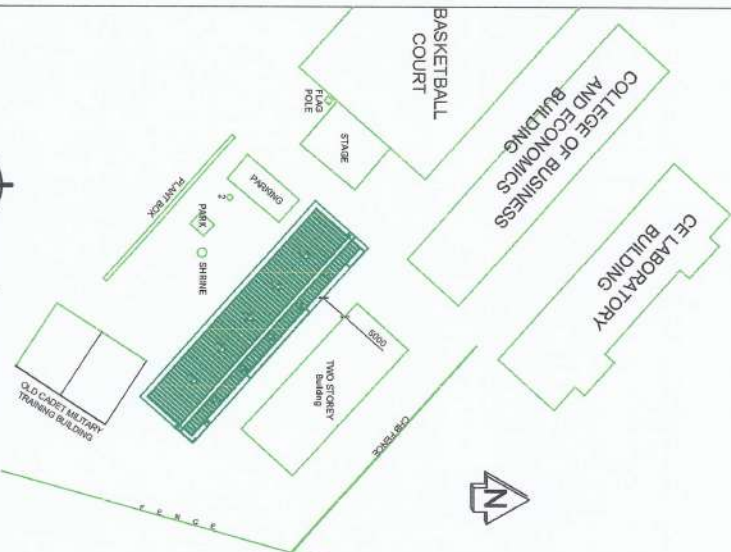




A PERSPECTIVE VIEW
SCALE: DN15



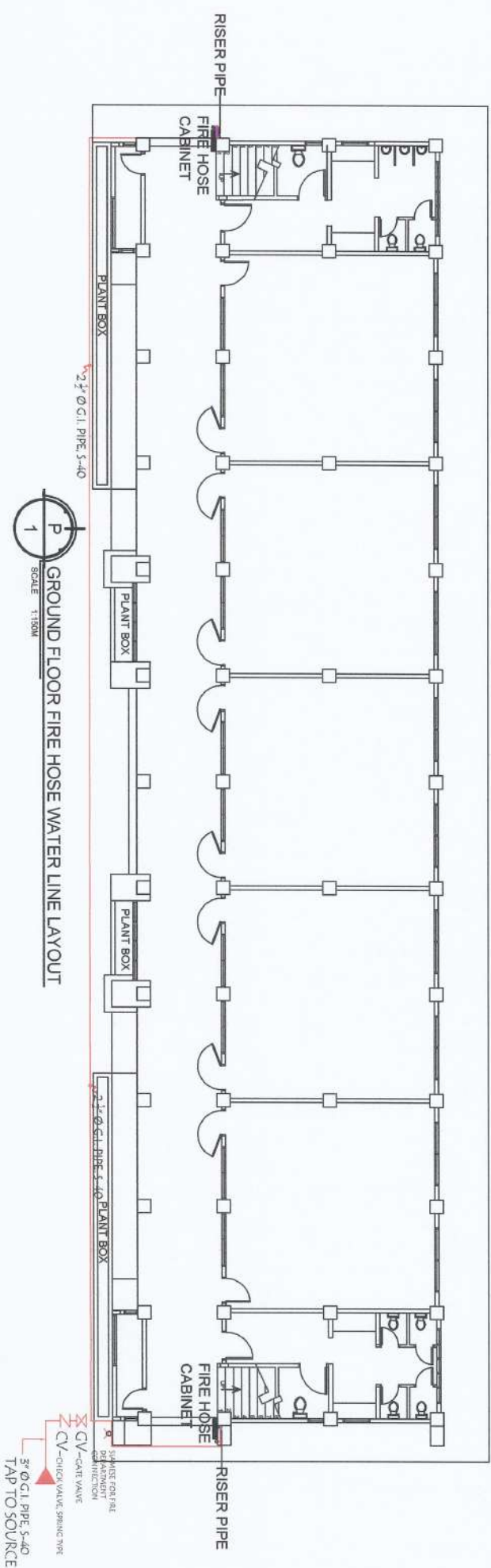
A LOCATION MAP
SCALE: DN15



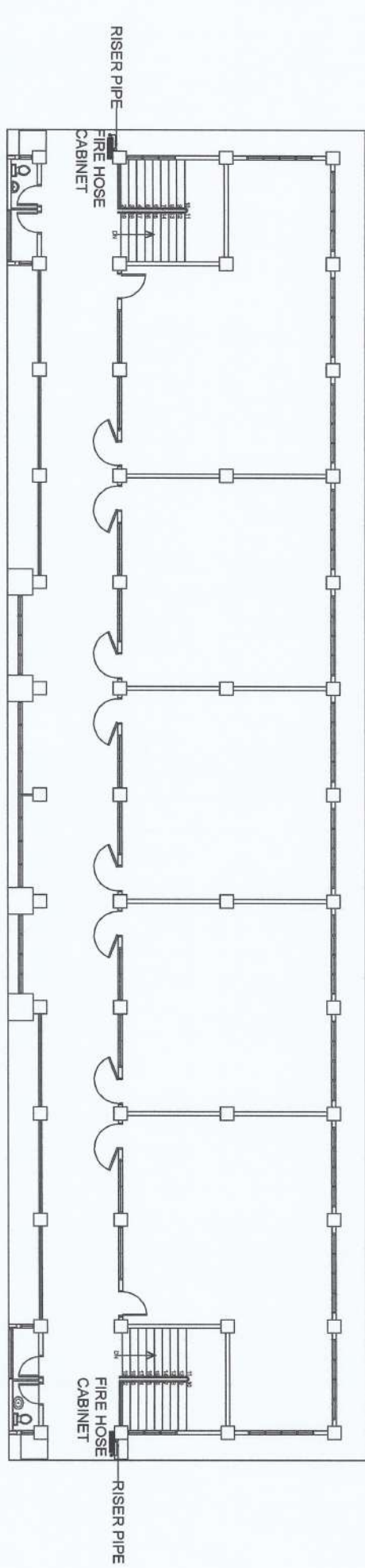
A SITE DEVELOPMENT PLAN
SCALE: DN15

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FDA-4	11	OPERATING CONDUCTORS AMPACITY (PB1)
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PROJECT AND LOCATION:	IMPROVEMENT OF CBE BUILDING, BAYOMBONG CAMPUS NVAO COMPOUND, BAYOMBONG, TAYALAN, ZAMBALAYA	PREPARED BY:	NORLEN B. BARRONG PROJECT ELECTRICAL ENGINEER	CHECKED BY:	JANETTE B. EMBERTEL PROJECT ELECTRICAL ENGINEER	ANDRES M. SA BUNGAN JR. PROJECT ELECTRICAL ENGINEER	SUBMITTED BY:	JYRUEL M. CADENTE PROJECT ELECTRICAL ENGINEER	CONCURRED BY:	ARVIN P. ALBERGOS PROJECT ELECTRICAL ENGINEER	RECOMMENDING APPROVAL:	CARLO F. ADDI VICE PRESIDENT OF ANTI-CORRUPTION AND INTEGRATION DIVISION	APPROVED BY:	WILFREDO A. DUMALE JR. UNIVERSITY PRESIDENT	SHEET NO:	A-1 1
REPUBLIC OF THE PHILIPPINES MUNICIPALITY OF BAYOMBONG OFFICE OF THE BUILDING OFFICIAL LAND USE & ZONING																
ARCHITECTURAL CIVIL/STRUCTURAL ELECTRICAL MECHANICAL SANITARY PLUMBING ELECTRONICS GEOMETRIC ENGINEER RECORDING/REVISIONS																

