWS AND ORDINANCES AND WITH THE RULES AND REGULATIONS OF THE UTILITY COMPANY AND WITH THE RULES AND REGULATIONS OF THE UTILITY COMPANY CONCERNED. WORK SHALL NOT BE STARTED UNLESS A VALID WIRING PERMIT HAS BEEN SECURED.

1. SERVICE VOLTAGE SHALL BE 230 VOLTS, 3 PHASE, 4 WIRES (LINE TO LINE) / 230V, 1 PHASE, 3 WIRES.
2. GENERAL USE RECEPTACLES SHALL BE RATED 16A, 250 VOLTS GROUNDING TYPE. HOSPITAL GRADE OUTLETS SHALL BE INSTALLED IN MEDICAL CARE AREAS.
3. ALL RIGHT CONTROL SWITCHES SHALL BE RATED 16A, 120 - 177 VOLTS A.C. ONLY.
4. ALL FLUORESCENT LAMPS SHALL BE PROVIDED WITH LED TUBE AND SPRING LOADED LAMP HOLDER.
5. CIRCUIT BREAKER SHALL BE U.S MADE "G.E." OR "SQUARE D" OR ANY APPROVED EQUAL AND SHALL BE ON THE SAME BRAND ALL THROUGH OUT.
6. PRESSED STEEL OUTLET BOXES SHALL BE GALVANIZED, GA. #16 MINIMUM, AS FOLLOWS:
  - a. CEILING LIGHT OUTLET - 40MM DEEP, 100MM OCTAGONAL BOX FOR 1 OR 2 RACEWAY ENTRIES.
  - b. WALL SWITCHES - 55MM DEEP UTILITY BOX FOR 1 OR 2 RACEWAY ENTRIES 40MM DEEP, 100MM SQ. BOX WITH 1-GANG RAISED COVER FOR 3 SWITCHES ON STRAP.
  - c. WALL RECEPTACLE OUTLET - 55MM DEEP UTILITY BOX FOR 1 OR 2 RACEWAY ENTRIES.
  - d. SPECIAL PURPOSE - 40MM DEEP, 100MM SQ. BOX WITH 1-GANG RAISED COVER OR AS REQUIRED BY THE DEVICE TO BE INSTALLED.
7. MOUNTING HEIGHTS SHALL BE AS FOLLOWS:
  - a. LIGHT CONTROL SWITCH - 1.00M ABOVE FLOOR AT CENTER
  - b. CONVENIENCE OUTLET - 0.30M ABOVE FLOOR AT CENTER FOR NON-WEATHER PROOF OUTLET 0.30M ABOVE COUNTER AT CENTER FOR PANTRY.

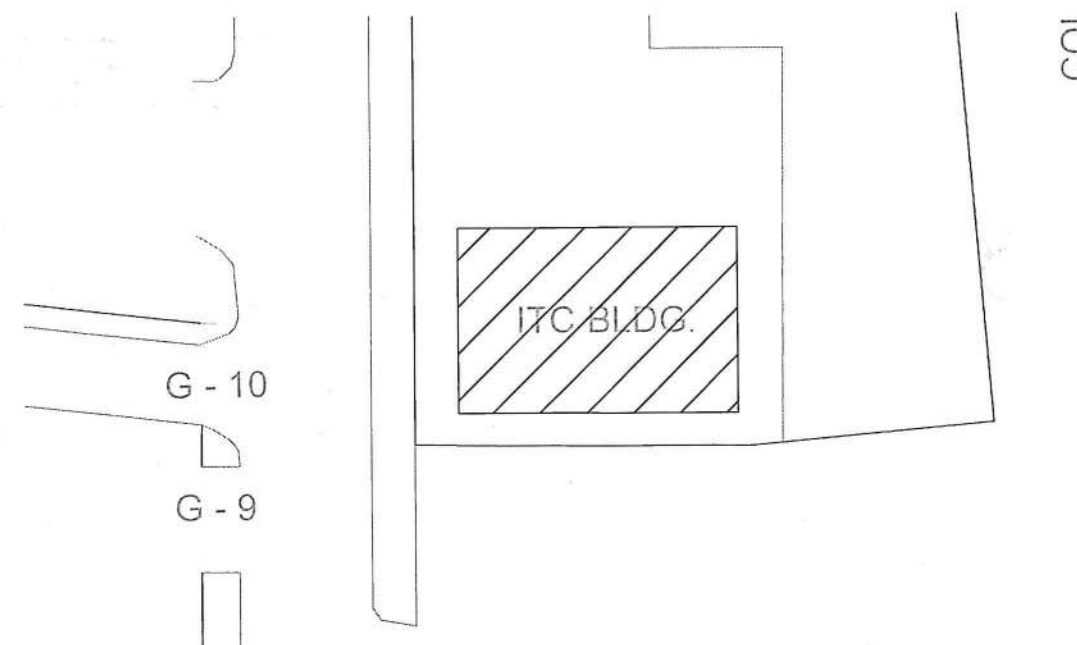
- LABORATORY OUTLETS SHALL BE 0.30M ABOVE LAB TABLE.

- OUTLET  
d. WALL TELEPHONE/ TV OUTLET  
e. PANEL BOARDS, MTS
- SERVED.  
- AS REQUIRED BY EQUIPMENT UNLESS OTHERWISE REQUIRED BY FIELD CONDITION.  
- 1.40M ABOVE FLOOR AT CENTER.


