

GENERAL NOTES:

SPRINKLER SYSTEM

1. THE FIRE PROTECTION SYSTEM HAS BEEN DESIGNED IN ACCORDANCE WITH THE FOLLOWING CODES & REGULATIONS:

THE FIRE CODE OF THE PHILIPPINES & REGULATIONS

NATIONAL BUILDING CODE OF THE PHILIPPINES

PMAC - PHILIPPINE MECHANICAL CODE 2003

NFPA 10 - STANDARD FOR PORTABLE FIRE EXTINGUISHER

NFPA 13 - STANDARD FOR THE INSTALLATION OF SPRINKLER SYSTEM

NFPA 14 - STANDARD FOR THE INSTALLATION OF STANDPIPE AND HOSE SYSTEM

NFPA 20 - STANDARD FOR THE INSTALLATION OF CENTRIFUGAL FIRE PUMP

NFPA 101 - LIFE SAFETY CODE

NFPA 5000 - BUILDING CONSTRUCTION AND SAFETY CODE

UNDERWRITERS LABORATORIES, INC. (UL)

FACTORY MUTUAL (FM)

ASTM - AMERICAN SOCIETY FOR TESTING AND MATERIALS

NEMA - NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION

2. DESIGN CRITERIA:

B. TYPE OF OCCUPANCY

SYSTEM CLASS

DESIGN DENSITY : MERCANTILE/PARKING AREA : 0.20 GPM/FT (8.1 LPM/m)

AREA OF SPRINKLER OPERATION : 3500 FT² (140 M²)

WTR. DURATION OF WATER SUPPLY : 60 MINUTES

SPRINKLER TEMPERATURE : 155°F (GLASS BULE) (STANDARD RESPONSE)

ORIFICE K-FACTOR (SPRINKLER) : 5.6 (8.1)

COMBINED IN/OUT HOSE STREAM ALLOWANCE 250 GPM

3. WATER FLOW DEVICES SHALL BE OF THE APPROVED TYPE.

4. ALL VALVES SHALL BE SECURED BY A PADLOCK AND STRAP IN THE CORRECT OPERATIONAL POSITION.

5. ALL ISOLATING VALVES FOR THE SYSTEM SHALL BE:

a) INDIVIDUALLY SUPERVISED AND MONITORED SUCH THAT THE CLOSING OF ANY PARTICULAR VALVE WILL RAISE A VISUAL AND AUDIO ALARM IN THE MAIN FIRE ALARM PANEL LOCATED IN THE COMMAND AND CONTROL CENTER PINPOINTING THE VALVE INVOLVED.

b) LOCATED IN AREAS SUCH THAT THEY ARE EASILY ACCESSIBLE TO AUTHORIZED PERSONNEL FOR MAINTENANCE AND EMERGENCY OPERATION.