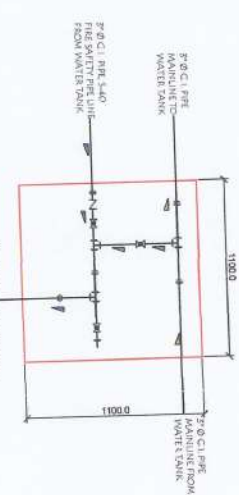
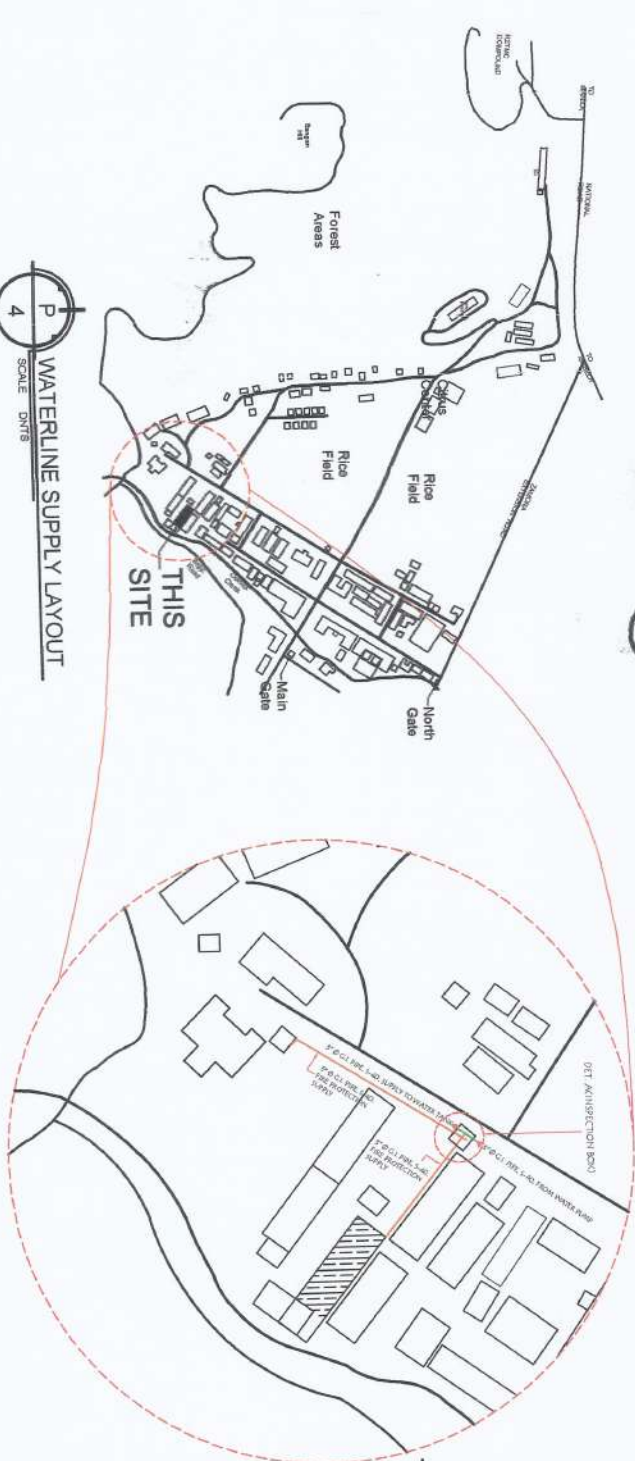
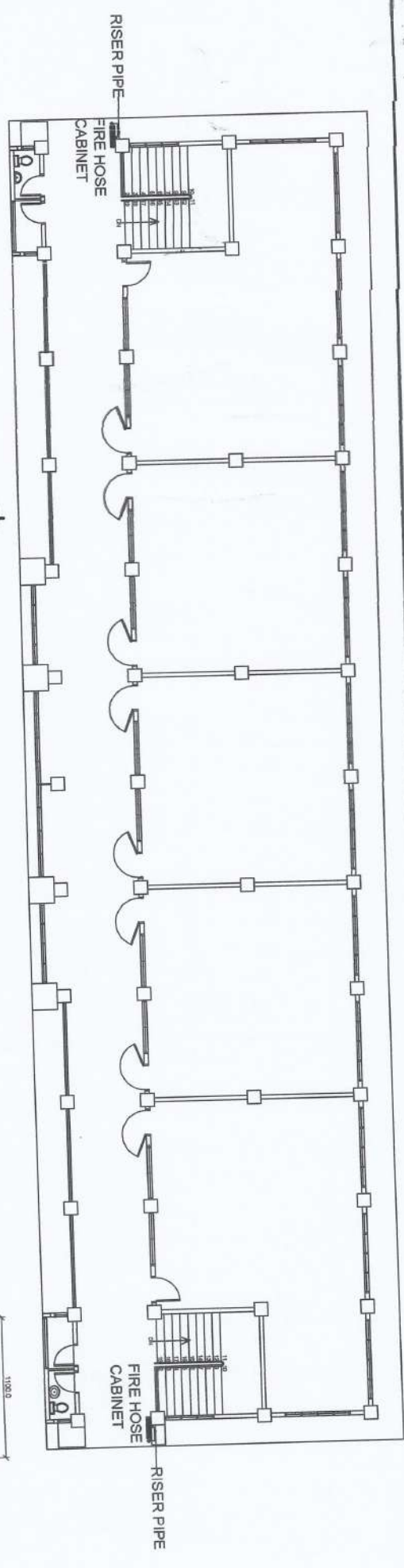


P
GROUND FLOOR FIRE HOSE WATER LINE LAYOUT
SCALE 1:150M



P
SECOND FLOOR FIRE HOSE WATER LINE LAYOUT
SCALE 1:150M

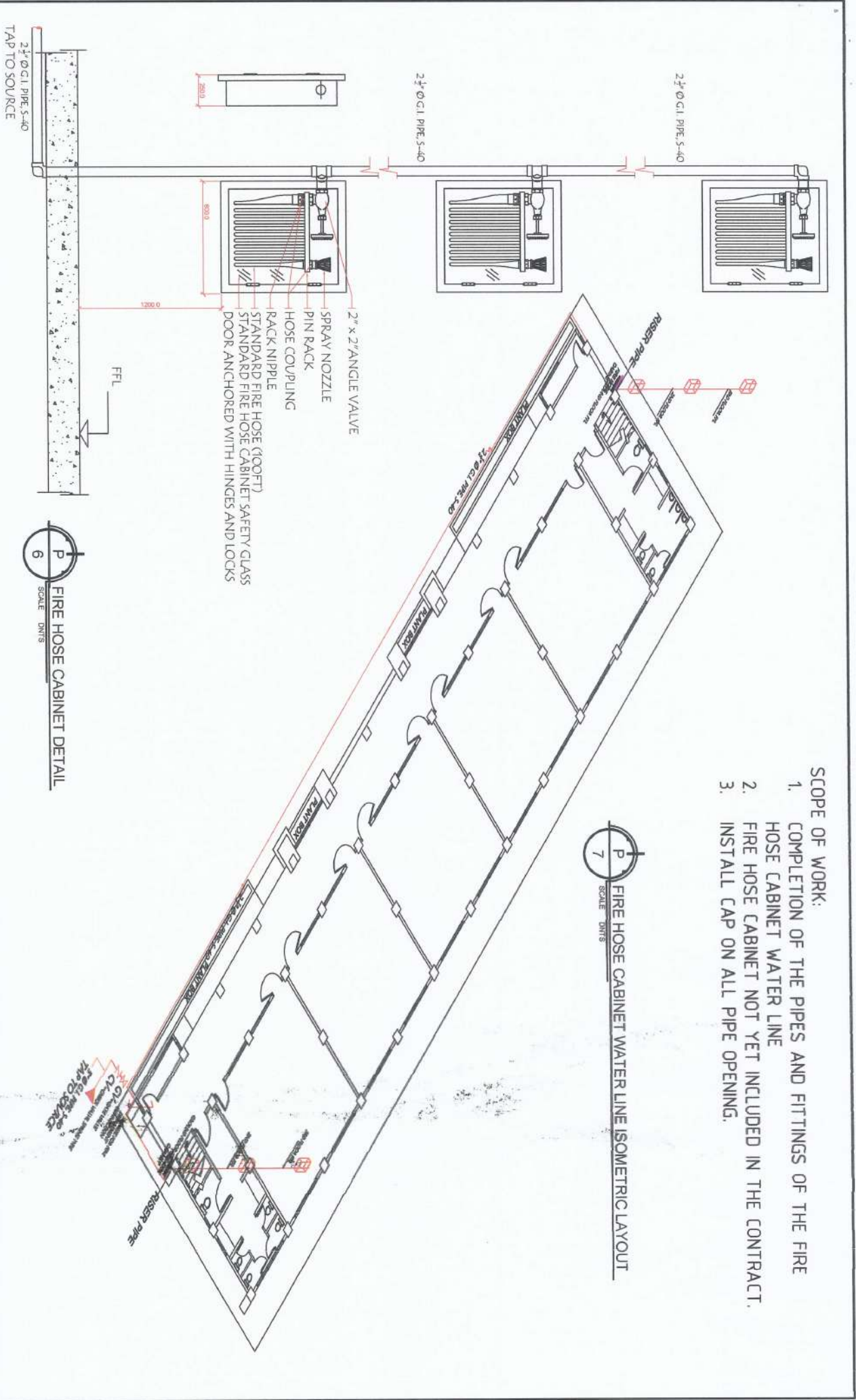
PROJECT AND LOCATION:	PREPARED BY:	CHECKED BY:	SUBMITTED BY:	CONCURRED BY:	RECOMMENDING APPROVAL:	APPROVED BY:	SHEET NO.:	
IMPROVEMENT OF CBE BUILDING, BAYOMBONG CAMPUS NVSU NATIONAL VISUAL SCHOOL OF ARCHITECTURE, VISUAL DESIGN	<i>[Signature]</i> NORBERTO CALSE ARCHITECT	<i>[Signature]</i> JANSON GIMENITEL PROJECT ENGINEER	<i>[Signature]</i> ANDRES MGA BUNGAN JR. ARCHITECT	<i>[Signature]</i> JYRUS CALLES CADENATE ARCHITECT	<i>[Signature]</i> ARVIN P. LALESTEROS ARCHITECT	<i>[Signature]</i> CARLO FERRILL VICE PRESIDENT OF CIVIL ENGINEERING DEPARTMENT	<i>[Signature]</i> WILFREDO A. DUMALE JR. UNIVERSITY ENGINEER	P-1 2