1. ALL EXPOSED CONDUITS WITHIN THE BUILDING SHALL BE EMT. CONDUITS EMBEDDED IN CONCRETE SHALL BE THICK WALL PVC.
  2. REFER TO ARCHITECTURAL DRAWINGS FOR EXACT LOCATIONS OF LIGHTING FIXTURES, SPEAKERS AND OTHER WALL AND CEILING MOUNTED DEVICES ASSOCIATED WITH FIRE AND LIFE SAFETY SYSTEMS, ETC., ALSO REFER TO THE SPECIFICALLY DIMENSIONED OTHERWISE. DEVICES SHOWN ON ELECTRICAL DRAWING ARE GENERAL LOCATIONS AND ARE INDICATIVE OF TYPES AND QUANTITIES ONLY.
  3. REFER TO MECHANICAL, PLUMBING AND FIRE PROTECTION DRAWING FOR RAILINGS AND LOCATIONS OF EQUIPMENT AS WELL AS THEIR CONTROL SEQUENCES AS SPECIFIED AND/OR SHOWN UNDER THEIR RESPECTIVE SECTIONS.
  4. CONDUIT SLEEVE AND FLOOR SLOT PENETRATIONS THROUGH ELECTRICAL WALL AND TELEPHONE/CLOSET SPACES SHALL BE PROPERLY SEALED OFF WITH FIRE RETARDANT MATERIALS TO MAINTAIN FIRE RESISTIVE RAILINGS OF THE SPACES.
  5. PULL BOXES AND JUNCTION BOXES SHALL BE PROVIDED AS REQUIRED BY SPECIFICATION, CODES AND LOCAL UTILITY CO. STANDARDS FOR ALL CONDUIT RUNS.
  6. ALL CONCRETE WORKS AND RELATED STEEL REINFORCING INDICATED ON ELECTRICAL DRAWINGS AS IT RELATES TO MANHOLES, DUCT BANKS, CONCRETE ENCASEMENT, EQUIPMENT SERVICE PADS, ETC. SHALL BE PROVIDED BY THE CIVIL WORKS CONTRACTOR IN ACCORDANCE WITH THE REQUIREMENTS AND CRITERIA ESTABLISHED ON THE ELECTRICAL DOCUMENTS. ALSO REFER TO STRUCTURAL DRAWINGS FOR DETAILS OF SLEEVES AND BLOCK OPENINGS THROUGH FLOOR SLABS.
  7. PROVIDE ALL SUPPLEMENTARY SUPPORT STEEL IN CLOSETS, SHAFTS, PIPE SPACES, ETC. TO SPAN BUILDING STRUCTURAL ELEMENTS AND SUPPORT ELECTRICAL RACEWAYS AND EQUIPMENT. ALL ELECTRICAL WORKS SHALL BE SUPPORTED INDEPENDENTLY AND NOT ON INSTALLATIONS OF OTHER TRADES.
  8. ALL MATERIALS TO BE USED SHALL BE NEW INSTALLED IN APPLICATIONS FOR WHICH THEY ARE INTENDED.
  9. ALL RECEPTACLE OUTLETS SHALL BE PROPERLY GROUNDED TO THE BOX BY MEANS OF GROUNDING LUGS.
  10. ALL MOUNTING HEIGHT ARE SUBJECT TO THE ARCHITECT'S APPROVAL PRIOR TO INSTALLATION.
  11. ALL PVC CONDUITS ARE SIZED BASED ON INSIDE DIAMETER.
- 1.0 WIRING SHALL BE COLOR CODED.
- |                             |                             |
|-----------------------------|-----------------------------|
| FOR GROUNDED SYSTEM (230V): | FOR GROUNDED SYSTEM (400V): |
| LINE 1 - RED                | LINE 1 - RED                |
| LINE 2 - YELLOW             | LINE 2 - YELLOW             |
| LINE 3 - BLUE               | LINE 3 - BLUE               |
| GROUND - WHITE              | GROUND - GREEN              |
|                             | NEUTRAL - WHITE             |
- FOR ISOLATED SYSTEM (230V):
- |                 |
|-----------------|
| LINE 1 - ORANGE |
| LINE 2 - BROWN  |
- 2.0 WIRE NUTS SHALL BE USED FOR SPLICING OF WIRE NOT MORE THAN 8.0mm. FOR LARGER WIRES SOLDER LESS CONNECTOR SHALL BE USED INSULATED WITH RUBBER AND PLASTIC TAPES.