6. PROVIDE PIPE FLEXIBLE CONNECTORS/EXPANSION JOINTS FOR ALL SERVICES PASSING THRU TO ALL BUILDING EXPANSION JOINTS.

7. ALL PIPE PENETRATION THRU FIRE RATED WALLS SHALL BE PROVIDED WITH FIRE STOPPING MATERIALS.

8. PROVIDE VICTAULIC CONNECTION FOR EVERY LENGTH OF PIPE.

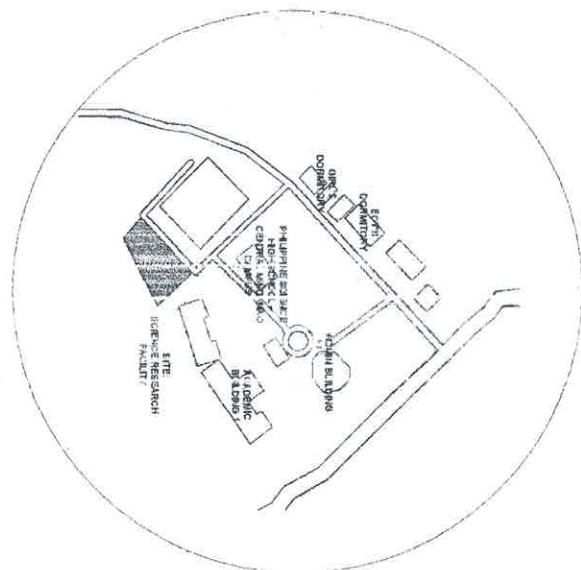
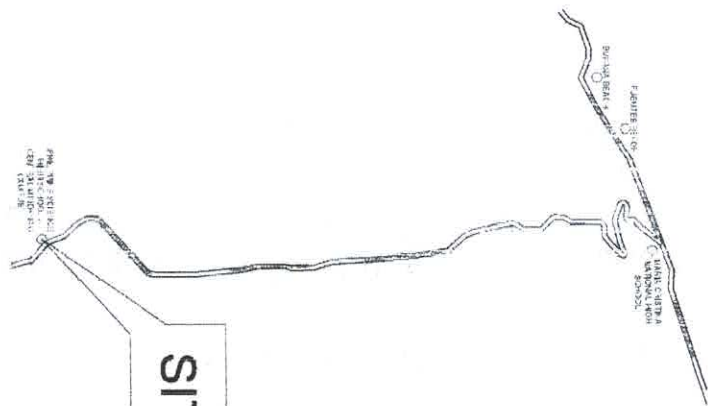
9. PIPING TO BE SCH# 40 BLACK IRON PIPE, FITTINGS 5mm AND SMALLER SHALL BE SCREWED TYPE, 6mm AND LARGER SHALL BE VICTAULIC TYPE.

10. ALL FIRE PROTECTION WORKS AND INSTALLATION SHALL BE SUPERVISED BY A LICENSED MECHANICAL ENGINEER.

11. ALL PIPE PASSING THRU SLAB, BEAM & WALL SHALL BE PROVIDED W/ FIRE RATED SEALANT.

12. FINAL LOCATION OF SPRINKLER SHALL BE COORDINATED WITH ARCHITECTURAL CEILING TILES AND ID DESIGN LAYOUT.

13. IF WELDING PIPES ARE EXPECTED, PIPES SHALL BE SHOPWELDED AT THE APPROVED LOCATION THEN MECHANICALLY JOINED BY USING VICTAULIC COUPLINGS AS PER NFPA 13.



ABBREVIATION:

DSF	DRY STAND PIPE	AAV	AUTOMATIC AIR VENT
AFSS	AUTOMATIC FIRE SPRINKLER SYSTEM	FDC	FIRE DEPARTMENT CONNECTION
GV	GATE VALVE	F/A	FROM ABOVE
CV	CHECK VALVE	F/B	FROM BELOW
FCV	FLOOR CONTROL VALVE	GPM	GALLONS PER MINUTE
WFS	WATER FLOW SWITCH	LPM	LITERS PER MINUTE
DV	DRAIN VALVE	LPS	LITERS PER SECOND
(OS&Y) GV	(OUT SIDE&Yoke) GATE VALVE	PRV	PRESSURE REDUCING/ RESTRICTING RELIEF VALVE
FHV	FIRE HOSE VALVE	RN	RISER NIPPLE
FHC	FIRE HOSE CABINET	T/A	TO ABOVE
FC/VIC	FLEXIBLE CONNECTOR/VICTAULIC COUPLING	T/B	TO BELOW
PFE	PORTABLE FIRE EXTINGUISHER	WFS	WATER FLOW SWITCH
RN	RISER NIPPLE	ACV	ALARM CHECK VALVE
FHV	FIRE HOSE VALVE	PRV	PRESSURE RELIEF VALVE
DN	DOWN	ITC	INSPECTOR TEST CONNECTION
FMC	FLOW MEASURING DEVICE	DL	DRAIN LINE

FROM THE OFFICE OF:



ORLANDO MONTANOZA
PROFESSIONAL MECHANICAL ENGINEER
PRC: 0008164
PTR: 9614581
REG. DATE: 02-23-2017
DATE: 01-16-2019
PLACE ISSUED: CEBU CITY

SEAL

PROJECT TITLE:

**A PROPOSED 3-STOREY SCIENCE
RESEARCH FACILITY**

OWNER:

**PHILIPPINE SCIENCE HIGH SCHOOL-
CENTRAL MINDANAO CAMPUS**

SHEET CONTENTS:

MECHANICAL PLAN

REVISIONS
NO. DESCRIPTION DATE

SHEET NO.