- LEGEND:**
- G.I. GLOBE VALVE
 - CHECK VALVE (SOLID BRASS-SWING TYPE)
 - UNION PATENTE
 - G.I. TEE
 - G.I. THREADED ENDCAP

PROJECT AND LOCATION: IMPROVEMENT OF CBE BUILDING, BAYOMBONG CAMPUS MVSU MINDANAO STATE UNIVERSITY	PREPARED BY: NORBERTO R. RIVERA NORBERTO R. RIVERA NORBERTO R. RIVERA	CHECKED BY: LARRY S. RIVERA LARRY S. RIVERA LARRY S. RIVERA	SUBMITTED BY: JYRUS V. LES CLODENTE JYRUS V. LES CLODENTE JYRUS V. LES CLODENTE	CONCURRED BY: ARVIN F. VAL ESTEROS ARVIN F. VAL ESTEROS ARVIN F. VAL ESTEROS	RECOMMENDING APPROVAL: CARLO F. MADRIGAL CARLO F. MADRIGAL CARLO F. MADRIGAL	APPROVED BY: WILFREDO A. DUMALE JR. WILFREDO A. DUMALE JR. WILFREDO A. DUMALE JR.	SHEET NO: P-2 3
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- SCOPE OF WORK:
1. COMPLETION OF THE PIPES AND FITTINGS OF THE FIRE HOSE CABINET WATER LINE
 2. FIRE HOSE CABINET NOT YET INCLUDED IN THE CONTRACT.
 3. INSTALL CAP ON ALL PIPE OPENING.



P
7
SCALE: DIMS

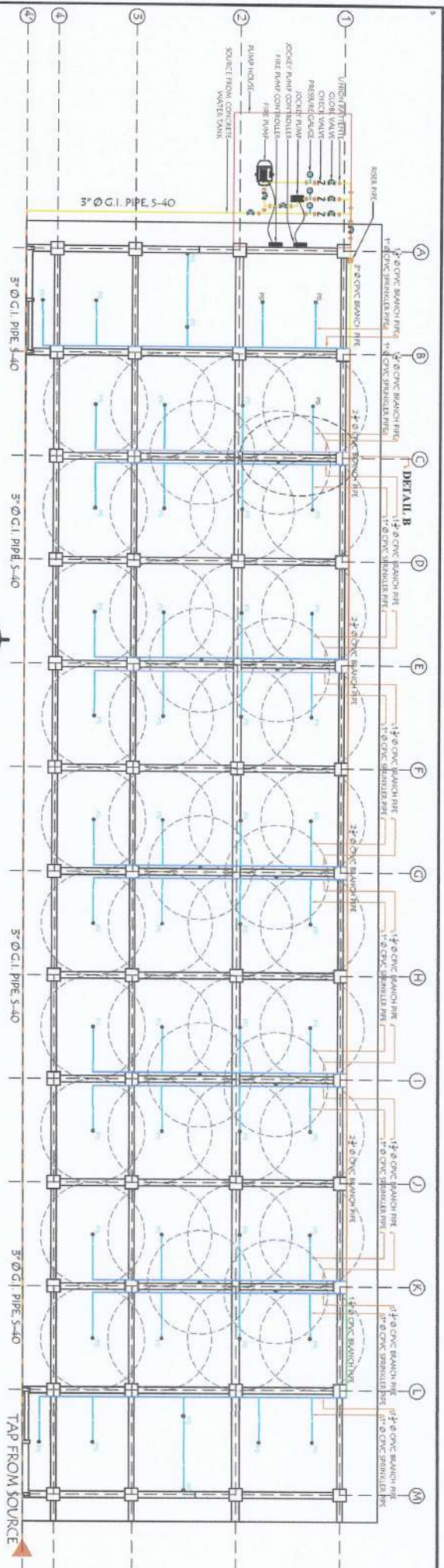
FIRE HOSE CABINET WATER LINE ISOMETRIC LAYOUT

P
6
SCALE: DIMS

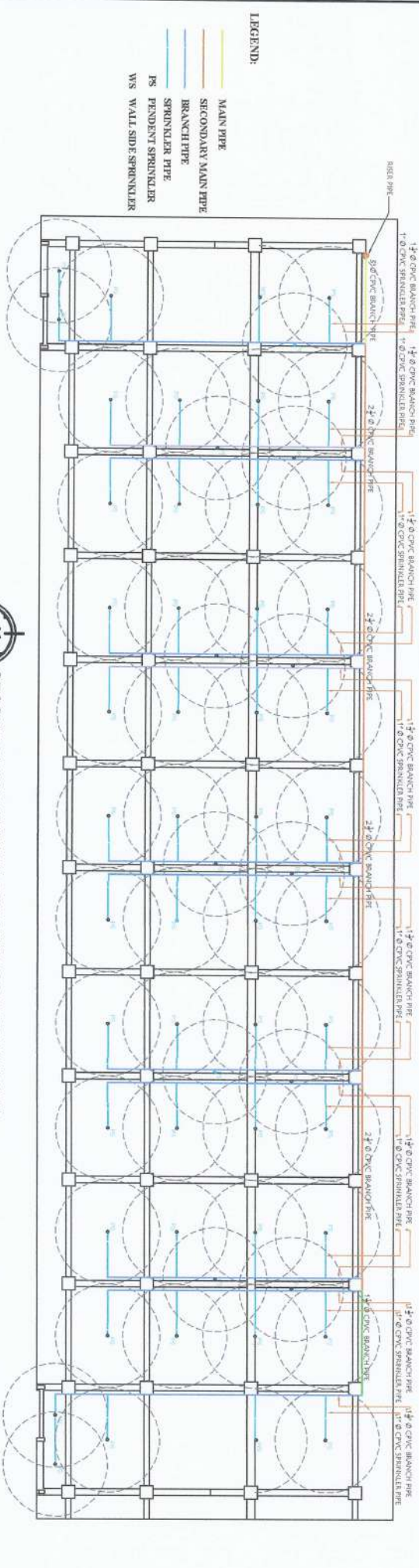
FIRE HOSE CABINET DETAIL

PROJECT AND LOCATION:	PREPARED BY:	CHECKED BY:	SUBMITTED BY:	CONCURRED BY:	RECOMMENDING APPROVAL:	APPROVED BY:	SHEET NO.:
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<p>IMPROVEMENT OF CBE BUILDING, BAYOMBONG CAMPUS UNIVERSITY OF NAGANAGORANG, NAGANAGORANG</p>	<p>NEGATIVE CASE</p>	<p>JAYSON M. MENTEL PROJECT ENGINEER</p>	<p>ANDRES M. S. BUNGAN JR. SUPERINTENDENT</p>	<p>JYRUS V. CASDIENTE DIRECTOR OF SPES</p>	<p>ARVIN P. M. ESTEROS CHIEF OF DIVISION</p>	<p>CARLOS F. JARDIN VICE PRESIDENT OF OPERATIONS</p>	<p>WILFREDO A. DUMALE JR. UNIVERSITY PRESIDENT</p>
	<p style="text-align: center;">P-3 4</p>						