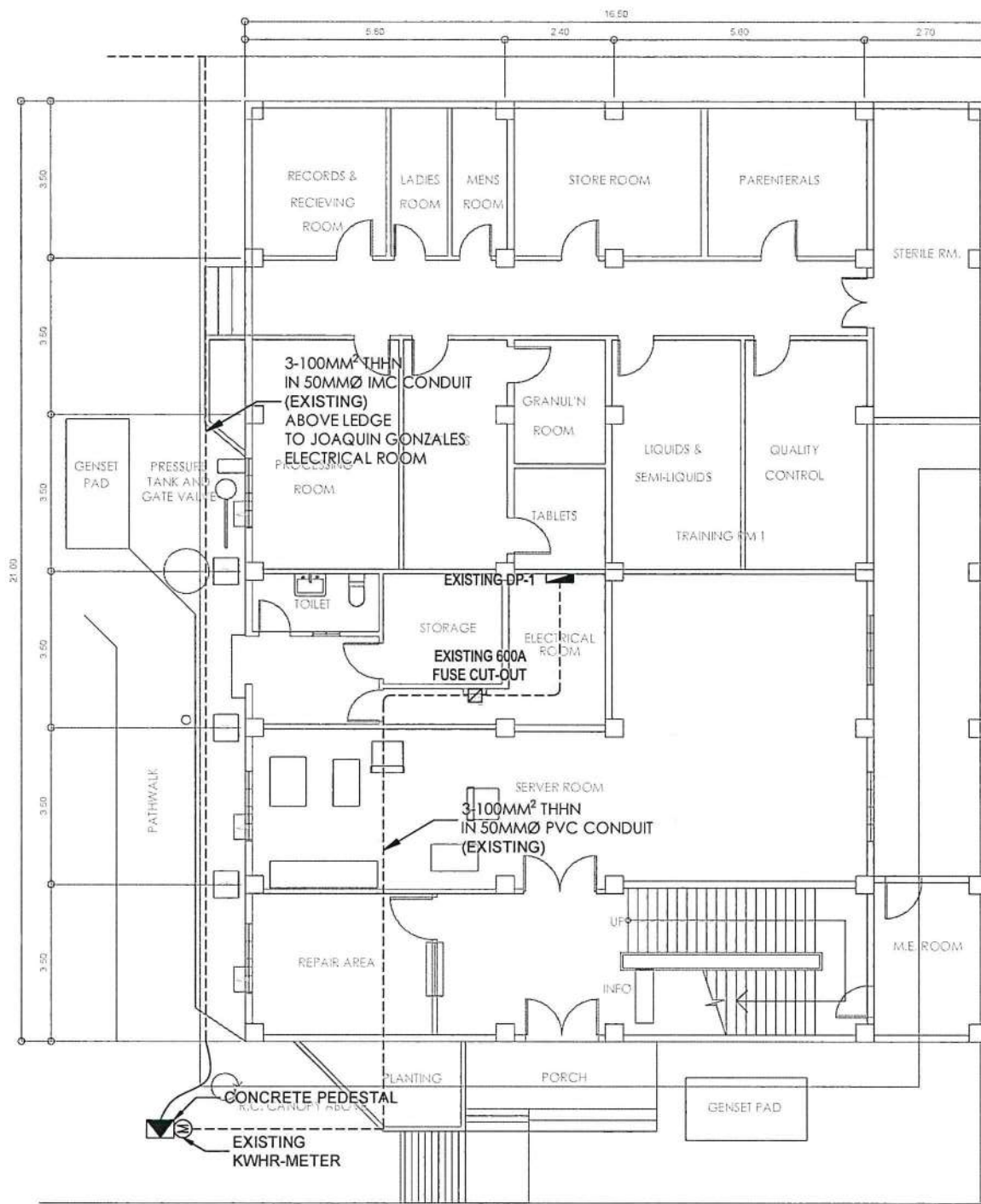
1 SITE DEVELOPEMENT PLAN  
E-1 SCALE: 1:100 MTS