FP-1
1 8
FIRE PROTECTION

REPUBLIC OF THE PHILIPPINES
Office of the Building Official
LAWO DEL NORTE

RECOMMENDING ISSUANCE

RECOMMENDATION DATE

REVIEWED BY DATE

REVIEWED BY DATE

FOR BUILDING

EQUIPMENT SCHEDULE

SERVICE	PUMP NO.	TYPE	LOCATION	CAPACITY GPM(LPM)	APPROX. HEAD FT (PSI)	MOTOR (HP)	ELECTRICAL CHARACTERISTIC		REMARKS	OPERATION
COMBINED AUTOMATIC SPRINKLER SYSTEM & STANDPIPE / HOSE SYSTEM	FP-1 BM	HORIZONTAL END SECTION	GROUND FLOOR FIRE PUMP ROOM	250 (946.35)	231(110)	18 HP	230/460	3	60	ELECTRIC MOTOR DRIVEN
COMBINED AUTOMATIC SPRINKLER SYSTEM & STANDPIPE / HOSE SYSTEM	JP BM	VERTICAL IN-LINE	GROUND FLOOR PUMP ROOM	16 (60.56)	277.2(110)	2 HP	230	3	60	ELECTRIC MOTOR DRIVEN

REPUBLIC OF THE PHILIPPINES

Office of the Building Official

LANAO DEL NORTE

RECOMMENDING ISSUANCE

MECHANICAL SECTION

DATE

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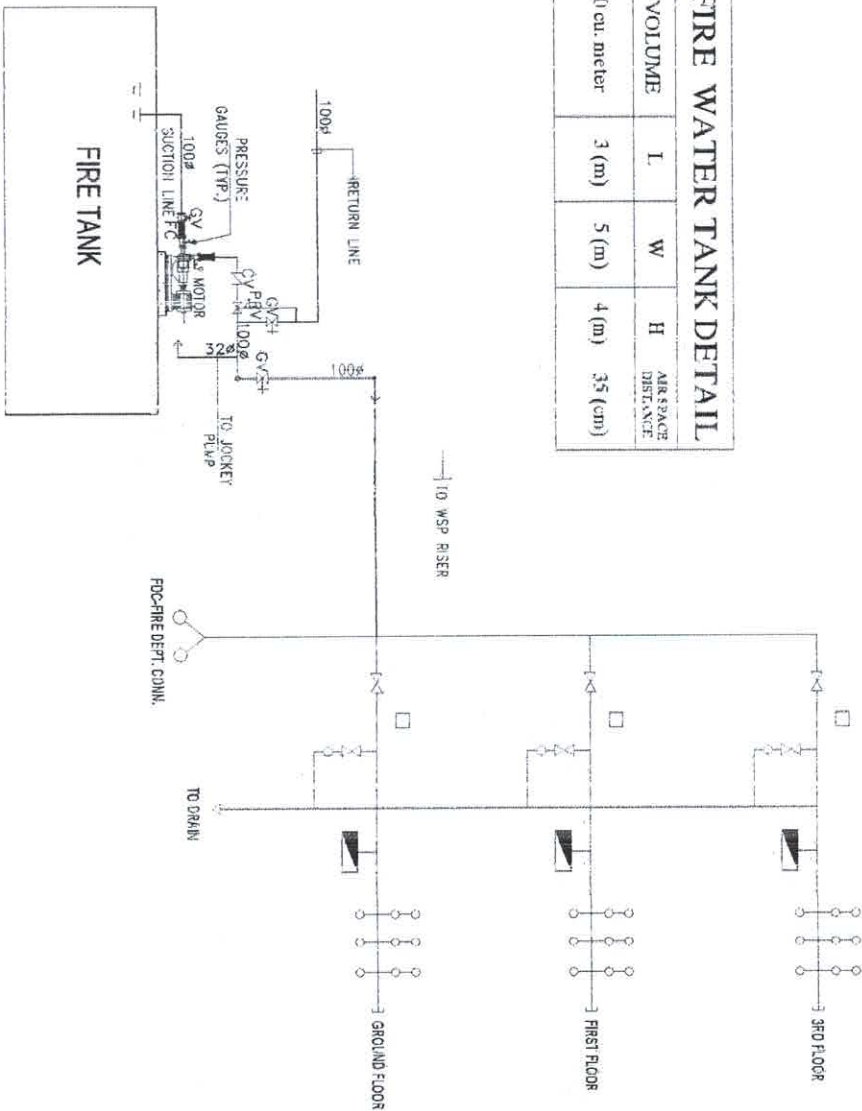
DATE