M
GROUND FLOOR SPRINKLER HEAD LOCATION LAYOUT
SCALE 1:150M



M
SECOND FLOOR SPRINKLER HEAD LOCATION LAYOUT
SCALE 1:150M

- LEGEND:**
- MAIN PIPE
 - SECONDARY MAIN PIPE
 - BRANCH PIPE
 - SPRINKLER PIPE
 - PENDENT SPRINKLER
 - WS WALL SIDE SPRINKLER

PROJECT AND LOCATION:	IMPROVEMENT OF CBE BUILDING, BAYOMBONG CAMPUS						
PREPARED BY:	NORMENT R. CALISE						
CHECKED BY:	JATSON P. RIMENTEL						
SUBMITTED BY:	JYRUS V. ES. CABIENTE						
CONCURRED BY:	ARVIN P. JALL ESTEROS						
RECOMMENDING APPROVAL:	CARLO R. VADA						
APPROVED BY:	WILFREDO A. DUMALE JR.						
SHEET NO.:	M-1 5						



NORMENT R. CALISE
PROJECT ENGINEER

JATSON P. RIMENTEL
PROJECT ENGINEER

ANDRES M. SABLUNGAN JR.
PROJECT ENGINEER

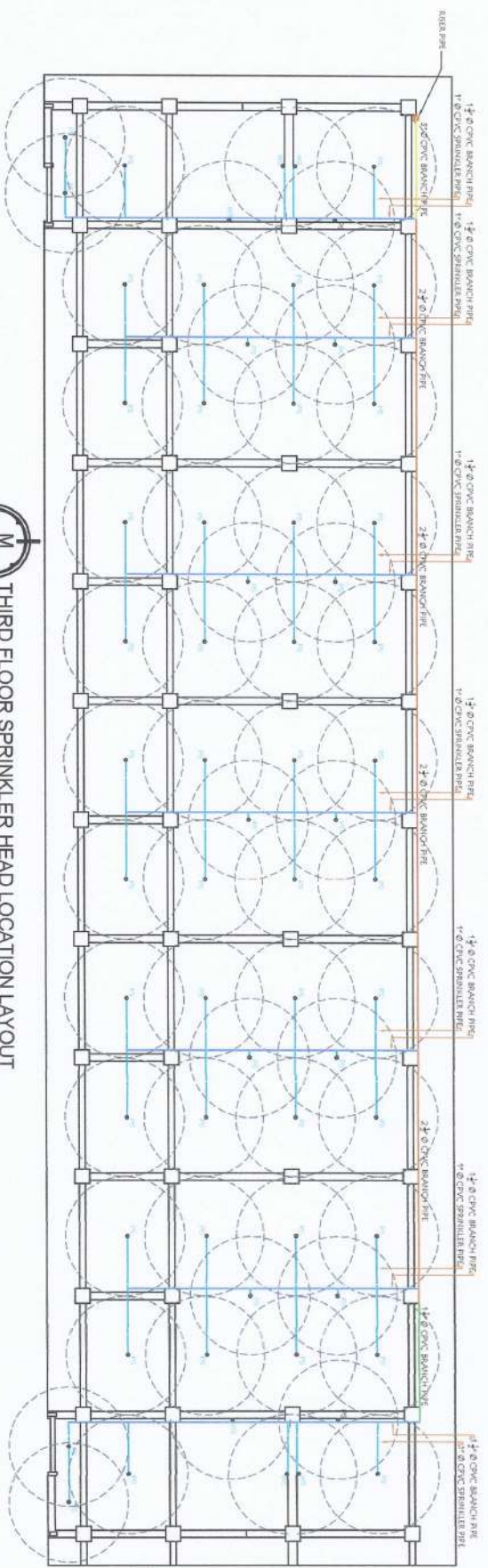
JYRUS V. ES. CABIENTE
PROJECT ENGINEER

ARVIN P. JALL ESTEROS
PROJECT ENGINEER

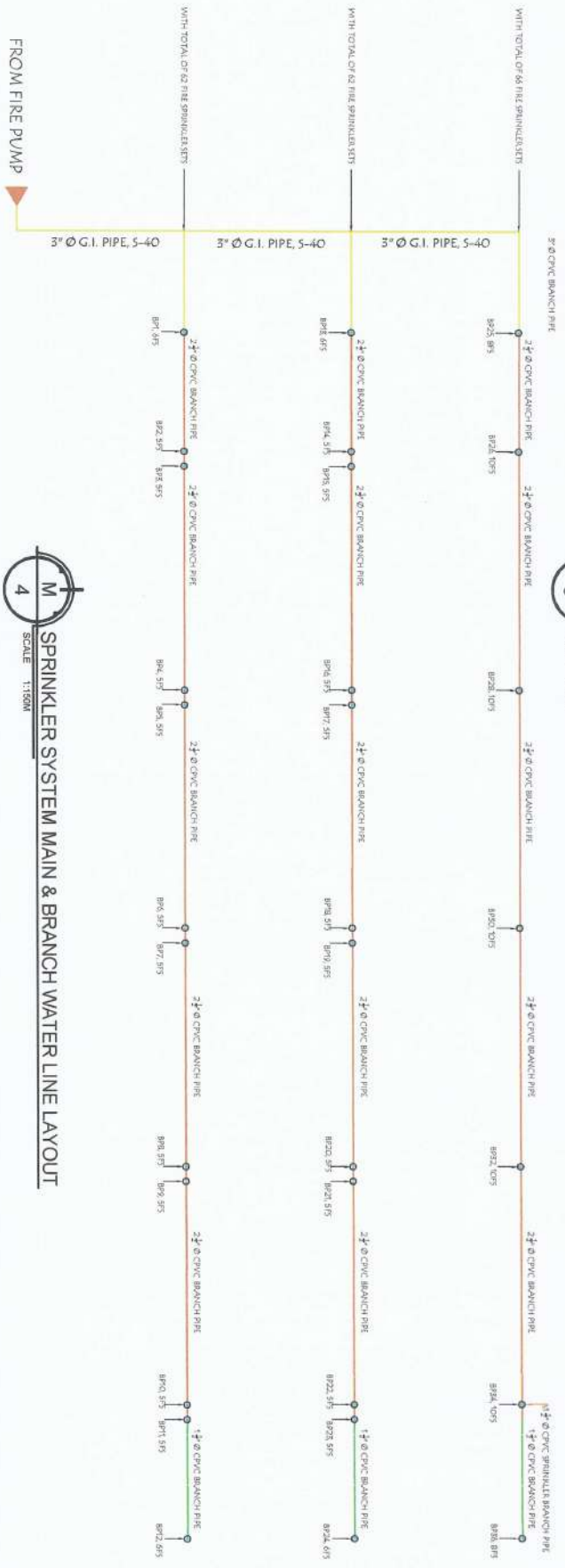
CARLO R. VADA
VICE PRESIDENT OF TRAINING, DEPT. OF ROTARY FOUNDATION SYSTEM

WILFREDO A. DUMALE JR.
UNIVERSITY PRESIDENT





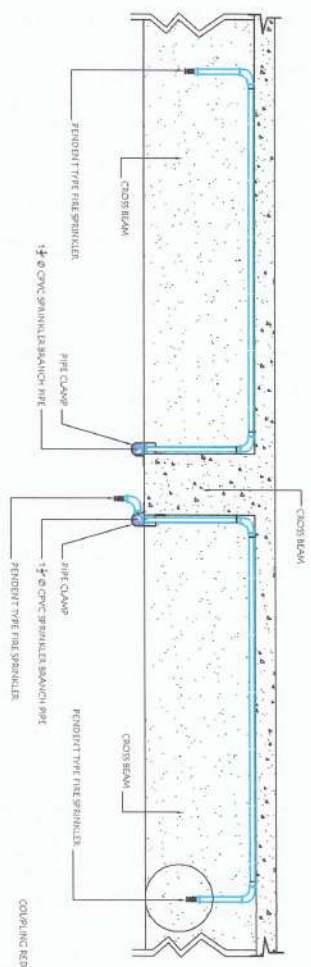
3
M
THIRD FLOOR SPRINKLER HEAD LOCATION LAYOUT
 SCALE 1:1500



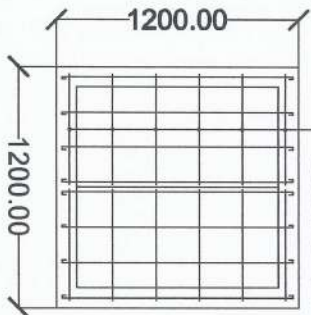
4
M
SPRINKLER SYSTEM MAIN & BRANCH WATER LINE LAYOUT
 SCALE 1:1500

PROJECT AND LOCATION:	PREPARED BY:	CHECKED BY:	SUBMITTED BY:	CONCURRED BY:	RECOMMENDING APPROVAL:	APPROVED BY:	SHEET NO.:
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IMPROVEMENT OF CBE BUILDING, BAYOMBONG CAMPUS <small>NATIONAL VISUAL SCIENCE UNIVERSITY</small>	INGRID M. R. CAUSE <small>ARCHITECTURE DESIGNER</small>	JAYSON S. SILENTE <small>PROJECT ARCHITECT</small>	ANDRES M. SA BUNGAN JR. <small>ENGINEER</small>	YRUS J. RES CADIENTE <small>ARCHITECTURE DESIGNER</small>	ARVIN F. VAL ESTEROS <small>ARCHITECTURE DESIGNER</small>	CARLO E. KADIB <small>VICE PRESIDENT OF PROJECT AND MANAGEMENT SYSTEMS</small>	WILFREDO A. DUMALE JR. <small>STRUCTURAL ENGINEER</small>	