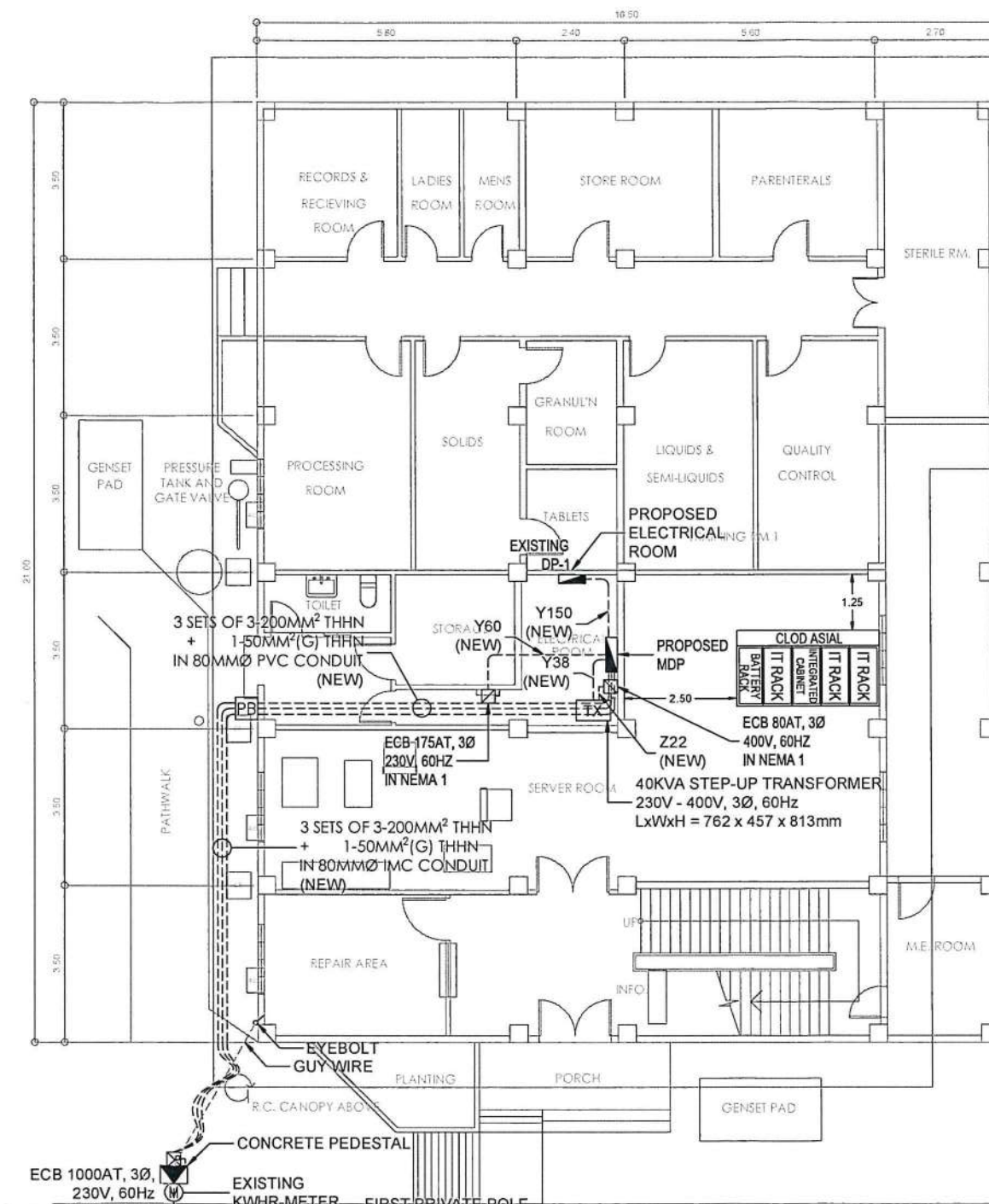
2 LOCATION PLAN  
E-1 SCALE: 1:100 MTS

 <p><b>CPDMO</b> CAMPUS PLANNING DEVELOPMENT &amp; MAINTENANCE OFFICE P. PARRA STREET, BUNYAN, MANILA Tel. No. 524-2222 Fax No. 524-0222</p>	PREPARED BY: ENGR. MARL DAWYNE E. RODRIGUEZ ENGINEER I	CERTIFIED CORRECT: AR. ROSANE G. FLORES - BERNARDO CHIEF, CPDMO	PROJECT TITLE: UPGRADING OF SERVICE ENTRANCE FOR THE ITC BUILDING ITC BUILDING UNIVERSITY OF THE PHILIPPINES MANILA	RECOMMENDING APPROVAL: GEOFFREY A. SOLANO, PhD, MSC DIRECTOR, INFORMATION MANAGEMENT SERVICE MICHAEL L. TEE, MD, MPH, MBA VICE CHANCELLOR FOR PLANNING AND DEVELOPMENT	APPROVED: ARLENE A. SAMANIEGO, MD VICE CHANCELLOR FOR ADMINISTRATION	SHEET CONTENT: DRAWING INDEX, GENERAL NOTES, SITE DEVELOPMENT PLAN AND LOCATION PLAN	DATE ISSUED: DATE COMPLETED: REVISION NO./DATE: REF. NO.: CADD BY: DWG FILE:	SHEET NO.: E-1 1 OF 5
	<p>RA 9266 : THIS DRAWING AS AN INSTRUMENT OF SERVICE IS THE PROPERTY OF CPDMO UP MANILA AND SUCH MUST NOT BE REPRODUCED OR COPIED IN OR IN WHOLE WITHOUT PERMISSION.</p>							






**2**  
E-2  
**EXISTING  
GROUND FLOOR POWER LAYOUT**  
SCALE: 1:100 MTS



**2**  
E-2  
**PROPOSED  
GROUND FLOOR POWER LAYOUT**  
SCALE: 1:100 MTS

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POWER INCOMING  
OVERHEAD  
DISTRIBUTION LINE 230V,  
3Ø, 60Hz  
FROM UTILITY PROVIDER

3-100KVA, 230V, 3Ø, 60HZ  
POLE MOUNTED TRANSFORMER  
(BY MERALCO)

SECONDARY  
KW-HR METER

3SETS[3-200mm<sup>2</sup> THHN/THWN-2  
+ 1- 50mm<sup>2</sup> THHN/THWN-2(G)  
IN 80MMØ RSC]  
(NEW)

ECB  
1000AT,  
3P,230V  
IN NEMA 3R  
(NEW)

3SETS[3-200mm<sup>2</sup> THHN/THWN-2  
+ 1- 50mm<sup>2</sup> THHN/THWN-2(G)  
IN 80MMØ IMC]  
(NEW)

MDP (NEW)

1000A TIN PLATED COPPER BUSBAR  
SHORT CIRCUIT BRACING 65KA @ 1SEC

MCCB  
300AT,  
400AF,  
3P,230V

Y150  
DP1  
(EXISTING)

MCCB  
175AT,  
225AF,  
3P,230V

Y60  
MCCB  
175AT,  
3P, 230V  
IN NEMA 1  
(NEW)  
LOAD  
(EXISTING)

MCCB  
125AT,  
225AF,  
3P,230V

Y38  
TX  
40KVA  
STEP-UP  
TRANSFORMER  
230V-400V, 3Ø, 60HZ  
(NEW)  
Z22  
MCCB  
80AT,  
3P, 400V  
IN NEMA 1  
(NEW)

BY OTHERS  
(OWNER SUPPLIED MATERIALS)

DATA  
CENTER  
PANEL

1 POWER SINGLE LINE DIAGRAM  
E-3 SCALE: 1:100 MTS

PANEL ID	MDP (NEW)	FEED FROM	UTILITY	SHORT CIRCUIT CAPACITY	65 KAIC
ENCLOSURE	NEMA 1	VOLTAGE	230	CIRCUIT PROTECTION	1000AT/ 1000AF
MOUNTING	SURFACE MOUNTED	PHASE	3Ø	MAIN FEEDER CABLE	3Y200
LOCATION	ELECTRICAL ROOM	WIRES	3W+G		

CKT NO.	QTY	LOAD DESCRIPTION	LOAD DISTRIBUTION, VA					V	AMP	PROTECTIVE DEVICE				SIZE OF WIRE/ CONDUIT
			TOTAL	AB	BC	CA	3Ø			AT	AF	P	TYPE	
1		DP1 (EXISTING)	71,705				71,705	230	180.00	300	400	3	MCCB	Y150
2		EXISTING LOAD	41,828				41,828	230	105.00	175	225	3	MCCB	Y60
3		40KVA STEP-UP TRANSFORMER	40,000				40,000	230	100.41	125	225	3	MCCB	Y38
4		SPACE	30,000				30,000	230	75.31		225	3		
5		SPACE	30,000				30,000	230	75.31		225	3		
6		SPACE	30,000				30,000	230	75.31		100	3		
7		SPACE	30,000				30,000	230	75.31		100	3		
TOTAL			273,533	-	-	-	273,533					21		