LEGEND

SYMBOL	DESCRIPTION
	- FIRE DEPARTMENT CONNECTION-STANDPIPE 1
	- FIRE DEPARTMENT CONNECTION-SPRINKLER
	- FIRE HYDRANT
	- VALVE (GENERALLY)
	- NORMALLY CLOSED VALVE
	- SUPERVISED OS & Y VALVE
	- HOSE VALVE COMPLETE WITH OAP WITH CHAIN
	- CHECK VALVE
	- ALARM VALVE COMPLETE WITH SUPERVISED OS & Y VALVE
	- FLOW SWITCH
	- PRESSURE GAGE
	- SIGHT GLASS
	- SPRINKLER HEAD (UPRIGHT TYPE)
	- SPRINKLER HEAD (PENDENT TYPE)
	- SPRINKLER HEAD (SIDEWALL TYPE)

FIRE WATER TANK DETAIL

VOLUME	L	W	H	AIR SPACE DISTANCE
60 cu. meter	3 (m)	5 (m)	4 (m)	3.5 (m)



FROM THE OFFICE OF:



ERLAND V. MONTANOZA

PROFESSIONAL MECHANICAL ENGINEER

PRC : 0005164
PTR : 9614581
REG. DATE: 02-23-2017
DATE: 01-16-2018

PLAGE ISSUED: CEBU CITY
TTN : 220-892-187

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REPUBLIC ACT 9266

SEAL

PROJECT TITLE:

A PROPOSED 3-STOREY SCIENCE
RESEARCH FACILITY

OWNER:

PHILIPPINE SCIENCE HIGH SCHOOL-
CENTRAL MINDANAO CAMPUS

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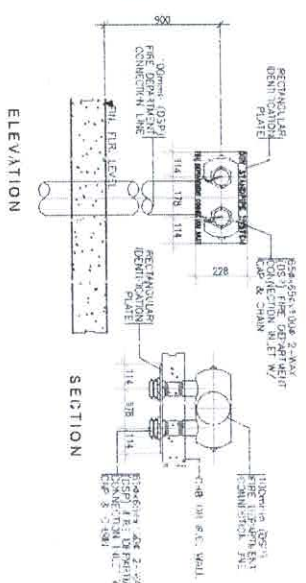
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FIRE PROTECTION