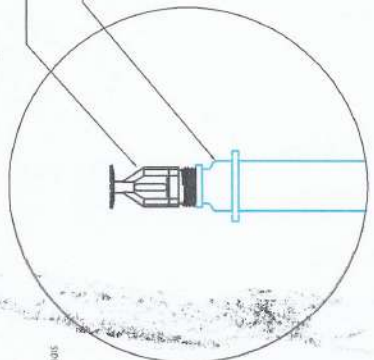
10MM Ø BAR RSB AS SHOWN



PLAN OF INSPECTION BOX



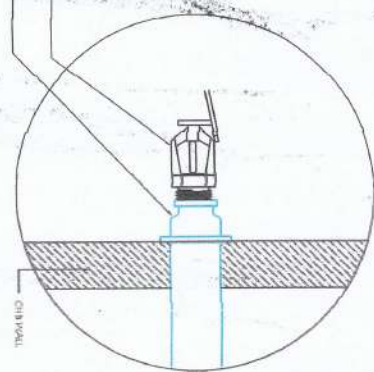
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PENDENT TYPE SPRINKLER



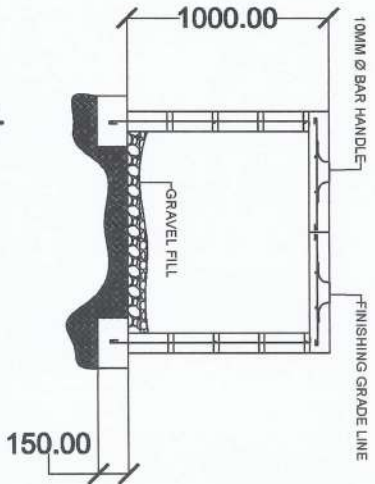
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SIDE WALL TYPE SPRINKLER



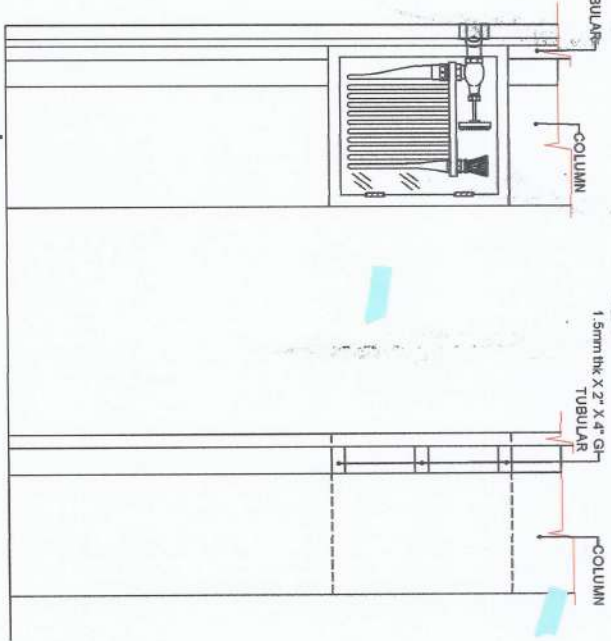
SCALE 1:150M



SECTION OF INSPECTION BOX



SCALE 1:150



FIRE HOSE CABINET FRAME DETAILS



SCALE 1:150

PROJECT AND LOCATION:	PREPARED BY:	CHECKED BY:	SUBMITTED BY:	CONCURRED BY:	RECOMMENDING APPROVAL:	APPROVED BY:	SHEET NO:
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IMPROVEMENT OF CBE BUILDING, BAYOMBONG CAMPUS
NVSU
NATIONAL COUNCIL OF SCIENCE AND TECHNOLOGY

NGRIBER B. CAUSE
ARCHITECT

JAYSON P. PIMENTEL
PROJECT ARCHITECT

ANDRES M. SABUNGAN JR.
COORDINATOR

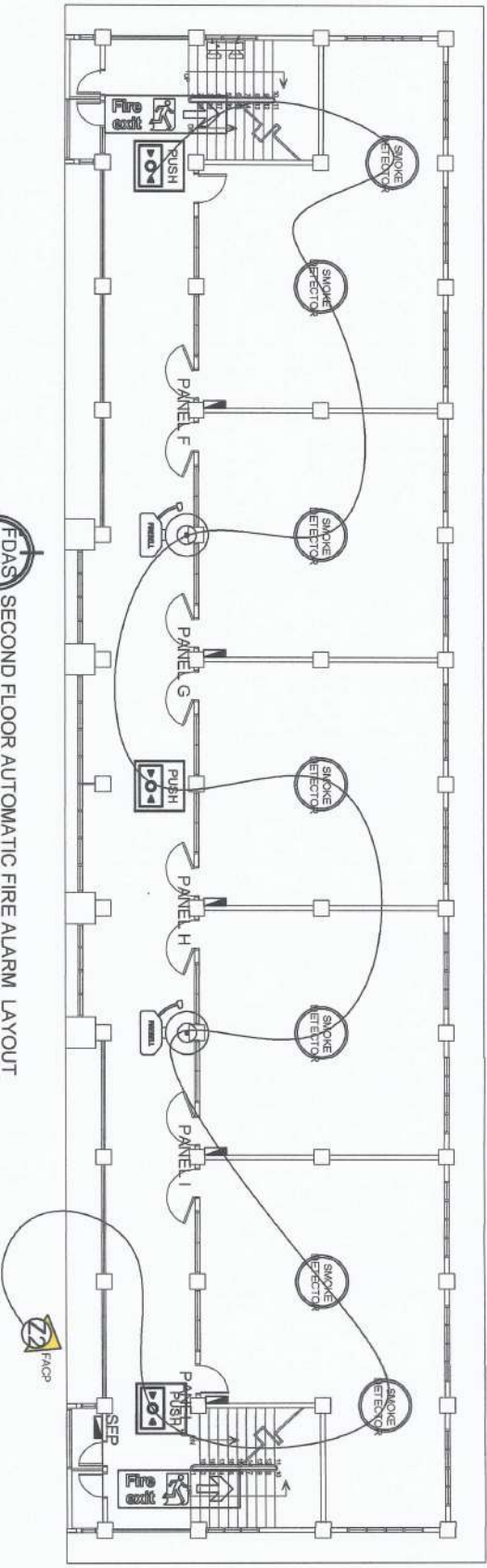
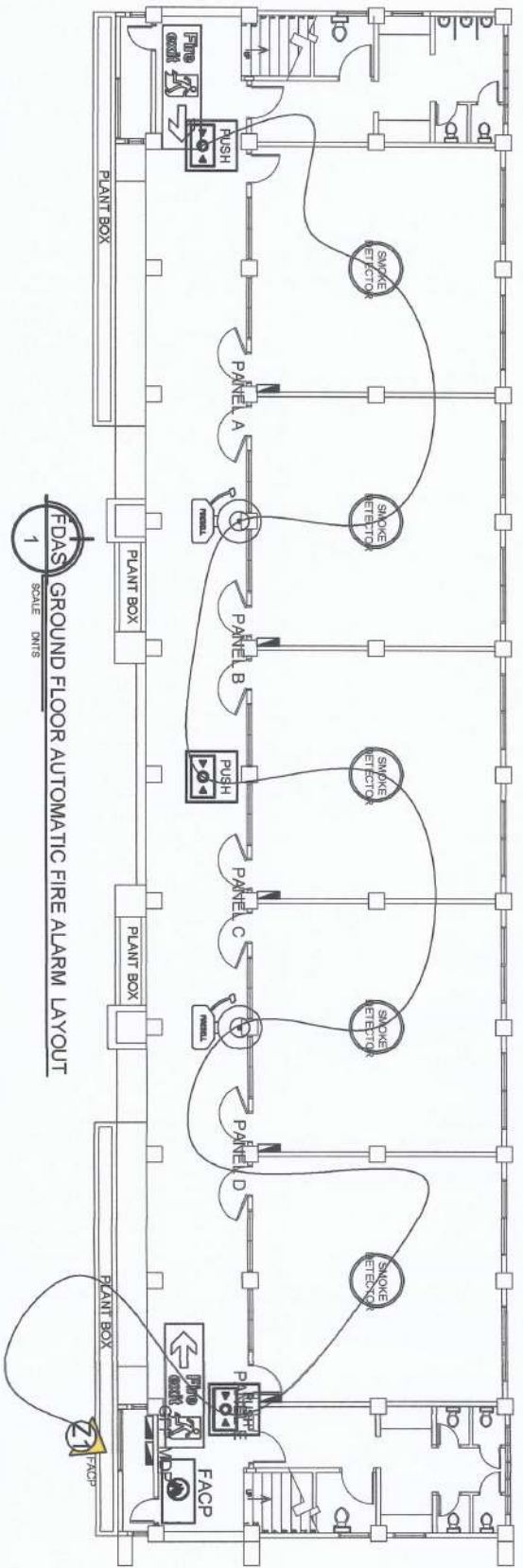
JYRUS M. CADENTE
DIRECTOR