SUMMARY OF LOADS		APPLICABLE DF		TOTAL AMPERE	
DP1 (EXISTING)	71,705	100%	71,705	926.97	AMP
EXISTING LOAD	41,828	100%	41,828		
40KVA STEP-UP TRANSFORMER	40,000	100%	40,000		
SPARE	120,000	80%	96,000		
TOTAL LOADS	273,533	100%	249,533		

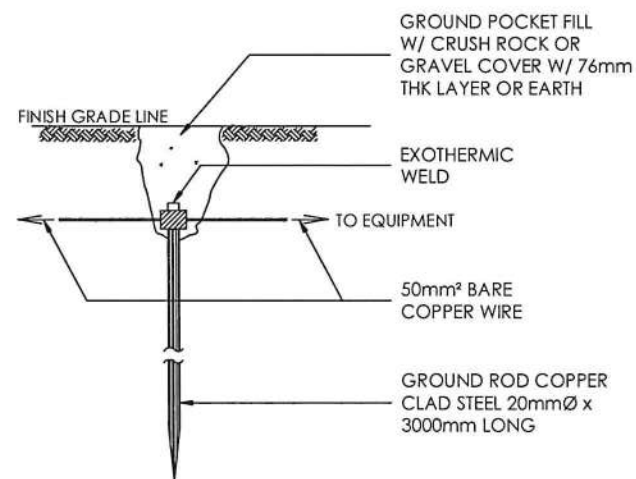
2 LOAD SCHEDULE  
E-3 SCALE: 1:100 MTS

THREE PHASE THREE WIRE + GROUND				
WIRE CODE	CONDUCTORS		CONDUIT PVC (MM)	CONDUIT IMC (MM)
	PHASE	GROUND		
Y38	3-38 MMF THWN-2/TH+N	1-14 MMF THWN-2/TH+N	40	32
Y60	3-60 MMF THWN-2/TH+N	1-14 MMF THWN-2/TH+N	50	40
Y150	3-150 MMF THWN-2/TH+N	1-22 MMF THWN-2/TH+N	80	65
3Y200	3 SETS [3-200 MMF THWN-2/TH+N]	3 SETS [1-50 MMF THWN-2/TH+N]	3-90	3-80

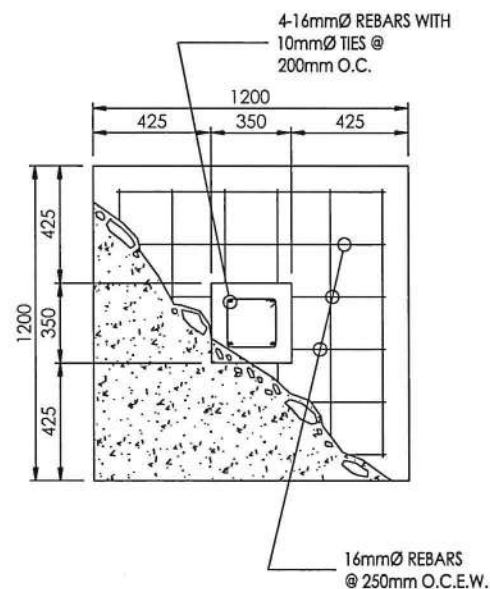
THREE PHASE FOUR WIRE + GROUND				
WIRE CODE	CONDUCTORS		CONDUIT PVC (MM)	CONDUIT IMC (MM)
	PHASE	GROUND		
Z22	4-22 MMF THWN-2/TH+N	1-5.5 MMF THWN-2/TH+N	40	32