RECOMMENDING ISSUANCE

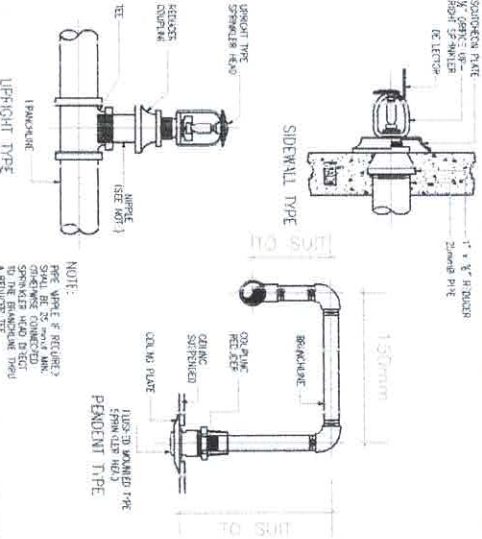
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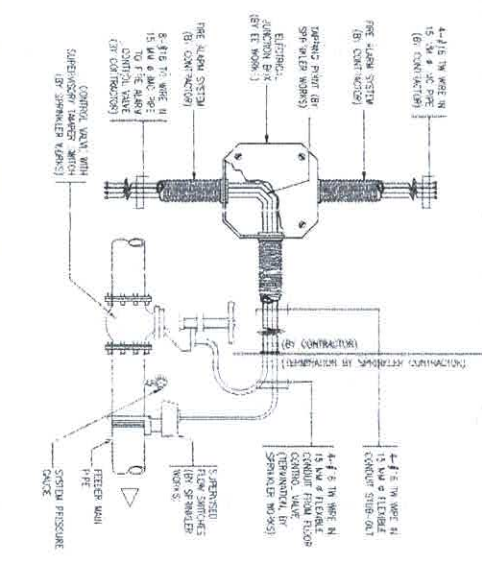
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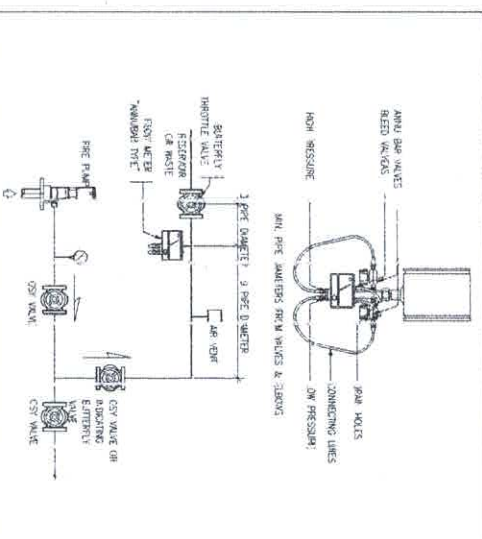
FP DETAIL OF CRYSTAL PIPE FIRE DIPT. INLET
01 SCALE: NONE