ARVIN P. MALLESTEROS
SUPERVISOR

GARY O. RAYDA
VICE PRESIDENT

WILFREDO A. DUMALE JR.
UNIVERSITY PRESIDENT

M-3
7



PROJECT AND LOCATION: IMPROVEMENT OF CBE BUILDING, BAYOMBONG

PREPARED BY: KYLE REINAGA GALAPON

CHECKED BY: JAYSON R. PIMENTEL

SUBMITTED BY: JYRUS ATILES CADENTE

CONCURRED BY: ARVIN P. WALLISTEROS

RECOMMENDING APPROVAL: CARLO F. VADIL

APPROVED BY: WILFREDO A. DUMALE JR.

SHEET NO: 8



NSU CAMPUS

NSU CAMPUS

NSU CAMPUS

NSU CAMPUS

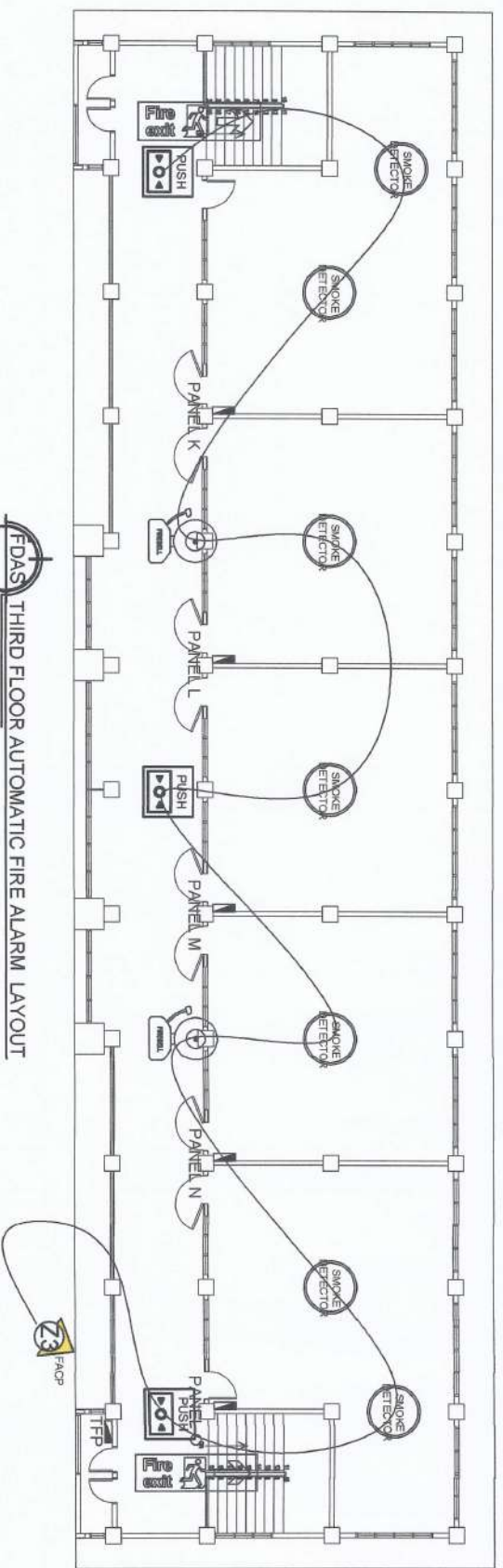
NSU CAMPUS

NSU CAMPUS

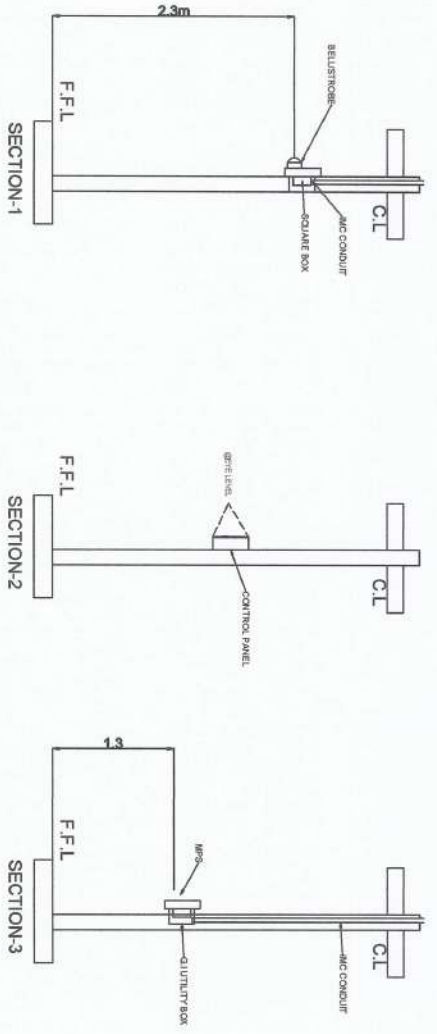
NSU CAMPUS

NSU CAMPUS





FDAS THIRD FLOOR AUTOMATIC FIRE ALARM LAYOUT
SCALE: DN15



FDAS ELEVATION INSTALLATION DETAILS

FDAS ELEVATION INSTALLATION DETAILS
SCALE: DN15

LEGEND:	
	SMOKE DETECTOR
	FIRE EXTINGUISHER
	LED EMERGENCY LAMP
	FIRE ALARM BELL

FDAS LEGEND
SCALE: DN15

PROJECT AND LOCATION: IMPROVEMENT OF CBE BUILDING, BAYOMBONG CAMPUS NSU COLLEGE DIVISION, NEW VISAYAS	PREPARED BY: KYLE BENCOY GALUPON	CHECKED BY: JAYSON S. SUINTEL	SUBMITTED BY: JYRUS VILES CADENTE	CONCURRED BY: ARVIN P. MALLASTEROS	RECOMMENDING APPROVAL: CARLO F. VADIL	APPROVED BY: WILFREDO A. DUMALE JR.	SHEET NO: 9
--	--	---	---	--	---	---	-----------------------

PROJECT: CONSTRUCTION OF CBE BUILDING

PANEL LOAD SCHEDULE AND VOLTAGE DROP CALCULATION

PANEL ORGANIZATION: 2315
 AREA/CURT. SERVED:
 FEED FROM:

MOUNTING LOCATION:
 MOUNTING METHOD:
 FEED TYPE:

VOLTAGE SYSTEM: 230 V
 WIRE: 18 2W/G
 ENCLOSURE: METAL BOX

CIRCUIT NO.	LOAD DESCRIPTION	SYSTEM VOLTAGE			LOAD DISTRIBUTION			BREAKER SIZE			CABLE DETAIL			CONDUIT								
		Ø	RW	RVA	4Ø	BC	CA	3Ø	Rated Current	% Multiplier	AT	AP	Pole	5ØH	4ØL	3ØS	# of Wires	# of Ground Wires	Type	mmØ	Type	
1	21	1	24	0.30	0.32				14.2	125%	16	2	1.0	2	2.0	TRNH	1.0	2.0	TRNH	15	PC	
2	22	1	24	0.36	0.38				15.8	125%	20	2	1.0	2	2.0	TRNH	1.0	2.0	TRNH	15	PC	
3	23	1	24	0.31	0.35				14.5	125%	18	2	1.0	2	1.5	TRNH	1.0	2.0	TRNH	15	PC	
TOTAL				0.97	1.04		0.00	0.00														

LOAD COMPUTATION				MAIN BREAKER SIZE AND CABLE SIZE DETAIL					
TOTAL PANEL LOAD	=	1.04 RVA	% MULTPLIER	=	100%	MAIN PROTECTION	=	15 AT	3Ø AP
DEMAND FACTOR	=	100%	WITH MULTIPLIER	=	5 A	MAIN SERVICE WIRE	=	2 W/ 2	3.5 mm ² TRNH
TOTAL DEMAND LOAD	=	1.04 RVA	PHASE	=	1 Ø	MAIN GROUND WIRE	=	1	2.0 mm ² TW
TOTAL CURRENT LOAD	=	5 A	SYSTEM VOLTAGE	=	230 V	CONDUIT SIZE	=	1.5 mmØ	PC

FDAS-3 PANEL LOAD SCHEDULE AND VOLTAGE DROP CALCULATION

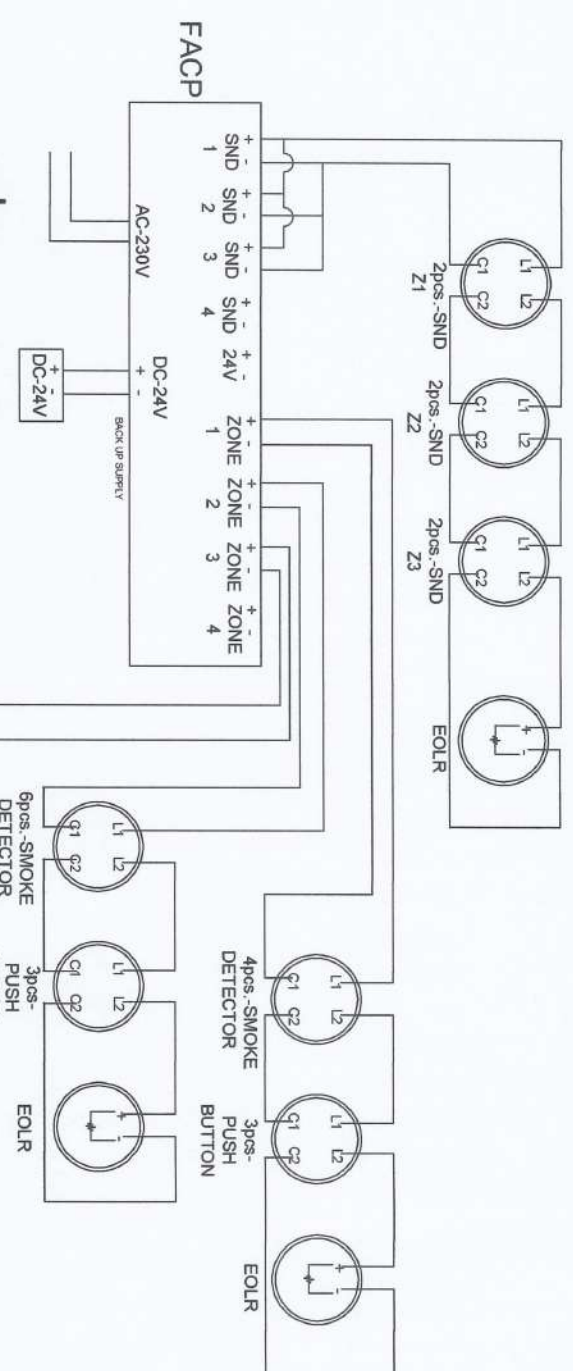
CIRCUIT NUMBER	CABLE		LOAD VA	FLA HP	CONTINUOUS LOAD?		SELECTED CONDUCTOR SIZE	NO. OF RUNS	DERATING FACTOR TEMP. 40°	NEW AMP. (1.25/EQUALS RAV)				
	FROM	TO			YES/NO	1.25/EQUAL FLA					AMP.			
1	PB1	FARTHEST	24	320	13.33333	YES	16.6666667	2.0mm ² TRNH Cu.	25	1	0.91	1	22.75	YES
2	PB1	FARTHEST	24	380	15.83333	YES	19.7916667	2.0mm ² TRNH Cu.	25	1	0.91	1	22.75	YES
3	PB1	FARTHEST	24	350	14.58333	YES	18.2291667	2.0mm ² TRNH Cu.	30	1	0.91	1	27.3	YES

FDAS-3 DERATING CONDUCTOR'S AMPACITY (PB1)

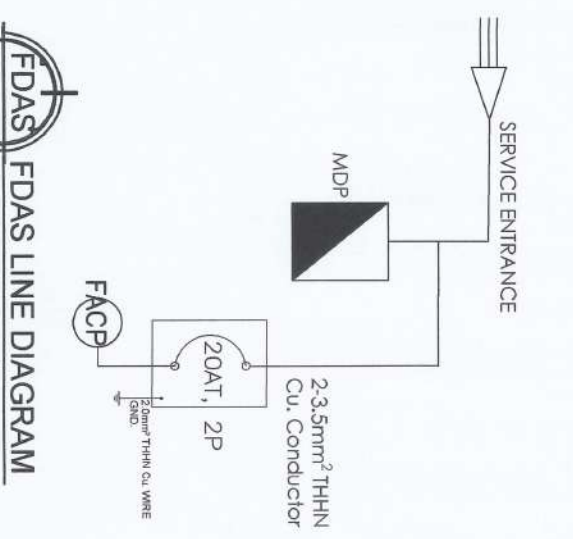
VOLTAGE DROP CALCULATION (PB1)						
CIRCUIT NUMBER	CONDUCTOR LENGTH	CABLE RESISTANCE (PER 305m @ 90°)	AMPERE PER RUN	VOLTAGE DROP	%VD	REMARKS
1	31	0.010786885	13.3333333	4.458579235	1.938513%	CABLE IS PROPERLY SIZED
2	32	0.010786885	15.8333333	5.46535191	2.376241%	CABLE IS PROPERLY SIZED
3	48	0.009819672	14.5833333	4.73770492	2.07552%	CABLE IS PROPERLY SIZED

FDAS-3 VOLTAGE DROP CALCULATION (PB1)

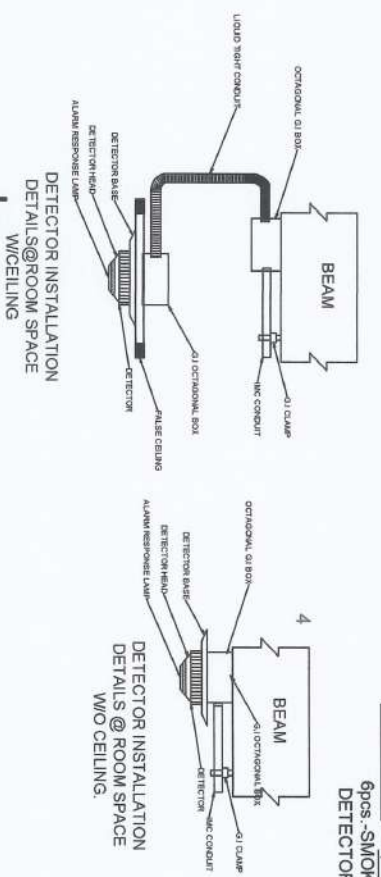
PROJECT AND LOCATION: IMPROVEMENT OF CBE BUILDING, BAYOMBONG CAMPUS
 PREPARED BY: KYLE BERNARD GALDARON
 CHECKED BY: JAYSON R. PIMENTEL
 SUBMITTED BY: ANDRES W. SALUNGAN JR.
 CONCURRED BY: JYRUS V. LICES CADENTE
 RECOMMENDING APPROVAL: ARVIN P. ANIL ESTEROS
 APPROVED BY: WILFREDO A. DUMALE JR.
 SHEET NO.: 10