3 WIRING SCHEDULE  
E-3 SCALE: 1:100 MTS

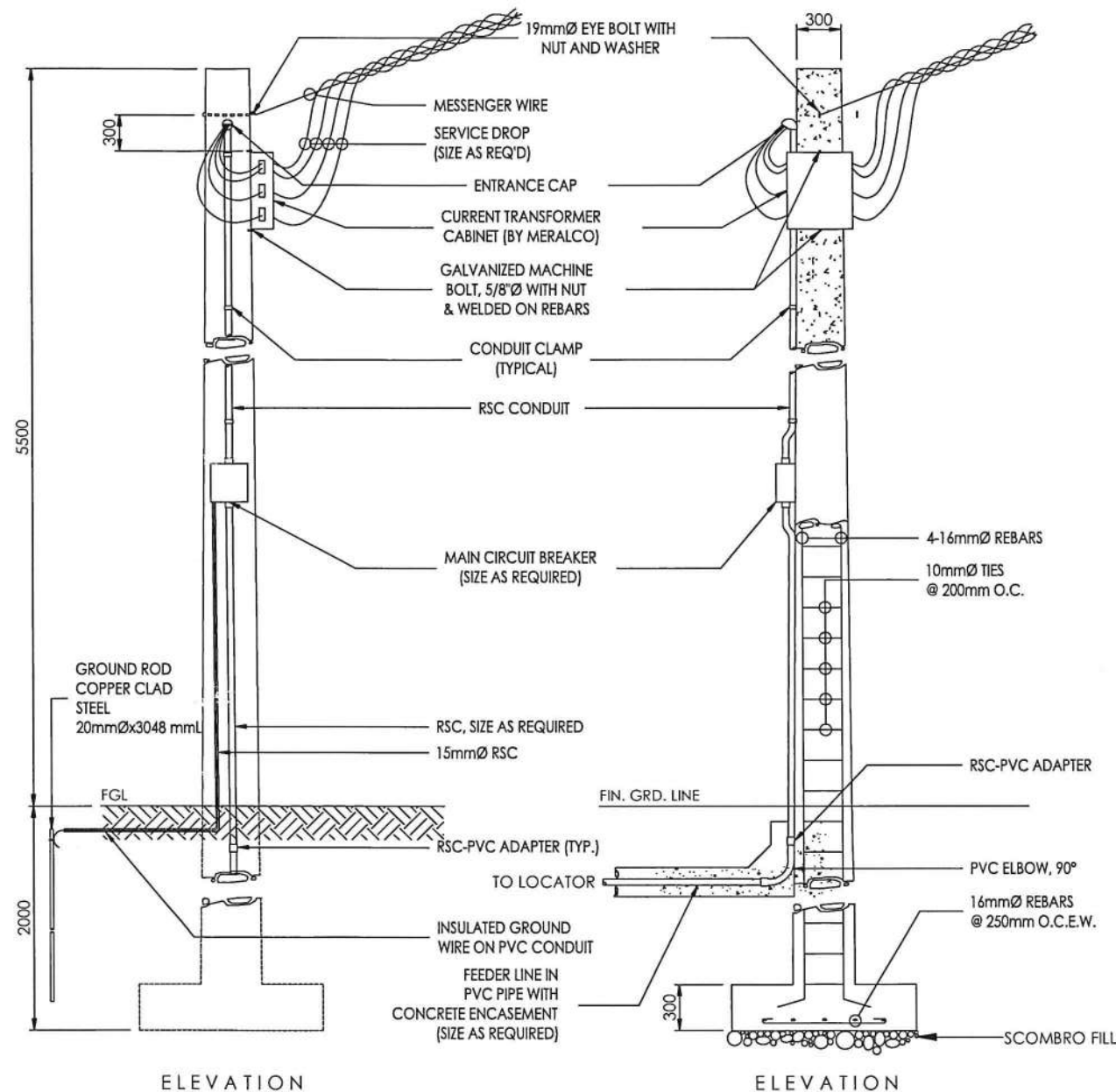
 <b>CPDMO</b> CAMPUS PLANNING DEVELOPMENT & MAINTENANCE OFFICE U.P. MANILA P.O. Box 108, Manila 1000 Tel. No. 524-2255 Telefax No. 524-4455	PREPARED BY:  ENGR. MARLA D. WYN E. RODRIGUEZ ENGINEER II	CERTIFIED CORRECT:  AR. ROSALIO G. FLORES - BERNARDO CHIEF, CPDMO	PROJECT TITLE: UPGRADING OF SERVICE ENTRANCE FOR THE ITC BUILDING ITC BUILDING UNIVERSITY OF THE PHILIPPINES MANILA	RECOMMENDING APPROVAL:  GEOFFREY A. SOLANO, PhD, MSC DIRECTOR, INFORMATION MANAGEMENT SERVICE	APPROVED:  ARLENE A. SAMANIEGO, MD VICE CHANCELLOR FOR ADMINISTRATION	SHEET CONTENT: POWER SINGLE LINE DIAGRAM, LOAD SCHEDULE AND WIRING SCHEDULE	DATE ISSUED: DATE COMPLETED: REVISION NO./DATE: REF. NO.: CADD BY: DWG FILE:	SHEET NO.: <b>E-3</b> 3 OF 5
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**1 GROUND ROD DETAIL**  
E-4 SCALE: NTS