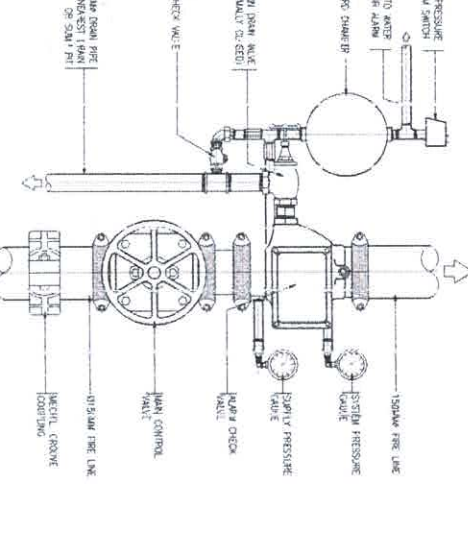
FP BRANCH TO SPRINKLER INSTALLATION DETAIL
02 SCALE: NONE



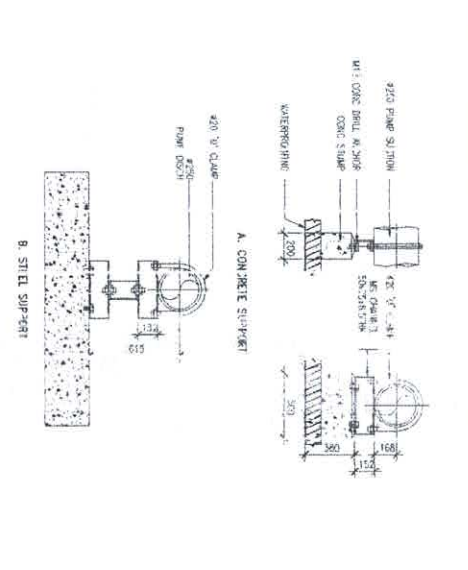
FP SPOT DETAIL
03 SCALE: NONE



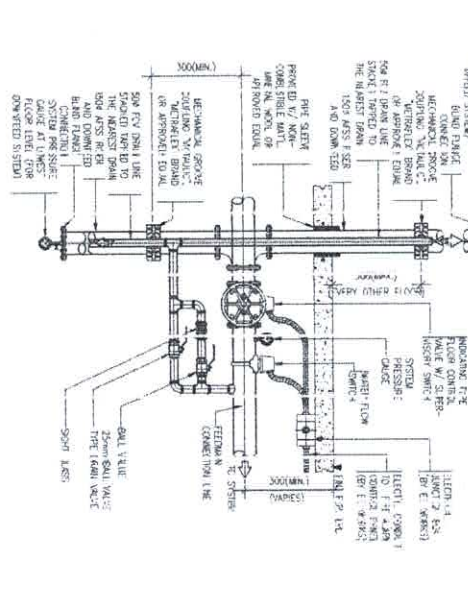
FP FLOWMETER (ANNUBAR TYPE) DETAIL
04 SCALE: NONE



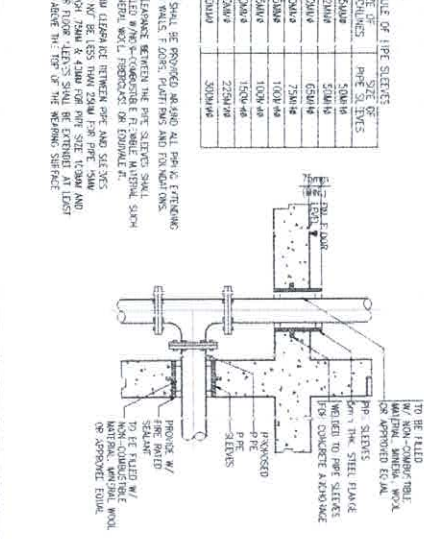
FP SUPERVISORY SWITCH CONNECTION DETAIL
05 SCALE: NONE



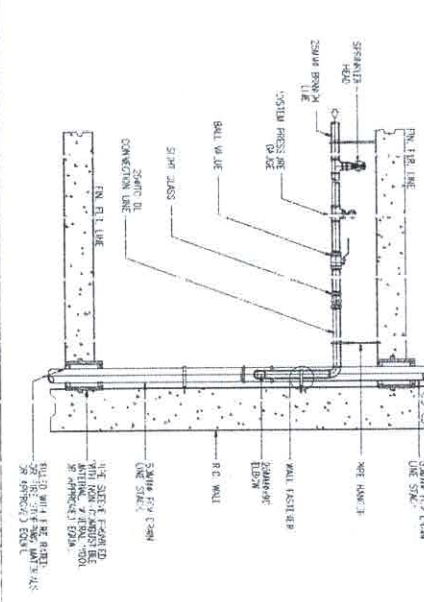
FP PUMP ROOM PIPE SUPPORT
06 SCALE: NONE