FDAS FDAS LINE DIAGRAM
6



FDAS FDAS LINE DIAGRAM
7



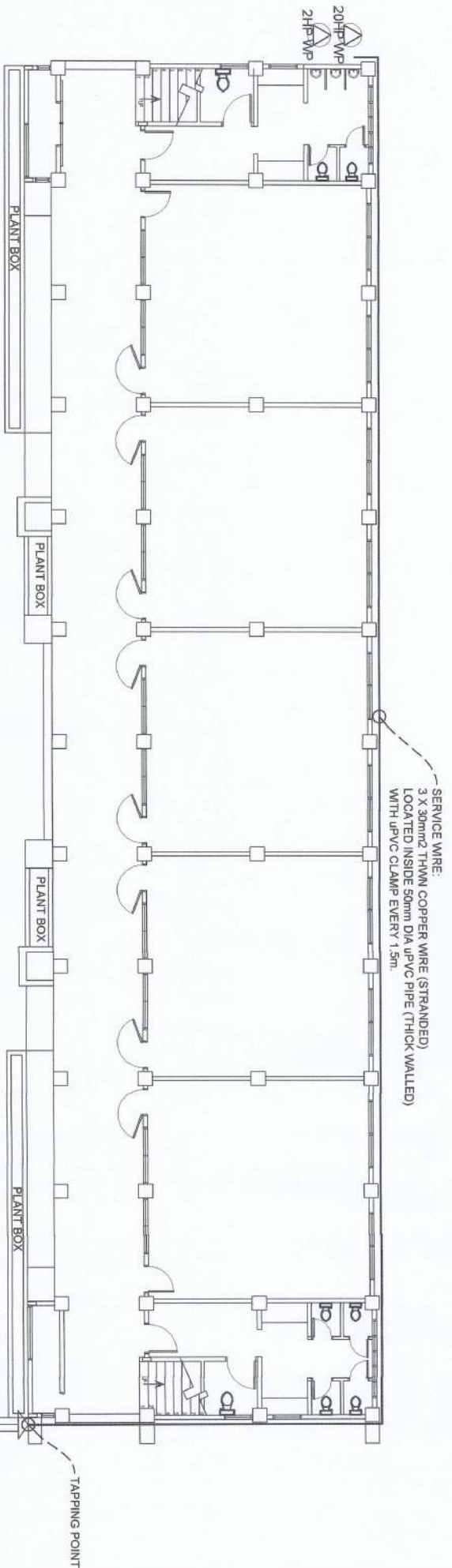
FDAS DETECTOR INSTALLATION DETAILS
8

GENERAL NOTES AND SPECIFICATIONS

1. INSTALLATION OF FDAS WILL BE IN ACCORDANCE WITH NFPA 72 & 70 & LOCAL FIRE CODE OF THE PHILIPPINES
2. ALL WIRING WILL BE IN ACCORDANCE WITH FMS MANUFACTURERS RECOMMENDATION TO PROPERLY CONDUIT THE CIRCUIT CURRENT.
-AWG #16 TF WIRE SIGNALING LINE CIRCUIT
-AWG #16 TF WIRE 24VDC AUXILIARY CIRCUIT
3. SMOKE DETECTORS & HEAT DETECTORS ARE TO BE INSTALLED ACCORDING TO THE RECOMMENDED SPACING AS PER NFPA 72 AND MANUFACTURERS LISTING.
-SMOKE DETECTOR 9.1 METERS (AREA COVERAGE 0.7 TIMES LISTED SPACING)
-HEAT DETECTOR 13.9 METERS (AREA COVERAGE 0.7 TIMES LISTED SPACING)
4. ALL AUDIBLE DEVICES IS AT LEAST 1.500A ABOVE THE AVERAGE AMBIENT SOUND
5. WIRING METHOD WILL BE IN ELECTRICAL METAL TUBING (EMT) AND ELECTRICAL BOX ARE GALVANIZED GA#16 MINIMUM.
6. ALL MATERIALS TO BE USED ARE NEW AND WILL BE INSTALLED IN APPLICATION FOR WHICH THEY ARE INTENDED.

FDAS GENERAL NOTES AND SPECIFICATIONS
9

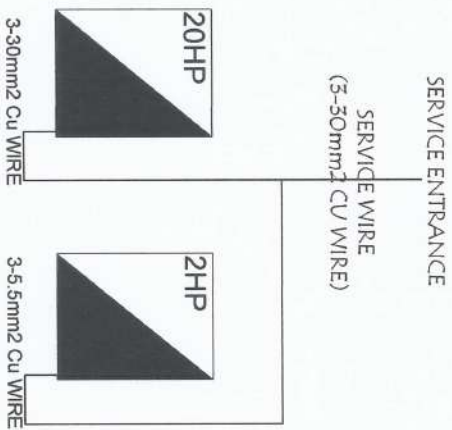
PROJECT AND LOCATION: IMPROVEMENT OF CBE BUILDING, BAYOMBONG CAMPUS NSU NATIONAL UNIVERSITY SURABAYA, SURABAYA	PREPARED BY: KYLE REYES GALANON	CHECKED BY: JAYSON B. BIENTE	SUBMITTED BY: JYRUS WILES CADENTE	CONCURRED BY: ARVIN P. WALL ESTEROS	RECOMMENDING APPROVAL: CARDO F. VAILL	APPROVED BY: WILFREDO A. DUMALE, JR.	SHEET NO.: FDAS-11
--	---	--	---	---	---	--	------------------------------



E-1
SCALE: 1/8" = 1'-0"
SERVICE DROP ROUTE PLAN FOR PUMPS

- SCOPE OF WORKS:**
1. INSTALLATION OF ELECTRICAL SUPPLY FOR PUMPS (INCLUDES CONDUITS, WIRES AND BREAKERS)
 2. TAPPING OF SERVICE WIRE TO THE EXISTING SUPPLY

- GENERAL NOTES:**
1. THE WORK SHALL BE DONE IN ACCORDANCE WITH THE PLANS AND SPECIFICATIONS.
 2. THE WORK SHALL COMPLY WITH THE PROVISION OF THE LATEST EDITION OF THE PHILIPPINE ELECTRICAL CODE, LMS, ORDINANCES, RULES AND REGULATIONS OF THE LOCALITY HAVING JURISDICTION OVER THE PROJECT.
 3. REQUIREMENTS OF LOCAL POWER COMPANY.
 4. ALL THE JOB SHALL BE EXECUTED IN THE MOST THOROUGH PROMPT AND WORKMANLIKE MANNER EMPLOYING STANDARD TOOLS EQUIPMENT, METHOD AND GOOD ENGINEERING PRACTICES. THE JOB SHALL BE DONE COMPLETE IN ALL ASPECTS AS REQUIRED PER PLANS AND SPECIFICATIONS AND READY FOR OPERATIONS.
 5. ALL MATERIALS TO BE USED SHALL BE BRAND NEW, WITH TRADE NAME, UNUSED, AND SHALL EVERY CASE BE THE BEST WHERE SUCH STANDARDS HAVE BEEN ESTABLISHED FOR THE PARTICULAR TYPE OF MATERIALS USED.
 6. ANY PERMANENT CONFLICT BETWEEN THE ELECTRICAL PLANS AND THESE SPECIFICATIONS AND ANY UNCLEAR POINTS OF CONSTRUCTION SHALL BE REFERRED TO THE NVSU'S AUTHORIZED REPRESENTATIVE FOR VERIFICATION OF THE SCALE DIMENSIONS ON THE PLANS MUST BE MADE, SINCE ACTUAL LOCATIONS, DISTANCES AND LEVELS WILL BE GOVERNED BY ACTUAL FIELD CONDITIONS.



PROJ. No. & Title Date of Issue:	Date of Issue:		IMPROVEMENT OF CBE BUILDING		PREPARED BY: MARCO P. UBATAN ADMINISTRATIVE AIDE LOCALSAL	SUBMITTED BY: ANDRESAL TABUNGGAN JR. CHIEF, INFRASTRUCTURE	CONCURRED BY: ARVIN VALDESTEROS CAMPUS ADMINISTRATOR	RECOMMENDING APPROVAL: CARLO F. NADO VICE PRESIDENT FOR PLANNING DEVELOPMENT & OPERATIONS	APPROVED BY: VALFREDO A. DUMALE JR. UNIVERSITY PRESIDENT	SHEET NO: <div style="border: 1px solid black; border-radius: 50%; width: 40px; height: 40px; display: flex; align-items: center; justify-content: center; margin: 0 auto;"> <div style="text-align: center;">E1 12</div> </div>
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