**FOOTING PLAN**



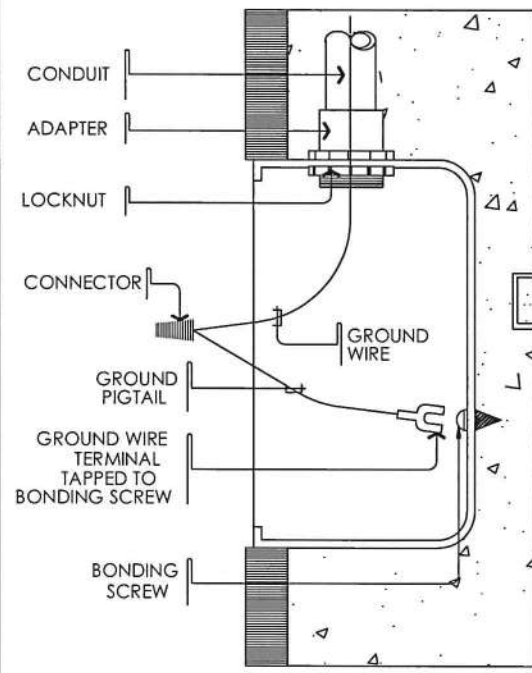
**ELEVATION**

**ELEVATION**

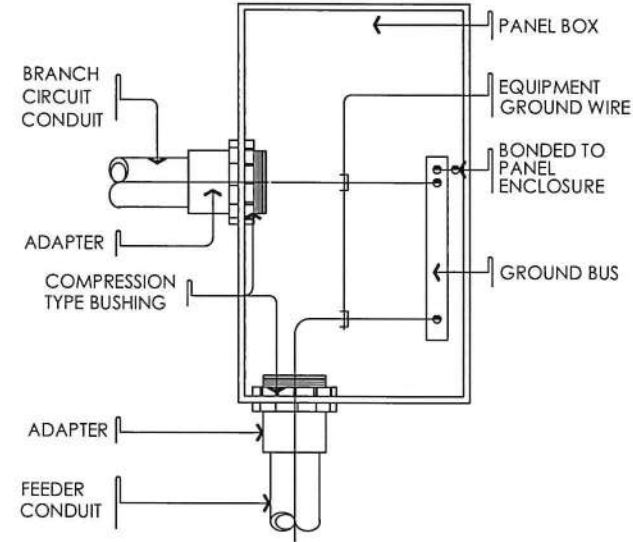
**2 3Ø METERING/SERVICE ENTRANCE ON CONCRETE PRIVATE POLE**  
E-4 SCALE: NTS

 <p><b>CAMPUS PLANNING &amp; DEVELOPMENT &amp; MAINTENANCE OFFICE</b> U.P. MANILA</p> <p>RA 9266 : THIS DRAWING AS AN INSTRUMENT OF SERVICE IS THE PROPERTY OF CPDMO UP MANILA AND SUCH MUST NOT BE REPRODUCED OR COPIED IN OR IN WHOLE WITHOUT PERMISSION.</p>	<p>PREPARED BY:</p> <p>ENGR. MARL DASHYNE E. RODRIGUEZ ENGINEER II</p> <p>ENGR. RENATO B. REMORQUE ENGINEER II</p>	<p>CERTIFIED CORRECT:</p> <p>AR. ROSALIE G. FLORES - BERNARDO CHIEF, CPDMO</p>	<p>PROJECT TITLE:</p> <p>UPGRADING OF SERVICE ENTRANCE FOR THE ITC BUILDING</p> <p>ITC BUILDING UNIVERSITY OF THE PHILIPPINES MANILA</p>	<p>RECOMMENDING APPROVAL:</p> <p>GEOFFREY A. SOLANO, PhD, MSC DIRECTOR, INFORMATION MANAGEMENT SERVICE</p> <p>MICHAEL L. TEE, MD, MHPED, MBA VICE CHANCELLOR FOR PLANNING AND DEVELOPMENT</p>	<p>APPROVED:</p> <p>ARLENE A. SAMANIEGO, MD VICE CHANCELLOR FOR ADMINISTRATION</p>	<p>SHEET CONTENT:</p> <p>MISCELLANEOUS DETAILS</p>	<p>DATE ISSUED:</p> <p>DATE COMPLETED:</p> <p>REVISION NO./DATE:</p> <p>REF. NO.:</p> <p>CADD BY:</p> <p>DWG FILE:</p>	<p>SHEET NO.:</p> <p><b>E-4</b></p> <p>4 OF 5</p>
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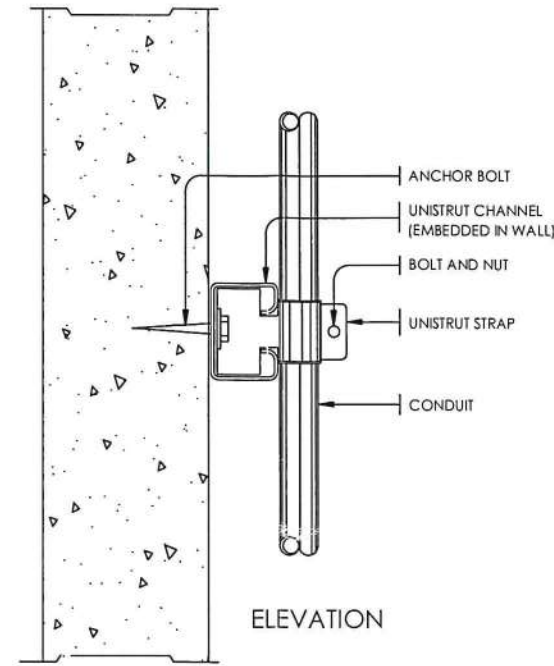