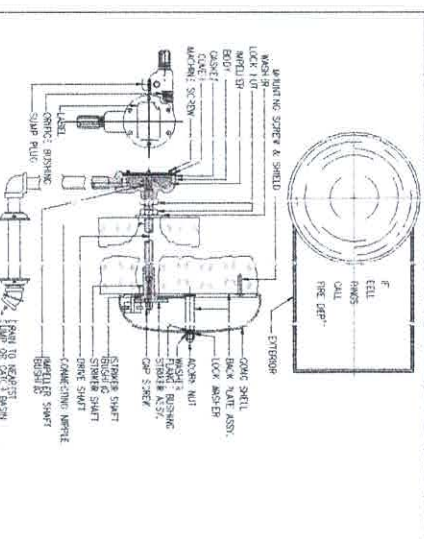
FP DETAIL OF SUPERVISORY FLOOR CONTROL VALVE ASSEMBLY
07 SCALE: NONE



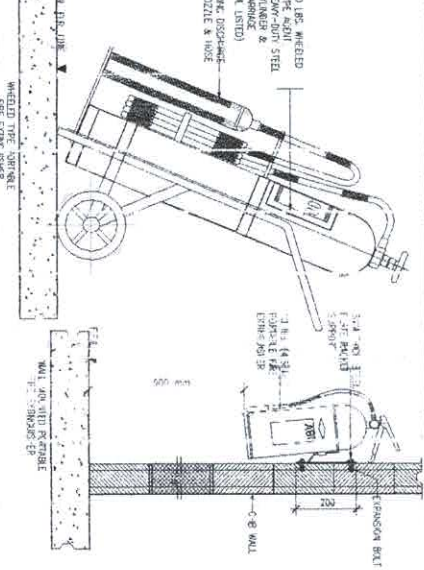
FP PIPE SLEEVE DETAIL
08 SCALE: NONE



FP DETAIL OF INSPECTOR TEST CONNECTION
09 SCALE: NONE



FP ALARM MOTOR GONG DETAIL
10 SCALE: NONE



FP FIRE EXTINGUISHER MOUNTING DETAIL
11 SCALE: NONE



FROM THE OFFICE OF:
E.J. BUILDERS, Incorporated
CONTRACTORS - ENGINEERS - ARCHITECTS

PROFESSIONAL MECHANICAL ENGINEER
PRC: 0004564
PTR: 8864561
TIN: 220-452-187

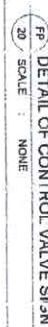
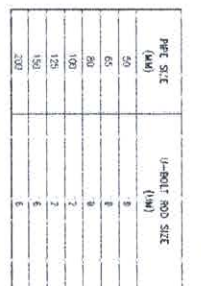
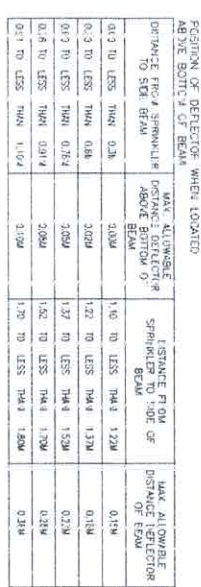
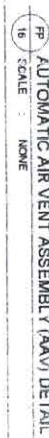
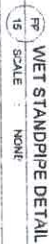
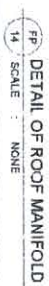
PROJECT TITLE:
A PROPOSED 3-STOREY SCIENCE RESEARCH FACILITY

OWNER:
PHILIPPINE SCIENCE HIGH SCHOOL - CENTRAL MINDANAO CAMPUS

ADDRESS: NANKA BALOI, LANAO DEL NORTE

NO.	REVISIONS	DATE
1	1	8

SHEET NO. **FP-3**



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CONTRACTORS • ENGINEERS • ARCHITECTS

PRC	0006164	REG.DATE	02-23-201
CTD	0004764	DATE	04-05-2010

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LOCATION: MANGKA, BA.O-I, LANAO DEL NORTE

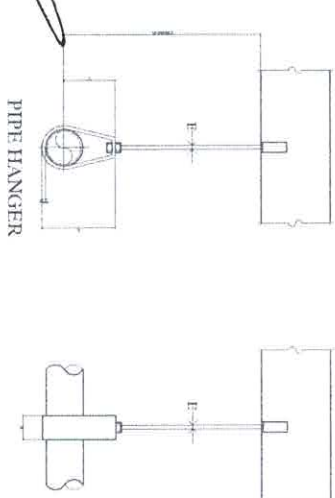
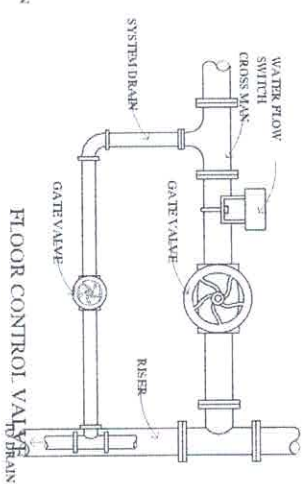
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REVISIONS		
NO.	DESCRIPTION	DATE

1. ALL WORKS SHALL BE DONE IN ACCORDANCE WITH THE REQUIREMENTS OF THE FIRE CODE OF THE PHILIPPINES.
2. ALL WORKS SHALL BE DONE IN CLOSE COORDINATION WITH THE WORKS OF OTHER TRADE.
3. PIPES SHALL BE INSTALLED AS INDICATED; ANY REDUCTION REQUIRED SHALL BE DONE WITH PRIOR APPROVAL OF THE ENGINEER.

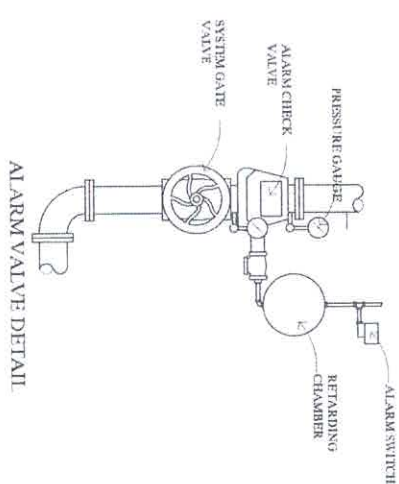
4. ALL FITTINGS SHALL BE SEAMLESS, SCH 40, A168 TYPE1, CONFORMING TO ASTM A183 OR A182 FOR APPROVED EQUIVAILENT.
5. FITTINGS ABOVE WELD DIA SHALL BE FLANGE WELDED TYPE. FITTINGS BELOW SHALL BE THREADED.
6. JOINTING SHALL BE AUTOMATIC AND SHALL HAVE 1/4mm DIA OR BETTER.
7. FINE HOSE CABINETS AND ACCESSORIES SHALL BE U.L. LISTED AND T.A. APPROVED.
8. EXISTING CONTROL VALVE SHALL BE ROTISSPE STEER, AND JOSEFLOS 6" B, INDICATING GATE VALVE DESIGNED TO A MINIMUM WORKING PRESSURE OF 150 P.S.I.
9. PIPES PASSING THROUGH WALL AND FLOOR JOINTS SHALL BE PROTECTED WITH MINIMUM 1/2" INSULATION SIZE TO PROVIDE AT LEAST 2" CLEARANCE AROUND THE PIPE.
10. PIPE HANGERS AND SUPPORT SHALL BE INSTALLED INDEPENDENT FROM THE CEILING.
11. ALL PIPES PARALLEL TO CONCRETE SHALL BE PAINTED IN ONE COAT CORPUS. RESISTANT PAINT.
12. ALARMA BELT SHALL BE SUPPLIED ON EVERY FLOOR.

1. UNIT HORIZONTAL CENTRIFUGAL FINE POND WITH MINIMUM PUMP CAPACITY OF 25 GPM AT A MINIMUM OF 63 PSI, 214.6 FT. (H.D.) DIRECT DRIVEN BY 50HP TIEC 1750 RPM ELECTRIC MOTOR, 230/460V, 3 PHASE/60HZ U.L. LISTED AND E.M. APPROVED WITH THE REQUIRED WET-DELTA CLOSED TRANSITION STACKER AND ALL STANDARD ACCESSORIES

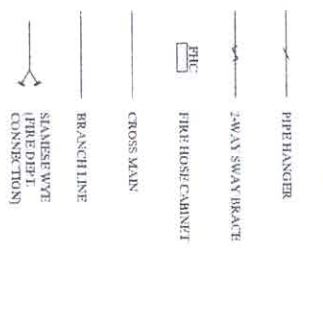


NOMINAL PIPE SIZE	P	S	M	NO. OF SPLICES
50	114	51	73	10
63	133	57	89	16
73	146	57	105	13
106	171	57	130	13
150	241	70	156	16

NOMINAL PIPE SIZE	A		B		D		RODD D	
							E	F
55	33	52	30		10			
31	42	73	50		10			
40	68	92	50		10			
50	86	120	30		10			
65	73	130	50		10			
75	99	160	40		12			
100	134	225	40		12			



FIRE FIGHTING PIPE
LINE
PIPE DIA. & PIPE
LENGTH
PENDENT TYPE
SPRINKL. IR. HEAD



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~~ORLANDO V. FONTANOZA~~

~~PROFESSIONAL MECHANICAL ENGINEER~~

PRC : 0000164	REG.DATE: 02-23-2017
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PIR : 9814581	DATE: 07-16-2019
TIN : 220-492-187	PLACE ISSUED: CEBU CITY

SEAL

TITLE

A PROPOSED 3-STOREY SCIENCE RESEARCH FACILITY

LOCATION: NANGKA BALO-I, LANAO DEL NORTE

OW

PHILIPPINE SCIENCE HIGH SCHOOL.
CENTRAL MINDANAO CAMPUS

ADDRESS: NANGKA BALOI, LANAO DEL NOR.

NEWS

REVISION:

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