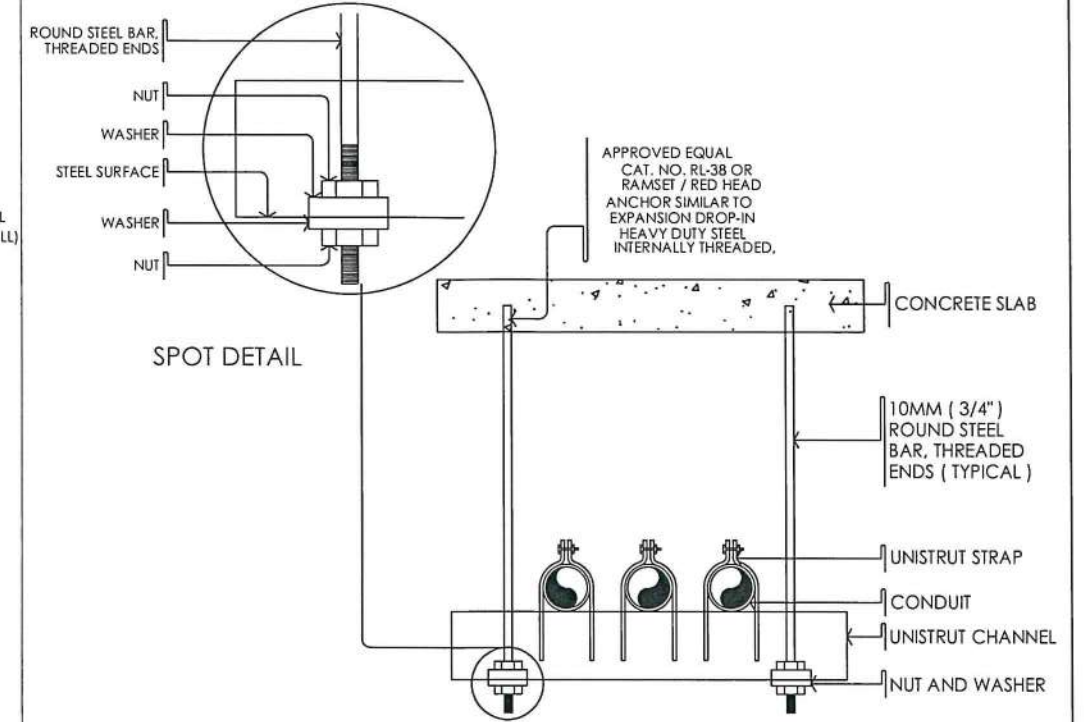
SWITCH BOX



PANELBOARD

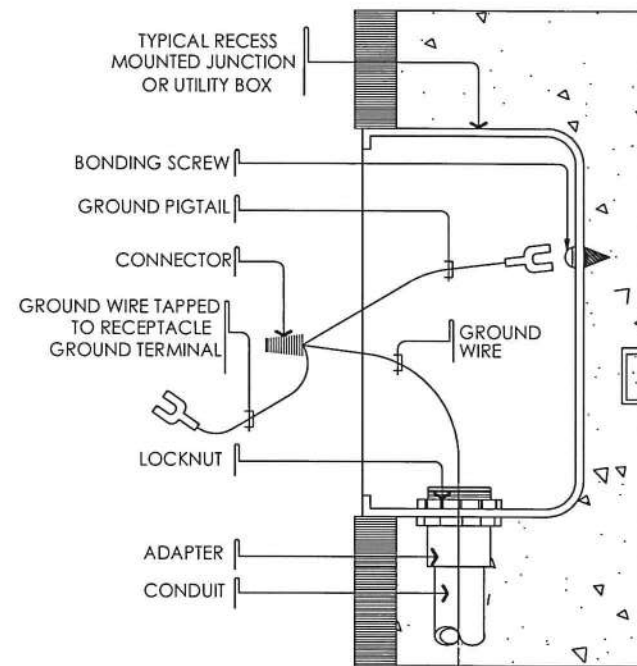


ELEVATION

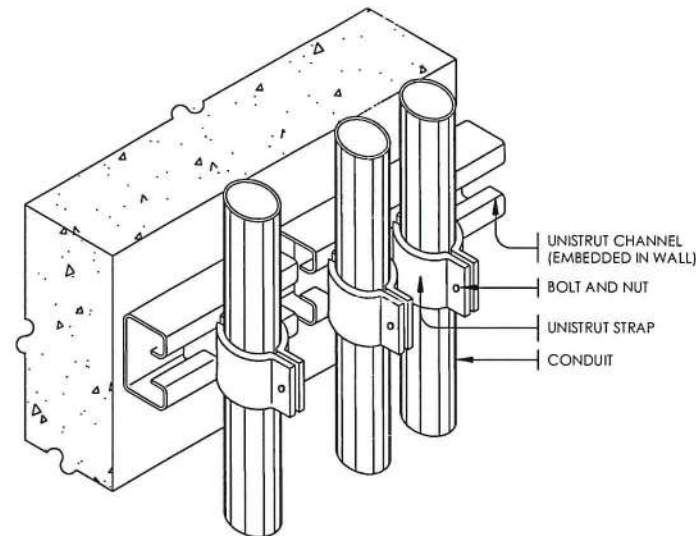


SPOT DETAIL

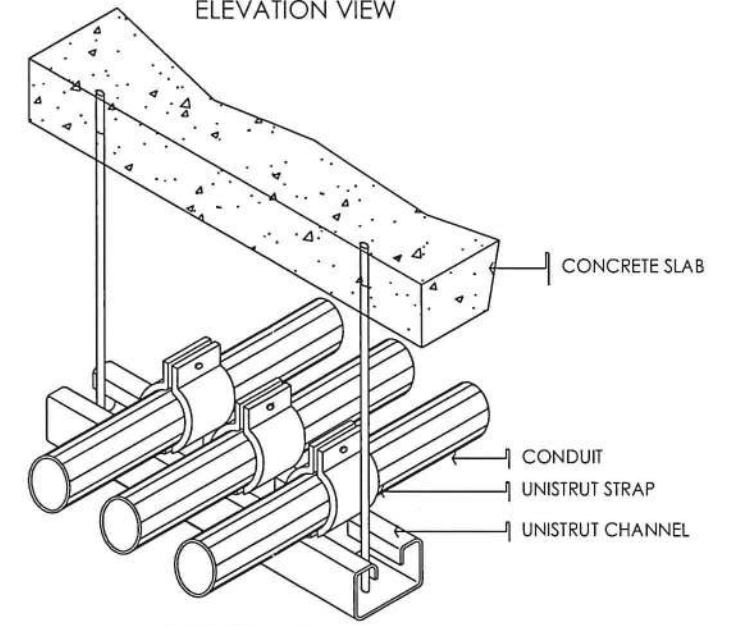
ELEVATION VIEW



RECEPTACLE BOX



ISOMETRIC



ISOMETRIC VIEW

1 TYPICAL GROUNDING CONNECTION DETAIL  
E-5 SCALE: NTS

2 TYPICAL CONDUIT SUPPORT  
DETAIL FOR VERTICAL RUNS  
E-5 SCALE: NTS

3 FOR HORIZONTAL RUNS  
TYPICAL CONDUIT SUPPORT DETAIL  
E-5 SCALE: NTS



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PROJECT TITLE:

UPGRADING OF SERVICE ENTRANCE  
FOR THE ITC BUILDING

ITC BUILDING  
UNIVERSITY OF THE PHILIPPINES MANILA

RECOMMENDING APPROVAL:

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VICE CHANCELLOR FOR PLANNING  
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APPROVED:

ARLENE A. SAMANIEGO, MD  
VICE CHANCELLOR FOR ADMINISTRATION

SHEET CONTENT:

MISCELLANEOUS DETAILS

DATE ISSUED:

DATE COMPLETED:

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REF. NO.:

CADD BY:

DWG FILE:

SHEET NO.:

E-5

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